

APPENDIX I

*North City Project TIS—Realignment of
Morena Pipelines and
Transportation Impact Study*



February 26, 2018

Mr. Shawn Shamlou
DUDEK
605 Third Street
Encinitas, CA 92024

SUBJECT: North City Project TIS – Realignment of Morena Pipelines

Dear Shawn:

Based on the latest information received, the proposed Morena Pipelines will be realigned at its southern section running through the Bay Park neighborhood. The pipeline alignment segments that will change are the following:

- Morena Blvd, between Ingulf Street and Littlefield Street; and
- Ingulf Street, between Denver Street and Morena Blvd.

The new pipeline alignment will run through the following roadway segments:

- Jellett Street, between Morena Blvd and Denver Street; and
- Denver Street, between Jellett Street and Ingulf Street.

Traffic volumes along Jellett Street are estimated to be low considering its residential collector nature, therefore, it is not estimated to be impacted by the proposed project's construction traffic.

Table 1 displays the roadway segment analysis under Near-Term Year 2022 both without and with the anticipated construction traffic conditions reflecting the changes to the current Morena Pipelines alignment.



**TABLE 1
ROADWAY SEGMENT LOS RESULTS
NEAR-TERM YEAR 2022 TRAFFIC CONDITIONS – MORENA PIPELINES**

Roadway	Segment	Near-Term Year 2022 Base + Construction Traffic					Near-Term Year 2022 Base					Change in V/C	SI?
		Functional Classification	Threshold (LOS E)	ADT	V/C	LOS	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS		
Denver Street	Clairemont Drive and Jellett Street	2-Lane Collector (Full closure during work hours)	8,000	10,696 ¹	1.337	F	2-Lane Collector	8,000	11,000	1.375	F	-0.038	N
Ingulf Street	Galveston Street and West Morena Boulevard	2-Lane Collector	8,000	6,770	0.846	E	2-Lane Collector	8,000	6,700	0.838	E	0.009	N
Galveston Street	Clairemont Drive and Jellett Street	2-Lane Collector	8,000	4,238 ²	0.530	C	2-Lane Collector	8,000	3,600	0.450	C	0.080	N
	Jellett Street and Lister Street	2-Lane Collector	8,000	4,025 ²	0.503	C	2-Lane Collector	8,000	3,600	0.450	C	0.053	N
	Lister Street and Milton Street	2-Lane Collector	8,000	3,813 ²	0.477	C	2-Lane Collector	8,000	3,600	0.450	C	0.027	N



TABLE 1
ROADWAY SEGMENT LOS RESULTS
NEAR-TERM YEAR 2022 TRAFFIC CONDITIONS – MORENA PIPELINES

Roadway	Segment	Near-Term Year 2022 Base + Construction Traffic					Near-Term Year 2022 Base					Change in V/C	SI?
		Functional Classification	Threshold (LOS E)	ADT	V/C	LOS	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS		
Jellet Street	Galveston Street and West Morena Boulevard	2-Lane Collector (Full closure during work hours)	8,000	3,715 ¹	0.464	C	2-Lane Collector	8,000	3,600	0.450	C	0.014	N
Lister Street	Galveston Street and West Morena Boulevard	2-Lane Collector	8,000	3,970 ²	0.496	C	2-Lane Collector	8,000	3,900	0.488	C	0.009	N
Milton Street	Galveston Street and West Morena Boulevard	2-Lane Collector	8,000	3,970 ²	0.496	C	2-Lane Collector	8,000	3,900	0.488	C	0.009	N
West Morena Boulevard	Jellett Street and Littlefield Street	4-Lane Major Arterial	40,000	17,724	0.443	B	4-Lane Major Arterial	40,000	17,400	0.435	B	0.008	N

Source: Chen Ryan Associates; February 2018

Notes:

Bold letter indicates substandard LOS E or F.

SI? = Significant Impact?

¹ Traffic volume in this segment excludes traffic during the work hours (9 pm to 5 am) and includes construction traffic.

² Traffic along Ingulf Street and Denver Street rerouted onto this roadway segment.

CHEN RYAN

As seen in Table 1, the results found in the North City Project TIS, dated July 7, 2017 would not change by the proposed realignment of the Morena Pipelines.

Please feel free to contact me with any questions and/or comments.

Sincerely,



Jonathan Sanchez

North City Project Transportation Impact Study

Final Report



Prepared For:

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Transportation Impact Study

North City Project

Final Report

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July 7, 2017

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EXECUTIVE SUMMARY

ES.1 Purpose of the Report

The purpose of this Transportation Impact Study (TIS) is to identify and document potential transportation related impacts associated with the North City project, as well as to recommend mitigation measures, as necessary. Three different components of impact assessments were conducted for this project: (1) permanent transportation impacts associated with the new or improved facilities, such as new North City Pure Water Facility (NCPWF), upgrades and expansion to existing water reclamation facilities, and new pump stations and pipelines; (2) temporary transportation impacts associated with the construction of the two potential pipeline alignment alternatives: Miramar and San Vicente between NCPWF and one of the reservoirs; and (3) temporary transportation impacts associated with the construction of the Morena Wastewater Forcemain and Brine/Centrates Line (Morena Pipelines) between the Morena Pump Station and NCPWF.

ES. 2 Project Background

The North City Project would use advanced water purification technology to produce potable water from recycled water and provide a safe, reliable, and cost-effective drinking water supply for San Diego. The North City Project would create up to 30 million gallons per day (MGD) of locally controlled potable water and reduce flows to the Point Loma Wastewater Treatment Plant (PLWTP), which in turn would reduce total suspended solids (TSS) discharged to the ocean.

The North City Project consists of the design and construction of a new 399,381 square-foot NCPWF, a total of 1,528,043 square-foot expansion upgrades to existing water reclamation facilities, and design and construction of new pump stations and pipelines. The North City Project would construct the NCPWF adjacent to the existing North City Water Reclamation Plant (NCWRP). Upgrades would occur at the existing NCWRP in order to provide sufficient tertiary influent for the NCPWF as well as to connect the existing centrate line with the proposed brine line. Pump station and pipeline facilities would convey different types of flows to and from the treatment facilities for: (1) diverting wastewater flows to NCWRP, (2) conveying recycled water to the NCPWF, (3) conveying purified water from the NCPWF to a reservoir, and (4) transporting waste flows (brine and sludge) from treatment processes to solids handling facilities or back into the Metropolitan Sewerage System (Metro System). Upgrades would also occur at the Metropolitan Biosolids Center (MBC) to handle the additional brine and sludge produced by the NCWRP expansion and advanced water purification process. A new renewable energy facility would be constructed at the NCWRP, which would receive landfill gas from the City's Miramar Landfill gas collection system via a new gas pipeline.

Two North City Project Alternatives (Project Alternatives) are proposed. The North City Purified Water Pipeline (North City Pipeline) would construct the NCPWF and would pipe purified water to Miramar Reservoir. The San Vicente Purified Water Pipeline (San Vicente Pipeline) would also construct the proposed NCPWF, but would include fewer treatment processes at the facility and would pipe purified water to the San Vicente Reservoir rather than the Miramar Reservoir. The

San Vicente Pipeline would also include an additional pump station, the Mission Trails Booster Station (MTBS), along the San Vicente Pipeline. The North City Purified Water Pipeline would include improvements at the Miramar Water Treatment Plant (Miramar WTP).

ES.3 New North City Pure Water Facility (NCPWF) and North City Water Reclamation Facility Expansion – Permanent Traffic

From a TIS perspective, the following project components were examined for the North City Project:

1. New North City Pure Water Facility (NCPWF) – this facility is to be located on the north side of Eastgate Mall, across from the existing NCWRP and the entrance will be across the street from the entrance to the NCWRP and proposed to be signalized. **(45 employees total, permanent facility)**
2. Expansion of the existing North City Water Reclamation Plant (NCWRP) - this facility is currently located on the south side of Eastgate Mall, and takes access off of Eastgate Mall through the existing entrance. There is also a gated emergency access off of Miramar Road. **(15 additional employees total, permanent facility)**
3. Morena Pump Station and Pipelines – No permanent staff required with scheduled maintenance checks. **(0 staff, permanent facilities)**
4. NCPWF Influent Pump Station and Conveyance – one part time employee only. **(1 employee, permanent facilities)**
5. North City Pure Water Pipeline (North City Pipeline) and North City Pump Station - one part time employee only. **(1 employee, permanent facilities)**
6. Pure Water Dechlorination Facility – 2 trips per week by offsite staff and 2 trips per month for chemical delivery. **(2 employees, permanent facility)**

Project Trip Generation

Out of the six project components identified above, construction of the new NCPWF (399,381 square feet) and expansion of the current NCWRP (1,528,043 square feet) would generate permanent traffic on a regular/daily basis due to the additional staffing needed to run and operate these facilities, therefore, included in the traffic impact analyses from this point forward. All other uses are considered negligible traffic generator and are not included in this TIS. The following information was provided by City of San Diego Public Utilities Department, regarding projected additional staffing at both NCPWF and NCWRP expansion, which was utilized to derive trip generation for the project:

NCPWF

- 37 employees during regular day shift (6:00 am to 3:00 pm)
- 8 employees after regular day shift (3:00 pm to 6:00 am)

NCWRP

- 9 employees during regular day shift (6:00 am to 3:00 pm)
- 6 employees after regular day shift (3:00 pm to 6:00 am)

Table ES.1 displays the anticipated daily and peak hour project trip generation. Note that the 3 trips per employee trip rate was based on each employee commuting to and from work (2 trips a day) and the assumption of approximately 50% of employees making two extra trips (inbound and outbound) during their shift for reasons such as meetings, lunch, etc.

**TABLE ES.1
PROJECT TRIP GENERATION**

Land Use	Quantity (employees)	Trip Rate	Daily Trips	AM Peak Hour (5 AM to 6 AM)	PM Peak Hour (3 PM to 4 PM)
				Trips	Trips
North City Pure Water Facility	45	3 / employee	135	41 (37-in / 4-out)	41 (4-in / 37-out)
North City Water Reclamation Plant - Expansion	15	3 / employee	45	12 (9-in / 3-out)	12 (3-in / 9-out)
Total			180	53 (46-in / 7-out)	53 (7-in / 46-out)

Source: City of San Diego; May 2017.

As shown, the proposed project would generate a total of 180 daily trips, 53 trips (46-in / 7-out) during the AM peak hour, and 53 trips (7-in / 46-out) during the PM peak hour.

Based on input from the City of San Diego Public Utilities Department, employees who work after the regular day shift (6:00 AM to 3:00 PM) are divided into two shifts at 4-person per shift at the NCPWF and two shifts at 3-person per shift at NCWRP and would work from 3:00 PM to 11:00 PM and from 11:00 PM to 6:00 AM.

It is important to note that the proposed work shift for the majority of the workers at these facilities is from 6:00 AM to 3:00 PM. After review of the traffic counts on the roadway facilities in the study area, it was determined that the commute hours for this specific project did not coincide with the regular commute hours of 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. Even if 20 percent of the workers were to arrive to/depart the project site during regular commute hours, this would result in an addition of 12 trips (10-in / 2-out) during the AM peak hour and 12 trips (2-out / 10-in) during the PM peak hour. This amount of peak hour trips less than the 50-peak hour trip requirement for a traffic impact study, per the City of San Diego *Traffic Impact Study Manual, July 1998*. Therefore, a peak hour intersection analysis was not performed as part of the analysis of this project.

Project Trip Distribution

Trip distribution for the proposed project was developed based on existing traffic patterns, surrounding land uses, as well as access to freeways.

Project Study Area

Based on the City of San Diego Traffic Impact Study Manual requirements and project trip assignment, the following key study area roadway segments were analyzed:

Eastgate Mall between

- Towne Center Drive & Judicial Drive
- Judicial Drive & 280 feet west of I-805 Overpass
- 280 feet west of I-805 Overpass & NCWRP Driveway
- NCWRP Driveway & Eastgate Drive
- Eastgate Drive & Miramar Road

Towne Center Drive between

- Eastgate Mall & Executive Drive
- Executive Drive & La Jolla Village Drive

La Jolla Village Drive between

- Towne Center Drive & I-805 SB Ramps

Miramar Road between

- I-805 SB Ramps & I-805 NB Ramps
- I-805 NB Ramps & Nobel Drive
- Nobel Drive & Eastgate Mall

The proposed project is not anticipated to contribute more than 50 peak hour trips on Interstate 805 (I-805) in either direction nor 20 or more peak hour trips on I-805 freeway metered on-ramps; therefore, a freeway impact analysis nor a ramp metering analysis was conducted.

Project Impacts and Mitigation Measures

Direct Impact

The traffic generated by the proposed project is not anticipated to create a direct impact at any of the analyzed roadway facilities.

Cumulative Impact

The traffic generated by the proposed project is not anticipated to create a cumulative impact at any of the analyzed roadway facilities.

Project Site Access

Access to the new NCPWF and the expanded NCWRP is proposed to be located off of Eastgate Mall via a signalized intersection. According to City of San Diego Public Utilities Department, two options involving a full size and small tunnel were also considered as an alternative to the project driveway signalization, in order to allow staff to travel between the two plants. These two tunnels would house the utilities and provide enough space for carts (no full-size vehicles) to travel between the two plants. Both options would require extensive excavation and triggered the need for a basement in the NCPWF's O&M building. Since both alternative options would be costly, the traffic signal option is determined to be the least costly option that would provide a protected crossing for both pedestrians and heavy vehicles.

It is important to note that the proposed project driveway did not meet the Peak Hour traffic signal warrant nor the ADT traffic signal warrant per California's Manual on Uniform Traffic Control Devices 2014 Edition, Revision 1 – Section 4C.01. This result was due to low volumes on the minor approach. However, considering the expected heavy vehicles entering, exiting, and crossing between the two plants and that the closest controlled pedestrian crossing is located approximately 500 feet to the east of the proposed project driveway at the signalized intersection of Eastgate Mall/Eastgate Drive, and approximately 2,200 feet to the west at the signalized intersection of Eastgate Mall/Judicial Drive, it is the preference of City of San Diego Public Utilities Department to signalize the proposed project driveway.

The project driveway should be designed in accordance to City of San Diego standards and should provide sufficient storage for traffic entering the two plants. The project driveway would be signalized and would require the appropriate signing and striping plans per City of San Diego standards.

ES. 4 North City Pipeline – Construction Traffic

The North City Pipeline connects the NCPWF and NCWRP sites at I-805 and Eastgate Mall to the Miramar Reservoir via Eastgate Mall, Miramar Road, Kearny Villa Road, Candida Street, Via Pasar, Via Excelencia, under I-15 to Businesspark Avenue, Carroll Canyon Road, Hoyt Park Drive, and Meanley Drive. It is anticipated that approximately 39,400 LF (7.5 miles) of 48” steel pipeline will be installed along with approximately 4,800 LF (0.91 mile) of subaqueous polyethylene (PE) pipeline ranging in diameter from 20” to 40” with 14 branches of various lengths in the ravines of the reservoir. Construction of the North City Pipeline is anticipated to take place between November 2018 and October 2021. **Table ES.2** displays the work hours proposed for the roadway segments analyzed for the North City Pipeline construction.

**TABLE ES.2
WORK HOURS ON ROADWAY SEGMENTS ALONG NORTH CITY PIPELINE ALIGNMENT**

Roadway	Segment	Work hours
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	9:00 PM to 5:00 AM
Miramar Road	Eastgate Mall and Camino Santa Fe	9:00 PM to 5:00 AM
	Camino Santa Fe and Carroll Rd	9:00 PM to 5:00 AM
	Carroll Rd and Camino Ruiz	9:00 PM to 5:00 AM
	Camino Ruiz and Black Mountain Rd	9:00 PM to 5:00 AM
	Black Mountain Rd and Kearny Villa Rd	9:00 PM to 5:00 AM
Kearny Villa Road	Black Mountain Rd/Carroll Centre Rd and Miramar Rd	9:00 PM to 5:00 AM
Candida Street	Kearny Villa Rd and Via Pasar	9:00 PM to 5:00 AM
Via Pasar	Via Excelencia and Candida St	9:00 PM to 5:00 AM
Via Excelencia	east of Via Pasar	9:00 PM to 5:00 AM
Businesspark Avenue	south of Willow Creek Rd	9:00 PM to 5:00 AM
	Carroll Canyon Rd and Willow Creek Rd	9:00 PM to 5:00 AM
Carroll Canyon Rd	Businesspark Ave and Scripps Ranch Blvd	9:00 PM to 5:00 AM
Scripps Ranch Blvd	Carroll Canyon Rd Hoyt Park Dr	9:00 PM to 5:00 AM
Hoyt Park Dr	Scripps Ranch Blvd and Meanley Dr	9:00 PM to 5:00 AM

Source: City of San Diego Public Utilities Department and Construction Management and Field Services Department, May 2017.

Project Impacts and Mitigation Measures

Construction traffic associated with the North City Pipeline would result in significant traffic impact to the following roadway segment:

- Eastgate Mall, between the NCPWF & NCWRP driveway and Miramar Road – LOS F.

However, based on information provided by City of San Diego Public Utilities Department, construction of the pipeline would be performed 75 LF per day, and the impacted area at any one time would encompass the work area as well as the traffic control setup length. Therefore, this project impact would be temporary in nature (approximately 64¹ working days) and since the construction will occur during nighttime when there is less traffic on the road, this roadway should function at reasonable operations. Therefore, since the impact would be temporary, no mitigation measure is required.

Table ES.3 displays the projected amount of days for which construction would take place at the identified impacted roadway above as well as on roadways adjacent to residential areas. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas.

**TABLE ES.3
SUMMARY OF IMPACT DURATION – NORTH CITY PIPELINE**

Roadway	Segment	Length (ft)	Approximate Duration of Impact (days)
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	4,800	64
Miramar Road	Camino Ruiz and Black Mountain Road	3,000	40
	Black Mountain Rd and Kearny Villa Rd	1,000	14

Source: Chen Ryan Associates; May 2017.

The duration of the impacts is based on the anticipated 75 LF of pipeline installation per day. It is important to note that these impacts would not occur concurrently, but rather at different points in time depending on the location of pipeline construction¹, and the impacted area at any one time would encompass the work area as well as the traffic control setup length. Therefore, the project impacts shown above would be temporary in nature and no mitigation measures are required.

¹ The impacted roadway segment of Eastgate Mall, between NCPWF & NCWRP driveway and Miramar Road and Willow Road, between SR-67 and Moreno Avenue would be approximately 4,800 feet and 1,300 feet in length respectively, and at 75 feet of installation per day, it is estimated that it would take approximately 64 days and 17 days to complete, respectively. After the pipeline installation is complete at the first 75 LF, the next 75 LF of construction would begin to be under construction, etc.

ES. 5 San Vicente Pipeline – Construction Traffic

The San Vicente Pipeline connects the NCPWF and NCWRP sites at I-805 and Eastgate Mall to the San Vicente Reservoir traversing a number of local jurisdictions, including the cities of San Diego and Santee, and the community of Lakeside in unincorporated San Diego County. This is a much longer pipeline when compared to the North City Pipeline, covering approximately 190,600 LF (36 miles). San Vicente Pipeline, construction is anticipated to take place between December 2018 and May 2021. **Table ES.4** displays the work hours proposed for the roadway segments analyzed for the San Vicente Pipeline construction.

**TABLE ES.4
WORK HOURS ON ROADWAY SEGMENTS ALONG SAN VICENTE PIPELINE ALIGNMENT**

Roadway	Segment	Work hours
Section 1A		
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	9:00 PM to 5:00 AM
Miramar Rd	Nobel Dr and Eastgate Mall	9:00 PM to 5:00 AM
Copley Dr	Hickman Field Dr and Copley Park Pl	9:00 PM to 5:00 AM
Copley Park Pl	Copley Dr and Convoy St	9:00 PM to 5:00 AM
Convoy St	Copley Park Pl and Convoy Ct	9:00 PM to 5:00 AM
Convoy Ct	east of Convoy St	9:00 PM to 5:00 AM
Section 1B		
Ronson Rd	Ronson Ct and Kearny Mesa Rd	9:00 PM to 5:00 AM
Lightwave Ave	Kearny Villa Rd and Ruffin Rd	9:00 PM to 5:00 AM
Ruffin Rd	Clairemont Mesa Blvd and Lightwave Ave	9:00 PM to 5:00 AM
Clairemont Mesa Blvd	Ruffin Rd and Murphy Canyon Rd	9:00 PM to 5:00 AM
Murphy Canyon Rd	Clairemont Mesa Blvd and 1650 ft South of Clairemont Mesa Blvd	9:00 PM to 5:00 AM
Clairemont Mesa Blvd	1300 ft East of I-15 NB Ramps and Santo Rd	9:00 PM to 5:00 AM
Santo Rd	Clairemont Mesa Blvd and Tierrasanta Blvd	9:00 PM to 5:00 AM
Tierrasanta Blvd	Santo Rd and Copperleaf Ln	9:00 PM to 5:00 AM
Princess View Dr	north of Mission Gorge Rd	9:00 PM to 5:00 AM
Section 2		
Mission Gorge Rd	Princess View Dr and Golfcrest Dr	9:00 PM to 5:00 AM
	Golfcrest Dr and Rockyridge Rd	9:00 PM to 5:00 AM
	Rockyridge Rd and W Hills Pkwy	9:00 PM to 5:00 AM
W Hills Pkwy	Mission Gorge Rd and Carlton Oaks Dr	9:00 PM to 5:00 AM
Section 3		
Carlton Oaks Dr	W Hills Pkwy and Fanita Pkwy	9:00 PM to 5:00 AM
	400 ft West of Fanita Pkwy and Stoyer Dr	9:00 PM to 5:00 AM
Halberns Blvd	Stoyer Dr and Mast Blvd	9:00 PM to 5:00 AM
Section 4		
Mast Blvd	Halberns Blvd and Magnolia Ave	9:00 PM to 5:00 AM
	Magnolia Ave and Eastern Terminus	9:00 PM to 5:00 AM

**TABLE ES.4
WORK HOURS ON ROADWAY SEGMENTS ALONG SAN VICENTE PIPELINE ALIGNMENT**

Roadway	Segment	Work hours
Mast Blvd	Western Terminus and Riverford Rd	9:00 PM to 5:00 AM
Riverside Dr	Riverford Rd and Valle Vista Rd	9:00 PM to 5:00 AM
Lakeside Ave	Valle Vista Rd and Lakeside Ave/Channel Rd	9:00 PM to 5:00 AM
	Lakeside Ave/Channel Rd and SR-67	9:00 PM to 5:00 AM
Willow Rd	SR-67 and Moreno Ave	9:00 PM to 5:00 AM
Moreno Ave	San Vicente Reservoir and Willow Rd	9:00 PM to 5:00 AM

Source: City of San Diego Public Utilities Department and Construction Management and Field Services Department, May 2017.

Project Impacts and Mitigation Measures

Construction traffic associated with the San Vicente Alignment would result in a significant traffic impact to the following two roadway segments:

- Eastgate Mall, between the NCPWF & NCWRP driveway and Miramar Road – LOS F; and
- Willow Road, between SR-67 and Moreno Avenue – LOS F.

However, based on information provided by City of San Diego Public Utilities Department, construction of the pipeline would be performed 75 LF per day, and the impacted area at any one time would encompass the work area as well as the traffic control setup length. Therefore, these project impacts would be temporary in nature (approximately 64¹ working days and 17¹ working days, respectively) and since the construction will occur during nighttime when there is less traffic on the road, this roadway should function at reasonable operations. Therefore, since the impact would be temporary, no mitigation measures are required.

Table ES.5 displays the projected amount of days for which construction would take place at the identified impacted roadways above as well as on roadways adjacent to residential areas. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas.

**TABLE ES.5
SUMMARY OF IMPACT DURATION – SAN VICENTE PIPELINE**

Roadway	Segment	Length (ft)	Approximate Duration of Impact (days)
Section 1B			
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	4,800	64
Lightwave Avenue	Kearny Villa Rd and Ruffin Rd	4,800	64
Ruffin Rd	Clairemont Mesa Blvd and Lightwave Ave	880	12
Clairemont Mesa Blvd	1300 ft East of I-15 NB Ramps	1,300	18
Santo Rd	Clairemont Mesa Blvd and Tierrasanta Blvd	2,070	28
Tierrasanta Blvd	Santo Rd and Cooperleaf Ln	8,000	107
Section 2			
Mission Gorge Rd	Princess View Dr and Golfcrest Dr	11,300	151
	1160 ft west of Rockyridge Rd	1,160	16
	Rockyridge Rd and W Hills Pkwy	3,000	40

**TABLE ES.5
SUMMARY OF IMPACT DURATION – SAN VICENTE PIPELINE**

Roadway	Segment	Length (ft)	Approximate Duration of Impact (days)
W Hills Pkwy	Mission Gorge Rd and Carlton Oaks Dr	2,200	30
Section 3			
Carlton Oaks Dr	W Hills Pkwy and Fanita Pkwy	6,500	87
	400 ft West of Fanita Pkwy and Stoyer Dr	4,400	59
Halberns Blvd	Stoyer Dr and Mast Blvd	1,600	22
Section 4			
Mast Blvd	Halberns Blvd and Magnolia Ave	6,850	92
	Magnolia Ave and Eastern Terminus	4,000	54
	Western Terminus and Riverford Rd	2,500	32
Riverside Dr	Riverford Rd and Valle Vista Rd	5,400	72
Lakeside Dr	Valle Vista Rd and Lakeside Ave/Channel Rd	1,125	15
	Lakeside Ave/Channel Rd and SR-67	2,600	35
Willow Rd	SR-67 and Moreno Ave	1,300	17
Moreno Ave	San Vicente Reservoir and Willow Rd	9,600	125

Source: Chen Ryan Associates; May 2017.

The duration of the impacts is based on the anticipated 75 LF of pipeline installation per day. It is important to note that these impacts would not occur concurrently, but rather at different points in time depending on the location of pipeline construction¹, and the impacted area at any one time would encompass the work area as well as the traffic control setup length. Therefore, the project impacts shown above would be temporary in nature and no mitigation measures are required.

¹ The impacted roadway segment of Eastgate Mall, between NCPWF & NCWRP driveway and Miramar Road and Willow Road, between SR-67 and Moreno Avenue would be approximately 4,800 feet and 1,300 feet in length respectively, and at 75 feet of installation per day, it is estimated that it would take approximately 64 days and 17 days to complete, respectively. After the pipeline installation is complete at the first 75 LF, the next 75 LF of construction would begin to be under construction, etc.

ES. 6 Morena Pipelines – Construction Traffic

The Morena Pipelines propose the construction of two pipelines, a 30-inch brine pipeline and a 48-inch wastewater forcemain, running parallel to each other in a common pipe trench, connecting the Morena Pump Station which is to be located on a parcel currently owned by the San Diego Humane Society and the Society for the Prevention of Cruelty to Animals, to the NCWRP. The pipelines will connect the new pump station to the NCWRP, via Sherman Street, Morena Boulevard, West Morena Boulevard, Ingulf Street, Denver Street, Clairemont Drive, Clairemont Mesa Boulevard, Genesee Avenue, Nobel Drive, Towne Centre Drive, and Executive Drive, traversing the communities of Linda Vista, Clairemont Mesa, and University. This pipeline is approximately 11 miles. Construction of the Morena Pipelines is anticipated to take place between March 2019 and July 2021.

Pipeline construction is proposed largely to be open-trench, covering approximately 50,890 linear feet or 93% of the total alignment, while the tunneling sections cover approximately 4,105 linear feet or 7% of the total alignment. Based on information provided by City of San Diego Public Utilities Department and Construction Management and Field Services, the majority of the pipeline construction work hours are proposed to be during nighttime, between 9:00 pm and 5:00 am, with daytime construction along some roadway segments along the pipelines alignment. **Table ES.6** displays the work hours proposed for the roadway segments analyzed for the Morena Pipelines construction.

**TABLE ES.6
WORK HOURS ON ROADWAY SEGMENTS ALONG MORENA PIPELINES ALIGNMENT**

Roadway	Segment	Work Hours
Executive Drive	End of cul-de-sac and Judicial Drive	9:00 PM to 5:00 AM
Executive Drive	Judicial Drive and Towne Centre Drive	9:00 PM to 5:00 AM
Towne Centre Drive	Executive Drive and La Jolla Village Drive	9:00 PM to 5:00 AM
Towne Centre Drive	La Jolla Village Drive and Golden Haven Drive	8:30 AM to 3:30 PM
Towne Centre Drive	Golden Haven Drive and Nobel Drive	8:30 AM to 3:30 PM
Nobel Drive	Towne Centre Drive and Genesee Avenue	8:30 AM to 3:30 PM
Genesee Ave	Nobel Drive to Governor Drive	9:00 PM to 5:00 AM
Genesee Ave	Governor Drive and SR-52 WB Ramps	9:00 PM to 5:00 AM
Genesee Ave	SR-52 WB Ramps and SR-52 EB Ramps	9:00 PM to 5:00 AM
Genesee Ave	SR-52 EB Ramps and Appleton Street	9:00 PM to 5:00 AM
Genesee Ave	Appleton Street and Clairemont Mesa Blvd	(NB) 9:00 PM to 5:00 AM, (SB) 7:30 AM to 2:30 PM
Clairemont Mesa Blvd	Genesee Avenue and Clairemont Drive	8:30 AM to 3:30 PM
Clairemont Drive	Clairemont Mesa Boulevard and Lakehurst Avenue	7:30 AM to 4:30 PM
Clairemont Drive	Lakehurst Avenue and Clairemont Mesa Boulevard	7:30 AM to 4:30 PM
Clairemont Drive	Clairemont Mesa Boulevard and Balboa Avenue	7:30 AM to 4:30 PM
Clairemont Drive	Balboa Avenue to Rappahannock Avenue	7:30 AM to 4:30 PM
Clairemont Drive	Rappahannock Avenue to Iroquois Avenue	7:30 AM to 4:30 PM
Clairemont Drive	Iroquois Avenue to Burgener Drive	9:00 PM to 5:00 AM

**TABLE ES.6
WORK HOURS ON ROADWAY SEGMENTS ALONG MORENA PIPELINES ALIGNMENT**

Roadway	Segment	Work Hours
Clairemont Drive	Burgener Drive to Denver Street	9:00 PM to 5:00 AM
Denver St	Clairemont Drive and Ingulf Street	9:00 PM to 5:00 AM
Ingulf St	Denver Street and West Morena Boulevard	9:00 PM to 5:00 AM
West Morena Boulevard	Ingulf Street to Littlefield Street	9:00 PM to 5:00 AM
West Morena Boulevard	Littlefield Street to Morena Blvd	9:00 PM to 5:00 AM
West Morena Boulevard	Morena Boulevard and Tecolote Road Overpass	9:00 PM to 5:00 AM
West Morena Boulevard	Tecolote Road Overpass and Vega Street	9:00 PM to 5:00 AM
West Morena Boulevard	Vega Street and Morena Boulevard	9:00 PM to 5:00 AM

Source: City of San Diego Public Utilities Department and Construction Management and Field Services Department, May 2017.

The construction of the pipelines will also require the closure to through traffic of two roadways, Ingulf Street and Denver Street. The closure of the aforementioned roadways segments will result in the following traffic detours:

- Closure of Ingulf Street between West Morena Boulevard and Denver Street - Detour signs shall be placed redirecting traffic to travel on alternative routes along Milton Street, Lister Street, Jellett Street and Galveston Street.
- Closure of Denver Street between Ingulf Street and Clairemont Drive – Detour signs shall be placed redirecting traffic to travel on alternative routes along Milton Street, Lister Street, Jellett Street and Galveston Street.

It is important to note that the Morena Pipelines alignment coincides with the alignment for the construction of the Mid-Coast Trolley alignment (along West Morena Boulevard), therefore, close coordination is necessary between these two projects.

Project Impacts and Mitigation Measures

Roadway Segments

The construction traffic would result in significant traffic impact to thirteen (13) of studied roadway segments along the Morena Pipelines:

- Executive Drive, between end of cul-de-sac and Judicial Drive – LOS E;
- Towne Centre Drive, between La Jolla Village Drive and Golden Haven Drive – LOS F;
- Towne Centre Drive, between Golden Haven Drive and Nobel Drive – LOS F;
- Nobel Drive, between Towne Centre Drive and Genesee Avenue – LOS F;
- Genesee Avenue, between Governor Drive and SR-52 WB Ramps – LOS F;
- Genesee Avenue, between Appleton Street and Clairemont Mesa Boulevard – LOS F;
- Clairemont Mesa Boulevard, between Genesee Avenue and Clairemont Drive – LOS F;
- Clairemont Drive, between Clairemont Mesa Boulevard and Lakehurst Avenue – LOS F;
- Clairemont Drive, between Lakehurst Avenue and Clairemont Mesa Boulevard – LOS F;
- Clairemont Drive, between Clairemont Mesa Boulevard and Balboa Avenue – LOS F;
- Clairemont Drive, between Balboa Avenue and Rappahannock Avenue – LOS F;
- Clairemont Drive, between Rappahannock Avenue and Iroquois Avenue – LOS F; and
- Clairemont Drive, between Burgener Drive and Denver Street – LOS F.

Table ES.7 displays the projected amount of days for which construction would take place at the identified impacted roadways above as well as on roadways adjacent to residential areas. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas.

**TABLE ES.7
SUMMARY OF IMPACT DURATION – MORENA PIPELINES**

Roadway	Segment	Length (ft)	Approximate Duration of Impact (days)
Executive Drive	End of cul-de-sac and Judicial Drive	1,000	13
	Judicial Drive and Towne Centre Drive	550	7
Towne Centre Drive	Executive Drive and La Jolla Village Drive	880	12
	La Jolla Village Drive and Golden Haven Drive	1,300	26 ¹
	Golden Haven Drive and Nobel Drive	1,700	34 ¹
Nobel Drive	Towne Center Drive and Genesee Avenue	1,650	33 ¹
Genesee Avenue	Nobel Drive and Governor Drive	5,320	71
	Governor Drive and SR-52 WB Ramps	2,112	28
	SR-52 EB Ramps and Appleton Street	2,855	38
	Appleton Street and Clairemont Mesa Blvd	1,166	19 ²
Clairemont Mesa Boulevard	Genesee Avenue and Clairemont Drive	2,112	28

**TABLE ES.7
SUMMARY OF IMPACT DURATION – MORENA PIPELINES**

Roadway	Segment	Length (ft)	Approximate Duration of Impact (days)
Clairemont Drive	Clairemont Mesa Boulevard and Lakehurst Avenue	2,112	28
	Lakehurst Avenue and Clairemont Mesa Boulevard	1,056	14
	Clairemont Mesa Boulevard and Balboa Avenue	6,336	85
Clairemont Drive	Balboa Avenue and Rappahannock Avenue	2,112	28
	Rappahannock Avenue and Iroquois Avenue	3,696	49
	Iroquois Avenue and Burgener Blvd	1,160	15
	Burgener Blvd and Denver Street	3,168	42
Denver Street	Clairemont Drive and Ingulf Street	330	4
Ingulf Street	Denver Street and West Morena Boulevard	660	9
West Morena Boulevard	Ingulf Street to Littlefield Street	3,370	45
	Littlefield Street and Morena Boulevard	1,970	26
	Morena Boulevard and Tecolote Road Overpass	1,660	22
	Tecolote Road Overpass and Vega Street	300	4
	Vega Street and Morena Boulevard	1,700	23

Source: Chen Ryan Associates; June 2017.

Notes:

¹ Duration of Impact calculated based on 50 LF of pipeline installation per day due to restricted working hours.

² Duration of Impact calculated based on 60 LF of pipeline installation per day due to restricted working hours.

The duration of the impacts is based on the anticipated 75 LF of pipeline installation per day. It is important to note that these impacts would not occur concurrently, but rather at different points in time depending on the location of pipeline construction¹, and the impacted area at any one time would encompass the work area as well as the traffic control setup area. Therefore, the project impacts shown above would be temporary in nature and no mitigation measures are required.

¹ A roadway segment that measures 750 feet in length, at 75 feet of installation per day it is estimated that it would take approximately 10 days to complete. After the pipeline installation is complete at the first 75 LF, the next 75 LF of the roadway segment would be impacted, etc.

Intersections

The construction traffic would result in significant traffic impact to six (6) intersections along the Morena Pipelines:

- Towne Centre Drive & Nobel Drive – LOS F during the PM peak hour;
- Genesee Avenue & Nobel Drive – LOS F during both the AM and PM peak hours;
- Genesee Avenue & Appleton Street/Lehrer Drive – LOS F during both the AM and PM peak hours;
- Genesee Avenue & Clairemont Mesa Boulevard – LOS F during both the AM and PM peak hours;
- Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue – LOS F during both the AM and PM peak hours; and
- Clairemont Drive & Clairemont Mesa Boulevard – LOS F during both the AM and PM peak hours.

Since project construction conditions are temporary in nature, no physical mitigation measures are recommended. Instead, it is recommended that a Transportation Demand Management Plan is developed to limit the number of construction worker trips that travel through the impacted intersection during peak periods. The following lists a series of TDM strategies that would be appropriate during project construction.

- Implementation of a ride-sharing program to encourage carpooling amongst workers.
- Adjusting work schedules so workers do not access the site during the peak hours.
- Provide off-site parking locations for workers outside of the area with shuttle services to bring them on-site.
- Provide subsidized transit passes for construction workers

In order to help reduce the temporary transportation and parking related impacts associated with project construction, it is recommended that the project applicant develop a TDM plan utilizing one or multiple of the strategies listed above during the construction of the proposed project.

1.0 Introduction

1.1 Purpose of the Report

The purpose of this Transportation Impact Study (TIS) is to identify and document potential transportation related impacts associated with the North City project, as well as to recommend mitigation measures, as necessary. Three different components of impact assessments were conducted for this project: (1) permanent transportation impacts associated with the new or improved facilities, such as new North City Pure Water Facility (NCPWF), upgrades and expansion to existing water reclamation facilities, and new pump stations and pipelines; (2) temporary transportation impacts associated with the construction of the two potential pipeline alignment alternatives: Miramar and San Vicente between NCPWF and one of the reservoirs; and (3) temporary transportation impacts associated with the construction of the Morena Wastewater Forcemain and Brine/Centrate Line (Morena Pipelines) between the Morena Pump Station and NCPWF.

1.2 Project Background

On average, 85% of City's water supply is imported from the Colorado River and Northern California. This reliance on imported water causes San Diego to be vulnerable to supply shortages and price increases.

With few local water supply options, the City has explored potable and non-potable reuse options of treated wastewater. In 2011, the City started operating one million gallons per day (MGD) demonstration-scale advanced water purification facility at the NCWRP site and confirmed that the purified water complied with all federal and state drinking water standards.

On April 29, 2014, the City Council adopted a resolution (R-308906) supporting the implementation of the Pure Water Program. On November 18, 2014, the City Council unanimously supported the application to renew the NPDES permit for the Point Loma Wastewater Treatment Plant (WWTP); the application included key elements of the City's Pure Water Program to implement potable reuse.

The Pure Water Program will ultimately produce 83 MGD of locally controlled water, and will be implemented in phases over a 20-year period, grouped by geographical area: North City, Central Area, and South Bay. The North City Project will produce 30 MGD of purified water and is scheduled to be operational in 2021. The Central Area project and/or South Bay projects are scheduled to be completed by December 31, 2035, and will produce a combined total up to 53 MGD.

1.3 Project Description

The North City Project would use advanced water purification technology to produce potable water from recycled water and provide a safe, reliable, and cost-effective drinking water supply for San Diego. The North City Project would create up to 30 MGD of locally controlled potable water and reduce flows to the PLWTP, which in turn would reduce total suspended solids (TSS) discharged to the ocean.

The North City Project consists of the design and construction of a new 399,381 square-foot NCPWF, 1,528,043 square-foot upgrades to existing water reclamation facilities, and design and construction of new pump stations and pipelines. The North City Project would construct the NCPWF adjacent to the existing North City Water Reclamation Plant (NCWRP). Upgrades would occur at the existing NCWRP in order to provide sufficient tertiary influent for the NCPWF as well as to connect the existing centrate line with the proposed brine line. Pump station and pipeline facilities would convey different types of flows to and from the treatment facilities for: (1) diverting wastewater flows to NCWRP, (2) conveying recycled water to the NCPWF, (3) conveying purified water from the NCPWF to a reservoir, and (4) transporting waste flows (brine and sludge) from treatment processes to solids handling facilities or back into the Metropolitan Sewerage System (Metro System). Upgrades would also occur at the Metropolitan Biosolids Center (MBC) to handle the additional brine and sludge produced by the NCWRP expansion and advanced water purification process. A new renewable energy facility would be constructed at the NCWRP, which would receive landfill gas from the City's Miramar Landfill gas collection system via a new gas pipeline.

Two North City Project Alternatives (Project Alternatives) are proposed. The North City Purified Water Pipeline (North City Pipeline) would construct the NCPWF and would pipe purified water to Miramar Reservoir. The San Vicente Purified Water Pipeline (San Vicente Pipeline) would also construct the proposed NCPWF, but would include fewer treatment processes at the facility and would pipe purified water to the San Vicente Reservoir rather than the Miramar Reservoir. The San Vicente Pipeline would also include an additional pump station, the Mission Trails Booster Station (MTBS), along the San Vicente Pipeline alignment. The North City Pipeline would include improvements at the Miramar Water Treatment Plant (Miramar WTP).

From a TIS perspective, the following project components were examined for the North City Project:

1. New North City Pure Water Facility (NCPWF) – this facility is to be located on the north side of Eastgate Mall, across from the existing NCWRP and the entrance will be across the street from the entrance to the NCWRP and proposed to be signalized. **(45 employees total, permanent facility)**
2. Expansion of the existing North City Water Reclamation Plant (NCWRP) - this facility is currently located on the south side of Eastgate Mall, and takes access off of Eastgate Mall through the existing entrance. There is also a gated emergency access off of Miramar Road. **(15 additional employees total, permanent facility)**

-
3. Morena Pump Station and Pipelines – No permanent staff required with scheduled maintenance checks; **(0 staff, permanent facilities)**
 4. NCPWF Influent Pump Station and Conveyance – one part time employee only; **(1 employee, permanent facilities)**
 5. North City Pure Water Pipeline (North City Pipeline) and North City Pump Station - one part time employee only; **(1 employee, permanent facilities)**
 6. Pure Water Dechlorination Facility – 2 trips per week by offsite staff and 2 trips per month for chemical delivery. **(2 employees, permanent facility)**

The project site is located in San Diego, California. The regional location of the proposed project is displayed in **Figure 1-1**.

1.4 Report Organization

Following this introduction chapter, this report is organized into the following chapters:

- 2.0 *Analysis Methodology* – This chapter describes the methodologies and standards utilized to analyze roadway and intersection traffic conditions.
- 3.0 *North City Pure Water Facility* – This chapter describes the proposed project including project trip generation, trip distribution patterns, and project trip assignments. It also documents existing, near-term year 2022, and future year 2035 traffic operations both with and without the proposed project. Mitigation measures, if necessary, for project-related impacts are also identified.
- 4.0 *Purified Water Pipelines* – This chapter describes potential traffic impacts during pipeline construction for both the North City Pipeline and the San Vicente Pipeline alignment alternatives.
- 5.0 *Morena Wastewater Forcemain and Brine/Centrates Line* – This chapter discusses potential construction traffic impacts associated with pipelines connecting the expanded NCWRP and the Morena Pump Station.
- 6.0 *Findings* – This chapter provides a summary of project findings in terms of potential transportation related impacts and recommended mitigation measures.

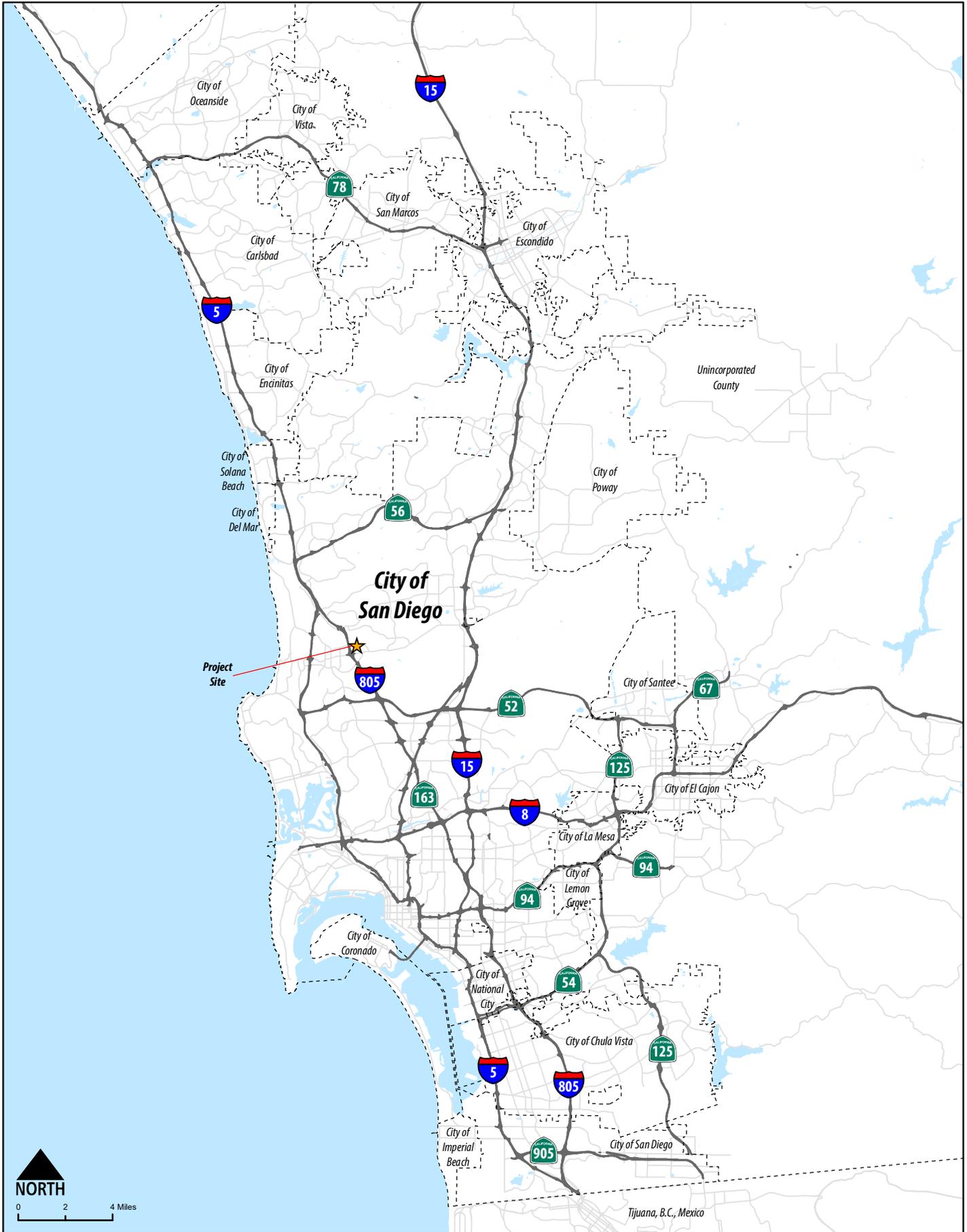


Figure 1-1
 Project Regional Location

2.0 Analysis Methodology

This TIS was performed in accordance with the requirements of the City of San Diego *Traffic Impact Study Manual* and the District's California Environmental Quality Act (CEQA) project review process. Detailed information on roadway segment analysis methodologies, standards, and thresholds are discussed in the following sections.

2.1 Level of Service Definition

Level of Service (LOS) is a quantitative measure describing operational conditions within a traffic stream, and the motorist's and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as delay, speed, travel time, freedom to maneuver, interruptions in traffic flow, queuing, comfort, and convenience. **Table 2.1** describes generalized definitions of the various LOS categories (A through F) as applied to roadway operations.

TABLE 2.1
LEVEL OF SERVICE DEFINITIONS

LOS Category	Definition of Operation
A	This LOS represents a completely free-flow condition, where the operation of vehicles is virtually unaffected by the presence of other vehicles and only constrained by the geometric features of the highway and by driver preferences.
B	This LOS represents a relatively free-flow condition, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.
C	At this LOS, the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles.
D	At this LOS, the ability to maneuver is notably restricted due to traffic congestion, and only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	This LOS represents operations at or near capacity. LOS E is an unstable level, with vehicles operating with minimum spacing for maintaining uniform flow. At LOS E, disruptions cannot be dissipated readily thus causing deterioration down to LOS F.
F	At this LOS, forced or breakdown of traffic flow occurs, although operations appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

Source: Highway Capacity Manual 2010

2.2 Roadway Segment LOS Standards and Thresholds

Roadway segment LOS standards and thresholds provide the basis for analysis of arterial roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast Average Daily Traffic (ADT) volumes. **Table 2.2** presents the roadway segment capacity and LOS standards utilized to analyze roadways evaluated in this report.

**TABLE 2.2
CITY OF SAN DIEGO ROADWAY CLASSIFICATIONS AND LOS STANDARDS**

Roadway Classification	LOS A	LOS B	LOS C	LOS D	LOS E
Expressway (6 lanes)	< 30,000	< 42,000	< 60,000	< 70,000	< 80,000
Primary Arterial (6 lanes)	< 25,000	< 35,000	< 50,000	< 55,000	< 60,000
Major Arterial (6-lane, divided)	< 20,000	< 28,000	< 40,000	< 45,000	< 50,000
Major Arterial (4-lane, divided)	< 15,000	< 21,000	< 30,000	< 35,000	< 40,000
Collector (4-lane w/ center lane)	< 10,000	< 14,000	< 20,000	< 25,000	< 30,000
Collector (4-lane w/o center lane)	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000
Collector (2-lane w/ continuous left-turn lane)	< 5,000	< 7,000	< 10,000	< 13,000	< 15,000
Collector (2-lane no fronting property)	< 4,000	< 5,500	< 7,500	< 9,000	< 10,000
Collector (2-lane commercial-industrial fronting)	< 2,500	< 3,500	< 5,000	< 6,500	< 8,000
Collector (2-lane multi-family)	< 2,500	< 3,500	< 5,000	< 6,500	< 8,000
Sub-Collector (2-lane single family)	-	-	< 2,200	-	-

Source: City of San Diego, Traffic Impact Study Manual, July 1998

Note:

Bold numbers indicate the ADT thresholds for acceptable LOS.

These standards are generally used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical attributes. Typically, the performance and LOS of a roadway segment is heavily influenced by the ability of its intersections to accommodate peak hour traffic volumes. For the purposes of this traffic analysis, LOS D is considered acceptable for the analyzed roadway segments.

2.3 Peak Hour Intersection LOS Standards and Thresholds

This section presents the methodologies used to perform peak hour intersection capacity analysis for signalized intersections. The following assumptions were utilized in conducting all intersection LOS analyses:

- *Pedestrian Calls per Hour:* 10 calls per hour for each pedestrian movement was assumed.
- *Signal Timing:* Based on existing signal timing plans (as of November, 2016), provided in **Appendix A**.
- *Peak Hour Factor:* Based on existing peak hour count data for existing conditions included in Appendix A, and 0.92 for all Near-Term Year 2022 conditions.

Signalized Intersection Analysis

The analysis of signalized intersections utilized the procedures outlined in the *2010 Highway Capacity Manual (HCM)*. This method defines LOS in terms of delay, or more specifically, average stopped delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption and lost travel time. This technique uses 1,900 vehicles per hour per lane (VPHPL) as the maximum saturation volume of an intersection. This saturation volume is adjusted to account for lane width, on-street parking, pedestrians, traffic composition (i.e., percentage trucks) and shared lane movements (i.e. through and right-turn movements originating from the same lane). The LOS criteria used for this technique are described in **Table 2.3**. The computerized analysis of intersection operations was performed utilizing *Synchro 9.0* traffic analysis software.

TABLE 2.3
SIGNALIZED INTERSECTION LOS CRITERIA

Average Stopped Delay Per Vehicle (seconds)	Level of Service (LOS) Characteristics
<10.0	<i>LOS A</i> describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
10.1 – 20.0	<i>LOS B</i> describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for <i>LOS A</i> , causing higher levels of average delay.
20.1 – 35.0	<i>LOS C</i> describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
35.1 – 55.0	<i>LOS D</i> describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
55.1 – 80.0	<i>LOS E</i> is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80.0	<i>LOS F</i> describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the <i>LOS D</i> capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: Highway Capacity Manual 2010

Unsignalized Intersection Analysis

Unsignalized intersections, including two-way and all-way stop controlled intersections were analyzed using the 2010 HCM unsignalized intersection analysis methodology. The Synchro 9.0 software supports this methodology and was utilized to produce LOS results. The LOS for a side-street stop controlled (SSSC) intersection is determined by the computed or measured control delay and is defined for the minor movement. **Table 2.4** summarizes the level of service criteria for unsignalized intersections. Consistent with City policy, LOS E was used in this study as the minimum acceptable LOS for peak hour intersection operations.

TABLE 2.4
LEVEL OF SERVICE CRITERIA FOR STOP CONTROLLED UNSIGNALIZED INTERSECTIONS

Average Control Delay (sec/veh)	Level of Service (LOS)
≤10.0	A
10.1 – 15.0	B
15.1 – 25.0	C
25.1 – 35.0	D
35.1 – 50.0	E
>50.0	F

Source: Highway Capacity Manual, Transportation Research Board (2010)

2.4 Determination of Significant Impacts

The City of San Diego Significance Determination Thresholds, January 2011 defines project impact thresholds by facility type. These thresholds are generally based upon an acceptable increase in the Volume / Capacity (V/C) ratio for roadway and freeway segments, and upon increases in vehicle delays at intersections and ramps.

Within the City of San Diego's jurisdiction, LOS D is considered acceptable for roadway and intersection operations. A project is considered to have a significant impact if it degrades the operations of a roadway or intersection from an acceptable LOS (D or better) to an unacceptable LOS (E or F), or if it adds additional delay to a facility already operating at an unacceptable level. **Table 2.5** summarizes the impact significant thresholds as identified within the City of San Diego's guidelines beyond which mitigation measures are required.

**TABLE 2.5
MEASURE OF SIGNIFICANT PROJECT TRAFFIC IMPACTS**

Level of Service (LOS) with Project*	Allowable Change Due to Impact**					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec)	Delay (min.)
LOS E (or ramp meter delays > 15 min.)	0.010	1.0	0.02	1.0	2.0	2.0
LOS F (or ramp meter delays > 15 min.)	0.005	0.5	0.01	0.5	1.0	1.0

Source: City of San Diego, Significance Determination Thresholds (January 2011)

Note 1: The allowable increase in delay at a ramp meter with more than 15 minutes of delay and freeway LOS E is 2 minutes.

Note 2: The allowable increase in delay at a ramp meter with more than 15 minutes of delay and freeway LOS F is 1 minute.

* All level of service (LOS) measurements are based upon HCM procedures for peak-hour conditions. However, vehicle to capacity (V/C) ratios for roadway segments may be estimated on an ADT/24-hour traffic volume basis (using Table 2.1 or a similar LOS chart for each jurisdiction). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

** If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigation (within the Traffic Impact Study report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see above * note), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating significant impact changes.

3.0 North City Pure Water Facility

This chapter describes the proposed project, including land uses and estimated trip generation, trip distribution, trip assignment, and project study area. It also documents existing, near-term year 2022, and future year 2035 traffic operations both with and without the proposed project. Mitigation measures, if necessary, for project-related impacts are also identified. Construction of the NCPWF is anticipated to take place between October 2018 and November 2021, while for the expansion of the NCWRP, construction is anticipated to take place between October 2018 and December 2021.

3.1 Project Description

The North City Project would use advanced water purification technology to produce potable water from recycled water and provide a safe, reliable, and cost-effective drinking water supply for San Diego. The North City Project would create up to 30 MGD of locally controlled potable water and reduce flows to the PLWTP, which in turn would reduce total suspended solids (TSS) discharged to the ocean.

The North City Project would construct the NCPWF adjacent to the existing NCWRP. Upgrades would occur at the existing NCWRP in order to provide sufficient tertiary influent for the NCPWF as well as to connect the existing centrate line with the proposed brine line. Pump station and pipeline facilities would convey different types of flows to and from the treatment facilities for: (1) diverting wastewater flows to NCWRP, (2) conveying recycled water to the NCPWF, (3) conveying purified water from the NCPWF to a reservoir, and (4) transporting waste flows (brine and sludge) from treatment processes to solids handling facilities or back into the Metropolitan Sewerage System (Metro System). Upgrades would also occur at the Metropolitan Biosolids Center (MBC) to handle the additional brine and sludge produced by the NCWRP expansion and advanced water purification process. A new renewable energy facility would be constructed at the NCWRP, which would receive landfill gas from the City's Miramar Landfill gas collection system via a new gas pipeline.

3.2 Project Trip Generation, Distribution, and Assignment

Project Trip Generation

Construction of the new 399,381 square-foot NCPWF and 1,528,043 square-foot expansion of the current NCWRP would generate permanent traffic on a regular/daily basis due to the additional staffing needed to run and operate these facilities, therefore, included in the traffic impact analyses from this point forward. All other uses are considered negligible traffic generators and are not included in this TIS. The following information was provided by City of San Diego Public Utilities Department, regarding projected additional staffing at both NCPWF and NCWRP expansion, which was utilized to derive trip generation for the project:

NCPWF

- 37 employees during regular day shift (6:00 am to 3:00 pm)
- 8 employees after regular day shift (3:00 pm to 6:00 am)

NCWRP

- 9 employees during regular day shift (6:00 am to 3:00 pm)
- 6 employees after regular day shift (3:00 pm to 6:00 am)

Table 3.1 displays the anticipated daily and peak hour project trip generation. Note that the 3 trips per employee trip rate was based on each employee commuting to and from work (2 trips a day) and the assumption of approximately 50% of employees making two extra trips (inbound and outbound) during their shift for reasons such as meetings, lunch, etc.

**TABLE 3.1
PROJECT TRIP GENERATION**

Land Use	Quantity (employees)	Trip Rate	Daily Trips	AM Peak Hour (5 AM to 6 AM)	PM Peak Hour (3 PM to 4 PM)
				Trips	Trips
North City Pure Water Facility	45	3 / employee	135	41 (37-in / 4-out)	41 (4-in / 37-out)
North City Water Reclamation Plant - Expansion	15	3 / employee	45	12 (9-in / 3-out)	12 (3-in / 9-out)
Total			180	53 (46-in / 7-out)	53 (7-in / 46-out)

Source: City of San Diego; May 2017.

As shown, the proposed project would generate a total of 180 daily trips, 53 trips (46-in / 7-out) during the AM peak hour, and 53 trips (7-in / 46-out) during the PM peak hour.

Based on input from the City of San Diego Public Utilities Department, employees who work after the regular day shift (6:00 AM to 3:00 PM) are divided into two shifts at 4-person per shift at the NCPWF and two shifts at 3-person per shift at NCWRP and would work from 3:00 PM to 11:00 PM and from 11:00 PM to 6:00 AM.

It is important to note that the proposed work shift for the majority of the workers at these facilities is from 6:00 AM to 3:00 PM. After review of the daily traffic counts in 15-min intervals on the roadway facilities in the study area, it was determined that the commute hours for this specific project did not coincide with the regular commute hours of 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. Hence, the new NCPWF and expansion of the current NCWRP would not likely contribute traffic to the study area during the regular commute hours. Furthermore, even if 20 percent of the workers were to arrive to/depart the project site during regular commute hours, this would result in approximately 12 trips during the AM peak hour and 12 trips during the PM peak hour. This amount of peak hour traffic is less than the 50-peak hour trip requirement for a traffic impact study, per the City of San Diego *Traffic Impact Study Manual, July 1998*. Therefore, a peak hour intersection analysis was not performed as part of the analysis of this project.

Project Trip Distribution

Trip distribution for the proposed project was developed based on existing traffic patterns, surrounding land uses, as well as access to freeways, and it is displayed in **Figure 3-1**.

Project Trip Assignment

Based upon the assumed project trip distribution (Figure 3-1), as well as the anticipated project trip generation (Table 3.1), daily project trips were assigned to the adjacent roadway network, as displayed in **Figure 3-2**.

3.3 Project Study Area

This TIS was performed in accordance with the requirements of the City of San Diego Traffic Impact Study Manual, July 1998 requirements. The City of San Diego Traffic Impact Study Manual requires that the defined study area include all regionally significant arterial system segments and intersections where the proposed project would add 50 or more peak hour trips in either direction, mainline freeway locations where the project would add 150 or more peak hour trips in either direction, and metered freeway on-ramps where the proposed project would add 20 or more peak hour trips. Additionally, it provides a methodology for determining potentially affected roadway segments using ADT and roadway capacity.

Based on the City of San Diego Traffic Impact Study Manual requirements, the expected project trips, and trip assignment, no intersection peak hour analysis or roadway segment analysis is required. However, the following key study area roadway segments were analyzed to show project does not result in impacting any of the roadway segments within the study area:

Eastgate Mall between

- Towne Center Drive & Judicial Drive
- Judicial Drive & 280 feet west of I-805 Overpass
- 280 feet west of I-805 Overpass & NCWRP Driveway
- NCWRP Driveway & Eastgate Drive
- Eastgate Drive & Miramar Road

Towne Center Drive between

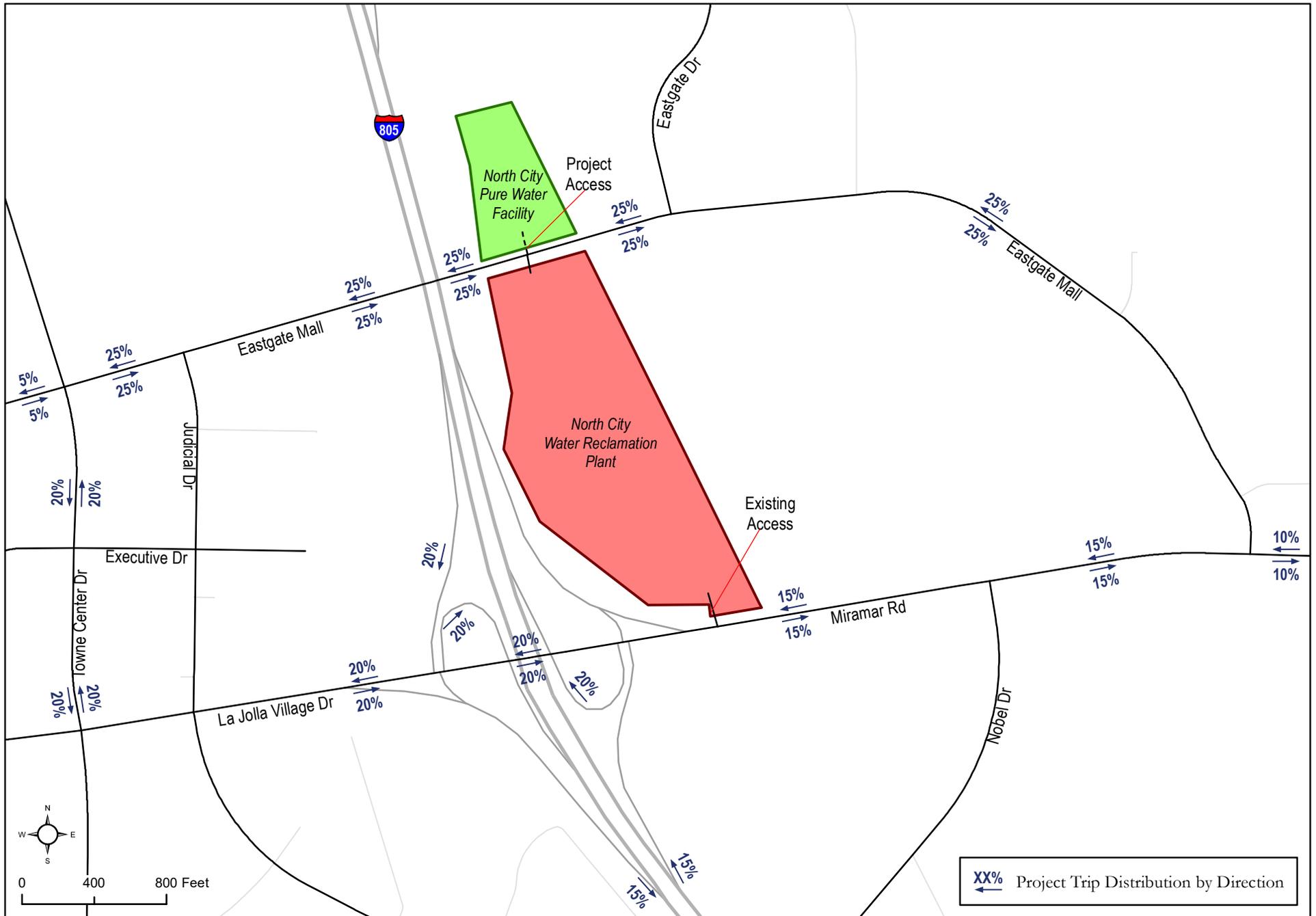
- Eastgate Mall & Executive Drive
- Executive Drive & La Jolla Village Drive

La Jolla Village Drive between

- Towne Center Drive & I-805 SB Ramps

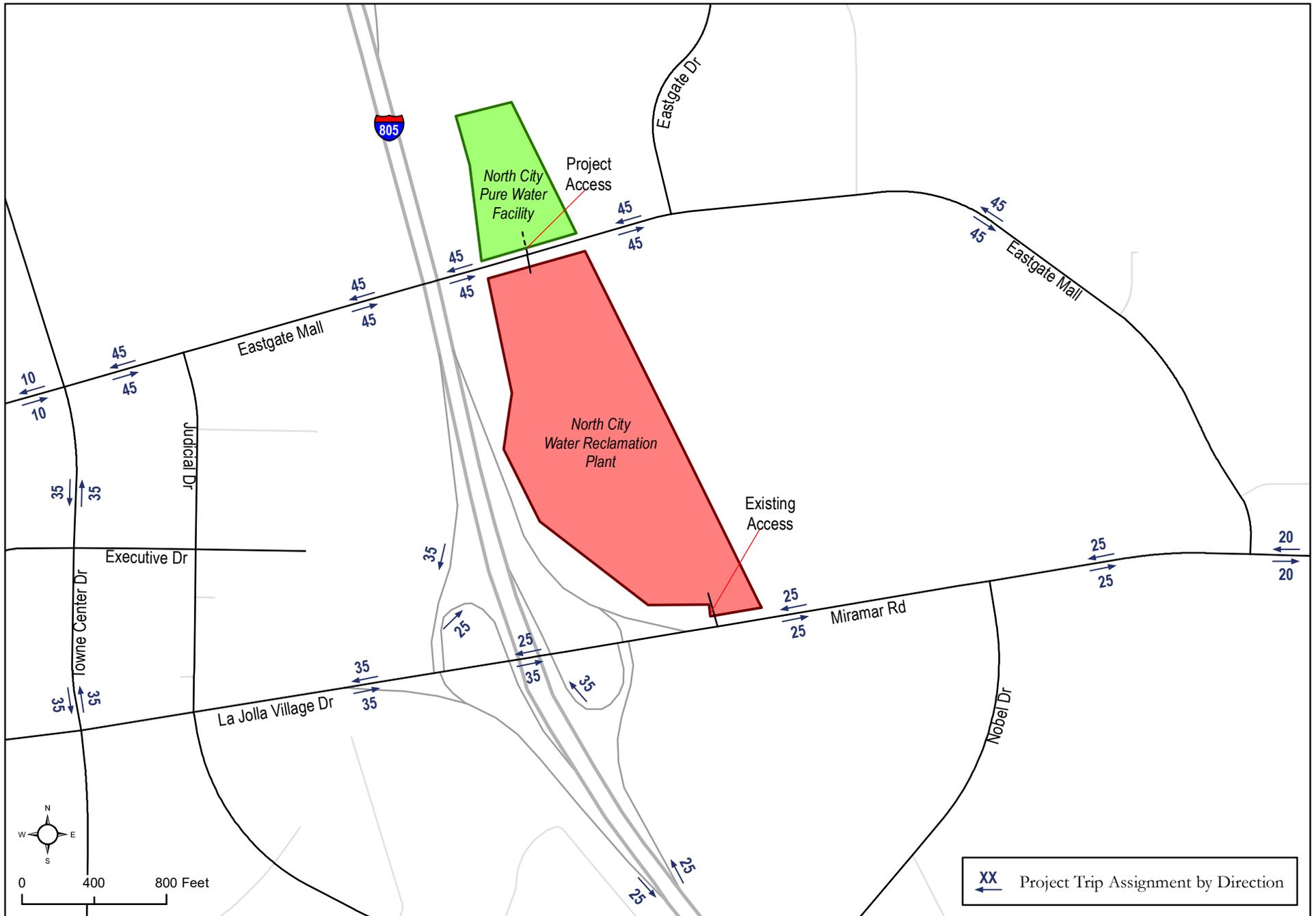
Miramar Road between

- I-805 SB Ramps & I-805 NB Ramps
- I-805 NB Ramps & Nobel Drive
- Nobel Drive & Eastgate Mall



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Figure 3-1
 Project Trip Distribution



The proposed project is not anticipated to contribute more than 50 peak hour trips on Interstate 805 (I-805) in either direction nor 20 or more peak hour trips on I-805 freeway metered on-ramps; therefore, a freeway impact analysis nor a ramp metering analysis was conducted. **Figure 3-3** illustrates the project study area.

3.4 Existing Conditions

This section provides an analysis of the current traffic conditions.

Existing Roadway Network

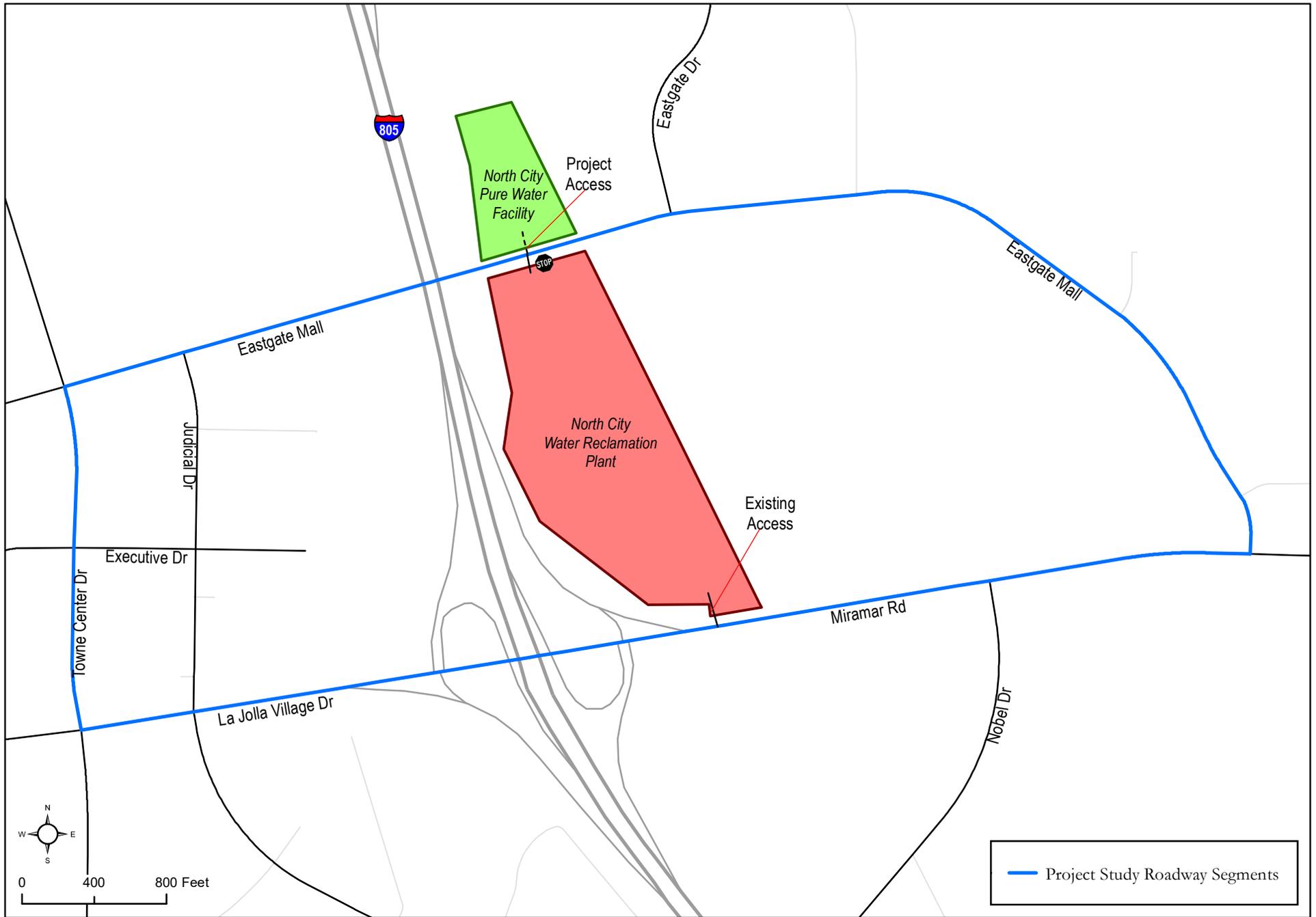
Four locally significant roadways traverse the study area. Each of the key roadways included in the study area are discussed below.

North-South Facilities

Towne Center Drive – Within the project study area, Towne Center Drive is a four-lane roadway with a raised median and a posted speed limit of 40 mph between Eastgate Mall and La Jolla Village Drive. Parallel parking is generally permitted on both sides of the roadway between Eastgate Mall and Executive Drive, while between Executive Drive and La Jolla Village Drive parallel parking is prohibited on both sides of the roadway. Within the project study area, sidewalks are present on both sides of the roadway. Bicycle facilities are not present on either side of the roadway between Eastgate Mall and Executive Drive, while a Class II bicycle lane is present on both sides of the roadway between Executive Drive and La Jolla Village Drive. Towne Center Drive is classified as a four-lane Major Arterial roadway in the currently adopted *University Community Plan*, last updated December 2016.

East-West Facilities

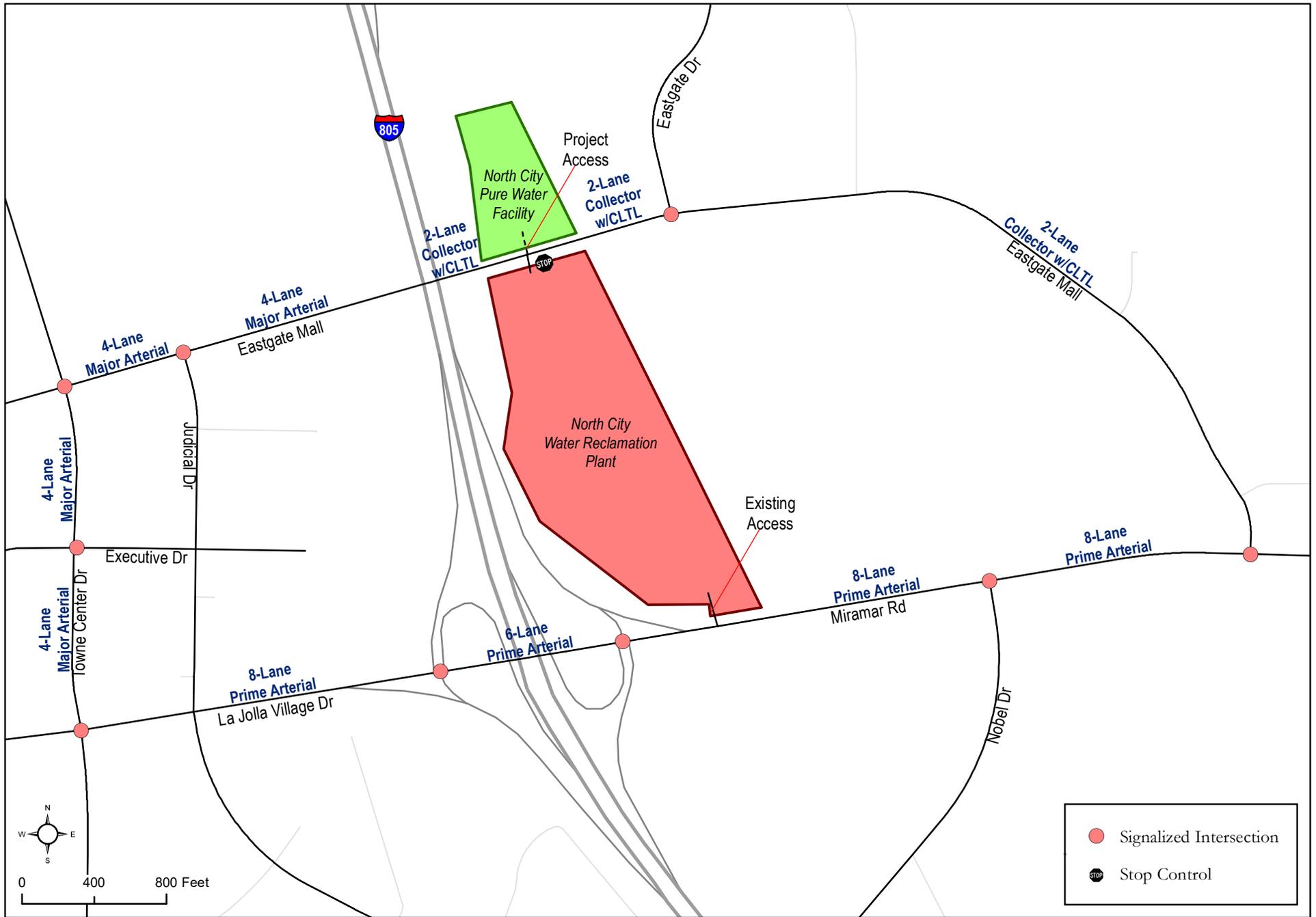
Eastgate Mall – Within the project study area, Eastgate Mall is a four-lane roadway with a raised median between Towne Center Drive and just west (approximately 280 feet) of the I-805 overpass. Sidewalks and Class II bicycle lanes are present on both sides of the roadway. Between 280 feet west of the I-805 freeway overpass and the North City Water Reclamation Plan driveway, the roadway transitions from a four-lane roadway with a raised median into an undivided two-lane roadway. Just east of the I-805 overpass, unpaved shoulders are present, providing space for potential roadway widening in the event that this roadway needs to be widened and restriped to include left-turn pockets. Sidewalks are generally present on the south side of the roadway while Class II bicycle lanes are present on both sides. East of the NCWRP driveway, Eastgate Mall is a two-lane roadway with a center left-turn lane between Eastgate Drive and Miramar Road with a posted limit of 45 mph. Parallel parking is allowed in some segments with a sidewalk on the westbound side and parallel and perpendicular parking in the dirt shoulder on the eastbound side. Eastgate Mall is classified as a four-lane Collector roadway between Towne Centre Drive and Miramar Road in the currently adopted *University Community Plan*, last updated December 2016.



La Jolla Village Drive – Within the project study area, La Jolla Village drive is an eight-lane roadway with a landscaped raised median and a posted speed limit of 50 mph between Towne Center Drive and the I-805 southbound ramps. Sidewalks are present on both sides and a Class II bicycle lane is present in the north side of the roadway. Parking is prohibited on both sides of the roadway. La Jolla Village Drive is classified as an eight-lane Primary Arterial roadway between Towne Center Drive and the I-805 SB Ramps, in the currently adopted *University Community Plan*, last updated December 2016.

Miramar Road – Within the project study area, Miramar Road is a six-lane roadway with a raised median and a posted speed limit of 50 mph between the I-805 SB Ramps and the I-805 NB ramps. East of the I-805 NB Ramps, Miramar Road transitions from a six-lane roadway into an eight-lane roadway until reaching Nobel Drive, where it drops a lane and becomes a seven-lane roadway until reaching Eastgate Mall. Sidewalks and Class II bicycle lanes are present on both sides along the entire roadway, with the exception of approximately 300 feet of sidewalk on the south side of the roadway between the I-805 NB Ramps and Nobel Drive. Parking is prohibited on both sides of the roadway. Miramar Road is classified as a six-lane Primary Arterial between the I-805 SB Ramps and Eastgate Mall, in the currently adopted *University Community Plan*, last updated December 2016.

Figure 3-4 displays the existing cross-sections/functional classifications for the key study area roadway segments.



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Figure 3-4
 Roadway Geometrics - Existing Conditions

Existing Roadway Traffic Volumes

Existing traffic volumes are displayed in **Figure 3-5**. Roadway segment traffic counts were obtained from the *University Community Plan Amendment Transportation Impact Study* prepared by Kimley-Horn and Associates, Inc. dated June 2016. These counts were collection in April and May 2015 and count worksheets are provided in Appendix A.

Existing Roadway Level of Service Analysis

Level of Service analyses under Existing conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment LOS analysis is discussed below.

Table 3.2 displays the LOS analysis results for key study area roadway segments under Existing conditions.

**TABLE 3.2
ROADWAY SEGMENT LOS RESULTS - EXISTING CONDITIONS**

Roadway	Segment	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS
Towne Center Drive	Eastgate Mall and Executive Drive	4-Lane Major Arterial	40,000	20,120	0.503	B
	Executive Drive and La Jolla Village Drive	4-Lane Major Arterial	40,000	20,120	0.503	B
Eastgate Mall	Towne Center Drive and Judicial Drive	4-Lane Major Arterial	40,000	11,120	0.278	A
	Judicial Drive and 280 feet west of I-805 Overpass	4-Lane Major Arterial	40,000	10,100	0.253	A
	280 feet west of I-805 Overpass and NCWRP Driveway	2-Lane Collector W/ CLTL	15,000	10,100	0.673	D
	NCWRP Driveway and Eastgate Drive	2-Lane Collector W/ CLTL	15,000	10,100	0.673	D
	Eastgate Drive and Miramar Road	2-Lane Collector W/ CLTL	15,000	14,670	0.978	E
La Jolla Village Drive	Towne Center Drive and I-805 SB Ramps	8-Lane Prime Arterial	80,000	58,830	0.735	C
Miramar Road	I-805 SB Ramps and I-805 NB Ramps	6-Lane Prime Arterial	60,000	66,140	1.102	F
	I-805 NB Ramps and Nobel Drive	8-Lane Prime Arterial	80,000	47,990	0.600	C
	Nobel Drive and Eastgate Mall	7-Lane Prime Arterial	70,000 ¹	64,560	0.922	E

Source: University Community Plan Amendment Transportation Impact Study, Chen Ryan Associates; May 2017.

Notes:

V/C = Volume to Capacity Ratio.

Bold letter indicates substandard LOS E or F.

CLTL = Continuous Left-Turn Lane.

¹ Based on the Capacity of an 8-Ln Prime Arterial, reduced to exclude a lane. ($7/8 \times 80,000 = 70,000$)

As shown in Table 3.2, all the key study area roadway segments currently operate at acceptable LOS D or better with the following three (3) exceptions:

- Eastgate Mall, between Eastgate Drive and Miramar Road – LOS E;
- Miramar Road, between I-805 SB Ramps and I-805 NB Ramps – LOS F; and
Miramar Road, between Nobel Drive and Eastgate Mall – LOS E.



Figure 3-5
 Traffic Volumes - Existing Conditions

3.5 Existing Plus Project Conditions

This section provides an analysis of Existing traffic conditions with the addition of project traffic generated by the new NCPWF and the NCWRP expansion.

Existing Plus Project Roadway Network and Traffic Volumes

The roadway network under Existing Plus Project conditions is assumed to be identical to the Existing conditions (shown in Figure 3-4). Existing Plus Project traffic volumes were derived by combining the existing traffic volumes (displayed in Figure 3-5) with the project trip assignment volumes (displayed in Figure 3-2). Daily roadway volumes are displayed in **Figure 3-6**.

Existing Plus Project Roadway Level of Service Analysis

Analyses were conducted using the methodologies described in Chapter 2.0. Roadway segment LOS analysis results are discussed below. **Table 3.3** displays the LOS analysis results for key roadway segments under Existing Plus Project conditions.

**TABLE 3.3
ROADWAY SEGMENT LOS RESULTS - EXISTING PLUS PROJECT CONDITIONS**

Roadway	Segment	Functional Classification	Threshold (LOS E)	Existing + Project			Existing		Δ	SI?
				ADT	V/C	LOS	ADT / V/C / LOS			
Towne Center Drive	Eastgate Mall and Executive Drive	4-Lane Major Arterial	40,000	20,190	0.505	B	20,120 / 0.503 / B	0.002	N	
	Executive Drive and La Jolla Village Drive	4-Lane Major Arterial	40,000	20,190	0.505	B	20,120 / 0.503 / B	0.002	N	
Eastgate Mall	Towne Center Drive and Judicial Drive	4-Lane Major Arterial	40,000	11,210	0.280	A	11,120 / 0.278 / A	0.002	N	
	Judicial Drive and 280 feet west of I-805 Overpass	4-Lane Major Arterial	40,000	10,190	0.255	A	10,100 / 0.253 / A	0.002	N	
	280 feet west of I-805 Overpass and NCWRP Driveway	2-Lane Collector W/ CLTL	15,000	10,190	0.679	D	10,100 / 0.673 / D	0.006	N	
	NCWRP Driveway and Eastgate Drive	2-Lane Collector W/ CLTL	15,000	10,190	0.679	D	10,100 / 0.673 / D	0.006	N	
	Eastgate Drive and Miramar Road	2-Lane Collector W/ CLTL	15,000	14,760	0.984	E	14,670 / 0.978 / E	0.006 <0.02	N	

**TABLE 3.3
ROADWAY SEGMENT LOS RESULTS - EXISTING PLUS PROJECT CONDITIONS**

Roadway	Segment	Functional Classification	Threshold (LOS E)	Existing + Project			Existing		Δ	SI?
				ADT	V/C	LOS	ADT / V/C / LOS			
La Jolla Village Drive	Towne Center Drive and I-805 SB Ramps	8-Lane Prime Arterial	80,000	58,900	0.736	C	58,830 / 0.735 / C	0.001	N	
Miramar Road	I-805 SB Ramps and I-805 NB Ramps	6-Lane Prime Arterial	60,000	66,210	1.104	F	66,140 / 1.102 / F	0.001 <0.01	N	
	I-805 NB Ramps and Nobel Drive	8-Lane Prime Arterial	80,000	48,040	0.601	C	47,990 / 0.600 / C	0.001	N	
	Nobel Drive and Eastgate Mall	7-Lane Prime Arterial	70,000	64,610	0.923	E	64,560 / 0.922 / E	0.001 <0.02	N	

Source: Chen Ryan Associates; May 2017.

Notes:

Bold letter indicates substandard LOS E or F.

CLTL = Continuous Left-Turn Lane.

SI? = Significant Impact?

¹ Based on the Capacity of an 8-Ln Prime Arterial, reduced to exclude a lane. (7/8*80,000 = 70,000)



As shown in the Table 3.3, similar to existing conditions, all of the roadways within the study area would continue to operate at acceptable LOS D or better under Existing Plus Project conditions, with the following three (3) exceptions:

- Eastgate Mall, between Eastgate Drive and Miramar Road – LOS E;
- Miramar Road, between I-805 SB Ramps and I-805 NB Ramps – LOS F; and
- Miramar Road, between Nobel Drive and Eastgate Mall – LOS E.

Project Impacts and Mitigation Measures

Based upon the significance criteria presented in Section 2.4 of this report, the addition of project traffic would not result in any significant traffic related impacts to the study area roadway segments under Existing Plus Project condition.

3.6 Near-Term Year 2022 Base Traffic Conditions

Based on review of the Project Data Summary (PDSS) Draft prepared by HDR dated on 9/28/2016, it was determined that the proposed project would be in operations by year 2022. This section provides an analysis of Near-Term Year 2022 traffic conditions without the proposed project.

Cumulative Project Traffic

Chen Ryan Associates has obtained a list of potential cumulative projects (within one mile of the proposed project) from the City of San Diego's website (<http://opensd.sandiego.gov/web/maps/approvaldiscretionary>). This list was then carefully reviewed and discussed with Development Services Department in order to develop the following twelve (12) cumulative projects which are anticipated to contribute traffic to the project study area. These cumulative projects (listed in **Table 3.4**) are included in the near-term year 2022 base scenario to provide an accurate background for comparing traffic impacts associated with the proposed project.

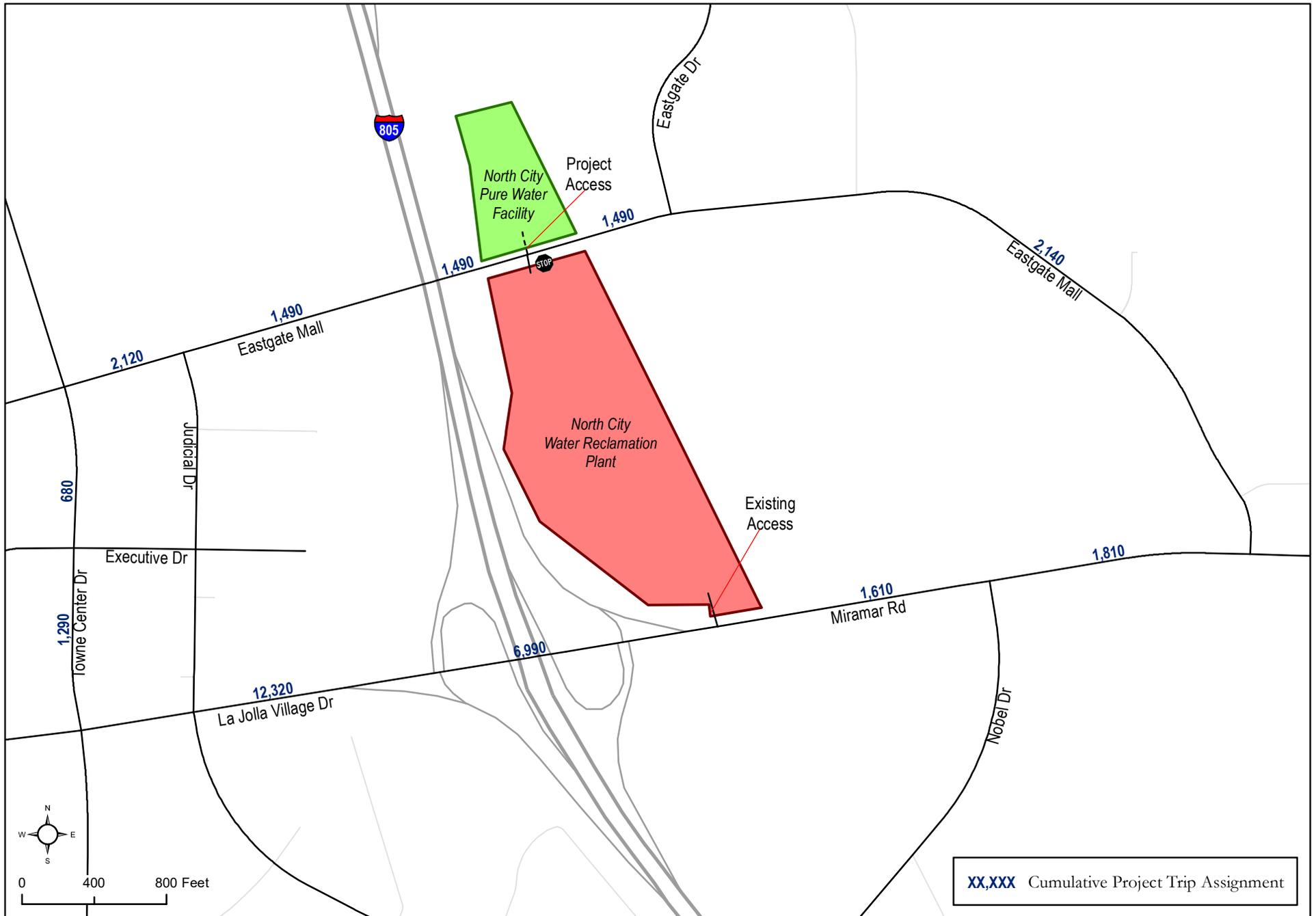
Table 3.4 displays the trip generation for the cumulative projects previously described. All trip generation rates for the cumulative projects were derived from the City of San Diego *Land Use Development Code – Trip Generation Manual – Revised May 2003*.

Separate distributions were developed (included in **Appendix B**) for each of the cumulative projects in order to accurately reflect the associated travel patterns. The distribution patterns were based on the location of cumulative project access points to the regional roadway network and predicted travel patterns. **Figure 3-7** displays assignment of the cumulative project trips to the study area roadways.

**TABLE 3.4
CUMULATIVE PROJECTS TRIP GENERATION**

Project ID	Project Location	Project Description	Daily Trip Generation
1	4570 Executive Drive	Construct a 95,609 square-foot commercial building with two (2) commercial condominium units on a 3.36-acre site	1,632
2	4589 La Jolla Village Drive	Add approximately 483,000 square feet of retail space, 300 residential units, associated parking structures and the Transit Center encompasses 75.86 acres	21,906
3	4770 Eastgate Mall	Construct a 62,805 square-foot three-story office building over sub-level parking.	1,188
4	4755 Nexus Centre Drive	Construct a new 78,000 square-foot research & development three-story building, with subterranean parking, on a 11.27-acre site.	624
5	4767 Nexus Centre Drive	Demolish a 69,000 square-foot building and construct a 122,015 square-foot four story research & development building.	425
6	4775 Executive Drive	Construct a 250,000 square-foot office and research & development building over 3 level below grade parking on a 7.07-acre site.	2,000
7	6320 Miramar Road	Construct a 21,000 square-foot retail/warehouse building on a vacant 1.5-acre site.	105
8	9923 1/3 Olson Drive	Change in use from an existing equipment and materials storage facility for the development of a private parking facility for utilization by the adjacent FedEx Building site 13.61-acre site.	817
9	5909 Nancy Ridge Drive	Construct two level pads for an outdoor storage yard and an access road on a 13.95-acre site.	837
10	6162 Nancy Ridge Drive	Construct a 47,228 square-foot four story research & development/Office building and a five-story parking structure on a 3-acre site.	378
11	9198 Genesee Avenue	Construction of 560 multi-family dwelling units.	3,360
12	9015 Judicial Drive	Construct 309 residential condominiums with deviation to building height and remove Prime Industrial Lands designation on a 7.93-acre site.	1,854
Total			35,126

Source: City of San Diego, Chen Ryan Associates, May 2017.



Near-Term Year 2022 Base Roadway Network and Traffic Volumes

It is assumed that roadway geometrics under Near-Term Year 2022 Base conditions would be identical to those under Existing conditions, as previously displayed in in Figure 3-4.

Near-Term Year 2022 Base traffic volumes were derived by adding the additional trips generated by the cumulative projects (shown in Figure 3-7) to the existing traffic volumes (displayed in Figure 3-5). **Figure 3-8** displays average daily traffic volumes for the study roadway segments under the Near-Term Year 2022 Base conditions.

Near-Term Year 2022 Base Roadway Level of Service Analysis

LOS analyses for Near-Term Year 2022 Base Conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment LOS analysis is discussed below. **Table 3.5** displays the LOS analysis results for key roadway segments under the Near-Term Year 2022 Base Conditions.

**TABLE 3.5
ROADWAY SEGMENT LOS RESULTS - NEAR-TERM YEAR 2022 BASE CONDITIONS**

Roadway	Segment	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS
Towne Center Drive	Eastgate Mall and Executive Drive	4-Lane Major Arterial	40,000	20,800	0.520	B
	Executive Drive and La Jolla Village Drive	4-Lane Major Arterial	40,000	21,410	0.535	C
Eastgate Mall	Towne Center Drive and Judicial Drive	4-Lane Major Arterial	40,000	13,240	0.331	A
	Judicial Drive and 280 feet west of I-805 Overpass	4-Lane Major Arterial	40,000	11,590	0.290	A
	280 feet west of I-805 Overpass and NCWRP Driveway	2-Lane Collector W/ CLTL	15,000	11,590	0.773	D
	NCWRP Driveway and Eastgate Drive	2-Lane Collector W/ CLTL	15,000	11,590	0.773	D
	Eastgate Drive and Miramar Road	2-Lane Collector W/ CLTL	15,000	16,810	1.121	F
La Jolla Village Drive	Towne Center Drive and I-805 SB Ramps	8-Lane Prime Arterial	80,000	71,150	0.889	D
Miramar Road	I-805 SB Ramps and I-805 NB Ramps	6-Lane Prime Arterial	60,000	73,130	1.219	F
	I-805 NB Ramps and Nobel Drive	8-Lane Prime Arterial	80,000	49,600	0.620	C
	Nobel Drive and Eastgate Mall	7-Lane Prime Arterial	70,000	66,370	0.948	E

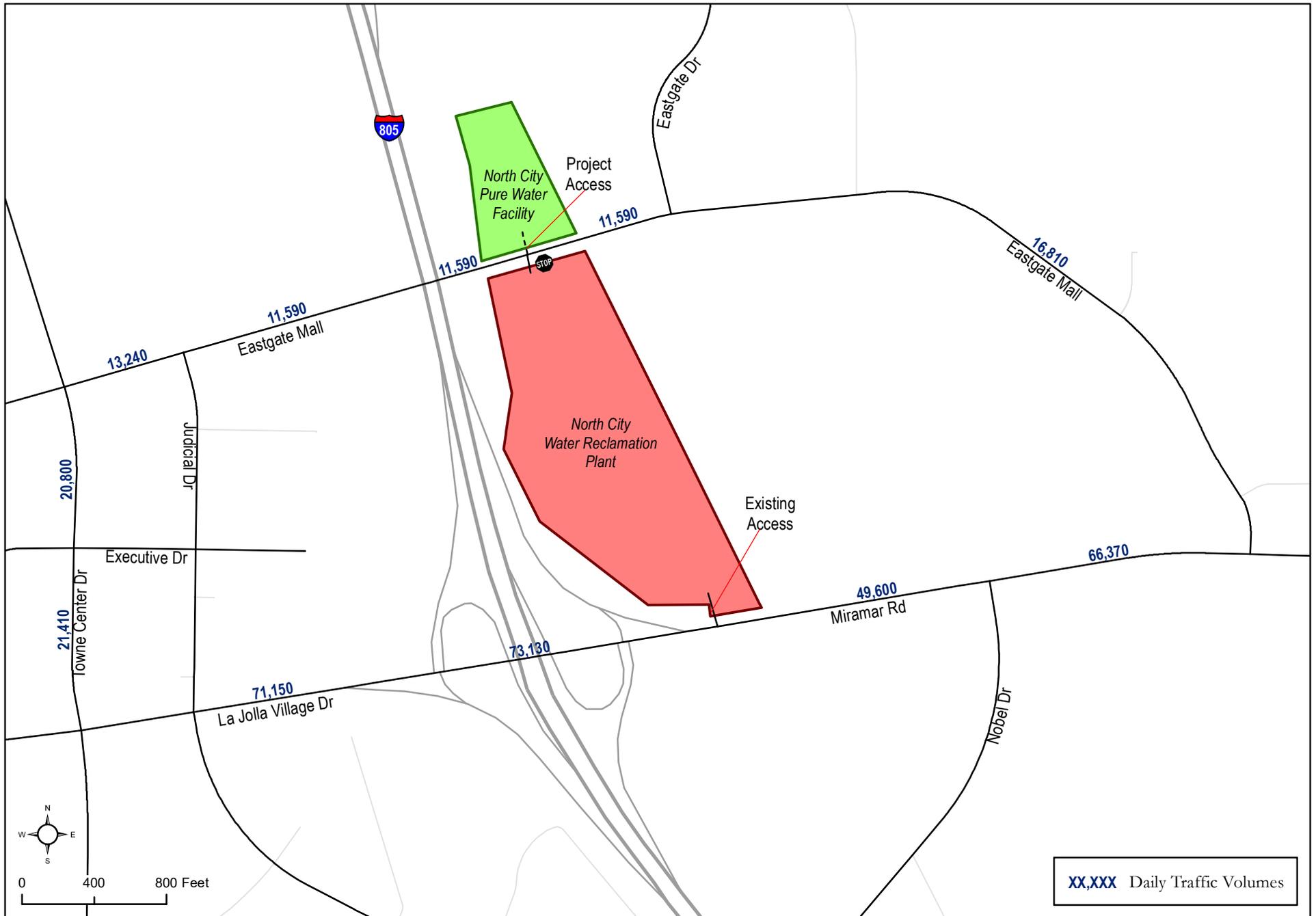
Source: Chen Ryan Associates; May 2017.

Notes:

Bold letter indicates substandard LOS E or F.

CLTL = Continuous Left-Turn Lane.

¹ Based on the Capacity of an 8-Ln Prime Arterial, reduced to exclude a lane. ($7/8 \times 80,000 = 70,000$)



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*Figure 3-8
Traffic Volumes - Near-Term Year 2022 Base Conditions*

As shown in Table 3.5, all of the roadways within the study area are projected to operate at acceptable LOS D or better under Near-Term Year 2022 Base Conditions, with the following three (3) exceptions:

- Eastgate Mall, between Eastgate Drive and Miramar Road – LOS F;
- Miramar Road, between I-805 SB Ramps and I-805 NB Ramps – LOS F; and
- Miramar Road, between Nobel Drive and Eastgate Mall – LOS E.

3.7 Near-Term Year 2022 Base Plus Project Traffic Conditions

This section provides an analysis of Near-Term Year 2022 Base traffic conditions with the addition of project traffic generated by the new NCPWF and the NCWRP expansion.

Near-Term Year 2022 Base Plus Project Roadway Network and Traffic Volumes

It is assumed that roadway geometrics under Near-Term Year 2022 Base Plus Project conditions would be identical to those under Existing conditions, as previously displayed in in Figure 3-4.

Near-Term Year 2022 Base Plus Project traffic volumes were derived by combining the Near-Term Year 2022 Base traffic volumes (displayed in Figure 3-8) and the project trip assignment volumes (displayed in Figures 3-2). Daily traffic segment volumes for this scenario are displayed in **Figure 3-9**.

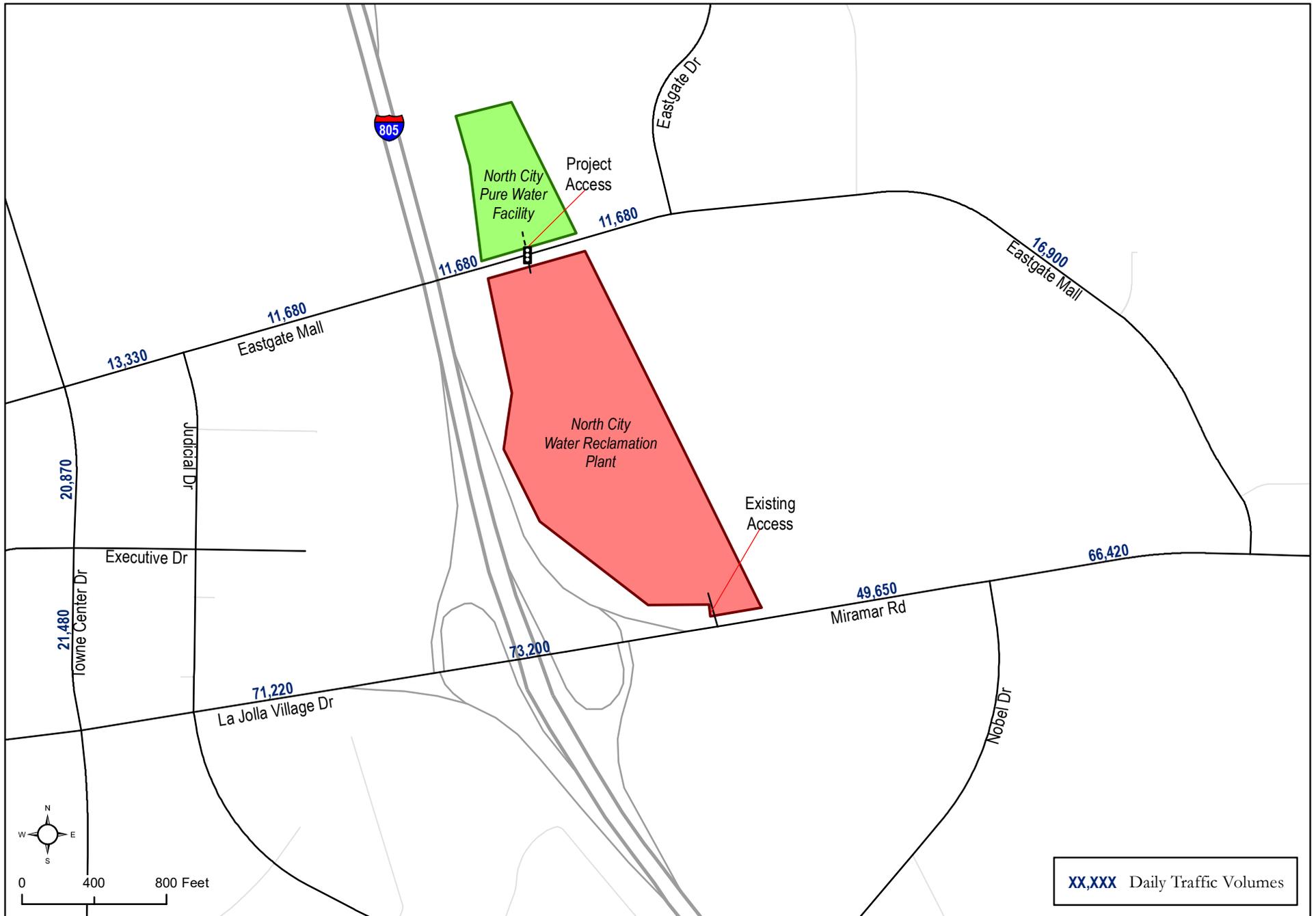
Near-Term Year 2022 Base Plus Project Roadway Level of Service Analysis

Roadway Segment LOS analyses were conducted using the methodologies described in Chapter 2.0. Roadway segment LOS analysis is discussed below.

Table 3.6 displays the LOS analysis results for key roadway segments under Near-Term Year 2022 Base Plus Project conditions.

As shown in the table, similar to the Near-Term Year 2022 Base conditions, all key study roadway segments are projected to operate at LOS D or better under Near-Term Year 2022 Plus Project conditions, with the following three (3) exceptions:

- Eastgate Mall, between Eastgate Drive and Miramar Road – LOS F;
- Miramar Road, between I-805 SB Ramps and I-805 NB Ramps – LOS F; and
- Miramar Road, between Nobel Drive and Eastgate Mall – LOS E.



XX,XXX Daily Traffic Volumes

**TABLE 3.6
ROADWAY SEGMENT LOS RESULTS
NEAR-TERM YEAR 2022 BASE PLUS PROJECT CONDITIONS**

Roadway	Segment	Functional Classification	Threshold (LOS E)	2022 Base + Project			2022 Base		Δ	SI?
				ADT	V/C	LOS	ADT / V/C / LOS			
Towne Center Drive	Eastgate Mall and Executive Drive	4-Lane Major Arterial	40,000	20,870	0.522	B	20,800 / 0.520 / B	0.002	N	
	Executive Drive and La Jolla Village Drive	4-Lane Major Arterial	40,000	21,480	0.537	C	21,410 / 0.535 / C	0.002	N	
Eastgate Mall	Towne Center Drive and Judicial Drive	4-Lane Major Arterial	40,000	13,330	0.333	A	13,240 / 0.331 / A	0.002	N	
	Judicial Drive and 280 feet west of I-805 Overpass	4-Lane Major Arterial	40,000	11,680	0.292	A	11,590 / 0.290 / A	0.002	N	
	280 feet west of I-805 Overpass and NCWRP Driveway	2-Lane Collector W/ CLTL	15,000	11,680	0.779	D	11,590 / 0.773 / D	0.006	N	
	NCWRP Driveway and Eastgate Drive	2-Lane Collector W/ CLTL	15,000	11,680	0.779	D	11,590 / 0.773 / D	0.006	N	
	Eastgate Drive and Miramar Road	2-Lane Collector W/ CLTL	15,000	16,900	1.127	F	16,810 / 1.121 / F	0.006 <0.01	N	
La Jolla Village Drive	Towne Center Drive and I-805 SB Ramps	8-Lane Prime Arterial	80,000	71,220	0.890	D	71,150 / 0.889 / D	0.001	N	
Miramar Road	I-805 SB Ramps and I-805 NB Ramps	6-Lane Prime Arterial	60,000	73,200	1.220	F	73,130 / 1.219 / F	0.001 <0.01	N	
	I-805 NB Ramps and Nobel Drive	8-Lane Prime Arterial	80,000	49,650	0.621	C	49,600 / 0.620 / C	0.001	N	
	Nobel Drive and Eastgate Mall	7-Lane Prime Arterial	70,000	66,420	0.949	E	66,370 / 0.948 / E	0.001 <0.02	N	

Source: Chen Ryan Associates; May 2017.

Notes:

Bold letter indicates substandard LOS E or F.

CLTL = Continuous Left-Turn Lane.

SI? = Significant Impact?

¹ Based on the Capacity of an 8-Ln Prime Arterial, reduced to exclude a lane. (7/8*80,000 = 70,000).

Project Impacts and Mitigation Measures

Based upon the significance criteria presented in Section 2.4 of this report, the addition of project traffic would not result in any significant traffic related impacts to the study area roadway segments under Near-Term Year 2022 Plus Project conditions.

3.8 Horizon Year 2035 Base Traffic Conditions

This section provides an analysis of Horizon Year 2035 traffic conditions without the proposed project.

Horizon Year 2035 Base Roadway Network and Traffic Volumes

The roadway network under Existing Plus Project conditions is assumed to be identical to Existing conditions (shown in Figure 3-4), while traffic volumes under Horizon Year 2035 Base conditions were assumed to be identical to the *University Community Plan Amendment*. Detailed traffic volume information was obtained from the City of San Diego Planning Department, as displayed in **Figure 3-10**. Trip generation, distribution, and assignment did not change under this scenario.

Horizon Year 2035 Base Roadway Level of Service Analysis

LOS analyses for Horizon Year 2035 Base conditions were conducted using the methodologies described in Chapter 2.0. Roadway segment LOS analysis results is discussed below. **Table 3.7** displays the LOS analysis results for key roadway segments under the Horizon Year 2035 Base conditions.

**TABLE 3.7
ROADWAY SEGMENT LOS RESULTS - HORIZON YEAR 2035 BASE CONDITIONS**

Roadway	Segment	Designated Classification	Threshold (LOS E)	ADT	V/C	LOS
Towne Center Drive	Eastgate Mall and Executive Drive	4-Lane Major Arterial	40,000	21,600	0.540	C
	Executive Drive and La Jolla Village Drive	4-Lane Major Arterial	40,000	21,600	0.540	C
Eastgate Mall	Towne Center Drive and Judicial Drive	4-Lane Major Arterial	40,000	14,300	0.358	A
	Judicial Drive and 280 feet west of I-805 Overpass	4-Lane Major Arterial	40,000	19,500	0.488	B
	280 feet west of I-805 Overpass and NCWRP Driveway	2-Lane Collector W/ CLTL	15,000	19,500	1.300	F
	NCWRP Driveway and Eastgate Drive	2-Lane Collector W/ CLTL	15,000	19,500	1.300	F
	Eastgate Drive and Miramar Road	2-Lane Collector W/ CLTL	15,000	29,200	1.947	F
La Jolla Village Drive	Towne Center Drive and I-805 SB Ramps	8-Lane Prime Arterial	80,000	69,500	0.869	D
Miramar Road	I-805 SB Ramps and I-805 NB Ramps	6-Lane Prime Arterial	60,000	66,000	1.100	F
	I-805 NB Ramps and Nobel Drive	8-Lane Prime Arterial	80,000	50,300	0.629	C
	Nobel Drive and Eastgate Mall	7-Lane Prime Arterial	70,000	69,100	0.987	E

Source: City of San Diego Planning Department, Chen Ryan Associates; May 2017.

Notes:

Bold letter indicates substandard LOS E or F.

CLTL = Continuous Left-Turn Lane.

¹ Based on the Capacity of an 8-Ln Prime Arterial, reduced to exclude a lane. ($7/8 \times 80,000 = 70,000$).



As shown in Table 3.7, all of the roadways within the study area are projected to operate at acceptable LOS D or better under Horizon Year 2035 Base traffic Conditions, with the following five (5) exceptions:

- Eastgate Mall, between 280 feet west of I-805 Overpass and NCWRP Driveway – LOS F;
- Eastgate Mall, between NCWRP Driveway and Eastgate Drive – LOS F;
- Eastgate Mall, between Eastgate Drive and Miramar Road – LOS F;
- Miramar Road, between I-805 SB Ramps and I-805 NB Ramps – LOS F; and
- Miramar Road, between Nobel Drive and Eastgate Mall – LOS E.

3.9 Horizon Year 2035 Base Plus Project Conditions

This section provides an analysis of Horizon Year 2035 Base traffic conditions with the addition of project traffic generated by the new NCPWF and the NCWRP expansion.

Horizon Year 2035 Base Plus Project Roadway Network and Traffic Volumes

It is assumed that roadway geometrics under Horizon Year 2035 Base Plus Project conditions would be identical to those under the Existing Conditions, as previously displayed in in Figure 3-4.

Horizon Year 2035 Base Plus Project traffic volumes were derived by combining the Horizon Year 2035 Base traffic volumes (displayed in Figure 3-10) and the project trip assignment volumes (displayed in Figures 3-2). Daily traffic segment volumes for this scenario are displayed in **Figure 3-11**.

Horizon Year 2035 Base Plus Project Roadway Level of Service Analysis

Roadway Segment LOS analyses were conducted using the methodologies described in Chapter 2.0. Roadway segment LOS analysis is discussed below. **Table 3.8** displays the LOS analysis results for key roadway segments under Horizon Year 2035 Base Plus Project conditions.

**TABLE 3.8
ROADWAY SEGMENT LOS RESULTS - HORIZON YEAR 2035 BASE PLUS PROJECT CONDITIONS**

Roadway	Segment	Designated Classification	Threshold (LOS E)	2035 Base + Project			2035 Base		Δ	SI?
				ADT	V/C	LOS	ADT / V/C / LOS			
Towne Center Drive	Eastgate Mall and Executive Drive	4-Lane Major Arterial	40,000	21,670	0.542	C	21,600 / 0.540 / C	0.002	N	
	Executive Drive and La Jolla Village Drive	4-Lane Major Arterial	40,000	21,670	0.542	C	21,600 / 0.540 / C	0.002	N	
Eastgate Mall	Towne Center Drive and Judicial Drive	4-Lane Major Arterial	40,000	14,390	0.360	A	14,300 / 0.358 / A	0.002	N	
Eastgate Mall	Judicial Drive and 280 feet west of I-805 Overpass	4-Lane Major Arterial	40,000	19,590	0.490	B	19,500 / 0.488 / B	0.002	N	

**TABLE 3.8
ROADWAY SEGMENT LOS RESULTS - HORIZON YEAR 2035 BASE PLUS PROJECT CONDITIONS**

Roadway	Segment	Designated Classification	Threshold (LOS E)	2035 Base + Project			2035 Base		Δ	SI?
				ADT	V/C	LOS	ADT / V/C / LOS			
	280 feet west of I-805 Overpass and NCWRP Driveway	2-Lane Collector W/ CLTL	15,000	19,590	1.306	F	19,500 / 1.300 / F	0.006 <0.01	N	
	NCWRP Driveway and Eastgate Drive	2-Lane Collector W/ CLTL	15,000	19,590	1.306	F	19,500 / 1.300 / F	0.006 <0.01	N	
	Eastgate Drive and Miramar Road	2-Lane Collector W/ CLTL	15,000	29,290	1.953	F	29,200 / 1.947 / F	0.006 <0.01	N	
La Jolla Village Drive	Towne Center Drive and I-805 SB Ramps	8-Lane Prime Arterial	80,000	69,570	0.870	D	69,500 / 0.869 / D	0.001	N	
Miramar Road	I-805 SB Ramps and I-805 NB Ramps	6-Lane Prime Arterial	60,000	66,070	1.101	F	66,000 / 1.100 / F	0.001 <0.01	N	
	I-805 NB Ramps and Nobel Drive	8-Lane Prime Arterial	80,000	50,350	0.629	C	50,300 / 0.629 / C	0.001	N	
	Nobel Drive and Eastgate Mall	7-Lane Prime Arterial	70,000	69,150	0.988	E	69,100 / 0.987 / E	0.001 <0.02	N	

Source: Chen Ryan Associates; May 2017.

Notes:

Bold letter indicates substandard LOS E or F.

CLTL = Continuous Left-Turn Lane.

SI? = Significant Impact?

¹ Based on the Capacity of an 8-Ln Prime Arterial, reduced to exclude a lane. (7/8*80,000 = 70,000).

As shown in Table 3.8, similar to Horizon Year 2035 Base conditions, all of the key study roadway segments are projected to operate at acceptable LOS D or better under Horizon Year 2035 Plus Project Conditions with the following five (5) exceptions:

- Eastgate Mall, between 280 feet west of I-805 Overpass and NCWRP Driveway – LOS F;
- Eastgate Mall, between NCWRP Driveway and Eastgate Drive – LOS F;
- Eastgate Mall, between Eastgate Drive and Miramar Road – LOS F;
- La Jolla Village Drive/Miramar Road, between I-805 SB Ramps and I-805 NB Ramps – LOS F; and
- Miramar Road, between Nobel Drive and Eastgate Mall – LOS E.



Project Impacts and Mitigation Measures

Based upon the significance criteria presented in Section 2.4 of this report, the addition of project traffic would not result in any significant traffic related impacts to the study area roadway segments under Horizon Year 2035 Plus Project conditions.

3.10 Project Site Access

Access to the new NCPWF and the expanded NCWRP is proposed to be located off of Eastgate Mall via a signalized intersection. According to City of San Diego Public Utilities Department, two options involving a full size and small tunnel were also considered as an alternative to the project driveway signalization, in order to allow staff to travel between the two plants. These two tunnels would house the utilities and provide enough space for carts (no full-size vehicles) to travel between the two plants. Both options would require extensive excavation and triggered the need for a basement in the NCPWF's O&M building. Since both alternative options would be costly the traffic signal option is determined to be the least costly option that would provide a protected crossing for both pedestrians and heavy vehicles.

It is important to note that the proposed project driveway did not meet the Peak Hour traffic signal warrant nor the ADT traffic signal warrant per California's Manual on Uniform Traffic Control Devices 2014 Edition, Revision 1 – Section 4C.01. This result was due to low volumes on the minor approach. However, considering the expected heavy vehicles entering, exiting, and crossing between the two plants and that the closest controlled pedestrian crossing is located approximately 500 feet to the east of the proposed project driveway at the signalized intersection of Eastgate Mall/Eastgate Drive, and approximately 2,200 feet to the west at the signalized intersection of Eastgate Mall/Judicial Drive, it is the preference of City of San Diego Public Utilities Department to signalize the proposed project driveway. **Appendix C** provides traffic signal warrant analysis worksheets.

The project driveway should be designed in accordance to City of San Diego standards and should have sufficient storage for traffic entering the two plants. The project driveway would be signalized and would require the appropriate signing and striping plans per City of San Diego standards.

4.0 Purified Water Pipelines

As mentioned previously, in addition to analyzing the permanent traffic impacts associated with the proposed North City project, this TIS also includes the evaluation of the temporary pipeline construction traffic impacts. Two potential pipeline alignment alternatives were evaluated in this report: the North City Pipeline and the San Vicente Pipeline. The North City Pipeline would construct the NCPWF – Miramar Reservoir (NCPWF-MR) and would pipe purified water to Miramar Reservoir. The San Vicente Pipeline would construct the NCPWF – San Vicente Reservoir (NCPWF-SVR) at the same location as the NCPWF-MR, but would include fewer treatment processes and would pipe purified water to the San Vicente Reservoir rather than the Miramar Reservoir. Construction of the North City Pipeline is anticipated to take place between November 2018 and October 2021, while for the San Vicente Pipeline, construction is anticipated to take place between December 2018 and May 2021.

4.1 Pipeline Construction Trip Generation

Pipeline construction is proposed largely to be open-trench and during nighttime (between 9:00 pm and 5:00 am), with trenches backfilled and steel plated in order to open travel lanes during the day. As a result, typical commute AM and PM peak hour (7:00 am to 9:00 am and 4:00 pm to 6:00 pm) trips are not anticipated to coincide with the construction of the proposed project, thus no peak hour intersection analysis was conducted. It is assumed that truck trips (excavation, material transport, utility trucks, etc.) and worker trips will be generated during construction. Based on City of San Diego Public Utilities Department input, the open-trench excavation will be approximately 10' deep and 6' wide and 75' long per day, and the same number of workers and heavy vehicles will be required per day throughout the construction duration under the two different pipeline alignment alternatives. As a worst-case scenario, it was assumed that all workers would drive individual vehicles to the project site.

Table 4.1 displays the assumed daily vehicle trip generation during construction.

**TABLE 4.1
CONSTRUCTION TRIP GENERATION**

Trip Type	Unit	Rate	Daily Generation	Passenger Car Equivalent	Daily Vehicle Trips
Construction Workers	20 workers	3 / worker	60 vehicle trips	1	60
Construction Trucks	44 trucks	2 / truck	88 truck trips	2.5	220
Total					280

Source: City of San Diego, Chen Ryan Associates; May 2017.

As shown, the proposed project construction is anticipated to generate approximately 280 daily trips.

4.2 North City Pipeline

The North City Pipeline connects the NCPWF and NCWRP sites at I-805 and Eastgate Mall to the Miramar Reservoir via Eastgate Mall, Miramar Road, Kearny Villa Road, Candida Street, Via Pasar, Via Excelencia, under I-15 to Businesspark Avenue, Carroll Canyon Road, Hoyt Park Drive, and Meanley Drive. It is anticipated that approximately 39,400 LF (7.5 miles) of 48" steel pipeline will be installed along with approximately 4,800 LF (0.91 mile) of subaqueous polyethylene (PE) pipeline ranging in diameter from 20" to 40" with 14 branches of various lengths in the ravines of the reservoir.

Based on information provided by the City of San Diego, construction staging areas were assumed to be located at the NCWRP site off Eastgate Mall, Scripps Technology Ranch property, Miramar Water Treatment Plant (near tunnel shaft opening west of clearwells), and Miramar Reservoir (near the boat dock). Vulcan in Mira Mesa will be the main site as the origin or the designation of construction materials. **Table 4.2** displays the work hours proposed for the roadway segments analyzed for the North City Pipeline construction.

**TABLE 4.2
WORK HOURS ON ROADWAY SEGMENTS ALONG NORTH CITY PIPELINE ALIGNMENT**

Roadway	Segment	Work hours
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	9:00 PM to 5:00 AM
Miramar Road	Eastgate Mall and Camino Santa Fe	9:00 PM to 5:00 AM
	Camino Santa Fe and Carroll Rd	9:00 PM to 5:00 AM
	Carroll Rd and Camino Ruiz	9:00 PM to 5:00 AM
	Camino Ruiz and Black Mountain Rd	9:00 PM to 5:00 AM
	Black Mountain Rd and Kearny Villa Rd	9:00 PM to 5:00 AM
Kearny Villa Road	Black Mountain Rd/Carroll Centre Rd and Miramar Rd	9:00 PM to 5:00 AM
Candida Street	Kearny Villa Rd and Via Pasar	9:00 PM to 5:00 AM
Via Pasar	Via Excelencia and Candida St	9:00 PM to 5:00 AM
Via Excelencia	east of Via Pasar	9:00 PM to 5:00 AM
Businesspark Avenue	south of Willow Creek Rd	9:00 PM to 5:00 AM
	Carroll Canyon Rd and Willow Creek Rd	9:00 PM to 5:00 AM
Carroll Canyon Rd	Businesspark Ave and Scripps Ranch Blvd	9:00 PM to 5:00 AM
Scripps Ranch Blvd	Carroll Canyon Rd Hoyt Park Dr	9:00 PM to 5:00 AM
Hoyt Park Dr	Scripps Ranch Blvd and Meanley Dr	9:00 PM to 5:00 AM

Source: City of San Diego Public Utilities Department and Construction Management and Field Services Department, May 2017.

Existing Conditions

The section below discusses the existing traffic conditions along roadways serving the North City Pipeline. **Figure 4-1** displays the existing traffic volumes, while **Table 4.3** displays the daily roadway segment LOS results under Existing conditions. Roadway segment traffic counts were collected on November 15 and 16 (Tuesday/Wednesday) 2016 and are provided in Appendix A.

As shown in the table, the following five (5) roadway segments are currently operating at a substandard LOS E or F:

- Eastgate Mall, between the NCPWF & NCWRP driveway and Miramar Road – LOS E;
- Miramar Road, between Eastgate Mall and Camino Santa Fe – LOS F;
- Miramar Road, between Carroll Road and Camino Ruiz – LOS E;
- Miramar Road, between Camino Ruiz and Black Mountain Road – LOS F; and
- Miramar Road, between Black Mountain Road and Kearny Villa Road – LOS F.

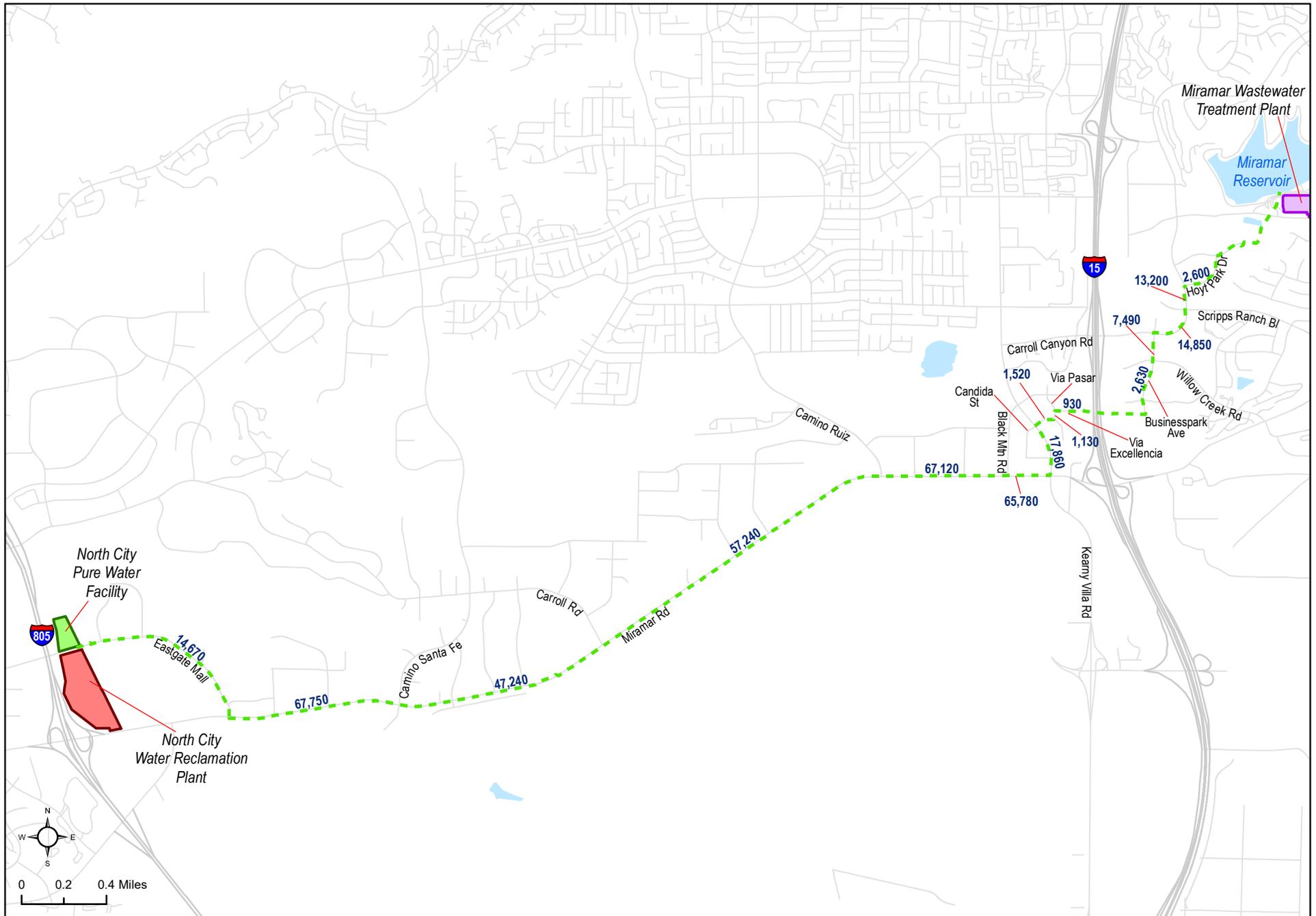


Figure 4-1
 Traffic Volumes - Existing Conditions
 (North City Pipeline)

**TABLE 4.3
ROADWAY SEGMENT LOS RESULTS
EXISTING CONDITIONS – NORTH CITY PIPELINE**

Roadway	Segment	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	2-Lane Collector W/ CLTL	15,000	14,670	0.978	E
Miramar Road	Eastgate Mall and Camino Santa Fe	6-Lane Prime Arterial	60,000	67,750	1.129	F
	Camino Santa Fe and Carroll Rd	6-Lane Prime Arterial	60,000	47,240	0.787	C
	Carroll Rd and Camino Ruiz	6-Lane Prime Arterial	60,000	57,240	0.954	E
	Camino Ruiz and Black Mountain Rd	6-Lane Prime Arterial	60,000	67,120	1.119	F
	Black Mountain Rd and Kearny Villa Rd	6-Lane Prime Arterial	60,000	65,780	1.096	F
Kearny Villa Road	Black Mountain Rd/Carroll Centre Rd and Miramar Rd	4-Lane Collector W/ CLTL	30,000	17,860	0.595	C
Candida Street	Kearny Villa Rd and Via Pasar	2-Lane Collector	8,000	1,520	0.190	A
Via Pasar	Via Excelencia and Candida St	2-Lane Collector	8,000	1,130	0.141	A
Via Excelencia	east of Via Pasar	2-Lane Collector	8,000	930	0.117	A
Businesspark Avenue	south of Willow Creek Rd	2-Lane Collector	8,000	2,630	0.329	B
	Carroll Canyon Rd and Willow Creek Rd	3-Lane Collector (1SB & 2 NB)	12,000	7,490	0.624	C
Carroll Canyon Rd	Businesspark Ave and Scripps Ranch Blvd	4-Lane Collector W/ CLTL	30,000	14,850	0.495	C
Scripps Ranch Blvd	Carroll Canyon Rd Hoyt Park Dr	4-Lane Major Arterial	40,000	13,200	0.330	A
Hoyt Park Dr	Scripps Ranch Blvd and Meanley Dr	2-Lane Collector	10,000	2,600	0.260	A

Source: Chen Ryan Associates; May 2017

Note:

Bold letter indicates substandard LOS E or F.

Construction Traffic Analysis

It is assumed that the North City project will be in operations by Year 2022, for a worst-case analysis, construction traffic was added to the Year 2022 Base traffic volumes. Near-Term Year 2022 volumes were derived by comparing SANDAG Series 13 Year 2035 and Year 2020 forecast volumes, as well as the existing traffic counts. Growth factors were developed and applied to existing traffic volumes for each specific roadway segments. **Figure 4-2** displays the Near-Term Year 2022 Base traffic volumes, while **Figure 4-3** displays the Year 2022 Base Plus Construction Traffic.

Table 4.4 displays the daily roadway segment LOS results under both Near-Term Year 2022 Base and Near-Term Year 2022 Base Plus Construction Traffic conditions.

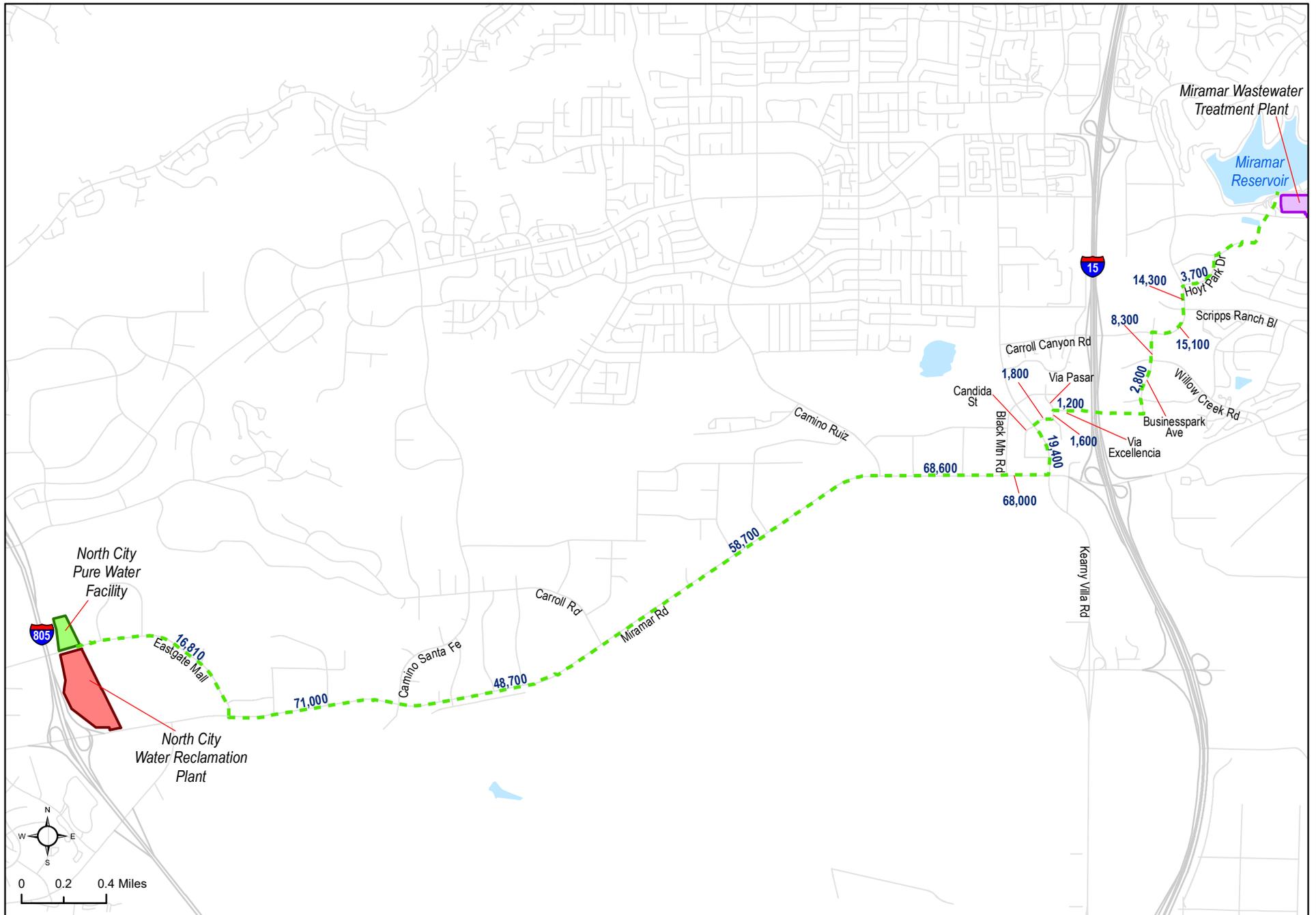
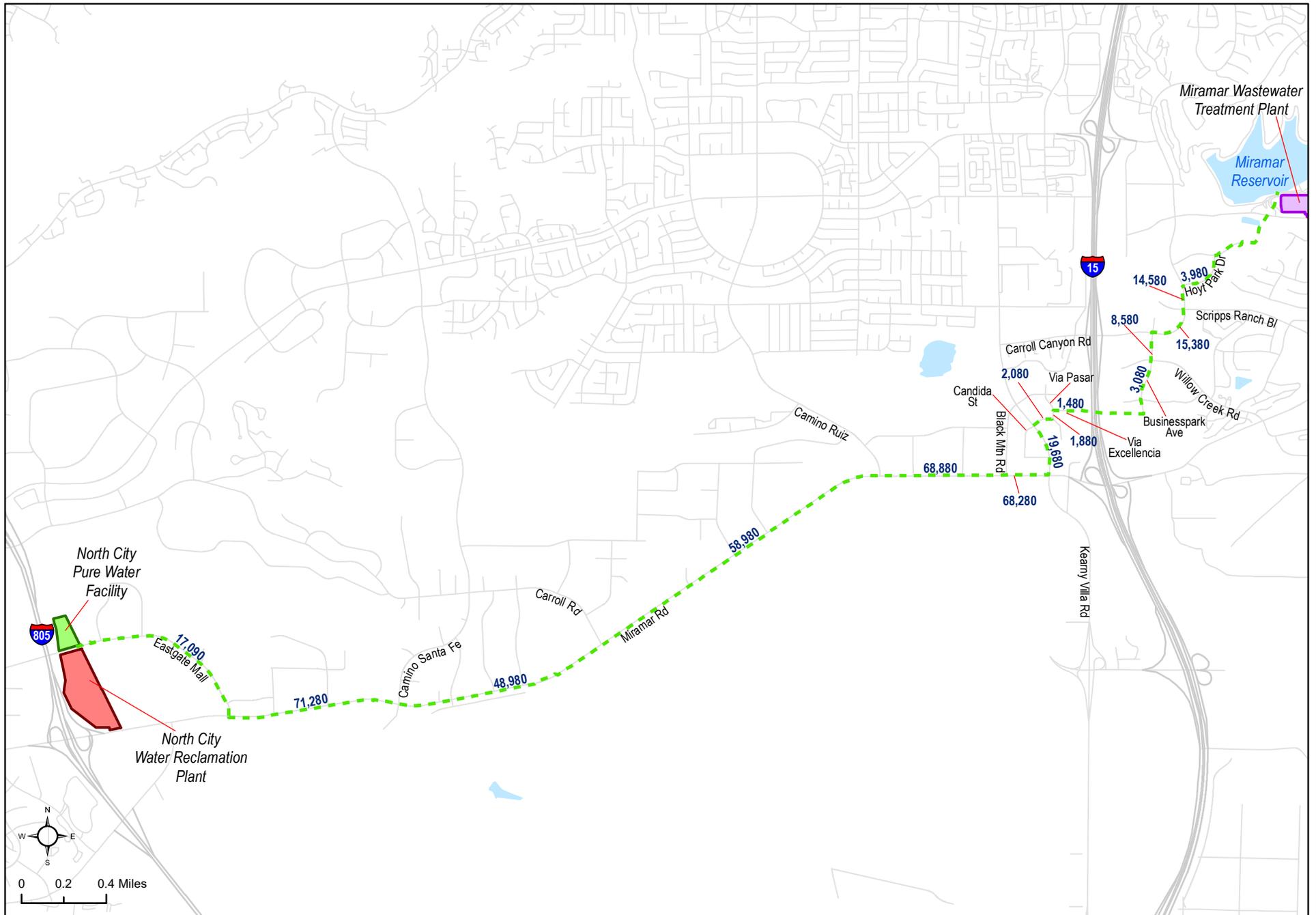


Figure 4-2
 Traffic Volumes - Near-Term Year 2022 Base Conditions
 (North City Pipeline)



**TABLE 4.4
ROADWAY SEGMENT LOS RESULTS
NEAR-TERM YEAR 2022 TRAFFIC CONDITIONS – NORTH CITY PIPELINE**

Roadway	Segment	Functional Classification	Threshold (LOS E)	Near-Term 2022 Base + Construction Traffic			Near-Term Year 2022 Base			Change in V/C	SI?
				ADT	V/C	LOS	ADT	V/C	LOS		
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	2-Lane Collector W/ CLTL	15,000	17,090	1.139	F	16,810	1.121	F	0.019 >0.01	Y
Miramar Road	Eastgate Mall and Camino Santa Fe	6-Lane Prime Arterial	60,000	71,280	1.188	F	71,000	1.183	F	0.005 <0.01	N
	Camino Santa Fe and Carroll Rd	6-Lane Prime Arterial	60,000	48,980	0.816	C	48,700	0.812	C	0.005	N
	Carroll Rd and Camino Ruiz	6-Lane Prime Arterial	60,000	58,980	0.983	E	58,700	0.978	E	0.005 <0.02	N
	Camino Ruiz and Black Mountain Rd	6-Lane Prime Arterial	60,000	68,880	1.148	F	68,600	1.143	F	0.005 <0.01	N
	Black Mountain Rd and Kearny Villa Rd	6-Lane Prime Arterial	60,000	68,280	1.138	F	68,000	1.133	F	0.005 <0.01	N
Kearny Villa Road	Black Mountain Rd/Carroll Centre Rd and Miramar Rd	4-Lane Collector W/ CLTL	30,000	19,680	0.656	C	19,400	0.647	C	0.009	N
Candida Street	Kearny Villa Rd and Via Pasar	2-Lane Collector	8,000	2,080	0.260	A	1,800	0.225	A	0.035	N
Via Pasar	Via Excelencia and Candida St	2-Lane Collector	8,000	1,880	0.235	A	1,600	0.200	A	0.035	N
Via Excelencia	east of Via Pasar	2-Lane Collector	8,000	1,480	0.185	A	1,200	0.150	A	0.035	N
Businesspark Avenue	south of Willow Creek Rd	2-Lane Collector	8,000	3,080	0.385	B	2,800	0.350	B	0.035	N
	Carroll Canyon Rd and Willow Creek Rd	3-Lane Collector (1SB & 2 NB)	12,000	8,580	0.715	D	8,300	0.692	D	0.023	N
Carroll Canyon Rd	Businesspark Ave and Scripps Ranch Blvd	4-Lane Collector W/ CLTL	30,000	15,380	0.513	C	15,100	0.503	C	0.009	N
Scripps Ranch Blvd	Carroll Canyon Rd and Hoyt Park Dr	4-Lane Major Arterial	40,000	14,580	0.365	A	14,300	0.358	A	0.007	N
Hoyt Park Drive	Scripps Ranch Blvd and Meanley Dr	2-Lane Collector (no fronting property)	10,000	3,980	0.398	A	3,700	0.370	A	0.028	N

Source: Chen Ryan Associates; May 2017.

Notes:

Bold letter indicates substandard LOS E or F.

SI? = Significant Impact?

As shown in the Table 4.4, the following five (5) roadway segments are projected to operate at substandard LOS E or F both with and without construction traffic under Near-Term Year 2022:

- Eastgate Mall, between the NCPWF & NCWRP driveway and Miramar Road – LOS F;
- Miramar Road, between Eastgate Mall and Camino Santa Fe – LOS F;
- Miramar Road, between Carroll Road and Camino Ruiz – LOS E;
- Miramar Road, between Camino Ruiz and Black Mountain Road – LOS F;
- Miramar Road, between Black Mountain Road and Kearny Villa Road – LOS F; and

Project Impacts and Mitigation Measures

Based upon the significance criteria presented in Section 2.4 of this report, the construction traffic would result in significant traffic impact to the following roadway segment:

- Eastgate Mall, between the NCPWF & NCWRP driveway and Miramar Road – LOS F.

However, based on information provided by City of San Diego Public Utilities Department, construction of the pipeline would be performed 75 LF per day, and the impacted area at any one time would encompass the work area as well as the traffic control setup area. Therefore, this project impact would be temporary in nature (approximately 64 working days¹) and since the construction will occur during nighttime when there is less traffic on the road, this roadway should function at reasonable operations. Therefore, since the impact would be temporary no mitigation measure is required.

Table 4.5 displays the projected amount of days for which construction would take place at the identified impacted roadway above as well as on roadways adjacent to residential areas. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas.

**TABLE 4.5
SUMMARY OF IMPACT DURATION – NORTH CITY PIPELINE**

Roadway	Segment	Length (ft)	Approximate Duration of Impact (days)
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	4,800	64
Miramar Road	Camino Ruiz and Black Mountain Road	3,000	40
	Black Mountain Rd and Kearny Villa Rd	1,000	14

Source: Chen Ryan Associates; May 2017.

The duration of the impacts is based on the anticipated 75 LF of pipeline installation per day. It is important to note that these impacts would not occur concurrently, but rather at different points in time depending on the location of pipeline construction¹, and the impacted area at any one time would encompass the work area as well as the traffic control setup length. Therefore, the project impacts shown above would be temporary in nature and no mitigation measures are required.

¹ The impacted roadway segment of Eastgate Mall, between NCPWF & NCWRP driveway and Miramar Road would be approximately 4,800 feet in length, and at 75 feet of installation per day, it is estimated that it would take approximately 64 days. After the pipeline installation is complete at the first 75 LF, the next 75 LF of construction would begin to be under construction, etc

4.3 San Vicente Pipeline

The San Vicente Pipeline connects the NCPWF and NCWRP sites at I-805 and Eastgate Mall to the San Vicente Reservoir traversing a number of local jurisdictions, including the cities of San Diego and Santee, and the community of Lakeside in unincorporated San Diego County. This is a much longer pipeline when compare to the Miramar Reservoir Alignment, covering approximately 190,600 LF (36 miles). **Table 4.6** displays the work hours proposed for the roadway segments analyzed for the San Vicente Pipeline construction.

**TABLE 4.6
WORK HOURS ON ROADWAY SEGMENTS ALONG SAN VICENTE PIPELINE ALIGNMENT**

Roadway	Segment	Work hours
Section 1A		
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	9:00 PM to 5:00 AM
Miramar Rd	Nobel Dr and Eastgate Mall	9:00 PM to 5:00 AM
Copley Dr	Hickman Field Dr and Copley Park Pl	9:00 PM to 5:00 AM
Copley Park Pl	Copley Dr and Convoy St	9:00 PM to 5:00 AM
Convoy St	Copley Park Pl and Convoy Ct	9:00 PM to 5:00 AM
Convoy Ct	east of Convoy St	9:00 PM to 5:00 AM
Section 1B		
Ronson Rd	Ronson Ct and Kearny Mesa Rd	9:00 PM to 5:00 AM
Lightwave Ave	Kearny Villa Rd and Ruffin Rd	9:00 PM to 5:00 AM
Ruffin Rd	Clairemont Mesa Blvd and Lightwave Ave	9:00 PM to 5:00 AM
Clairemont Mesa Blvd	Ruffin Rd and Murphy Canyon Rd	9:00 PM to 5:00 AM
Murphy Canyon Rd	Clairemont Mesa Blvd and 1650 ft South of Clairemont Mesa Blvd	9:00 PM to 5:00 AM
Clairemont Mesa Blvd	1300 ft East of I-15 NB Ramps and Santo Rd	9:00 PM to 5:00 AM
Santo Rd	Clairemont Mesa Blvd and Tierrasanta Blvd	9:00 PM to 5:00 AM
Tierrasanta Blvd	Santo Rd and Copperleaf Ln	9:00 PM to 5:00 AM
Princess View Dr	north of Mission Gorge Rd	9:00 PM to 5:00 AM
Section 2		
Mission Gorge Rd	Princess View Dr and Golfcrest Dr	9:00 PM to 5:00 AM
	Golfcrest Dr and Rockyridge Rd	9:00 PM to 5:00 AM
	Rockyridge Rd and W Hills Pkwy	9:00 PM to 5:00 AM
W Hills Pkwy	Mission Gorge Rd and Carlton Oaks Dr	9:00 PM to 5:00 AM
Section 3		
Carlton Oaks Dr	W Hills Pkwy and Fanita Pkwy	9:00 PM to 5:00 AM
	400 ft West of Fanita Pkwy and Stoyer Dr	9:00 PM to 5:00 AM
Halberns Blvd	Stoyer Dr and Mast Blvd	9:00 PM to 5:00 AM
Section 4		
Mast Blvd	Halberns Blvd and Magnolia Ave	9:00 PM to 5:00 AM
	Magnolia Ave and Eastern Terminus	9:00 PM to 5:00 AM
	Western Terminus and Riverford Rd	9:00 PM to 5:00 AM

**TABLE 4.6
WORK HOURS ON ROADWAY SEGMENTS ALONG SAN VICENTE PIPELINE ALIGNMENT**

Roadway	Segment	Work hours
Riverside Dr	Riverford Rd and Valle Vista Rd	9:00 PM to 5:00 AM
Lakeside Ave	Valle Vista Rd and Lakeside Ave/Channel Rd	9:00 PM to 5:00 AM
	Lakeside Ave/Channel Rd and SR-67	9:00 PM to 5:00 AM
Willow Rd	SR-67 and Moreno Ave	9:00 PM to 5:00 AM
Moreno Ave	San Vicente Reservoir and Willow Rd	9:00 PM to 5:00 AM

Source: City of San Diego Public Utilities Department and Construction Management and Field Services Department, May 2017.

Existing Conditions

The section below discusses the existing traffic conditions along roadways serving the San Vicente Pipeline. **Figure 4-4** displays the existing traffic volumes, while **Table 4.7** displays the daily roadway segment LOS results under Existing conditions. Roadway segment traffic counts were obtained from a number of sources including the *City of Santee Circulation Element Update* project (late 2014), the *Kearny Mesa Community Plan Update* project (late 2016), as well as the SANDAG Series 13 base year traffic volumes. The count worksheets are provided in Appendix A.

As shown in the table, the following two (2) roadway segments are currently operating at a substandard LOS E or F:

- Eastgate Mall, between the NCPWF & NCWRP driveway and Miramar Road – LOS E; and
- Willow Road, between SR-67 and Moreno Avenue – LOS F.

¹ After the pipeline installation is complete at the first 75 LF, the next 75 LF of the roadway segment would be under construction, etc. The roadway segment of Eastgate Mall, between NCPWF & NCWRP driveway and Miramar Road would be approximately 4,800 feet in length and at 75 feet installation per day it's estimated that it would take approximately 64 days to complete.

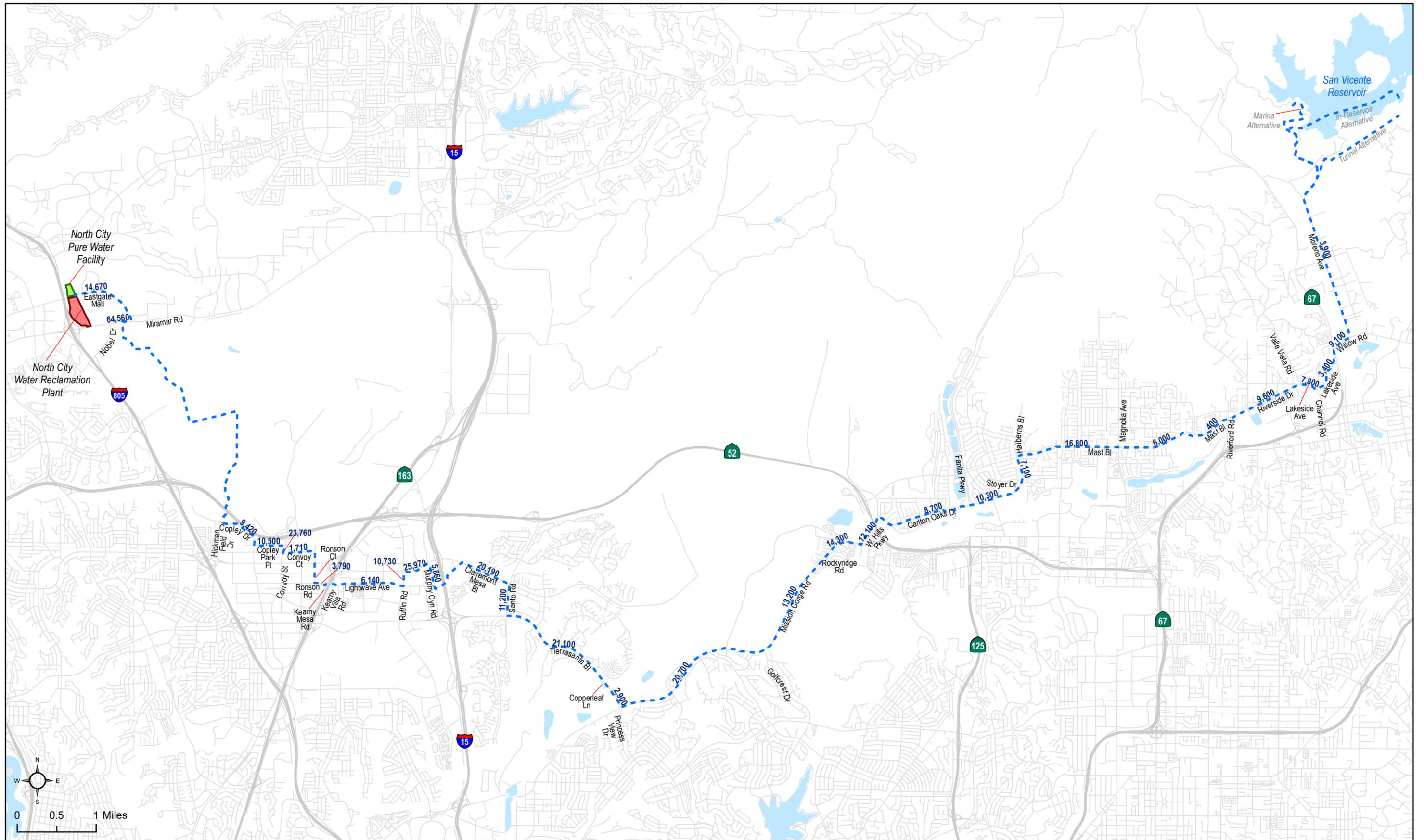


Figure 4-4
 Traffic Volumes - Existing Conditions
 (San Vicente Pipeline)

**TABLE 4.7
ROADWAY SEGMENT LOS RESULTS
EXISTING CONDITIONS – SAN VICENTE PIPELINE**

Roadway	Segment	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS
Section 1A						
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	2-Lane Collector W/ CLTL	15,000	14,670	0.978	E
Miramar Rd	Nobel Dr and Eastgate Mall	8-Lane Prime Arterial	80,000	64,560	0.807	C
Copley Dr	Hickman Field Dr and Copley Park Pl	4-Lane Collector	15,000	9,420	0.628	C
Copley Park Pl	Copley Dr and Convoy St	4-Lane Collector W/ CLTL	30,000	10,500	0.350	B
Convoy St	Copley Park Pl and Convoy Ct	4-Lane Collector W/ CLTL	30,000	23,760	0.792	D
Convoy Ct	east of Convoy St	2-Lane Collector	8,000	1,710	0.214	A
Section 1B						
Ronson Rd	Ronson Ct and Kearny Mesa Rd	2-Lane Collector	8,000	3,790	0.474	C
Lightwave Ave	Kearny Villa Rd and Ruffin Rd	4-Lane Collector W/ CLTL	30,000	6,140	0.205	A
Ruffin Rd	Clairemont Mesa Blvd and Lightwave Ave	4-Lane Major Arterial	40,000	10,730	0.268	A
Clairemont Mesa Blvd	Ruffin Rd and Murphy Canyon Rd	4-Lane Major Arterial	40,000	25,970	0.649	C
Murphy Canyon Rd	Clairemont Mesa Blvd and 1650 ft South of Clairemont Mesa Blvd	2-Lane Collector	8,000	5,860	0.733	D
Clairemont Mesa Blvd	1300 ft East of I-15 NB Ramps and Santo Rd	4-Lane Major Arterial	40,000	20,190	0.505	B
Santo Rd	Clairemont Mesa Blvd and Tierrasanta Blvd	4-Lane Major Arterial	40,000	11,200	0.280	A
Tierrasanta Blvd	Santo Rd and Copperleaf Ln	4-Lane Major Arterial	40,000	21,100	0.528	C
Princess View Dr	north of Mission Gorge Rd	2-Lane Collector	8,000	2,900	0.363	B
Section 2						
Mission Gorge Rd	Princess View Dr and Golfcrest Dr	6-Lane Prime Arterial	60,000	20,700	0.345	A
	Golfcrest Dr and Rockyridge Rd	5-Lane Prime Arterial (2EB & 3WB)	50,000	13,200	0.264	A
	Rockyridge Rd and W Hills Pkwy	4-Lane Major Arterial	40,000	14,300	0.358	A
W Hills Pkwy	Mission Gorge Rd and Carlton Oaks Dr	4-Lane Major Arterial	40,000	12,100	0.303	A
Section 3						
Carlton Oaks Dr	W Hills Pkwy and Fanita Pkwy	2-Lane Collector W/ CLTL	15,000	8,700	0.580	C
	400 ft West of Fanita Pkwy and Stoyer Dr	2-Lane Collector W/ CLTL	15,000	10,300	0.687	D

**TABLE 4.7
ROADWAY SEGMENT LOS RESULTS
EXISTING CONDITIONS – SAN VICENTE PIPELINE**

Roadway	Segment	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS
Halberns Blvd	Stoyer Dr and Mast Blvd	2-Lane Collector W/ CLTL	15,000	7,100	0.473	C
Section 4						
Mast Blvd	Halberns Blvd and Magnolia Ave	4-Lane Major Arterial	40,000	16,800	0.420	B
	Magnolia Ave and Eastern Terminus	2-Lane Collector W/ CLTL	15,000	6,000	0.400	B
	Western Terminus and Riverford Rd	2-Lane Collector	8,000	400	0.050	A
Riverside Dr	Riverford Rd and Valle Vista Rd	2-Lane Collector W/ CLTL	15,000	9,600	0.640	C
Lakeside Ave	Valle Vista Rd and Lakeside Ave/Channel Rd	2-Lane Collector W/ CLTL	15,000	7,800	0.520	C
	Lakeside Ave/Channel Rd and SR-67	2-Lane Collector	8,000	3,400	0.425	B
Willow Rd	SR-67 and Moreno Ave	2-Lane Collector	8,000	9,100	1.138	F
Moreno Ave	San Vicente Reservoir and Willow Rd	2-Lane Collector	8,000	3,900	0.488	C

Source: Chen Ryan Associates; May 2017

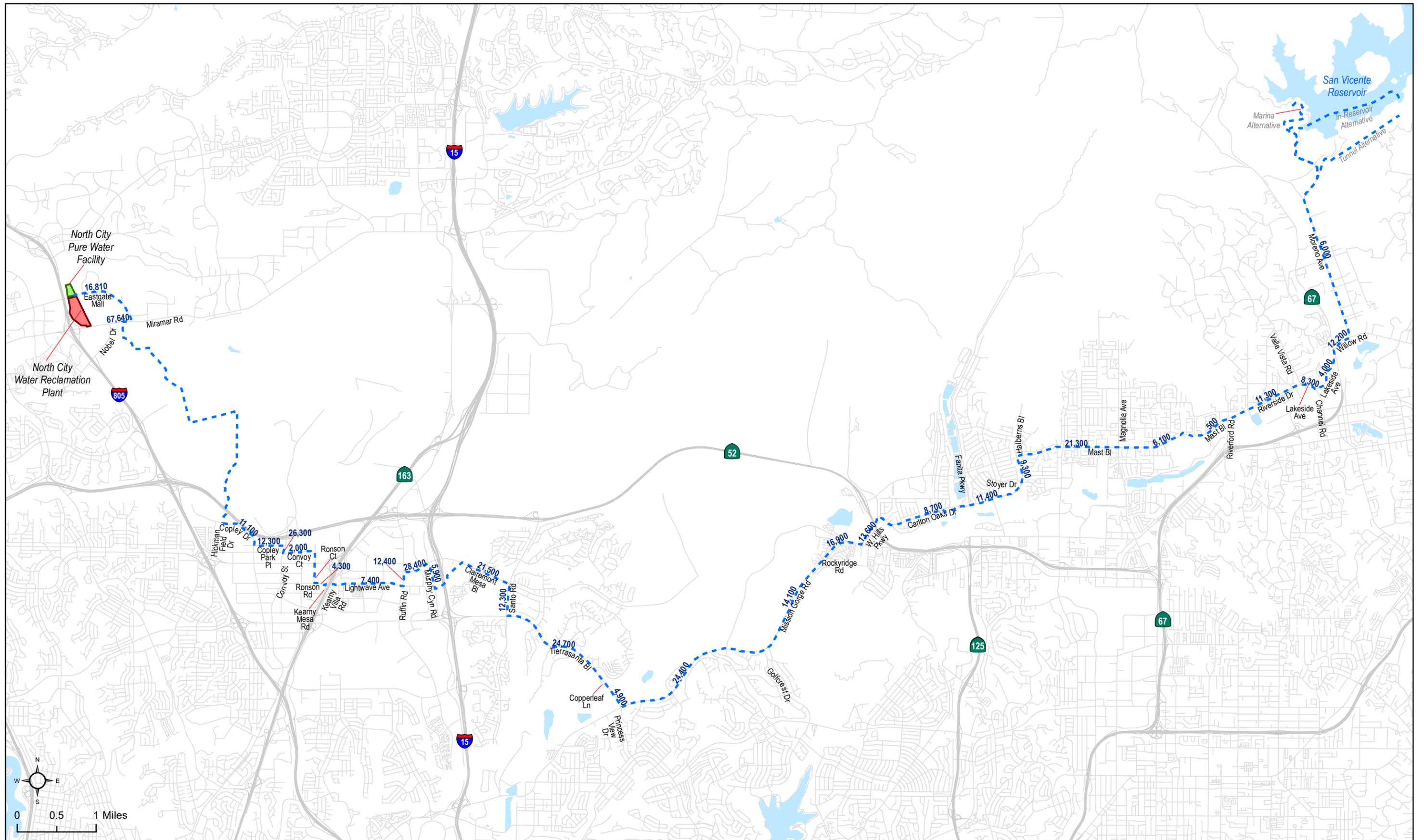
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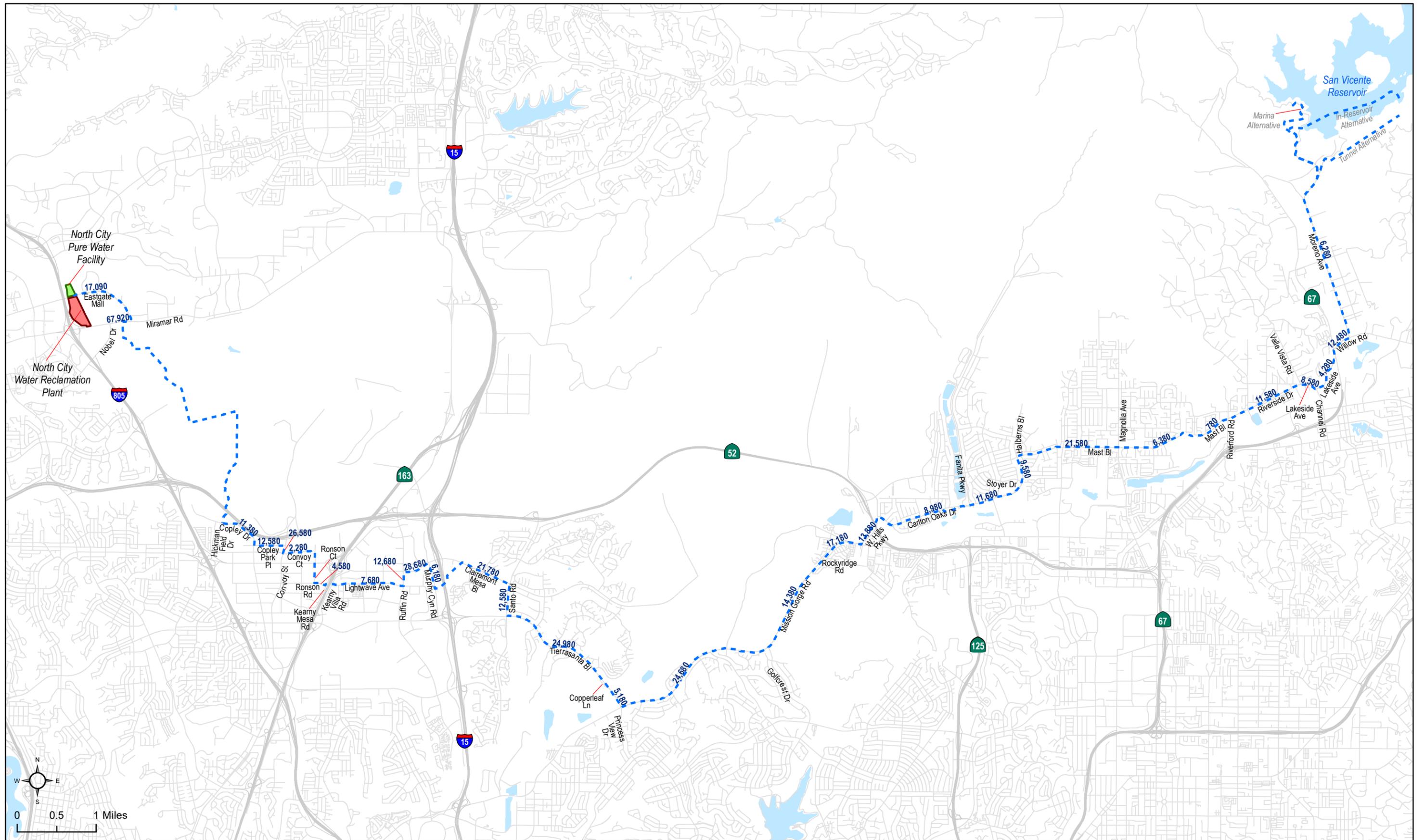
Bold letter indicates substandard LOS E or F.

Construction Traffic Analysis

It is assumed that the North City project will be in operations by Year 2022, for a worst-case analysis, construction traffic was added to the Year 2022 Base traffic volumes. Near-Term Year 2022 volumes were derived by comparing SANDAG Series 13 Year 2035 and Year 2020 forecast volumes, as well as the existing traffic counts. Growth factors were developed and applied to existing traffic volumes for each specific roadway segments. **Figure 4-5** displays the Near-Term Year 2022 Base traffic volumes, while **Figure 4-6** displays the Year 2022 Base Plus Construction Traffic.

Table 4.8 displays the daily roadway segment LOS results under both Near-Term Year 2022 Base and Near-Term Year 2022 Base Plus Construction Traffic conditions.





**TABLE 4.8
ROADWAY SEGMENT LOS RESULTS
NEAR-TERM YEAR 2022 TRAFFIC CONDITIONS – SAN VICENTE PIPELINE**

Roadway	Segment	Functional Classification	Threshold (LOS E)	Near-Term Year 2022 Base + Construction Traffic			Near-Term Year 2022 Base			Change in V/C	SI?
				ADT	V/C	LOS	ADT	V/C	LOS		
Section 1A											
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	2-Lane Collector W/ CLTL	15,000	17,090	1.139	F	16,810	1.121	F	0.019 > 0.01	Y
Miramar Rd	Nobel Dr and Eastgate Mall	8-Lane Prime Arterial	80,000	67,920	0.849	D	67,640	0.846	D	0.003	N
Copley Dr	Hickman Field Dr and Copley Park Pl	4-Lane Collector	15,000	11,380	0.759	D	11,100	0.740	D	0.019	N
Copley Park Pl	Copley Dr and Convoy St	4-Lane Collector W/ CLTL	30,000	12,580	0.419	B	12,300	0.410	B	0.009	N
Convoy St	Copley Park Pl and Convoy Ct	4-Lane Collector W/ CLTL	30,000	26,580	0.886	E	26,300	0.877	E	0.009 < 0.02	N
Convoy Ct	east of Convoy St	2-Lane Collector	8,000	2,280	0.285	A	2,000	0.250	A	0.035	N
Section 1B											
Ronson Rd	Ronson Ct and Kearny Mesa Rd	2-Lane Collector	8,000	4,580	0.573	C	4,300	0.538	C	0.035	N
Lightwave Ave	Kearny Villa Rd and Ruffin Rd	4-Lane Collector W/ CLTL	30,000	7,680	0.256	A	7,400	0.247	A	0.009	N
Ruffin Rd	Clairemont Mesa Blvd and Lightwave Ave	4-Lane Major Arterial	40,000	12,680	0.317	A	12,400	0.310	A	0.007	N
Clairemont Mesa Blvd	Ruffin Rd and Murphy Canyon Rd	4-Lane Major Arterial	40,000	28,680	0.717	C	28,400	0.710	C	0.007	N
Murphy Canyon Rd	Clairemont Mesa Blvd and 1650 ft South of Clairemont Mesa Blvd	2-Lane Collector	8,000	6,180	0.773	D	5,900	0.738	D	0.035	N
Clairemont Mesa Blvd	1300 ft East of I-15 NB Ramps and Santo Rd	4-Lane Major Arterial	40,000	21,780	0.545	C	21,500	0.538	C	0.007	N
Santo Rd	Clairemont Mesa Blvd and Tierrasanta Blvd	4-Lane Major Arterial	40,000	12,580	0.315	A	12,300	0.308	A	0.007	N
Tierrasanta Blvd	Santo Rd and Copperleaf Ln	4-Lane Major Arterial	40,000	24,980	0.625	C	24,700	0.618	C	0.007	N
Princess View Dr	north of Mission Gorge Rd	2-Lane Collector	8,000	5,180	0.648	D	4,900	0.613	C	0.035	N

**TABLE 4.8
ROADWAY SEGMENT LOS RESULTS
NEAR-TERM YEAR 2022 TRAFFIC CONDITIONS – SAN VICENTE PIPELINE**

Roadway	Segment	Functional Classification	Threshold (LOS E)	Near-Term Year 2022 Base + Construction Traffic			Near-Term Year 2022 Base			Change in V/C	SI?
				ADT	V/C	LOS	ADT	V/C	LOS		
Section 2											
Mission Gorge Rd	Princess View Dr and Golfcrest Dr	6-Lane Prime Arterial	60,000	24,680	0.411	A	24,400	0.407	A	0.005	N
	Golfcrest Dr and Rockyridge Rd	5-Lane Prime Arterial (2EB & 3WB)	50,000	14,380	0.288	A	14,100	0.282	A	0.006	N
	Rockyridge Rd and W Hills Pkwy	4-Lane Major Arterial	40,000	17,180	0.430	B	16,900	0.423	B	0.007	N
W Hills Pkwy	Mission Gorge Rd and Carlton Oaks Dr	4-Lane Major Arterial	40,000	13,880	0.347	A	13,600	0.340	A	0.007	N
Section 3											
Carlton Oaks Dr	W Hills Pkwy and Fanita Pkwy	2-Lane Collector W/ CLTL	15,000	8,980	0.599	C	8,700	0.580	C	0.019	N
	400 ft West of Fanita Pkwy and Stoyer Dr	2-Lane Collector W/ CLTL	15,000	11,680	0.779	D	11,400	0.760	D	0.019	N
Halberns Blvd	Stoyer Dr and Mast Blvd	2-Lane Collector W/ CLTL	15,000	9,580	0.639	C	9,300	0.620	C	0.019	N
Section 4											
Mast Blvd	Halberns Blvd and Magnolia Ave	4-Lane Major Arterial	40,000	21,580	0.540	C	21,300	0.533	C	0.007	N
	Magnolia Ave and Eastern Terminus	2-Lane Collector W/ CLTL	15,000	6,380	0.425	B	6,100	0.407	B	0.019	N
	Western Terminus and Riverford Rd	2-Lane Collector	8,000	780	0.098	A	500	0.063	A	0.035	N
Riverside Dr	Riverford Rd and Valle Vista Rd	2-Lane Collector W/ CLTL	15,000	11,580	0.772	D	11,300	0.753	D	0.019	N
Lakeside Ave	Valle Vista Rd and Lakeside Ave/Channel Rd	2-Lane Collector W/ CLTL	15,000	8,580	0.572	C	8,300	0.553	C	0.019	N
	Lakeside Ave/Channel Rd and SR-67	2-Lane Collector	8,000	4,280	0.535	C	4,000	0.500	C	0.035	N

**TABLE 4.8
ROADWAY SEGMENT LOS RESULTS
NEAR-TERM YEAR 2022 TRAFFIC CONDITIONS – SAN VICENTE PIPELINE**

Roadway	Segment	Functional Classification	Threshold (LOS E)	Near-Term Year 2022 Base + Construction Traffic			Near-Term Year 2022 Base			Change in V/C	SI?
				ADT	V/C	LOS	ADT	V/C	LOS		
Willow Rd	SR-67 and Moreno Ave	2-Lane Collector	8,000	12,480	1.560	F	12,200	1.525	F	0.035 >0.01	Y
Moreno Ave	San Vicente Reservoir and Willow Rd	2-Lane Collector	8,000	6,280	0.785	D	6,000	0.750	D	0.035	N

Source: Chen Ryan Associates; May 2017

Bold letter indicates substandard LOS E or F.
SI? = Significant Impact?

As shown in the Table 4.8, the following three (3) roadway segments are projected to operate at substandard LOS E or F both with and without construction traffic under Near-Term Year 2022:

- Eastgate Mall, between the NCPWF & NCWRP driveway and Miramar Road – LOS F;
- Convoy Street, between Copley Park Place and Convoy Court – LOS E; and
- Willow Road, between SR-67 and Moreno Avenue – LOS F.

Project Impacts and Mitigation Measures

Based upon the significance criteria presented in Section 2.4 of this report, the construction traffic would result in significant traffic impact to two of studied roadway segments along the San Vicente Pipeline:

- Eastgate Mall, between the NCPWF & NCWRP driveway and Miramar Road – LOS F; and
- Willow Road, between SR-67 and Moreno Avenue – LOS F.

However, based on information provided by City of San Diego Public Utilities Department, construction of the pipeline would be performed 75 LF per day, and the impacted area at any one time would encompass the work area as well as the traffic control setup length. Therefore, these project impacts would be temporary in nature (approximately 64¹ working days and 17¹ working days, respectively) and since the construction will occur during nighttime when there is only less traffic on the road, this roadway should function at reasonable operations. Therefore, since the impact would be temporary, no mitigation measures are required.

Table 4.9 displays the projected amount of days for which construction would take place at the identified impacted roadways above as well as on roadways adjacent to residential areas. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas.

**TABLE 4.9
SUMMARY OF IMPACT DURATION – SAN VICENTE PIPELINE**

Roadway	Segment	Length (ft)	Approximate Duration of Impact (days)
Eastgate Mall	NCPWF & NCWRP Driveway and Miramar Rd	4,800	64
Lightwave Avenue	Kearny Villa Rd and Ruffin Rd	4,800	64
Ruffin Rd	Clairemont Mesa Blvd and Lightwave Ave	880	12
Clairemont Mesa Blvd	1300 ft East of I-15 NB Ramps	1,300	18
Santo Rd	Clairemont Mesa Blvd and Tierrasanta Blvd	2,070	28
Tierrasanta Blvd	Santo Rd and Cooperleaf Ln	8,000	107

**TABLE 4.9
SUMMARY OF IMPACT DURATION – SAN VICENTE PIPELINE**

Roadway	Segment	Length (ft)	Approximate Duration of Impact (days)
Section 2			
Mission Gorge Rd	Princess View Dr and Golfcrest Dr	11,300	151
	1160 ft west of Rockyridge Rd	1,160	16
	Rockyridge Rd and W Hills Pkwy	3,000	40
W Hills Pkwy	Mission Gorge Rd and Carlton Oaks Dr	2,200	30
Section 3			
Carlton Oaks Dr	W Hills Pkwy and Fanita Pkwy	6,500	87
	400 ft West of Fanita Pkwy and Stoyer Dr	4,400	59
Halberns Blvd	Stoyer Dr and Mast Blvd	1,600	22
Section 4			
Mast Blvd	Halberns Blvd and Magnolia Ave	6,850	92
	Magnolia Ave and Eastern Terminus	4,000	54
	Western Terminus and Riverford Rd	2,500	32
Riverside Dr	Riverford Rd and Valle Vista Rd	5,400	72
Lakeside Dr	Valle Vista Rd and Lakeside Ave/Channel Rd	1,125	15
	Lakeside Ave/Channel Rd and SR-67	2,600	35
Willow Rd	SR-67 and Moreno Ave	1,300	17
Moreno Ave	San Vicente Reservoir and Willow Rd	9,600	125

Source: Chen Ryan Associates; May 2017.

The duration of the impacts is based on the anticipated 75 LF of pipeline installation per day. It is important to note that these impacts would not occur concurrently, but rather at different points in time depending on the location of pipeline construction¹, and the impacted area at any one time would encompass the work area as well as the traffic control setup length. Therefore, the project impacts shown above would be temporary in nature and no mitigation measures are required.

¹ The impacted roadway segment of Eastgate Mall, between NCPWF & NCWRP driveway and Miramar Road and Willow Road, between SR-67 and Moreno Avenue would be approximately 4,800 feet and 1,300 feet in length respectively, and at 75 feet of installation per day, it is estimated that it would take approximately 64 days and 17 days to complete, respectively. After the pipeline installation is complete at the first 75 LF, the next 75 LF of construction would begin to be under construction, etc.

5.0 Morena Pipelines

The Morena Pipelines proposes the construction of two pipelines, a 30-inch brine pipeline and a 48-inch wastewater forcemain, running parallel to each other in a common pipe trench, connecting the Morena Pump Station which is to be located on a parcel currently owned by the San Diego Humane Society and the Society for the Prevention of Cruelty to Animals, to the NCWRP. The pipelines will connect the new pump station to the North City Water Reclamation Plant, via Sherman Street, Morena Boulevard, West Morena Boulevard, Ingulf Street, Denver Street, Clairemont Drive, Clairemont Mesa Boulevard, Genesee Avenue, Nobel Drive, Towne Centre Drive, and Executive Drive, traversing the communities of Linda Vista, Clairemont Mesa, and University. This pipeline is approximately 11 miles. Construction of the Morena Pipelines is anticipated to take place between March 2019 and July 2021.

Pipeline construction is proposed largely to be open-trench, covering approximately 50,890 linear feet or 93% of the total alignment, while the tunneling sections cover approximately 4,105 linear feet or 7% of the total alignment. Based on information provided by City of San Diego Public Utilities Department and Construction Management and Field Services, the majority of the pipeline construction work hours are proposed to be during nighttime, between 9:00 pm and 5:00 am, with daytime construction along some roadway segments along the pipelines alignment. **Table 5.1** displays the work hours proposed for the roadway segments analyzed for the Morena Pipelines construction.

**TABLE 5.1
WORK HOURS ON ROADWAY SEGMENTS ALONG MORENA PIPELINES ALIGNMENT**

Roadway	Segment	Work hours
Executive Drive	End of cul-de-sac and Judicial Drive	9:00 PM to 5:00 AM
Executive Drive	Judicial Drive and Towne Centre Drive	9:00 PM to 5:00 AM
Towne Centre Drive	Executive Drive and La Jolla Village Drive	9:00 PM to 5:00 AM
Towne Centre Drive	La Jolla Village Drive and Golden Haven Drive	8:30 AM to 3:30 PM
Towne Centre Drive	Golden Haven Drive and Nobel Drive	8:30 AM to 3:30 PM
Nobel Drive	Towne Centre Drive and Genesee Avenue	8:30 AM to 3:30 PM
Genesee Ave	Nobel Drive to Governor Drive	9:00 PM to 5:00 AM
Genesee Ave	Governor Drive and SR-52 WB Ramps	9:00 PM to 5:00 AM
Genesee Ave	SR-52 WB Ramps and SR-52 EB Ramps	9:00 PM to 5:00 AM
Genesee Ave	SR-52 EB Ramps and Appleton Street	9:00 PM to 5:00 AM

**TABLE 5.1
WORK HOURS ON ROADWAY SEGMENTS ALONG MORENA PIPELINES ALIGNMENT**

Roadway	Segment	Work hours
Genesee Ave	Appleton Street and Clairemont Mesa Blvd	(NB) 9:00 PM to 5:00 AM, (SB) 7:30 AM to 2:30 PM
Clairemont Mesa Blvd	Genesee Avenue and Clairemont Drive	8:30 AM to 3:30 PM
Clairemont Drive	Clairemont Mesa Boulevard and Lakehurst Avenue	7:30 AM to 4:30 PM
Clairemont Drive	Lakehurst Avenue and Clairemont Mesa Boulevard	7:30 AM to 4:30 PM
Clairemont Drive	Clairemont Mesa Boulevard and Balboa Avenue	7:30 AM to 4:30 PM
Clairemont Drive	Balboa Avenue to Rappahannock Avenue	7:30 AM to 4:30 PM
Clairemont Drive	Rappahannock Avenue to Iroquois Avenue	7:30 AM to 4:30 PM
Clairemont Drive	Iroquois Avenue to Burgener Drive	9:00 PM to 5:00 AM
Clairemont Drive	Burgener Drive to Denver Street	9:00 PM to 5:00 AM
Denver St	Clairemont Drive and Ingulf Street	9:00 PM to 5:00 AM
Ingulf St	Denver Street and West Morena Boulevard	9:00 PM to 5:00 AM
West Morena Boulevard	Ingulf Street to Littlefield Street	9:00 PM to 5:00 AM
West Morena Boulevard	Littlefield Street to Morena Blvd	9:00 PM to 5:00 AM
West Morena Boulevard	Morena Boulevard and Tecolote Road Overpass	9:00 PM to 5:00 AM
West Morena Boulevard	Tecolote Road Overpass and Vega Street	9:00 PM to 5:00 AM
West Morena Boulevard	Vega Street and Morena Boulevard	9:00 PM to 5:00 AM

Source: City of San Diego Public Utilities Department and Construction Management and Field Services Department, June 2017.

The construction of the pipelines will also require the closure to through traffic of two roadways, Ingulf Street and Denver Street. The closure of the aforementioned roadway segments will result in the following traffic detours:

- Closure of Ingulf Street between West Morena Boulevard and Denver Street - Detour signs shall be placed redirecting traffic to travel on alternative routes along Milton Street, Lister Street, Jellett Street and Galveston Street.
- Closure of Denver Street between Ingulf Street and Clairemont Drive – Detour signs shall be placed redirecting traffic to travel on alternative routes along Milton Street, Lister Street, Jellett Street and Galveston Street.

It is important to note that the Morena Pipelines coincide with the alignment for the construction of the Mid-Coast Trolley alignment (along West Morena Boulevard), therefore, close coordination is necessary between these two projects.

Both daily roadway segment and peak hour intersection analysis were conducted in the chapter to disclose all potential construction traffic impacts associated with these pipelines since daytime construction with lane and road closures are proposed.

5.1 Pipeline Construction Trip Generation

It is assumed that truck trips (excavation, material transport, utility trucks, ect.) and worker trips will be generated during construction. Based on review of the 10% Engineering Design Report for the Morena Pump Station, it is also assumed that the open-trench excavation will be approximately 10’ deep, 8’ wide, and 75’ long per day, and the same number of workers and heavy vehicles will be required per day for the duration of the pipeline construction. As a worst-case scenario, it was assumed that all workers would drive individual vehicles to the project site.

Table 5.2 displays the assumed daily and peak hour vehicle trip generation during construction.

**TABLE 5.2
CONSTRUCTION TRIP GENERATION**

Trip Type	Unit	Rate	Daily Generation	Passenger Car Equivalent	Daily Vehicle Trips	AM Peak Hour	PM Peak Hour
Construction Workers	8 workers	3 / worker	24 vehicle trips	1	24	8 (8-in / 0-out)	8 (0-in / 8-out)
Construction Trucks	60 trucks	2 / truck	120 truck trips	2.5	300	38 (19-in / 19-out)	38 (19-in / 19-out)
Total					324	46 (27-in / 19-out)	46 (19-in / 27out)

Source: Chen Ryan Associates; May 2017

As shown, the proposed project construction is anticipated to generate approximately 324 daily trips, as well as 46 trips during both the AM and PM peak hour.

5.2 Morena Pipelines Construction Trip Distribution, Trip Assignment & Staging Areas

Pipeline staging areas are proposed to be located within developed parking lots or other developed areas to minimize traffic and road disruptions and would move frequently as construction progresses along the alignment. No new access roads would be needed. Staging areas for open cut construction would range from 30 feet to 60 feet wide and would occupy half the roadway width. Staging areas for trenchless construction would range from 20 feet by 50 feet up to 100 feet by 150 feet.

A jacking pit would be constructed at the beginning of each trenchless pipeline segment and a receiving pit would be constructed at the end of each segment.

The Miramar Landfill would be the main site as the origin or the destination of material disposal trucks and SR-52 would be the main route.

5.3 Existing Conditions

The section below discusses the existing traffic conditions along roadways and intersections serving the Morena Pipelines.

Roadway Segment Analysis

Figure 5-1 displays the existing roadway traffic volumes. **Table 5.3** displays the daily roadway segment LOS results under Existing conditions. Roadway segment and intersection traffic counts were obtained from a number of sources including the *University Community Plan Amendment Existing Conditions Summary (late 2015)*, the *Morena Boulevard Station Area Planning Study (2014)*, as well as the *Clairemont Mesa Community Plan Update (2016)*. The traffic count worksheets are provided in Appendix A.

As shown in the Table 5.3, the following four (4) roadway segments operate at substandard LOS E or F:

- Clairemont Mesa Boulevard, between Genesee Avenue and Clairemont Drive – LOS E;
- Clairemont Drive, between Clairemont Mesa Boulevard and Balboa Avenue – LOS F;
- Clairemont Drive, between Burgener Drive and Denver Street – LOS F;
- Denver Street, between Clairemont Drive and Ingulf Street – LOS F.

**TABLE 5.3
ROADWAY SEGMENT LOS RESULTS
EXISTING CONDITIONS – MORENA PIPELINES**

Roadway	Segment	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS
Executive Drive	End of cul-de-sac and Judicial Drive	2-Lane Collector	8,000	5,920	0.739	D
	Judicial Drive and Towne Centre Drive	4-Lane Major Arterial	40,000	5,920	0.148	A
Towne Centre Drive	Executive Drive and La Jolla Village Drive	4-Lane Major Arterial	40,000	20,130	0.503	B
	La Jolla Village Drive and Golden Haven Drive	4-Lane Major Arterial	40,000	13,790	0.345	A
	Golden Haven Drive and Nobel Drive	4-Lane Major Arterial	40,000	13,790	0.345	A
Nobel Drive	Towne Centre Drive and Genesee Avenue	4-Lane Major Arterial	40,000	18,490	0.462	B
Genesee Avenue	Nobel Drive and Governor Drive	4-Lane Major Arterial	40,000	30,920	0.773	D
	Governor Drive and SR-52 WB Ramps	4-Lane Major Arterial	40,000	30,920	0.773	D
	SR-52 WB Ramps and SR-52 EB Ramps	4-Lane Major Arterial	40,000	31,170	0.779	D
	SR-52 EB Ramps and Appleton Street	4-Lane Major Arterial	40,000	28,060	0.702	C
	Appleton Street and Clairemont Mesa Boulevard	4-Lane Major Arterial	40,000	28,060	0.702	C
Clairemont Mesa Boulevard	Genesee Avenue and Clairemont Drive	4-Lane Collector with CLTL	30,000	25,310	0.844	E
Clairemont Drive	Clairemont Mesa Boulevard and Lakehurst Avenue	4-Lane Collector with CLTL	30,000	8,820	0.294	A
	Lakehurst Avenue and Clairemont Mesa Boulevard	4-Lane Collector with CLTL	30,000	8,820	0.294	A
	Clairemont Mesa Boulevard and Balboa Avenue	2-Lane Collector W/ CLTL	15,000	21,260	1.417	F
	Balboa Avenue and Rappahannock Avenue	4-Lane Major Arterial	40,000	19,330	0.483	B
	Rappahannock Avenue and Iroquois Avenue	4-Lane Collector with CLTL	30,000	19,330	0.644	C

**TABLE 5.3
ROADWAY SEGMENT LOS RESULTS
EXISTING CONDITIONS – MORENA PIPELINES**

Roadway	Segment	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS
Clairemont Drive	Iroquois Avenue and Burgener Drive	4-Lane Collector with CLTL	30,000	14,080	0.469	C
	Burgener Drive and Denver Street	2-Lane Collector W/ CLTL	15,000	23,290	1.553	F
Denver Street	Clairemont Drive and Ingulf Street	2-Lane Collector	8,000	10,060	1.258	F
Ingulf Street	Denver Street and West Morena Boulevard	2-Lane Collector	8,000	5,190	0.648	D
West Morena Boulevard	Ingulf Street and Littlefield Street	4-Lane Major Arterial	40,000	15,960	0.399	B
	Littlefield Street to Morena Boulevard	4-Lane Major Arterial	40,000	15,960	0.399	B
	Morena Boulevard and Tecolote Road Overpass	4-Lane Major Arterial	40,000	10,150	0.254	A
	Tecolote Road Overpass and Vega Street	4-Lane Major Arterial	40,000	10,150	0.254	A
	Vega Street and Morena Boulevard	5-Lane Major Arterial	50,000	13,310	0.266	A

Source: Chen Ryan Associates; May 2017

Note: Bold letter indicates substandard LOS E or F.

Intersection Analysis

Figure 5-2 displays existing intersection geometry while **Figure 5-3** displays peak hour intersection volumes. **Table 5.4** displays intersection LOS results and average delay results for key study area intersections under Existing Conditions. LOS calculation worksheets for Existing Conditions are provided in **Appendix D**. It is important to note that the intersections analyzed for the Morena Pipelines are those that are found along roadway segments where daytime work is proposed.

TABLE 5.4
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING CONDITIONS – MORENA PIPELINES

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS
1. Towne Centre Drive & Golden Haven Drive	Signalized	14.9	B	9.7	A
2. Towne Centre Drive & Nobel Drive	Signalized	34.2	C	28.2	C
3. Genesee Avenue & Nobel Drive	Signalized	69.4	E	33.5	C
4. Genesee Avenue & Appleton Street/Lehrer Drive	Signalized	84.8	F	34.9	C
5. Genesee Avenue & Clairemont Mesa Boulevard	Signalized	46.0	D	56.1	E
6. Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue	Signalized	413.7	F	672.1	F
7. Clairemont Drive & Clairemont Mesa Boulevard	Signalized	78.7	E	53.8	D
8. Clairemont Drive & Balboa Avenue	Signalized	51.4	D	71.0	E

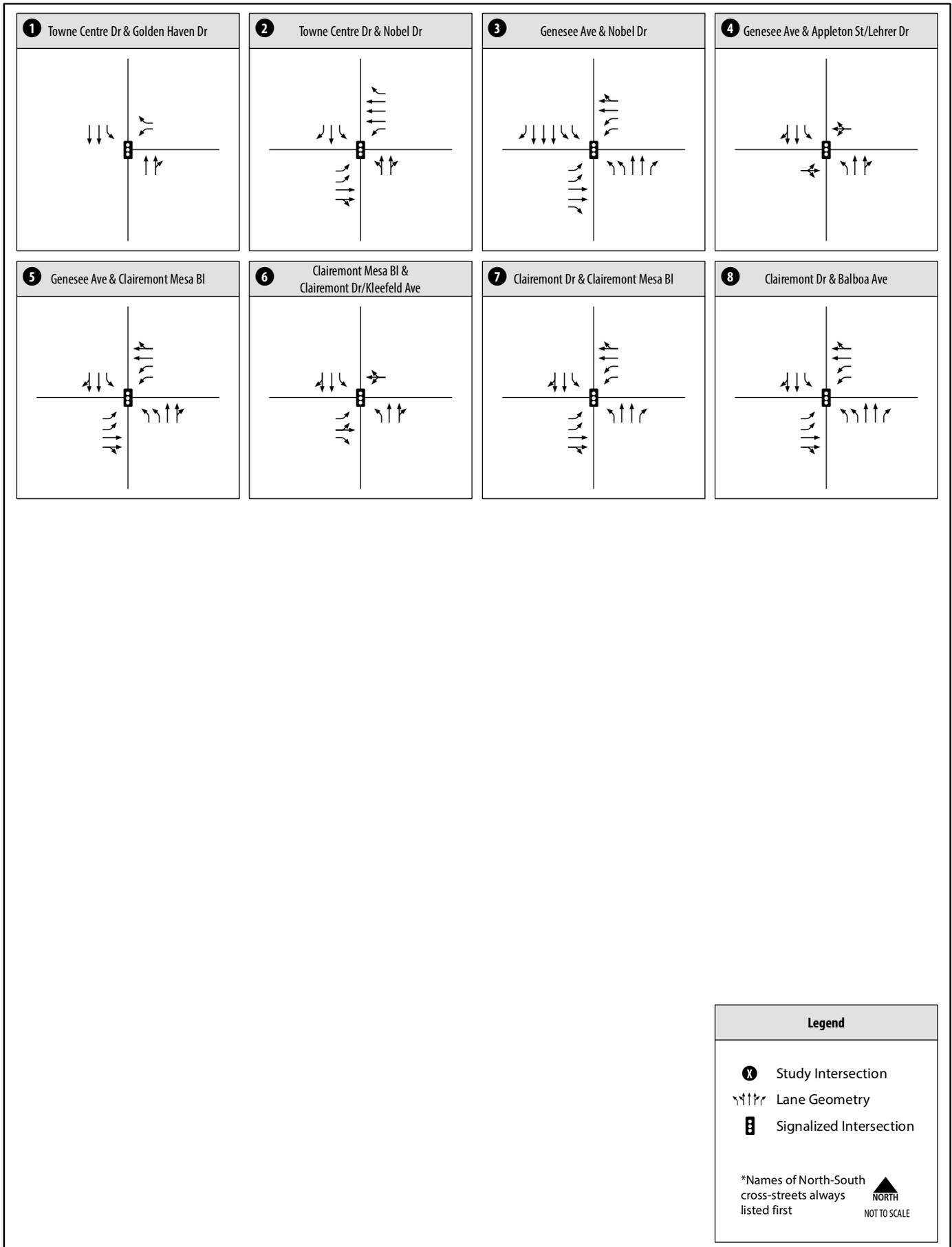
Source: Chen Ryan Associates, May 2017

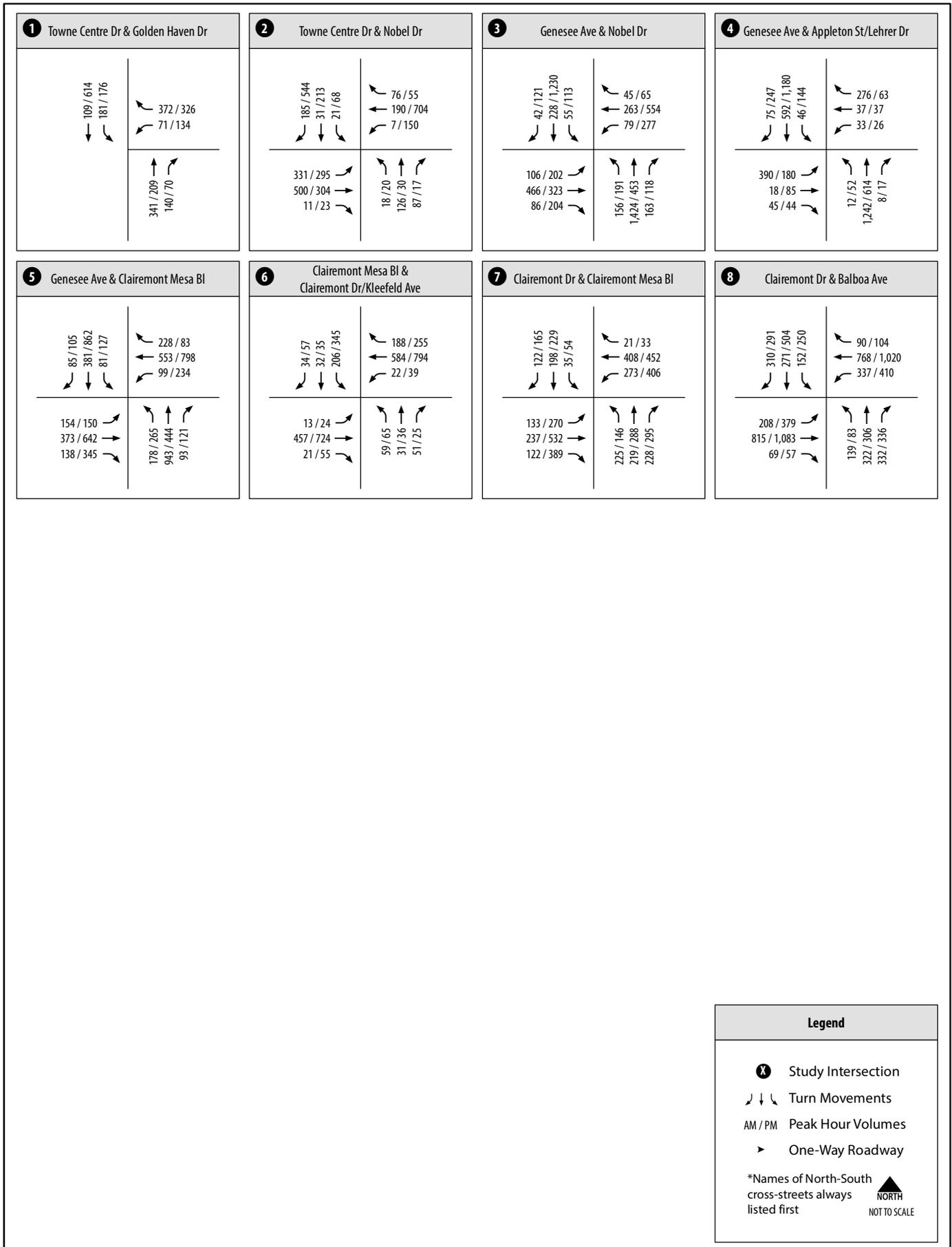
Notes:

Bold letter indicates substandard LOS E or F.

SSSC = Side-Street Stop Control.

For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.





As shown in Table 5.4, the following six (6) intersections currently operate under substandard LOS E or F during the peak hours:

- Genesee Avenue & Nobel Drive – LOS E during the AM peak hour;
- Genesee Avenue & Appleton Street/Lehrer Drive – LOS F during the AM peak hour;
- Genesee Avenue & Clairemont Mesa Boulevard – LOS E during the PM peak hour;
- Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue – LOS F during both the AM and PM peak hour;
- Clairemont Drive & Clairemont Mesa Boulevard – LOS E during the AM peak hour;
- Clairemont Drive & Balboa Avenue – LOS E during the PM peak hour;

5.4 Construction Traffic Analysis (Near-Term Year 2022)

It is assumed that the North City project will be in operations by Year 2022, for a worst-case analysis, construction traffic was added to the Year 2022 Base traffic volumes. Near-Term Year 2022 volumes were derived by comparing SANDAG Series 13 Year 2035 and Year 2020 forecast volumes, as well as the existing traffic counts. Growth factors were developed and applied to existing traffic volumes for each specific roadway segments and connecting intersections.

Roadway Segment Analysis

Figure 5-4 displays the Near-Term Year 2022 Base traffic volumes, while **Figure 5-5** displays Near-Term Year 2022 Base with Construction traffic volumes along study area roadway segments.

Table 5.5 displays the daily roadway segment LOS results under both Near-Term Year 2022 Base and Near-Term Year 2022 Base with Construction Traffic conditions.

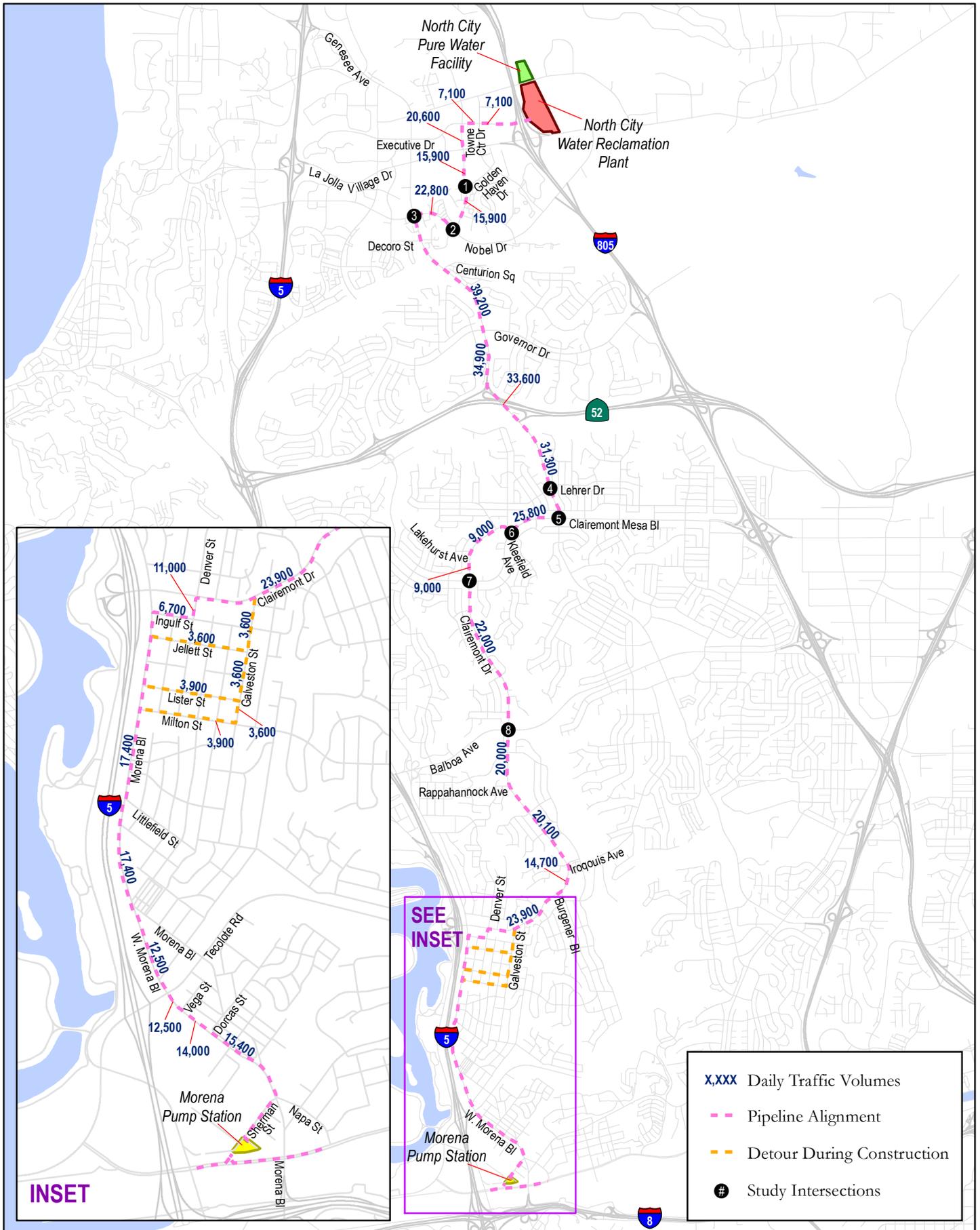


Figure 5-4
 Roadway Traffic Volumes - Near-Term Year 2022 Base Conditions
 (Morena Pipelines)

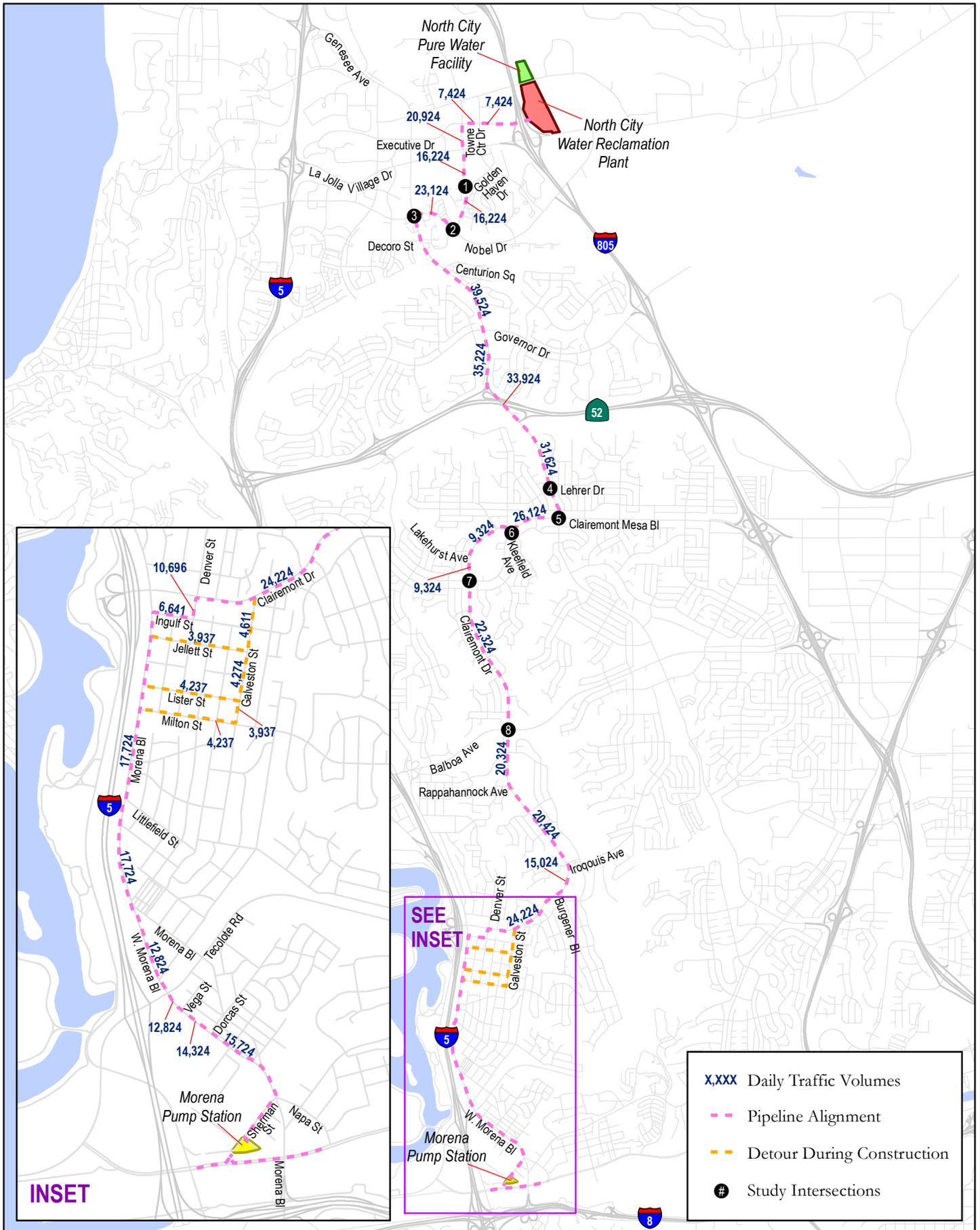


Figure 5-5
 Roadway Traffic Volumes - Near-Term Year 2022 Base Plus Construction
 Traffic Conditions (Morena Pipelines)

**TABLE 5.5
ROADWAY SEGMENT LOS RESULTS
NEAR-TERM YEAR 2022 TRAFFIC CONDITIONS – MORENA PIPELINES**

Roadway	Segment	Near-Term Year 2022 Base + Construction Traffic					Near-Term Year 2022 Base					Change in V/C	SI?
		Functional Classification	Threshold (LOS E)	ADT	V/C	LOS	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS		
Executive Drive	End of cul-de-sac and Judicial Drive	2-Lane Collector	8,000	7,424	0.928	E	2-Lane Collector	8,000	7,100	0.888	E	0.041	Y
	Judicial Drive and Towne Centre Drive	4-Lane Major Arterial	40,000	7,424	0.186	A	4-Lane Major Arterial	40,000	7,100	0.178	A	0.008	N
Towne Centre Drive	Executive Drive and La Jolla Village Drive	4-Lane Major Arterial	40,000	20,924	0.523	B	4-Lane Major Arterial	40,000	20,600	0.515	B	0.008	N
	La Jolla Village Drive and Golden Haven Drive	2-Lane Collector	8,000	16,224	2.028	F	4-Lane Major Arterial	40,000	15,900	0.398	B	1.631	Y
	Golden Haven Drive and Nobel Drive	2-Lane Collector	8,000	16,224	2.028	F	4-Lane Major Arterial	40,000	15,900	0.398	B	1.631	Y
Nobel Drive	Towne Centre Drive and Genesee Avenue	2-Lane Collector	8,000	23,124	2.891	F	4-Lane Major Arterial	40,000	22,800	0.570	C	2.321	Y
Genesee Avenue	Nobel Drive to Governor Drive	4-Lane Major Arterial	40,000	39,524	0.988	E	4-Lane Major Arterial	40,000	39,200	0.980	E	0.008	N
	Governor Drive and SR-52 WB Ramps	4-Lane Major Arterial	40,000	35,224	0.881	E	4-Lane Major Arterial	40,000	34,900	0.873	D	0.008	Y
	SR-52 WB Ramps and SR-52 EB Ramps	4-Lane Major Arterial	40,000	33,924	0.848	D	4-Lane Major Arterial	40,000	33,600	0.840	D	0.008	N
	SR-52 EB Ramps and Appleton Street	4-Lane Major Arterial	40,000	31,624	0.791	D	4-Lane Major Arterial	40,000	31,300	0.783	D	0.008	N
	Appleton Street and Clairemont Mesa Blvd	2-Lane Collector	8,000	31,624	3.953	F	4-Lane Major Arterial	40,000	31,300	0.783	D	3.171	Y

**TABLE 5.5
ROADWAY SEGMENT LOS RESULTS
NEAR-TERM YEAR 2022 TRAFFIC CONDITIONS – MORENA PIPELINES**

Roadway	Segment	Near-Term Year 2022 Base + Construction Traffic					Near-Term Year 2022 Base					Change in V/C	SI?
		Functional Classification	Threshold (LOS E)	ADT	V/C	LOS	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS		
Clairemont Mesa Boulevard	Genesee Avenue and Clairemont Drive	2-Lane Collector	8,000	26,124	3.266	F	4-Lane Secondary Arterial	30,000	25,800	0.860	E	2.406	Y
Clairemont Drive	Clairemont Mesa Boulevard and Lakehurst Avenue	2-Lane Collector	8,000	9,324	1.166	F	4-Lane Secondary Arterial	30,000	9,000	0.300	A	0.866	Y
	Lakehurst Avenue and Clairemont Mesa Boulevard	2-Lane Collector	8,000	9,324	1.166	F	4-Lane Secondary Arterial	30,000	9,000	0.300	A	0.866	Y
	Clairemont Mesa Boulevard and Balboa Avenue	2-Lane Collector	8,000	22,324	2.791	F	2-Lane Collector W/ CLTL	15,000	22,000	1.467	F	1.324	Y
	Balboa Avenue and Rappahannock Avenue	2-Lane Collector	8,000	20,324	2.541	F	4-Lane Major Arterial	40,000	20,000	0.500	B	2.041	Y
	Rappahannock Avenue and Iroquois Avenue	2-Lane Collector W/ CLTL	15,000	20,424	1.362	F	4-Lane Secondary Arterial	30,000	20,100	0.670	D	0.692	Y
	Iroquois Avenue and Burgener Drive	4-Lane Secondary Arterial	30,000	15,024	0.501	C	4-Lane Secondary Arterial	30,000	14,700	0.490	C	0.011	N
	Burgener Drive and Denver Street	2-Lane Collector W/ CLTL	15,000	24,224	1.615	F	2-Lane Collector W/ CLTL	15,000	23,900	1.593	F	0.022	Y

**TABLE 5.5
ROADWAY SEGMENT LOS RESULTS
NEAR-TERM YEAR 2022 TRAFFIC CONDITIONS – MORENA PIPELINES**

Roadway	Segment	Near-Term Year 2022 Base + Construction Traffic					Near-Term Year 2022 Base					Change in V/C	SI?
		Functional Classification	Threshold (LOS E)	ADT	V/C	LOS	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS		
Denver Street	Clairemont Drive and Ingulf Street	2-Lane Collector (Full closure during work hours)	8,000	10,696 ¹	1.337	F	2-Lane Collector	8,000	11,000	1.375	F	-0.038	N
Ingulf Street	Denver Street and West Morena Boulevard	2-Lane Collector (Full closure during work hours)	8,000	6,641 ¹	0.830	E	2-Lane Collector	8,000	6,700	0.838	E	-0.007	N
Galveston Street	Clairemont Drive and Jellet Street	2-Lane Collector	8,000	4,611 ²	0.576	C	2-Lane Collector	8,000	3,600	0.450	C	0.126	N
	Jellet Street and Lister Street	2-Lane Collector	8,000	4,274 ²	0.534	C	2-Lane Collector	8,000	3,600	0.450	C	0.084	N
	Lister Street and Milton Street	2-Lane Collector	8,000	3,937 ²	0.492	C	2-Lane Collector	8,000	3,600	0.450	C	0.042	N
Jellet Street	Galveston Street and West Morena Boulevard	2-Lane Collector	8,000	3,937 ²	0.492	C	2-Lane Collector	8,000	3,600	0.450	C	0.042	N
Lister Street	Galveston Street and West Morena Boulevard	2-Lane Collector	8,000	4,237 ²	0.530	C	2-Lane Collector	8,000	3,900	0.488	C	0.042	N
Milton Street	Galveston Street and West Morena Boulevard	2-Lane Collector	8,000	4,237 ²	0.530	C	2-Lane Collector	8,000	3,900	0.488	C	0.042	N

**TABLE 5.5
ROADWAY SEGMENT LOS RESULTS
NEAR-TERM YEAR 2022 TRAFFIC CONDITIONS – MORENA PIPELINES**

Roadway	Segment	Near-Term Year 2022 Base + Construction Traffic					Near-Term Year 2022 Base					Change in V/C	SI?
		Functional Classification	Threshold (LOS E)	ADT	V/C	LOS	Functional Classification	Threshold (LOS E)	ADT	V/C	LOS		
West Morena Boulevard	Ingulf Street and Littlefield Street	4-Lane Major Arterial	40,000	17,724	0.443	B	4-Lane Major Arterial	40,000	17,400	0.435	B	0.008	N
	Littlefield Street to Morena Boulevard	4-Lane Major Arterial	40,000	17,724	0.443	B	4-Lane Major Arterial	40,000	17,400	0.435	B	0.008	N
	Morena Boulevard and Tecolote Road Overpass	4-Lane Major Arterial	40,000	12,824	0.321	A	4-Lane Major Arterial	40,000	12,500	0.313	A	0.008	N
	Tecolote Road Overpass and Vega Street	4-Lane Major Arterial	40,000	12,824	0.321	A	4-Lane Major Arterial	40,000	12,500	0.313	A	0.008	N
	Vega Street and North of Dorcas Street	5-Lane Major Arterial	50,000	14,324	0.286	A	5-Lane Major Arterial	50,000	14,000	0.280	A	0.006	N
	North of Dorcas Street and Morena Boulevard	5-Lane Major Arterial	50,000	15,724	0.314	A	5-Lane Major Arterial	50,000	15,400	0.308	A	0.006	N

Source: Chen Ryan Associates; May 2017

Notes:

Bold letter indicates substandard LOS E or F.

SI? = Significant Impact?

¹ Traffic volume in this segment excludes traffic during the work hours (9 pm to 5 am) and includes construction traffic.

² Traffic along Ingulf Street and Denver Street rerouted onto this roadway segment.

As shown in the Table 5.5, the following seven (7) roadway segments are projected to operate at substandard LOS E or F under Near-Term Year 2022 Conditions:

- Executive Drive, between End of cul-de-sac to Judicial Drive – LOS E;
- Genesee Avenue, between Nobel Drive and Governor Drive – LOS E;
- Clairemont Mesa Boulevard, between Genesee Avenue and Clairemont Drive – LOS E;
- Clairemont Drive, between Clairemont Mesa Boulevard and Balboa Avenue – LOS F;
- Clairemont Drive, between Burgener Drive and Denver Street – LOS F;
- Denver Street, between Clairemont Drive and Ingulf Street – LOS F; and
- Ingulf Street, between Denver Street and West Morena Boulevard – LOS E.

The following sixteen (16) roadway segments are projected to operate at substandard LOS E or F under Near-Term Year 2022 with Construction Conditions:

- Executive Drive, between End of cul-de-sac to Judicial Drive – LOS E;
- Towne Centre Drive, between La Jolla Village Drive and Golden Haven Drive – LOS F;
- Towne Centre Drive, between Golden Haven Drive and Nobel Drive – LOS F;
- Nobel Drive, between Towne Centre Drive and Genesee Avenue – LOS F;
- Genesee Avenue, between Nobel Drive and Governor Drive – LOS F;
- Genesee Avenue, between Governor Drive and SR-52 WB Ramps – LOS F;
- Genesee Avenue, between SR-52 EB Ramps and Clairemont Mesa Boulevard – LOS F;
- Clairemont Mesa Boulevard, between Appleton Street and Clairemont Mesa Blvd – LOS F;
- Clairemont Drive, between Clairemont Mesa Boulevard and Lakehurst Avenue – LOS F;
- Clairemont Drive, between Lakehurst Avenue and Clairemont Mesa Boulevard – LOS F;
- Clairemont Drive, between Clairemont Mesa Boulevard and Balboa Avenue – LOS F;
- Clairemont Drive, between Balboa Avenue and Rappahannock Avenue – LOS F;
- Clairemont Drive, between Rappahannock Avenue and Iroquois Avenue – LOS F;
- Clairemont Drive, between Burgener Drive and Denver Street – LOS F;
- Denver Street, between Clairemont Drive and Ingulf Street – LOS F;
- Ingulf Street, between Denver Street and West Morena Boulevard – LOS E;

Intersection Analysis

Intersection geometry under the Near-Term Year 2022 Base conditions is assumed to be identical as existing conditions, as shown in Figure 5-2. **Figure 5-6** displays peak hour intersection volumes during Near-Term Year 2022 Base traffic conditions. During the pipeline construction, intersection geometrics would change due to lane and road closures. **Figure 5-7** displays intersection geometry under Near-Term Year 2022 Base with Construction Conditions. **Figure 5-8** displays peak hour intersection volumes under Near-Term Year 2022 Base with Construction Conditions.

Table 5.6 displays intersection LOS results and average delay results for key study area intersections under Near-Term Year 2022 both with and without construction traffic scenarios.

Peak hour intersection calculation worksheets are provided in **Appendix E**. It is important to note that the intersections analyzed for the Morena Pipelines are those that are found along roadway segments where daytime work is proposed.

TABLE 5.6
PEAK HOUR INTERSECTION LOS RESULTS
NEAR-TERM YEAR 2022 TRAFFIC CONDITIONS – MORENA PIPELINES

Intersection	Traffic Control	Near-Term Year 2022 + Construction Traffic				Near-Term Year 2022 Base				Change in Delay	SI?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
		Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS	Avg. Delay (sec)	LOS		
1. Towne Centre Drive & Golden Haven Drive	Signalized	26.7	C	30.0	C	14.5	B	16.7	B	12.2 / 13.3	N
2. Towne Centre Drive & Nobel Drive	Signalized	30.4	C	256.4	F	29.9	C	26.8	C	0.5 / 229.6	Y
3. Genesee Avenue & Nobel Drive	Signalized	424.1	F	133.8	F	72.6	E	33.1	C	351.5 / 100.7	Y
4. Genesee Avenue & Appleton Street/Lehrer Drive	Signalized	71.2	E	141.5	F	69.4	E	33.2	C	1.8 / 108.3	Y
5. Genesee Avenue & Clairemont Mesa Boulevard	Signalized	251.0	F	268.9	F	48.4	D	57.3	E	202.6 / 211.6	Y
6. Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue	Signalized	342.8	F	N/A ¹	F	359.4	F	700.4	F	-16.6 / -26.2	Y
7. Clairemont Drive & Clairemont Mesa Boulevard	Signalized	97.1	F	199.9	F	72.2	E	56.9	E	24.9 / 143	Y
8. Clairemont Drive & Balboa Avenue	Signalized	44.5	D	75.2	E	44.3	D	74.9	E	0.2 / 0.3	N

Source: Chen Ryan Associates, May 2017

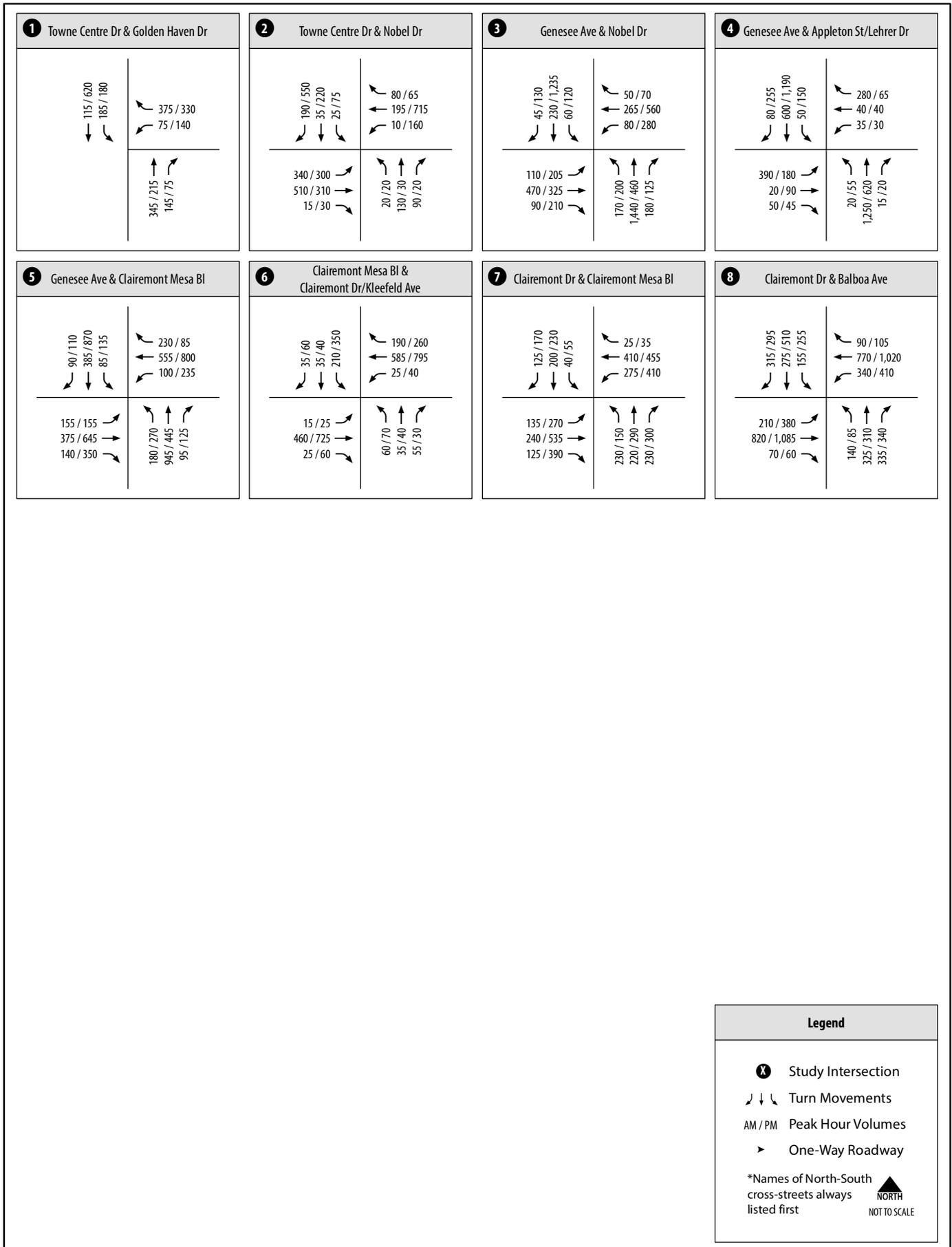
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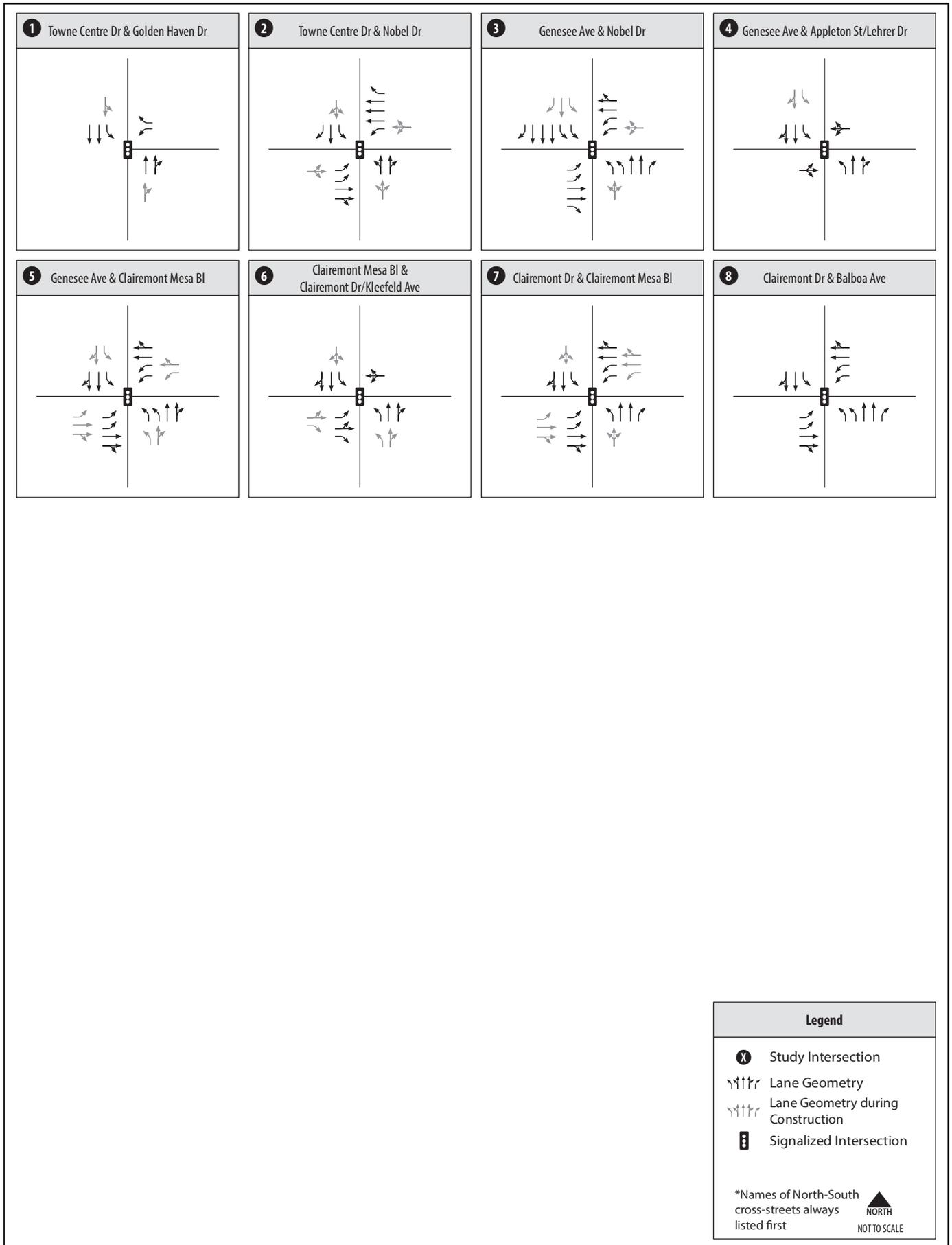
Bold letter indicates substandard LOS E or F.

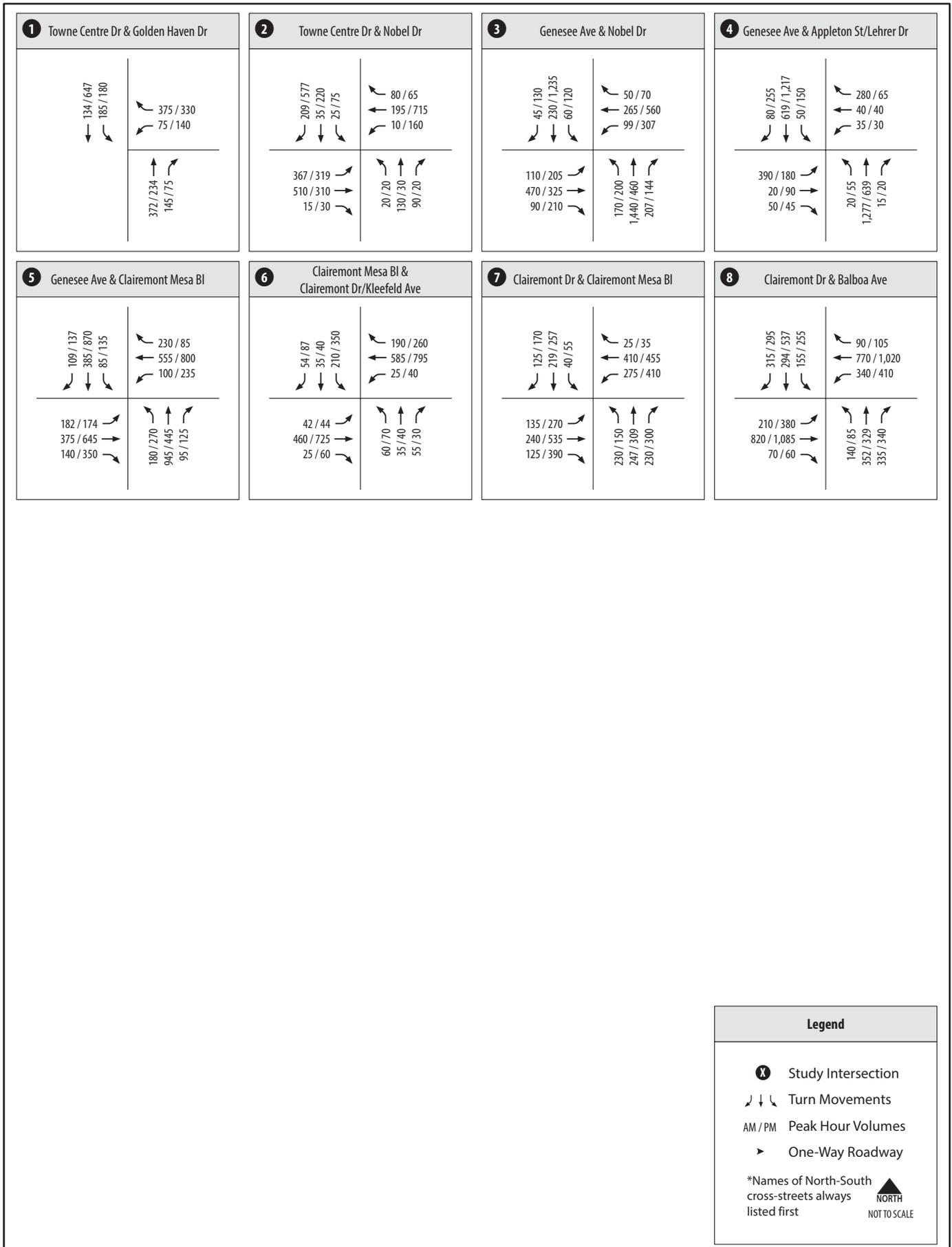
SSSC = Side-Street Stop Control.

For SSSC intersections, the delay shown is the worst delay experienced by any of the approaches.

¹Exceeds maximum reasonable calculable delay of 600 seconds per Synchro 9.0 traffic analysis software.







As shown in the Table 5.6, the following six (6) out of the eight (8) study intersections are projected to operate at substandard LOS E or F under Near-Term Year 2022 Base conditions:

- Genesee Avenue & Nobel Drive – LOS E during the AM peak hour;
- Genesee Avenue & Appleton Street/Lehrer Drive – LOS E during the AM peak hour;
- Genesee Avenue & Clairemont Mesa Boulevard – LOS E during the PM peak hour;
- Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue – LOS F during both the AM and PM peak hour;
- Clairemont Drive & Clairemont Mesa Boulevard – LOS E during both the AM and PM peak hour;
- Clairemont Drive & Balboa Avenue – LOS E during the PM peak hour; and

Under Near-Term Year 2022 Base Plus Construction Traffic Conditions, seven (7) out of the eight (8) study intersections are projected to operate at substandard LOS E or F:

- Towne Centre Drive & Nobel Drive – LOS F during the PM peak hour;
- Genesee Avenue & Nobel Drive – LOS F during both the AM and PM peak hour;
- Genesee Avenue & Appleton Street/Lehrer Drive – LOS E during the AM peak hour and LOS F during the PM peak hour;
- Genesee Avenue & Clairemont Mesa Boulevard – LOS F during both the AM and PM peak hour;
- Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue – LOS F during both the AM and PM peak hour;
- Clairemont Drive & Clairemont Mesa Boulevard – LOS F during both the AM and PM peak hour; and
- Clairemont Drive & Balboa Avenue – LOS E during the PM peak hour;

Impact Significance and Mitigation

Roadway Segments

Based upon the significance criteria presented in Section 2.4 of this report, the construction traffic would result in significant traffic impact to thirteen (13) of studied roadway segments along the Morena Pipelines:

- Executive Drive, between end of cul-de-sac and Judicial Drive – LOS E;
- Towne Centre Drive, between La Jolla Village Drive and Golden Haven Drive – LOS F;
- Towne Centre Drive, between Golden Haven Drive and Nobel Drive – LOS F;
- Nobel Drive, between Towne Centre Drive and Genesee Avenue – LOS F;
- Genesee Avenue, between Governor Drive and SR-52 WB Ramps – LOS F;
- Genesee Avenue, between Appleton Street and Clairemont Mesa Boulevard – LOS F;
- Clairemont Mesa Boulevard, between Genesee Avenue and Clairemont Drive – LOS F;
- Clairemont Drive, between Clairemont Mesa Boulevard and Lakehurst Avenue – LOS F;
- Clairemont Drive, between Lakehurst Avenue and Clairemont Mesa Boulevard – LOS F;
- Clairemont Drive, between Clairemont Mesa Boulevard and Balboa Avenue – LOS F;
- Clairemont Drive, between Balboa Avenue and Rappahannock Avenue – LOS F;
- Clairemont Drive, between Rappahannock Avenue and Iroquois Avenue – LOS F; and
- Clairemont Drive, between Burgener Drive and Denver Street – LOS F.

Table 5.7 displays the projected amount of days for which construction would take place at the identified impacted roadways above as well as on roadways adjacent to residential areas. Nighttime work hours may be modified/reduced or work may be performed during weekends on roadways near residential areas.

**TABLE 5.7
SUMMARY OF IMPACT DURATION – MORENA PIPELINES**

Roadway	Segment	Length (ft)	Approximate Duration of Impact (days)
Executive Drive	End of cul-de-sac and Judicial Drive	1,000	13
	Judicial Drive and Towne Centre Drive	550	7
Towne Centre Drive	Executive Drive and La Jolla Village Drive	880	12
	La Jolla Village Drive and Golden Haven Drive	1,300	26 ¹
	Golden Haven Drive and Nobel Drive	1,700	34 ¹
Nobel Drive	Towne Center Drive and Genesee Avenue	1,650	33 ¹

**TABLE 5.7
SUMMARY OF IMPACT DURATION – MORENA PIPELINES**

Roadway	Segment	Length (ft)	Approximate Duration of Impact (days)
Genesee Avenue	Nobel Drive and Governor Drive	5,320	71
	Governor Drive and SR-52 WB Ramps	2,112	28
	SR-52 EB Ramps and Appleton Street	2,855	38
	Appleton Street and Clairemont Mesa Blvd	1,166	19 ²
Clairemont Mesa Boulevard	Genesee Avenue and Clairemont Drive	2,112	28
Clairemont Drive	Clairemont Mesa Boulevard and Lakehurst Avenue	2,112	28
	Lakehurst Avenue and Clairemont Mesa Boulevard	1,056	14
	Clairemont Mesa Boulevard and Balboa Avenue	6,336	85
	Balboa Avenue and Rappahannock Avenue	2,112	28
	Rappahannock Avenue and Iroquois Avenue	3,696	49
	Iroquois Avenue and Burgener Blvd	1,160	15
	Burgener Blvd and Denver Street	3,168	42
Denver Street	Clairemont Drive and Ingulf Street	330	4
Ingulf Street	Denver Street and West Morena Boulevard	660	9
West Morena Boulevard	Ingulf Street to Littlefield Street	3,370	45
	Littlefield Street and Morena Boulevard	1,970	26
	Morena Boulevard and Tecolote Road Overpass	1,660	22
	Tecolote Road Overpass and Vega Street	300	4
	Vega Street and Morena Boulevard	1,700	23

Source: Chen Ryan Associates; June 2017.

Notes:

¹ Duration of Impact calculated based on 50 LF of pipeline installation per day due to restricted working hours.

² Duration of Impact calculated based on 60 LF of pipeline installation per day due to restricted working hours.

The duration of the impacts is based on the anticipated 75 LF of pipeline installation per day. It is important to note that these impacts would not occur concurrently, but rather at different points in time depending on the location of pipeline construction¹, and the impacted area at any one time would encompass the work area as well as the traffic control setup length. Therefore, the project impacts shown above would be temporary in nature and no mitigation measures are required.

¹After the pipeline installation is complete at the first 75 LF, the next 75 LF of the roadway segment would to be impacted, etc. A roadway segment that measures 750 feet in length, at 75 feet of installation per day it is estimated that it would take approximately 10 days to complete.

Intersections

Based upon the significance criteria presented in Section 2.4 of this report, the construction traffic would result in significant traffic impact to six (6) intersections along the Morena Pipelines:

- Towne Centre Drive & Nobel Drive – LOS F during the PM peak hour;
- Genesee Avenue & Nobel Drive – LOS F during both the AM and PM peak hour;
- Genesee Avenue & Appleton Street/Lehrer Drive – LOS F during the PM peak hour;
- Genesee Avenue & Clairemont Mesa Boulevard – LOS F during both the AM and PM peak hour;
- Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue – LOS F during both the AM and PM peak hour; and
- Clairemont Drive & Clairemont Mesa Boulevard – LOS F during both the AM and PM peak hour.

Since project construction conditions are temporary in nature, no physical mitigation measures are recommended. Instead, it is recommended that a Transportation Demand Management (TDM) Plan is developed to limit the number of construction worker trips that travel through the impacted intersection during peak periods. The following lists a series of TDM strategies that would be appropriate during project construction:

- Implementation of a ride-sharing program to encourage carpooling amongst workers.
- Adjusting work schedules so workers do not access the site during the peak hours.
- Provide off-site parking locations for workers outside of the area with shuttle services to bring them on-site.
- Provide subsidized transit passes for construction workers

In order to help reduce the temporary transportation and parking related impacts associated with project construction, it is recommended that the project applicant develop a TDM plan utilizing one or multiple of the strategies listed above during the construction of the proposed project.

6.0 Findings

North City Project Operational Traffic Impacts – New NCPWF & NCWRP Expansion

The following transportation related impact were identified:

Direct Impact

The traffic generated by the proposed project is not anticipated to create a direct impact at any of the analyzed roadway segments.

Cumulative Impact

The traffic generated by the proposed project is not anticipated to create a direct impact at any of the analyzed roadway segments.

Construction Traffic Impacts – North City Pipeline

Transportation related impact was identified on Eastgate Mall, between the NCPWF & NCWRP driveway and Miramar Road. However, this impact is temporary in nature and since the construction will occur during nighttime when there is only minimal amount traffic on the road, it is determined that this roadway should function at reasonable operations even with the lane closure. Therefore, no mitigation measure is recommended.

Construction Traffic Impacts – San Vicente Pipeline

Transportation related impact was identified on Eastgate Mall, between the NCPWF & NCWRP driveway and Miramar Road, and Willow Road, between SR-67 and Moreno Avenue. However, these impacts are temporary in nature and since the construction will occur during nighttime when there is only minimal amount traffic on the road, it is determined that these roadways should function at reasonable operations even with the lane closure. Therefore, no mitigation measure is recommended.

Construction Traffic Impacts – Morena Pipelines

Transportation related impacts were identified on Executive Drive, Towne Centre Drive, Nobel Drive, Genesee Avenue, Clairemont Mesa Boulevard, and Clairemont Drive. However, since project construction conditions are temporary in nature, no physical mitigation measures are recommended. Instead, it is recommended that a Transportation Demand Management (TDM) Plan is developed to limit the number of construction worker trips that travel through the impacted intersection during peak periods. The following lists a series of TDM strategies that would be appropriate during project construction:

- *Implementation of a ride-sharing program to encourage carpooling amongst workers.*
- *Adjusting work schedules so workers do not access the site during the peak hours.*
- *Provide off-site parking locations for workers outside of the area with shuttle services to bring them on-site.*
- *Provide subsidized transit passes for construction workers*

In order to help reduce the temporary transportation and parking related impacts associated with project construction, it is recommended that the project applicant develop a TDM plan utilizing one or multiple of the strategies listed above during the construction of the proposed project.

North City Project Transportation Impact Study

Appendices



Prepared For:

The City of

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Appendix A

Traffic Counts and Signal Timing Plans

Roadway Segment counts related to NCPWF

Table 7-2 Existing Conditions Summary of Roadway Segment ADT Based Analysis

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	ADT (b)	V/C RATIO (c)	LOS
Eastgate Mall					
Regents Rd to Genesee Ave	2 Lane Collector (continuous left-turn lane)	15,000	6,187	0.412	B
Genesee Ave to Easter Way	4 Lane Collector	30,000	14,767	0.492	C
Easter Way to Judicial Dr	4 Lane Major Arterial	40,000	11,115	0.278	A
Judicial Dr to Eastgate Dr (Freeway Overpass)	2 Lane Collector (no fronting property)	10,000	10,096	1.010	F
Eastgate Dr to Miramar Rd	2 Lane Collector (continuous left-turn lane)	15,000	14,668	0.978	E
Executive Drive					
Regents Rd to Genesee Ave	4 Lane Collector (no center lane)	15,000	4,397	0.293	A
Genesee Ave to Judicial Dr	4 Lane Collector	30,000	5,914	0.197	A
Executive Way					
Executive Dr to La Jolla Village Dr	4 Lane Collector	30,000	5,923	0.197	A
Genesee Avenue					
N. Torrey Pines Rd to I-5 SB Ramps	6 Lane Prime Arterial	60,000	35,124	0.585	C
I-5 SB Ramps to I-5 NB Ramps	4 Lane Major Arterial	40,000	49,051	1.226	F
I-5 NB Ramps to Regents Rd	6 Lane Prime Arterial	60,000	48,542	0.809	C
Regents Rd to La Jolla Village Dr	6 Lane Prime Arterial	60,000	29,457	0.491	B
La Jolla Village Dr to Esplande Ct	4 Lane Major Arterial	40,000	28,054	0.701	C
Esplande Ct to Nobel Dr	6 Lane Major Arterial	50,000	23,744	0.475	B
Nobel Dr to Centurion Square	4 Lane Major Arterial	40,000	30,922	0.773	D
Centurion Square to SR-52 WB Ramps	4 Lane Major Arterial	40,000	30,325	0.758	D
SR-52 WB Ramps to SR-52 EB Ramps	4 Lane Major Arterial	40,000	31,170	0.779	D
SR-52 EB Ramps to Lehrer Dr	4 Lane Major Arterial	40,000	30,581	0.765	D
Gilman Drive					
UCSD Campus to La Jolla Village Dr	4 Lane Collector	30,000	10,069	0.336	B
La Jolla Village Dr to Via Alicante	4 Lane Collector	30,000	15,095	0.503	C
Via Alicante to I-5 SB Ramps	4 Lane Major Arterial	40,000	17,138	0.428	B
I-5 SB Ramps to I-5 NB Ramps	4 Lane Major Arterial	40,000	11,873	0.297	A
Golden Haven Drive					
Towne Centre Dr to Judicial Dr	4 Lane Major Arterial	40,000	6,712	0.168	A

Notes:

Bold values indicate roadway segments operating at LOS E or F.

(a) Existing road classifications are based on field work conducted May 13, 2015.

(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by Accurate Video Counts Inc and measured in April and May 2015.

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

Table 7-2 Existing Conditions Summary of Roadway Segment ADT Based Analysis (Continued)

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	ADT (b)	V/C RATIO (c)	LOS
Governor Drive					
Regents Rd to Genesee Ave	4 Lane Major Arterial	40,000	16,796	0.420	B
Genesee Ave to I-805 SB Ramps	4 Lane Major Arterial	40,000	19,737	0.493	B
I-805 SB Ramps to I-805 NB Ramps	4 Lane Major Arterial	40,000	10,417	0.260	A
Judicial Drive					
Eastgate Mall to La Jolla Village Dr	4 Lane Major Arterial	40,000	4,828	0.121	A
La Jolla Village Dr to Nobel Dr	4 Lane Major Arterial	40,000	6,574	0.164	A
La Jolla Scenic Drive					
La Jolla Village Dr to community boundary	4 Lane Major Arterial	40,000	7,928	0.198	A
La Jolla Village Drive					
Revelle College Dr to Villa La Jolla Dr	6 Lane Prime Arterial	60,000	44,520	0.742	C
Villa La Jolla Dr to I-5 SB Ramps	6 Lane Prime Arterial	60,000	62,258	1.038	F
I-5 SB Ramps to I-5 NB Ramps	6 Lane Major Arterial	50,000	51,391	1.028	F
I-5 NB Ramps to Lebon Dr	6 Lane Major Arterial	50,000	44,335	0.887	D
Lebon Dr to Regents Rd	6 Lane Major Arterial	50,000	42,863	0.857	D
Regents Rd to Genesee Ave	6 Lane Major Arterial	50,000	38,474	0.769	C
Genesee Ave to Towne Centre Dr	6 Lane Major Arterial	50,000	45,117	0.902	E
Towne Centre Dr to I-805 SB Ramps	7 Lane Major Arterial	55,000	58,833	1.070	F
Lebon Drive					
Palmilla Drive to Nobel Dr	4 Lane Major Arterial	40,000	11,192	0.280	A
Nobel Drive to La Jolla Village Dr	5 Lane Major Arterial	45,000	9,212	0.205	A
Miramar Road					
I-805 SB Ramps to I-805 NB Ramps	6 Lane Major Arterial	50,000	66,139	1.323	F
I-805 NB Ramps to Nobel Dr	8 Lane Prime Arterial	80,000	47,991	0.600	B
Nobel Dr to Eastgate Mall	8 Lane Prime Arterial	80,000	64,557	0.807	C
Eastgate Mall to Camino Santa Fe	6 Lane Prime Arterial	60,000	67,748	1.129	F
North Torrey Pines Road					
Science Park Rd to Genesee Ave	6 Lane Prime Arterial	60,000	29,303	0.488	B
Genesee Ave to Revelle College Dr	4 Lane Major Arterial	40,000	21,760	0.544	C

Notes:

Bold values indicate roadway segments operating at LOS E or F.

(a) Existing road classifications are based on field work conducted May 13, 2015.

(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by Accurate Video Counts Inc and measured in April and May 2015.

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

Table 7-2 Existing Conditions Summary of Roadway Segment ADT Based Analysis (Continued)

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	ADT (b)	V/C RATIO (c)	LOS
Nobel Drive					
Villa La Jolla Dr to I-5 SB On Ramp	4 Lane Major Arterial	40,000	26,284	0.657	C
I-5 SB On Ramp to I-5 NB Off Ramp/University Center Lane	4 Lane Major Arterial	40,000	27,642	0.691	C
I-5 NB Off Ramp/University Center Lane to Lebon Dr	6 Lane Major Arterial	50,000	21,546	0.431	B
Lebon Dr to Regents Rd	6 Lane Prime Arterial	60,000	21,256	0.354	A
Regents Rd to Genesee Ave	6 Lane Prime Arterial	60,000	19,772	0.33	A
Genesee Ave to Towne Centre Dr	4 Lane Major Arterial	40,000	18,484	0.462	B
Towne Centre Dr to Judicial Dr	6 Lane Prime Arterial	60,000	17,261	0.288	A
Judicial Dr to Avenue of Flags	5 Lane Major Arterial	45,000	24,125	0.536	B
Avenue of Flags to Miramar Rd	4 Lane Major Arterial	40,000	20,648	0.516	B
Regents Road					
Genesee Ave to Eastgate Mall	2 Lane Collector (continuous left-turn lane)	15,000	6,260	0.417	B
Eastgate Mall to La Jolla Village Dr	4 Lane Collector	30,000	15,245	0.508	C
La Jolla Village Dr to Nobel Dr	5 Lane Major Arterial	45,000	16,525	0.367	A
Nobel Dr to Rose Canyon (end)	4 Lane Major Arterial	40,000	10,688	0.267	A
Rose Canyon (end) to Governor Dr	2 Lane Collector (no fronting property)	10,000	1,940	0.194	A
Governor Dr to SR-52 WB Ramps	4 Lane Major Arterial	40,000	16,181	0.405	B
SR-52 WB Ramps to SR-52 EB Ramps	4 Lane Major Arterial	40,000	19,957	0.499	B
SR-52 EB Ramps to Luna Ave	4 Lane Major Arterial	40,000	21,268	0.532	C
Torrey Pines Road					
La Jolla Village Drive to community boundary	4 Lane Major Arterial	40,000	26,620	0.666	C
Towne Centre Drive					
End to La Jolla Village Dr	4 Lane Major Arterial	40,000	20,121	0.503	B
La Jolla Village Dr to Nobel Dr	4 Lane Major Arterial	40,000	13,785	0.345	A
Villa La Jolla Drive					
Gilman Dr (South) to Nobel Dr	4 Lane Major Arterial	40,000	6,896	0.172	A
Nobel Dr to La Jolla Village Dr	4 Lane Major Arterial	40,000	16,011	0.400	B
La Jolla Village Dr to VA Medical Center	4 Lane Major Arterial	40,000	19,865	0.497	B

Notes: **Bold** values indicate roadway segments operating at LOS E or F.

(a) Existing road classifications are based on field work conducted May 13, 2015.

(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by Accurate Video Counts Inc and measured in April and May 2015.

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

Roadway Segment counts related to Miramar Reservoir Pipeline

24 Hour Segment Count

Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136



Location: 81. Miramar Rd, West of Camino Santa Fe

Orientation: East-West

Date of Count: Wednesday, June 17, 2015

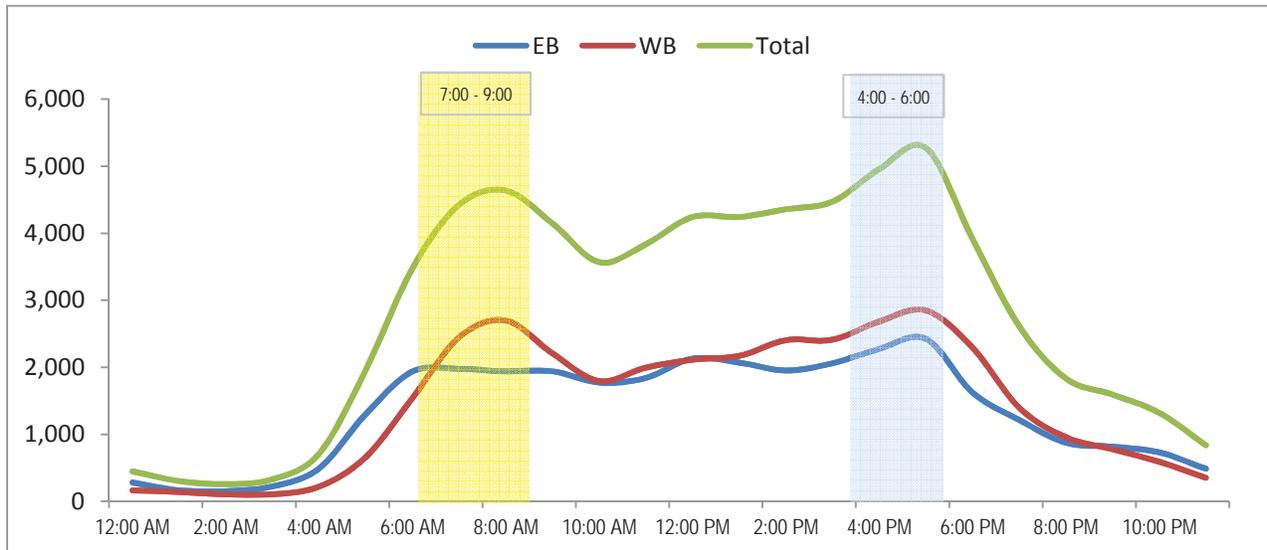
Analysts: DASH

Weather: Sunny

AVC Proj. No: 15-0345

24 Hour Segment Volume					67,748		
Time	Hourly Volume			Time	Hourly Volume		
	EB	WB	Total		EB	WB	Total
12:00 AM - 1:00 AM	281	165	446	12:00 PM - 1:00 PM	2,130	2,112	4,242
1:00 AM - 2:00 AM	163	140	303	1:00 PM - 2:00 PM	2,071	2,171	4,242
2:00 AM - 3:00 AM	153	104	257	2:00 PM - 3:00 PM	1,952	2,404	4,356
3:00 AM - 4:00 AM	222	107	329	3:00 PM - 4:00 PM	2,060	2,411	4,471
4:00 AM - 5:00 AM	492	220	712	4:00 PM - 5:00 PM	2,273	2,683	4,956
5:00 AM - 6:00 AM	1,303	660	1,963	5:00 PM - 6:00 PM	2,424	2,848	5,272
6:00 AM - 7:00 AM	1,937	1,540	3,477	6:00 PM - 7:00 PM	1,623	2,293	3,916
7:00 AM - 8:00 AM	1,978	2,448	4,426	7:00 PM - 8:00 PM	1,216	1,396	2,612
8:00 AM - 9:00 AM	1,939	2,697	4,636	8:00 PM - 9:00 PM	875	957	1,832
9:00 AM - 10:00 AM	1,940	2,206	4,146	9:00 PM - 10:00 PM	816	777	1,593
10:00 AM - 11:00 AM	1,773	1,794	3,567	10:00 PM - 11:00 PM	731	590	1,321
11:00 AM - 12:00 PM	1,841	1,995	3836	11:00 PM - 12:00 AM	486	351	837
Total	14,022	14,076	28,098	Total	18,657	20,993	39,650

24-Hour EB Volume 32,679 **24-Hour WB Volume 35,069**



24 Hour Segment Count

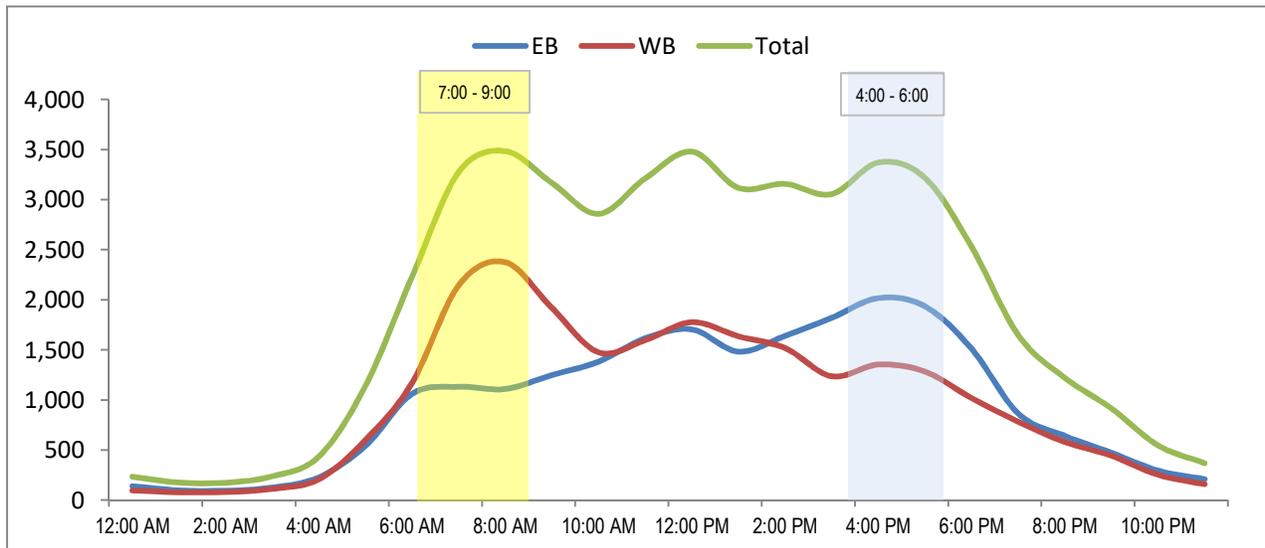


Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136

Location: 2. Miramar Rd, btwn Camino Santa Fe and Carroll Rd
Orientation: East-West
Date of Count: Tuesday, November 15, 2016
Analysts: DASH
Weather: Sunny
AVC Proj. No: 16-0591

24 Hour Segment Volume					47,243			
Time	Hourly Volume			Time	Hourly Volume			
	EB	WB	Total		EB	WB	Total	
12:00 AM - 1:00 AM	139	95	234	12:00 PM - 1:00 PM	1,704	1,776	3,480	
1:00 AM - 2:00 AM	97	78	175	1:00 PM - 2:00 PM	1,482	1,635	3,117	
2:00 AM - 3:00 AM	94	80	174	2:00 PM - 3:00 PM	1,639	1,518	3,157	
3:00 AM - 4:00 AM	125	112	237	3:00 PM - 4:00 PM	1,819	1,236	3,055	
4:00 AM - 5:00 AM	227	207	434	4:00 PM - 5:00 PM	2,017	1,353	3,370	
5:00 AM - 6:00 AM	540	600	1,140	5:00 PM - 6:00 PM	1,935	1,283	3,218	
6:00 AM - 7:00 AM	1,061	1,168	2,229	6:00 PM - 7:00 PM	1,512	1,019	2,531	
7:00 AM - 8:00 AM	1,131	2,144	3,275	7:00 PM - 8:00 PM	865	783	1,648	
8:00 AM - 9:00 AM	1,109	2,375	3,484	8:00 PM - 9:00 PM	641	580	1,221	
9:00 AM - 10:00 AM	1,248	1,918	3,166	9:00 PM - 10:00 PM	473	443	916	
10:00 AM - 11:00 AM	1,382	1,475	2,857	10:00 PM - 11:00 PM	294	252	546	
11:00 AM - 12:00 PM	1,615	1,596	3,211	11:00 PM - 12:00 AM	209	159	368	
Total	8,768	11,848	20,616	Total	14,590	12,037	26,627	

24-Hour EB Volume 23,358 **24-Hour WB Volume 23,885**



24 Hour Segment Count



Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136

Location: 3. Miramar Rd, btwn Carroll Rd and Camino Ruiz

Orientation: East-West

Date of Count: Tuesday, November 15, 2016

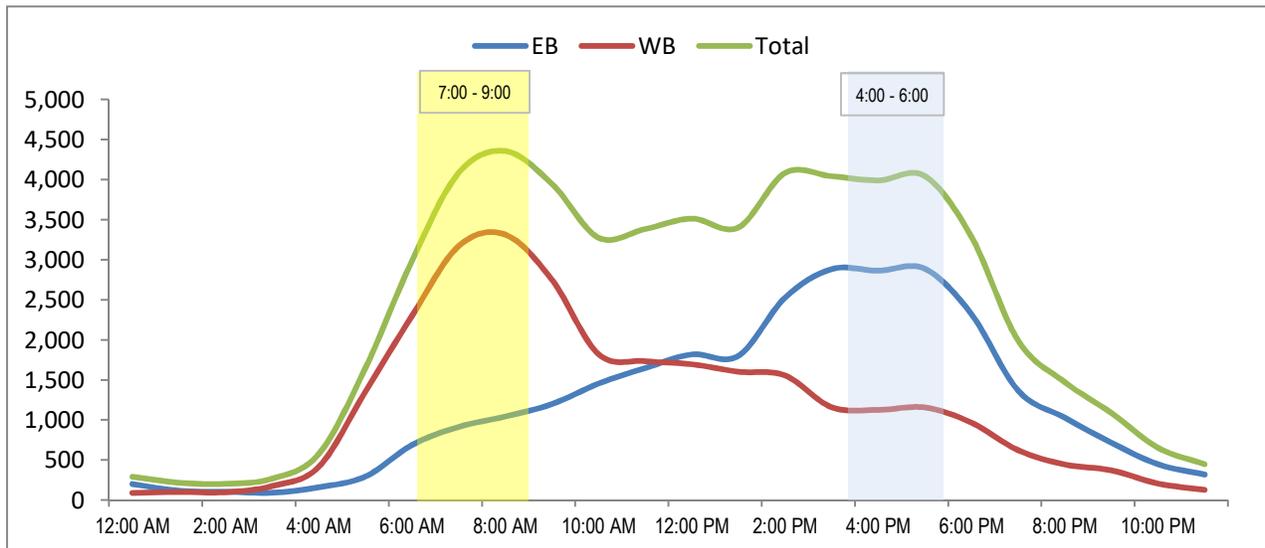
Analysts: DASH

Weather: Sunny

AVC Proj. No: 16-0591

24 Hour Segment Volume					57,237		
Time	Hourly Volume			Time	Hourly Volume		
	EB	WB	Total		EB	WB	Total
12:00 AM - 1:00 AM	201	90	291	12:00 PM - 1:00 PM	1,818	1,695	3,513
1:00 AM - 2:00 AM	116	101	217	1:00 PM - 2:00 PM	1,800	1,602	3,402
2:00 AM - 3:00 AM	104	98	202	2:00 PM - 3:00 PM	2,527	1,555	4,082
3:00 AM - 4:00 AM	92	175	267	3:00 PM - 4:00 PM	2,883	1,159	4,042
4:00 AM - 5:00 AM	160	415	575	4:00 PM - 5:00 PM	2,863	1,126	3,989
5:00 AM - 6:00 AM	294	1,354	1,648	5:00 PM - 6:00 PM	2,887	1,156	4,043
6:00 AM - 7:00 AM	688	2,300	2,988	6:00 PM - 7:00 PM	2,319	966	3,285
7:00 AM - 8:00 AM	913	3,171	4,084	7:00 PM - 8:00 PM	1,367	623	1,990
8:00 AM - 9:00 AM	1,043	3,313	4,356	8:00 PM - 9:00 PM	1,028	444	1,472
9:00 AM - 10:00 AM	1,197	2,750	3,947	9:00 PM - 10:00 PM	716	371	1,087
10:00 AM - 11:00 AM	1,454	1,821	3,275	10:00 PM - 11:00 PM	447	206	653
11:00 AM - 12:00 PM	1,648	1,734	3382	11:00 PM - 12:00 AM	319	128	447
Total	7,910	17,322	25,232	Total	20,974	11,031	32,005

24-Hour EB Volume 28,884 **24-Hour WB Volume 28,353**



24 Hour Segment Count

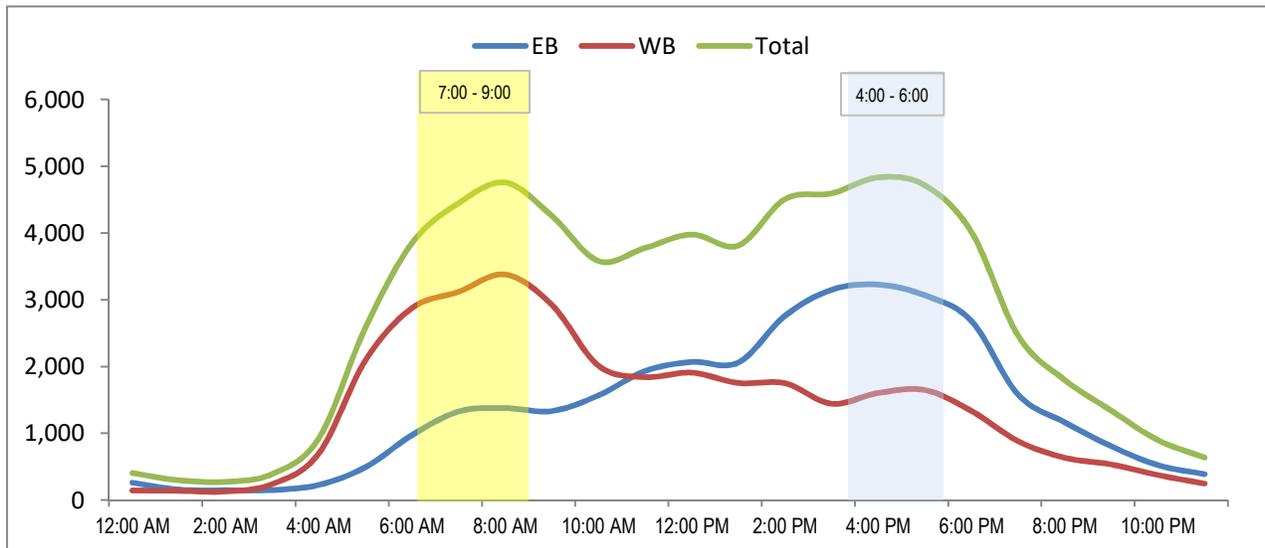


Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136

Location: 4. Miramar Rd, btwn Camino Ruiz and Black Mountain Rd
Orientation: East-West
Date of Count: Tuesday, November 15, 2016
Analysts: DASH
Weather: Sunny
AVC Proj. No: 16-0591

24 Hour Segment Volume					67,120				
Time	Hourly Volume			Time	Hourly Volume				
	EB	WB	Total		EB	WB	Total		
12:00 AM - 1:00 AM	261	144	405	12:00 PM - 1:00 PM	2,069	1,909	3,978		
1:00 AM - 2:00 AM	157	138	295	1:00 PM - 2:00 PM	2,060	1,753	3,813		
2:00 AM - 3:00 AM	147	128	275	2:00 PM - 3:00 PM	2,759	1,749	4,508		
3:00 AM - 4:00 AM	151	239	390	3:00 PM - 4:00 PM	3,150	1,443	4,593		
4:00 AM - 5:00 AM	227	698	925	4:00 PM - 5:00 PM	3,227	1,605	4,832		
5:00 AM - 6:00 AM	491	2,091	2,582	5:00 PM - 6:00 PM	3,066	1,648	4,714		
6:00 AM - 7:00 AM	973	2,876	3,849	6:00 PM - 7:00 PM	2,681	1,334	4,015		
7:00 AM - 8:00 AM	1,327	3,120	4,447	7:00 PM - 8:00 PM	1,579	882	2,461		
8:00 AM - 9:00 AM	1,377	3,379	4,756	8:00 PM - 9:00 PM	1,165	634	1,799		
9:00 AM - 10:00 AM	1,333	2,923	4,256	9:00 PM - 10:00 PM	805	533	1,338		
10:00 AM - 11:00 AM	1,568	2,012	3,580	10:00 PM - 11:00 PM	522	375	897		
11:00 AM - 12:00 PM	1,933	1,843	3776	11:00 PM - 12:00 AM	389	247	636		
Total	9,945	19,591	29,536	Total	23,472	14,112	37,584		

24-Hour EB Volume 33,417 **24-Hour WB Volume 33,703**



24 Hour Segment Count

Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136



Location: 5. Miramar Road – Black Mountain Road to Kearny Villa Road

Orientation: East-West

Date of Count: Tuesday, November 15, 2016

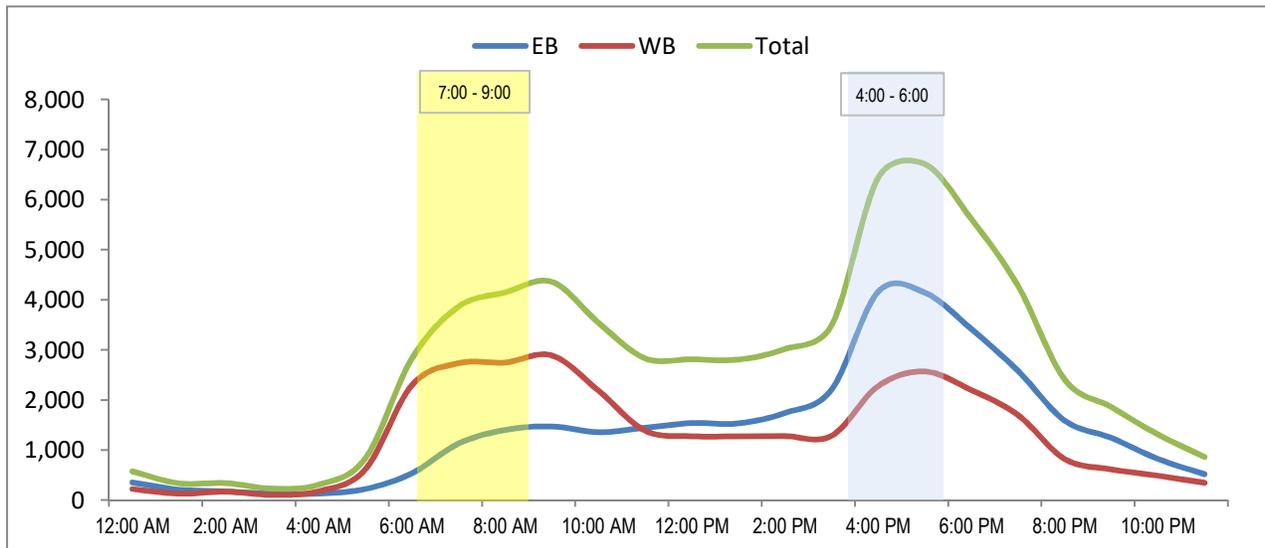
Analysts: DASH

Weather: Sunny

AVC Proj. No: 15-0591

24 Hour Segment Volume					65,781				
Time	Hourly Volume			Time	Hourly Volume				
	EB	WB	Total		EB	WB	Total		
12:00 AM - 1:00 AM	352	221	573	12:00 PM - 1:00 PM	1,537	1,275	2,812		
1:00 AM - 2:00 AM	208	127	335	1:00 PM - 2:00 PM	1,532	1,273	2,805		
2:00 AM - 3:00 AM	171	168	339	2:00 PM - 3:00 PM	1,740	1,277	3,017		
3:00 AM - 4:00 AM	126	104	230	3:00 PM - 4:00 PM	2,208	1,284	3,492		
4:00 AM - 5:00 AM	131	177	308	4:00 PM - 5:00 PM	4,162	2,278	6,440		
5:00 AM - 6:00 AM	220	616	836	5:00 PM - 6:00 PM	4,141	2,567	6,708		
6:00 AM - 7:00 AM	535	2,297	2,832	6:00 PM - 7:00 PM	3,412	2,196	5,608		
7:00 AM - 8:00 AM	1,131	2,734	3,865	7:00 PM - 8:00 PM	2,577	1,696	4,273		
8:00 AM - 9:00 AM	1,401	2,747	4,148	8:00 PM - 9:00 PM	1,586	820	2,406		
9:00 AM - 10:00 AM	1,471	2,888	4,359	9:00 PM - 10:00 PM	1,242	614	1,856		
10:00 AM - 11:00 AM	1,355	2,185	3,540	10:00 PM - 11:00 PM	821	488	1,309		
11:00 AM - 12:00 PM	1,445	1,385	2,830	11:00 PM - 12:00 AM	516	344	860		
Total	8,546	15,649	24,195	Total	25,474	16,112	41,586		

24-Hour EB Volume 34,020 24-Hour WB Volume 31,761



24 Hour Segment Count

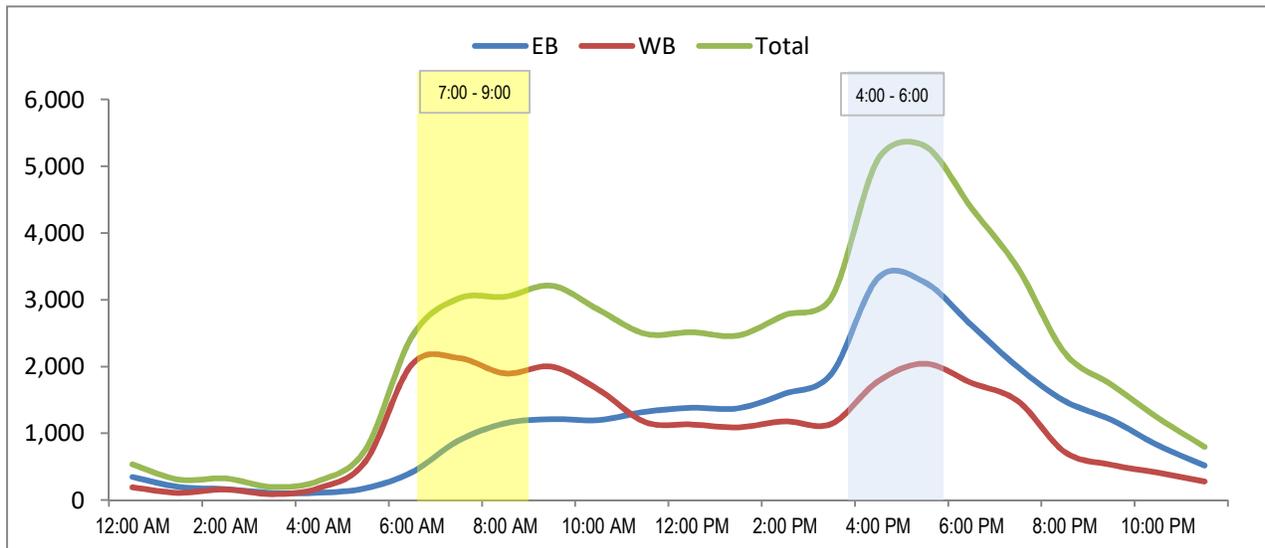
Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136



Location: 6. Miramar Road – Kearny Villa Road to I-15 SB Ramps
Orientation: East-West
Date of Count: Tuesday, November 15, 2016
Analysts: DASH
Weather: Sunny
AVC Proj. No: 15-0591

24 Hour Segment Volume					54,479				
Time	Hourly Volume			Time	Hourly Volume				
	EB	WB	Total		EB	WB	Total		
12:00 AM - 1:00 AM	346	190	536	12:00 PM - 1:00 PM	1,381	1,132	2,513		
1:00 AM - 2:00 AM	197	108	305	1:00 PM - 2:00 PM	1,376	1,090	2,466		
2:00 AM - 3:00 AM	164	160	324	2:00 PM - 3:00 PM	1,594	1,179	2,773		
3:00 AM - 4:00 AM	108	88	196	3:00 PM - 4:00 PM	1,896	1,143	3,039		
4:00 AM - 5:00 AM	109	179	288	4:00 PM - 5:00 PM	3,329	1,782	5,111		
5:00 AM - 6:00 AM	177	578	755	5:00 PM - 6:00 PM	3,260	2,043	5,303		
6:00 AM - 7:00 AM	418	2,033	2,451	6:00 PM - 7:00 PM	2,619	1,756	4,375		
7:00 AM - 8:00 AM	892	2,128	3,020	7:00 PM - 8:00 PM	1,987	1,480	3,467		
8:00 AM - 9:00 AM	1,150	1,896	3,046	8:00 PM - 9:00 PM	1,483	720	2,203		
9:00 AM - 10:00 AM	1,213	1,997	3,210	9:00 PM - 10:00 PM	1,201	528	1,729		
10:00 AM - 11:00 AM	1,197	1,654	2,851	10:00 PM - 11:00 PM	821	410	1,231		
11:00 AM - 12:00 PM	1,323	1,168	2,491	11:00 PM - 12:00 AM	517	279	796		
Total	7,294	12,179	19,473	Total	21,464	13,542	35,006		

24-Hour EB Volume 28,758 **24-Hour WB Volume 25,721**



24 Hour Segment Count

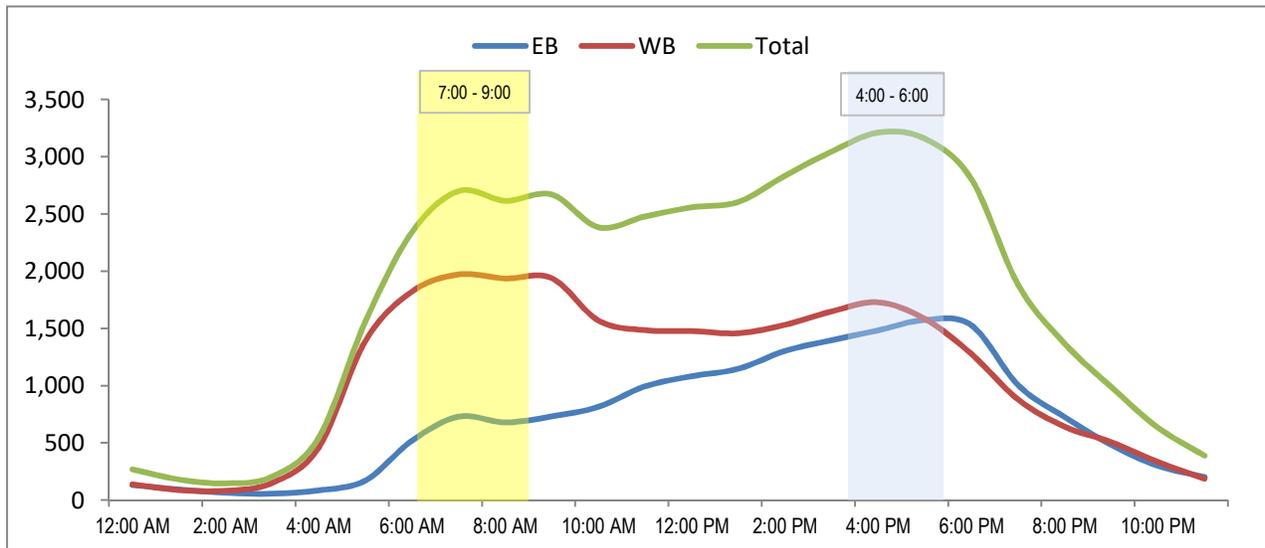


Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136

Location: 7. Miramar Rd, btwn I-15 SB Ramps and I-15 NB Ramps
Orientation: East-West
Date of Count: Tuesday, November 15, 2016
Analysts: DASH
Weather: Sunny
AVC Proj. No: 16-0591

24 Hour Segment Volume					43,560			
Time	Hourly Volume			Time	Hourly Volume			
	EB	WB	Total		EB	WB	Total	
12:00 AM - 1:00 AM	131	138	269	12:00 PM - 1:00 PM	1,082	1,476	2,558	
1:00 AM - 2:00 AM	92	88	180	1:00 PM - 2:00 PM	1,147	1,458	2,605	
2:00 AM - 3:00 AM	64	82	146	2:00 PM - 3:00 PM	1,303	1,531	2,834	
3:00 AM - 4:00 AM	55	150	205	3:00 PM - 4:00 PM	1,397	1,648	3,045	
4:00 AM - 5:00 AM	85	461	546	4:00 PM - 5:00 PM	1,483	1,728	3,211	
5:00 AM - 6:00 AM	171	1,390	1,561	5:00 PM - 6:00 PM	1,574	1,583	3,157	
6:00 AM - 7:00 AM	519	1,822	2,341	6:00 PM - 7:00 PM	1,526	1,276	2,802	
7:00 AM - 8:00 AM	729	1,971	2,700	7:00 PM - 8:00 PM	1,004	878	1,882	
8:00 AM - 9:00 AM	679	1,936	2,615	8:00 PM - 9:00 PM	725	641	1,366	
9:00 AM - 10:00 AM	731	1,938	2,669	9:00 PM - 10:00 PM	481	506	987	
10:00 AM - 11:00 AM	815	1,568	2,383	10:00 PM - 11:00 PM	299	333	632	
11:00 AM - 12:00 PM	994	1,484	2,478	11:00 PM - 12:00 AM	202	186	388	
Total	5,065	13,028	18,093	Total	12,223	13,244	25,467	

24-Hour EB Volume 17,288 **24-Hour WB Volume 26,272**



24 Hour Segment Count

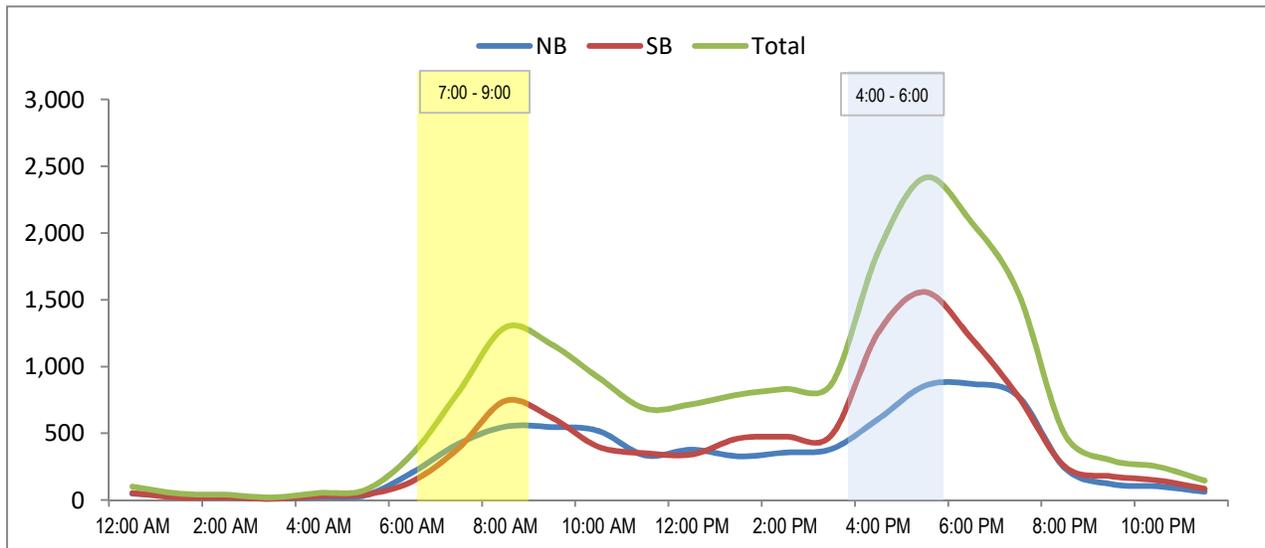
Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136



Location: 8. Kearny Villa Road – Miramar Road to Black Mountain Road
Orientation: North-South
Date of Count: Tuesday, November 15, 2016
Analysts: DASH
Weather: Sunny
AVC Proj. No: 15-0591

24 Hour Segment Volume					17,860				
Time	Hourly Volume			Time	Hourly Volume				
	NB	SB	Total		NB	SB	Total		
12:00 AM - 1:00 AM	48	53	101	12:00 PM - 1:00 PM	377	341	718		
1:00 AM - 2:00 AM	29	19	48	1:00 PM - 2:00 PM	328	462	790		
2:00 AM - 3:00 AM	20	20	40	2:00 PM - 3:00 PM	356	476	832		
3:00 AM - 4:00 AM	11	9	20	3:00 PM - 4:00 PM	383	488	871		
4:00 AM - 5:00 AM	23	30	53	4:00 PM - 5:00 PM	607	1,255	1,862		
5:00 AM - 6:00 AM	35	42	77	5:00 PM - 6:00 PM	856	1,558	2,414		
6:00 AM - 7:00 AM	205	139	344	6:00 PM - 7:00 PM	870	1,210	2,080		
7:00 AM - 8:00 AM	422	389	811	7:00 PM - 8:00 PM	778	777	1,555		
8:00 AM - 9:00 AM	550	743	1,293	8:00 PM - 9:00 PM	240	252	492		
9:00 AM - 10:00 AM	547	617	1,164	9:00 PM - 10:00 PM	119	178	297		
10:00 AM - 11:00 AM	518	399	917	10:00 PM - 11:00 PM	103	147	250		
11:00 AM - 12:00 PM	334	351	685	11:00 PM - 12:00 AM	62	84	146		
Total	2,742	2,811	5,553	Total	5,079	7,228	12,307		

24-Hour NB Volume 7,821 **24-Hour SB Volume 10,039**



24 Hour Segment Count



Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136

Location: 9. Candida St, btwn Kearny Villa Rd and Via Pasar

Orientation: East-West

Date of Count: Wednesday, November 16, 2016

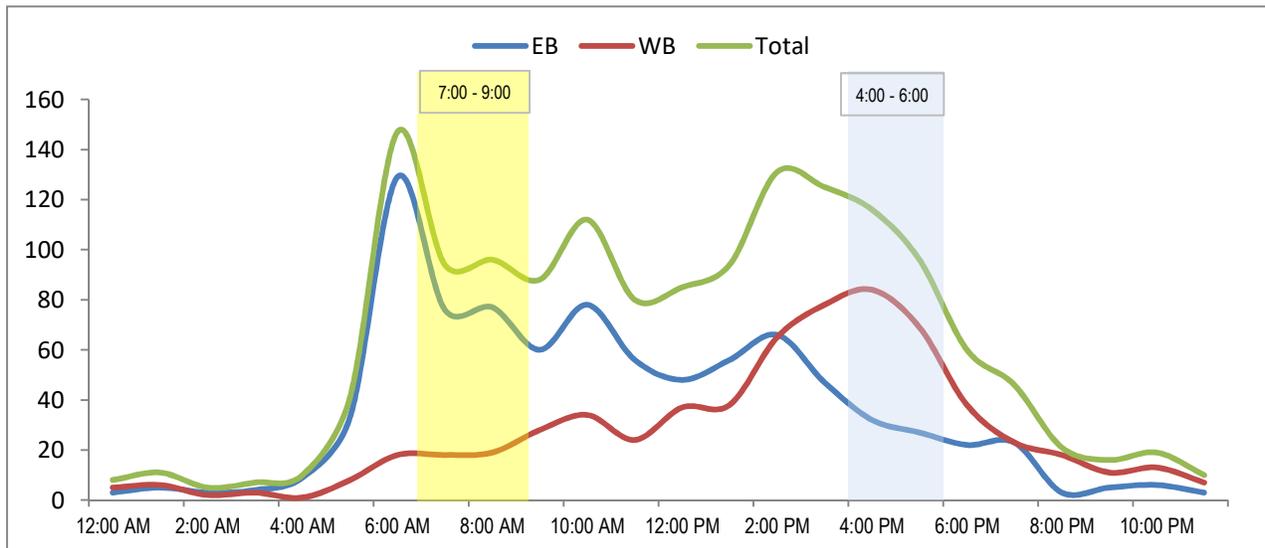
Analysts: DASH

Weather: Sunny

AVC Proj. No: 16-0591

24 Hour Segment Volume					1,518				
Time	Hourly Volume			Time	Hourly Volume				
	EB	WB	Total		EB	WB	Total		
12:00 AM - 1:00 AM	3	5	8	12:00 PM - 1:00 PM	48	37	85		
1:00 AM - 2:00 AM	5	6	11	1:00 PM - 2:00 PM	56	38	94		
2:00 AM - 3:00 AM	3	2	5	2:00 PM - 3:00 PM	66	65	131		
3:00 AM - 4:00 AM	4	3	7	3:00 PM - 4:00 PM	47	78	125		
4:00 AM - 5:00 AM	9	1	10	4:00 PM - 5:00 PM	32	84	116		
5:00 AM - 6:00 AM	33	8	41	5:00 PM - 6:00 PM	27	69	96		
6:00 AM - 7:00 AM	129	18	147	6:00 PM - 7:00 PM	22	38	60		
7:00 AM - 8:00 AM	76	18	94	7:00 PM - 8:00 PM	23	23	46		
8:00 AM - 9:00 AM	77	19	96	8:00 PM - 9:00 PM	3	18	21		
9:00 AM - 10:00 AM	60	28	88	9:00 PM - 10:00 PM	5	11	16		
10:00 AM - 11:00 AM	78	34	112	10:00 PM - 11:00 PM	6	13	19		
11:00 AM - 12:00 PM	56	24	80	11:00 PM - 12:00 AM	3	7	10		
Total	533	166	699	Total	338	481	819		

24-Hour EB Volume 871 **24-Hour WB Volume 647**



24 Hour Segment Count



Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136

Location: 10. Via Pasar, btwn Candida St and Via Excelencia

Orientation: North-South

Date of Count: Wednesday, November 16, 2016

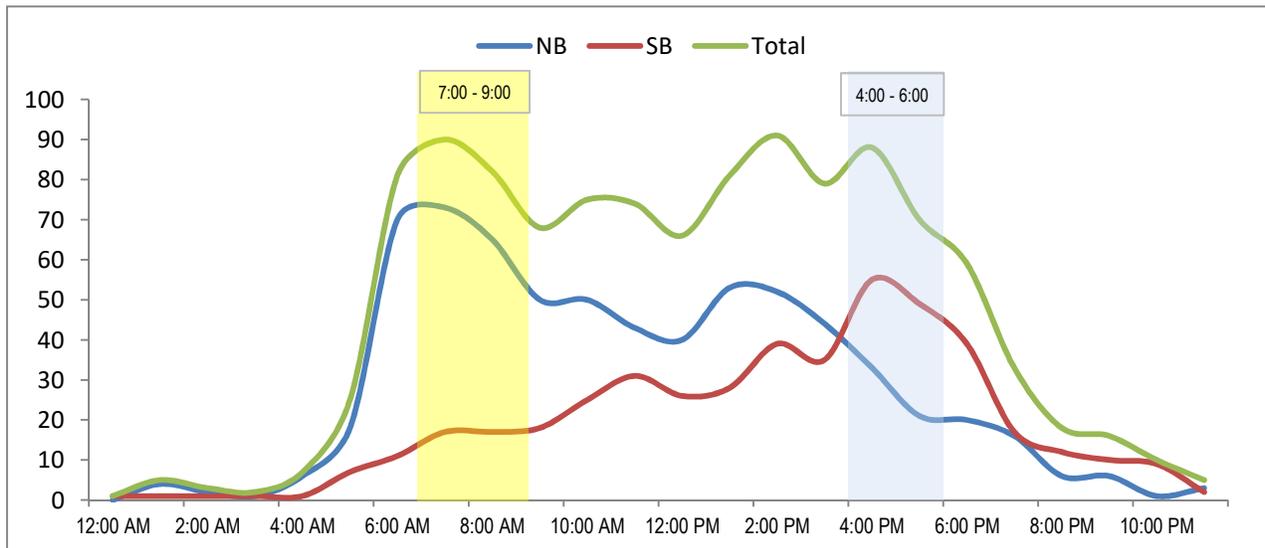
Analysts: DASH

Weather: Sunny

AVC Proj. No: 16-0591

24 Hour Segment Volume					1,129		
Time	Hourly Volume			Time	Hourly Volume		
	NB	SB	Total		NB	SB	Total
12:00 AM - 1:00 AM	0	1	1	12:00 PM - 1:00 PM	40	26	66
1:00 AM - 2:00 AM	4	1	5	1:00 PM - 2:00 PM	53	28	81
2:00 AM - 3:00 AM	2	1	3	2:00 PM - 3:00 PM	52	39	91
3:00 AM - 4:00 AM	1	1	2	3:00 PM - 4:00 PM	44	35	79
4:00 AM - 5:00 AM	6	1	7	4:00 PM - 5:00 PM	33	55	88
5:00 AM - 6:00 AM	18	7	25	5:00 PM - 6:00 PM	21	49	70
6:00 AM - 7:00 AM	70	11	81	6:00 PM - 7:00 PM	20	39	59
7:00 AM - 8:00 AM	73	17	90	7:00 PM - 8:00 PM	16	17	33
8:00 AM - 9:00 AM	65	17	82	8:00 PM - 9:00 PM	6	12	18
9:00 AM - 10:00 AM	50	18	68	9:00 PM - 10:00 PM	6	10	16
10:00 AM - 11:00 AM	50	25	75	10:00 PM - 11:00 PM	1	9	10
11:00 AM - 12:00 PM	43	31	74	11:00 PM - 12:00 AM	3	2	5
Total	382	131	513	Total	295	321	616

24-Hour NB Volume 677 **24-Hour SB Volume 452**



24 Hour Segment Count



Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136

Location: 11. Via Excelencia, btwn Via Pasar and End of cul-de-sac

Orientation: East-West

Date of Count: Wednesday, November 16, 2016

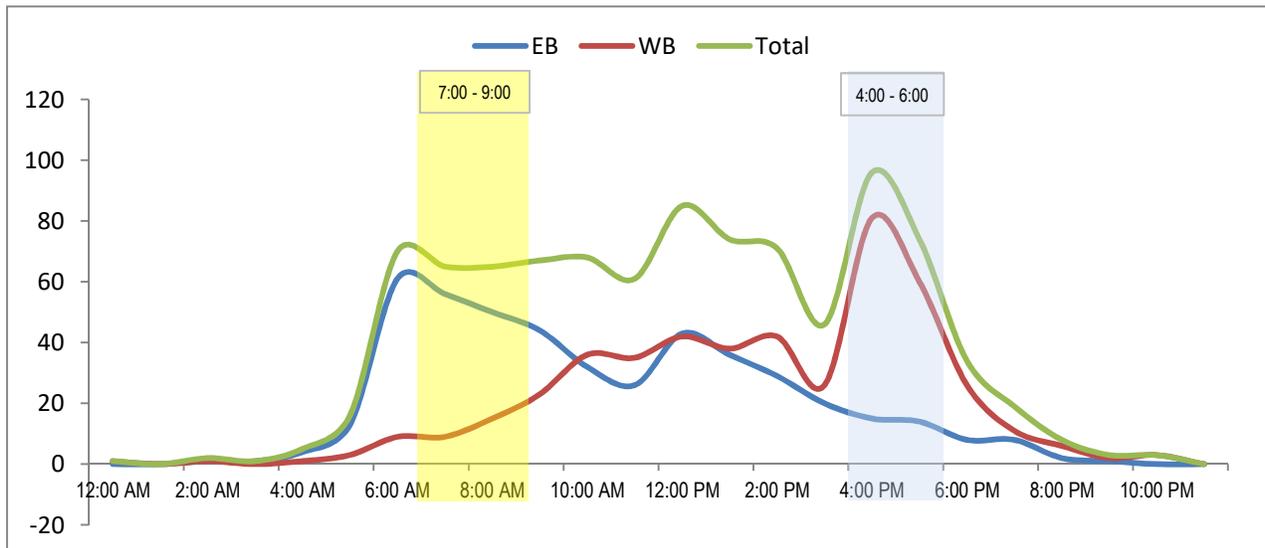
Analysts: DASH

Weather: Sunny

AVC Proj. No: 16-0591

24 Hour Segment Volume					934				
Time	Hourly Volume			Time	Hourly Volume				
	EB	WB	Total		EB	WB	Total		
12:00 AM - 1:00 AM	0	1	1	12:00 PM - 1:00 PM	43	42	85		
1:00 AM - 2:00 AM	0	0	0	1:00 PM - 2:00 PM	36	38	74		
2:00 AM - 3:00 AM	1	1	2	2:00 PM - 3:00 PM	29	42	71		
3:00 AM - 4:00 AM	1	0	1	3:00 PM - 4:00 PM	20	26	46		
4:00 AM - 5:00 AM	4	1	5	4:00 PM - 5:00 PM	15	81	96		
5:00 AM - 6:00 AM	13	3	16	5:00 PM - 6:00 PM	14	60	74		
6:00 AM - 7:00 AM	61	9	70	6:00 PM - 7:00 PM	8	26	34		
7:00 AM - 8:00 AM	56	9	65	7:00 PM - 8:00 PM	8	11	19		
8:00 AM - 9:00 AM	50	15	65	8:00 PM - 9:00 PM	2	6	8		
9:00 AM - 10:00 AM	44	23	67	9:00 PM - 10:00 PM	1	2	3		
10:00 AM - 11:00 AM	32	36	68	10:00 PM - 11:00 PM	0	3	3		
11:00 AM - 12:00 PM	26	35	61	11:00 PM - 12:00 AM	0	0	0		
Total	288	133	421	Total	176	337	513		

24-Hour EB Volume 464 **24-Hour WB Volume 470**



24 Hour Segment Count



Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136

Location: 12. Bussinesspark Ave, btwn Willow Creek Rd and End of Street

Orientation: North-South

Date of Count: Wednesday, November 16, 2016

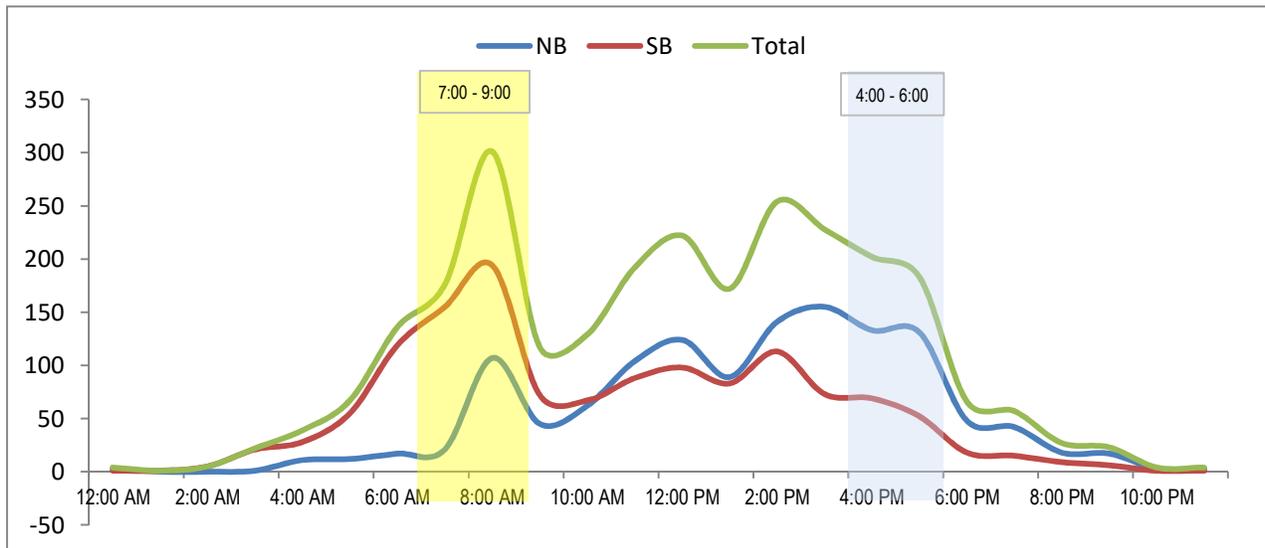
Analysts: DASH

Weather: Sunny

AVC Proj. No: 16-0591

24 Hour Segment Volume					2,631		
Time	Hourly Volume			Time	Hourly Volume		
	NB	SB	Total		NB	SB	Total
12:00 AM - 1:00 AM	3	1	4	12:00 PM - 1:00 PM	124	98	222
1:00 AM - 2:00 AM	0	1	1	1:00 PM - 2:00 PM	89	83	172
2:00 AM - 3:00 AM	0	5	5	2:00 PM - 3:00 PM	141	113	254
3:00 AM - 4:00 AM	1	21	22	3:00 PM - 4:00 PM	155	73	228
4:00 AM - 5:00 AM	11	28	39	4:00 PM - 5:00 PM	133	69	202
5:00 AM - 6:00 AM	12	55	67	5:00 PM - 6:00 PM	131	52	183
6:00 AM - 7:00 AM	17	119	136	6:00 PM - 7:00 PM	48	18	66
7:00 AM - 8:00 AM	21	155	176	7:00 PM - 8:00 PM	42	15	57
8:00 AM - 9:00 AM	107	194	301	8:00 PM - 9:00 PM	18	9	27
9:00 AM - 10:00 AM	45	72	117	9:00 PM - 10:00 PM	17	6	23
10:00 AM - 11:00 AM	62	67	129	10:00 PM - 11:00 PM	3	1	4
11:00 AM - 12:00 PM	104	88	192	11:00 PM - 12:00 AM	3	1	4
Total	383	806	1,189	Total	904	538	1,442

24-Hour NB Volume 1,287 **24-Hour SB Volume 1,344**



24 Hour Segment Count

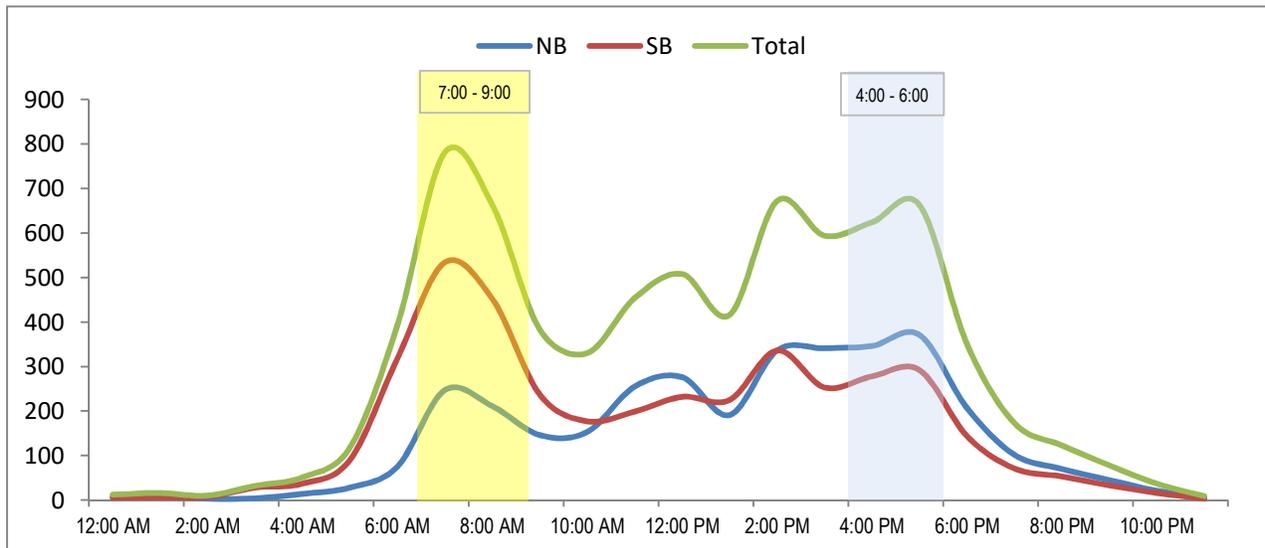


Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136

Location: 13. Bussinespark Ave, btwn Carroll Canyon Rd and Willow Creek Rd
Orientation: North-South
Date of Count: Wednesday, November 16, 2016
Analysts: DASH
Weather: Sunny
AVC Proj. No: 16-0591

24 Hour Segment Volume					7,491				
Time	Hourly Volume			Time	Hourly Volume				
	NB	SB	Total		NB	SB	Total		
12:00 AM - 1:00 AM	7	5	12	12:00 PM - 1:00 PM	276	232	508		
1:00 AM - 2:00 AM	10	6	16	1:00 PM - 2:00 PM	191	225	416		
2:00 AM - 3:00 AM	3	7	10	2:00 PM - 3:00 PM	336	336	672		
3:00 AM - 4:00 AM	4	28	32	3:00 PM - 4:00 PM	341	253	594		
4:00 AM - 5:00 AM	14	37	51	4:00 PM - 5:00 PM	346	278	624		
5:00 AM - 6:00 AM	28	90	118	5:00 PM - 6:00 PM	371	292	663		
6:00 AM - 7:00 AM	75	318	393	6:00 PM - 7:00 PM	207	144	351		
7:00 AM - 8:00 AM	247	534	781	7:00 PM - 8:00 PM	102	71	173		
8:00 AM - 9:00 AM	211	452	663	8:00 PM - 9:00 PM	70	53	123		
9:00 AM - 10:00 AM	146	237	383	9:00 PM - 10:00 PM	45	33	78		
10:00 AM - 11:00 AM	153	177	330	10:00 PM - 11:00 PM	21	16	37		
11:00 AM - 12:00 PM	255	199	454	11:00 PM - 12:00 AM	6	3	9		
Total	1,153	2,090	3,243	Total	2,312	1,936	4,248		

24-Hour NB Volume 3,465 **24-Hour SB Volume 4,026**



24 Hour Segment Count

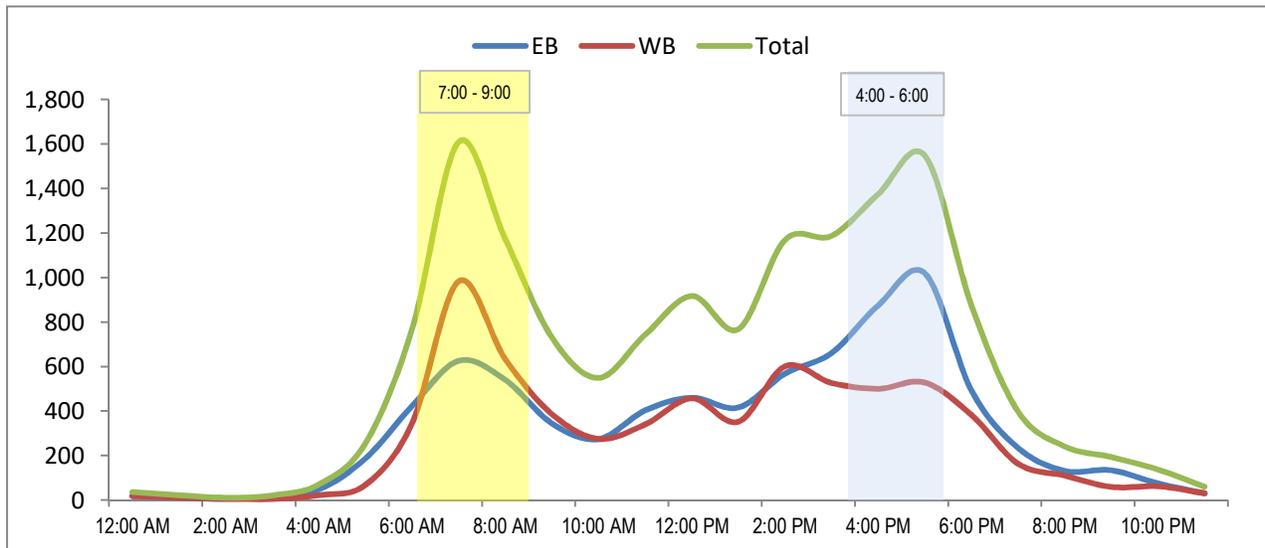


Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136

Location: 14. Carroll Canyon Rd, btwn Bussinesspark Ave and Scripps Ranch Blvd
Orientation: East-West
Date of Count: Wednesday, November 16, 2016
Analysts: DASH
Weather: Sunny
AVC Proj. No: 16-0591

24 Hour Segment Volume					14,851		
Time	Hourly Volume			Time	Hourly Volume		
	EB	WB	Total		EB	WB	Total
12:00 AM - 1:00 AM	18	18	36	12:00 PM - 1:00 PM	460	457	917
1:00 AM - 2:00 AM	11	11	22	1:00 PM - 2:00 PM	416	352	768
2:00 AM - 3:00 AM	5	6	11	2:00 PM - 3:00 PM	568	601	1,169
3:00 AM - 4:00 AM	16	5	21	3:00 PM - 4:00 PM	661	526	1,187
4:00 AM - 5:00 AM	48	22	70	4:00 PM - 5:00 PM	875	500	1,375
5:00 AM - 6:00 AM	187	68	255	5:00 PM - 6:00 PM	1,019	528	1,547
6:00 AM - 7:00 AM	422	345	767	6:00 PM - 7:00 PM	492	382	874
7:00 AM - 8:00 AM	626	983	1,609	7:00 PM - 8:00 PM	234	163	397
8:00 AM - 9:00 AM	540	633	1,173	8:00 PM - 9:00 PM	131	110	241
9:00 AM - 10:00 AM	344	386	730	9:00 PM - 10:00 PM	134	59	193
10:00 AM - 11:00 AM	274	275	549	10:00 PM - 11:00 PM	75	62	137
11:00 AM - 12:00 PM	403	340	743	11:00 PM - 12:00 AM	30	30	60
Total	2,894	3,092	5,986	Total	5,095	3,770	8,865

24-Hour EB Volume 7,989 **24-Hour WB Volume 6,862**



24 Hour Segment Count

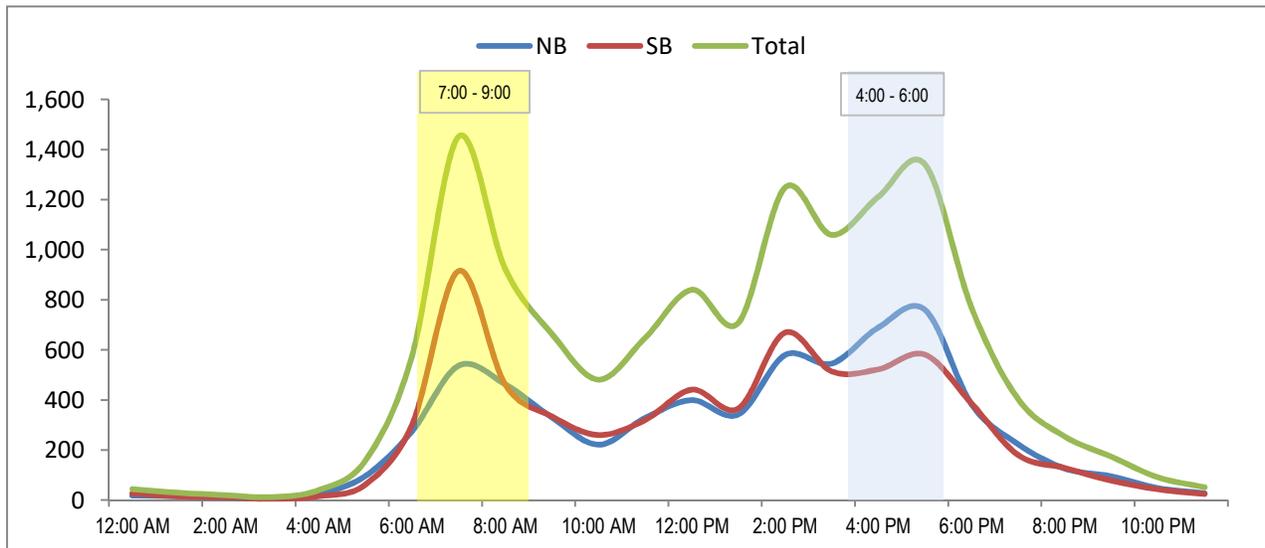


Accurate Video Counts Inc
 info@accuratevideocounts.com
 (619) 987-5136

Location: 15. Carroll Canyon Rd, btwn Scripps Ranch Blvd and Meanley Dr
Orientation: North-South
Date of Count: Wednesday, November 16, 2016
Analysts: DASH
Weather: Sunny
AVC Proj. No: 16-0591

24 Hour Segment Volume					13,195				
Time	Hourly Volume			Time	Hourly Volume				
	NB	SB	Total		NB	SB	Total		
12:00 AM - 1:00 AM	18	26	44	12:00 PM - 1:00 PM	399	441	840		
1:00 AM - 2:00 AM	15	14	29	1:00 PM - 2:00 PM	342	366	708		
2:00 AM - 3:00 AM	9	11	20	2:00 PM - 3:00 PM	579	669	1,248		
3:00 AM - 4:00 AM	7	5	12	3:00 PM - 4:00 PM	545	514	1,059		
4:00 AM - 5:00 AM	25	15	40	4:00 PM - 5:00 PM	689	522	1,211		
5:00 AM - 6:00 AM	96	62	158	5:00 PM - 6:00 PM	760	581	1,341		
6:00 AM - 7:00 AM	275	301	576	6:00 PM - 7:00 PM	383	386	769		
7:00 AM - 8:00 AM	537	915	1,452	7:00 PM - 8:00 PM	223	180	403		
8:00 AM - 9:00 AM	462	461	923	8:00 PM - 9:00 PM	126	128	254		
9:00 AM - 10:00 AM	330	334	664	9:00 PM - 10:00 PM	95	78	173		
10:00 AM - 11:00 AM	221	260	481	10:00 PM - 11:00 PM	48	43	91		
11:00 AM - 12:00 PM	328	320	648	11:00 PM - 12:00 AM	27	24	51		
Total	2,323	2,724	5,047	Total	4,216	3,932	8,148		

24-Hour NB Volume 6,539 **24-Hour SB Volume 6,656**



Roadway Segment counts related to San Vicente Reservoir Pipeline

Table 7-2 Existing Conditions Summary of Roadway Segment ADT Based Analysis

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	ADT (b)	V/C RATIO (c)	LOS
Eastgate Mall					
Regents Rd to Genesee Ave	2 Lane Collector (continuous left-turn lane)	15,000	6,187	0.412	B
Genesee Ave to Easter Way	4 Lane Collector	30,000	14,767	0.492	C
Easter Way to Judicial Dr	4 Lane Major Arterial	40,000	11,115	0.278	A
Judicial Dr to Eastgate Dr (Freeway Overpass)	2 Lane Collector (no fronting property)	10,000	10,096	1.010	F
Eastgate Dr to Miramar Rd	2 Lane Collector (continuous left-turn lane)	15,000	14,668	0.978	E
Executive Drive					
Regents Rd to Genesee Ave	4 Lane Collector (no center lane)	15,000	4,397	0.293	A
Genesee Ave to Judicial Dr	4 Lane Collector	30,000	5,914	0.197	A
Executive Way					
Executive Dr to La Jolla Village Dr	4 Lane Collector	30,000	5,923	0.197	A
Genesee Avenue					
N. Torrey Pines Rd to I-5 SB Ramps	6 Lane Prime Arterial	60,000	35,124	0.585	C
I-5 SB Ramps to I-5 NB Ramps	4 Lane Major Arterial	40,000	49,051	1.226	F
I-5 NB Ramps to Regents Rd	6 Lane Prime Arterial	60,000	48,542	0.809	C
Regents Rd to La Jolla Village Dr	6 Lane Prime Arterial	60,000	29,457	0.491	B
La Jolla Village Dr to Esplande Ct	4 Lane Major Arterial	40,000	28,054	0.701	C
Esplande Ct to Nobel Dr	6 Lane Major Arterial	50,000	23,744	0.475	B
Nobel Dr to Centurion Square	4 Lane Major Arterial	40,000	30,922	0.773	D
Centurion Square to SR-52 WB Ramps	4 Lane Major Arterial	40,000	30,325	0.758	D
SR-52 WB Ramps to SR-52 EB Ramps	4 Lane Major Arterial	40,000	31,170	0.779	D
SR-52 EB Ramps to Lehrer Dr	4 Lane Major Arterial	40,000	30,581	0.765	D
Gilman Drive					
UCSD Campus to La Jolla Village Dr	4 Lane Collector	30,000	10,069	0.336	B
La Jolla Village Dr to Via Alicante	4 Lane Collector	30,000	15,095	0.503	C
Via Alicante to I-5 SB Ramps	4 Lane Major Arterial	40,000	17,138	0.428	B
I-5 SB Ramps to I-5 NB Ramps	4 Lane Major Arterial	40,000	11,873	0.297	A
Golden Haven Drive					
Towne Centre Dr to Judicial Dr	4 Lane Major Arterial	40,000	6,712	0.168	A

Notes:

Bold values indicate roadway segments operating at LOS E or F.

(a) Existing road classifications are based on field work conducted May 13, 2015.

(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by Accurate Video Counts Inc and measured in April and May 2015.

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

Table 7-2 Existing Conditions Summary of Roadway Segment ADT Based Analysis (Continued)

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	ADT (b)	V/C RATIO (c)	LOS
Governor Drive					
Regents Rd to Genesee Ave	4 Lane Major Arterial	40,000	16,796	0.420	B
Genesee Ave to I-805 SB Ramps	4 Lane Major Arterial	40,000	19,737	0.493	B
I-805 SB Ramps to I-805 NB Ramps	4 Lane Major Arterial	40,000	10,417	0.260	A
Judicial Drive					
Eastgate Mall to La Jolla Village Dr	4 Lane Major Arterial	40,000	4,828	0.121	A
La Jolla Village Dr to Nobel Dr	4 Lane Major Arterial	40,000	6,574	0.164	A
La Jolla Scenic Drive					
La Jolla Village Dr to community boundary	4 Lane Major Arterial	40,000	7,928	0.198	A
La Jolla Village Drive					
Revelle College Dr to Villa La Jolla Dr	6 Lane Prime Arterial	60,000	44,520	0.742	C
Villa La Jolla Dr to I-5 SB Ramps	6 Lane Prime Arterial	60,000	62,258	1.038	F
I-5 SB Ramps to I-5 NB Ramps	6 Lane Major Arterial	50,000	51,391	1.028	F
I-5 NB Ramps to Lebon Dr	6 Lane Major Arterial	50,000	44,335	0.887	D
Lebon Dr to Regents Rd	6 Lane Major Arterial	50,000	42,863	0.857	D
Regents Rd to Genesee Ave	6 Lane Major Arterial	50,000	38,474	0.769	C
Genesee Ave to Towne Centre Dr	6 Lane Major Arterial	50,000	45,117	0.902	E
Towne Centre Dr to I-805 SB Ramps	7 Lane Major Arterial	55,000	58,833	1.070	F
Lebon Drive					
Palmilla Drive to Nobel Dr	4 Lane Major Arterial	40,000	11,192	0.280	A
Nobel Drive to La Jolla Village Dr	5 Lane Major Arterial	45,000	9,212	0.205	A
Miramar Road					
I-805 SB Ramps to I-805 NB Ramps	6 Lane Major Arterial	50,000	66,139	1.323	F
I-805 NB Ramps to Nobel Dr	8 Lane Prime Arterial	80,000	47,991	0.600	B
Nobel Dr to Eastgate Mall	8 Lane Prime Arterial	80,000	64,557	0.807	C
Eastgate Mall to Camino Santa Fe	6 Lane Prime Arterial	60,000	67,748	1.129	F
North Torrey Pines Road					
Science Park Rd to Genesee Ave	6 Lane Prime Arterial	60,000	29,303	0.488	B
Genesee Ave to Revelle College Dr	4 Lane Major Arterial	40,000	21,760	0.544	C

Notes:

Bold values indicate roadway segments operating at LOS E or F.

(a) Existing road classifications are based on field work conducted May 13, 2015.

(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by Accurate Video Counts Inc and measured in April and May 2015.

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

VOLUME

Copley Dr Bet. Hickman Field Dr & Convoy Terrace/Copley Park Pl

Day: Wednesday
Date: 9/7/2016

City: Kearny Mesa
Project #: CA16_4215_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					4,814	4,842	0	0	9,656		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	1	1			2	12:00	82	91			173
00:15	0	2			2	12:15	88	113			201
00:30	1	2			3	12:30	80	95			175
00:45	1	3	0	5	1 8	12:45	86	336	80	379	166 715
01:00	0	1			1	13:00	82	79			161
01:15	1	7			8	13:15	98	63			161
01:30	3	1			4	13:30	80	85			165
01:45	1	5	1	10	2 15	13:45	68	328	69	296	137 624
02:00	2	1			3	14:00	78	79			157
02:15	1	1			2	14:15	72	84			156
02:30	1	2			3	14:30	75	87			162
02:45	0	4	1	5	1 9	14:45	65	290	100	350	165 640
03:00	2	0			2	15:00	60	108			168
03:15	0	0			0	15:15	58	115			173
03:30	0	1			1	15:30	69	152			221
03:45	6	8	0	1	6 9	15:45	70	257	148	523	218 780
04:00	1	0			1	16:00	58	181			239
04:15	5	0			5	16:15	53	130			183
04:30	4	0			4	16:30	58	178			236
04:45	15	25	2	2	17 27	16:45	51	220	190	679	241 899
05:00	11	0			11	17:00	60	261			321
05:15	17	1			18	17:15	64	144			208
05:30	19	0			19	17:30	54	149			203
05:45	38	85	4	5	42 90	17:45	54	232	97	651	151 883
06:00	38	5			43	18:00	57	106			163
06:15	65	4			69	18:15	55	87			142
06:30	90	10			100	18:30	40	95			135
06:45	95	288	8	27	103 315	18:45	34	186	92	380	126 566
07:00	126	14			140	19:00	25	113			138
07:15	165	12			177	19:15	18	47			65
07:30	157	13			170	19:30	19	49			68
07:45	202	650	18	57	220 707	19:45	18	80	83	292	101 372
08:00	198	18			216	20:00	19	67			86
08:15	196	23			219	20:15	4	56			60
08:30	116	28			144	20:30	6	40			46
08:45	137	647	31	100	168 747	20:45	6	35	28	191	34 226
09:00	96	35			131	21:00	3	27			30
09:15	128	35			163	21:15	1	19			20
09:30	101	42			143	21:30	1	14			15
09:45	109	434	39	151	148 585	21:45	4	9	10	70	14 79
10:00	68	83			151	22:00	0	3			3
10:15	78	68			146	22:15	0	1			1
10:30	88	63			151	22:30	1	4			5
10:45	109	343	62	276	171 619	22:45	0	1	2	10	2 11
11:00	84	72			156	23:00	1	0			1
11:15	89	92			181	23:15	1	1			2
11:30	82	104			186	23:30	2	2			4
11:45	87	342	110	378	197 720	23:45	2	6	1	4	3 10
TOTALS	2834	1017			3851	TOTALS	1980	3825			5805
SPLIT %	73.6%	26.4%			39.9%	SPLIT %	34.1%	65.9%			60.1%

DAILY TOTALS					NB	SB	EB	WB	Total
					4,814	4,842	0	0	9,656

AM Peak Hour	07:30	11:30			07:30	PM Peak Hour	12:30	16:30			16:30
AM Pk Volume	753	418			825	PM Pk Volume	346	773			1006
Pk Hr Factor	0.932	0.925			0.938	Pk Hr Factor	0.883	0.740			0.783
7 - 9 Volume	1297	157	0	0	1454	4 - 6 Volume	452	1330	0	0	1782
7 - 9 Peak Hour	07:30	08:00			07:30	4 - 6 Peak Hour	16:30	16:30			16:30
7 - 9 Pk Volume	753	100	0	0	825	4 - 6 Pk Volume	233	773	0	0	1006
Pk Hr Factor	0.932	0.806	0.000	0.000	0.938	Pk Hr Factor	0.910	0.740	0.000	0.000	0.783

VOLUME

Copley Dr Bet. Hickman Field Dr & Convoy Terrace/Copley Park Pl

Day: Thursday
Date: 9/8/2016

City: Kearny Mesa
Project #: CA16_4215_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					4,632	4,547	0	0	9,179		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	1	5			6	12:00	92	105			197
00:15	0	4			4	12:15	85	99			184
00:30	1	3			4	12:30	104	91			195
00:45	0	2	1	13	15	12:45	139	420	98	393	237 813
01:00	1	0			1	13:00	98	86			184
01:15	0	0			0	13:15	116	85			201
01:30	1	3			4	13:30	127	94			221
01:45	1	3	0	3	6	13:45	80	421	82	347	162 768
02:00	1	0			1	14:00	79	79			158
02:15	1	0			1	14:15	65	95			160
02:30	0	1			1	14:30	81	95			176
02:45	1	3	0	1	4	14:45	61	286	112	381	173 667
03:00	1	2			3	15:00	36	93			129
03:15	0	0			0	15:15	43	103			146
03:30	0	0			0	15:30	49	146			195
03:45	7	8	0	2	10	15:45	64	192	116	458	180 650
04:00	2	0			2	16:00	43	164			207
04:15	3	0			3	16:15	46	128			174
04:30	3	0			3	16:30	61	189			250
04:45	13	21	1	1	22	16:45	60	210	149	630	209 840
05:00	4	0			4	17:00	44	251			295
05:15	16	3			19	17:15	48	165			213
05:30	22	2			24	17:30	44	139			183
05:45	44	86	0	5	91	17:45	35	171	88	643	123 814
06:00	42	5			47	18:00	42	103			145
06:15	70	9			79	18:15	52	79			131
06:30	86	12			98	18:30	28	102			130
06:45	123	321	9	35	356	18:45	28	150	68	352	96 502
07:00	128	10			138	19:00	23	69			92
07:15	177	17			194	19:15	14	54			68
07:30	149	25			174	19:30	16	36			52
07:45	188	642	18	70	712	19:45	20	73	38	197	58 270
08:00	163	19			182	20:00	8	54			62
08:15	177	20			197	20:15	6	33			39
08:30	126	36			162	20:30	6	23			29
08:45	117	583	36	111	694	20:45	3	23	34	144	37 167
09:00	121	29			150	21:00	3	22			25
09:15	90	39			129	21:15	2	12			14
09:30	82	37			119	21:30	0	14			14
09:45	62	355	35	140	495	21:45	0	5	8	56	8 61
10:00	73	53			126	22:00	3	6			9
10:15	69	57			126	22:15	2	4			6
10:30	77	54			131	22:30	0	2			2
10:45	65	284	63	227	511	22:45	2	7	4	16	6 23
11:00	55	67			122	23:00	1	0			1
11:15	90	69			159	23:15	3	2			5
11:30	100	106			206	23:30	0	3			3
11:45	116	361	74	316	677	23:45	1	5	1	6	2 11
TOTALS	2669	924			3593	TOTALS	1963	3623			5586
SPLIT %	74.3%	25.7%			39.1%	SPLIT %	35.1%	64.9%			60.9%

DAILY TOTALS					NB	SB	EB	WB	Total
					4,632	4,547	0	0	9,179

AM Peak Hour	07:15	11:30			11:30	PM Peak Hour	12:45	16:30			16:30
AM Pk Volume	677	384			777	PM Pk Volume	480	754			967
Pk Hr Factor	0.900	0.906			0.943	Pk Hr Factor	0.863	0.751			0.819
7 - 9 Volume	1225	181	0	0	1406	4 - 6 Volume	381	1273	0	0	1654
7 - 9 Peak Hour	07:15	08:00			07:30	4 - 6 Peak Hour	16:30	16:30			16:30
7 - 9 Pk Volume	677	111	0	0	759	4 - 6 Pk Volume	213	754	0	0	967
Pk Hr Factor	0.900	0.771	0.000	0.000	0.921	Pk Hr Factor	0.873	0.751	0.000	0.000	0.819

VOLUME

Copley Park Pl Bet. Copley Dr & Convoy St

Day: Wednesday
Date: 10/5/2016

City: Kearny Mesa
Project #: CA16_4215_007

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	4,987	5,769	10,756			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			9	4	13	12:00			107	85	192	
00:15			3	3	6	12:15			105	105	210	
00:30			6	3	9	12:30			113	102	215	
00:45			4	22	11	12:45			88	413	110	402
01:00			2	3	5	13:00			79	121	200	
01:15			0	0	0	13:15			100	99	199	
01:30			2	1	3	13:30			97	81	178	
01:45			0	4	2	13:45			112	388	100	401
02:00			1	0	1	14:00			102	79	181	
02:15			4	1	5	14:15			86	94	180	
02:30			5	0	5	14:30			105	86	191	
02:45			4	14	2	14:45			93	386	70	329
03:00			1	1	2	15:00			130	62	192	
03:15			0	1	1	15:15			118	72	190	
03:30			3	0	3	15:30			144	65	209	
03:45			0	4	3	15:45			124	516	85	284
04:00			4	10	14	16:00			135	70	205	
04:15			2	7	9	16:15			118	79	197	
04:30			4	16	20	16:30			151	102	253	
04:45			5	15	26	16:45			125	529	117	368
05:00			4	16	20	17:00			155	107	262	
05:15			8	24	32	17:15			120	87	207	
05:30			6	47	53	17:30			98	67	165	
05:45			12	30	82	17:45			82	455	92	353
06:00			18	66	84	18:00			95	89	184	
06:15			22	87	109	18:15			65	71	136	
06:30			44	101	145	18:30			104	50	154	
06:45			29	113	145	18:45			62	326	41	251
07:00			26	159	185	19:00			85	46	131	
07:15			45	135	180	19:15			78	34	112	
07:30			49	156	205	19:30			62	33	95	
07:45			35	155	181	19:45			52	277	26	139
08:00			36	165	201	20:00			56	21	77	
08:15			40	163	203	20:15			52	13	65	
08:30			42	135	177	20:30			30	20	50	
08:45			37	155	142	20:45			30	168	4	58
09:00			34	118	152	21:00			18	9	27	
09:15			46	123	169	21:15			22	11	33	
09:30			45	112	157	21:30			52	5	57	
09:45			58	183	104	21:45			17	109	7	32
10:00			48	87	135	22:00			22	4	26	
10:15			67	101	168	22:15			5	2	7	
10:30			77	82	159	22:30			3	2	5	
10:45			90	282	110	22:45			6	36	6	14
11:00			89	82	171	23:00			10	7	17	
11:15			94	106	200	23:15			3	1	4	
11:30			91	103	194	23:30			5	4	9	
11:45			107	381	108	23:45			8	26	2	14
TOTALS			1358	3124	4482	TOTALS			3629	2645	6274	
SPLIT %			30.3%	69.7%	41.7%	SPLIT %			57.8%	42.2%	58.3%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	4,987	5,769	10,756		
AM Peak Hour			11:45	07:30	11:45	PM Peak Hour			16:30	12:15	16:30
AM Pk Volume			432	665	832	PM Pk Volume			551	438	964
Pk Hr Factor			0.956	0.919	0.967	Pk Hr Factor			0.889	0.905	0.920
7 - 9 Volume	0	0	310	1236	1546	4 - 6 Volume	0	0	984	721	1705
7 - 9 Peak Hour			07:15	07:30	07:30	4 - 6 Peak Hour			16:30	16:30	16:30
7 - 9 Pk Volume	0	0	165	665	825	4 - 6 Pk Volume	0	0	551	413	964
Pk Hr Factor	0.000	0.000	0.842	0.919	0.955	Pk Hr Factor	0.000	0.000	0.889	0.882	0.920

VOLUME

Copley Park Pl Bet. Copley Dr & Convoy St

Day: Thursday
Date: 10/6/2016

City: Kearny Mesa
Project #: CA16_4215_007

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	4,769	5,480	10,249					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			3	2	5	12:00			100	107	207			
00:15			2	1	3	12:15			110	101	211			
00:30			5	2	7	12:30			113	92	205			
00:45			2	12	1	6	12:45		92	415	117	417	209	832
01:00			1	1	2	13:00			108	107	215			
01:15			4	2	6	13:15			95	101	196			
01:30			2	1	3	13:30			102	95	197			
01:45			2	9	2	6	13:45		114	419	101	404	215	823
02:00			0	0	0	14:00			136	107	243			
02:15			4	3	7	14:15			127	86	213			
02:30			1	1	2	14:30			100	82	182			
02:45			4	9	2	6	14:45		97	460	84	359	181	819
03:00			2	2	4	15:00			129	66	195			
03:15			0	3	3	15:15			123	71	194			
03:30			2	5	7	15:30			117	72	189			
03:45			2	6	4	14	15:45		118	487	68	277	186	764
04:00			2	7	9	16:00			131	83	214			
04:15			2	12	14	16:15			118	70	188			
04:30			7	12	19	16:30			128	87	215			
04:45			4	15	29	60	16:45		102	479	82	322	184	801
05:00			6	20	26	17:00			158	66	224			
05:15			8	24	32	17:15			97	88	185			
05:30			13	43	56	17:30			109	56	165			
05:45			10	37	71	158	17:45		94	458	51	261	145	719
06:00			19	64	83	18:00			86	47	133			
06:15			21	67	88	18:15			64	38	102			
06:30			47	100	147	18:30			61	39	100			
06:45			24	111	120	351	18:45		60	271	29	153	89	424
07:00			28	134	162	19:00			67	41	108			
07:15			42	146	188	19:15			38	42	80			
07:30			34	153	187	19:30			39	26	65			
07:45			45	149	184	617	19:45		40	184	17	126	57	310
08:00			43	157	200	20:00			34	19	53			
08:15			36	158	194	20:15			34	15	49			
08:30			40	135	175	20:30			21	10	31			
08:45			47	166	154	604	20:45		19	108	3	47	22	155
09:00			28	111	139	21:00			21	6	27			
09:15			46	115	161	21:15			4	6	10			
09:30			52	105	157	21:30			19	6	25			
09:45			57	183	91	422	21:45		13	57	10	28	23	85
10:00			57	84	141	22:00			13	6	19			
10:15			74	108	182	22:15			12	4	16			
10:30			55	103	158	22:30			8	1	9			
10:45			92	278	111	406	22:45		11	44	9	20	20	64
11:00			90	82	172	23:00			6	7	13			
11:15			97	99	196	23:15			10	3	13			
11:30			93	103	196	23:30			9	2	11			
11:45			102	382	114	398	23:45		5	30	6	18	11	48
TOTALS				1357	3048	4405	TOTALS			3412	2432	5844		
SPLIT %				30.8%	69.2%	43.0%	SPLIT %			58.4%	41.6%	57.0%		

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	4,769	5,480	10,249

AM Peak Hour			11:45	07:30	11:45	PM Peak Hour			16:15	12:45	13:30
AM Pk Volume			425	652	839	PM Pk Volume			506	420	868
Pk Hr Factor			0.940	0.886	0.971	Pk Hr Factor			0.801	0.897	0.893
7 - 9 Volume	0	0	315	1221	1536	4 - 6 Volume	0	0	937	583	1520
7 - 9 Peak Hour			08:00	07:30	07:30	4 - 6 Peak Hour			16:15	16:30	16:15
7 - 9 Pk Volume	0	0	166	652	810	4 - 6 Pk Volume	0	0	506	323	811
Pk Hr Factor	0.000	0.000	0.883	0.886	0.884	Pk Hr Factor	0.000	0.000	0.801	0.918	0.905

DAILY TOTALS					NB	SB			EB	WB	To
					11,733	11,687			0	0	23,
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TO
00:00	20	21	0	0	41	12:00	239	199	0	0	438
00:15	16	6	0	0	22	12:15	234	171	0	0	405
00:30	14	16	0	0	30	12:30	249	219	0	0	468
00:45	16	66	15	58	31	12:45	260	982	214	803	474
01:00	11	10	0	0	21	13:00	242	208	0	0	450
01:15	20	5	0	0	25	13:15	245	181	0	0	426
01:30	4	8	0	0	12	13:30	262	188	0	0	450
01:45	5	40	9	32	14	13:45	229	978	202	779	431
02:00	9	9	0	0	18	14:00	263	179	0	0	442
02:15	5	16	0	0	21	14:15	253	182	0	0	435
02:30	2	16	0	0	18	14:30	332	205	0	0	537
02:45	7	23	11	52	18	14:45	242	1090	187	753	429
03:00	11	12	0	0	23	15:00	264	193	0	0	457
03:15	9	7	0	0	16	15:15	245	195	0	0	440
03:30	2	10	0	0	12	15:30	289	205	0	0	494
03:45	7	29	13	42	20	15:45	213	1011	242	835	455
04:00	5	14	0	0	19	16:00	259	311	0	0	570
04:15	5	15	0	0	20	16:15	215	286	0	0	501
04:30	19	29	0	0	48	16:30	218	303	0	0	521
04:45	20	49	46	104	66	16:45	196	888	310	1210	506
05:00	13	43	0	0	56	17:00	192	304	0	0	496
05:15	23	58	0	0	81	17:15	176	291	0	0	467
05:30	15	78	0	0	93	17:30	186	273	0	0	459
05:45	27	78	104	283	131	17:45	200	754	264	1132	464
06:00	50	72	0	0	122	18:00	163	244	0	0	407
06:15	52	100	0	0	152	18:15	189	147	0	0	336
06:30	69	86	0	0	155	18:30	188	179	0	0	367
06:45	66	237	110	368	176	18:45	125	665	133	703	258
07:00	78	130	0	0	208	19:00	169	117	0	0	286
07:15	106	141	0	0	247	19:15	146	111	0	0	257
07:30	97	136	0	0	233	19:30	132	85	0	0	217
07:45	100	381	181	588	281	19:45	129	576	66	379	195
08:00	124	167	0	0	291	20:00	107	67	0	0	174
08:15	134	198	0	0	332	20:15	90	56	0	0	146
08:30	120	173	0	0	293	20:30	104	42	0	0	146
08:45	129	507	197	735	326	20:45	126	427	38	203	164
09:00	160	176	0	0	336	21:00	107	30	0	0	137
09:15	172	172	0	0	344	21:15	87	41	0	0	128
09:30	150	160	0	0	310	21:30	81	32	0	0	113
09:45	157	639	209	717	366	21:45	71	346	20	123	91
10:00	182	169	0	0	351	22:00	80	27	0	0	107
10:15	185	190	0	0	375	22:15	54	21	0	0	75
10:30	178	181	0	0	359	22:30	61	15	0	0	76
10:45	176	721	194	734	370	22:45	51	246	25	88	76
11:00	182	223	0	0	405	23:00	48	23	0	0	71
11:15	227	208	0	0	435	23:15	42	20	0	0	62
11:30	206	237	0	0	443	23:30	34	18	0	0	52
11:45	238	853	222	890	460	23:45	23	147	15	76	38
TOTALS	3623	4603			8226	TOTALS	8110	7084			
SPLIT %	44.0%	56.0%			35.1%	SPLIT %	53.4%	46.6%			

DAILY TOTALS					NB	SB			EB	WB	To
					11,733	11,687			0	0	23,
AM Peak Hour	11:45	11:00			11:15	PM Peak Hour	14:15	16:00			
AM Pk Volume	960	890			1776	PM Pk Volume	1091	1210			
Pk Hr Factor	0.499	0.939			0.965	Pk Hr Factor	0.900	0.974			
7 - 9 Volume	888	1323	0	0	2211	4 - 6 Volume	1642	2342	0	0	
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:00	16:00			
7 - 9 Pk Volume	507	735	0	0	1242	4 - 6 Pk Volume	888	1210	0	0	
Pk Hr Factor	0.946	0.928	0.000	0.000	0.935	Pk Hr Factor	0.857	0.973	0.000	0.000	

DAILY TOTALS					NB	SB					To	
					11,891	12,210	0	0				24,
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TO	
00:00	33	15	0	0	48	12:00	215	237	0	0	452	
00:15	18	8	0	0	26	12:15	216	237	0	0	453	
00:30	16	15	0	0	31	12:30	262	203	0	0	465	
00:45	16	83	9	47	25	130	12:45	234	927	201	878	435
01:00	25	9	0	0	34	13:00	276	214	0	0	490	
01:15	15	11	0	0	26	13:15	261	220	0	0	481	
01:30	7	4	0	0	11	13:30	310	181	0	0	491	
01:45	23	70	14	38	37	108	13:45	275	1122	179	794	454
02:00	10	7	0	0	17	14:00	276	205	0	0	481	
02:15	4	4	0	0	8	14:15	281	189	0	0	470	
02:30	3	15	0	0	18	14:30	340	162	0	0	502	
02:45	8	25	11	37	19	62	14:45	291	1188	196	752	487
03:00	10	14	0	0	24	15:00	297	209	0	0	506	
03:15	8	8	0	0	16	15:15	314	158	0	0	472	
03:30	5	12	0	0	17	15:30	238	214	0	0	452	
03:45	7	30	17	51	24	81	15:45	200	1049	268	849	468
04:00	5	4	0	0	9	16:00	272	300	0	0	572	
04:15	13	10	0	0	23	16:15	165	307	0	0	472	
04:30	13	28	0	0	41	16:30	211	282	0	0	493	
04:45	15	46	33	75	48	121	16:45	178	826	286	1175	464
05:00	17	33	0	0	50	17:00	222	316	0	0	538	
05:15	22	76	0	0	98	17:15	169	307	0	0	476	
05:30	27	75	0	0	102	17:30	177	311	0	0	488	
05:45	40	106	125	309	165	415	17:45	145	713	294	1228	439
06:00	57	83	0	0	140	18:00	159	231	0	0	390	
06:15	67	104	0	0	171	18:15	166	195	0	0	361	
06:30	81	103	0	0	184	18:30	154	178	0	0	332	
06:45	62	267	134	424	196	691	18:45	139	618	170	774	309
07:00	93	170	0	0	263	19:00	163	157	0	0	320	
07:15	121	125	0	0	246	19:15	141	121	0	0	262	
07:30	127	133	0	0	260	19:30	149	90	0	0	239	
07:45	113	454	179	607	292	1061	19:45	129	582	104	472	233
08:00	133	174	0	0	307	20:00	123	91	0	0	214	
08:15	139	167	0	0	306	20:15	125	79	0	0	204	
08:30	134	189	0	0	323	20:30	88	43	0	0	131	
08:45	148	554	209	739	357	1293	20:45	126	462	40	253	166
09:00	140	194	0	0	334	21:00	111	35	0	0	146	
09:15	160	191	0	0	351	21:15	118	35	0	0	153	
09:30	188	192	0	0	380	21:30	80	42	0	0	122	
09:45	152	640	223	800	375	1440	21:45	73	382	31	143	104
10:00	169	188	0	0	357	22:00	65	37	0	0	102	
10:15	184	171	0	0	355	22:15	45	25	0	0	70	
10:30	209	169	0	0	378	22:30	40	31	0	0	71	
10:45	141	703	237	765	378	1468	22:45	58	208	24	117	82
11:00	40	188	0	0	228	23:00	54	29	0	0	83	
11:15	213	194	0	0	407	23:15	29	13	0	0	42	
11:30	204	195	0	0	399	23:30	42	14	0	0	56	
11:45	217	674	234	811	451	1485	23:45	37	162	16	72	53
TOTALS	3652		4703		8355	TOTALS	8239		7507			
SPLIT %	43.7%		56.3%		34.7%	SPLIT %	52.3%		47.7%			

DAILY TOTALS					NB	SB					To	
					11,891	12,210	0	0				24,
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	14:30	17:00				
AM Pk Volume	910	911			1821	PM Pk Volume	1242	1228				
Pk Hr Factor	0.498	0.497			0.499	Pk Hr Factor	0.835	0.829				
7 - 9 Volume	1008	1346	0	0	2354	4 - 6 Volume	1539	2403	0	0		
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:00	17:00				
7 - 9 Pk Volume	554	739	0	0	1293	4 - 6 Pk Volume	826	1228	0	0		
Pk Hr Factor	0.936	0.884	0.000	0.000	0.905	Pk Hr Factor	0.759	0.972	0.000	0.000		

VOLUME

Convoy Ct Bet. Convoy St & End

Day: Wednesday
Date: 9/7/2016

City: Kearny Mesa
Project #: CA16_4215_011

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	927	769	1,696		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			0	0	0	12:00			26	18	44
00:15			2	2	4	12:15			24	21	45
00:30			1	0	1	12:30			27	18	45
00:45			0	3	3	12:45		104	27	22	79
01:00			2	1	3	13:00			28	14	42
01:15			0	1	1	13:15			25	18	43
01:30			0	0	0	13:30			19	17	36
01:45			3	5	8	13:45		89	17	22	71
02:00			1	0	1	14:00			19	19	38
02:15			1	1	2	14:15			21	14	35
02:30			0	0	0	14:30			18	26	44
02:45			0	2	2	14:45		79	21	25	84
03:00			0	0	0	15:00			11	20	31
03:15			0	0	0	15:15			20	18	38
03:30			1	0	1	15:30			16	13	29
03:45			1	2	3	15:45		52	5	14	65
04:00			0	0	0	16:00			14	32	46
04:15			0	0	0	16:15			17	22	39
04:30			1	0	1	16:30			11	16	27
04:45			2	3	5	16:45		54	12	17	87
05:00			2	0	2	17:00			9	17	26
05:15			0	0	0	17:15			11	14	25
05:30			4	1	5	17:30			14	15	29
05:45			4	10	14	17:45		58	24	3	49
06:00			7	2	9	18:00			11	12	23
06:15			14	1	15	18:15			22	15	37
06:30			3	6	9	18:30			13	10	23
06:45			8	32	40	18:45		58	12	3	40
07:00			15	6	21	19:00			11	11	22
07:15			11	2	13	19:15			5	12	17
07:30			11	3	14	19:30			3	1	4
07:45			22	59	81	19:45		22	3	3	27
08:00			15	3	18	20:00			1	4	5
08:15			16	4	20	20:15			4	3	7
08:30			17	4	21	20:30			9	14	23
08:45			20	68	88	20:45		15	1	15	36
09:00			13	13	26	21:00			3	14	17
09:15			19	10	29	21:15			3	6	9
09:30			8	9	17	21:30			1	4	5
09:45			14	54	68	21:45		10	3	7	31
10:00			16	7	23	22:00			2	2	4
10:15			14	12	26	22:15			1	3	4
10:30			20	11	31	22:30			1	1	2
10:45			20	70	90	22:45		5	1	2	8
11:00			18	13	31	23:00			1	4	5
11:15			15	16	31	23:15			2	0	2
11:30			15	11	26	23:30			1	0	1
11:45			20	68	88	23:45		5	1	1	5
TOTALS			376	187	563	TOTALS			551	582	1133
SPLIT %			66.8%	33.2%	33.2%	SPLIT %			48.6%	51.4%	66.8%

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	927	769	1,696		
AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			12:30	14:30	12:00
AM Pk Volume			97	69	166	PM Pk Volume			107	89	183
Pk Hr Factor			0.898	0.821	0.922	Pk Hr Factor			0.955	0.856	0.934
7 - 9 Volume	0	0	127	35	162	4 - 6 Volume	0	0	112	136	248
7 - 9 Peak Hour			07:45	08:00	08:00	4 - 6 Peak Hour			17:00	16:00	16:00
7 - 9 Pk Volume	0	0	70	21	89	4 - 6 Pk Volume	0	0	58	87	141
Pk Hr Factor	0.000	0.000	0.795	0.525	0.742	Pk Hr Factor	0.000	0.000	0.604	0.680	0.766

VOLUME

Convoy Ct Bet. Convoy St & End

Day: Thursday
Date: 9/8/2016

City: Kearny Mesa
Project #: CA16_4215_011

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	912	806	1,718					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			1	1	2	12:00			22	16	38			
00:15			6	1	7	12:15			20	20	40			
00:30			0	1	1	12:30			16	21	37			
00:45			1	8	1	12:45		4	27	85	14	71	41	156
01:00			4	4	8	13:00			25	22	47			
01:15			1	1	2	13:15			26	22	48			
01:30			1	1	2	13:30			29	17	46			
01:45			0	6	0	13:45		6	19	99	13	74	32	173
02:00			1	0	1	14:00			17	18	35			
02:15			0	0	0	14:15			19	15	34			
02:30			1	1	2	14:30			12	18	30			
02:45			1	3	2	14:45		3	20	68	14	65	34	133
03:00			0	0	0	15:00			15	20	35			
03:15			1	1	2	15:15			13	31	44			
03:30			1	0	1	15:30			12	24	36			
03:45			0	2	0	15:45		1	24	64	13	88	37	152
04:00			0	0	0	16:00			15	32	47			
04:15			0	0	0	16:15			17	24	41			
04:30			3	1	4	16:30			12	21	33			
04:45			4	7	2	16:45		3	6	50	12	89	18	139
05:00			1	0	1	17:00			13	24	37			
05:15			2	1	3	17:15			13	17	30			
05:30			3	0	3	17:30			8	7	15			
05:45			6	12	3	17:45		4	14	48	5	53	19	101
06:00			6	2	8	18:00			6	17	23			
06:15			9	1	10	18:15			8	8	16			
06:30			14	5	19	18:30			8	11	19			
06:45			7	36	5	18:45		13	5	27	10	46	15	73
07:00			13	3	16	19:00			7	9	16			
07:15			16	10	26	19:15			9	8	17			
07:30			9	4	13	19:30			3	3	6			
07:45			13	51	4	19:45		21	2	21	5	25	7	46
08:00			22	3	25	20:00			6	4	10			
08:15			18	4	22	20:15			6	6	12			
08:30			15	4	19	20:30			6	6	12			
08:45			18	73	8	20:45		19	3	21	9	25	12	46
09:00			18	9	27	21:00			1	1	2			
09:15			21	9	30	21:15			1	8	9			
09:30			16	15	31	21:30			0	4	4			
09:45			33	88	8	21:45		41	5	7	1	14	6	21
10:00			13	12	25	22:00			3	3	6			
10:15			14	8	22	22:15			0	1	1			
10:30			16	11	27	22:30			1	1	2			
10:45			15	58	14	22:45		45	2	6	5	10	7	16
11:00			13	16	29	23:00			1	2	3			
11:15			15	22	37	23:15			1	3	4			
11:30			18	24	42	23:30			1	1	2			
11:45			22	68	17	23:45		79	1	4	1	7	2	11
TOTALS			412	239	651	TOTALS			500	567	1067			
SPLIT %			63.3%	36.7%	37.9%	SPLIT %			46.9%	53.1%	62.1%			

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	912	806	1,718

AM Peak Hour			09:00	11:00	11:30	PM Peak Hour			12:45	15:15	12:45
AM Pk Volume			88	79	159	PM Pk Volume			107	100	182
Pk Hr Factor			0.667	0.823	0.946	Pk Hr Factor			0.922	0.781	0.948
7 - 9 Volume	0	0	124	40	164	4 - 6 Volume	0	0	98	142	240
7 - 9 Peak Hour			08:00	07:00	08:00	4 - 6 Peak Hour			16:00	16:00	16:00
7 - 9 Pk Volume	0	0	73	21	92	4 - 6 Pk Volume	0	0	50	89	139
Pk Hr Factor	0.000	0.000	0.830	0.525	0.885	Pk Hr Factor	0.000	0.000	0.735	0.695	0.739

VOLUME

Ronson Rd Bet. Mercury St & Kearny Mesa Rd

Day: 09/07/2016 0

Date: 09/07/2016 0

City: Kearny Mesa

Project #: CA16_4215_037

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	2,241	1,634	3,875		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			3	1	4	12:00			37	53	90
00:15			0	0	0	12:15			45	37	82
00:30			3	1	4	12:30			44	34	78
00:45			3	9	12	12:45			54	180	234
01:00			1	1	2	13:00			47	46	93
01:15			0	1	1	13:15			57	40	97
01:30			3	0	3	13:30			48	45	93
01:45			1	5	6	13:45			54	206	260
02:00			2	0	2	14:00			48	28	76
02:15			0	0	0	14:15			33	32	65
02:30			1	2	3	14:30			60	27	87
02:45			1	4	5	14:45			64	205	269
03:00			0	0	0	15:00			44	52	96
03:15			1	1	2	15:15			39	37	76
03:30			4	1	5	15:30			49	53	102
03:45			0	5	5	15:45			53	185	238
04:00			1	1	2	16:00			46	53	99
04:15			5	2	7	16:15			36	41	77
04:30			1	1	2	16:30			49	43	92
04:45			3	10	13	16:45			29	160	189
05:00			2	1	3	17:00			44	56	100
05:15			5	0	5	17:15			31	45	76
05:30			3	0	3	17:30			29	30	59
05:45			6	16	22	17:45			22	126	148
06:00			12	3	15	18:00			31	32	63
06:15			18	7	25	18:15			17	21	38
06:30			26	2	28	18:30			26	18	44
06:45			36	92	128	18:45			28	102	130
07:00			34	10	44	19:00			16	25	41
07:15			35	6	41	19:15			13	19	32
07:30			35	13	48	19:30			10	20	30
07:45			40	144	184	19:45			6	45	51
08:00			56	11	67	20:00			9	11	20
08:15			49	16	65	20:15			1	6	7
08:30			50	16	66	20:30			4	7	11
08:45			54	209	263	20:45			2	16	18
09:00			57	21	78	21:00			1	6	7
09:15			47	25	72	21:15			3	1	4
09:30			49	31	80	21:30			2	2	4
09:45			50	203	253	21:45			2	8	10
10:00			37	14	51	22:00			2	0	2
10:15			37	24	61	22:15			3	0	3
10:30			35	26	61	22:30			1	1	2
10:45			39	148	187	22:45			2	8	10
11:00			36	28	64	23:00			3	2	5
11:15			35	33	68	23:15			2	4	6
11:30			42	44	86	23:30			0	4	4
11:45			37	150	187	23:45			0	5	5
TOTALS			995	470	1465	TOTALS			1246	1164	2410
SPLIT %			67.9%	32.1%	37.8%	SPLIT %			51.7%	48.3%	62.2%

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	2,241	1,634	3,875

AM Peak Hour			08:15	11:30	11:30	PM Peak Hour			13:15	16:30	12:45
AM Pk Volume			210	167	377	PM Pk Volume			207	187	374
Pk Hr Factor			0.921	0.788	0.911	Pk Hr Factor			0.908	0.835	0.964
7 - 9 Volume	0	0	353	95	448	4 - 6 Volume	0	0	286	348	634
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:00	16:30	16:15
7 - 9 Pk Volume	0	0	209	57	266	4 - 6 Pk Volume	0	0	160	187	341
Pk Hr Factor	0.000	0.000	0.933	0.891	0.978	Pk Hr Factor	0.000	0.000	0.816	0.835	0.853

VOLUME

Ronson Rd Bet. Mercury St & Kearny Mesa Rd

Day: #VALUE!

Date: #VALUE!

City: Kearny Mesa

Project #: CA16_4215_037

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	2,104	1,591	3,695					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			1	0	1	12:00			50	37	87			
00:15			1	1	2	12:15			49	42	91			
00:30			0	0	0	12:30			39	28	67			
00:45			2	4	2	12:45			57	195	32	139	89	334
01:00			2	0	2	13:00			41	48	89			
01:15			5	1	6	13:15			45	44	89			
01:30			3	2	5	13:30			44	30	74			
01:45			0	10	0	13:45			57	187	26	148	83	335
02:00			2	0	2	14:00			45	34	79			
02:15			0	1	1	14:15			53	39	92			
02:30			3	0	3	14:30			58	44	102			
02:45			3	8	0	14:45			30	186	33	150	63	336
03:00			2	1	3	15:00			37	39	76			
03:15			1	1	2	15:15			46	29	75			
03:30			1	0	1	15:30			38	34	72			
03:45			3	7	0	15:45			38	159	47	149	85	308
04:00			1	1	2	16:00			38	41	79			
04:15			5	2	7	16:15			28	31	59			
04:30			0	2	2	16:30			40	38	78			
04:45			3	9	2	16:45			42	148	33	143	75	291
05:00			0	0	0	17:00			35	61	96			
05:15			4	6	10	17:15			24	38	62			
05:30			8	1	9	17:30			21	27	48			
05:45			7	19	3	17:45			37	117	30	156	67	273
06:00			10	4	14	18:00			26	45	71			
06:15			25	4	29	18:15			21	20	41			
06:30			24	3	27	18:30			23	12	35			
06:45			24	83	7	18:45			15	85	14	91	29	176
07:00			21	13	34	19:00			12	16	28			
07:15			33	13	46	19:15			9	13	22			
07:30			41	14	55	19:30			15	19	34			
07:45			38	133	17	19:45			5	41	4	52	9	93
08:00			44	27	71	20:00			6	7	13			
08:15			47	15	62	20:15			8	7	15			
08:30			55	25	80	20:30			2	10	12			
08:45			43	189	19	20:45			4	20	6	30	10	50
09:00			43	25	68	21:00			5	4	9			
09:15			54	22	76	21:15			3	3	6			
09:30			43	25	68	21:30			3	2	5			
09:45			57	197	22	21:45			1	12	3	12	4	24
10:00			38	31	69	22:00			5	2	7			
10:15			37	28	65	22:15			3	2	5			
10:30			36	19	55	22:30			3	1	4			
10:45			31	142	21	22:45			2	13	1	6	3	19
11:00			35	31	66	23:00			1	2	3			
11:15			34	25	59	23:15			2	3	5			
11:30			21	37	58	23:30			2	0	2			
11:45			44	134	38	23:45			1	6	0	5	1	11
TOTALS			935	510	1445	TOTALS			1169	1081	2250			
SPLIT %			64.7%	35.3%	39.1%	SPLIT %			52.0%	48.0%	60.9%			

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	2,104	1,591	3,695		
AM Peak Hour			09:00	11:30	11:45	PM Peak Hour			13:45	16:30	13:45
AM Pk Volume			197	154	327	PM Pk Volume			213	170	356
Pk Hr Factor			0.864	0.917	0.898	Pk Hr Factor			0.918	0.697	0.873
7 - 9 Volume	0	0	322	143	465	4 - 6 Volume	0	0	265	299	564
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:00	16:30	16:30
7 - 9 Pk Volume	0	0	189	86	275	4 - 6 Pk Volume	0	0	148	170	311
Pk Hr Factor	0.000	0.000	0.859	0.796	0.859	Pk Hr Factor	0.000	0.000	0.881	0.697	0.810

VOLUME

Lightwave Ave Bet. Kearny Villa Rd & Overland Ave

Day: Tuesday
Date: 10/18/2016

City: Kearny Mesa
Project #: CA16_4215_038

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	2,687	2,411	5,098		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			2	3	5	12:00			70	54	124
00:15			4	2	6	12:15			66	31	97
00:30			3	2	5	12:30			64	55	119
00:45			1	10	11	12:45			49	249	298
01:00			3	0	3	13:00			62	54	116
01:15			2	1	3	13:15			51	43	94
01:30			2	3	5	13:30			55	32	87
01:45			2	9	11	13:45			46	214	260
02:00			3	2	5	14:00			34	28	62
02:15			1	4	5	14:15			42	26	68
02:30			4	2	6	14:30			43	27	70
02:45			5	13	18	14:45			46	165	211
03:00			2	2	4	15:00			40	30	70
03:15			5	0	5	15:15			40	36	76
03:30			1	1	2	15:30			53	41	94
03:45			5	13	18	15:45			48	181	229
04:00			4	4	8	16:00			74	44	118
04:15			0	5	5	16:15			63	41	104
04:30			3	7	10	16:30			66	55	121
04:45			5	12	17	16:45			54	257	311
05:00			4	7	11	17:00			63	73	136
05:15			7	13	20	17:15			67	64	131
05:30			4	17	21	17:30			68	65	133
05:45			8	23	31	17:45			47	245	292
06:00			22	17	39	18:00			57	35	92
06:15			10	17	27	18:15			49	25	74
06:30			25	25	50	18:30			53	23	76
06:45			20	77	97	18:45			31	190	221
07:00			22	49	71	19:00			35	14	49
07:15			28	47	75	19:15			28	11	39
07:30			23	64	87	19:30			17	13	30
07:45			28	101	129	19:45			31	111	142
08:00			21	54	75	20:00			19	9	28
08:15			33	48	81	20:15			14	8	22
08:30			40	49	89	20:30			16	7	23
08:45			32	126	158	20:45			8	57	65
09:00			44	58	102	21:00			25	3	28
09:15			33	33	66	21:15			21	11	32
09:30			26	47	73	21:30			21	10	31
09:45			29	132	161	21:45			30	97	127
10:00			34	46	80	22:00			17	6	23
10:15			41	25	66	22:15			8	8	16
10:30			41	34	75	22:30			4	2	6
10:45			41	157	198	22:45			3	32	35
11:00			42	42	84	23:00			1	2	3
11:15			48	32	80	23:15			4	1	5
11:30			62	25	87	23:30			0	4	4
11:45			58	210	268	23:45			1	6	7
TOTALS			883	1072	1955	TOTALS			1804	1339	3143
SPLIT %			45.2%	54.8%	38.3%	SPLIT %			57.4%	42.6%	61.7%

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	2,687	2,411	5,098		
AM Peak Hour			11:45	07:30	11:45	PM Peak Hour			16:00	16:45	16:45
AM Pk Volume			258	224	440	PM Pk Volume			257	275	527
Pk Hr Factor			0.921	0.875	0.887	Pk Hr Factor			0.868	0.942	0.969
7 - 9 Volume	0	0	227	430	657	4 - 6 Volume	0	0	502	472	974
7 - 9 Peak Hour			08:00	07:30	08:00	4 - 6 Peak Hour			16:00	16:45	16:45
7 - 9 Pk Volume	0	0	126	224	338	4 - 6 Pk Volume	0	0	257	275	527
Pk Hr Factor	0.000	0.000	0.788	0.875	0.909	Pk Hr Factor	0.000	0.000	0.868	0.942	0.969

VOLUME

Lightwave Ave Bet. Kearny Villa Rd & Overland Ave

Day: Wednesday
Date: 10/19/2016City: Kearny Mesa
Project #: CA16_4215_038

DAILY TOTALS					NB	SB	EB	WB	Total					
					0	0	2,635	2,359	4,994					
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			3	0	3	12:00			67	33	100			
00:15			3	3	6	12:15			73	40	113			
00:30			0	2	2	12:30			64	45	109			
00:45			2	8	3	8	12:45		68	272	61	179	129	451
01:00			2	1	3	13:00			66	36	102			
01:15			3	2	5	13:15			49	33	82			
01:30			0	0	0	13:30			49	30	79			
01:45			3	8	2	5	13:45		37	201	35	134	72	335
02:00			0	1	1	14:00			42	28	70			
02:15			2	2	4	14:15			40	22	62			
02:30			4	1	5	14:30			39	16	55			
02:45			0	6	2	6	14:45		34	155	32	98	66	253
03:00			1	3	4	15:00			46	22	68			
03:15			3	0	3	15:15			40	42	82			
03:30			1	3	4	15:30			45	46	91			
03:45			3	8	1	7	15:45		59	190	28	138	87	328
04:00			1	4	5	16:00			70	46	116			
04:15			4	1	5	16:15			58	52	110			
04:30			2	3	5	16:30			69	70	139			
04:45			1	8	6	14	16:45		59	256	64	232	123	488
05:00			3	5	8	17:00			74	78	152			
05:15			3	12	15	17:15			62	71	133			
05:30			9	8	17	17:30			80	92	172			
05:45			15	30	18	43	17:45		40	256	52	293	92	549
06:00			10	17	27	18:00			42	38	80			
06:15			18	28	46	18:15			38	27	65			
06:30			15	18	33	18:30			32	16	48			
06:45			12	55	32	95	18:45		29	141	23	104	52	245
07:00			28	39	67	19:00			32	17	49			
07:15			22	44	66	19:15			22	25	47			
07:30			35	59	94	19:30			27	6	33			
07:45			25	110	63	205	19:45		20	101	11	59	31	160
08:00			34	60	94	20:00			33	11	44			
08:15			29	53	82	20:15			14	11	25			
08:30			31	54	85	20:30			23	8	31			
08:45			37	131	70	237	20:45		18	88	12	42	30	130
09:00			24	43	67	21:00			24	13	37			
09:15			20	35	55	21:15			14	11	25			
09:30			22	28	50	21:30			21	8	29			
09:45			40	106	33	139	21:45		27	86	7	39	34	125
10:00			31	19	50	22:00			13	7	20			
10:15			34	33	67	22:15			14	6	20			
10:30			38	24	62	22:30			8	2	10			
10:45			35	138	36	112	22:45		0	35	0	15	0	50
11:00			60	33	93	23:00			2	2	4			
11:15			47	41	88	23:15			5	0	5			
11:30			63	38	101	23:30			1	1	2			
11:45			66	236	37	149	23:45		2	10	3	6	5	16
TOTALS			844	1020	1864	TOTALS			1791	1339	3130			
SPLIT %			45.3%	54.7%	37.3%	SPLIT %			57.2%	42.8%	62.7%			

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	2,635	2,359	4,994		
AM Peak Hour			11:45	08:00	11:45	PM Peak Hour			16:45	16:45	16:45
AM Pk Volume			270	237	425	PM Pk Volume			275	305	580
Pk Hr Factor			0.925	0.846	0.940	Pk Hr Factor			0.859	0.829	0.843
7 - 9 Volume	0	0	241	442	683	4 - 6 Volume	0	0	512	525	1037
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:45	16:45	16:45
7 - 9 Pk Volume	0	0	131	237	368	4 - 6 Pk Volume	0	0	275	305	580
Pk Hr Factor	0.000	0.000	0.885	0.846	0.860	Pk Hr Factor	0.000	0.000	0.859	0.829	0.843

VOLUME

Lightwave Ave Bet. Overland Ave & Ruffin Rd

Day: Tuesday
Date: 9/13/2016

City: Kearny Mesa
Project #: CA16_4215_039

DAILY TOTALS					NB	SB					Total			
					0	0	2,866	3,096				5,962		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00			1	1	2	12:00			65	74	139			
00:15			1	0	1	12:15			45	62	107			
00:30			1	1	2	12:30			66	58	124			
00:45			2	5	4	6	12:45		64	240	68	262	132	502
01:00			0	0	0	13:00			76	60	136			
01:15			3	0	3	13:15			52	43	95			
01:30			3	0	3	13:30			51	49	100			
01:45			1	7	0	1	13:45		48	227	54	206	102	433
02:00			1	1	2	14:00			36	49	85			
02:15			1	0	1	14:15			35	43	78			
02:30			3	3	6	14:30			47	44	91			
02:45			2	7	2	6	14:45		38	156	46	182	84	338
03:00			3	0	3	15:00			45	42	87			
03:15			3	2	5	15:15			33	51	84			
03:30			5	3	8	15:30			62	42	104			
03:45			3	14	0	5	15:45		57	197	46	181	103	378
04:00			6	0	6	16:00			73	67	140			
04:15			8	1	9	16:15			74	54	128			
04:30			3	2	5	16:30			94	58	152			
04:45			8	25	17	20	16:45		88	329	56	235	144	564
05:00			3	15	18	17:00			110	55	165			
05:15			10	27	37	17:15			123	51	174			
05:30			8	11	19	17:30			98	50	148			
05:45			25	46	31	84	17:45		75	406	45	201	120	607
06:00			14	20	34	18:00			49	46	95			
06:15			30	24	54	18:15			27	46	73			
06:30			28	30	58	18:30			47	41	88			
06:45			29	101	37	111	18:45		33	156	27	160	60	316
07:00			30	49	79	19:00			24	43	67			
07:15			28	57	85	19:15			38	27	65			
07:30			40	54	94	19:30			28	35	63			
07:45			33	131	58	218	19:45		22	112	33	138	55	250
08:00			39	71	110	20:00			20	27	47			
08:15			47	76	123	20:15			11	18	29			
08:30			33	49	82	20:30			16	19	35			
08:45			23	142	55	251	20:45		17	64	35	99	52	163
09:00			39	48	87	21:00			11	10	21			
09:15			27	44	71	21:15			13	22	35			
09:30			36	47	83	21:30			6	25	31			
09:45			28	130	26	165	21:45		8	38	22	79	30	117
10:00			23	50	73	22:00			9	17	26			
10:15			33	27	60	22:15			9	7	16			
10:30			42	43	85	22:30			3	3	6			
10:45			38	136	55	175	22:45		0	21	4	31	4	52
11:00			33	53	86	23:00			4	5	9			
11:15			40	54	94	23:15			1	2	3			
11:30			35	77	112	23:30			4	1	5			
11:45			57	165	89	273	23:45		2	11	0	8	2	19
TOTALS			909	1314	2223	TOTALS			1957	1782	3739			
SPLIT %			40.9%	59.1%	37.3%	SPLIT %			52.3%	47.7%	62.7%			

DAILY TOTALS					NB	SB					Total	
					0	0	2,866	3,096				5,962

AM Peak Hour			11:45	11:30	11:45	PM Peak Hour			16:45	12:00	16:30
AM Pk Volume			233	302	516	PM Pk Volume			419	262	635
Pk Hr Factor			0.883	0.848	0.884	Pk Hr Factor			0.852	0.885	0.912
7 - 9 Volume	0	0	273	469	742	4 - 6 Volume	0	0	735	436	1171
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			16:45	16:00	16:30
7 - 9 Pk Volume	0	0	159	259	418	4 - 6 Pk Volume	0	0	419	235	635
Pk Hr Factor	0.000	0.000	0.846	0.852	0.850	Pk Hr Factor	0.000	0.000	0.852	0.877	0.912

VOLUME

Lightwave Ave Bet. Overland Ave & Ruffin Rd

Day: Wednesday
Date: 9/14/2016

City: Kearny Mesa
Project #: CA16_4215_039

DAILY TOTALS					NB	SB						Total
					0	0						6,313
							3,059			3,254		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			1	3	4	12:00			59	113	172	
00:15			0	2	2	12:15			64	74	138	
00:30			1	3	4	12:30			63	63	126	
00:45			2	4	6	12:45			70	256	326	
01:00			0	0	0	13:00			63	62	125	
01:15			0	1	1	13:15			61	50	111	
01:30			3	2	5	13:30			45	59	104	
01:45			3	6	9	13:45			52	221	273	
02:00			2	2	4	14:00			40	30	70	
02:15			2	1	3	14:15			36	31	67	
02:30			3	1	4	14:30			36	51	87	
02:45			2	9	11	14:45			43	155	198	
03:00			0	0	0	15:00			26	48	74	
03:15			3	0	3	15:15			43	50	93	
03:30			3	1	4	15:30			66	62	128	
03:45			3	9	12	15:45			48	183	231	
04:00			3	2	5	16:00			84	50	134	
04:15			5	0	5	16:15			93	54	147	
04:30			3	6	9	16:30			120	58	178	
04:45			7	18	25	16:45			99	396	495	
05:00			8	19	27	17:00			113	72	185	
05:15			7	27	34	17:15			128	69	197	
05:30			9	10	19	17:30			120	59	179	
05:45			18	42	60	17:45			72	433	505	
06:00			17	25	42	18:00			56	53	109	
06:15			21	24	45	18:15			48	39	87	
06:30			35	32	67	18:30			40	38	78	
06:45			25	98	123	18:45			38	182	220	
07:00			30	45	75	19:00			49	38	87	
07:15			38	61	99	19:15			26	33	59	
07:30			44	67	111	19:30			25	34	59	
07:45			36	148	184	19:45			20	120	140	
08:00			48	55	103	20:00			22	19	41	
08:15			44	99	143	20:15			14	23	37	
08:30			30	37	67	20:30			19	32	51	
08:45			51	173	224	20:45			9	64	73	
09:00			38	51	89	21:00			8	21	29	
09:15			33	48	81	21:15			9	23	32	
09:30			42	51	93	21:30			9	31	40	
09:45			31	144	175	21:45			11	37	48	
10:00			40	59	99	22:00			9	12	21	
10:15			31	43	74	22:15			4	3	7	
10:30			39	41	80	22:30			1	2	3	
10:45			36	146	182	22:45			3	17	20	
11:00			39	66	105	23:00			4	2	6	
11:15			51	55	106	23:15			3	0	3	
11:30			45	76	121	23:30			2	0	2	
11:45			53	188	241	23:45			1	10	11	
TOTALS			985	1397	2382	TOTALS			2074	1857	3931	
SPLIT %			41.4%	58.6%	37.7%	SPLIT %			52.8%	47.2%	62.3%	

DAILY TOTALS					NB	SB						Total
					0	0						6,313
							3,059			3,254		

AM Peak Hour			11:45	11:30	11:45	PM Peak Hour			16:30	12:00	16:45
AM Pk Volume			239	378	604	PM Pk Volume			460	315	711
Pk Hr Factor			0.934	0.822	0.878	Pk Hr Factor			0.898	0.697	0.902
7 - 9 Volume	0	0	321	470	791	4 - 6 Volume	0	0	829	454	1283
7 - 9 Peak Hour			08:00	07:30	07:30	4 - 6 Peak Hour			16:30	16:45	16:45
7 - 9 Pk Volume	0	0	173	265	437	4 - 6 Pk Volume	0	0	460	251	711
Pk Hr Factor	0.000	0.000	0.848	0.669	0.764	Pk Hr Factor	0.000	0.000	0.898	0.872	0.902

VOLUME

Ruffin Rd Bet. Clairemont Mesa Blvd & Lightwave Ave

Day: Wednesday
Date: 10/5/2016

City: Kearny Mesa
Project #: CA16_4215_159

DAILY TOTALS						NB	SB	EB	WB	Total	
						5,037	5,893	0	0	10,930	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	4	5			9	12:00	159	72			231
00:15	2	5			7	12:15	146	61			207
00:30	4	8			12	12:30	137	81			218
00:45	3	13	8	26	11	12:45	122	564	101	315	879
01:00	0	0			0	13:00	96	101			197
01:15	1	11			12	13:15	87	62			149
01:30	4	3			7	13:30	97	77			174
01:45	1	6	4	18	5	13:45	88	368	55	295	663
02:00	3	5			8	14:00	111	48			159
02:15	3	5			8	14:15	84	45			129
02:30	2	6			8	14:30	91	39			130
02:45	0	8	17	33	17	14:45	106	392	32	164	556
03:00	1	7			8	15:00	107	44			151
03:15	0	7			7	15:15	96	92			188
03:30	7	6			13	15:30	130	109			239
03:45	1	9	6	26	7	15:45	105	438	127	372	810
04:00	1	6			7	16:00	133	115			248
04:15	4	9			13	16:15	90	142			232
04:30	6	10			16	16:30	125	135			260
04:45	7	18	23	48	30	16:45	106	454	181	573	1027
05:00	3	32			35	17:00	125	136			261
05:15	10	59			69	17:15	117	195			312
05:30	18	34			52	17:30	110	157			267
05:45	21	52	93	218	114	17:45	64	416	223	711	1127
06:00	11	87			98	18:00	65	162			227
06:15	31	73			104	18:15	59	194			253
06:30	27	75			102	18:30	72	121			193
06:45	40	109	108	343	148	18:45	40	236	208	685	921
07:00	49	95			144	19:00	34	104			138
07:15	64	104			168	19:15	35	64			99
07:30	68	127			195	19:30	31	24			55
07:45	62	243	149	475	211	19:45	24	124	33	225	349
08:00	55	149			204	20:00	24	12			36
08:15	72	124			196	20:15	27	20			47
08:30	49	136			185	20:30	20	22			42
08:45	94	270	70	479	164	20:45	14	85	11	65	150
09:00	54	131			185	21:00	19	10			29
09:15	69	79			148	21:15	17	3			20
09:30	60	76			136	21:30	15	8			23
09:45	79	262	57	343	136	21:45	17	68	7	28	96
10:00	76	46			122	22:00	13	10			23
10:15	78	52			130	22:15	9	7			16
10:30	68	63			131	22:30	10	4			14
10:45	87	309	41	202	128	22:45	1	33	10	31	64
11:00	125	33			158	23:00	8	16			24
11:15	122	53			175	23:15	4	8			12
11:30	145	51			196	23:30	4	5			9
11:45	146	538	51	188	197	23:45	6	22	1	30	52
TOTALS	1837	2399			4236	TOTALS	3200	3494			6694
SPLIT %	43.4%	56.6%			38.8%	SPLIT %	47.8%	52.2%			61.2%

DAILY TOTALS						NB	SB	EB	WB	Total
						5,037	5,893	0	0	10,930

AM Peak Hour	11:30	07:45			11:45	PM Peak Hour	12:00	17:15			16:45
AM Pk Volume	596	558			853	PM Pk Volume	564	737			1127
Pk Hr Factor	0.937	0.936			0.923	Pk Hr Factor	0.887	0.826			0.903
7 - 9 Volume	513	954	0	0	1467	4 - 6 Volume	870	1284	0	0	2154
7 - 9 Peak Hour	08:00	07:45			07:30	4 - 6 Peak Hour	16:30	17:00			16:45
7 - 9 Pk Volume	270	558	0	0	806	4 - 6 Pk Volume	473	711	0	0	1127
Pk Hr Factor	0.718	0.936	0.000	0.000	0.955	Pk Hr Factor	0.946	0.797	0.000	0.000	0.903

VOLUME

Ruffin Rd Bet. Clairemont Mesa Blvd & Lightwave Ave

Day: Thursday
Date: 10/6/2016

City: Kearny Mesa
Project #: CA16_4215_159

DAILY TOTALS						NB	SB	EB	WB	Total	
						5,078	5,444	0	0	10,522	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	6	3			9	12:00	137	62			199
00:15	1	3			4	12:15	147	68			215
00:30	3	10			13	12:30	135	66			201
00:45	4	14	3	19	7	12:45	110	529	82	278	192
01:00	0	4			4	13:00	129	93			222
01:15	2	3			5	13:15	115	68			183
01:30	4	2			6	13:30	108	53			161
01:45	0	6	1	10	1	13:45	96	448	28	242	124
02:00	2	1			3	14:00	103	29			132
02:15	2	2			4	14:15	100	37			137
02:30	1	2			3	14:30	98	40			138
02:45	4	9	5	10	9	14:45	95	396	57	163	152
03:00	2	7			9	15:00	115	61			176
03:15	1	4			5	15:15	103	99			202
03:30	5	6			11	15:30	109	109			218
03:45	1	9	5	22	6	15:45	125	452	123	392	248
04:00	2	9			11	16:00	114	112			226
04:15	3	5			8	16:15	103	128			231
04:30	5	6			11	16:30	118	114			232
04:45	5	15	17	37	22	16:45	78	413	159	513	237
05:00	2	35			37	17:00	132	121			253
05:15	12	48			60	17:15	110	153			263
05:30	17	30			47	17:30	91	199			290
05:45	17	48	79	192	96	17:45	88	421	174	647	262
06:00	21	69			90	18:00	54	130			184
06:15	31	85			116	18:15	46	155			201
06:30	37	61			98	18:30	86	109			195
06:45	43	132	102	317	145	18:45	33	219	230	624	263
07:00	42	82			124	19:00	30	100			130
07:15	55	116			171	19:15	29	67			96
07:30	66	80			146	19:30	25	29			54
07:45	63	226	160	438	223	19:45	20	104	38	234	58
08:00	62	128			190	20:00	19	26			45
08:15	81	137			218	20:15	22	14			36
08:30	81	90			171	20:30	17	12			29
08:45	60	284	100	455	160	20:45	18	76	12	64	30
09:00	79	73			152	21:00	10	16			26
09:15	67	117			184	21:15	17	4			21
09:30	71	68			139	21:30	7	5			12
09:45	82	299	45	303	127	21:45	10	44	6	31	16
10:00	94	40			134	22:00	7	19			26
10:15	64	75			139	22:15	8	13			21
10:30	91	55			146	22:30	8	10			18
10:45	89	338	45	215	134	22:45	7	30	7	49	14
11:00	135	30			165	23:00	8	8			16
11:15	124	38			162	23:15	2	7			9
11:30	143	33			176	23:30	5	4			9
11:45	146	548	68	169	214	23:45	3	18	1	20	4
TOTALS	1928	2187			4115	TOTALS	3150	3257			6407
SPLIT %	46.9%	53.1%			39.1%	SPLIT %	49.2%	50.8%			60.9%

DAILY TOTALS						NB	SB	EB	WB	Total
						5,078	5,444	0	0	10,522

AM Peak Hour	11:30	07:45			11:45	PM Peak Hour	12:00	17:30			17:00
AM Pk Volume	573	515			829	PM Pk Volume	529	658			1068
Pk Hr Factor	0.974	0.805			0.964	Pk Hr Factor	0.900	0.827			0.921
7 - 9 Volume	510	893	0	0	1403	4 - 6 Volume	834	1160	0	0	1994
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	16:30	17:00			17:00
7 - 9 Pk Volume	287	515	0	0	802	4 - 6 Pk Volume	438	647	0	0	1068
Pk Hr Factor	0.886	0.805	0.000	0.000	0.899	Pk Hr Factor	0.830	0.813	0.000	0.000	0.921

VOLUME

Clairemont Mesa Blvd Bet. Ruffin Rd & Murphy Canyon Rd

Day: Wednesday
Date: 9/28/2016

City: Kearny Mesa
Project #: CA16_4215_028

DAILY TOTALS					NB	SB						Total		
					0	0						26,306		
					12,353					13,953				
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL		
0:00			6	27	33		12:00			184	237	421		
0:15			9	21	30		12:15			206	251	457		
0:30			11	37	48		12:30			232	237	469		
0:45			2	28	18	103	12:45			190	812	206	931	
1:00			5	13	18		13:00			203	219	422		
1:15			6	27	33		13:15			181	226	407		
1:30			12	25	37		13:30			178	239	417		
1:45			2	25	15	80	13:45			178	740	210	894	
2:00			12	15	27		14:00			179	272	451		
2:15			3	13	16		14:15			184	251	435		
2:30			7	27	34		14:30			183	288	471		
2:45			12	34	20	75	14:45			166	712	241	1052	
3:00			5	11	16		15:00			155	303	458		
3:15			6	5	11		15:15			186	342	528		
3:30			6	8	14		15:30			215	405	620		
3:45			24	41	7	31	15:45			179	735	353	1403	
4:00			24	10	34		16:00			204	407	611		
4:15			30	17	47		16:15			173	413	586		
4:30			40	5	45		16:30			206	359	565		
4:45			65	159	13	45	16:45			167	750	429	1608	
5:00			71	18	89		17:00			201	401	602		
5:15			96	14	110		17:15			161	376	537		
5:30			125	19	144		17:30			150	439	589		
5:45			175	467	32	83	17:45			147	659	388	1604	
6:00			176	38	214		18:00			145	329	474		
6:15			192	48	240		18:15			146	322	468		
6:30			190	66	256		18:30			128	290	418		
6:45			279	837	76	228	18:45			126	545	196	1137	
7:00			275	95	370		19:00			119	204	323		
7:15			277	96	373		19:15			98	144	242		
7:30			320	89	409		19:30			81	131	212		
7:45			350	1222	104	384	19:45			75	373	121	600	
8:00			321	120	441		20:00			73	140	213		
8:15			314	117	431		20:15			62	100	162		
8:30			290	140	430		20:30			52	94	146		
8:45			324	1249	131	508	20:45			43	230	82	416	
9:00			270	130	400		21:00			52	83	135		
9:15			221	154	375		21:15			39	84	123		
9:30			188	145	333		21:30			39	88	127		
9:45			207	886	137	566	21:45			42	172	76	331	
10:00			201	161	362		22:00			37	87	124		
10:15			186	167	353		22:15			27	46	73		
10:30			148	157	305		22:30			25	52	77		
10:45			174	709	182	667	22:45			14	103	33	218	
11:00			178	185	363		23:00			24	35	59		
11:15			212	232	444		23:15			12	25	37		
11:30			214	220	434		23:30			12	28	40		
11:45			202	806	248	885	23:45			11	59	16	104	
TOTALS			6463	3655	10118		TOTALS			5890	10298	16188		
SPLIT %			63.9%	36.1%	38.5%		SPLIT %			36.4%	63.6%	61.5%		

DAILY TOTALS					NB	SB						Total		
					0	0						26,306		
					12,353					13,953				
AM Peak Hour			7:30	11:45	11:45		PM Peak Hour			12:15	16:45	16:00		
AM Pk Volume			1305	973	1797		PM Pk Volume			831	1645	2358		
Pk Hr Factor			0.932	0.969	0.958		Pk Hr Factor			0.895	0.937	0.965		
7 - 9 Volume	0	0	2471	892	3363		4 - 6 Volume	0	0	1409	3212	4621		
7 - 9 Peak Hour			7:30	8:00	8:00		4 - 6 Peak Hour			16:00	16:45	16:00		
7 - 9 Pk Volume	0	0	1305	508	1757		4 - 6 Pk Volume	0	0	750	1645	2358		
Pk Hr Factor	0.000	0.000	0.932	0.907	0.965		Pk Hr Factor	0.000	0.000	0.910	0.937	0.965		

VOLUME

Clairemont Mesa Blvd Bet. Ruffin Rd & Murphy Canyon Rd

Day: Thursday
Date: 9/29/2016

City: Kearny Mesa
Project #: CA16_4215_028

DAILY TOTALS					NB	SB						Total			
					0	0						25,632			
							11,914			13,718					
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
0:00			12	17	29		12:00			231	238	469			
0:15			7	15	22		12:15			253	221	474			
0:30			13	54	67		12:30			239	220	459			
0:45			6	38	15	101	12:45			224	947	212	891	436	1838
1:00			6	13	19		13:00			208	246	454			
1:15			7	21	28		13:15			166	221	387			
1:30			9	24	33		13:30			162	203	365			
1:45			4	26	7	65	13:45			184	720	206	876	390	1596
2:00			8	13	21		14:00			155	259	414			
2:15			3	10	13		14:15			146	206	352			
2:30			3	30	33		14:30			176	299	475			
2:45			5	19	11	64	14:45			168	645	260	1024	428	1669
3:00			10	8	18		15:00			180	321	501			
3:15			11	12	23		15:15			173	286	459			
3:30			16	7	23		15:30			205	354	559			
3:45			30	67	13	40	15:45			209	767	358	1319	567	2086
4:00			21	15	36		16:00			161	460	621			
4:15			31	8	39		16:15			185	411	596			
4:30			53	11	64		16:30			199	441	640			
4:45			66	171	7	41	16:45			155	700	428	1740	583	2440
5:00			84	17	101		17:00			174	385	559			
5:15			113	17	130		17:15			170	371	541			
5:30			133	24	157		17:30			156	405	561			
5:45			188	518	32	90	17:45			127	627	358	1519	485	2146
6:00			198	37	235		18:00			131	339	470			
6:15			190	48	238		18:15			125	363	488			
6:30			211	77	288		18:30			134	292	426			
6:45			269	868	67	229	18:45			117	507	218	1212	335	1719
7:00			280	108	388		19:00			95	204	299			
7:15			294	92	386		19:15			78	152	230			
7:30			307	82	389		19:30			53	140	193			
7:45			345	1226	106	388	19:45			42	268	110	606	152	874
8:00			306	103	409		20:00			43	129	172			
8:15			331	118	449		20:15			34	105	139			
8:30			267	110	377		20:30			40	95	135			
8:45			280	1184	124	455	20:45			29	146	83	412	112	558
9:00			249	128	377		21:00			32	87	119			
9:15			229	120	349		21:15			21	90	111			
9:30			180	124	304		21:30			14	75	89			
9:45			197	855	153	525	21:45			22	89	71	323	93	412
10:00			180	147	327		22:00			19	68	87			
10:15			151	155	306		22:15			12	38	50			
10:30			167	143	310		22:30			15	54	69			
10:45			168	666	168	613	22:45			14	60	40	200	54	260
11:00			175	181	356		23:00			7	47	54			
11:15			200	227	427		23:15			10	27	37			
11:30			198	216	414		23:30			8	28	36			
11:45			197	770	238	862	23:45			5	30	21	123	26	153
TOTALS			6408		3473		9881	TOTALS		5506		10245		15751	
SPLIT %			64.9%		35.1%		38.5%	SPLIT %		35.0%		65.0%		61.5%	

DAILY TOTALS					NB	SB						Total
					0	0						25,632
							11,914			13,718		
AM Peak Hour			7:30	11:15	11:45		PM Peak Hour			12:00	16:00	16:00
AM Pk Volume			1289	919	1837		PM Pk Volume			947	1740	2440
Pk Hr Factor			0.934	0.965	0.969		Pk Hr Factor			0.936	0.946	0.953
7 - 9 Volume	0	0	2410	843	3253		4 - 6 Volume	0	0	1327	3259	4586
7 - 9 Peak Hour			7:30	8:00	7:30		4 - 6 Peak Hour			16:15	16:00	16:00
7 - 9 Pk Volume	0	0	1289	455	1698		4 - 6 Pk Volume	0	0	713	1740	2440
Pk Hr Factor	0.000	0.000	0.934	0.917	0.941		Pk Hr Factor	0.000	0.000	0.896	0.946	0.953

VOLUME

Murphy Canyon Rd Bet. 1300 ft S of Balboa Ave Overcrossing & 1600 ft S of Balboa Ave Overcrossing

Day: Wednesday

City: Kearny Mesa

Date: 10/5/2016

Project #: CA16_4215_177

DAILY TOTALS					NB	SB	EB	WB	Total		
					2,260	2,644	0	0	4,904		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	2	2			4	12:00	31	30			61
00:15	3	2			5	12:15	25	34			59
00:30	4	2			6	12:30	30	41			71
00:45	1	10	3	9	4	12:45	27	113	57	162	84
01:00	1	7			8	13:00	57	35			92
01:15	2	2			4	13:15	50	34			84
01:30	1	0			1	13:30	37	21			58
01:45	1	5	4	13	5	13:45	26	170	29	119	55
02:00	2	2			4	14:00	22	32			54
02:15	2	4			6	14:15	23	41			64
02:30	0	0			0	14:30	33	39			72
02:45	0	4	0	6	0	14:45	26	104	39	151	65
03:00	0	2			2	15:00	33	48			81
03:15	2	1			3	15:15	25	55			80
03:30	2	1			3	15:30	67	63			130
03:45	4	8	2	6	6	15:45	37	162	61	227	98
04:00	3	1			4	16:00	37	98			135
04:15	2	1			3	16:15	33	79			112
04:30	12	1			13	16:30	34	71			105
04:45	8	25	1	4	9	16:45	25	129	99	347	124
05:00	10	4			14	17:00	27	93			120
05:15	14	1			15	17:15	34	85			119
05:30	26	1			27	17:30	40	72			112
05:45	18	68	1	7	19	17:45	28	129	69	319	97
06:00	29	8			37	18:00	19	78			97
06:15	33	7			40	18:15	36	73			109
06:30	44	9			53	18:30	34	66			100
06:45	55	161	13	37	68	18:45	22	111	53	270	75
07:00	47	9			56	19:00	29	35			64
07:15	51	32			83	19:15	10	29			39
07:30	63	28			91	19:30	20	37			57
07:45	76	237	44	113	120	19:45	12	71	35	136	47
08:00	63	30			93	20:00	14	23			37
08:15	87	33			120	20:15	13	27			40
08:30	55	42			97	20:30	12	24			36
08:45	44	249	44	149	88	20:45	11	50	19	93	30
09:00	54	40			94	21:00	7	17			24
09:15	49	23			72	21:15	12	17			29
09:30	36	32			68	21:30	6	21			27
09:45	42	181	21	116	63	21:45	8	33	29	84	37
10:00	28	16			44	22:00	7	8			15
10:15	28	21			49	22:15	4	17			21
10:30	17	21			38	22:30	6	9			15
10:45	27	100	19	77	46	22:45	4	21	5	39	9
11:00	27	36			63	23:00	7	10			17
11:15	20	24			44	23:15	2	4			6
11:30	23	40			63	23:30	3	7			10
11:45	35	105	34	134	69	23:45	2	14	5	26	7
TOTALS	1153	671			1824	TOTALS	1107	1973			3080
SPLIT %	63.2%	36.8%			37.2%	SPLIT %	35.9%	64.1%			62.8%

DAILY TOTALS					NB	SB	EB	WB	Total
					2,260	2,644	0	0	4,904

AM Peak Hour	07:30	08:15			07:45	PM Peak Hour	15:30	16:45			16:00
AM Pk Volume	289	159			430	PM Pk Volume	174	349			476
Pk Hr Factor	0.830	0.903			0.896	Pk Hr Factor	0.649	0.881			0.881
7 - 9 Volume	486	262	0	0	748	4 - 6 Volume	258	666	0	0	924
7 - 9 Peak Hour	07:30	07:45			07:45	4 - 6 Peak Hour	16:00	16:45			16:00
7 - 9 Pk Volume	289	149	0	0	430	4 - 6 Pk Volume	129	349	0	0	476
Pk Hr Factor	0.830	0.847	0.000	0.000	0.896	Pk Hr Factor	0.872	0.881	0.000	0.000	0.881

VOLUME

Murphy Canyon Rd Bet. 1300 ft S of Balboa Ave Overcrossing & 1600 ft S of Balboa Ave Overcrossing

Day: Thursday

City: Kearny Mesa

Date: 10/6/2016

Project #: CA16_4215_177

DAILY TOTALS						NB	SB	EB	WB	Total	
						2,269	2,666	0	0	4,935	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	1	4			5	12:00	26	30			56
00:15	2	3			5	12:15	40	22			62
00:30	0	3			3	12:30	32	34			66
00:45	0	3	1	11	14	12:45	24	122	47	133	255
01:00	1	2			3	13:00	27	32			59
01:15	0	2			2	13:15	24	19			43
01:30	2	5			7	13:30	24	32			56
01:45	4	7	3	12	19	13:45	22	97	22	105	202
02:00	0	2			2	14:00	22	32			54
02:15	3	2			5	14:15	33	39			72
02:30	4	4			8	14:30	22	37			59
02:45	1	8	3	11	19	14:45	31	108	51	159	267
03:00	1	1			2	15:00	21	57			78
03:15	1	2			3	15:15	26	89			115
03:30	6	0			6	15:30	68	67			135
03:45	3	11	1	4	15	15:45	70	185	70	283	468
04:00	2	3			5	16:00	32	89			121
04:15	5	3			8	16:15	31	79			110
04:30	7	0			7	16:30	22	76			98
04:45	9	23	1	7	30	16:45	38	123	82	326	449
05:00	7	2			9	17:00	26	93			119
05:15	19	2			21	17:15	32	99			131
05:30	18	2			20	17:30	42	105			147
05:45	16	60	3	9	69	17:45	31	131	86	383	514
06:00	26	6			32	18:00	26	67			93
06:15	37	7			44	18:15	22	66			88
06:30	42	9			51	18:30	44	54			98
06:45	49	154	18	40	194	18:45	33	125	47	234	359
07:00	53	14			67	19:00	23	57			80
07:15	49	18			67	19:15	14	49			63
07:30	61	29			90	19:30	22	32			54
07:45	75	238	42	103	341	19:45	21	80	33	171	251
08:00	79	30			109	20:00	14	30			44
08:15	64	30			94	20:15	14	18			32
08:30	71	35			106	20:30	11	21			32
08:45	42	256	40	135	391	20:45	21	60	29	98	158
09:00	58	47			105	21:00	8	23			31
09:15	40	21			61	21:15	10	11			21
09:30	22	12			34	21:30	9	20			29
09:45	36	156	23	103	259	21:45	12	39	18	72	111
10:00	37	20			57	22:00	9	18			27
10:15	34	18			52	22:15	8	18			26
10:30	27	21			48	22:30	9	12			21
10:45	38	136	14	73	209	22:45	6	32	9	57	89
11:00	26	28			54	23:00	4	11			15
11:15	19	21			40	23:15	0	8			8
11:30	29	29			58	23:30	5	6			11
11:45	25	99	30	108	207	23:45	7	16	4	29	45
TOTALS	1151	616			1767	TOTALS	1118	2050			3168
SPLIT %	65.1%	34.9%			35.8%	SPLIT %	35.3%	64.7%			64.2%

DAILY TOTALS						NB	SB	EB	WB	Total	
						2,269	2,666	0	0	4,935	
AM Peak Hour	07:45	08:15			07:45	PM Peak Hour	15:30	17:00		16:45	
AM Pk Volume	289	152			426	PM Pk Volume	201	383		517	
Pk Hr Factor	0.915	0.809			0.910	Pk Hr Factor	0.718	0.912		0.879	
7 - 9 Volume	494	238	0	0	732	4 - 6 Volume	254	709	0	0	963
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	16:45	17:00			16:45
7 - 9 Pk Volume	289	137	0	0	426	4 - 6 Pk Volume	138	383	0	0	517
Pk Hr Factor	0.915	0.815	0.000	0.000	0.910	Pk Hr Factor	0.821	0.912	0.000	0.000	0.879

VOLUME

Murphy Canyon Rd Bet. 550 ft S of Balboa Ave Overcrossing & 1300 ft S of Balboa Ave Overcrossing

Day: Wednesday

City: Kearny Mesa

Date: 10/5/2016

Project #: CA16_4215_176

DAILY TOTALS					NB	SB	EB	WB	Total		
					2,518	3,451	0	0	5,969		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	2	16			18	12:00	53	42			95
00:15	3	8			11	12:15	41	53			94
00:30	1	19			20	12:30	53	41			94
00:45	3	9	11	54	14	12:45	57	204	57	193	114
01:00	0	5			5	13:00	44	60			104
01:15	2	14			16	13:15	40	45			85
01:30	1	17			18	13:30	51	44			95
01:45	1	4	5	41	6	13:45	37	172	48	197	85
02:00	0	16			16	14:00	46	52			98
02:15	0	2			2	14:15	28	37			65
02:30	0	20			20	14:30	42	40			82
02:45	3	3	10	48	13	14:45	46	162	50	179	96
03:00	0	8			8	15:00	47	64			111
03:15	1	7			8	15:15	38	71			109
03:30	1	2			3	15:30	52	104			156
03:45	0	2	3	20	3	15:45	41	178	95	334	136
04:00	0	3			3	16:00	52	105			157
04:15	4	4			8	16:15	51	96			147
04:30	4	2			6	16:30	56	90			146
04:45	9	17	10	19	19	16:45	67	226	74	365	141
05:00	8	5			13	17:00	94	84			178
05:15	14	10			24	17:15	59	100			159
05:30	14	11			25	17:30	52	89			141
05:45	17	53	17	43	34	17:45	42	247	113	386	155
06:00	31	30			61	18:00	45	126			171
06:15	26	20			46	18:15	24	111			135
06:30	38	35			73	18:30	24	87			111
06:45	42	137	28	113	70	18:45	16	109	118	442	134
07:00	50	31			81	19:00	17	113			130
07:15	44	33			77	19:15	16	72			88
07:30	37	33			70	19:30	21	22			43
07:45	46	177	47	144	93	19:45	12	66	17	224	29
08:00	59	29			88	20:00	6	18			24
08:15	40	22			62	20:15	16	8			24
08:30	43	25			68	20:30	14	10			24
08:45	55	197	35	111	90	20:45	8	44	8	44	16
09:00	49	19			68	21:00	9	16			25
09:15	46	22			68	21:15	11	9			20
09:30	46	22			68	21:30	11	13			24
09:45	25	166	28	91	53	21:45	8	39	12	50	20
10:00	33	25			58	22:00	20	9			29
10:15	34	24			58	22:15	10	15			25
10:30	19	29			48	22:30	4	8			12
10:45	32	118	30	108	62	22:45	1	35	6	38	7
11:00	30	33			63	23:00	1	13			14
11:15	38	39			77	23:15	2	2			4
11:30	42	46			88	23:30	4	9			13
11:45	34	144	59	177	93	23:45	2	9	6	30	8
TOTALS	1027	969			1996	TOTALS	1491	2482			3973
SPLIT %	51.5%	48.5%			33.4%	SPLIT %	37.5%	62.5%			66.6%

DAILY TOTALS					NB	SB	EB	WB	Total
					2,518	3,451	0	0	5,969
AM Peak Hour	08:00	11:30			11:45	PM Peak Hour	16:30	18:00	17:00
AM Pk Volume	197	200			376	PM Pk Volume	276	442	633
Pk Hr Factor	0.835	0.847			0.989	Pk Hr Factor	0.734	0.877	0.889
7 - 9 Volume	374	255	0	0	629	4 - 6 Volume	473	751	0
7 - 9 Peak Hour	08:00	07:00			07:15	4 - 6 Peak Hour	16:30	17:00	0
7 - 9 Pk Volume	197	144	0	0	328	4 - 6 Pk Volume	276	386	0
Pk Hr Factor	0.835	0.766	0.000	0.000	0.882	Pk Hr Factor	0.734	0.854	0.000

VOLUME

Murphy Canyon Rd Bet. 550 ft S of Balboa Ave Overcrossing & 1300 ft S of Balboa Ave Overcrossing

Day: Thursday
Date: 10/6/2016

City: Kearny Mesa
Project #: CA16_4215_176

DAILY TOTALS					NB	SB	EB	WB	Total		
					2,471	3,269	0	0	5,740		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	1	2			3	12:00	60	66			126
00:15	4	4			8	12:15	52	38			90
00:30	2	10			12	12:30	54	43			97
00:45	1	8	7	23	31	12:45	50	216	63	210	426
01:00	0	2			2	13:00	43	51			94
01:15	1	1			2	13:15	42	36			78
01:30	2	6			8	13:30	37	42			79
01:45	0	3	4	13	16	13:45	36	158	39	168	326
02:00	1	3			4	14:00	35	36			71
02:15	0	4			4	14:15	38	57			95
02:30	1	11			12	14:30	45	33			78
02:45	3	5	3	21	26	14:45	36	154	49	175	329
03:00	1	7			8	15:00	41	92			133
03:15	1	1			2	15:15	32	107			139
03:30	1	1			2	15:30	55	92			147
03:45	2	5	4	13	18	15:45	45	173	109	400	573
04:00	1	0			1	16:00	80	123			203
04:15	3	5			8	16:15	42	82			124
04:30	3	3			6	16:30	47	81			128
04:45	2	9	2	10	19	16:45	67	236	85	371	607
05:00	6	5			11	17:00	127	100			227
05:15	15	9			24	17:15	60	82			142
05:30	15	11			26	17:30	35	83			118
05:45	22	58	15	40	98	17:45	32	254	96	361	615
06:00	25	24			49	18:00	36	90			126
06:15	23	22			45	18:15	32	101			133
06:30	28	31			59	18:30	28	90			118
06:45	42	118	35	112	230	18:45	34	130	109	390	520
07:00	35	26			61	19:00	22	107			129
07:15	50	39			89	19:15	19	57			76
07:30	31	34			65	19:30	13	39			52
07:45	43	159	37	136	295	19:45	18	72	13	216	288
08:00	51	49			100	20:00	13	15			28
08:15	57	39			96	20:15	12	10			22
08:30	64	32			96	20:30	9	12			21
08:45	38	210	32	152	362	20:45	7	41	8	45	86
09:00	45	34			79	21:00	10	6			16
09:15	33	24			57	21:15	3	11			14
09:30	27	22			49	21:30	5	9			14
09:45	29	134	24	104	238	21:45	12	30	3	29	59
10:00	29	20			49	22:00	15	5			20
10:15	32	27			59	22:15	3	6			9
10:30	24	24			48	22:30	7	6			13
10:45	22	107	24	95	202	22:45	3	28	4	21	49
11:00	40	44			84	23:00	3	4			7
11:15	31	32			63	23:15	2	3			5
11:30	31	35			66	23:30	3	0			3
11:45	49	151	46	157	308	23:45	4	12	0	7	19
TOTALS	967	876			1843	TOTALS	1504	2393			3897
SPLIT %	52.5%	47.5%			32.1%	SPLIT %	38.6%	61.4%			67.9%

DAILY TOTALS					NB	SB	EB	WB	Total
					2,471	3,269	0	0	5,740

AM Peak Hour	07:45	11:45			11:45	PM Peak Hour	16:30	15:15			16:30
AM Pk Volume	215	193			408	PM Pk Volume	301	431			649
Pk Hr Factor	0.840	0.731			0.810	Pk Hr Factor	0.593	0.876			0.715
7 - 9 Volume	369	288	0	0	657	4 - 6 Volume	490	732	0	0	1222
7 - 9 Peak Hour	07:45	07:15			07:45	4 - 6 Peak Hour	16:30	16:00			16:30
7 - 9 Pk Volume	215	159	0	0	372	4 - 6 Pk Volume	301	371	0	0	649
Pk Hr Factor	0.840	0.811	0.000	0.000	0.930	Pk Hr Factor	0.593	0.754	0.000	0.000	0.715

VOLUME

Murphy Canyon Rd Bet. Clairemont Mesa Blvd & 550 ft S of Balboa Ave Overcrossing

Day: Wednesday
Date: 10/5/2016

City: Kearny Mesa
Project #: CA16_4215_175

DAILY TOTALS					NB	SB	EB	WB	Total		
					2,441	3,345	0	0	5,786		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	1	14			15	12:00	59	43			102
00:15	3	9			12	12:15	49	49			98
00:30	1	20			21	12:30	63	43			106
00:45	3	8	7	50	10	12:45	49	220	53	188	408
01:00	0	6			6	13:00	29	49			78
01:15	2	13			15	13:15	36	48			84
01:30	1	17			18	13:30	38	36			74
01:45	1	4	5	41	6	13:45	44	147	51	184	331
02:00	0	16			16	14:00	52	43			95
02:15	0	2			2	14:15	30	38			68
02:30	0	21			21	14:30	47	39			86
02:45	3	3	10	49	13	14:45	46	175	47	167	342
03:00	0	5			5	15:00	54	62			116
03:15	1	7			8	15:15	49	61			110
03:30	1	3			4	15:30	54	91			145
03:45	0	2	4	19	4	15:45	50	207	89	303	510
04:00	0	3			3	16:00	61	85			146
04:15	2	6			8	16:15	55	86			141
04:30	5	4			9	16:30	84	67			151
04:45	6	13	5	18	11	16:45	77	277	68	306	583
05:00	4	8			12	17:00	69	75			144
05:15	5	9			14	17:15	63	79			142
05:30	10	11			21	17:30	63	79			142
05:45	11	30	16	44	27	17:45	52	247	101	334	581
06:00	12	33			45	18:00	49	123			172
06:15	17	21			38	18:15	26	94			120
06:30	32	38			70	18:30	31	83			114
06:45	36	97	35	127	71	18:45	21	127	117	417	544
07:00	47	33			80	19:00	26	111			137
07:15	30	34			64	19:15	18	64			82
07:30	27	49			76	19:30	20	16			36
07:45	33	137	57	173	90	19:45	13	77	16	207	284
08:00	46	42			88	20:00	6	16			22
08:15	28	42			70	20:15	13	7			20
08:30	28	31			59	20:30	13	10			23
08:45	47	149	44	159	91	20:45	10	42	8	41	83
09:00	28	26			54	21:00	9	13			22
09:15	22	28			50	21:15	10	11			21
09:30	44	31			75	21:30	11	10			21
09:45	17	111	43	128	60	21:45	10	40	11	45	85
10:00	31	39			70	22:00	18	8			26
10:15	38	21			59	22:15	11	14			25
10:30	24	29			53	22:30	3	8			11
10:45	30	123	32	121	62	22:45	1	33	5	35	68
11:00	32	41			73	23:00	2	8			10
11:15	43	42			85	23:15	2	2			4
11:30	50	35			85	23:30	4	9			13
11:45	37	162	47	165	84	23:45	2	10	5	24	34
TOTALS	839	1094			1933	TOTALS	1602	2251			3853
SPLIT %	43.4%	56.6%			33.4%	SPLIT %	41.6%	58.4%			66.6%

DAILY TOTALS					NB	SB	EB	WB	Total
					2,441	3,345	0	0	5,786

AM Peak Hour	11:45	07:30			11:45	PM Peak Hour	16:30	18:00			17:15
AM Pk Volume	208	190			390	PM Pk Volume	293	417			609
Pk Hr Factor	0.825	0.833			0.920	Pk Hr Factor	0.872	0.848			0.885
7 - 9 Volume	286	332	0	0	618	4 - 6 Volume	524	640	0	0	1164
7 - 9 Peak Hour	08:00	07:30			07:30	4 - 6 Peak Hour	16:30	17:00			16:00
7 - 9 Pk Volume	149	190	0	0	324	4 - 6 Pk Volume	293	334	0	0	583
Pk Hr Factor	0.793	0.833	0.000	0.000	0.900	Pk Hr Factor	0.872	0.827	0.000	0.000	0.965

VOLUME

Murphy Canyon Rd Bet. Clairemont Mesa Blvd & 550 ft S of Balboa Ave Overcrossing

Day: Thursday
Date: 10/6/2016City: Kearny Mesa
Project #: CA16_4215_175

DAILY TOTALS					NB	SB	EB	WB	Total		
					2,356	3,177	0	0	5,533		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	2	2			4	12:00	59	46			105
00:15	4	3			7	12:15	53	40			93
00:30	1	10			11	12:30	51	45			96
00:45	1	8	6	21	7	12:45	39	202	72	203	111
01:00	0	2			2	13:00	44	47			91
01:15	1	1			2	13:15	39	37			76
01:30	1	5			6	13:30	32	44			76
01:45	0	2	4	12	4	13:45	47	162	39	167	86
02:00	1	3			4	14:00	35	36			71
02:15	0	4			4	14:15	47	50			97
02:30	1	10			11	14:30	49	34			83
02:45	1	3	4	21	5	14:45	43	174	48	168	91
03:00	2	6			8	15:00	47	84			131
03:15	1	1			2	15:15	36	84			120
03:30	2	2			4	15:30	71	79			150
03:45	1	6	4	13	5	15:45	44	198	109	356	153
04:00	0	0			0	16:00	92	108			200
04:15	3	5			8	16:15	54	76			130
04:30	3	4			7	16:30	65	66			131
04:45	1	7	3	12	4	16:45	80	291	74	324	154
05:00	2	4			6	17:00	78	62			140
05:15	8	14			22	17:15	45	75			120
05:30	10	9			19	17:30	44	71			115
05:45	13	33	15	42	28	17:45	39	206	81	289	120
06:00	13	27			40	18:00	51	78			129
06:15	17	25			42	18:15	37	97			134
06:30	26	33			59	18:30	33	88			121
06:45	36	92	41	126	77	18:45	39	160	101	364	140
07:00	31	26			57	19:00	26	98			124
07:15	34	49			83	19:15	23	60			83
07:30	23	41			64	19:30	14	34			48
07:45	26	114	57	173	83	19:45	19	82	12	204	31
08:00	30	62			92	20:00	17	9			26
08:15	38	49			87	20:15	14	8			22
08:30	43	38			81	20:30	10	10			20
08:45	26	137	45	194	71	20:45	8	49	7	34	15
09:00	34	50			84	21:00	9	5			14
09:15	26	43			69	21:15	5	10			15
09:30	19	25			44	21:30	6	8			14
09:45	20	99	23	141	43	21:45	12	32	3	26	15
10:00	23	24			47	22:00	14	5			19
10:15	29	32			61	22:15	3	4			7
10:30	25	23			48	22:30	7	6			13
10:45	22	99	27	106	49	22:45	3	27	4	19	7
11:00	37	38			75	23:00	3	3			6
11:15	37	32			69	23:15	3	3			6
11:30	33	37			70	23:30	3	0			3
11:45	53	160	48	155	101	23:45	4	13	1	7	5
TOTALS	760	1016			1776	TOTALS	1596	2161			3757
SPLIT %	42.8%	57.2%			32.1%	SPLIT %	42.5%	57.5%			67.9%

DAILY TOTALS					NB	SB	EB	WB	Total
					2,356	3,177	0	0	5,533
AM Peak Hour	11:45	07:15			11:45	PM Peak Hour	16:00	18:15	15:30
AM Pk Volume	216	209			395	PM Pk Volume	291	384	633
Pk Hr Factor	0.915	0.843			0.940	Pk Hr Factor	0.791	0.950	0.791
7 - 9 Volume	251	367	0	0	618	4 - 6 Volume	497	613	1110
7 - 9 Peak Hour	07:45	07:15			07:45	4 - 6 Peak Hour	16:00	16:00	16:00
7 - 9 Pk Volume	137	209	0	0	343	4 - 6 Pk Volume	291	324	615
Pk Hr Factor	0.797	0.843	0.000	0.000	0.932	Pk Hr Factor	0.791	0.750	0.000

VOLUME

Clairemont Mesa Blvd Bet. I-15 NB Ramps & Antigua Blvd

Day: Wednesday
Date: 9/14/2016

City: Kearny Mesa
Project #: CA16_4215_031

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	11,260	8,807	20,067			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			34	7	41	12:00			146	200	346	
00:15			25	9	34	12:15			126	168	294	
00:30			19	8	27	12:30			114	145	259	
00:45			15	93	8	12:45			132	518	159	672
01:00			18	8	26	13:00			112	162	274	
01:15			20	4	24	13:15			145	135	280	
01:30			9	4	13	13:30			142	164	306	
01:45			10	57	3	13:45			139	538	146	607
02:00			7	1	8	14:00			133	119	252	
02:15			8	4	12	14:15			153	153	306	
02:30			4	4	8	14:30			147	152	299	
02:45			8	27	4	14:45			171	604	123	547
03:00			4	3	7	15:00			213	133	346	
03:15			3	7	10	15:15			247	110	357	
03:30			5	11	16	15:30			307	107	414	
03:45			5	17	10	15:45			335	1102	105	455
04:00			5	12	17	16:00			331	159	490	
04:15			3	12	15	16:15			396	124	520	
04:30			7	17	24	16:30			370	80	450	
04:45			3	18	34	16:45			397	1494	97	460
05:00			8	43	51	17:00			411	108	519	
05:15			11	35	46	17:15			392	94	486	
05:30			7	78	85	17:30			428	114	542	
05:45			20	46	46	17:45			431	1662	128	444
06:00			28	83	111	18:00			372	106	478	
06:15			34	118	152	18:15			363	96	459	
06:30			63	140	203	18:30			304	110	414	
06:45			78	203	191	18:45			247	1286	116	428
07:00			107	184	291	19:00			168	105	273	
07:15			178	225	403	19:15			162	85	247	
07:30			97	332	429	19:30			160	92	252	
07:45			84	466	325	19:45			119	609	79	361
08:00			79	234	313	20:00			130	64	194	
08:15			91	216	307	20:15			125	51	176	
08:30			89	167	256	20:30			112	56	168	
08:45			76	335	197	20:45			100	467	50	221
09:00			83	141	224	21:00			91	56	147	
09:15			59	163	222	21:15			74	42	116	
09:30			83	145	228	21:30			70	35	105	
09:45			72	297	132	21:45			69	304	30	163
10:00			72	108	180	22:00			67	26	93	
10:15			82	126	208	22:15			51	16	67	
10:30			94	110	204	22:30			35	24	59	
10:45			92	340	110	22:45			32	185	27	93
11:00			83	121	204	23:00			33	26	59	
11:15			125	120	245	23:15			22	12	34	
11:30			142	119	261	23:30			29	12	41	
11:45			145	495	115	23:45			13	97	12	62
TOTALS			2394	4294	6688	TOTALS			8866	4513	13379	
SPLIT %			35.8%	64.2%	33.3%	SPLIT %			66.3%	33.7%	66.7%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	11,260	8,807	20,067		
AM Peak Hour			11:30	07:15	07:15	PM Peak Hour			17:00	12:00	17:00
AM Pk Volume			559	1116	1554	PM Pk Volume			1662	672	2106
Pk Hr Factor			0.957	0.840	0.906	Pk Hr Factor			0.964	0.840	0.942
7 - 9 Volume	0	0	801	1880	2681	4 - 6 Volume	0	0	3156	904	4060
7 - 9 Peak Hour			07:00	07:15	07:15	4 - 6 Peak Hour			17:00	16:00	17:00
7 - 9 Pk Volume	0	0	466	1116	1554	4 - 6 Pk Volume	0	0	1662	460	2106
Pk Hr Factor	0.000	0.000	0.654	0.840	0.906	Pk Hr Factor	0.000	0.000	0.964	0.723	0.942

VOLUME

Clairemont Mesa Blvd Bet. I-15 NB Ramps & Antigua Blvd

Day: Thursday
Date: 9/15/2016

City: Kearny Mesa
Project #: CA16_4215_031

DAILY TOTALS		NB	SB	EB	WB	Total
		0	0	11,471	8,843	20,314

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00			15	8	23	12:00			131	226	357	
00:15			21	7	28	12:15			132	171	303	
00:30			13	1	14	12:30			134	169	303	
00:45			11	60	6	22	12:45		111	508	181	747
01:00			9	3	12	13:00			133	138	271	
01:15			5	6	11	13:15			125	148	273	
01:30			4	9	13	13:30			114	156	270	
01:45			3	21	3	21	13:45		162	534	135	577
02:00			5	3	8	14:00			160	133	293	
02:15			3	4	7	14:15			182	155	337	
02:30			9	5	14	14:30			156	175	331	
02:45			4	21	7	19	14:45		196	694	138	601
03:00			4	4	8	15:00			229	144	373	
03:15			6	5	11	15:15			244	153	397	
03:30			10	11	21	15:30			262	106	368	
03:45			3	23	5	25	15:45		340	1075	123	526
04:00			4	13	17	16:00			376	117	493	
04:15			5	14	19	16:15			408	102	510	
04:30			5	17	22	16:30			380	95	475	
04:45			8	22	33	77	16:45		432	1596	91	405
05:00			6	35	41	17:00			422	116	538	
05:15			6	53	59	17:15			409	106	515	
05:30			9	51	60	17:30			429	97	526	
05:45			19	40	68	207	17:45		441	1701	102	421
06:00			27	62	89	18:00			368	103	471	
06:15			38	102	140	18:15			316	110	426	
06:30			60	142	202	18:30			303	97	400	
06:45			70	195	190	496	18:45		244	1231	92	402
07:00			105	193	298	19:00			160	100	260	
07:15			199	239	438	19:15			174	86	260	
07:30			108	315	423	19:30			165	84	249	
07:45			80	492	285	1032	19:45		134	633	107	377
08:00			86	209	295	20:00			145	125	270	
08:15			91	196	287	20:15			126	76	202	
08:30			95	205	300	20:30			111	52	163	
08:45			104	376	211	821	20:45		96	478	58	311
09:00			71	155	226	21:00			108	44	152	
09:15			89	115	204	21:15			72	37	109	
09:30			65	134	199	21:30			73	35	108	
09:45			86	311	111	515	21:45		61	314	33	149
10:00			79	111	190	22:00			61	31	92	
10:15			74	95	169	22:15			47	27	74	
10:30			80	99	179	22:30			42	21	63	
10:45			95	328	115	420	22:45		17	167	17	96
11:00			121	110	231	23:00			32	14	46	
11:15			138	119	257	23:15			24	9	33	
11:30			148	131	279	23:30			21	6	27	
11:45			152	559	171	531	23:45		15	92	16	45
TOTALS			2448	4186	6634	TOTALS			9023	4657	13680	
SPLIT %			36.9%	63.1%	32.7%	SPLIT %			66.0%	34.0%	67.3%	

DAILY TOTALS		NB	SB	EB	WB	Total
		0	0	11,471	8,843	20,314

AM Peak Hour		11:15	07:15	07:00	PM Peak Hour		17:00	12:00	17:00		
AM Pk Volume		569	1048	1524	PM Pk Volume		1701	747	2122		
Pk Hr Factor		0.936	0.832	0.870	Pk Hr Factor		0.964	0.826	0.977		
7 - 9 Volume	0	0	868	1853	2721	4 - 6 Volume	0	0	3297	826	4123
7 - 9 Peak Hour			07:00	07:15	07:00	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	492	1048	1524	4 - 6 Pk Volume	0	0	1701	421	2122
Pk Hr Factor	0.000	0.000	0.618	0.832	0.870	Pk Hr Factor	0.000	0.000	0.964	0.907	0.977

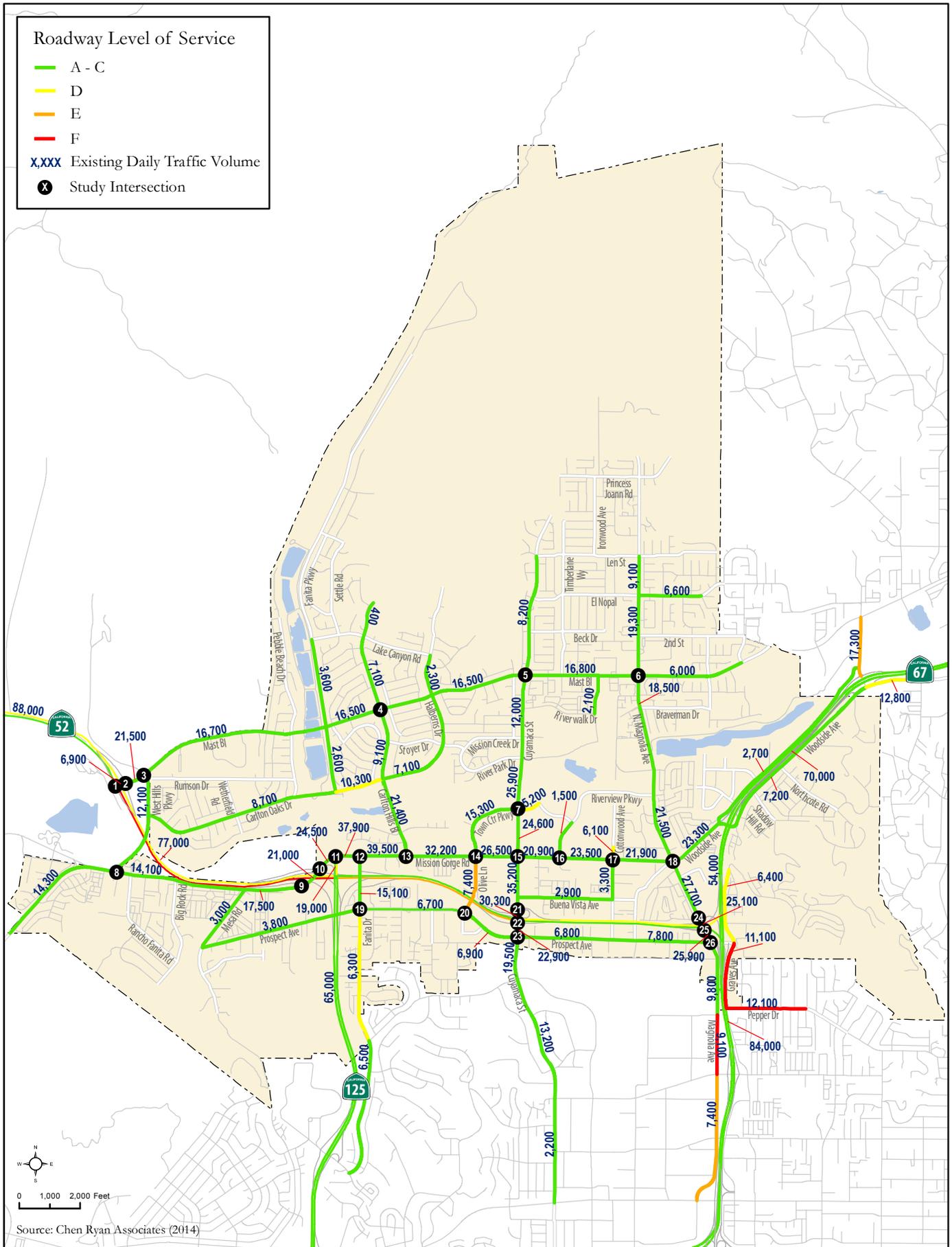


Figure 3-16
 Existing Roadway Traffic Volumes and Levels of Service

Roadway Segment counts and Intersection counts related to Morena Pump Station Pipelines

Table 7-2 Existing Conditions Summary of Roadway Segment ADT Based Analysis

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	ADT (b)	V/C RATIO (c)	LOS
Eastgate Mall					
Regents Rd to Genesee Ave	2 Lane Collector (continuous left-turn lane)	15,000	6,187	0.412	B
Genesee Ave to Easter Way	4 Lane Collector	30,000	14,767	0.492	C
Easter Way to Judicial Dr	4 Lane Major Arterial	40,000	11,115	0.278	A
Judicial Dr to Eastgate Dr (Freeway Overpass)	2 Lane Collector (no fronting property)	10,000	10,096	1.010	F
Eastgate Dr to Miramar Rd	2 Lane Collector (continuous left-turn lane)	15,000	14,668	0.978	E
Executive Drive					
Regents Rd to Genesee Ave	4 Lane Collector (no center lane)	15,000	4,397	0.293	A
Genesee Ave to Judicial Dr	4 Lane Collector	30,000	5,914	0.197	A
Executive Way					
Executive Dr to La Jolla Village Dr	4 Lane Collector	30,000	5,923	0.197	A
Genesee Avenue					
N. Torrey Pines Rd to I-5 SB Ramps	6 Lane Prime Arterial	60,000	35,124	0.585	C
I-5 SB Ramps to I-5 NB Ramps	4 Lane Major Arterial	40,000	49,051	1.226	F
I-5 NB Ramps to Regents Rd	6 Lane Prime Arterial	60,000	48,542	0.809	C
Regents Rd to La Jolla Village Dr	6 Lane Prime Arterial	60,000	29,457	0.491	B
La Jolla Village Dr to Esplande Ct	4 Lane Major Arterial	40,000	28,054	0.701	C
Esplande Ct to Nobel Dr	6 Lane Major Arterial	50,000	23,744	0.475	B
Nobel Dr to Centurion Square	4 Lane Major Arterial	40,000	30,922	0.773	D
Centurion Square to SR-52 WB Ramps	4 Lane Major Arterial	40,000	30,325	0.758	D
SR-52 WB Ramps to SR-52 EB Ramps	4 Lane Major Arterial	40,000	31,170	0.779	D
SR-52 EB Ramps to Lehrer Dr	4 Lane Major Arterial	40,000	30,581	0.765	D
Gilman Drive					
UCSD Campus to La Jolla Village Dr	4 Lane Collector	30,000	10,069	0.336	B
La Jolla Village Dr to Via Alicante	4 Lane Collector	30,000	15,095	0.503	C
Via Alicante to I-5 SB Ramps	4 Lane Major Arterial	40,000	17,138	0.428	B
I-5 SB Ramps to I-5 NB Ramps	4 Lane Major Arterial	40,000	11,873	0.297	A
Golden Haven Drive					
Towne Centre Dr to Judicial Dr	4 Lane Major Arterial	40,000	6,712	0.168	A

Notes:

Bold values indicate roadway segments operating at LOS E or F.

(a) Existing road classifications are based on field work conducted May 13, 2015.

(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by Accurate Video Counts Inc and measured in April and May 2015.

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

Table 7-2 Existing Conditions Summary of Roadway Segment ADT Based Analysis (Continued)

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	ADT (b)	V/C RATIO (c)	LOS
Governor Drive					
Regents Rd to Genesee Ave	4 Lane Major Arterial	40,000	16,796	0.420	B
Genesee Ave to I-805 SB Ramps	4 Lane Major Arterial	40,000	19,737	0.493	B
I-805 SB Ramps to I-805 NB Ramps	4 Lane Major Arterial	40,000	10,417	0.260	A
Judicial Drive					
Eastgate Mall to La Jolla Village Dr	4 Lane Major Arterial	40,000	4,828	0.121	A
La Jolla Village Dr to Nobel Dr	4 Lane Major Arterial	40,000	6,574	0.164	A
La Jolla Scenic Drive					
La Jolla Village Dr to community boundary	4 Lane Major Arterial	40,000	7,928	0.198	A
La Jolla Village Drive					
Revelle College Dr to Villa La Jolla Dr	6 Lane Prime Arterial	60,000	44,520	0.742	C
Villa La Jolla Dr to I-5 SB Ramps	6 Lane Prime Arterial	60,000	62,258	1.038	F
I-5 SB Ramps to I-5 NB Ramps	6 Lane Major Arterial	50,000	51,391	1.028	F
I-5 NB Ramps to Lebon Dr	6 Lane Major Arterial	50,000	44,335	0.887	D
Lebon Dr to Regents Rd	6 Lane Major Arterial	50,000	42,863	0.857	D
Regents Rd to Genesee Ave	6 Lane Major Arterial	50,000	38,474	0.769	C
Genesee Ave to Towne Centre Dr	6 Lane Major Arterial	50,000	45,117	0.902	E
Towne Centre Dr to I-805 SB Ramps	7 Lane Major Arterial	55,000	58,833	1.070	F
Lebon Drive					
Palmilla Drive to Nobel Dr	4 Lane Major Arterial	40,000	11,192	0.280	A
Nobel Drive to La Jolla Village Dr	5 Lane Major Arterial	45,000	9,212	0.205	A
Miramar Road					
I-805 SB Ramps to I-805 NB Ramps	6 Lane Major Arterial	50,000	66,139	1.323	F
I-805 NB Ramps to Nobel Dr	8 Lane Prime Arterial	80,000	47,991	0.600	B
Nobel Dr to Eastgate Mall	8 Lane Prime Arterial	80,000	64,557	0.807	C
Eastgate Mall to Camino Santa Fe	6 Lane Prime Arterial	60,000	67,748	1.129	F
North Torrey Pines Road					
Science Park Rd to Genesee Ave	6 Lane Prime Arterial	60,000	29,303	0.488	B
Genesee Ave to Revelle College Dr	4 Lane Major Arterial	40,000	21,760	0.544	C

Notes:

Bold values indicate roadway segments operating at LOS E or F.

(a) Existing road classifications are based on field work conducted May 13, 2015.

(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by Accurate Video Counts Inc and measured in April and May 2015.

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

DATE: 12/08/16 THURSDAY
JOB #: PTD-16-1202-01

CITY: CLAIREMONT
LOCATION: GENESEE BTN SR-52 & LEHRER

AM Time	NORTHBOUND													TOTAL	PM Time	NORTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	22	0	0	0	0	0	0	0	0	0	0	0	22	12:00	1	206	13	3	4	1	0	0	0	0	0	228		
0:15	0	17	2	0	0	0	0	0	0	0	0	0	0	19	12:15	3	201	19	3	2	5	0	0	1	0	0	234		
0:30	0	15	2	0	0	0	0	0	0	0	0	0	0	17	12:30	0	196	13	1	10	3	0	0	0	0	1	224		
0:45	0	12	0	0	0	0	0	0	0	0	0	0	0	12	12:45	1	225	17	0	10	4	0	1	0	0	0	258		
1:00	0	12	0	0	0	1	0	0	0	0	0	0	0	13	13:00	1	193	15	1	5	2	0	0	0	0	0	217		
1:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7	13:15	0	183	19	3	6	3	1	1	1	0	1	218		
1:30	0	2	1	0	0	0	0	0	0	0	0	0	0	3	13:30	0	217	19	3	2	4	0	0	0	0	0	245		
1:45	0	8	0	0	0	0	0	0	0	0	0	0	0	8	13:45	3	214	15	0	6	3	1	1	0	0	1	244		
2:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:00	3	211	11	2	9	1	0	0	0	0	0	237		
2:15	0	9	0	0	0	0	0	0	0	0	0	0	0	9	14:15	3	221	19	2	4	4	0	0	1	0	1	255		
2:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14:30	2	228	9	2	2	2	0	0	1	0	0	246		
2:45	0	11	0	0	0	0	0	0	0	0	0	0	0	11	14:45	2	224	11	2	2	3	0	0	0	0	0	244		
3:00	0	3	2	0	0	1	0	0	0	0	0	0	0	6	15:00	2	240	17	1	3	3	0	0	0	0	0	266		
3:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7	15:15	2	189	12	1	2	2	0	0	0	0	0	208		
3:30	0	9	1	0	0	0	0	0	0	1	0	0	0	11	15:30	1	196	16	2	2	5	0	0	0	0	0	222		
3:45	0	13	1	0	0	0	0	0	0	0	0	0	0	14	15:45	3	175	11	1	7	4	0	1	0	1	0	204		
4:00	0	16	0	0	1	0	0	0	0	0	0	0	0	17	16:00	2	181	8	2	4	0	0	0	0	0	0	197		
4:15	0	22	2	0	1	0	0	0	0	0	0	0	0	25	16:15	1	169	10	1	3	1	0	0	0	0	0	185		
4:30	0	27	3	0	1	0	0	0	0	0	0	0	0	31	16:30	1	166	11	2	2	2	0	0	0	0	0	184		
4:45	0	38	4	0	1	0	0	0	0	0	0	0	0	43	16:45	1	169	6	1	3	2	0	0	0	0	1	183		
5:00	1	56	3	0	3	0	0	0	0	0	0	0	0	63	17:00	2	154	10	2	4	3	1	0	0	0	0	176		
5:15	0	53	11	1	2	0	0	0	0	0	0	0	0	67	17:15	0	152	5	0	2	1	0	1	0	0	0	161		
5:30	2	86	11	0	1	0	0	0	1	0	0	0	0	101	17:30	0	137	7	2	3	1	0	0	0	0	0	150		
5:45	1	112	15	3	4	0	0	0	1	0	0	0	0	136	17:45	1	129	5	1	4	1	0	0	0	0	0	141		
6:00	1	122	16	1	7	1	0	0	0	0	0	0	0	148	18:00	1	138	5	2	0	2	0	1	0	0	0	149		
6:15	0	164	30	1	5	1	0	1	0	0	0	0	0	202	18:15	1	150	6	2	1	0	0	0	0	0	0	160		
6:30	1	268	38	2	7	3	0	0	0	1	0	0	0	320	18:30	1	140	7	2	1	2	1	0	0	0	0	154		
6:45	1	310	30	1	8	6	1	0	1	0	0	0	0	358	18:45	1	136	8	1	2	3	0	0	0	0	0	151		
7:00	7	376	22	3	10	8	1	0	1	0	1	1	1	431	19:00	0	130	2	1	2	2	0	0	0	0	0	137		
7:15	7	387	30	1	8	7	1	0	1	0	1	0	0	443	19:15	0	137	3	1	0	0	0	0	0	0	0	141		
7:30	5	401	38	1	6	11	1	0	0	0	0	0	0	463	19:30	0	129	8	0	3	1	0	0	0	0	0	141		
7:45	8	388	24	2	9	10	0	0	2	0	1	3	1	448	19:45	0	134	2	1	0	1	0	0	0	0	0	138		
8:00	5	372	15	3	5	11	1	0	1	0	0	0	1	414	20:00	0	112	2	0	0	1	0	0	0	0	0	115		
8:15	6	361	20	2	3	8	1	0	1	0	0	1	2	405	20:15	0	137	8	1	0	0	0	0	0	0	0	146		
8:30	5	404	29	2	8	9	1	0	0	0	1	0	0	459	20:30	0	108	5	0	2	0	0	0	0	0	0	115		
8:45	0	360	22	2	12	5	3	0	0	0	1	0	0	405	20:45	0	105	6	1	1	2	0	0	0	0	0	115		
9:00	4	305	24	3	7	3	0	0	0	0	0	0	0	346	21:00	0	96	4	0	2	0	0	0	0	0	0	102		
9:15	3	230	20	3	3	5	0	0	0	0	0	0	0	264	21:15	0	113	2	0	1	0	0	0	0	0	0	116		
9:30	4	262	16	3	12	3	1	0	0	0	0	0	1	302	21:30	0	96	3	1	0	1	0	0	0	0	0	101		
9:45	1	217	17	1	5	6	1	0	0	0	0	0	0	248	21:45	0	74	1	1	1	1	0	0	0	0	0	78		
10:00	1	180	16	2	5	0	0	0	0	0	0	0	0	204	22:00	1	81	2	0	1	0	0	0	0	0	0	0	85	
10:15	0	181	21	1	4	3	0	0	1	0	0	0	0	211	22:15	0	61	1	1	1	0	0	0	0	0	0	64		
10:30	5	189	20	2	1	1	0	0	0	0	1	0	0	219	22:30	0	59	2	1	0	0	0	0	0	0	0	62		
10:45	5	195	12	0	6	2	0	1	1	0	0	0	0	222	22:45	0	33	0	1	0	0	0	0	0	0	0	34		
11:00	2	171	16	2	9	1	0	0	1	0	0	0	0	202	23:00	0	30	1	0	0	0	0	0	0	0	0	31		
11:15	6	210	20	2	5	6	0	0	0	0	0	0	0	249	23:15	0	43	0	1	0	0	0	0	0	0	0	44		
11:30	1	202	9	1	4	1	0	0	0	0	0	2	0	220	23:30	0	23	0	0	0	0	0	0	0	0	0	23		
11:45	2	197	14	0	5	1	2	0	0	0	0	0	0	221	23:45	0	30	1	0	0	0	0	0	0	0	0	31		
TOTAL	84	7,016	577	45	168	114	14	2	13	0	7	7	6	8,053	TOTAL	40	6,871	377	56	119	76	4	6	4	1	3	3	0	7,560

AM PEAK HOUR 7:00 AM
AM PEAK VOLUME 1,785

PM PEAK HOUR 2:15 PM
PM PEAK VOLUME 1,011

CLASS 1	MOTORCYCLES	CLASS 8	FOUR OR LESS AXLE TRAILER
CLASS 2	PASSENGER VEHICLES	CLASS 9	5-AXLE TRACTOR SEMITRAILER
CLASS 3	FOUR TIRE SINGLE UNIT	CLASS 10	6 OR MORE AXLE SINGLE TRAILER
CLASS 4	BUSSES	CLASS 11	5-OR MORE AXLE MULTI TRAILER
CLASS 5	TWO AXLE SIX TIRE	CLASS 12	6-AXLE MULTI TRAILER
CLASS 6	THREE AXLE SINGLE UNIT	CLASS 13	7-OR MORE AXLE MULTI TRAILER
CLASS 7	FOR OR MORE AXLE SINGLE UNIT		

TOTAL: AM+PM	124	13,887	954	101	287	190	18	8	17	1	10	10	6	15,613
% OF TOTAL	0.8%	88.9%	6.1%	0.6%	1.8%	1.2%	0.1%	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%	100.0%

TOTAL: ALL	288	24,443	###	248	577	352	95	38	66	21	28	42	71	28,064
% OF TOTAL	1.8%	156.6%	11.5%	1.6%	3.7%	2.3%	0.6%	0.2%	0.4%	0.1%	0.2%	0.3%	0.5%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

DATE: 12/08/16 THURSDAY
JOB #: PTD-16-1202-01

CITY: CLAIREMONT
LOCATION: GENESEE BTN SR-52 & LEHRER

AM TIME	SOUTHBOUND													TOTAL	PM Time	SOUTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	1	7	0	0	0	1	0	0	0	0	0	0	0	9	12:00	2	246	19	1	4	3	1	0	0	0	0	276		
0:15	0	6	1	0	0	0	0	0	0	0	0	0	0	7	12:15	2	294	25	3	9	3	0	0	1	0	1	339		
0:30	0	5	1	0	0	0	0	0	0	0	0	0	0	6	12:30	5	283	24	3	10	5	2	0	1	1	0	335		
0:45	0	9	1	0	0	0	0	0	0	0	0	0	0	10	12:45	3	326	29	3	6	11	4	0	1	0	0	383		
1:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4	13:00	3	288	24	0	4	2	2	0	0	0	0	323		
1:15	0	3	0	0	0	0	0	0	1	0	0	0	0	4	13:15	3	297	25	2	5	12	2	0	0	0	0	346		
1:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6	13:30	15	298	22	3	5	15	4	1	0	1	0	367		
1:45	0	5	0	1	0	0	0	0	0	0	0	0	0	6	13:45	11	75	5	4	8	10	3	4	2	1	0	131		
2:00	0	6	2	0	1	0	0	0	0	0	0	0	0	9	14:00	10	71	5	10	10	3	6	5	7	2	1	4	140	
2:15	0	3	0	0	1	0	0	0	0	0	0	0	0	4	14:15	11	69	5	8	14	5	3	4	1	1	2	5	136	
2:30	0	11	1	0	1	0	0	0	0	0	0	0	0	13	14:30	4	81	9	7	3	3	2	2	2	2	1	9	127	
2:45	0	13	2	0	2	0	0	0	0	0	0	0	0	17	14:45	10	141	7	2	4	5	2	4	2	2	2	5	188	
3:00	0	17	3	1	2	1	0	0	1	0	0	0	0	25	15:00	11	77	4	8	6	6	5	2	6	3	1	3	140	
3:15	0	24	5	1	3	1	0	0	0	0	0	0	0	34	15:15	9	69	6	9	2	4	2	0	8	3	3	5	130	
3:30	0	30	3	2	2	0	0	0	0	0	0	0	0	37	15:30	8	65	2	13	12	4	4	2	6	2	3	1	6	128
3:45	0	35	6	0	3	0	1	0	0	0	0	0	0	45	15:45	5	143	6	0	1	3	5	1	1	2	1	1	4	173
4:00	0	42	10	2	3	0	1	0	0	0	0	0	0	58	16:00	9	283	15	2	5	4	0	0	0	0	0	0	318	
4:15	0	108	9	3	2	2	0	0	0	0	0	0	0	124	16:15	7	227	15	2	2	5	0	0	1	0	0	2	261	
4:30	0	124	9	2	6	0	0	0	0	0	0	0	0	141	16:30	1	187	12	0	1	1	0	0	0	0	0	0	202	
4:45	0	118	14	3	2	1	2	0	0	0	0	0	0	140	16:45	2	165	5	1	1	0	0	0	1	0	0	0	175	
5:00	1	127	15	1	1	0	1	0	0	0	0	0	0	146	17:00	0	157	5	1	0	0	2	0	0	0	0	0	165	
5:15	0	133	14	2	4	1	0	0	0	0	0	0	0	154	17:15	0	148	10	0	2	0	1	0	0	0	0	0	161	
5:30	0	100	10	1	9	2	1	0	0	0	0	0	0	123	17:30	1	122	8	2	1	2	0	0	0	0	0	0	136	
5:45	0	104	14	2	7	0	1	0	0	0	0	0	0	128	17:45	0	110	10	1	1	1	0	0	0	0	0	0	123	
6:00	0	129	6	1	5	0	0	0	0	0	0	0	0	141	18:00	0	118	3	0	1	1	0	0	1	0	0	0	124	
6:15	1	118	15	3	2	1	0	0	2	0	0	0	0	142	18:15	0	106	8	1	2	0	0	0	0	0	0	0	117	
6:30	1	148	14	2	4	0	1	0	0	0	0	0	0	170	18:30	1	115	5	0	1	3	0	0	0	0	0	0	125	
6:45	1	135	12	1	3	1	1	0	0	0	0	0	0	154	18:45	0	92	5	1	1	0	1	0	0	0	0	0	100	
7:00	2	145	16	1	2	1	0	0	1	0	1	0	0	169	19:00	1	91	5	0	0	1	0	0	0	0	0	0	98	
7:15	2	136	18	2	7	1	0	1	0	0	0	0	0	167	19:15	1	103	3	1	2	2	0	0	0	0	0	0	112	
7:30	1	136	14	1	3	0	3	0	0	0	1	0	0	159	19:30	0	90	5	0	3	1	0	0	0	0	0	0	99	
7:45	0	137	15	2	6	1	1	0	0	0	0	0	0	162	19:45	2	67	2	1	0	0	0	0	0	0	0	0	72	
8:00	2	160	12	1	6	1	1	1	0	0	0	0	0	184	20:00	0	54	4	1	0	0	0	0	0	0	0	0	59	
8:15	1	176	19	1	3	1	2	0	2	0	0	0	0	205	20:15	0	49	3	1	1	0	0	0	0	0	0	0	54	
8:30	0	191	20	2	8	4	0	0	1	0	0	1	0	227	20:30	0	48	3	0	0	0	0	0	0	0	0	0	51	
8:45	1	177	18	0	7	1	2	0	0	0	0	0	0	206	20:45	0	38	1	0	0	0	0	0	0	0	0	0	39	
9:00	1	188	16	2	7	3	1	0	0	0	0	0	0	218	21:00	0	46	3	0	1	0	0	0	0	0	0	0	50	
9:15	1	172	11	2	4	1	1	0	0	0	0	1	0	193	21:15	0	40	1	0	0	0	0	0	0	0	0	0	41	
9:30	4	205	20	1	5	1	1	0	0	0	0	1	0	238	21:30	0	28	1	0	0	1	0	0	0	0	0	0	30	
9:45	0	185	14	1	7	0	2	0	0	0	0	0	0	209	21:45	0	26	1	0	0	0	0	0	0	0	0	0	27	
10:00	1	159	13	2	6	3	0	0	0	0	0	0	0	184	22:00	0	24	1	0	1	0	0	1	0	0	0	0	27	
10:15	1	172	16	1	3	1	1	0	0	0	0	0	0	195	22:15	0	20	1	0	0	0	0	0	0	0	0	0	21	
10:30	0	180	16	2	4	0	0	0	0	0	0	0	0	202	22:30	0	7	0	0	0	0	0	0	0	0	0	0	7	
10:45	1	180	13	1	6	2	0	1	0	0	0	0	0	204	22:45	0	15	0	0	0	0	0	0	0	0	0	0	15	
11:00	2	175	12	3	4	3	0	0	0	0	0	0	0	199	23:00	0	10	3	0	0	0	0	0	0	0	0	0	13	
11:15	0	199	13	1	3	2	1	0	0	0	0	1	0	220	23:15	0	14	1	0	0	0	0	0	0	0	0	0	15	
11:30	0	238	22	1	3	7	0	0	0	0	0	0	0	271	23:30	0	5	0	0	0	0	0	0	0	0	0	0	5	
11:45	2	236	20	1	4	2	1	1	0	0	0	0	0	267	23:45	0	11	0	0	0	0	0	0	0	0	0	0	11	
TOTAL	27	5,117	485	56	161	46	26	4	8	0	2	4	0	5,936	TOTAL	137	5,439	356	91	129	116	51	26	41	20	16	28	65	6,515

AM PEAK HOUR 11:00 AM
AM PEAK VOLUME 957

PM PEAK HOUR 12:45 PM
PM PEAK VOLUME 1,419

CLASS 1	MOTORCYCLES	CLASS 8	FOUR OR LESS AXLE TRAILER
CLASS 2	PASSENGER VEHICLES	CLASS 9	5-AXLE TRACTOR SEMITRAILER
CLASS 3	FOUR TIRE SINGLE UNIT	CLASS 10	6 OR MORE AXLE SINGLE TRAILER
CLASS 4	BUSSES	CLASS 11	5-OR MORE AXLE MULTI TRAILER
CLASS 5	TWO AXLE SIX TIRE	CLASS 12	6-AXLE MULTI TRAILER
CLASS 6	THREE AXLE SINGLE UNIT	CLASS 13	7-OR MORE AXLE MULTI TRAILER
CLASS 7	FOR OR MORE AXLE SINGLE UNIT		

TOTAL: AM+PM	164	10,556	841	147	290	162	77	30	49	20	18	32	65	12,451
% OF TOTAL	1.3%	84.8%	6.8%	1.2%	2.3%	1.3%	0.6%	0.2%	0.4%	0.2%	0.1%	0.3%	0.5%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

DATE: 11/29/16 TUESDAY
JOB #: PTD-16-1202-01

CITY: CLAIREMONT
LOCATION: CLAIREMONT MESA BLVD BTN KLEEFIELD & GENESEE

AM Time	EASTBOUND													TOTAL	PM Time	EASTBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	19	1	1	0	0	0	0	0	0	0	0	0	21	12:00	4	182	14	2	6	3	1	1	0	0	0	1	0	214
0:15	0	13	1	0	0	0	0	0	0	0	0	0	0	14	12:15	11	171	16	0	3	4	1	1	0	0	0	0	0	207
0:30	0	12	0	0	0	0	0	0	0	0	0	0	0	12	12:30	7	190	22	2	5	7	2	0	0	0	0	1	0	236
0:45	0	14	0	0	0	0	0	1	0	0	0	0	0	15	12:45	8	200	12	2	5	2	3	0	0	0	0	0	0	232
1:00	0	6	0	0	0	0	0	0	1	0	0	0	0	7	13:00	7	195	20	0	3	5	1	0	2	0	0	0	0	233
1:15	0	8	0	0	1	0	0	0	0	0	0	0	0	9	13:15	6	185	14	2	3	7	1	0	1	0	0	1	0	220
1:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9	13:30	9	205	10	2	4	6	0	1	0	0	1	1	0	239
1:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:45	14	176	18	1	9	5	2	0	0	0	0	2	0	227
2:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11	14:00	10	204	16	1	5	7	2	0	0	0	1	0	0	246
2:15	0	7	0	0	1	0	0	0	0	0	0	0	0	8	14:15	12	182	20	0	3	3	1	0	0	0	0	0	0	221
2:30	0	8	0	0	0	0	0	0	0	0	0	0	0	8	14:30	2	196	20	4	3	10	0	1	0	1	0	1	0	238
2:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14:45	9	193	16	1	1	7	1	0	0	0	0	1	0	229
3:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:00	8	202	18	1	4	9	1	0	0	0	0	0	0	243
3:15	0	6	1	1	0	0	0	0	0	0	0	0	0	8	15:15	11	193	12	0	3	6	1	1	0	0	0	0	0	227
3:30	0	4	1	0	1	0	0	0	0	0	0	0	0	6	15:30	6	212	12	1	2	5	0	0	0	0	0	1	0	239
3:45	0	8	1	0	0	0	0	0	0	0	0	0	0	9	15:45	3	217	22	5	12	2	0	0	0	0	0	0	0	261
4:00	0	7	2	0	1	0	0	0	0	0	0	0	0	10	16:00	14	206	18	2	8	6	2	0	0	0	0	0	0	256
4:15	0	15	1	1	0	0	0	0	0	0	0	0	0	17	16:15	9	200	15	1	5	5	1	0	0	1	0	0	0	237
4:30	0	11	4	0	0	0	0	0	0	0	0	0	0	15	16:30	3	235	17	4	5	5	0	0	0	2	1	1	1	274
4:45	0	14	1	1	0	0	0	0	0	0	0	0	0	16	16:45	3	209	12	1	2	6	1	1	0	1	0	0	0	236
5:00	0	27	1	0	1	0	0	0	0	0	0	0	0	29	17:00	8	244	12	2	5	2	1	0	0	4	0	0	0	278
5:15	0	22	5	2	2	0	0	0	1	0	0	0	0	32	17:15	11	262	14	1	2	8	1	1	0	0	0	2	1	303
5:30	0	42	4	0	1	1	0	0	0	0	0	0	0	48	17:30	4	244	13	1	5	4	0	0	0	0	0	0	1	272
5:45	0	29	6	2	0	0	0	0	0	0	0	0	0	37	17:45	3	204	12	1	3	6	1	0	0	1	0	1	0	232
6:00	0	36	8	1	3	0	0	0	0	0	0	0	0	48	18:00	5	176	15	5	1	3	1	4	0	0	0	1	0	211
6:15	0	44	6	2	3	0	0	0	0	0	0	0	0	55	18:15	3	172	20	3	1	5	1	0	0	2	0	0	0	207
6:30	0	69	10	1	2	3	0	0	0	0	0	0	1	86	18:30	11	162	10	0	4	2	3	1	0	0	0	0	0	193
6:45	1	90	11	1	1	1	0	0	0	0	0	0	0	105	18:45	2	169	13	2	3	1	0	0	0	0	0	0	1	191
7:00	3	124	9	1	3	4	2	0	0	1	1	1	0	149	19:00	6	155	7	1	3	0	0	0	0	0	1	0	0	173
7:15	3	118	16	2	4	2	3	0	0	0	0	0	0	148	19:15	3	171	11	0	2	2	0	0	0	0	0	0	0	189
7:30	4	161	17	2	11	3	0	0	0	0	1	0	0	199	19:30	0	132	10	0	3	0	0	0	0	0	0	0	0	145
7:45	4	128	17	1	4	3	0	1	1	0	0	0	0	159	19:45	0	124	5	1	1	0	0	0	0	0	0	0	0	131
8:00	0	133	9	3	5	2	0	0	1	0	0	0	0	153	20:00	2	138	5	0	1	1	0	0	0	0	0	0	0	147
8:15	5	134	15	2	5	2	0	0	0	0	1	0	0	164	20:15	0	106	7	2	3	1	0	0	0	0	0	0	0	119
8:30	0	163	11	2	4	5	1	0	0	0	0	0	0	186	20:30	1	110	5	0	2	0	0	0	0	0	0	0	0	118
8:45	2	162	10	5	9	3	0	0	0	0	0	1	0	192	20:45	4	105	4	1	3	0	0	0	0	0	0	0	0	117
9:00	4	148	11	5	14	3	1	1	1	1	0	0	0	189	21:00	0	109	2	0	2	2	0	0	0	0	0	0	0	115
9:15	1	123	12	3	4	5	0	0	1	0	0	0	0	149	21:15	2	103	2	2	2	0	0	0	0	0	0	0	0	111
9:30	2	114	12	2	8	4	0	1	0	0	0	0	0	143	21:30	0	97	1	0	0	2	0	0	0	0	0	0	0	100
9:45	1	139	15	2	3	6	0	1	0	0	0	0	0	167	21:45	0	85	3	0	0	1	0	0	0	0	0	0	0	89
10:00	4	165	7	1	7	0	1	0	0	0	0	0	0	185	22:00	1	74	2	0	2	0	0	0	0	0	0	0	0	79
10:15	6	150	9	1	5	1	0	0	0	0	0	1	0	173	22:15	0	49	3	1	0	0	0	0	0	0	0	0	0	53
10:30	2	146	18	3	5	1	0	1	1	0	0	1	0	178	22:30	0	51	4	2	0	0	0	0	0	0	0	0	0	57
10:45	5	168	17	1	4	2	1	0	1	0	0	0	0	199	22:45	0	46	1	0	0	0	0	0	0	0	0	0	0	47
11:00	10	165	18	1	3	2	0	0	1	0	0	0	0	200	23:00	0	35	0	1	0	1	0	0	0	0	0	0	0	37
11:15	4	179	8	2	5	2	1	1	0	1	0	3	0	206	23:15	0	23	2	0	0	0	0	0	0	0	0	0	0	25
11:30	2	185	23	2	5	4	1	0	0	0	0	0	1	223	23:30	0	16	0	0	0	0	0	0	0	0	0	0	0	16
11:45	5	168	11	2	6	3	3	0	0	0	0	1	0	199	23:45	0	20	2	0	0	0	0	0	0	0	0	0	0	22
TOTAL	68	3,514	330	56	131	62	14	7	9	3	3	8	2	4,207	TOTAL	222	7,335	509	58	139	151	29	12	3	12	4	14	4	8,492

AM PEAK HOUR 11:00 AM
AM PEAK VOLUME 828

PM PEAK HOUR 4:30 PM
PM PEAK VOLUME 1,091

CLASS 1	MOTORCYCLES	CLASS 8	FOUR OR LESS AXLE TRAILER
CLASS 2	PASSENGER VEHICLES	CLASS 9	5-AXLE TRACTOR SEMITRAILER
CLASS 3	FOUR TIRE SINGLE UNIT	CLASS 10	6 OR MORE AXLE SINGLE TRAILER
CLASS 4	BUSSES	CLASS 11	5-OR MORE AXLE MULTI TRAILER
CLASS 5	TWO AXLE SIX TIRE	CLASS 12	6-AXLE MULTI TRAILER
CLASS 6	THREE AXLE SINGLE UNIT	CLASS 13	7-OR MORE AXLE MULTI TRAILER
CLASS 7	FOR OR MORE AXLE SINGLE UNIT		

TOTAL: AM+PM	290	10,849	839	114	270	213	43	19	12	15	7	22	6	12,699
% OF TOTAL	2.3%	85.4%	6.6%	0.9%	2.1%	1.7%	0.3%	0.1%	0.1%	0.1%	0.1%	0.2%	0.0%	100.0%

TOTAL: ALL	514	22,498	###	162	503	277	86	40	29	24	11	34	18	25,310
% OF TOTAL	4.0%	177.2%	8.8%	1.3%	4.0%	2.2%	0.7%	0.3%	0.2%	0.2%	0.1%	0.3%	0.1%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

DATE: 11/29/16 TUESDAY
JOB #: PTD-16-1202-01

CITY: CLAIREMONT
LOCATION: CLAIREMONT MESA BLVD BTN KLEEFIELD & GENESEE

AM TIME	WESTBOUND													TOTAL	PM Time	WESTBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	2	24	1	0	1	0	0	0	0	0	0	0	0	28	12:00	8	218	5	2	0	0	1	0	0	0	0	234		
0:15	0	9	1	0	0	0	0	0	0	0	0	0	0	10	12:15	0	226	8	1	3	0	0	1	0	0	0	239		
0:30	0	21	0	0	1	0	0	0	0	0	0	0	0	22	12:30	1	205	6	3	1	1	1	0	0	0	1	219		
0:45	0	10	0	0	0	0	0	0	0	0	0	0	0	10	12:45	3	188	6	0	1	0	0	0	0	0	0	198		
1:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10	13:00	3	220	6	2	3	1	0	0	0	0	0	235		
1:15	0	11	0	0	1	0	0	0	0	0	0	0	0	12	13:15	8	188	7	1	1	0	1	0	0	0	0	206		
1:30	0	8	0	0	0	0	0	0	0	0	0	1	0	9	13:30	1	195	5	2	1	0	0	1	0	0	1	206		
1:45	0	11	0	0	0	0	0	0	0	0	0	0	0	11	13:45	9	195	4	1	6	1	0	1	0	1	0	219		
2:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6	14:00	0	181	13	1	3	1	1	2	0	0	1	204		
2:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6	14:15	1	249	6	1	4	1	0	0	0	1	0	265		
2:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:30	7	227	3	3	9	3	0	0	0	0	0	252		
2:45	0	8	0	0	1	0	0	0	0	0	0	0	0	9	14:45	7	216	6	0	2	3	0	0	0	0	0	236		
3:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7	15:00	3	243	3	2	5	0	0	0	0	0	0	256		
3:15	0	5	1	0	1	0	0	0	0	0	0	0	0	7	15:15	7	229	6	1	3	1	1	0	2	0	0	250		
3:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5	15:30	5	221	8	2	4	2	0	1	1	0	1	246		
3:45	0	10	1	0	0	0	0	0	0	1	0	0	0	12	15:45	9	209	5	1	4	5	1	2	0	1	0	237		
4:00	0	4	0	0	1	0	0	0	0	0	0	0	0	5	16:00	9	265	12	0	2	2	3	1	0	1	0	299		
4:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4	16:15	2	275	6	2	2	2	0	1	0	0	1	291		
4:30	0	8	0	0	0	0	0	0	0	0	0	0	0	8	16:30	13	242	12	1	2	1	1	0	0	1	0	273		
4:45	0	19	1	0	1	0	0	0	0	0	0	0	0	21	16:45	8	268	5	3	4	2	1	0	0	0	1	292		
5:00	0	14	0	0	0	0	0	0	0	0	0	0	0	14	17:00	6	229	4	1	4	2	1	0	0	1	0	248		
5:15	0	20	0	0	1	1	0	0	0	0	0	0	0	22	17:15	3	288	5	1	1	2	2	1	0	0	0	303		
5:30	0	23	0	0	1	0	0	0	0	1	0	0	0	25	17:30	4	239	8	2	2	3	3	0	0	0	0	263		
5:45	0	35	0	0	3	0	0	0	1	0	0	0	0	39	17:45	3	232	10	0	3	2	0	0	1	0	0	252		
6:00	0	37	1	1	1	0	0	0	0	0	0	0	0	40	18:00	1	202	5	1	0	1	2	0	0	0	1	213		
6:15	0	31	3	0	4	0	0	0	0	0	0	0	0	38	18:15	3	212	1	0	2	2	3	0	0	0	0	223		
6:30	0	67	2	1	2	0	0	0	0	0	0	0	0	72	18:30	2	189	2	2	0	0	0	0	1	0	0	196		
6:45	0	71	3	1	6	1	1	0	1	0	0	0	0	84	18:45	4	175	1	1	3	1	0	1	0	0	0	186		
7:00	0	93	2	0	7	0	1	1	1	0	0	0	1	106	19:00	1	180	2	1	3	0	1	0	1	0	0	189		
7:15	8	103	6	0	5	0	0	0	0	1	0	0	0	123	19:15	2	161	2	1	4	0	0	1	0	0	0	171		
7:30	1	125	2	0	5	1	1	0	0	0	0	0	0	135	19:30	6	155	2	0	3	0	0	0	0	0	0	166		
7:45	0	154	2	0	8	3	0	0	2	0	0	0	0	169	19:45	3	112	2	0	7	0	1	1	0	0	0	126		
8:00	1	140	6	0	7	0	0	0	0	0	0	0	0	154	20:00	3	127	1	0	2	1	0	0	0	0	0	134		
8:15	0	150	5	0	6	1	1	0	0	0	0	0	0	163	20:15	2	104	0	0	3	0	0	0	0	0	0	109		
8:30	1	139	2	0	5	3	2	4	0	0	0	2	0	158	20:30	0	99	1	0	1	0	0	0	0	0	0	101		
8:45	9	183	3	0	11	1	1	0	1	0	0	0	0	209	20:45	0	105	0	0	0	0	1	0	0	0	0	106		
9:00	9	141	2	0	5	0	1	0	0	0	0	0	0	158	21:00	2	91	2	0	0	0	1	0	0	0	0	1	97	
9:15	3	169	4	0	5	2	0	0	1	0	0	0	0	184	21:15	1	80	0	0	2	0	0	0	0	0	0	83		
9:30	2	156	4	0	6	0	1	1	0	0	0	0	0	170	21:30	0	77	0	0	1	1	0	0	0	0	0	79		
9:45	4	173	2	1	2	1	0	0	0	0	0	1	0	184	21:45	1	66	1	0	2	1	0	0	0	0	0	71		
10:00	3	170	3	0	6	2	2	1	1	0	0	0	0	188	22:00	0	52	0	0	1	0	0	0	0	0	0	53		
10:15	3	175	8	0	4	1	1	0	0	0	0	1	0	193	22:15	0	50	0	0	3	0	0	0	0	0	0	53		
10:30	0	185	7	1	3	1	0	0	0	0	0	0	0	197	22:30	1	43	0	0	1	0	0	0	0	0	0	45		
10:45	5	194	3	1	2	1	0	0	0	1	0	0	0	207	22:45	0	42	0	0	0	0	0	0	0	0	0	42		
11:00	4	217	4	1	4	0	3	0	0	0	0	0	0	233	23:00	0	30	0	0	1	0	0	1	0	0	0	32		
11:15	9	195	3	0	2	0	2	0	1	0	0	0	0	212	23:15	1	31	0	0	0	0	0	0	0	0	0	32		
11:30	0	212	6	1	2	2	0	0	0	0	0	0	0	223	23:30	0	22	0	0	0	0	0	0	0	0	0	22		
11:45	7	212	6	1	4	1	0	0	0	0	0	0	0	231	23:45	0	21	0	0	0	0	0	0	0	0	0	21		
TOTAL	71	3,775	94	9	124	22	17	7	10	3	1	4	1	4,138	TOTAL	153	7,874	181	39	109	42	26	14	7	6	3	8	11	8,473

AM PEAK HOUR 11:00 AM
AM PEAK VOLUME 899

PM PEAK HOUR 4:00 PM
PM PEAK VOLUME 1,155

CLASS 1	MOTORCYCLES	CLASS 8	FOUR OR LESS AXLE TRAILER
CLASS 2	PASSENGER VEHICLES	CLASS 9	5-AXLE TRACTOR SEMITRAILER
CLASS 3	FOUR TIRE SINGLE UNIT	CLASS 10	6 OR MORE AXLE SINGLE TRAILER
CLASS 4	BUSSES	CLASS 11	5-OR MORE AXLE MULTI TRAILER
CLASS 5	TWO AXLE SIX TIRE	CLASS 12	6-AXLE MULTI TRAILER
CLASS 6	THREE AXLE SINGLE UNIT	CLASS 13	7-OR MORE AXLE MULTI TRAILER
CLASS 7	FOR OR MORE AXLE SINGLE UNIT		

TOTAL: AM+PM	224	11,649	275	48	233	64	43	21	17	9	4	12	12	12,611
% OF TOTAL	1.8%	92.4%	2.2%	0.4%	1.8%	0.5%	0.3%	0.2%	0.1%	0.1%	0.0%	0.1%	0.1%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

DATE: 12/08/16 THURSDAY
JOB #: PTD-16-1202-01

CITY: CLAIREMONT
LOCATION: CLAIREMONT DRIVE BTN LAKEHURST & CLAIREMONT MESA

AM Time	NORTHBOUND													TOTAL	PM Time	NORTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	3	0	1	0	0	0	0	0	0	0	0	0	4	12:00	1	67	3	1	2	0	0	0	0	0	0	74		
0:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4	12:15	4	67	3	1	1	0	1	0	0	0	0	77		
0:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:30	0	66	1	2	2	0	0	0	0	0	71			
0:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	12:45	0	61	5	1	1	2	0	0	0	0	70			
1:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13:00	2	60	4	3	0	0	0	0	0	0	69			
1:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1	13:15	0	65	7	2	1	1	1	0	0	0	77			
1:30	0	4	1	0	0	0	0	0	0	0	0	0	0	5	13:30	2	72	5	3	2	2	1	0	0	0	87			
1:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	13:45	4	68	4	0	1	2	0	0	0	0	79			
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14:00	0	69	4	0	1	0	0	0	0	0	74			
2:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:15	1	59	3	1	1	1	0	0	0	0	66			
2:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:30	2	70	6	2	1	1	0	0	0	0	82			
2:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14:45	2	78	4	2	0	1	0	0	0	0	87			
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:00	0	78	8	1	1	1	0	0	0	0	89			
3:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15:15	0	64	4	0	1	2	0	0	0	0	71			
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:30	4	90	9	1	3	0	1	0	0	0	108			
3:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:45	2	101	6	2	0	1	1	0	0	1	114			
4:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16:00	0	135	10	1	3	0	0	0	0	0	149			
4:15	0	0	0	1	0	0	0	0	0	0	0	0	0	1	16:15	0	105	13	0	2	2	0	0	0	0	122			
4:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2	16:30	2	101	3	1	2	1	1	0	0	0	111			
4:45	0	3	2	1	0	0	0	0	0	0	0	0	0	6	16:45	0	121	13	1	3	0	0	0	0	0	138			
5:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5	17:00	2	88	5	1	1	0	1	0	1	0	99			
5:15	0	6	1	1	0	0	0	0	0	0	0	0	0	8	17:15	1	94	5	0	1	0	0	0	0	0	101			
5:30	0	5	1	0	0	0	0	0	0	0	0	0	0	6	17:30	0	62	5	1	0	0	1	0	0	0	69			
5:45	0	8	1	1	0	0	0	0	0	0	0	0	0	10	17:45	0	75	3	1	0	0	0	0	0	0	79			
6:00	0	10	3	0	1	0	0	0	0	0	0	0	0	14	18:00	0	62	6	1	1	1	0	0	0	0	71			
6:15	0	19	2	1	1	1	0	0	1	0	0	0	0	25	18:15	2	65	6	2	0	0	0	0	0	0	75			
6:30	0	11	1	1	4	0	0	0	0	0	0	0	0	17	18:30	1	70	1	2	0	1	0	1	0	0	76			
6:45	0	12	2	1	2	1	0	0	0	0	0	0	0	18	18:45	0	42	2	0	1	1	1	0	0	0	47			
7:00	0	25	2	1	2	0	1	0	0	0	0	0	0	31	19:00	0	36	2	0	0	2	0	0	0	0	40			
7:15	0	37	3	1	0	0	0	0	0	0	0	0	0	41	19:15	0	30	6	2	0	0	0	0	0	0	38			
7:30	0	29	8	3	1	0	0	0	0	0	0	0	0	41	19:30	0	29	3	1	0	1	0	0	0	0	34			
7:45	0	44	4	0	0	0	0	0	0	0	0	0	0	48	19:45	0	23	4	1	0	0	0	0	0	0	28			
8:00	0	47	2	2	0	0	0	0	1	0	0	0	0	52	20:00	0	23	2	0	0	0	0	0	0	0	25			
8:15	0	41	6	1	2	1	1	0	0	0	0	0	0	52	20:15	2	47	0	1	1	0	0	0	1	0	52			
8:30	1	88	2	1	0	1	0	0	0	0	0	0	0	93	20:30	0	27	2	2	0	0	0	0	0	0	31			
8:45	0	94	3	1	2	0	0	0	0	0	0	0	0	100	20:45	0	28	0	1	0	0	0	0	0	0	29			
9:00	0	63	6	2	1	1	0	0	0	0	0	0	0	73	21:00	1	29	1	0	0	0	0	0	0	0	31			
9:15	0	58	5	0	2	2	1	0	0	0	0	0	0	68	21:15	0	22	0	2	0	0	0	0	0	0	24			
9:30	1	56	2	2	1	0	0	0	0	0	0	0	0	62	21:30	0	23	1	1	0	0	0	0	0	0	25			
9:45	1	50	3	0	2	0	0	0	0	0	0	0	0	56	21:45	0	19	2	0	0	0	0	0	0	0	21			
10:00	0	49	6	0	3	0	0	0	0	0	0	0	0	58	22:00	0	21	0	0	0	0	0	0	0	0	21			
10:15	0	47	6	1	1	0	0	0	0	0	0	0	0	55	22:15	0	5	1	1	0	0	0	0	0	0	7			
10:30	1	51	5	1	1	0	0	0	0	0	0	0	0	59	22:30	0	14	0	0	0	0	0	0	0	0	14			
10:45	3	52	8	1	0	1	0	0	0	0	0	0	0	65	22:45	0	11	1	0	0	0	0	0	0	0	12			
11:00	0	41	5	1	4	0	0	0	0	0	0	0	0	51	23:00	0	7	0	1	0	0	0	0	0	0	8			
11:15	1	71	8	1	3	1	0	0	0	0	0	0	0	85	23:15	0	11	0	0	0	0	0	0	0	0	11			
11:30	0	62	4	1	2	1	0	0	0	0	0	0	0	70	23:30	0	8	0	0	0	0	0	0	1	0	9			
11:45	1	69	7	2	5	0	0	0	0	0	0	0	0	84	23:45	0	4	0	0	0	0	0	0	0	0	4			
TOTAL	9	1,196	110	30	40	10	3	0	2	0	0	0	0	1,400	TOTAL	35	2,572	173	46	33	23	9	0	4	0	0	1	0	2,896

AM PEAK HOUR 8:30 AM
AM PEAK VOLUME 334

PM PEAK HOUR 4:00 PM
PM PEAK VOLUME 520

CLASS 1	MOTORCYCLES	CLASS 8	FOUR OR LESS AXLE TRAILER
CLASS 2	PASSENGER VEHICLES	CLASS 9	5-AXLE TRACTOR SEMITRAILER
CLASS 3	FOUR TIRE SINGLE UNIT	CLASS 10	6 OR MORE AXLE SINGLE TRAILER
CLASS 4	BUSSES	CLASS 11	5-OR MORE AXLE MULTI TRAILER
CLASS 5	TWO AXLE SIX TIRE	CLASS 12	6-AXLE MULTI TRAILER
CLASS 6	THREE AXLE SINGLE UNIT	CLASS 13	7-OR MORE AXLE MULTI TRAILER
CLASS 7	FOR OR MORE AXLE SINGLE UNIT		

TOTAL: AM+PM	44	3,768	283	76	73	33	12	0	6	0	0	1	0	4,296
% OF TOTAL	1.0%	87.7%	6.6%	1.8%	1.7%	0.8%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

TOTAL: ALL	96	7,812	611	80	129	53	26	1	11	0	0	3	0	8,822
% OF TOTAL	2.2%	181.8%	14.2%	1.9%	3.0%	1.2%	0.6%	0.0%	0.3%	0.0%	0.0%	0.1%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

DATE: 12/08/16
JOB #: PTD-16-1202-01

THURSDAY

CITY: CLAIEMONT
LOCATION: CLAIEMONT DRIVE BTN LAKEHURST & CLAIEMONT MESA

AM TIME	SOUTHBOUND													TOTAL	PM Time	SOUTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	12:00	1	80	5	0	4	1	0	0	0	0	0	91		
0:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7	12:15	0	64	6	0	1	0	0	0	0	0	0	71		
0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12:30	0	72	4	0	1	0	0	0	0	0	0	77		
0:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	12:45	0	63	7	0	1	0	0	0	0	0	0	71		
1:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4	13:00	2	68	3	0	1	1	0	0	1	0	0	76		
1:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:15	1	61	6	0	1	1	1	0	0	0	0	71		
1:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13:30	1	78	8	0	1	0	0	0	0	0	0	88		
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13:45	4	56	6	1	1	0	0	0	0	0	0	68		
2:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14:00	1	70	3	0	3	0	1	0	0	0	0	78		
2:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14:15	1	83	2	0	0	1	1	0	0	0	1	89		
2:30	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14:30	3	68	3	0	3	0	1	0	0	0	0	78		
2:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	14:45	1	68	7	0	0	0	1	0	0	0	0	77		
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15:00	0	77	6	0	1	0	0	0	0	0	0	84		
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:15	1	66	5	0	2	1	1	0	0	0	0	76		
3:30	0	3	0	0	0	0	0	0	0	0	0	0	0	3	15:30	2	78	8	0	0	0	0	0	0	0	0	88		
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15:45	0	81	7	0	0	2	1	0	0	0	0	91		
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16:00	4	87	6	0	1	2	0	0	0	0	0	100		
4:15	0	2	1	0	0	0	0	0	0	0	0	0	0	3	16:15	2	76	8	0	0	0	0	1	0	0	0	87		
4:30	0	7	1	0	0	0	0	0	0	0	0	0	0	8	16:30	3	73	12	0	1	0	2	0	0	0	0	91		
4:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	16:45	1	108	11	0	1	0	0	0	0	0	1	122		
5:00	0	9	0	1	0	0	0	0	0	0	0	0	0	10	17:00	3	101	5	0	1	0	0	0	0	0	0	110		
5:15	0	7	1	0	0	0	0	0	0	0	0	0	0	8	17:15	0	101	4	0	2	2	0	0	0	0	0	109		
5:30	0	10	1	0	0	0	0	0	0	0	0	0	0	11	17:30	2	86	6	0	0	1	0	0	0	0	0	95		
5:45	0	14	3	0	0	0	0	0	0	0	0	0	0	17	17:45	1	100	9	0	0	1	1	0	0	0	0	112		
6:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12	18:00	0	79	5	0	0	0	0	0	0	0	0	84		
6:15	0	24	1	0	0	0	0	0	0	0	0	0	0	25	18:15	0	66	7	0	1	0	0	0	0	0	0	74		
6:30	0	31	8	0	0	0	0	0	1	0	0	0	0	40	18:30	0	71	7	0	1	0	0	0	0	0	0	79		
6:45	0	26	4	0	1	0	0	0	0	0	0	0	0	31	18:45	0	51	4	0	1	0	0	0	0	0	0	56		
7:00	2	53	6	0	3	1	0	0	0	0	0	0	0	65	19:00	0	43	5	0	1	0	0	0	0	0	0	49		
7:15	0	73	5	0	3	0	0	0	1	0	0	0	0	82	19:15	0	31	0	0	0	0	0	0	0	0	0	31		
7:30	1	78	7	0	0	0	0	0	0	0	0	0	0	86	19:30	0	44	2	0	0	0	0	0	1	0	0	47		
7:45	2	72	12	0	3	1	0	0	0	0	0	0	0	90	19:45	0	36	1	0	0	0	0	0	0	0	0	37		
8:00	2	71	6	0	1	0	0	0	0	0	0	0	0	80	20:00	0	26	4	0	1	0	0	0	0	0	0	31		
8:15	1	56	4	0	0	0	0	0	0	0	0	0	0	61	20:15	0	29	3	0	1	0	0	0	0	0	0	33		
8:30	0	99	6	0	1	1	0	0	0	0	0	0	0	107	20:30	0	18	2	0	0	0	0	0	0	0	0	20		
8:45	0	68	4	0	1	0	0	0	0	0	0	0	0	73	20:45	0	25	0	0	0	0	0	0	0	0	0	25		
9:00	2	60	5	1	2	2	0	0	0	0	0	0	0	72	21:00	0	21	1	0	0	0	0	0	0	0	0	22		
9:15	0	63	4	0	1	0	1	0	0	0	0	0	0	69	21:15	0	21	0	0	0	0	0	0	0	0	0	21		
9:30	0	71	3	0	0	0	1	0	0	0	0	0	0	75	21:30	0	14	1	0	0	0	0	0	0	0	0	15		
9:45	0	59	7	0	1	0	0	0	0	0	0	0	0	67	21:45	1	26	0	0	0	0	0	0	0	0	0	27		
10:00	0	72	5	0	0	0	0	0	0	0	0	0	0	77	22:00	0	19	0	0	0	0	0	0	0	0	0	19		
10:15	0	49	3	0	1	0	0	0	0	0	0	0	0	53	22:15	0	19	2	0	0	0	0	0	0	0	0	21		
10:30	0	60	6	0	1	0	0	0	1	0	0	0	0	68	22:30	0	12	2	0	0	0	0	0	0	0	0	14		
10:45	2	54	4	0	1	1	1	0	0	0	0	0	0	63	22:45	0	9	1	0	0	0	0	0	0	0	0	10		
11:00	0	66	6	0	0	0	0	0	0	0	0	0	0	72	23:00	0	4	1	0	0	0	0	0	0	0	0	5		
11:15	4	75	3	1	1	0	0	0	0	0	0	0	0	84	23:15	0	7	0	0	0	0	0	0	0	0	0	7		
11:30	0	61	7	0	1	1	0	0	0	0	0	0	0	70	23:30	0	0	1	0	0	0	0	0	0	0	0	1		
11:45	1	55	8	0	2	0	1	0	0	0	0	0	0	67	23:45	0	7	0	0	0	0	0	0	0	0	0	7		
TOTAL	17	1,501	132	3	24	7	4	1	2	0	0	0	0	1,691	TOTAL	35	2,543	196	1	32	13	10	0	3	0	0	2	0	2,835

AM PEAK HOUR 7:45 AM
AM PEAK VOLUME 338

PM PEAK HOUR 4:45 PM
PM PEAK VOLUME 436

CLASS 1	MOTORCYCLES	CLASS 8	FOUR OR LESS AXLE TRAILER
CLASS 2	PASSENGER VEHICLES	CLASS 9	5-AXLE TRACTOR SEMITRAILER
CLASS 3	FOUR TIRE SINGLE UNIT	CLASS 10	6 OR MORE AXLE SINGLE TRAILER
CLASS 4	BUSSES	CLASS 11	5-OR MORE AXLE MULTI TRAILER
CLASS 5	TWO AXLE SIX TIRE	CLASS 12	6-AXLE MULTI TRAILER
CLASS 6	THREE AXLE SINGLE UNIT	CLASS 13	7-OR MORE AXLE MULTI TRAILER
CLASS 7	FOR OR MORE AXLE SINGLE UNIT		

TOTAL: AM+PM	52	4,044	328	4	56	20	14	1	5	0	0	2	0	4,526
% OF TOTAL	1.1%	89.4%	7.2%	0.1%	1.2%	0.4%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

DATE: 12/06/16 TUESDAY
 JOB #: PTD-16-1202-01

CITY: CLAIREMONT
 LOCATION: CLAIREMONT DRIVE BTN IROQUIS & BURGNER

AM Time	NORTHBOUND													TOTAL	PM Time	NORTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	17	0	0	0	0	0	0	0	0	0	0	0	17	12:00	3	86	3	1	1	2	1	0	1	0	0	0	1	99
0:15	0	12	0	0	1	0	0	0	0	0	0	0	0	13	12:15	6	86	0	0	3	2	3	0	0	0	0	0	1	101
0:30	0	10	0	0	0	0	1	0	0	0	0	0	0	11	12:30	4	83	3	0	2	3	2	0	1	0	0	0	1	99
0:45	0	15	0	0	0	0	0	0	0	0	0	0	0	15	12:45	0	81	2	0	0	1	5	0	3	0	0	0	0	92
1:00	1	11	0	0	0	0	0	0	0	0	0	0	0	12	13:00	0	76	2	1	3	2	3	0	0	0	1	1	89	
1:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6	13:15	1	92	1	0	5	3	5	0	0	0	0	0	108	
1:30	0	7	0	0	0	1	0	0	0	0	0	0	0	8	13:30	2	108	0	0	2	2	1	1	0	0	0	0	116	
1:45	0	8	0	0	0	0	0	0	0	0	0	0	0	8	13:45	1	92	2	1	2	2	2	0	1	0	0	0	104	
2:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4	14:00	1	89	2	0	3	4	4	0	1	0	0	0	107	
2:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6	14:15	2	82	2	0	6	1	4	0	3	0	0	0	101	
2:30	0	6	1	0	0	0	0	0	0	0	0	0	0	7	14:30	1	81	1	0	3	2	4	1	0	0	0	0	94	
2:45	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14:45	2	113	1	0	4	3	1	0	1	0	0	0	125	
3:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	15:00	0	90	0	0	1	1	4	0	2	1	0	1	102	
3:15	0	6	0	0	0	0	0	0	0	1	0	0	0	7	15:15	0	97	1	1	7	5	2	0	1	0	0	3	118	
3:30	0	2	0	0	0	0	0	0	0	0	0	0	0	2	15:30	7	123	3	1	12	2	2	0	0	0	1	0	152	
3:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	15:45	8	131	2	1	15	3	4	1	0	0	1	1	168	
4:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16:00	1	108	4	0	4	2	2	0	0	0	1	1	124	
4:15	0	8	0	0	1	0	0	0	0	0	0	0	0	9	16:15	7	104	0	0	4	3	4	0	0	0	0	0	123	
4:30	0	3	1	0	0	0	0	0	0	0	0	0	0	4	16:30	0	102	1	0	5	0	7	0	0	1	0	2	119	
4:45	0	14	0	0	0	0	0	0	0	0	0	0	0	14	16:45	5	93	1	1	3	1	6	0	1	0	0	0	112	
5:00	0	6	0	0	1	1	0	0	0	0	0	0	0	8	17:00	3	116	2	1	5	9	5	0	0	0	0	0	141	
5:15	0	7	0	0	1	0	0	0	0	0	0	0	0	8	17:15	4	113	2	0	8	2	4	1	0	0	0	1	135	
5:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9	17:30	5	114	2	1	5	4	5	1	2	0	0	0	140	
5:45	0	19	0	0	2	1	0	0	0	0	0	0	0	22	17:45	2	113	0	0	4	1	2	0	0	0	0	0	122	
6:00	0	20	0	0	0	0	0	0	0	0	0	0	0	20	18:00	1	120	1	1	5	1	3	0	2	0	0	1	136	
6:15	0	38	1	0	2	1	1	0	0	0	0	0	0	43	18:15	2	90	0	0	2	0	3	0	0	0	0	1	98	
6:30	0	30	1	0	1	0	0	0	0	0	0	0	0	32	18:30	2	91	0	1	6	4	2	0	0	0	0	1	107	
6:45	0	61	1	0	3	1	0	0	0	0	0	0	0	66	18:45	1	83	1	0	2	0	2	0	1	2	0	0	0	92
7:00	0	82	1	0	4	1	0	0	1	0	0	0	0	89	19:00	0	99	0	0	2	2	3	0	1	0	0	2	109	
7:15	3	49	4	1	4	0	1	0	0	0	0	0	0	62	19:15	1	74	1	0	0	1	2	0	0	1	0	0	80	
7:30	0	54	2	0	4	2	0	0	0	0	0	1	0	63	19:30	0	72	2	0	1	0	4	1	0	0	0	0	80	
7:45	1	67	3	0	6	0	2	2	0	1	0	0	1	83	19:45	0	61	0	0	1	1	5	0	0	0	0	0	69	
8:00	1	81	0	0	6	0	1	0	1	0	0	0	0	90	20:00	2	62	0	0	3	1	3	0	0	0	0	1	72	
8:15	0	87	2	0	2	2	3	1	1	0	0	0	1	99	20:15	2	70	2	0	2	1	0	0	1	0	0	0	78	
8:30	5	87	0	0	11	0	3	0	0	0	0	1	0	107	20:30	0	58	0	0	1	1	1	0	0	0	0	0	61	
8:45	0	105	1	0	10	0	0	0	1	0	0	0	0	117	20:45	0	83	0	0	0	0	0	0	1	0	0	0	84	
9:00	1	107	1	0	1	2	2	0	0	0	0	1	0	115	21:00	0	61	0	0	1	0	3	0	0	0	0	0	65	
9:15	1	74	0	0	2	3	2	1	0	0	0	1	0	84	21:15	0	54	0	0	1	0	1	0	0	1	0	0	57	
9:30	0	78	0	0	5	3	2	0	1	0	0	0	0	89	21:30	0	52	0	0	1	0	1	0	0	1	0	1	56	
9:45	6	57	2	0	4	2	0	0	0	0	1	0	0	72	21:45	0	51	0	0	0	0	2	0	0	0	0	0	53	
10:00	1	72	2	0	2	1	0	0	0	1	0	0	0	79	22:00	1	54	0	0	0	0	1	0	0	0	0	0	0	56
10:15	1	71	0	0	2	0	0	0	0	0	0	0	0	74	22:15	0	38	0	0	1	0	2	0	0	0	0	0	41	
10:30	2	72	0	0	6	3	1	0	0	0	0	1	0	85	22:30	0	28	0	0	1	0	0	0	0	0	0	0	29	
10:45	0	66	1	0	2	2	3	0	0	0	0	0	0	74	22:45	0	32	0	0	1	0	1	0	0	0	0	0	34	
11:00	4	81	0	0	3	1	0	0	0	0	0	0	0	89	23:00	1	28	0	0	0	1	0	0	0	0	0	0	30	
11:15	2	78	4	0	2	2	1	1	1	0	0	0	1	92	23:15	0	12	0	0	1	1	0	0	0	0	0	0	14	
11:30	0	81	3	0	4	5	2	0	1	0	0	0	0	96	23:30	2	26	0	0	0	0	0	0	0	0	0	0	28	
11:45	0	80	3	1	4	0	4	0	1	1	0	0	0	94	23:45	0	20	0	0	0	0	1	0	0	0	0	0	21	
TOTAL	29	1,863	34	2	96	34	29	5	9	3	1	5	3	2,113	TOTAL	80	3,792	44	11	139	74	122	6	23	7	3	16	24	4,341

AM PEAK HOUR 8:15 AM
AM PEAK VOLUME 438

PM PEAK HOUR 3:30 PM
PM PEAK VOLUME 567

CLASS 1	MOTORCYCLES	CLASS 8	FOUR OR LESS AXLE TRAILER
CLASS 2	PASSENGER VEHICLES	CLASS 9	5-AXLE TRACTOR SEMITRAILER
CLASS 3	FOUR TIRE SINGLE UNIT	CLASS 10	6 OR MORE AXLE SINGLE TRAILER
CLASS 4	BUSSES	CLASS 11	5-OR MORE AXLE MULTI TRAILER
CLASS 5	TWO AXLE SIX TIRE	CLASS 12	6-AXLE MULTI TRAILER
CLASS 6	THREE AXLE SINGLE UNIT	CLASS 13	7-OR MORE AXLE MULTI TRAILER
CLASS 7	FOR OR MORE AXLE SINGLE UNIT		

TOTAL: AM+PM	109	5,655	78	13	235	108	151	11	32	10	4	21	27	6,454
% OF TOTAL	1.7%	87.6%	1.2%	0.2%	3.6%	1.7%	2.3%	0.2%	0.5%	0.2%	0.1%	0.3%	0.4%	100.0%

TOTAL: ALL	188	12,450	594	85	319	154	163	15	37	14	6	21	29	14,075
% OF TOTAL	2.9%	192.9%	9.2%	1.3%	4.9%	2.4%	2.5%	0.2%	0.6%	0.2%	0.1%	0.3%	0.4%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

DATE: 12/06/16 TUESDAY
JOB #: PTD-16-1202-01

CITY: CLAIREMONT
LOCATION: CLAIREMONT DRIVE BTN IROQUIS & BURGNER

AM TIME	SOUTHBOUND													TOTAL	PM Time	SOUTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8	12:00	1	100	9	1	0	0	0	0	0	1	0	0	112	
0:15	0	11	0	1	0	0	0	0	0	0	0	0	0	12	12:15	0	99	6	1	3	0	0	0	0	0	0	109		
0:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6	12:30	1	96	7	1	6	0	0	0	0	0	0	111		
0:45	0	7	0	0	0	0	0	0	0	0	0	0	0	7	12:45	4	87	12	0	1	1	0	0	0	0	0	105		
1:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8	13:00	0	81	5	0	1	3	0	1	0	0	0	91		
1:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3	13:15	0	85	6	2	1	1	0	0	0	0	0	95		
1:30	0	2	1	0	0	0	0	0	0	0	0	0	0	3	13:30	1	96	7	1	0	1	0	0	0	1	0	107		
1:45	0	3	1	0	0	0	0	0	0	0	0	0	0	4	13:45	2	101	4	0	0	1	0	0	0	0	0	108		
2:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10	14:00	0	104	11	1	2	0	1	0	0	0	0	119		
2:15	0	3	2	0	0	0	0	0	0	0	0	0	0	5	14:15	2	120	5	2	3	3	2	0	0	0	0	137		
2:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:30	1	112	12	3	4	3	1	0	0	0	0	136		
2:45	0	3	1	0	0	0	0	0	0	0	0	0	0	4	14:45	1	121	4	1	4	2	0	0	0	0	1	134		
3:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:00	2	112	10	0	0	1	0	0	0	0	0	125		
3:15	0	7	0	0	0	0	0	0	0	0	0	0	0	7	15:15	0	142	10	2	0	0	0	0	0	0	0	154		
3:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6	15:30	4	133	12	0	5	1	0	0	1	0	0	156		
3:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	15:45	0	172	13	6	3	0	0	0	0	0	0	194		
4:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8	16:00	3	133	11	2	5	0	1	0	0	0	0	155		
4:15	0	11	1	0	0	0	0	0	0	0	0	0	0	12	16:15	2	127	13	1	0	1	0	0	0	0	0	144		
4:30	0	14	2	0	0	0	0	0	0	0	0	0	0	16	16:30	1	116	9	0	0	2	0	0	0	1	0	129		
4:45	0	18	4	0	0	0	0	0	0	0	0	0	0	22	16:45	2	132	8	1	1	2	0	0	0	0	0	146		
5:00	1	20	1	1	0	0	0	1	0	0	0	0	0	24	17:00	6	116	9	1	1	0	1	0	1	0	0	135		
5:15	0	25	4	0	0	0	0	0	0	0	0	0	0	29	17:15	0	136	9	1	1	1	0	0	0	0	0	148		
5:30	1	40	8	1	2	0	0	0	0	0	0	0	0	52	17:30	2	124	10	1	1	0	0	0	0	0	0	138		
5:45	0	54	9	1	1	0	0	0	0	0	0	0	0	65	17:45	0	128	7	1	0	0	0	0	0	0	0	136		
6:00	2	53	5	1	0	0	0	0	0	0	0	0	0	61	18:00	0	120	8	1	2	0	0	0	0	0	0	131		
6:15	0	68	10	0	2	0	0	0	0	0	0	0	0	80	18:15	7	148	5	1	0	0	0	0	0	0	0	161		
6:30	0	92	10	2	2	2	0	0	0	0	0	0	0	108	18:30	2	108	7	0	1	1	0	0	0	0	0	119		
6:45	0	86	6	2	4	0	0	0	0	0	0	0	0	98	18:45	0	99	5	2	1	2	0	0	0	1	0	111		
7:00	2	118	14	1	1	1	1	0	0	0	0	0	0	138	19:00	0	85	5	0	0	0	0	0	0	1	0	91		
7:15	0	154	4	2	3	3	0	0	0	0	0	0	0	166	19:15	3	67	4	1	0	0	0	0	0	0	0	75		
7:30	1	135	7	1	0	2	0	0	0	0	0	0	0	146	19:30	2	66	1	0	0	0	0	0	0	0	0	69		
7:45	1	132	12	2	0	0	1	0	0	0	0	0	0	148	19:45	2	50	1	1	0	0	0	0	0	0	0	54		
8:00	5	103	11	1	1	0	0	0	0	0	0	0	0	121	20:00	1	76	5	0	0	1	0	0	0	0	0	83		
8:15	0	135	8	4	0	0	0	0	0	0	0	0	0	147	20:15	0	51	2	0	0	0	0	0	0	0	0	53		
8:30	4	150	9	2	3	0	0	0	0	1	0	0	0	169	20:30	0	58	4	0	0	0	0	0	0	0	0	62		
8:45	3	148	12	2	3	0	0	1	0	0	0	0	0	169	20:45	0	52	4	1	0	0	0	0	0	0	0	57		
9:00	0	127	9	1	0	0	0	0	0	0	0	0	0	137	21:00	0	49	2	0	0	0	0	0	0	0	0	51		
9:15	0	105	3	1	0	0	0	0	1	0	0	0	0	110	21:15	0	36	1	0	0	0	0	0	0	0	0	37		
9:30	0	87	9	1	0	1	0	0	0	0	0	0	0	98	21:30	0	47	1	0	0	1	0	0	0	0	0	49		
9:45	0	72	9	0	2	2	0	0	0	0	0	0	0	85	21:45	0	41	0	1	0	0	0	0	0	0	0	42		
10:00	0	75	11	1	0	2	1	0	0	0	0	0	0	90	22:00	1	25	2	0	0	0	0	0	0	0	0	28		
10:15	1	69	10	1	0	2	0	0	0	0	0	0	0	83	22:15	0	31	1	0	0	0	0	0	1	0	0	33		
10:30	2	84	9	1	2	0	1	0	1	0	0	0	0	100	22:30	0	17	0	0	0	0	0	0	0	0	0	17		
10:45	2	83	13	0	1	1	1	0	0	0	0	0	0	101	22:45	0	23	1	0	0	0	0	0	0	0	0	24		
11:00	0	89	5	2	3	0	0	1	0	0	0	0	0	100	23:00	0	21	1	0	0	0	0	0	0	0	0	22		
11:15	0	91	7	1	3	0	0	0	0	0	0	0	0	102	23:15	0	18	1	0	1	0	0	0	0	0	0	20		
11:30	0	97	8	1	3	1	1	0	0	0	0	0	0	111	23:30	0	7	0	1	0	0	0	0	0	0	0	8		
11:45	1	86	10	0	1	1	0	0	0	0	0	0	0	99	23:45	0	8	0	0	0	0	0	0	0	0	0	8		
TOTAL	26	2,719	246	34	37	18	6	3	2	1	0	0	0	3,092	TOTAL	53	4,076	270	38	47	28	6	1	3	3	2	0	2	4,529

AM PEAK HOUR 8:15 AM
AM PEAK VOLUME 622

PM PEAK HOUR 3:15 PM
PM PEAK VOLUME 659

CLASS 1	MOTORCYCLES	CLASS 8	FOUR OR LESS AXLE TRAILER
CLASS 2	PASSENGER VEHICLES	CLASS 9	5-AXLE TRACTOR SEMITRAILER
CLASS 3	FOUR TIRE SINGLE UNIT	CLASS 10	6 OR MORE AXLE SINGLE TRAILER
CLASS 4	BUSSES	CLASS 11	5-OR MORE AXLE MULTI TRAILER
CLASS 5	TWO AXLE SIX TIRE	CLASS 12	6-AXLE MULTI TRAILER
CLASS 6	THREE AXLE SINGLE UNIT	CLASS 13	7-OR MORE AXLE MULTI TRAILER
CLASS 7	FOR OR MORE AXLE SINGLE UNIT		

TOTAL: AM+PM	79	6,795	516	72	84	46	12	4	5	4	2	0	2	7,621
% OF TOTAL	1.0%	89.2%	6.8%	0.9%	1.1%	0.6%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT SUMMARY (WITH CLASSIFICATION)

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

DATE: 12/06/16 TUESDAY
JOB #: PTD-16-1202-01

CITY: CLAIREMONT
LOCATION: CLAIREMONT DRIVE BTN HARTFORD & GALVENSTON

AM Time	NORTHBOUND													TOTAL	PM Time	NORTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	24	0	0	0	0	0	0	0	0	0	0	0	24	12:00	0	176	16	1	2	0	0	1	0	0	0	0	196	
0:15	0	21	0	0	1	0	0	0	0	0	0	0	0	22	12:15	0	171	16	1	2	0	0	0	0	0	0	0	190	
0:30	0	23	0	0	0	0	0	0	0	0	0	0	0	23	12:30	0	160	12	0	4	0	0	0	0	0	0	176		
0:45	0	19	0	0	1	0	0	0	0	0	0	0	0	20	12:45	0	172	12	0	3	0	0	0	0	0	0	187		
1:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15	13:00	0	156	12	0	3	1	0	0	0	0	0	172		
1:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:15	0	144	9	2	3	0	0	0	0	0	0	158		
1:30	0	13	1	0	0	0	0	0	0	0	0	0	0	14	13:30	0	143	8	0	1	0	0	0	0	0	0	152		
1:45	0	8	0	0	0	0	0	0	0	0	0	0	0	8	13:45	0	165	17	0	4	0	0	0	0	0	0	186		
2:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7	14:00	2	176	20	1	4	1	0	0	0	0	0	204		
2:15	0	9	0	0	0	0	0	0	0	0	0	0	0	9	14:15	0	185	11	1	2	0	0	0	0	0	0	199		
2:30	0	5	0	0	1	0	0	0	0	0	0	0	0	6	14:30	0	190	17	0	0	0	0	0	0	0	0	207		
2:45	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:45	0	209	17	1	4	0	0	0	0	0	0	231		
3:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8	15:00	1	202	18	0	0	0	0	0	0	0	0	221		
3:15	0	3	1	0	0	0	0	0	1	0	0	0	0	5	15:15	0	239	20	4	3	0	0	0	0	0	0	266		
3:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2	15:30	0	268	27	1	2	1	0	1	0	0	0	300		
3:45	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:45	0	296	16	2	6	0	0	0	0	0	0	320		
4:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	16:00	0	222	16	0	3	0	0	0	0	0	0	241		
4:15	0	7	1	0	1	0	0	0	0	0	0	0	0	9	16:15	0	234	21	1	2	0	0	0	0	0	0	258		
4:30	0	4	0	0	0	0	0	0	0	0	0	0	0	4	16:30	0	251	19	1	2	0	0	0	0	0	0	273		
4:45	0	15	1	0	1	0	0	0	0	0	0	0	0	17	16:45	1	251	18	1	0	0	0	0	0	0	0	271		
5:00	0	8	1	1	0	0	0	0	0	0	0	0	0	10	17:00	0	257	10	1	3	0	0	1	0	0	0	272		
5:15	0	8	0	0	0	0	0	0	0	0	0	0	0	8	17:15	1	274	19	2	3	1	0	0	0	0	0	300		
5:30	0	18	2	1	0	1	0	0	0	0	0	0	0	22	17:30	0	272	13	1	1	0	0	0	0	0	0	287		
5:45	0	33	1	1	0	0	0	0	0	0	0	0	0	35	17:45	0	219	14	1	1	0	0	0	0	0	0	235		
6:00	0	31	3	0	1	1	0	0	0	0	0	0	0	36	18:00	1	210	7	1	1	0	0	0	0	0	0	220		
6:15	0	56	5	1	1	0	0	0	0	0	0	0	0	63	18:15	0	178	11	1	0	1	0	1	0	0	0	192		
6:30	0	49	7	0	1	0	0	0	0	0	0	0	0	57	18:30	0	194	11	0	0	0	0	0	0	1	0	206		
6:45	0	70	3	1	2	0	0	0	0	0	0	0	0	76	18:45	0	158	8	0	0	1	0	0	0	0	0	167		
7:00	0	85	6	0	2	0	0	0	0	0	0	0	0	93	19:00	1	175	7	0	1	0	1	0	0	0	0	185		
7:15	0	90	7	0	4	1	0	0	0	0	0	0	0	102	19:15	0	159	6	1	0	0	0	0	0	0	0	166		
7:30	0	93	5	0	4	0	0	0	0	0	0	0	0	102	19:30	0	134	13	0	1	0	0	0	0	0	0	148		
7:45	0	113	8	1	2	0	0	0	0	0	0	0	0	124	19:45	0	103	9	0	0	0	0	0	0	0	0	112		
8:00	0	139	17	0	2	1	0	0	0	0	0	0	0	159	20:00	0	145	8	0	0	0	0	0	0	0	0	153		
8:15	0	145	10	2	3	0	0	0	0	0	0	0	0	160	20:15	0	119	3	1	1	0	0	0	1	0	0	125		
8:30	0	149	5	3	5	0	0	0	0	0	0	0	0	162	20:30	0	106	3	0	1	0	0	0	0	0	0	110		
8:45	0	174	13	2	4	0	0	0	0	0	0	0	0	193	20:45	0	124	5	0	0	0	0	0	0	0	0	129		
9:00	1	169	11	0	1	0	0	0	0	0	0	0	0	182	21:00	1	102	8	0	2	0	0	0	0	0	0	113		
9:15	0	116	11	2	1	1	0	0	0	0	0	0	0	131	21:15	0	106	5	0	0	1	0	0	0	0	0	112		
9:30	0	109	10	1	2	1	0	0	0	0	0	0	0	123	21:30	0	89	2	0	0	0	0	0	0	0	0	91		
9:45	0	90	5	0	1	1	0	1	0	0	0	0	0	98	21:45	0	72	1	0	0	0	0	0	0	0	0	73		
10:00	0	107	11	0	1	0	0	0	0	0	0	0	0	119	22:00	0	89	1	0	0	0	0	0	0	0	0	0	90	
10:15	0	113	7	1	3	0	0	0	0	0	0	0	0	124	22:15	0	64	4	1	0	0	0	0	0	0	0	69		
10:30	0	138	12	0	3	0	0	2	0	0	0	0	0	155	22:30	0	48	0	0	0	0	0	0	0	0	0	48		
10:45	0	123	19	1	0	0	0	0	0	0	0	0	0	143	22:45	0	50	5	0	0	0	0	0	0	0	0	55		
11:00	1	118	10	0	3	0	0	0	0	0	0	0	0	132	23:00	1	40	1	0	0	0	0	0	0	0	0	42		
11:15	0	152	9	1	2	0	0	0	0	0	0	0	0	164	23:15	0	28	1	0	1	0	0	0	0	0	0	30		
11:30	1	130	9	0	1	0	0	0	0	0	0	0	0	141	23:30	0	43	3	0	0	0	0	0	0	0	0	46		
11:45	0	141	11	0	2	0	0	0	0	0	0	0	0	154	23:45	0	36	1	0	0	0	0	0	0	0	0	37		
TOTAL	3	2,963	226	19	56	7	0	3	1	0	0	0	0	3,278	TOTAL	9	7,604	501	27	66	7	1	4	1	0	0	1	0	8,221

AM PEAK HOUR 8:15 AM
AM PEAK VOLUME 697

PM PEAK HOUR 4:45 PM
PM PEAK VOLUME 1,130

CLASS 1	MOTORCYCLES	CLASS 8	FOUR OR LESS AXLE TRAILER
CLASS 2	PASSENGER VEHICLES	CLASS 9	5-AXLE TRACTOR SEMITRAILER
CLASS 3	FOUR TIRE SINGLE UNIT	CLASS 10	6 OR MORE AXLE SINGLE TRAILER
CLASS 4	BUSSES	CLASS 11	5-OR MORE AXLE MULTI TRAILER
CLASS 5	TWO AXLE SIX TIRE	CLASS 12	6-AXLE MULTI TRAILER
CLASS 6	THREE AXLE SINGLE UNIT	CLASS 13	7-OR MORE AXLE MULTI TRAILER
CLASS 7	FOR OR MORE AXLE SINGLE UNIT		

TOTAL: AM+PM	12	10,567	727	46	122	14	1	7	2	0	0	1	0	11,499
% OF TOTAL	0.1%	91.9%	6.3%	0.4%	1.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

TOTAL: ALL	49	19,795	###	107	###	28	2	18	6	0	0	2	0	23,294
% OF TOTAL	0.4%	172.1%	19.5%	0.9%	9.1%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

PREPARED BY: PACIFIC TECHNICAL DATA, LLC

DATE: 12/06/16 TUESDAY
JOB #: PTD-16-1202-01

CITY: CLAIEMONT
LOCATION: CLAIEMONT DRIVE BTN HARTFORD & GALVENSTON

AM TIME	SOUTHBOUND													TOTAL	PM Time	SOUTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	10	2	0	1	0	0	0	0	0	0	0	0	13	12:00	1	113	18	0	12	0	0	0	0	0	0	144		
0:15	0	8	0	1	0	0	0	0	0	0	0	0	0	9	12:15	1	145	24	3	11	0	0	0	1	0	0	185		
0:30	0	11	3	1	0	0	0	0	0	0	0	0	0	15	12:30	1	136	20	2	23	0	0	0	0	0	0	182		
0:45	0	9	3	0	1	0	0	0	0	0	0	0	0	13	12:45	0	131	18	0	17	0	0	1	0	0	0	167		
1:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	13:00	0	92	15	0	12	1	0	0	0	0	0	120		
1:15	0	5	0	0	0	0	0	0	0	0	0	0	0	5	13:15	0	122	20	2	16	0	0	0	0	0	0	160		
1:30	0	4	0	0	1	0	0	0	0	0	0	0	0	5	13:30	2	122	33	2	12	0	0	0	0	0	0	171		
1:45	0	5	0	0	1	0	0	0	0	0	0	0	0	6	13:45	0	142	27	0	12	0	0	1	0	0	0	182		
2:00	0	8	0	0	2	0	0	0	0	0	0	0	0	10	14:00	0	140	21	1	19	0	0	0	0	0	0	181		
2:15	0	4	1	0	2	0	0	0	0	0	0	0	0	7	14:15	0	140	29	3	20	0	0	1	0	0	0	193		
2:30	0	10	0	0	0	0	0	0	0	0	0	0	0	10	14:30	0	145	29	1	22	0	0	0	0	0	0	197		
2:45	0	3	1	0	1	0	0	0	0	0	0	0	0	5	14:45	0	149	24	2	8	0	0	0	0	0	0	183		
3:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6	15:00	1	168	28	0	23	1	0	0	0	0	0	221		
3:15	0	11	0	0	0	0	0	0	0	0	0	0	0	11	15:15	0	188	35	1	11	0	0	0	0	0	0	235		
3:30	0	8	1	0	0	0	0	0	0	0	0	0	0	9	15:30	0	198	27	0	32	0	0	0	0	0	0	257		
3:45	0	4	2	0	0	0	0	0	0	0	0	0	0	6	15:45	0	197	34	5	28	1	0	0	0	0	0	265		
4:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11	16:00	3	150	27	2	17	1	0	1	0	0	0	201		
4:15	2	12	2	0	1	0	0	0	0	0	0	0	0	17	16:15	0	149	32	0	19	0	0	1	0	0	0	201		
4:30	0	19	3	0	3	0	0	0	0	0	0	0	0	25	16:30	1	164	28	1	13	0	0	0	0	0	0	207		
4:45	0	19	5	0	5	0	0	0	0	0	0	0	0	29	16:45	1	151	33	1	18	0	0	1	0	0	0	205		
5:00	1	24	3	0	1	0	0	0	0	0	0	0	0	29	17:00	0	168	22	1	14	0	0	0	0	0	0	205		
5:15	0	45	7	0	6	0	0	0	0	0	0	0	0	58	17:15	0	149	22	0	7	0	0	0	0	0	0	178		
5:30	2	60	8	0	14	0	0	1	0	0	0	0	0	85	17:30	0	175	22	2	15	1	0	0	0	0	0	215		
5:45	0	58	17	0	17	0	0	1	0	0	0	0	0	93	17:45	1	170	19	0	10	0	0	0	0	0	0	200		
6:00	1	74	17	1	6	0	0	0	0	0	0	0	0	99	18:00	0	145	31	1	6	0	0	0	0	0	0	183		
6:15	0	111	15	0	14	0	0	0	0	0	0	0	0	140	18:15	0	141	20	0	9	1	0	0	0	0	0	171		
6:30	1	155	33	1	20	1	0	0	0	0	0	0	0	211	18:30	0	139	17	1	12	0	0	0	0	0	0	169		
6:45	2	152	30	1	22	0	0	0	0	0	0	0	0	207	18:45	0	117	11	1	10	0	0	0	0	0	0	139		
7:00	3	198	41	1	24	0	0	0	0	0	0	0	0	267	19:00	0	116	17	0	5	0	0	0	0	0	0	138		
7:15	1	215	36	1	20	1	0	0	0	0	0	0	0	274	19:15	0	91	6	0	2	0	0	0	0	0	0	99		
7:30	1	256	35	1	10	2	0	0	0	0	0	0	0	305	19:30	0	70	5	0	5	0	0	0	0	0	0	80		
7:45	0	202	33	1	21	1	0	0	0	0	0	0	0	258	19:45	0	53	10	1	3	0	0	0	0	0	0	67		
8:00	2	173	33	1	14	0	0	0	0	0	0	0	0	223	20:00	1	90	12	0	5	0	0	0	0	0	0	108		
8:15	0	207	22	2	13	0	0	0	0	0	0	1	0	245	20:15	0	51	12	0	7	0	0	0	0	0	0	70		
8:30	3	237	32	1	28	0	0	0	0	0	0	0	0	301	20:30	0	60	5	0	5	0	0	0	0	0	0	70		
8:45	0	224	39	4	25	0	0	0	0	0	0	0	0	292	20:45	0	62	12	1	6	0	0	0	0	0	0	81		
9:00	0	199	31	0	14	0	1	0	0	0	0	0	0	245	21:00	0	59	8	0	3	0	0	0	1	0	0	71		
9:15	1	142	23	1	9	0	0	0	0	0	0	0	0	176	21:15	0	45	9	0	5	0	0	0	0	0	0	59		
9:30	0	137	22	1	13	0	0	0	0	0	0	0	0	173	21:30	0	62	6	0	2	0	0	0	0	0	0	70		
9:45	0	136	16	0	13	0	0	0	0	0	0	0	0	165	21:45	0	49	5	1	1	0	0	0	0	0	0	56		
10:00	0	119	22	1	15	1	0	0	1	0	0	0	0	159	22:00	0	37	2	0	1	0	0	0	0	0	0	40		
10:15	1	104	24	2	13	1	0	0	0	0	0	0	0	145	22:15	2	36	3	0	0	0	0	0	0	0	0	41		
10:30	0	101	23	1	15	0	0	0	0	0	0	0	0	140	22:30	0	23	1	0	0	0	0	0	0	0	0	24		
10:45	0	128	20	1	20	0	0	1	0	0	0	0	0	170	22:45	0	24	2	0	1	0	0	0	0	0	0	27		
11:00	0	110	26	0	18	0	0	1	0	0	0	0	0	155	23:00	0	28	1	0	2	0	0	0	1	0	0	32		
11:15	1	105	26	1	11	0	0	1	0	0	0	0	0	145	23:15	0	20	3	0	1	0	0	0	0	0	0	24		
11:30	0	124	26	0	16	1	0	0	0	0	0	0	0	167	23:30	0	12	2	1	1	0	0	0	0	0	0	16		
11:45	0	121	18	0	14	0	0	0	0	0	0	0	0	153	23:45	0	9	1	0	1	0	0	0	0	0	0	11		
TOTAL	22	4,085	702	25	444	8	1	5	1	0	0	1	0	5,294	TOTAL	15	5,143	808	36	484	6	0	6	3	0	0	6,501		

AM PEAK HOUR 7:00 AM
AM PEAK VOLUME 1,104

PM PEAK HOUR 3:00 PM
PM PEAK VOLUME 978

CLASS 1	MOTORCYCLES	CLASS 8	FOUR OR LESS AXLE TRAILER
CLASS 2	PASSENGER VEHICLES	CLASS 9	5-AXLE TRACTOR SEMITRAILER
CLASS 3	FOUR TIRE SINGLE UNIT	CLASS 10	6 OR MORE AXLE SINGLE TRAILER
CLASS 4	BUSSES	CLASS 11	5-OR MORE AXLE MULTI TRAILER
CLASS 5	TWO AXLE SIX TIRE	CLASS 12	6-AXLE MULTI TRAILER
CLASS 6	THREE AXLE SINGLE UNIT	CLASS 13	7-OR MORE AXLE MULTI TRAILER
CLASS 7	FOR OR MORE AXLE SINGLE UNIT		

TOTAL: AM+PM	37	9,228	1,510	61	928	14	1	11	4	0	0	1	0	11,795
% OF TOTAL	0.3%	78.2%	12.8%	0.5%	7.9%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%



4.1.4 Segment Peak Day Volumes

24-hour traffic volumes were determined based on machine counts conducted February 12-17, 2013 (see Appendix C for detailed count sheets for each day). Table 4-1 summarizes the “Peak Daily Traffic Volume” at each of the 33 count locations. (Note: the volumes shown here are based on the “peak” day for each segment, not based on the multi-day “average”).

Based on those counts:

Traffic volumes on most of the study segments are relatively low:

- o Less than 16,000 daily vehicles on most segments of Morena (north of Tecolote) and on all segments of West Morena.
- o This level of traffic can be easily accommodated with just one travel lane in each direction.

Traffic volumes are highest where traffic passes through the edges of the study area:

- o Clairemont (at the north edge of the study area) carries 30,000 daily vehicles, consistent with a 4-lane configuration.
- o Short segments of Morena, Napa and Linda Vista in the southern portion of the study area carry “pass-through” traffic to and from Linda Vista Road (resulting in high volume of southbound left-turn movements at the intersection of Morena/Napa and Napa/Linda Vista).
- o Intersection geometries where the three streets intersect result in three closely spaced intersections in a triangle configuration. This requires a lengthy 136-second signal cycle during the PM peak hour, thus requiring additional storage capacity, while left-turn volumes result in a high portion of conflicting movements.

#	Street Name	Segment Location	DIRECTIONAL VOLUMES ON PEAK DAY				24-HOUR 2-WAY TRAFFIC VOLUME (PEAK DAY OF COUNT PERIOD)
			N/S Streets		E/W Streets		
			NB	SB	EB	WB	
1	Gesner St.	(Morena Bl - Denver St)			1,876	1,680	3,556
2	Clairemont Dr.	(I-5 NB Ramps - Denver St)			14,873	15,953	30,826
3	Ingulf St.	(Morena Bl - Denver St)			2,902	2,283	5,185
4	Denver St.	(Clairemont Dr - Ingulf St)	5,240	4,824			10,064
5	Morena Bl.	(North of Gesner St)	6,593	6,915			13,508
6	Morena Bl.	(Gesner St - Ingulf St)	5,916	5,481			11,397
7	Morena Bl.	(Ingulf St - Milton St)	7,816	6,989			14,805
8	Morena Bl.	(Milton St - Ashton St)	8,277	7,687			15,964
9	Morena Bl.	(Ashton St - Morena Bl N Split)	8,137	7,461			15,598
10	W Morena Bl.	(Morena Bl N Split - Vega St)	4,689	5,460			10,149
11	W Morena Bl.	(Vega St - Buenos Ave)	5,162	5,852			11,014
12	W Morena Bl.	(Buenos Ave - Morena Bl)	6,551	6,761			13,312
13	Morena Bl.	(W Morena Bl - Napa St)	14,938	14,985			29,923
14	Morena Bl.	(Napa/Sherman St - Linda Vista Rd)	10,856	12,167			23,023
15	Morena Bl.	(South of Linda Vista Rd)	19,362	19,021			38,383
16	Morena Bl.	(W Morena Bl - Knoxville St)	5,083	4,088			9,171
17	Morena Bl.	(Knoxville St - Tecolote Rd)	8,832	8,637			17,469
18	Morena Bl.	(Tecolote Rd - Buenos Ave)	8,417	7,603			16,020
19	Morena Bl.	(Buenos Ave - Morena Bl S Split)	8,455	8,148			16,603
20	Napa St.	(Morena Blvd - Linda Vista Rd)	15,611	9,201			24,812
21	Napa St.	(Linda Vista Rd - Riley St)	8,722	8,959			17,681
22	Napa St.	(Riley St - Friars Rd)	7,647	6,273			13,920
23	Milton St.	(East of Morena Bl)			1,614	2,207	3,821
24	Knoxville St.	(Morena Bl - Savannah St)			560	589	1,149
25	Sea World Dr.	(Morena Bl - I-5 NB Ramps)			12,458	12,055	24,513
26	Buenos Ave.	(South of Cudahy Pl)	657	517			1,174
27	Cudahy Pl.	(East of Buenos Ave)			610	510	1,120
28	Sherman St.	(Morena Bl - Grant St)	3,935	3,454			7,389
29	Linda Vista Rd.	(Morena Bl - Napa St)			11,322	11,281	22,603
30	Linda Vista Rd.	(Napa St - Marian Wy)			13,538	13,330	26,868
31	Riley St.	(Napa St - Lautetta St)			852	935	1,787
32	Friars Rd.	(Napa St - Colussa St)			10,025	9,525	19,550
33	Friars Rd.	(West of Napa St)			7,332	2,023	9,355

*Volumes shown are for the peak day of the count period (not average volumes).

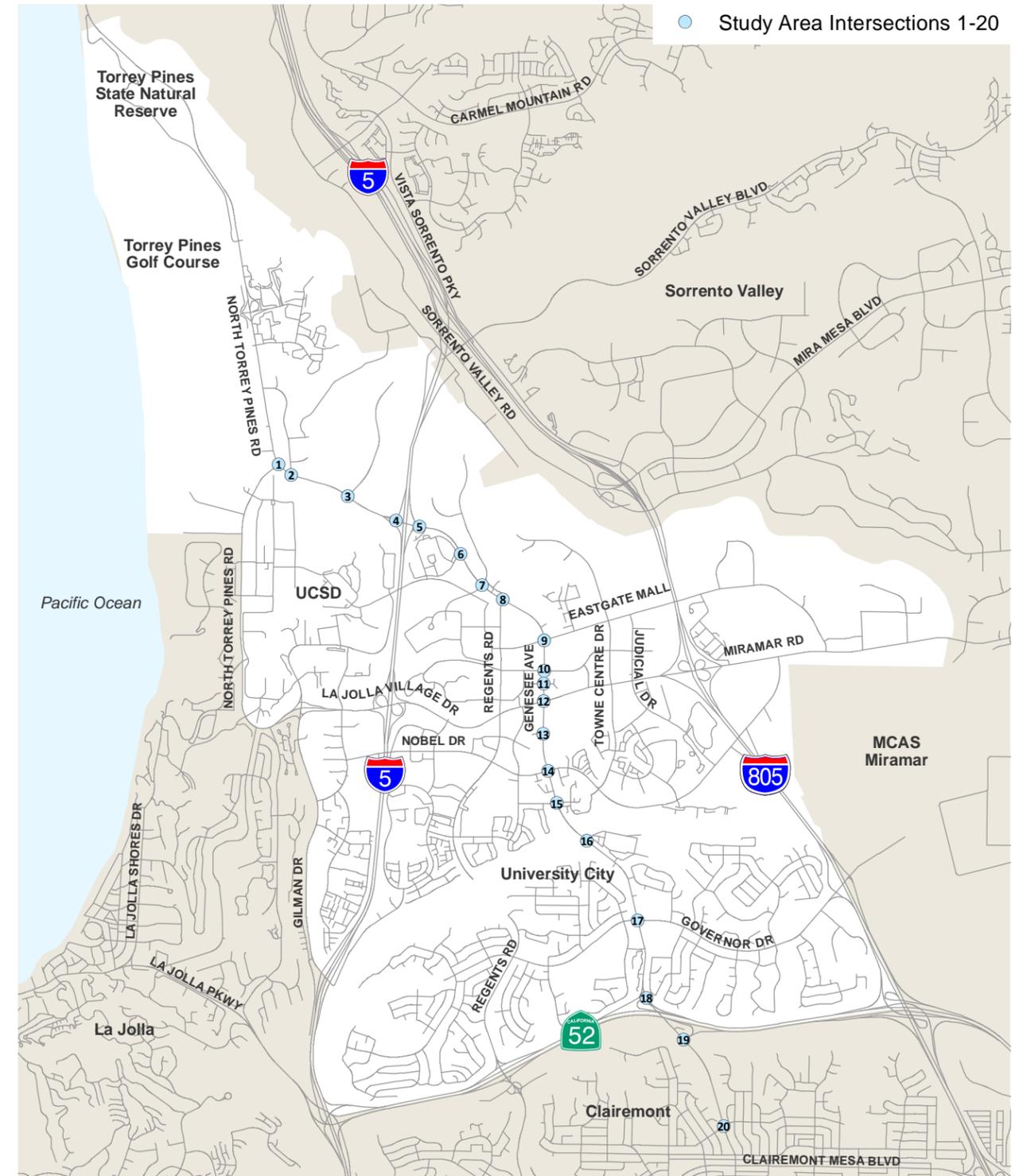
Table 4-1: Peak Daily Traffic Volumes

FIGURE 7-6

<p>1</p> <p>949 / 240 443 / 494</p> <p>Genesee Avenue</p> <p>401 / 825 321 / 824</p> <p>N. Torrey Pines Road</p> <p>471 / 561 293 / 388</p>	<p>2</p> <p>18 / 117</p> <p>82 / 541</p> <p>John Hopkins Drive (S)</p> <p>821 / 103 1371 / 616 1 / 0</p> <p>Genesee Avenue</p> <p>87 / 37 607 / 1176</p>	<p>3</p> <p>15 / 70</p> <p>27 / 281</p> <p>Science Center Drive</p> <p>275 / 300 2177 / 629 3 / 11</p> <p>Genesee Avenue</p> <p>75 / 80 616 / 1637</p>	<p>4</p> <p>712 / 338 0 / 3 971 / 850</p> <p>I-5 SB Ramps</p> <p>1617 / 548 85 / 312</p> <p>Genesee Avenue</p> <p>419 / 1281 184 / 671</p>
<p>5</p> <p>405 / 969 482 / 541</p> <p>Genesee Avenue</p> <p>188 / 854 1241 / 1277</p> <p>I-5 NB Ramps</p> <p>1193 / 319 8 / 4 566 / 99</p>	<p>6</p> <p>490 / 99 1458 / 1496 5 / 77</p> <p>Genesee Avenue</p> <p>Scripps Hospital</p> <p>60 / 444</p> <p>116 / 242</p> <p>208 / 85 824 / 1059</p>	<p>7</p> <p>469 / 139 700 / 1551 325 / 59</p> <p>Genesee Avenue</p> <p>52 / 283 12 / 25 19 / 381</p> <p>Campus Point Drive</p> <p>152 / 323 13 / 9 96 / 339</p> <p>380 / 183 921 / 536 371 / 41</p>	<p>8</p> <p>1277 / 638 94 / 36</p> <p>Genesee Avenue</p> <p>89 / 44 643 / 1574 99 / 649</p> <p>Regents Road</p> <p>190 / 103 77 / 59</p>
<p>9</p> <p>96 / 60 371 / 889 206 / 482</p> <p>Genesee Avenue</p> <p>411 / 194 285 / 239 64 / 206</p> <p>Eastgate Mall</p> <p>56 / 48 190 / 177 55 / 63</p> <p>180 / 27 1110 / 423 249 / 101</p>	<p>10</p> <p>23 / 45 346 / 1261 56 / 103</p> <p>Genesee Avenue</p> <p>84 / 90 69 / 213 31 / 117</p> <p>Executive Drive</p> <p>21 / 21 113 / 105 22 / 66</p> <p>61 / 72 1170 / 335 275 / 65</p>	<p>11</p> <p>18 / 13 376 / 1435 12 / 6</p> <p>Genesee Avenue</p> <p>9 / 15 4 / 10 9 / 127</p> <p>Executive Square</p> <p>13 / 29 3 / 2 36 / 172</p> <p>281 / 37 1483 / 425 208 / 12</p>	<p>12</p> <p>52 / 253 165 / 877 180 / 512</p> <p>Genesee Avenue</p> <p>365 / 110 1550 / 1342 112 / 344</p> <p>La Jolla Village Drive</p> <p>368 / 114 1491 / 1122 79 / 197</p> <p>170 / 233 1017 / 241 104 / 71</p>
<p>13</p> <p>78 / 157 224 / 1031 96 / 288</p> <p>Genesee Avenue</p> <p>108 / 243 14 / 39 57 / 181</p> <p>Esplanade Court</p> <p>98 / 148 8 / 31 30 / 74</p> <p>50 / 73 1464 / 487 100 / 170</p>	<p>14</p> <p>42 / 121 228 / 1230 55 / 113</p> <p>Genesee Avenue</p> <p>45 / 65 263 / 554 79 / 277</p> <p>Nobel Drive</p> <p>106 / 202 466 / 323 86 / 204</p> <p>156 / 191 1424 / 453 163 / 118</p>	<p>15</p> <p>41 / 49 521 / 1851 8 / 16</p> <p>Genesee Avenue</p> <p>22 / 15 24 / 38 55 / 245</p> <p>Decoro Street</p> <p>24 / 21 28 / 25 173 / 208</p> <p>149 / 179 1702 / 724 121 / 29</p>	<p>16</p> <p>578 / 2266 169 / 41</p> <p>Genesee Avenue</p> <p>212 / 22 300 / 85</p> <p>Centurion Square</p> <p>0 / 1 1752 / 901 278 / 46</p>
<p>17</p> <p>256 / 464 499 / 1376 181 / 402</p> <p>Genesee Avenue</p> <p>249 / 114 236 / 334 247 / 314</p> <p>Governor Drive</p> <p>455 / 195 306 / 279 142 / 118</p> <p>71 / 189 1349 / 511 223 / 250</p>	<p>18</p> <p>113 / 338 887 / 1558</p> <p>Genesee Avenue</p> <p>852 / 351</p> <p>SR-52 WB Ramps</p> <p>131 / 422</p> <p>420 / 331 942 / 455</p>	<p>19</p> <p>581 / 1220 437 / 760</p> <p>Genesee Avenue</p> <p>170 / 225 132 / 352</p> <p>SR-52 EB Ramps</p> <p>1187 / 561 721 / 300</p>	<p>20</p> <p>75 / 247 592 / 1180 46 / 144</p> <p>Genesee Avenue</p> <p>276 / 63 37 / 37 33 / 26</p> <p>Lehrer Drive</p> <p>390 / 180 18 / 85 45 / 44</p> <p>12 / 52 1242 / 614 8 / 17</p>

LEGEND

↔ X/Y AM/PM Peak Hour Turning Volumes



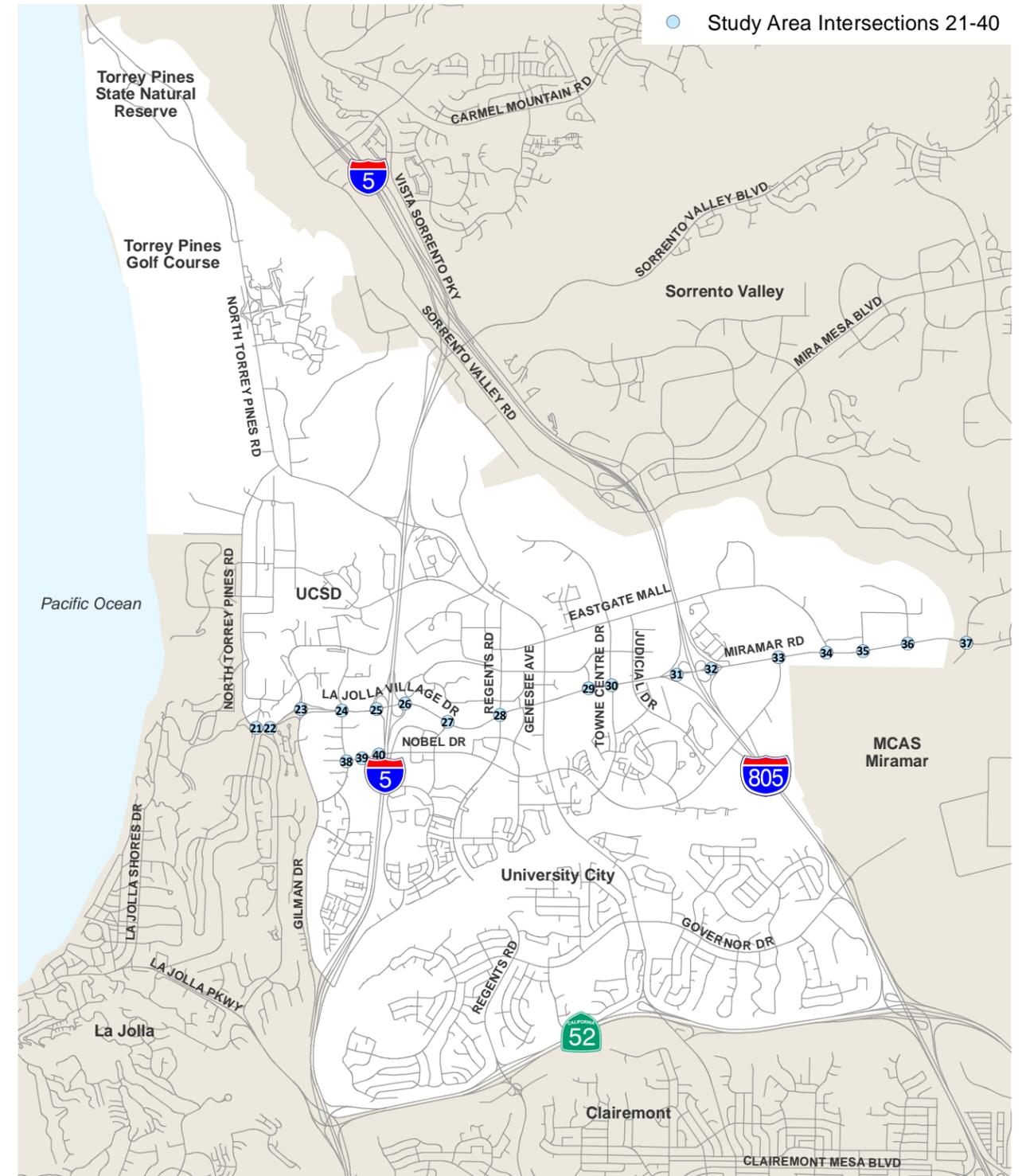
Existing AM and PM Peak-Hour Intersection Turning Movement Volumes
Intersections 1-20

FIGURE 7-7

<p>21</p> <p>1465 / 661 1004 / 1096 La Jolla Village Drive</p> <p>336 / 1462 47 / 272</p> <p>Torrey Pines Road</p> <p>210 / 101</p> <p>999 / 802</p>	<p>22</p> <p>2113 / 1698 328 / 388 La Jolla Village Drive</p> <p>1306 / 2215 29 / 50</p> <p>La Jolla Scenic Drive</p> <p>356 / 59</p> <p>399 / 268</p>	<p>23</p> <p>193 / 95 49 / 78</p> <p>17 / 31</p> <p>119 / 889</p> <p>La Jolla Village Drive WB</p> <p>415 / 185</p> <p>564 / 179</p> <p>153 / 14</p> <p>226 / 4</p> <p>41 / 698</p> <p>8 / 748</p> <p>2 / 222</p> <p>Judicial Drive</p> <p>94 / 350</p> <p>67 / 50</p>	<p>24</p> <p>25 / 80</p> <p>50 / 384</p> <p>268 / 746</p> <p>Villa La Jolla Drive</p> <p>434 / 235</p> <p>1791 / 1141</p> <p>325 / 456</p> <p>La Jolla Village Drive</p> <p>153 / 39</p> <p>1203 / 1896</p> <p>28 / 57</p> <p>296 / 356</p> <p>167 / 110</p> <p>311 / 451</p>
<p>25</p> <p>1266 / 609</p> <p>559 / 664</p> <p>I-5 SB Off-Ramps</p> <p>314 / 1095</p> <p>1284 / 1228</p> <p>La Jolla Village Drive</p> <p>1562 / 2074</p> <p>221 / 820</p>	<p>26</p> <p>488 / 544</p> <p>1221 / 2034</p> <p>La Jolla Village Drive</p> <p>1229 / 1490</p> <p>844 / 1248</p> <p>459 / 289</p> <p>780 / 258</p>	<p>27</p> <p>23 / 6</p> <p>2 / 2</p> <p>15 / 9</p> <p>Lebon Drive</p> <p>11 / 6</p> <p>1201 / 1820</p> <p>147 / 295</p> <p>La Jolla Village Drive</p> <p>3 / 15</p> <p>1330 / 2077</p> <p>143 / 267</p> <p>525 / 477</p> <p>7 / 6</p> <p>170 / 114</p>	<p>28</p> <p>258 / 873</p> <p>153 / 745</p> <p>107 / 201</p> <p>Regents Road</p> <p>100 / 70</p> <p>619 / 1594</p> <p>64 / 323</p> <p>La Jolla Village Drive</p> <p>777 / 456</p> <p>1047 / 1512</p> <p>21 / 101</p> <p>231 / 287</p> <p>470 / 244</p> <p>109 / 57</p>
<p>29</p> <p>19 / 220</p> <p>9 / 76</p> <p>44 / 318</p> <p>Executive Way</p> <p>323 / 87</p> <p>2120 / 1507</p> <p>67 / 261</p> <p>La Jolla Village Drive</p> <p>62 / 66</p> <p>1738 / 1551</p> <p>55 / 194</p> <p>17 / 156</p> <p>20 / 23</p> <p>75 / 236</p>	<p>30</p> <p>31 / 112</p> <p>21 / 330</p> <p>194 / 812</p> <p>Towne Centre Drive</p> <p>989 / 189</p> <p>2392 / 1613</p> <p>171 / 289</p> <p>La Jolla Village Drive</p> <p>366 / 43</p> <p>1453 / 1976</p> <p>50 / 96</p> <p>87 / 130</p> <p>241 / 81</p> <p>313 / 456</p>	<p>31</p> <p>1610 / 442</p> <p>640 / 203</p> <p>I-805 SB Ramps</p> <p>497 / 640</p> <p>1942 / 1649</p> <p>La Jolla Village Drive</p> <p>1520 / 2230</p> <p>441 / 1016</p>	<p>32</p> <p>481 / 446</p> <p>1464 / 1789</p> <p>La Jolla Village Drive</p> <p>I-805 NB Ramps</p> <p>1358 / 1061</p> <p>802 / 1371</p> <p>975 / 500</p> <p>491 / 194</p>
<p>33</p> <p>1979 / 1673</p> <p>354 / 912</p> <p>Miramar Road</p> <p>1862 / 1414</p> <p>133 / 26</p> <p>Noble Drive</p> <p>71 / 119</p> <p>734 / 502</p>	<p>34</p> <p>106 / 277</p> <p>121 / 545</p> <p>Eastgate Mall</p> <p>624 / 283</p> <p>2227 / 2476</p> <p>Miramar Road</p> <p>294 / 199</p> <p>2302 / 1554</p>	<p>35</p> <p>52 / 85</p> <p>29 / 75</p> <p>Miramar Mall</p> <p>55 / 73</p> <p>2987 / 2861</p> <p>24 / 1</p> <p>Miramar Road</p> <p>103 / 31</p> <p>2513 / 2203</p>	<p>36</p> <p>48 / 56</p> <p>53 / 99</p> <p>Miramar Place</p> <p>88 / 47</p> <p>2883 / 2952</p> <p>22 / 8</p> <p>Miramar Road</p> <p>124 / 27</p> <p>2442 / 2249</p>
<p>37</p> <p>566 / 1441</p> <p>5 / 3</p> <p>61 / 176</p> <p>Camino Santa Fe</p> <p>126 / 71</p> <p>1884 / 1418</p> <p>20 / 25</p> <p>Miramar Road</p> <p>668 / 808</p> <p>974 / 1728</p> <p>30 / 69</p> <p>12 / 70</p> <p>6 / 23</p> <p>5 / 12</p>	<p>38</p> <p>6 / 9</p> <p>133 / 387</p> <p>102 / 447</p> <p>Villa La Jolla Drive</p> <p>299 / 310</p> <p>2 / 15</p> <p>66 / 211</p> <p>Nobel Drive</p> <p>20 / 18</p> <p>7 / 7</p> <p>5 / 2</p> <p>11 / 2</p> <p>340 / 287</p> <p>126 / 275</p>	<p>39</p> <p>0 / 3</p> <p>17 / 70</p> <p>113 / 302</p> <p>La Jolla Village Square Driveway</p> <p>248 / 357</p> <p>333 / 362</p> <p>134 / 324</p> <p>Nobel Drive</p> <p>13 / 17</p> <p>197 / 453</p> <p>30 / 99</p> <p>13 / 72</p> <p>12 / 57</p> <p>59 / 271</p>	<p>40</p> <p>731 / 1058</p> <p>283 / 785</p> <p>Nobel Drive</p> <p>238 / 689</p> <p>128 / 413</p> <p>I-5 SB On</p>

LEGEND

↔ X/Y AM/PM Peak Hour Turning Volumes



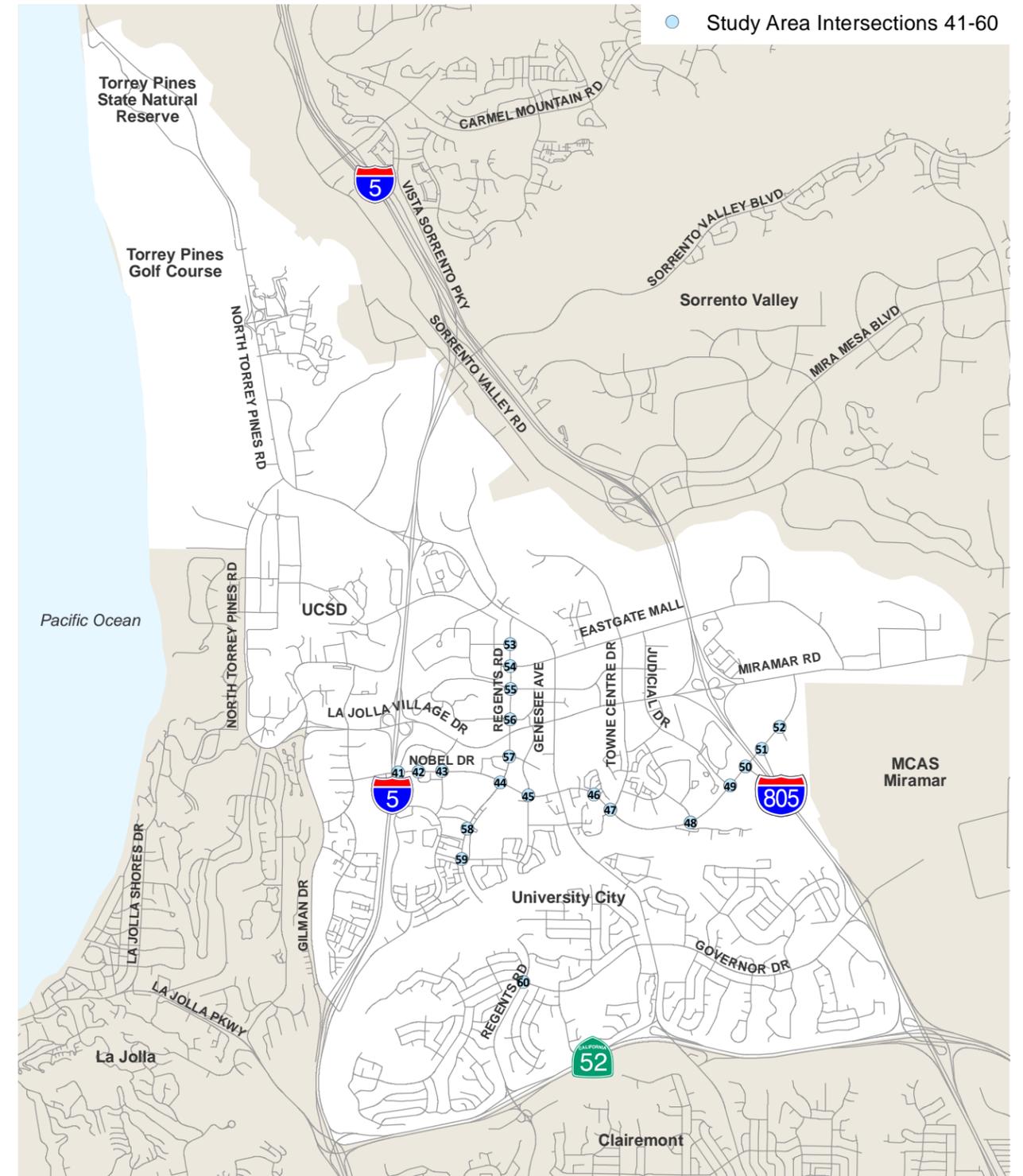
Existing AM and PM Peak-Hour Intersection Turning Movement Volumes
Intersections 21-40

FIGURE 7-8

<p>41</p> <p>83 / 253 ↔ University Center Lane/I-5 NB Off</p> <p>19 / 10 654 / 1284</p> <p>Nobel Drive</p> <p>0 / 2 242 / 723</p> <p>277 / 306 159 / 50 338 / 270</p>	<p>42</p> <p>36 / 41 ↔ 4 / 2 ↔ Caminito Plaza Centro</p> <p>15 / 32 567 / 1123 46 / 20</p> <p>Nobel Drive</p> <p>41 / 64 523 / 942 70 / 35</p> <p>31 / 68 1 / 7 15 / 56</p>	<p>43</p> <p>53 / 173 ↔ 74 / 259 ↔ Lebon Drive</p> <p>102 / 69 424 / 732 66 / 127</p> <p>Nobel Drive</p> <p>38 / 73 444 / 627 50 / 127</p> <p>144 / 115 287 / 159 96 / 65</p>	<p>44</p> <p>44 / 237 ↔ 195 / 478 ↔ 58 / 259 ↔ Regents Road</p> <p>125 / 82 348 / 762 145 / 203</p> <p>Nobel Drive</p> <p>167 / 166 429 / 631 42 / 66</p> <p>77 / 76 275 / 120 166 / 102</p>
<p>45</p> <p>77 / 105 ↔ 29 / 53 ↔ 81 / 107 ↔ Costa Verde Boulevard/Cargill II Ave</p> <p>80 / 85 455 / 691 39 / 103</p> <p>Cargill Ave</p> <p>Nobel Drive</p> <p>121 / 179 433 / 609 21 / 65</p> <p>54 / 59 45 / 44 38 / 56</p>	<p>46</p> <p>25 / 190 ↔ 41 / 65 ↔ Lombard Place</p> <p>25 / 77 464 / 1142 7 / 21</p> <p>Nobel Drive</p> <p>55 / 202 752 / 492 14 / 29</p> <p>32 / 21 0 / 5 18 / 7</p>	<p>47</p> <p>185 / 544 ↔ 31 / 213 ↔ 21 / 68 ↔ Towne Centre Drive</p> <p>76 / 55 190 / 704 7 / 150</p> <p>Nobel Drive</p> <p>331 / 295 500 / 304 11 / 23</p> <p>18 / 20 126 / 30 87 / 17</p>	<p>48</p> <p>23 / 38 ↔ 1 / 7 ↔ 144 / 68 ↔ Shoreline Drive</p> <p>44 / 205 202 / 811 7 / 37</p> <p>Nobel Drive</p> <p>9 / 56 619 / 277 6 / 32</p> <p>29 / 15 6 / 5 56 / 10</p>
<p>49</p> <p>28 / 223 ↔ 206 / 471 ↔ Judicial Drive</p> <p>814 / 218 220 / 829 4 / 0</p> <p>Nobel Drive</p> <p>195 / 47 625 / 309</p> <p>0%</p>	<p>50</p> <p>988 / 974 ↔ 157 / 286 ↔ Nobel Drive</p> <p>I-805 SB On-Ramp</p> <p>313 / 369 523 / 385</p>	<p>51</p> <p>418 / 708 ↔ Nobel Drive</p> <p>I-805 N Off-Ramp</p> <p>313 / 369</p>	<p>52</p> <p>503 / 741 ↔ 2 / 7 ↔ Nobel Drive</p> <p>#REF!</p> <p>Avenue of Flags</p> <p>941 / 901 5 / 3</p>
<p>53</p> <p>111 / 19 ↔ 91 / 666 ↔ 16 / 6 ↔ Regents Road</p> <p>2 / 3 2 / 5</p> <p>Health Science Drive</p> <p>County Day Ln</p> <p>20 / 51 0 / 2 62 / 311</p> <p>656 / 190 251 / 108 32 / 10</p>	<p>54</p> <p>145 / 872 ↔ 47 / 132 ↔ Regents Road</p> <p>231 / 53 157 / 263</p> <p>Eastgate Mall</p> <p>651 / 260 208 / 87</p>	<p>55</p> <p>251 / 1068 ↔ 25 / 46 ↔ 0 / 4 ↔ Regents Road</p> <p>47 / 54 1 / 13 27 / 230</p> <p>Executive Drive</p> <p>1 / 17 2 / 8 5 / 11</p> <p>4 / 6 804 / 298 101 / 65</p>	<p>56</p> <p>29 / 26 ↔ 235 / 1297 ↔ 44 / 30 ↔ 0 / 4 ↔ Regents Road</p> <p>70 / 41 17 / 4 74 / 134</p> <p>Miramar Street</p> <p>Regents Park Row</p> <p>52 / 15 6 / 3 163 / 174</p> <p>174 / 125 776 / 378 228 / 82</p>
<p>57</p> <p>10 / 76 ↔ 180 / ### ↔ 16 / 78 ↔ Regents Road</p> <p>134 / 59 7 / 13 28 / 31</p> <p>Plaza De Palmas</p> <p>62 / 27 8 / 13 20 / 9</p> <p>20 / 29 652 / 271 17 / 5</p>	<p>58</p> <p>181 / 551 ↔ 163 / 54 ↔ 81 / 95 ↔ Regents Road</p> <p>89 / 14 74 / 29</p> <p>Berino Court</p> <p>0 / 1 243 / 185 123 / 27</p>	<p>59</p> <p>79 / 303 ↔ 6 / 39 ↔ 95 / 164 ↔ 90 / 78 ↔ Regents Road</p> <p>106 / 34 131 / 125 4 / 12</p> <p>Arriba Street</p> <p>134 / 62 89 / 141 8 / 17</p> <p>6 / 15 15 / 15 15 / 21</p>	<p>60</p> <p>15 / 2 ↔ 43 / 36 ↔ 37 / 18 ↔ Regents Road</p> <p>6 / 7 150 / 227 329 / 390</p> <p>Governor Drive</p> <p>12 / 12 183 / 150 43 / 34</p> <p>41 / 54 75 / 81 323 / 349</p>

LEGEND

↔ X/Y AM/PM Peak Hour Turning Volumes

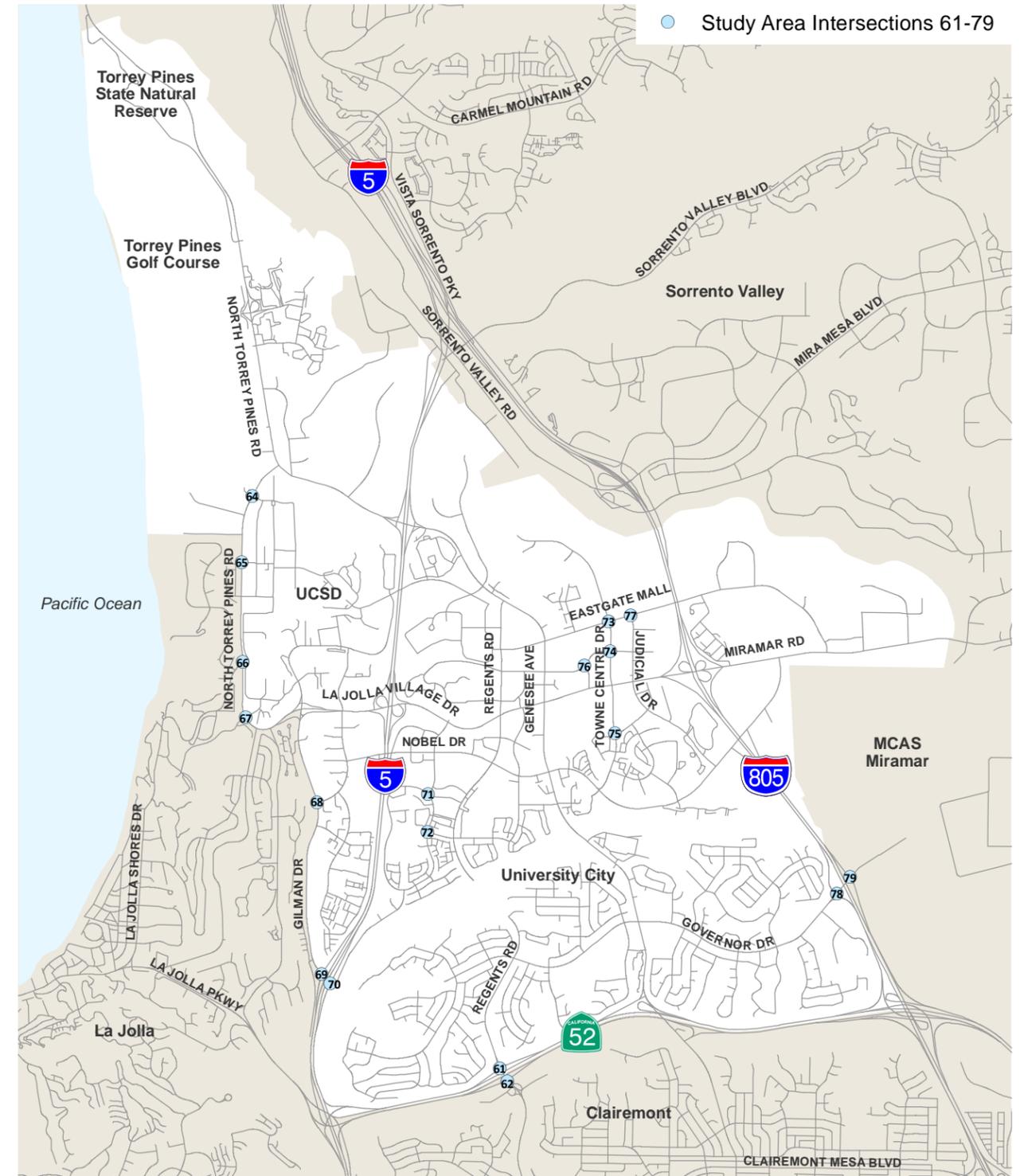


Existing AM and PM Peak-Hour Intersection Turning Movement Volumes
Intersections 41-60

FIGURE 7-9

<p>61</p> <p>417 / 315 338 / 378 6 1 / 0 Regents Road^s</p> <p>166 / 253 1 / 1 299 / 495 SR-52 WB Ramps</p> <p>508 / 288 662 / 444</p>	<p>62</p> <p>338 / 792 299 / 129 Regents Road</p> <p>259 / 329 0 / 6 159 / 677</p> <p>911 / 437 498 / 219</p> <p>SR-52 EB Ramps</p>	<p>63</p> <p>235 / 489 251 / 870 9 / 46 Regents Road</p> <p>531 / 384 7 / 13 94 / 156 Clairmont Mesa Blvd</p> <p>122 / 144 811 / 281 4 / 4</p> <p>77 / 19 12 / 14 7 / 6 Luna Avenue</p>	<p>64</p> <p>58 / 9 444 / 138 145 / 145 N. Torrey Pine Road</p> <p>8 / 57 20 / 23 11 / 56</p> <p>53 / 14 619 / 474 84 / 61 UCSD Northpoint Driveway</p>
<p>65</p> <p>5 / 21 322 / 1542 26 / 45 N. Torrey Pines Road</p> <p>12 / 31 0 / 1 14 / 82 Pangea Drive</p> <p>8 / 9 0 / 1 9 / 19</p> <p>14 / 30 874 / 406 62 / 63</p>	<p>66</p> <p>141 / 260 200 / 1415 31 / 147 N. Torrey Pines Road</p> <p>64 / 44 23 / 47 18 / 84 La Jolla Shores Drive</p> <p>222 / 138 15 / 40 92 / 108</p> <p>140 / 140 1183 / 467 50 / 61</p>	<p>67</p> <p>6 / 7 286 / 1585 19 / 20 N. Torrey Pines Road</p> <p>3 / 13 16 / 9 18 / 110 Revelle College Drive</p> <p>1 / 17 20 / 15 59 / 198</p> <p>250 / 105 1369 / 637 137 / 72</p>	<p>68</p> <p>292 / 1286 150 / 231 Gilman Drive</p> <p>106 / 130 49 / 199</p> <p>8 / 1 616 / 338 83 / 135</p> <p>Villa La Jolla Drive</p>
<p>69</p> <p>26 / 12 0 / 5 7 / 18 I-5 SB Ramps</p> <p>662 / 405 312 / 512 Gillman Drive</p> <p>66 / 236 423 / 1103</p>	<p>70</p> <p>I-5 NB Ramps</p> <p>75 / 9 347 / 431 Gillman Drive</p> <p>50 / 35 24 / 98</p> <p>648 / 398 0 / 1 121 / 271</p>	<p>71</p> <p>26 / 23 241 / 90 Charmant Drive</p> <p>44 / 104 69 / 146 Lebon Drive</p> <p>1 / 0 13 / 34 239 / 180</p> <p>Palmita Drive</p>	<p>72</p> <p>47 / 98 66 / 55 Palmita Drive</p> <p>91 / 115 121 / 300 Ariba Street</p> <p>66 / 123 145 / 115</p>
<p>73</p> <p>9 / 112 37 / 457 11 / 167 Towne Centre Drive</p> <p>84 / 3 465 / 234 40 / 153 Eastgate Mall</p> <p>123 / 25 234 / 400 104 / 287</p> <p>199 / 103 422 / 60 173 / 67</p>	<p>74</p> <p>20 / 45 157 / 936 12 / 11 Towne Centre Drive</p> <p>10 / 16 53 / 165 39 / 261 Executive Drive</p> <p>50 / 26 120 / 47 29 / 117</p> <p>198 / 118 770 / 134 414 / 69</p>	<p>75</p> <p>109 / 614 181 / 176 Towne Centre Drive</p> <p>372 / 326 71 / 134 Golden Haven Drive</p> <p>341 / 209 140 / 70</p>	<p>76</p> <p>29 / 47 25 / 68 13 / 11 Executive Way</p> <p>27 / 6 174 / 188 27 / 207 Executive Drive</p> <p>62 / 15 174 / 152 40 / 402</p> <p>198 / 47 81 / 29 69 / 29</p>
<p>77</p> <p>13 / 112 8 / 68 2 / 60 Judicial Drive</p> <p>36 / 4 422 / 181 138 / 68 Eastgate Mall</p> <p>153 / 16 226 / 512 41 / 109</p> <p>154 / 110 94 / 5 67 / 147</p>	<p>78</p> <p>307 / 187 2 / 13 72 / 15 I-805 SB Ramps</p> <p>446 / 376 20 / 42 Governor Drive</p> <p>1 / 1 340 / 314 465 / 974</p>	<p>79</p> <p>I-805 NB Ramps</p> <p>9 / 3 22 / 15 Governor Drive</p> <p>387 / 335 16 / 0</p> <p>478 / 467 11 / 3 14 / 2</p>	

LEGEND
 ⇄ X / Y AM/PM Peak Hour Turning Volumes



Existing AM and PM Peak-Hour Intersection Turning Movement Volumes
 Intersections 61-79

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:
11/29/16
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

CLAIREMONT
GENESEE
CLAIREMONT MESA

PROJECT #: PTD16-1202-01
LOCATION #: 11
CONTROL: SIGNAL

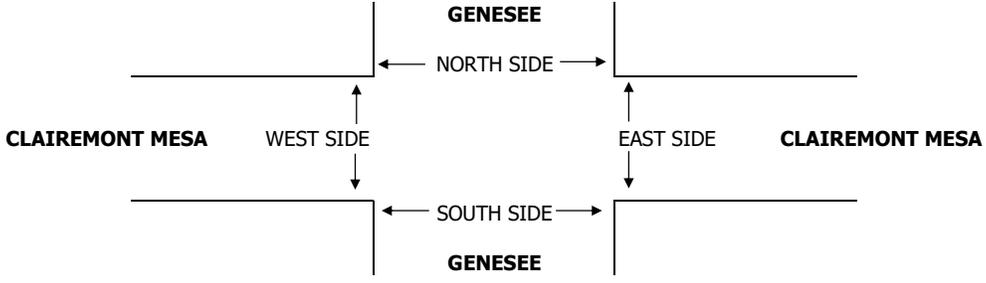
NOTES:	AM		▲	
	PM		N	
	MD	◀ W	S	E ▶
	OTHER		▼	
	OTHER			

	NORTHBOUND GENESEE			SOUTHBOUND GENESEE			EASTBOUND CLAIREMONT MESA			WESTBOUND CLAIREMONT MESA			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	2	2	0	1	2	0	2	2	0	2	2	0	

U-TURNS				
NB	SB	EB	WB	TTL
X	X	X	X	

AM	7:00 AM	23	223	17	25	64	14	41	110	19	15	107	42	700
	7:15 AM	23	202	18	19	81	15	47	125	23	22	102	48	725
	7:30 AM	20	242	15	30	99	21	60	108	26	32	130	59	842
	7:45 AM	35	267	13	30	84	19	34	97	34	37	137	61	848
	8:00 AM	36	214	25	16	119	11	42	95	29	25	132	56	800
	8:15 AM	34	238	31	12	89	21	32	93	39	21	120	56	786
	8:30 AM	48	252	19	13	94	20	33	101	38	32	157	55	862
	8:45 AM	60	239	18	40	79	33	47	84	32	21	144	61	858
	VOLUMES	279	1,877	156	185	709	154	336	813	240	205	1,029	438	6,421
	APPROACH %	12%	81%	7%	18%	68%	15%	24%	59%	17%	12%	62%	26%	
APP/DEPART	2,312	/	2,651	1,048	/	1,154	1,389	/	1,154	1,672	/	1,462	0	
BEGIN PEAK HR	8:00 AM													
VOLUMES	178	943	93	81	381	85	154	373	138	99	553	228	3,306	
APPROACH %	15%	78%	8%	15%	70%	16%	23%	56%	21%	11%	63%	26%		
PEAK HR FACTOR	0.951			0.900			0.967			0.902			0.959	
APP/DEPART	1,214	/	1,325	547	/	618	665	/	547	880	/	816	0	
PM	4:00 PM	75	134	31	35	185	41	49	158	68	49	187	25	1,037
	4:15 PM	81	117	36	37	216	25	27	144	62	53	194	23	1,015
	4:30 PM	68	109	36	29	209	22	44	158	87	58	179	24	1,023
	4:45 PM	69	118	26	29	222	26	29	153	82	58	205	18	1,035
	5:00 PM	54	114	31	45	223	34	33	167	92	56	211	15	1,075
	5:15 PM	74	103	28	24	208	23	44	164	84	62	203	26	1,043
	5:30 PM	53	81	20	34	214	30	35	144	91	61	191	17	971
	5:45 PM	67	102	31	40	232	23	34	141	74	46	159	24	973
	VOLUMES	541	878	239	273	1,709	224	295	1,229	640	443	1,529	172	8,172
	APPROACH %	33%	53%	14%	12%	77%	10%	14%	57%	30%	21%	71%	8%	
APP/DEPART	1,658	/	1,345	2,206	/	2,792	2,164	/	1,741	2,144	/	2,294	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	265	444	121	127	862	105	150	642	345	234	798	83	4,176	
APPROACH %	32%	53%	15%	12%	79%	10%	13%	56%	30%	21%	72%	7%		
PEAK HR FACTOR	0.974			0.906			0.973			0.958			0.971	
APP/DEPART	830	/	677	1,094	/	1,441	1,137	/	890	1,115	/	1,168	0	

	1			1
			4	4
			1	1
	1	2	3	6
	3		3	6
			4	4
			5	5
		1	1	2
0	5	3	21	29
	2	2	1	5
		4	3	7
	1	3	3	7
	1	1	2	4
		3	3	6
	1	3	5	9
		2	8	10
	1	2	4	7
0	6	20	29	55



AM	7:00 AM	2	3	1	1	7
	7:15 AM	2	1		1	4
	7:30 AM		1	3	1	5
	7:45 AM	14	6	2	4	26
	8:00 AM	4	2	1	1	8
	8:15 AM	4	2	1	1	8
	8:30 AM	3	2	2	1	8
	8:45 AM	3	1	1	4	9
TOTAL	32	18	11	14	75	
PM	4:00 PM	5	1	4	5	15
	4:15 PM	4	4	2	4	14
	4:30 PM	1	4	2		7
	4:45 PM	2	6	3	5	16
	5:00 PM	1	5	3	1	10
	5:15 PM	7	9	8	7	31
	5:30 PM	6	3	3	4	16
	5:45 PM	10	4	4	7	25
TOTAL	36	36	29	33	134	

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
2	3	1	1	7
2	1		1	4
	1	3	1	5
14	6	2	4	26
4	2	1	1	8
4	2	1	1	8
3	2	2	1	8
3	1	1	4	9
32	18	11	14	75
5	1	4	5	15
4	4	2	4	14
1	4	2		7
2	6	3	5	16
1	5	3	1	10
7	9	8	7	31
6	3	3	4	16
10	4	4	7	25
36	36	29	33	134

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
		1	1	2
			1	1
				0
	1			1
				0
				0
				0
				0
	1			1
	1			1
1	3	0	0	4

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: PACIFIC TECHNICAL DATA

DATE:
11/29/16
TUESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

CLAIREMONT
CLAIREMONT DR
CLAIREMONT MESA

PROJECT #: PTD16-1202-01
LOCATION #: 8
CONTROL: SIGNAL

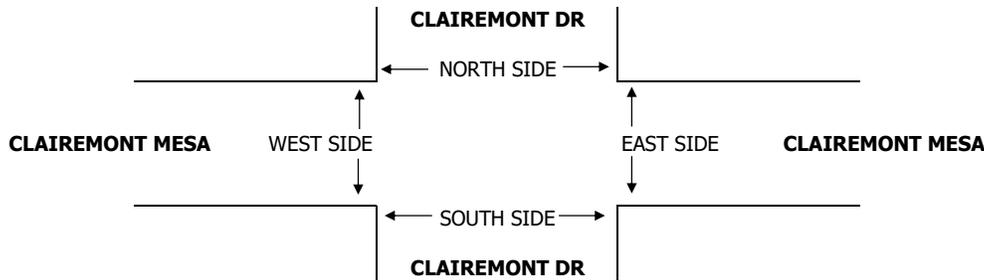
NOTES:	AM		▲ N	
	PM		▼ S	
	MD	◀ W		E ▶
	OTHER OTHER			

LANES:	NORTHBOUND CLAIREMONT DR			SOUTHBOUND CLAIREMONT DR			EASTBOUND CLAIREMONT MESA			WESTBOUND CLAIREMONT MESA			TOTAL
	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 2	ET 2	ER 0	WL 2	WT 2	WR 0	

U-TURNS				
NB X	SB X	EB X	WB X	TTL

AM	7:00 AM	57	22	47	7	39	19	21	55	33	49	66	6	421
	7:15 AM	43	41	68	7	36	33	20	51	22	44	69	2	436
	7:30 AM	53	33	63	6	45	23	22	62	17	63	65	2	454
	7:45 AM	62	36	56	5	51	25	23	59	11	61	89	5	483
	8:00 AM	60	44	53	6	50	26	25	47	32	74	92	3	512
	8:15 AM	43	44	54	5	39	23	29	62	25	64	93	3	484
	8:30 AM	69	62	68	13	60	37	44	59	33	69	113	6	633
	8:45 AM	53	69	53	11	49	36	35	69	32	66	110	9	592
	VOLUMES	440	351	462	60	369	222	219	464	205	490	697	36	4,015
	APPROACH %	35%	28%	37%	9%	57%	34%	25%	52%	23%	40%	57%	3%	
APP/DEPART	1,253	/	606	651	/	1,064	888	/	986	1,223	/	1,359	0	
BEGIN PEAK HR	8:00 AM													
VOLUMES	225	219	228	35	198	122	133	237	122	273	408	21	2,221	
APPROACH %	33%	33%	34%	10%	56%	34%	27%	48%	25%	39%	58%	3%		
PEAK HR FACTOR	0.844			0.807			0.904			0.934			0.877	
APP/DEPART	672	/	373	355	/	593	492	/	500	702	/	755	0	
PM	4:00 PM	35	94	95	14	45	36	106	136	53	120	120	12	866
	4:15 PM	32	79	68	12	50	42	65	122	69	103	41	9	692
	4:30 PM	24	50	69	11	62	21	56	137	92	107	118	10	757
	4:45 PM	33	67	71	13	59	52	73	124	87	93	114	15	801
	5:00 PM	39	81	70	14	45	35	63	128	110	100	110	4	799
	5:15 PM	37	72	78	11	64	36	63	147	92	105	121	10	836
	5:30 PM	37	68	76	16	61	42	71	133	100	108	107	4	823
	5:45 PM	31	49	65	8	79	36	67	127	82	107	91	12	754
	VOLUMES	268	560	592	99	465	300	564	1,054	685	843	822	76	6,328
	APPROACH %	19%	39%	42%	11%	54%	35%	24%	46%	30%	48%	47%	4%	
APP/DEPART	1,420	/	1,200	864	/	1,993	2,303	/	1,745	1,741	/	1,390	0	
BEGIN PEAK HR	4:45 PM													
VOLUMES	146	288	295	54	229	165	270	532	389	406	452	33	3,259	
APPROACH %	20%	40%	40%	12%	51%	37%	23%	45%	33%	46%	51%	4%		
PEAK HR FACTOR	0.959			0.903			0.979			0.944			0.975	
APP/DEPART	729	/	591	448	/	1,024	1,191	/	881	891	/	763	0	

1	3	4		8
1		4	1	6
	3	6	1	10
1	2	4	1	8
2		7	2	11
2		2	2	6
	2	10	1	13
3	5	1	5	14
10	15	38	13	76
5	4	14	2	25
1	6	7	6	20
1	1	6	3	11
	2	2	5	9
2	5	8	1	16
7	2	11	6	26
7	5	8	4	24
3	4	9	4	20
26	29	65	31	151



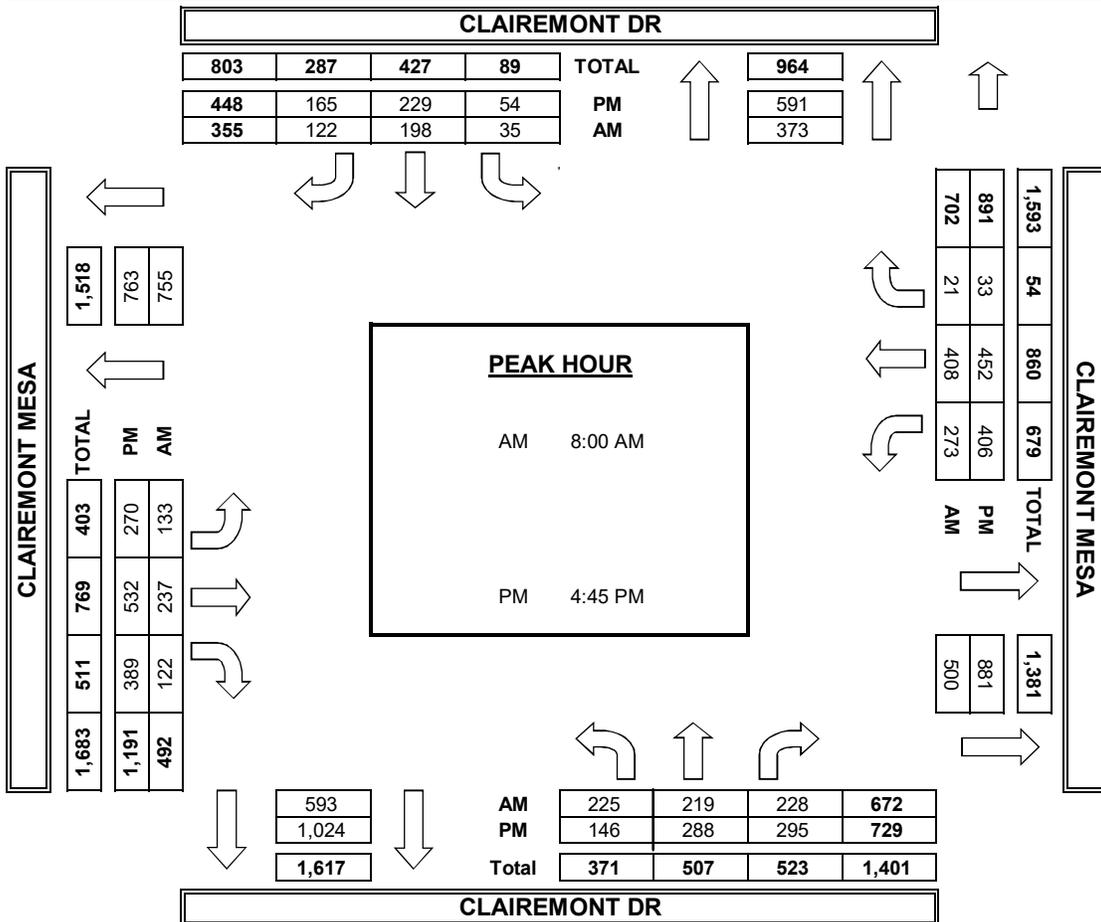
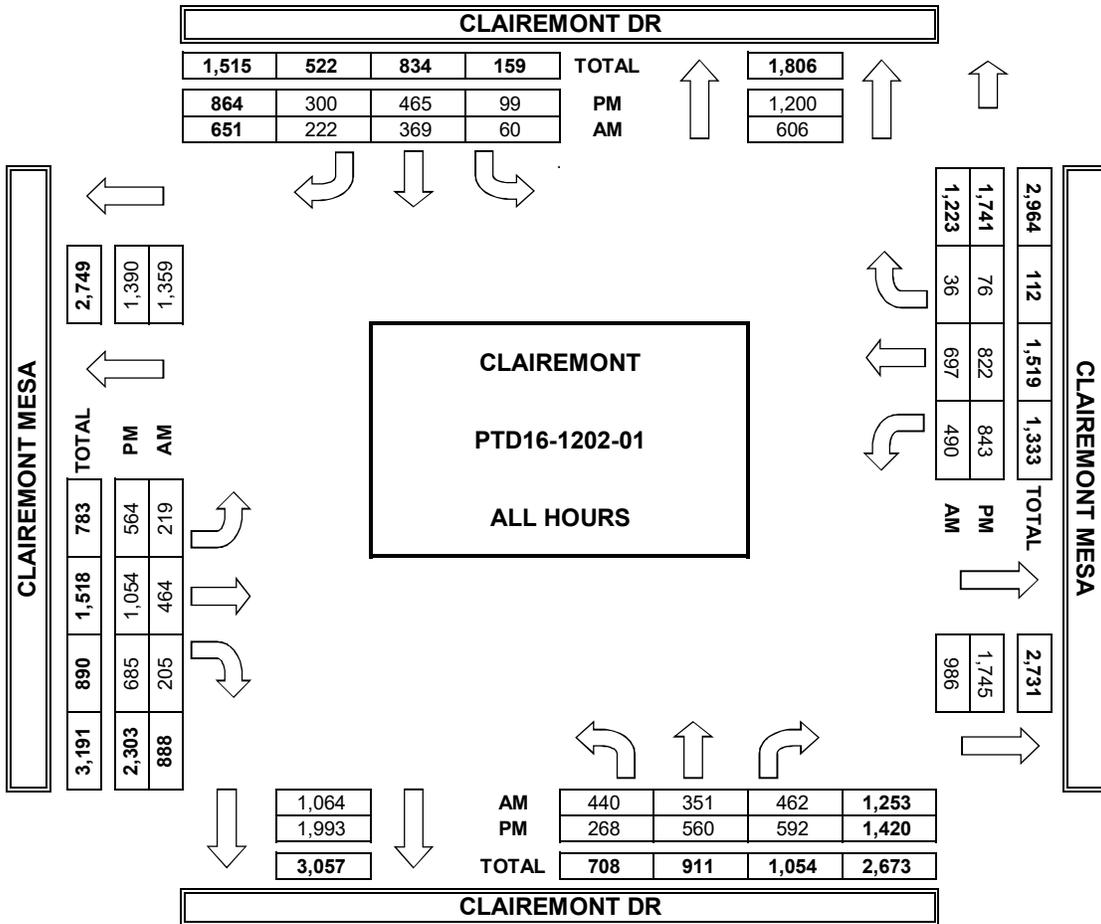
AM	7:00 AM				
	7:15 AM				
	7:30 AM				
	7:45 AM				
	8:00 AM				
	8:15 AM				
	8:30 AM				
	8:45 AM				
TOTAL					
PM	4:00 PM				
	4:15 PM				
	4:30 PM				
	4:45 PM				
	5:00 PM				
	5:15 PM				
	5:30 PM				
	5:45 PM				
TOTAL					

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
4	4	1	4	13
4	1		6	11
3		7	2	12
5	1	3	2	11
5	1		1	7
4	2	3	3	12
1		3		4
26	9	17	18	70
5	2	3	6	16
4	9	9	9	31
5	5	3	3	16
6	4	5	5	20
6	4	5	5	20
8	5	2	10	25
2	4	3		9
3	6	6	4	19
39	39	36	42	156

PEDESTRIAN ACTIVATIONS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
				0
				0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0
				0
				0
				0
				0
				0
				0
				0
0	0	0	0	0

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
				0
1				1
	2			2
				0
				0
1		1		2
				0
				0
2	2	1	0	5
1				1
				0
1	1	2	1	5
4	1	1	3	9
	1			1
		1		1
	3		1	4
1	1		2	4
7	7	4	7	25

PACIFIC TECHNICAL DATA
TURNING MOVEMENT COUNTS



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-4184-008

Day: Thursday

City: Pacific Beach

Date: 6/9/2016

AM													
NS/EW Streets:	Clairemont Dr			Clairemont Dr			Balboa Ave			Balboa Ave			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 2	ET 2	ER 0	WL 2	WT 2	WR 0	TOTAL
7:00 AM	26	67	62	38	77	59	27	136	8	119	158	13	790
7:15 AM	33	79	74	22	59	80	49	174	11	62	177	20	840
7:30 AM	24	65	71	28	43	99	46	266	13	57	185	30	927
7:45 AM	31	75	69	43	42	91	46	185	6	48	215	31	882
8:00 AM	27	73	66	43	40	71	52	205	11	50	205	28	871
8:15 AM	22	67	66	35	54	80	64	195	14	85	185	23	890
8:30 AM	47	83	90	30	92	84	41	163	24	108	172	18	952
8:45 AM	43	99	110	44	85	75	51	252	20	94	206	21	1100
TOTAL VOLUMES :	NL 253	NT 608	NR 608	SL 283	ST 492	SR 639	EL 376	ET 1576	ER 107	WL 623	WT 1503	WR 184	TOTAL 7252
APPROACH %'s :	17.22%	41.39%	41.39%	20.01%	34.79%	45.19%	18.26%	76.54%	5.20%	26.97%	65.06%	7.97%	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	139	322	332	152	271	310	208	815	69	337	768	90	3813
PEAK HR FACTOR :	0.787			0.890			0.845			0.931			0.867

UTURNS			
NB	SB	EB	WB
3	1	1	0
3	0	5	0
3	1	0	0
6	0	1	0
3	1	0	1
5	0	3	0
6	0	3	1
4	0	1	0
NB 33	SB 3	EB 14	WB 2

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 16-4184-008

Day: Thursday

City: Pacific Beach

Date: 6/9/2016

PM

NS/EW Streets:	Clairemont Dr		Clairemont Dr			Balboa Ave			Balboa Ave			TOTAL	
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 2	ET 2	ER 0	WL 2	WT 2	WR 0	
4:00 PM	38	87	96	63	113	61	82	239	17	87	218	23	1124
4:15 PM	17	55	84	49	94	65	85	285	29	78	262	25	1128
4:30 PM	45	85	77	64	122	61	112	258	15	86	212	25	1162
4:45 PM	24	86	86	58	140	73	92	231	19	94	227	23	1153
5:00 PM	26	63	80	60	130	69	107	275	15	92	231	15	1163
5:15 PM	16	92	81	71	128	73	83	289	15	104	271	31	1254
5:30 PM	18	66	90	65	130	80	91	266	11	97	263	29	1206
5:45 PM	23	85	85	54	116	69	98	253	16	117	255	29	1200
TOTAL VOLUMES :	NL 207	NT 619	NR 679	SL 484	ST 973	SR 551	EL 750	ET 2096	ER 137	WL 755	WT 1939	WR 200	TOTAL 9390
APPROACH %'s :	13.75%	41.13%	45.12%	24.10%	48.46%	27.44%	25.14%	70.26%	4.59%	26.09%	67.00%	6.91%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	83	306	336	250	504	291	379	1083	57	410	1020	104	4823
PEAK HR FACTOR :	0.939			0.950			0.957			0.945			0.962

UTURNS			
NB	SB	EB	WB
5	1	3	2
5	0	1	0
5	1	6	1
2	0	6	0
2	0	0	1
3	0	2	0
3	0	2	0
3	3	1	3
NB 28	SB 5	EB 21	WB 7

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

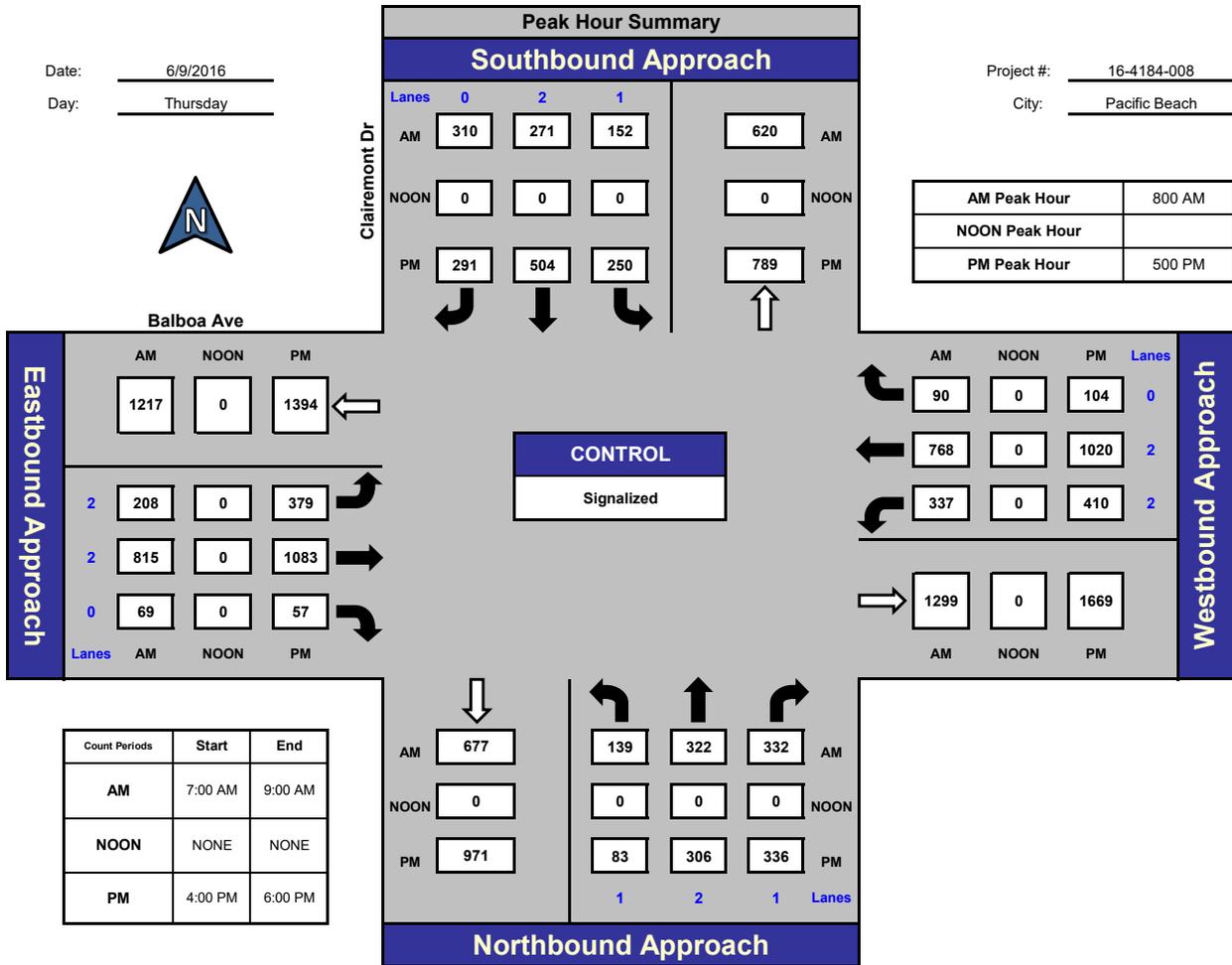


National Data & Surveying Services

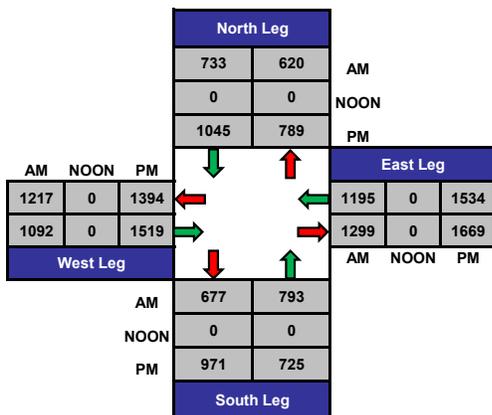
Clairemont Dr and Balboa Ave, Pacific Beach

Date: 6/9/2016
Day: Thursday

Project #: 16-4184-008
City: Pacific Beach



Total Ins & Outs



Total Volume Per Leg

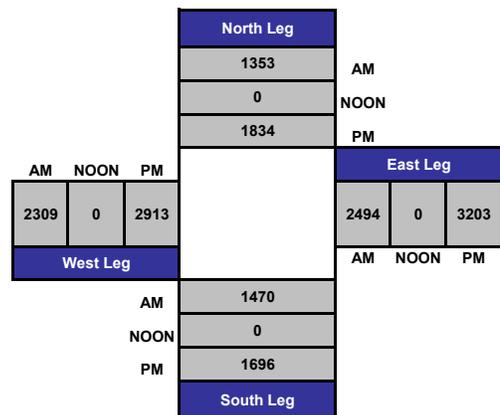


Table 7-3 Future Year Volume-Based Roadway Segment Analysis Summary

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	Existing			Future Alt A Regents Bridge 6-lane Genesee			Future Alt B Regents Bridge 4-lane Genesee			Future Alt C No Bridge 6-lane Genesee			Future Alt D No Bridge 4-lane Genesee		
			ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS
Eastgate Mall																	
Regents Rd to Genesee Ave	2 Lane Collector (continuous left-turn lane)	15,000	6,187	0.412	B	12,100	0.807	D	12,200	0.813	D	12,300	0.820	D	12,300	0.820	D
Genesee Ave to Easter Way	4 Lane Collector	30,000	14,767	0.492	C	25,000	0.833	E	25,100	0.837	E	24,900	0.830	D	25,400	0.847	E
Easter Way to Judicial Dr	4 Lane Major Arterial	40,000	11,115	0.278	A	14,100	0.353	A	14,300	0.358	A	14,000	0.350	A	14,300	0.358	A
Judicial Drive to Eastgate Dr (Freeway Overpass)	2 Lane Collector (no fronting property)	10,000	10,096	1.010	F	19,500	1.950	F	19,500	1.950	F	19,500	1.950	F	19,400	1.940	F
Eastgate Dr to Miramar Rd	2 Lane Collector (continuous left-turn lane)	15,000	14,668	0.978	E	28,800	1.920	F	28,700	1.913	F	29,000	1.933	F	29,200	1.947	F
Executive Drive																	
Regents Rd to Genesee Ave	4 Lane Collector (no center lane)	15,000	4,397	0.293	A	5,900	0.393	B	6,000	0.400	B	6,600	0.440	B	6,400	0.427	B
Genesee Ave to Judicial Dr	4 Lane Collector	30,000	5,914	0.197	A	8,900	0.297	A	8,700	0.290	A	9,300	0.310	A	9,300	0.310	A
Executive Way																	
Executive Dr to La Jolla Village Dr	4 Lane Collector	30,000	5,923	0.197	A	11,400	0.380	B	11,100	0.370	B	11,000	0.367	B	11,100	0.370	B
Genesee Avenue																	
N. Torrey Pines Rd to I-5 SB Ramps	6 Lane Prime Arterial	60,000	35,124	0.585	C	46,100	0.768	C	46,100	0.768	C	46,100	0.768	C	46,000	0.767	C
I-5 SB Ramps to I-5 NB Ramps	4 Lane Major Arterial	40,000	49,051	1.226	F												
	8 Lane Prime Arterial	80,000				62,100	0.776	C	62,200	0.778	C	62,300	0.779	C	62,100	0.776	C
I-5 NB Ramps to Regents Rd	6 Lane Prime Arterial	60,000	48,542	0.809	C	54,300	0.905	D	54,700	0.912	D	54,800	0.913	D	54,600	0.910	D
Regents Rd to La Jolla Village Dr	6 Lane Prime Arterial	60,000	29,457	0.589	C	40,600	0.812	D	40,300	0.806	D	40,700	0.814	D	40,800	0.816	D
La Jolla Village to Esplande Ct	4 Lane Major Arterial	40,000	28,054	0.701	C												
	6 Lane Major Arterial	50,000				41,800	0.836	D	41,900	0.838	D	46,500	0.930	E	46,400	0.928	E
Esplande Ct to Nobel Dr	6 Lane Major Arterial	50,000	23,744	0.475	B	27,300	0.546	B	27,400	0.548	B	30,300	0.606	C	29,700	0.594	C
Nobel Dr to Centurion Square	4 Lane Major Arterial	40,000	30,922	0.773	D				39,600	0.990	E				46,500	1.163	F
	6 Lane Major Arterial	50,000				39,600	0.792	C				49,400	0.988	E			
Centurion Square to Governor Dr	4 Lane Major Arterial	40,000	30,325	0.758	D				40,900	1.023	F				54,600	1.365	F
	6 Lane Major Arterial	50,000				43,900	0.878	D				58,200	1.164	F			
Governor Dr to SR-52 WB Ramps	4 Lane Major Arterial	40,000	30,325	0.758	D				44,300	1.108	F				43,500	1.088	F
	6 Lane Major Arterial	50,000				48,700	0.974	E				47,700	0.954	E			
SR-52 WB Ramps to SR-52 EB Ramps	4 Lane Major Arterial	40,000	31,170	0.779	D	37,300	0.933	E	36,500	0.913	E	39,000	0.975	E	38,000	0.950	E
SR-52 EB Ramps to Lehrer Dr	4 Lane Major Arterial	40,000	30,581	0.765	D	37,100	0.928	E	36,600	0.915	E	38,900	0.973	E	38,400	0.960	E
Gilman Drive																	
UCSD Campus to La Jolla Village Dr	4 Lane Collector	30,000	10,069	0.336	B	13,800	0.460	B	13,900	0.463	B	13,700	0.457	B	13,700	0.457	B
La Jolla Village Dr to Via Alicante	4 Lane Collector	30,000	15,095	0.503	C	21,800	0.727	D	21,800	0.727	D	21,000	0.700	D	20,700	0.690	D
Via Alicante to I-5 SB Ramps	4 Lane Major Arterial	40,000	17,138	0.428	B	24,300	0.608	C	24,500	0.613	C	24,000	0.600	C	23,400	0.585	C
I-5 SB Ramps to I-5 NB Ramps	4 Lane Major Arterial	40,000	11,873	0.297	A	14,900	0.373	A	15,000	0.375	B	16,800	0.420	B	16,500	0.413	B
Golden Haven Drive																	
Towne Center Dr to Judicial Dr	4 Lane Major Arterial	40,000	6,712	0.168	A	7,500	0.188	A	7,300	0.183	A	7,700	0.193	A	7,600	0.190	A

Notes:

Bold values indicate roadway segments operating at LOS E or F.

(a) Road classifications are based on _____

(b) Average Daily Traffic (ADT) volumes for the roadway segments were determined from SANDAG Modeling

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

Table 7-3 Future Year Volume-Based Roadway Segment Analysis Summary (continued)

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	Existing			Future Alt A Regents Bridge 6-lane Genesee			Future Alt B Regents Bridge 4-lane Genesee			Future Alt C No Bridge 6-lane Genesee			Future Alt D No Bridge 4-lane Genesee		
			ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS
Governor Drive																	
Regents Road to Genesee Ave	4 Lane Major Arterial	40,000	16,796	0.420	B	11,400	0.285	A	10,700	0.268	A	23,200	0.580	C	23,000	0.575	C
Genesee Ave to I-805 SB Ramps	4 Lane Major Arterial	40,000	19,737	0.493	B	24,000	0.600	C	23,300	0.583	C	23,900	0.598	C	23,300	0.583	C
I-805 SB Ramps to I-805 NB Ramps	4 Lane Major Arterial	40,000	10,417	0.260	A	9,900	0.248	A	10,600	0.265	A	10,000	0.250	A	10,700	0.268	A
Judicial Drive																	
Eastgate Mall to La Jolla Village Dr	4 Lane Major Arterial	40,000	4,828	0.121	A	10,600	0.265	A	10,400	0.260	A	9,900	0.248	A	9,700	0.243	A
La Jolla Village Dr to Nobel Drive	4 Lane Major Arterial	40,000	6,574	0.164	A	9,300	0.233	A	9,300	0.233	A	9,500	0.238	A	9,400	0.235	A
La Jolla Scenic Drive																	
La Jolla Village Drive to South	4 Lane Major Arterial	40,000	7,928	0.198	A	12,900	0.323	A	12,900	0.323	A	14,100	0.353	A	14,100	0.353	A
La Jolla Village Drive																	
Revelle College Drive to Villa La Jolla	6 Lane Prime Arterial	60,000	44,520	0.742	C	54,300	0.905	D	54,100	0.902	D	55,100	0.918	E	55,000	0.917	E
Villa La Jolla Drive to I-5 SB Ramps	6 Lane Prime Arterial	60,000	62,258	1.038	F	76,400	1.273	F	76,400	1.273	F	76,600	1.277	F	76,800	1.280	F
I-5 SB Ramps to I-5 NB Ramps	6 Lane Major Arterial	50,000	51,391	1.028	F	59,400	1.188	F	60,100	1.202	F	61,200	1.224	F	60,900	1.218	F
I-5 NB Ramps to Lebon Dr	6 Lane Major Arterial	50,000	44,335	0.887	D	52,000	1.040	F	52,500	1.050	F	53,200	1.064	F	53,200	1.064	F
Lebon Dr to Regents Road	6 Lane Major Arterial	50,000	42,863	0.857	D	49,900	0.998	E	50,100	1.002	F	51,500	1.030	F	51,500	1.030	F
Regents Road to Genesee Ave	6 Lane Major Arterial	50,000	38,474	0.769	C	52,400	1.048	F	52,400	1.048	F	50,500	1.010	F	50,700	1.014	F
Genesee Ave to Executive Way	6 Lane Major Arterial	50,000	45,117	0.902	E	49,400	0.988	E	49,600	0.992	E	48,900	0.978	E	49,200	0.984	E
Executive Way to Towne Center Dr	6 Lane Major Arterial	50,000	45,117	0.902	E	67,600	1.352	F	68,700	1.374	F	69,300	1.386	F	69,500	1.390	F
Towne Center Dr to I-805 SB Ramps	8 Lane Prime Arterial	80,000	58,833	0.735	C	67,600	0.845	C	68,700	0.859	C	69,300	0.866	C	69,500	0.869	C
Lebon Drive																	
Palmilla Drive to Nobel Drive	4 Lane Major Arterial	40,000	11,192	0.280	A	16,100	0.403	B	16,000	0.400	B	12,300	0.308	A	12,400	0.310	A
Nobel Drive to La Jolla Village Drive	5 Lane Major Arterial	45,000	9,212	0.205	A	13,600	0.302	A	13,600	0.302	A	11,300	0.251	A	11,800	0.262	A
Miramar Road																	
I-805 SB Ramps to I-805 NB Ramps	6 Lane Prime Arterial	60,000	66,139	1.102	F	64,600	1.077	F	65,700	1.095	F	65,400	1.090	F	66,000	1.100	F
I-805 NB Ramps to Nobel Dr	8 Lane Prime Arterial	80,000	47,991	0.600	B	51,400	0.643	C	50,400	0.630	C	49,600	0.620	B	50,300	0.629	C
Nobel Dr to Eastgate Mall	8 Lane Prime Arterial	80,000	64,557	0.807	C	69,000	0.863	C	69,000	0.863	C	69,000	0.863	C	69,100	0.864	C
Eastgate Mall to Miramar Mall	6 Lane Prime Arterial	60,000	67,748	1.129	F												
	7 Lane Prime Arterial	70,000				72,200	1.031	F	72,300	1.033	F	72,200	1.031	F	72,200	1.031	F
Miramar Mall to Camino Santa Fe	6 Lane Prime Arterial	60,000	67,748	1.129	F	72,200	1.203	F	72,300	1.205	F	72,200	1.203	F	72,200	1.203	F

Notes:

Bold values indicate roadway segments operating at LOS E or F.

(a) Road classifications are based on _____

(b) Average Daily Traffic (ADT) volumes for the roadway segments were determined from SANDAG Modeling

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

Table 7-3 Future Year Volume-Based Roadway Segment Analysis Summary (continued)

ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS E CAPACITY	Existing			Future Alt A Regents Bridge 6-lane Genesee			Future Alt B Regents Bridge 4-lane Genesee			Future Alt C No Bridge 6-lane Genesee			Future Alt D No Bridge 4-lane Genesee		
			ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS	ADT (b)	V/C RATIO (c)	LOS
North Torrey Pines Road																	
Science Park Rd to Genesee Ave	6 Lane Prime Arterial	60,000	29,303	0.488	B	40,400	0.673	C	40,600	0.677	C	41,300	0.688	C	42,100	0.702	C
Genesee Ave to UCSD Northpoint Dwy	6 Lane Major Arterial	50,000				23,700	0.474	B	23,700	0.474	B	23,800	0.476	B	23,900	0.478	B
UCSD Northpoint Dwy to Revere College Dr	4 Lane Major Arterial	40,000	21,760	0.544	C	23,700	0.593	C	23,700	0.593	C	23,800	0.595	C	23,900	0.598	C
Nobel Drive																	
Villa La Jolla Dr to I-5 SB On Ramp	4 Lane Major Arterial	40,000	26,284	0.657	C	47,500	1.188	F	47,200	1.180	F	47,200	1.180	F	47,600	1.190	F
I-5 SB On Ramp to I-5 NB Off Ramp/University Center Lane	4 Lane Major Arterial	40,000	27,642	0.691	C	40,800	1.020	F	40,600	1.015	F	40,700	1.018	F	41,700	1.043	F
I-5 NB Off Ramp/University Center Lane to Lebon Dr	6 Lane Major Arterial	50,000	21,546	0.431	B	31,300	0.626	C	31,600	0.632	C	30,400	0.608	C	31,100	0.622	C
Lebon Dr to Regents Rd	6 Lane Major Arterial	50,000	21,256	0.425	B	27,300	0.546	B	27,800	0.556	B	30,700	0.614	C	31,300	0.626	C
Regents Rd to Genesee Ave	6 Lane Major Arterial	50,000	19,772	0.395	A	32,800	0.656	C	33,100	0.662	C	32,200	0.644	C	32,700	0.654	C
Genesee Ave to Towne Center Dr	4 Lane Major Arterial	40,000	18,484	0.462	B	32,400	0.810	D	30,400	0.760	D	32,000	0.800	D	30,800	0.770	D
Towne Center Dr to Judicial Dr	6 Lane Prime Arterial	60,000	17,261	0.288	A	25,000	0.417	B	24,900	0.415	A	25,000	0.417	B	26,200	0.437	B
Judicial Dr to Avenue of Flags	5 Lane Major Arterial	45,000	24,125	0.536	B	31,400	0.698	C	31,300	0.696	C	31,700	0.704	C	32,900	0.731	C
Avenue of Flags to Miramar Rd	4 Lane Prime Arterial	50,000	20,648	0.413	B	33,900	0.678	C	34,900	0.698	C	35,600	0.712	C	35,000	0.700	C
Regents Road																	
Genesee Ave to Eastgate Mall	2 Lane Collector (continuous left-turn lane)	15,000	6,260	0.417	B												
	4 Lane Collector	30,000				9,700	0.243	A	9,900	0.248	A	8,700	0.218	A	8,600	0.215	A
Eastgate Mall to La Jolla Village Dr	4 Lane Collector	30,000	15,245	0.508	C	18,900	0.630	C	19,100	0.637	C	16,000	0.533	C	16,100	0.537	C
La Jolla Village Dr to Nobel Dr	5 Lane Major Arterial	45,000	16,525	0.367	A	24,500	0.544	C	24,700	0.549	C	18,700	0.416	B	18,600	0.413	B
Nobel Dr to Rose Canyon	4 Lane Major Arterial	40,000	10,688	0.267	A	27,000	0.675	C	27,100	0.678	C	11,600	0.290	A	11,600	0.290	A
Rose Canyon to Governor Dr	2 Lane Collector (no fronting property)	10,000	1,940	0.194	A							2,400	0.240	A	2,400	0.240	A
	4 Lane Major Arterial	40,000				30,000	0.750	D	29,900	0.748	C						
Governor Dr to SR-52 WB Ramps	4 Lane Major Arterial	40,000	16,181	0.405	B	30,300	0.758	D	30,900	0.773	D	17,800	0.445	B	17,800	0.445	B
SR-52 WB Ramps to SR-52 EB Ramps	4 Lane Major Arterial	40,000	19,957	0.499	B	35,300	0.883	E	35,500	0.888	E	23,400	0.585	C	23,500	0.588	C
SR-52 EB Ramps to Luna Ave	4 Lane Major Arterial	40,000	21,268	0.532	C	40,600	1.015	F	40,800	1.020	F	25,500	0.638	C	25,600	0.640	C
Torrey Pines Road																	
La Jolla Village Drive to South	4 Lane Major Arterial	40,000	26,620	0.666	C	35,600	0.890	E	35,700	0.893	E	36,600	0.915	E	36,800	0.920	E
Towne Center Drive																	
End to La Jolla Village Dr	4 Lane Major Arterial	40,000	20,121	0.503	B	21,400	0.535	C	21,600	0.540	C	21,600	0.540	C	21,500	0.538	C
La Jolla Village Dr to Nobel Dr	4 Lane Major Arterial	40,000	13,785	0.345	A	18,600	0.465	B	19,500	0.488	B	20,700	0.518	B	19,800	0.495	B
Villa La Jolla Drive																	
Gilman Dr (South) to Nobel Dr	4 Lane Major Arterial	40,000	6,896	0.172	A	12,300	0.308	A	12,300	0.308	A	12,300	0.308	A	12,200	0.305	A
Nobel Dr to La Jolla Village Dr	4 Lane Major Arterial	40,000	16,011	0.400	B	24,300	0.608	C	24,100	0.603	C	23,700	0.593	C	23,700	0.593	C
La Jolla Village Dr to VA Medical Center	4 Lane Major Arterial	40,000	19,865	0.497	B	33,400	0.835	D	33,300	0.833	D	33,600	0.840	D	33,500	0.838	D

Notes:

Bold values indicate roadway segments operating at LOS E or F.

(a) Road classifications are based on _____

(b) Average Daily Traffic (ADT) volumes for the roadway segments were determined from SANDAG Modeling

(c) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

INTERSECTION: GENESEE & NOBEL

233 Program



Group Assignment:
Field Master Assignment:
System Reference Number:

N/S Street: GENESEE AVE
E/W Street: NOBEL DR

Timing sheets by: KT
Approved by: **FLG**
Timing implemented on:
Drawing Number: 22696-17-D

9

Row	GENESEE		NOBEL			GENESEE		NOBEL
	Phase							
Phase Numbers---->	1	2	3	4	5	6	7	8
0 Ped Walk		7		7		7		7
1 Ped FDW		23		26		26		28
2 Min Green	4	10	4	10	4	10	4	10
3 Type 3 Disconnect								
4 Added per Vehicle								
5 Veh Extension	2.0	4.3	2.0	4.0	2.0	4.0	2.0	3.1
6 Max Gap	2.0	4.3	2.0	4.0	2.0	4.0	2.0	3.1
7 Min Gap	2.0	0.2	2.0	0.2	2.0	0.2	2.0	0.2
8 Max Limit	30	60	30	50	30	60	30	50
9 Max Limit 2								
A Adv. / Delay Walk								
B PE Min Ped FDW		1		1		1		1
C Cond Serv Check								
D Reduce Every		0.7		0.8		0.8		1.0
E Yellow Change	3.4	4.7	3.4	3.9	3.4	4.9	3.4	4.1
F Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

	F
Permit	12245678
Red Lock	
Yellow Lock	
Min Recall	2 6
Ped Recall	
View Set Peds	2 4 6 8
Rest In Walk	
Red Rest	
Double Entry	
Max Recall	
Soft Recall	
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	2 6
First Phases	3 7

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Phase Timing - Bank 1 <F/1+Phase+Row>

Current Calculated Cycle Length: C/0 + B + F

	9	A	B	C	D
Phase 1	---	---	---	---	---
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <F/1+Column+Phase>

Free Lag | 2 4 6 8 | <C/1+F+0>

How to Set Page Access Code:
F/1 -- C + 0 + F = 1

Preempt Timing <F/1+E+Row> Phase Functions <F/1+F+Row>

Drop Number	3	<C/0+0+0>
Zone Number	3	<C/0+0+1>
Area Number	4	<C/0+0+2>
Area Address	58	<C/0+0+3>
QuicNet Channel	COM47	(QuicNet)

Communication Addresses

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	0.0	<F/1+C+0>

Start / Revert Times

Notes: Superloop May, 2012

(Outputs specified in Assignable Outputs at E/127+A+E & F)

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Manual Plan	0	<C/0+A+1>
Manual Offset	0	<C/0+B+1>

Manual Selection

		Overlap							
		1	2	3	4	5	6	7	8
Row									
0	Load Switch Number								
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8									
9									
A									
B									
C									
D	Green Clear								
E	Yellow Change								
F	Red Clear								

Overlap Assignments <E/29+Column+Row>

		F	Row
	Fast Green Flash Phase		0
	Green Flash Phases		1
	Flashing Walk Phases		2
	Guaranteed Passage		3
	Simultaneous Gap Term	12345678	4
	Sequential Timing		5
	Advance Walk Phases		6
	Delay Walk Phases		7
	External Recall		8
	Start-up Overlap Green		9
	Max Extension		A
	Inhibit Ped Reservice		B
	Semi-Actuated		C
	Start-up Overlap Yellow		D
	Start-up Vehicle Calls	12345678	E
	Start-up Ped Calls	12345678	F

Specials <F/2+F+Row>

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Configuration <E/125+E+Row>

- | | |
|---------------------------|------------------------|
| Extra 1 Flags | IC Select Flags |
| 1 = TBC Type 1 | 1 = |
| 2 = NEMA Ext. Coord | 2 = Modem |
| 3 = Auto Daylight Savings | 3 = 7-Wire Slave |
| 4 = EV Advance | 4 = Flash / Free |
| 5 = Extended Status | 5 = |
| 6 = International Ped | 6 = Simplex Master |
| 7 = Flash - Clear Outputs | 7 = 7-Wire Master |
| 8 = Split Ring | 8 = Offset Interrupter |

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	4
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	7
Low Priority C Phases	6
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	34

Configuration <E/125+F+Row>

- | | |
|------------------------|--------------------------------------|
| Extra 2 Flags | Flash to PE & PE Non-Lock |
| 1 = AWB During Initial | 1 = EV A 5 = RR 1 |
| 2 = LMU Installed | 2 = EV B 6 = RR 2 |
| 3 = Disable Min Walk | 3 = EV C 7 = SE 1 |
| 4 = QuicNet/4 System | 4 = EV D 8 = SE 2 |
| 5 = Ignore P/P on EV | |
| 6 = | |
| 7 = Reserved | |
| 8 = | |

	C
EV-A	
EV-B	
EV-C	
EV-D	
RR-1 *	---
RR-2 *	---
SE-1	0
SE-2	0

<E/125+C+Row>

Preemption Priority
 (* RR-1 is always Highest, and RR-2 is always Second Highest)

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

8-0 Hour, Minute, Day-of-Week
 8-1 Day-of-Month, Year, Month
 8-F Seconds

Time and Date

	2	Row
Phase 1	0	0
Phase 2	0	1
Phase 3	0	2
Phase 4	0	3
Phase 5	0	4
Phase 6	0	5
Phase 7	0	6
Phase 8	0	7
		8
		9
		A
		B
		C
		D
		E
		F

<C/5+2+Row>

Coordination Transition Minimums

Begin Month	0	<C/5+2+A>
Begin Week	0	<C/5+2+B>
End Month	0	<C/5+2+C>
End Week	0	<C/5+2+D>

Daylight Savings Time

Daylight Savings Date:
 If set to all zeros, standard dates will be used.

Row	Detector Name	C1 Pin				Delay	Carry-Over
		0	1	2	3		
0	2I2U	39	45 7	2	123 8		1.8
1	6J2U	40	45 7	6	123 8		1.8
2	4I6U	41	45 7	4	123 8		1.8
3	8J6U	42	45 7	8	123 8		1.8
4		43	45 7	2	123 8		
5		44	45 7	6	123 8		
6	4I6L	45	45 7	4	123 8	10.0	
7		46	45 7	8	123 8		
8		47	67	2	123 8		
9		48	67	6	123 8		
A		49	67	4	123 8		
B		50	67	8	123 8		
C		55	45 7	5	123 8		
D		56	45 7	1	123 8		
E		57	45 7	7	123 8		
F		58	45 7	3	123 8		

Program Type:

	Ped / Phase / Overlap								Row
	1	2	3	4	5	6	7	8	
Walk									0
Don't Walk									1
Phase Green									2
Phase Yellow									3
Phase Red									4
Overlap Green									5
Overlap Yellow									6
Overlap Red									7

Redirect Phase Outputs <E/127+Column+Row>

Cabinet Type	0
--------------	---

<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	20
-------------------	----

<D/0+0+1>

Max ON (minutes)	7
------------------	---

<D/0+0+2>

Detector Failure Monitor

	D	Row
		0
Output Port 1		1
Output Port 2		2
Output Port 3		3
Output Port 4		4
Output Port 5		5
Output Port 6		6
Output Port 7		7

Dimming <E/125+D+Row>

Row	Detector Name	C1 Pin				Delay	Carry-Over
		4	5	6	7		
0		59	45 7	5	123 8		
1		60	45 7	1	123 8		
2		61	45 7	7	123 8		
3		62	45 7	3	123 8		
4		63	45 7	2	123 8		
5		64	45 7	6	123 8		
6		65	45 7	4	123 8		
7		66	45 7	8	123 8		
8		67	2	2	123 8		
9		68	2	6	123 8		
A		69	2	4	123 8		
B		70	2	8	123 8		
C		76	45 7	2	123 8		
D		77	45 7	6	123 8		
E		78	45 7	4	123 8		
F		79	45 7	8	123 8		

Detector Attributes

- 1 = Full Time Delay
- 2 = Ped Call
- 3 =
- 4 = Count
- 5 = Extension
- 6 = Type 3
- 7 = Calling
- 8 = Alternate

Det. Assignments

- 1 = Det. Set 1
- 2 = Det. Set 2
- 3 = Det. Set 3
- 4 =
- 5 =
- 6 = Failure - Min Recall
- 7 = Failure - Max Recall
- 8 = Report on Failure

	D
Number of Digits	
1 st Digit	
2 ed Digit	
3 ed Digit	
4 th Digit	
5 th Digit	
6 th Digit	
7 th Digit	
8 th Digit	
9 th Digit	
10 th Digit	
11 th Digit	
12 th Digit	
13 th Digit	
14 th Digit	
15 th Digit	

Disable Alarms

- 1 = Stop Time
- 2 = Flash Sense
- 3 = Keyboard Entry
- 4 = Manual Plan
- 5 = Police Control
- 6 = External Alarm
- 7 = Detector Failure
- 8 =

	B	Row
DELAY-A	1	A
DELAY-B	1	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

<D/0+B+Row> (seconds)

Delay Logic Times

Omit Alarm	
------------	--

<C/5+F+0>

Disable Alarm Reporting

Time	10	<C/5+C+0>
------	----	-----------

Redial Time (minutes)

(View Redial Timer at E/2+D+6)

Detector Assignments <E/126+Column+Row>

<D/0+Column+Row>

<C/5+D+Row>

Dial-Back Telephone Number

Row	Plan Name ---->	Plan								
		1	2	3	4	5	6	7	8	9
0	Cycle Length					AM	MID	PM		
1	Phase 1 - ForceOff					140	130	150		
2	Phase 2 - ForceOff					17	86	86		
3	Phase 3 - ForceOff					0	0	0		
4	Phase 4 - ForceOff					35	27	31		
5	Phase 5 - ForceOff					79	68	70		
6	Phase 6 - ForceOff					113	88	90		
7	Phase 7 - ForceOff					17	0	0		
8	Phase 8 - ForceOff					38	27	20		
9	Ring Offset					79	68	70		
A	Offset 1					65	83	132		
B	Offset 2									
C	Offset 3									
D	Perm 1 - End					17	13	15		
E	Hold Release					255	255	255		
F	Zone Offset									

Coordination - Timing Plans <C/1+Plan+Row>

Coord Extra
 1 = Programmed WALK Time for Sync Phases
 2 = Always Terminate Sync Phase Peds

Row	E	Row
0		0
1		1
2		2
3		3
4		4
5	2	5
6	2 6	6
7	2 6	7
8		8
9		9
A		A
B		B
C		C
D		D
E	78	E
F		F

Sync Phases <C/1+E+Row>

Row	Plan Name	1	2	3	4	5	6	7	8	9
0	Ped Adjustment									
1	Perm 2 - Start									
2	Perm 2 - End									
3	Perm 3 - Start									
4	Perm 3 - End									
5	Reservice Time									
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase									
B	Perm 1 Ped Phase									
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Parameters <C/2+Plan+Row>

Row	F	Row
0	2 4 6 8	0
1		1
2		2
3		3
4		4
5	1 4 6 8	5
6	2 4 6 8	6
7	2 4 6 8	7
8		8
9		9
A		A
B		B
C		C
D		D
E		E
F		F

Lag Phases <C/1+F+Row>

Coordination Timing By:

Row	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	Spec. Funct. 1	NOT-3	Max 2	Pretimed	Set Monday	Dial 2 (7-Wire)	Sim Term	0
1	Spec. Funct. 2	NOT-4	System Det 1	Plan 1	Ext. Perm 1	Dial 3 (7-Wire)	EV-A	71
2	Spec. Funct. 3	OR-4 (a)	System Det 2	Plan 2	Ext. Perm 2	Offset 1 (7-Wire)	EV-B	72
3	Spec. Funct. 4	OR-4 (b)	System Det 3	Plan 3	Dimming	Offset 2 (7-Wire)	EV-C	73
4	NAND-3 (a)	OR-5 (a)	System Det 4	Plan 4	Set Clock	Offset 3 (7-Wire)	EV-D	74
5	NAND-3 (b)	OR-5 (b)	System Det 5	Plan 5	Stop Time	Free (7-Wire)	RR-1	51
6	NAND-4 (a)	OR-6 (a)	System Det 6	Plan 6	Flash Sense	Flash (7-Wire)	RR-2	52
7	NAND-4 (b)	OR-6 (b)	System Det 7	Plan 7	Manual Enable	Excl. Ped Omit	Spec. Event 1	
8	OR-7 (a)	Fig 3 Diamond	System Det 8	Plan 8	Man. Advance	NOT-1	Spec. Event 2	
9	OR-7 (b)	Fig 4 Diamond	Max Inhibit (nema)	Plan 9	External Alarm	NOT-2	External Lag	
A	OR-7 (c)	AND-4 (a)	Force A (nema)	DELAY-A	Phase Bank 2	OR-1 (a)	AND-1 (a)	
B	OR-7 (d)	AND-4 (b)	Force B (nema)	DELAY-B	Phase Bank 3	OR-1 (b)	AND-1 (b)	
C	OR-8 (a)	NAND-1 (a)	C.N.A. (nema)	DELAY-C	Overlap Set 2	OR-2 (a)	AND-2 (a)	
D	OR-8 (b)	NAND-1 (b)	Hold (nema)	DELAY-D	Overlap Set 3	OR-2 (b)	AND-2 (b)	
E	OR-8 (c)	NAND-2 (a)	Max Recall	DELAY-E	Detector Set 2	OR-3 (a)	AND-3 (a)	
F	OR-8 (d)	NAND-2 (b)	Min Recall	DELAY-F	Detector Set 3	OR-3 (b)	AND-3 (b)	

Assignable Inputs

<E/126+Column+Row>

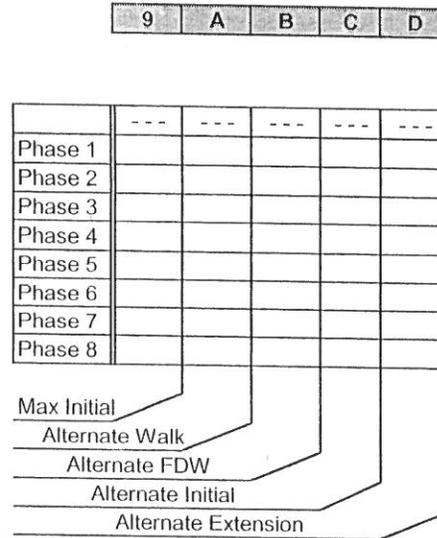
Row	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	Phase ON - 1	Preempt Fail	Flasher 0	Free	NOT-1	TOD Out 1	Dial 2 (7-Wire)	0
1	Phase ON - 2	Sp Evnt Out 1	Flasher 1	Plan 1	OR-1	TOD Out 2	Dial 3 (7-Wire)	1
2	Phase ON - 3	Sp Evnt Out 2	Fast Flasher	Plan 2	OR-2	TOD Out 3	Offset 1 (7-Wire)	2
3	Phase ON - 4	Sp Evnt Out 3	Fig 3 Diamond	Plan 3	OR-3	TOD Out 4	Offset 2 (7-Wire)	3
4	Phase ON - 5	Sp Evnt Out 4	Fig 4 Diamond	Plan 4	AND-1	TOD Out 5	Offset 3 (7-Wire)	4
5	Phase ON - 6	Sp Evnt Out 5		Plan 5	AND-2	TOD Out 6	Free (7-Wire)	5
6	Phase ON - 7	Sp Evnt Out 6		Plan 6	AND-3	TOD Out 7	Flash (7-Wire)	6
7	Phase ON - 8	Sp Evnt Out 7		Plan 7	NOT-2	TOD Out 8	Preempt	7
8	Ph. Check - 1	Sp Evnt Out 8	NOT-3	Plan 8	EV-A	Adv. Warn - 1	Low Priority A	8
9	Ph. Check - 2		NOT-4	Plan 9	EV-B	Adv. Warn - 2	Low Priority B	9
A	Ph. Check - 3	Detector Fail	OR-4	Spec. Funct. 3	EV-C	DELAY-A	Low Priority C	A
B	Ph. Check - 4	Spec. Funct. 1	OR-5	Spec. Funct. 4	EV-D	DELAY-B	Low Priority D	B
C	Ph. Check - 5	Spec. Funct. 2	OR-6	NAND-3	RR-1	DELAY-C		C
D	Ph. Check - 6	Central Control	AND-4	NAND-4	RR-2	DELAY-D		D
E	Ph. Check - 7	Excl. Ped DW	NAND-1	OR-7	Spec. Event 1	DELAY-E		E
F	Ph. Check - 8	Excl. Ped WK	NAND-2	OR-8	Spec. Event 2	DELAY-F		F

Assignable Outputs

<E/127+Column+Row>

Row		Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk								
1	Ped FDW								
2	Min Green								
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension								
6	Max Gap								
7	Min Gap								
8	Max Limit								
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every								
E	Yellow Change								
F	Red Clear								

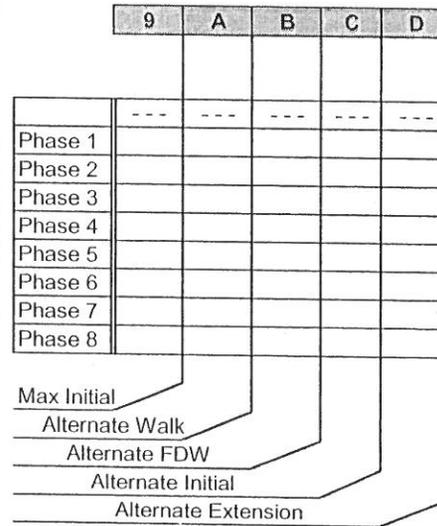
Phase Timing - Bank 2 <C+0+F=2>



Alternate Timing

Row		Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk								
1	Ped FDW								
2	Min Green								
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension								
6	Max Gap								
7	Min Gap								
8	Max Limit								
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every								
E	Yellow Change								
F	Red Clear								

Phase Timing - Bank 3 <C+0+F=3>



Alternate Timing

Transition Type
 0.X = Shortway
 1.X = Lengthen
 X.1 thru X.4 =
 Number of
 cycles when
 lengthing

Transition Type | 0.3 <C/5+1+9>

TBC Transition

Lag Hold Phases | <C/5+1+A>

Coordinated Lag Hold Phases

Sync Output Time | 0.0 <C/5+1+C>

7-Wire Master

Time B4 Yellow | 0.0 <F/1+C+E>

Phase Number | 0 <F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow | 0.0 <F/1+D+E>

Phase Number | 0 <F/1+D+F>

Advance Warning Beacon - Sign 2

Long Failure | 0.7 <F/1+0+6>

Short Failure | 0.7 <F/1+0+7>

Power Cycle Correction (Default = 0.7)

Min Time (seconds) | 4 <F/1+0+8>

Min Green Before PE Force Off

Max Time (minutes) | 4 <F/1+0+9>

Max Preempt Time Before Failure

Min Time (seconds) | 0 <F/1+0+A>

Min Time Between Same Preempts

(Does Not Apply To Railroad Preempt)

Low Pri. Channel | <E/125+C+8>

Disable Low Priority Channel

Low Priority
 1 = Channel A
 2 = Channel B
 3 = Channel C
 4 = Channel D

Min Time (seconds) <F/1+0+8>
Min Green Before PE Force Off

Max Time (minutes) <F/1+0+9>
Max Preempt Time Before Failure

Min Time (seconds) <F/1+0+A>
Min Time Between Same Preempts
 (Does Not Apply To Railroad Preempt)

Low Pri. Channel <E/125+C+8>
Disable Low Priority Channel

- Low Priority
 1 = Channel A
 2 = Channel B
 3 = Channel C
 4 = Channel D

Delay Time (seconds) <F/1+A+D>
Bus Delay

Max Time (seconds) <F/1+A+E>
Max Early Green

Max Time (seconds) <F/1+A+F>
Max Green Extension

Row	Time	Headway	Direction	Day of Week
0	00:00	0	0	
1	00:00	0	0	
2	00:00	0	0	
3	00:00	0	0	
4	00:00	0	0	
5	00:00	0	0	
6	00:00	0	0	
7	00:00	0	0	
8	00:00	0	0	
9	00:00	0	0	
A	00:00	0	0	
B	00:00	0	0	
C	00:00	0	0	
D	00:00	0	0	
E	00:00	0	0	
F	00:00	0	0	

Headway Time
 (minutes)
 1 thru 9 = 1 thru 9
 A = 10
 B = 11
 C = 12
 D = 13
 E = 14
 F = 15

Headway <C+0+9=2.1>

Low Priority Preemption (Bus Priority)

Only available with Program 233RV2.B (and above)
 Note: Also see "Time of Day Functions", Function E, Bit 5 (Disable Low Priority)

INTERSECTION: Appleton/Lehrer & Genesee

223 Program

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Group Assignment:		N/S Street Name: GENESEE							
Field Master Assignment: NONE		E/W Street Name: APPLETON/LEHRER							
		Climt Mesa		Appleton/Lehrer		Climt Mesa			
Column #	Phase #	1	2	3	4	5	6	7	8
Row									
0	Ped Walk		7		7		7		
1	Ped FDW		13		19		11		
2	Min Green	4	10		6	4	10		
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.5	6.0		2.8	2.0	3.9		
6	Max Gap	2.5	6.0		2.8	2.0	3.9		
7	Min Gap	2.5	0.2		2.8	2.0	0.2		
8	Max Limit	30	60		40	30	60		
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1		
D	Every		0.5				0.8		
E	Yellow	3.4	3.9		3.9	3.4	4.8		
F	Red Clear	1.0	1.0		1.0	1.0	1.0		

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	0
EV-C Clear	0
EV-D Delay	
EV-D Clear	
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F + E + Row

	F	Row
Permit	12_456__	0
Red Lock		1
Yellow Lock	40	2
Min Recall		3
Ped Recall		4
Peds (View)	2_4_6__	5
Rest In Walk		6
Red Rest		7
Dbl Entry		8
Max Recall		9
Soft Recall	2__6__	A
Max 2		B
Cond Serv		C
Ped Lock	12345678	D
Yellow Start	2__6__	E
1st Phases	4	F

Phase Functions <F Page>

F + F + Row

OBAC LOOP

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + 0
Start / Revert Times		
Drop Number	1	C + 0 + 0
Zone Number	1	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	20	C + 0 + 3
QuicNet Channel	COM40:	(QuicNet)

Communication Addresses		
C + F + 0	F	Row
Free Lag	2_4_6	0

Lag Phases <C Page>

Overlap Timing

Row	9	C	D	0
	Green Clear	Yellow Change	Red Clear	Load-Switch #
Overlap A	A			
Overlap B	B			
Overlap C	C			
Overlap D	D			

<F Page> F + COLOR +
<D Page> D + 0 + OVERLAP

Downtime Flash	255	(minutes)
Downtime Before Auto Manual Flash		
		F + 0 + 8

Disable Ports	234
Disable Communication Ports	
	D + D + 9

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection
Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Timing Sheet By: LEM
Approved By: FLG
Drawing Number: 33312-1-D
Timing Implemented On: 4/21/10

INTERSECTION: Appleton/Lehrer & Genesee

Row	Time	Function	Day of Week	Column F Phases/Bits
0	00 : 01	E	1234567	1
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

<D Page>

D + F + ROW

T.O.D. Functions
 0 = Permitted Phases
 1 = Red Lock
 2 = Yellow Lock
 3 = Veh Min Recall
 4 = Ped Recall
 5 =
 6 = Rest In Walk
 7 = Red Rest
 8 = Double Entry
 9 = Veh Max Recall
 A = Veh Soft Recall
 B = Maximum 2
 C = Conditional Service
 D = Free Lag Phases
 E = Bit 1 - Local Override
 Bit 2 - Phase Bank 2
 Bit 3 - Phase Bank 3
 Bit 4 - Disable Detector
 OFF Monitor
 Bit 7 - Detector Count Monitor
 Bit 8 - Real Time Split Monitor
 F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	<u> 2 </u>
6	Ped 6P	<u> 6 </u>
7	Ped 4P	<u> 4 </u>
8	Ped 8P	
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration

E + F + ROW

<E Page>

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	<u> 2 5 </u>
B	EV-B Phases	
C	EV-C Phases	<u> 1 6 </u>
D	EV-D Phases	
E	Extra 1 Config. Bits	<u> 1 345 </u>
F	IC Select (Interconnect)	<u> 2 </u>

Configuration

E + E + ROW

For access, set F + 9 + E = 1

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 = Remote Download
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

Day of Week

- 1 = Sunday
- 2 = Monday
- 3 = Tuesday
- 4 = Wednesday
- 5 = Thursday
- 6 = Friday
- 7 = Saturday

Assign 5 Outputs

- 1 = Right Turn Overlap
- 2 = TOD Outputs
- 3 = EV Beacon - Steady
- 4 = EV Beacon - Flashing
- 5 = Special Event Outputs
- 6 = Phase 3 & 7 Ped
- 7 = Advanced Warning Sign
- 8 =

Time and Date

- 8-0 Hour, Minute, Day-of-Week
- 8-1 Day-of-Month, Year, Month
- 8-F Seconds

Program Information

- C + C + 0 = program
- C + C + F = version

Remote Download

- C + 0 + 4 = 1 -255
- w/ E + E + E bit 5 on

Disable Parity	0	D+B+0
----------------	---	-------

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	111	14
	212U	1
	212L	5
	213U	21
	213L	25
	214	9
	315	16
	416U	3
	416L	7
	417U	23
	417L	27
	418	11
	119U	18
	319L	20
---	---	---
---	---	---

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- -- --	2345

Active Detectors <D Page>

Row	0 Detector #
0	
1	System Det. # 1 0
2	System Det. # 2 0
3	System Det. # 3 0
4	System Det. # 4 0
5	System Det. # 5 0
6	System Det. # 6 0
7	System Det. # 7 0
8	System Det. # 8 0

System Detectors <D Page>

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

Detector Delay & Carryover <D Page>

D + X (across) + ROW

Row	Column # ---->	Plan								
		1	2	3	4	5	6	7	8	9
	Plan Name ---->		PM					AM	MID	
0	Cycle Length		126					108	112	
1	Phase 1 - ForceOff		52					59	63	
2	Phase 2 - ForceOff		0					0	0	
3	Phase 3 - ForceOff									
4	Phase 4 - ForceOff		33					43	46	
5	Phase 5 - ForceOff		51					61	58	
6	Phase 6 - ForceOff		0					0	0	
7	Phase 7 - ForceOff									
8	Phase 8 - ForceOff									
9	Ring Offset									
A	Offset A		107					7	88	
B	Offset B									
C	Offset C									
D	Permissive		12					11	11	
E	Hold Release		255					255	255	
F	Ped Shift		0					0	0	

Coordination Timing By: **LG**
 Implemented On: **11/12/2009**

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + E
Max Cycle	C + B + E

Coordination <C Page>
 C + Plan + ROW

Row	Time	Plan	Offset	Day of Week
0	07 : 00	7	A	23456
1	09 : 00	E	A	1234567
2	11 : 30	8	A	23456
3	15 : 30	2	A	23456
4	18 : 30	E	A	1234567
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination
 <9 Key with C+0+9=1>

	E	Row	F
		0	Free Lag
Plan 1		1	Plan 1 - Lag
Plan 2	2 6	2	Plan 2 - Lag
Plan 3		3	Plan 3 - Lag
Plan 4		4	Plan 4 - Lag
Plan 5		5	Plan 5 - Lag
Plan 6		6	Plan 6 - Lag
Plan 7	2 6	7	Plan 7 - Lag
Plan 8	2 6	8	Plan 8 - Lag
Plan 9		9	Plan 9 - Lag
Coord Ped*		A	Coord Max *
NEMA Hold		B	Coord Lag *
		C	
		D	
		E	
		F	

Sync Phases <C Page>
 C + E + FUNCTION # Lag Phases C + F + FUNCTION #

Plan Select
 1 thru 9 = Coordination
 Plan 1 thru 9
 14 or E = Free
 15 or F = Flash

Transition Type	0
-----------------	---

TBC Transition
 C + D + D

Transition Type
 0 = Shortway
 Non-zero = Lengthen

INTERSECTION: Clairemont Mesa Blvd & Genesee Ave

DBAD App. Loops 06

223 Program

Group Assignment: 4013
Field Master Assignment: NONE

N/S Street Name: GENESEE
E/W Street Name: CLAIREMONT MESA

Last Database Change:
System Ref. Number: 264

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Row	Phase # ---->	Phase							
		Clmt Mesa		Genesee		Clmt Mesa		Genesee	
		1	2	3	4	5	6	7	8
0	Ped Walk		7		7		7		7
1	Ped FDW		21		24		21		24
2	Min Green	4	15 10	4	10	4	15 10	4	10
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	3.2	2.0	2.0	2.0	3.2	2.0	2.0
6	Max Gap	2.0	3.2	2.0	2.0	2.0	3.2	2.0	2.0
7	Min Gap	2.0	0.2	2.0	2.0	2.0	0.2	2.0	2.0
8	Max Limit	30	40	30	40	30	40	30	40
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1		
D	Every		1.0				1.0		
E	Yellow	3.4	4.0	3.4	3.9	3.4	4.0	3.4	3.9
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E	F	Row	
RR-1 Delay		Permit	1234567	0
RR-1 Clear		Red Lock		1
EV-A Delay	0	Yellow Lock		2
EV-A Clear	0	Min Recall	2 6	3
EV-B Delay	0	Ped Recall		4
EV-B Clear	0	Peds (View)	2 4 6 8	5
EV-C Delay	0	Rest In Walk		6
EV-C Clear	0	Red Rest		7
EV-D Delay	0	Dbl Entry		8
EV-D Clear	0	Max Recall		9
RR-2 Delay		Soft Recall		A
RR-2 Clear		Max 2		B
View EV Delay	---	Cond Serv		C
View EV Clear	---	Ped Lock	12345678	D
View RR Delay	---	Yellow Start	2 6	E
View RR Clear	---	1st Phases	3 7	F

Preempt Timing
F + E + Row

Phase Functions <F Page>
F + F + Row

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + 0
Start / Revert Times		
Drop Number	2	C + 0 + 0
Zone Number	2	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	19	C + 0 + 3
QuicNet Channel	COM39:	(QuicNet)

Communication Addresses		
C + F + 0	F	Row
Free Lag	2 4 6 8	0

Lag Phases <C Page>

Overlap Timing

Row	9	C	D	0
Overlap A	A			
Overlap B	B			
Overlap C	C			
Overlap D	D			

Green Clear Yellow Change Red Clear Load-Switch #

<F Page> <D Page>
F + COLOR + D + 0 + OVERLAP

Downtime Flash	255	(minutes)
Downtime Before Auto Manual Flash		

F + 0 + 8

Disable Ports	234
Disable Communication Ports	

D + D + 9

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Timing Sheet By: LEM
Approved By: FLG
Drawing Number:
Timing Implemented On: 4/23/10

Row	Time	Function	Day of Week	Column F Phases/Bits
0	00 : 01	E	1234567	1
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

<D Page>

D + F + ROW

T.O.D. Functions
 0 = Permitted Phases
 1 = Red Lock
 2 = Yellow Lock
 3 = Veh Min Recall
 4 = Ped Recall
 5 =
 6 = Rest In Walk
 7 = Red Rest
 8 = Double Entry
 9 = Veh Max Recall
 A = Veh Soft Recall
 B = Maximum 2
 C = Conditional Service
 D = Free Lag Phases
 E = Bit 1 - Local Override
 Bit 2 - Phase Bank 2
 Bit 3 - Phase Bank 3
 Bit 4 - Disable Detector
 OFF Monitor
 Bit 7 - Detector Count Monitor
 Bit 8 - Real Time Split Monitor
 F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	4
8	Ped 8P	8
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration

E + F + ROW

<E Page>

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Configuration

E + E + ROW

For access, set F + 9 + E = 1

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 = Remote Download
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

Day of Week

- 1 = Sunday
- 2 = Monday
- 3 = Tuesday
- 4 = Wednesday
- 5 = Thursday
- 6 = Friday
- 7 = Saturday

Assign 5 Outputs

- 1 = Right Turn Overlap
- 2 = TOD Outputs
- 3 = EV Beacon - Steady
- 4 = EV Beacon - Flashing
- 5 = Special Event Outputs
- 6 = Phase 3 & 7 Ped
- 7 = Advanced Warning Sign
- 8 =

Time and Date

- 8-0 Hour, Minute, Day-of-Week
- 8-1 Day-of-Month, Year, Month
- 8-F Seconds

Disable Parity D+B+0

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

Program Information

- C + C + 0 = program
- C + C + F = version

Remote Download

- C + 0 + 4 = 1 -255
- w/ E + E + E bit 5 on

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	111	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Row	0 Detector #
0	
1	System Det. # 1 0
2	System Det. # 2 0
3	System Det. # 3 0
4	System Det. # 4 0
5	System Det. # 5 0
6	System Det. # 6 0
7	System Det. # 7 0
8	System Det. # 8 0

System Detectors <D Page>

Row	2 Delay	4 Carry-over
0		
1		1.8
2		1.8
3		
4		
5		
6		
7		
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

Detector Delay & Carryover <D Page>

D + X (across) + ROW

ROW	Plan Name ---->	Plan								
		1	2	3	4	5	6	7	8	9
			PM				AM-PEAK	AM	MID	
0	Cycle Length		126				108	108	112	
1	Phase 1 - ForceOff		78				13	13	14	
2	Phase 2 - ForceOff		0				0	0	0	
3	Phase 3 - ForceOff		22				30	30	32	
4	Phase 4 - ForceOff		59				67	67	69	
5	Phase 5 - ForceOff		78				85	85	84	
6	Phase 6 - ForceOff		0				0	0	0	
7	Phase 7 - ForceOff		20				67	67	69	
8	Phase 8 - ForceOff		59				53	53	52	
9	Ring Offset									
A	Offset A		15				48	48	18	
B	Offset B									
C	Offset C									
D	Permissive		12				11	11	11	
E	Hold Release		255				104	255	255	
F	Ped Shift		2				0	0	0	

Coordination Timing By: FLG
Implemented On: 10/27/2009

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + E
Max Cycle	C + B + E

Coordination <C Page>
C + Plan + ROW

Row	Time	Plan	Offset	Day of Week
0	07 : 00	7	A	23456
1	09 : 00	6	A	23456
2	09 : 30	8	A	23456
3	15 : 30	2	A	23456
4	18 : 30	E	A	1234567
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination
<9 Key with C+0+9=1>

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

	E	Row	F
		0	Free Lag
			2 4 6 8
Plan 1		1	Plan 1 - Lag
Plan 2	2 6	2	Plan 2 - Lag
			2 4 6 8
Plan 3		3	Plan 3 - Lag
Plan 4		4	Plan 4 - Lag
Plan 5		5	Plan 5 - Lag
Plan 6	2 6	6	Plan 6 - Lag
			1 4 6 7
Plan 7	2 6	7	Plan 7 - Lag
			1 4 6 7
Plan 8	2 6	8	Plan 8 - Lag
			1 4 6 7
Plan 9		9	Plan 9 - Lag
Coord Ped*		A	Coord Max *
NEMA Hold		B	Coord Lag *
		C	
		D	
		E	
		F	

Sync Phases <C Page>
C + E + FUNCTION # Lag Phases C + F + FUNCTION #

Transition Type	0
-----------------	---

TBC Transition
C + D + D

Transition Type
0 = Shortway
Non-zero = Lengthen

INTERSECTION: Clairemont Dr/Kleefeld Ave & Clairemont Mesa Blvd

223 F ram

17

Group Assignment:

N/S Street Name: CLAIREMONT DR/KLEEFELD AVE

Last Database Change:

Field Master Assignment: NONE

E/W Street Name: CLAIREMONT MESA

System Ref. Number:

Row	Phase #	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk		7	7	7		7		
1	Ped FDW		15	22	22		18		
2	Min Green	4	10	4	4	4	10		
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	4.4	2.0	2.0	2.0	4.1		
6	Max Gap	2.0	4.4	2.0	2.0	2.0	4.1		
7	Min Gap	2.0	0.2	2.0	2.0	2.0	0.2		
8	Max Limit	30	60	40	40	30	60		
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1				0.1		
D	Every		0.7				0.8		
E	Yellow	3.4	3.9	3.9	3.9	3.4	4.2		
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0		

Phase Timing - Bank 1

F + Phase + Row

<F Page>

	E	F	Row
RR-1 Delay			0
RR-1 Clear			1
EV-A Delay	0		2
EV-A Clear	0		3
EV-B Delay	0		4
EV-B Clear	0		5
EV-C Delay	0		6
EV-C Clear	0		7
EV-D Delay	0		8
EV-D Clear	0		9
RR-2 Delay			A
RR-2 Clear			B
View EV Delay	---		C
View EV Clear	---		D
View RR Delay	---		E
View RR Clear	---		F

Preempt Timing

F + E + Row

Phase Functions <F Page>

F + F + Row

Max Initial	0	F + 0 + E
Red Revert	5.0	F + 0 + F
All Red Start	0.0	F + C + 0

Start / Revert Times		
Drop Number	8	C + 0 + 0
Zone Number	8	C + 0 + 1
Area Number	5	C + 0 + 2
Area Address	22	C + 0 + 3
QuicNet Channel	COM39:	(QuicNet)

Communication Addresses

C + F + 0	F	Row
Free Lag	2 4 6	0

Lag Phases <C Page>

Overlap Timing

Row	9	C	D	0
Overlap A	A			
Overlap B	B			
Overlap C	C			
Overlap D	D			

<F Page>

F + COLOR +

<D Page>

D + 0 + OVERLAP

Downtime Flash	255	(minutes)
Downtime Before Auto Manual Flash		

F + 0 + 8

Disable Ports	234
Disable Communication Ports	

D + D + 9

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Timing Sheet By: LEM

Approved By: FLG

Drawing Number: 31921-4-D

Timing Implemented On: 04/12/10

6

Row	Time	Function	Day of Week	Column F Phases/Bits
0	00 : 01	E	1234567	1
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Function

7 + ROW

<D Page>

D + F + ROW

T.O.D. Functions

- 0 = Permitted Phases
- 1 = Red Lock
- 2 = Yellow Lock
- 3 = Veh Min Recall
- 4 = Ped Recall
- 5 =
- 6 = Rest In Walk
- 7 = Red Rest
- 8 = Double Entry
- 9 = Veh Max Recall
- A = Veh Soft Recall
- B = Maximum 2
- C = Conditional Service
- D = Free Lag Phases
- E = Bit 1 - Local Override
- Bit 2 - Phase Bank 2
- Bit 3 - Phase Bank 3
- Bit 4 - Disable Detector
- OFF Monitor
- Bit 7 - Detector Count Monitor
- Bit 8 - Real Time Split Monitor
- F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	4
8	Ped 8P	3
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

Configuration

E + F + ROW

<E Page>

Day of Week

- 1 = Sunday
- 2 = Monday
- 3 = Tuesday
- 4 = Wednesday
- 5 = Thursday
- 6 = Friday
- 7 = Saturday

Assign 5 Outputs

- 1 = Right Turn Overlap
- 2 = TOD Outputs
- 3 = EV Beacon - Steady
- 4 = EV Beacon - Flashing
- 5 = Special Event Outputs
- 6 = Phase 3 & 7 Ped
- 7 = Advanced Warning Sign
- 8 =

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4
C	EV-C Phases	1 6
D	EV-D Phases	3
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Extra 1 Flags

- 1 = TBC Type 1
- 2 = NEMA Ext. Coord
- 3 = Auto Daylight Savings
- 4 = EV Advance
- 5 = Remote Download
- 6 = Special Event
- 7 = Pretimed Operation
- 8 = Split Ring Operation

IC Select Flags

- 1 =
- 2 = Modem
- 3 = 7-Wire Slave
- 4 = Flash / Free
- 5 =
- 6 = Simplex Master
- 7 = 7-Wire Master
- 8 = Offset Interrupter

Configuration

E + E + ROW

For access, set F + 9 + E = 1

Time and Date

- 8-0 Hour, Minute, Day-of-Week
- 8-1 Day-of-Month, Year, Month
- 8-F Seconds

Disable Parity	0	D+B+0
----------------	---	-------

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

Program Information

- C + C + 0 = program
- C + C + F = version

Remote Download

- C + 0 + 4 = 1 -255
- w/ E + E + E bit 5 on

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7	10.0	
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
	---	---
	---	---

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7	10.0	
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
	---	---
	---	---

Row	0 Detector #
0	
1	System Det. # 1 0
2	System Det. # 2 0
3	System Det. # 3 0
4	System Det. # 4 0
5	System Det. # 5 0
6	System Det. # 6 0
7	System Det. # 7 0
8	System Det. # 8 0

System Detectors <D Page>

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

Detector Delay & Carrvoer <D Page>

D + X (across) + ROW

INTERSECTION: Clairemont Dr/Kleefeld Ave & Clairemont Mesa Blvd

223 Program

Coordination Timing By: **FLG**
 Implemented On: **10/27/2009**

Row	Plan Name ---->	Plan								
		1	2	3	4	5	6	7	8	9
	Column # ---->									
0	Cycle Length		126					108	112	
1	Phase 1 - ForceOff		79					87	90	
2	Phase 2 - ForceOff		0					0	13	
3	Phase 3 - ForceOff		33					42	45	
4	Phase 4 - ForceOff		65					75	77	
5	Phase 5 - ForceOff		79					13	13	
6	Phase 6 - ForceOff		0					0	0	
7	Phase 7 - ForceOff									
8	Phase 8 - ForceOff									
9	Ring Offset									
A	Offset A		107					99	77	
B	Offset B									
C	Offset C									
D	Permissive		10					11	11	
E	Hold Release		255					255	255	
F	Ped Shift		4					0	3	

Coordination <C Page>
 C + Plan + ROW

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + E
Max Cycle	C + B + E

① CN2
 03/20/12

Row	Time	Plan	Offset	Day of Week
0	07 : 00	7	A	23456
1	09 : 30	8	A	23456
2	15 : 30	① 2 B	A	23456
3	18 : 30	E	A	1234567
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination
 <9 Key with C+0+9=1>

Plan Select
 1 thru 9 = Coordination
 Plan 1 thru 9
 14 or E = Free
 15 or F = Flash

	E	Row	F
		0	Free Lag
Plan 1		1	Plan 1 - Lag
Plan 2	2 6	2	Plan 2 - Lag
Plan 3		3	Plan 3 - Lag
Plan 4		4	Plan 4 - Lag
Plan 5		5	Plan 5 - Lag
Plan 6		6	Plan 6 - Lag
Plan 7	2 6	7	Plan 7 - Lag
Plan 8	6	8	Plan 8 - Lag
Plan 9		9	Plan 9 - Lag
Coord Ped*		A	Coord Max *
NEMA Hold		B	Coord Lag *
		C	
		D	
		E	
		F	

Sync Phases
 C + E + FUNCTION #

Lag Phases <C Page>
 C + F + FUNCTION #

Transition Type	0
-----------------	---

TBC Transition
 C + D + D

Transition Type
 0 = Shortway
 Non-zero = Lengthen

INTERSECTION: Clairemont Dr & Clairemont Mesa Blvd

223 gram

18

Group Assignment: 4038
Field Master Assignment: NONE

N/S Street Name: CLAIREMONT DR
E/W Street Name: CLAIREMONT MESA

Last Database Change:
System Ref. Number:

Row	Phase #	Phase							
		1	2	3	4	5	6	7	8
0	Ped Walk		4		4		4		4
1	Ped FDW		21		21		22		20
2	Min Green	4	7	4	7	4	7	4	7
3	Type 3 Limit								
4	Add/Veh								
5	Veh Extn	2.0	3.4	2.0	3.4	2.0	3.5	2.0	3.3
6	Max Gap	2.0	3.4	2.0	3.4	2.0	3.5	2.0	3.3
7	Min Gap	2.0	0.2	2.0	0.2	2.0	0.2	2.0	0.2
8	Max Limit	30	40	30	40	30	40	30	40
9	Max Limit 2								
A	Bus Adv								
B	Call to Phs								
C	Reduce By		0.1		0.1		0.1		0.1
D	Every		0.9		0.9		0.9		1.0
E	Yellow	3.4	4.2	3.4	4.1	3.4	4.1	3.4	4.3
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1
F + Phase + Row

<F Page>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	0
EV-B Clear	0
EV-C Delay	
EV-C Clear	
EV-D Delay	
EV-D Clear	
RR-2 Delay	
RR-2 Clear	
View EV Delay	---
View EV Clear	---
View RR Delay	---
View RR Clear	---

Preempt Timing

F + E + Row

	F	Row
Permit	12345678	0
Red Lock		1
Yellow Lock		2
Min Recall	2 6	3
Ped Recall		4
Peds (View)	2 4 6 8	5
Rest In Walk		6
Red Rest		7
Dbl Entry		8
Max Recall		9
Soft Recall		A
Max 2		B
Cond Serv		C
Ped Lock	12345678	D
Yellow Start	2 6	E
1st Phases	4 8	F

Phase Functions <F Page>

F + F + Row

Max Initial	0
Red Revert	5.0
All Red Start	0.0

F + 0 + E
F + 0 + F
F + C + O

Start / Revert Times	
Drop Number	10
Zone Number	10
Area Number	5
Area Address	24
QuicNet Channel	COM39:

C + 0 + 0
C + 0 + 1
C + 0 + 2
C + 0 + 3
(QuicNet)

Communication Addresses

C + F + O	F	Row
Free Lag	2 4 6 8	0

Lag Phases <C Page>

Overlap Timing

Row	9	C	D	0
Overlap A	A			
Overlap B	B			
Overlap C	C			
Overlap D	D			

<F Page>

F + COLOR +

<D Page>

D + 0 + OVERLAP

Downtime Flash	255	(minutes)
Downtime Before Auto Manual Flash		

F + 0 + 8

Disable Ports	234
---------------	-----

Disable Communication Ports

D + D + 9

Manual Plan	0	C + A + 1
Manual Offset	0	C + B + 1

Manual Selection

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Timing Sheet By: LEM

Approved By: FLG

Drawing Number:

Timing Implemented On: 04/12/10



Row	Time	Function	Day of Week	Column F Phases/Bits
0	00 : 01	E	1234567	1
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

T.O.D. Functions
 0 = Permitted Phases
 1 = Red Lock
 2 = Yellow Lock
 3 = Veh Min Recall
 4 = Ped Recall
 5 =
 6 = Rest In Walk
 7 = Red Rest
 8 = Double Entry
 9 = Veh Max Recall
 A = Veh Soft Recall
 B = Maximum 2
 C = Conditional Service
 D = Free Lag Phases
 E = Bit 1 - Local Override
 Bit 2 - Phase Bank 2
 Bit 3 - Phase Bank 3
 Bit 4 - Disable Detector
 OFF Monitor
 Bit 7 - Detector Count Monitor
 Bit 8 - Real Time Split Monitor
 F = Output Bits 1 thru 4

Row		F
0		
1	RR Overlap A - Phases	
2	RR Overlap B - Phases	
3	RR Overlap C - Phases	
4	RR Overlap D - Phases	
5	Ped 2P	2
6	Ped 6P	6
7	Ped 4P	4
8	Ped 8P	8
9	Yellow Flash Phases	
A	Overlap A - Phases	
B	Overlap B - Phases	
C	Overlap C - Phases	
D	Overlap D - Phases	
E	Restricted Phases	
F	Assign 5 Outputs	

TOD Function

7 + ROW

<D Page>

D + F + ROW

Configuration

E + F + ROW

<E Page>

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Overlap A - Green Omit	
6	Overlap B - Green Omit	
7	Overlap C - Green Omit	
8	Overlap D - Green Omit	
9	Overlap Yellow Flash	
A	EV-A Phases	2 6
B	EV-B Phases	4 8
C	EV-C Phases	
D	EV-D Phases	
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Extra 1 Flags
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = EV Advance
 5 = Remote Download
 6 = Special Event
 7 = Pretimed Operation
 8 = Split Ring Operation

IC Select Flags
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 = Flash / Free
 5 =
 6 = Simplex Master
 7 = 7-Wire Master
 8 = Offset Interrupter

Day of Week

- 1 = Sunday
- 2 = Monday
- 3 = Tuesday
- 4 = Wednesday
- 5 = Thursday
- 6 = Friday
- 7 = Saturday

Assign 5 Outputs

- 1 = Right Turn Overlap
- 2 = TOD Outputs
- 3 = EV Beacon - Steady
- 4 = EV Beacon - Flashing
- 5 = Special Event Outputs
- 6 = Phase 3 & 7 Ped
- 7 = Advanced Warning Sign
- 8 =

Time and Date

- 8-0 Hour, Minute, Day-of-Week
- 8-1 Day-of-Month, Year, Month
- 8-F Seconds

Disable Parity D+B+0

Dial-Up Telephone Communications

(If set to a non-zero value, parity will be disabled)

Program Information

- C + C + 0 = program
- C + C + F = version

Remote Download

- C + 0 + 4 = 1 -255
- w/ E + E + E bit 5 on

Configuration

E + E + ROW

For access, set F + 9 + E = 1

Row	1 Delay	3 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		1.8
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	1I1	14
	2I2U	1
	2I2L	5
	2I3U	21
	2I3L	25
	2I4	9
	3I5	16
	4I6U	3
	4I6L	7
	4I7U	23
	4I7L	27
	4I8	11
	1I9U	18
	3I9L	20
---	---	---
---	---	---

Row	Detector Numbers	E
A	1 2 3 4 5 6 7 8	12345678
B	9 10 11 12 -- -- -- --	1234
C	13 14 15 16 17 18 19 20	12345678
D	-- -- -- -- 21 22 23 24	5678
E	-- -- -- -- -- -- -- --	1234
F	-- 25 26 27 28 -- -- --	2345

Active Detectors <D Page>

Row	0 Detector #
0	
1	System Det. # 1 0
2	System Det. # 2 0
3	System Det. # 3 0
4	System Det. # 4 0
5	System Det. # 5 0
6	System Det. # 6 0
7	System Det. # 7 0
8	System Det. # 8 0

System Detectors <D Page>

Row	2 Delay	4 Carry-over
0		
1		1.8
2		
3		
4		
5		
6		
7		1.8
8		
9		
A		
B		
C		
D		
E	---	---
F	---	---

Detector Name	332 Input File	Detector Number
	5J1	13
	6J2U	2
	6J2L	6
	6J3U	22
	6J3L	26
	6J4	10
	7J5	15
	8J6U	4
	8J6L	8
	8J7U	24
	8J7L	28
	8J8	12
	5J9U	17
	7J9L	19
---	---	---
---	---	---

Max ON (min)	5	D+A+E
Max OFF (min)	60	D+A+F

Detector Failure Monitor

Phase Number	0	F+C+1
Time Before Yellow	0.0	F+C+3

Advance Warning Beacon - Sign 1

Phase Number	0	F+D+1
Time Before Yellow	0.0	F+D+3

Advance Warning Beacon - Sign 2

Long Failure	0.5	F+0+6
Short Failure	0.5	F+0+7

Power Cycle Correction (Default = 0.5)

Detector Delay & Carryover <D Page>

D + X (across) + ROW

INTERSECTION: Clairemont Dr & Clairemont M Blvd

223 **aram**

ROW	Plan Name ---->	Plan								
		1	2	3	4	5	6	7	8	9
			PM					AM		
0	Cycle Length		126					108	112	
1	Phase 1 - ForceOff		78					83	21	
2	Phase 2 - ForceOff		0					0	0	
3	Phase 3 - ForceOff		20					35	38	
4	Phase 4 - ForceOff		56					61	73	
5	Phase 5 - ForceOff		78					19	93	
6	Phase 6 - ForceOff		0					0	0	
7	Phase 7 - ForceOff		20					29	44	
8	Phase 8 - ForceOff		56					61	73	
9	Ring Offset									
A	Offset A		53					29	74	
B	Offset B									
C	Offset C									
D	Permissive		10					11	11	
E	Hold Release		255					100	110	
F	Ped Shift		2					3	0	

Coordination Timing By: **FLG**
Implemented On: **10/27/2009**

FOR OBSERVATION ONLY

Master Plan	C + A + 2
Current Plan	C + A + 3
Next Plan	C + A + 4
T.O.D. Plan	C + A + 5
Master Cycle	C + A + 0
Ring A Cycle	C + B + 0
Ring B Cycle	C + D + 0
Min Cycle	C + A + E
Max Cycle	C + B + E

Coordination <C Page>
C + Plan + ROW

Row	Time	Plan	Offset	Day of Week
0	07 : 00	7	A	23456
1	09 : 30	8	A	23456
2	15 : 30	2	A	23456
3	18 : 30	E	A	1234567
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

TOD Coordination
<9 Key with C+0+9=1>

E		Row	F
		0	Free Lag 2 4 6 8
Plan 1		1	Plan 1 - Lag
Plan 2	2 6	2	Plan 2 - Lag 2 4 6 8
Plan 3		3	Plan 3 - Lag
Plan 4		4	Plan 4 - Lag
Plan 5		5	Plan 5 - Lag
Plan 6		6	Plan 6 - Lag
Plan 7	2 6	7	Plan 7 - Lag 2 4 5 8
Plan 8	2 6	8	Plan 8 - Lag 1 4 6 8
Plan 9		9	Plan 9 - Lag
Coord Ped*		A	Coord Max *
NEMA Hold		B	Coord Lag *
		C	
		D	
		E	
		F	

Sync Phases C + E + FUNCTION #
Lag Phases <C Page> C + F + FUNCTION #

Plan Select
1 thru 9 = Coordination
Plan 1 thru 9
14 or E = Free
15 or F = Flash

Transition Type **0**
TBC Transition
C + D + D
Transition Type
0 = Shortway
Non-zero = Lengthen

INTERSECTION: Balboa Ave & Clairemont Dr

Group Assignment:
Field Master Assignment:
System Reference Number:

N/S Street Name: Clairemont Dr
E/W Street Name: Balboa Ave

Last Database Change:
Drawing Number: 36692-2-D

Change Record					
Change	By	Date	Change	By	Date
Original TS	KT	3/23/2015			

Drop Number	13	<C/0+0+0>
Zone Number	13	<C/0+0+1>
Area Number	5	<C/0+0+2>
Area Address	96	<C/0+0+3>
QuicNet Channel	COM41:	(QuicNet)

Manual Plan	14	<C/0+A+1>
Manual Offset	0	<C/0+B+1>

Notes: 1) "No U-Turn" sign connected to Phase 6 Ped Yellow (Pin 36)
2) TOD Function activates Overlap & "NO U-TURN" Blankout sign

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

implemented on 6/12/2015

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	0.0	<F/1+C+0>
FYA Red Revert	0.0	<F/1+0+5>
OVL P CHG Red	0.0	<F/1+0+3>

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase
(Outputs specified in Assignable
Outputs at E/127+A+E & F)

Row	Phase Names ---->	Balboa Clairemont Balboa Clairemont							
		Phase							
Column Numbers ---->		1	2	3	4	5	6	7	8
0	Ped Walk		7		7		7		7
1	Ped FDW		22		22		21		26
2	Min Green	4	10	4	7	4	10	4	7
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension	2.0	3.5	2.0	2.6	2.0	3.0	2.0	2.4
6	Max Gap	2.0	3.5	2.0	2.6	2.0	3.0	2.0	2.4
7	Min Gap	2.0	0.2	2.0	0.2	2.0	0.2	2.0	0.2
8	Max Limit	30	60	30	40	30	60	30	40
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW		1		1		1		1
C	Cond Serv Check								
D	Reduce Every		0.9		1.3		1.1		1.4
E	Yellow Change	3.4	4.7	3.4	4.3	3.4	5.4	3.4	4.3
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1 <C+0+F=1>

	9	A	B	C	D	E
Phase 1	---	---	---	---	---	RR-1 Delay
Phase 2						RR-1 Clear
Phase 3						EV-A Delay 0
Phase 4						EV-A Clear 0
Phase 5						EV-B Delay 0
Phase 6						EV-B Clear 0
Phase 7						EV-C Delay 0
Phase 8						EV-C Clear 0
Max Initial						EV-D Delay 0
Alternate Walk						EV-D Clear 0
Alternate FDW						RR-2 Delay
Alternate Initial						RR-2 Clear
Alternate Extension						View EV Delay ---
						View EV Clear ---
						View RR Delay ---
						View RR Clear ---

Alternate Timing <C+0+F=1> Preempt Timing

	F	Row
Permit	12345678	0
Red Lock		1
Yellow Lock		2
Min Recall		3
Ped Recall		4
View Set Peds	2 4 6 8	5
Rest In Walk		6
Red Rest		7
Dual Entry		8
Max Recall		9
Soft Recall	2 6	A
Max 2		B
Cond. Service		C
Man Cntrl Calls		D
First Phases	2 6	E
	4 8	F

Phase Functions <C+0+F=1>

Row	Overlap Name ---->	Overlap							
		1	2	3	4	5	6	7	8
0	Load Switch Number								
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases	1	8						
3	Veh Set 3 - Phases								
4	Neg Veh Phases	2	78						
5	Neg Ped Phases	2	8						
6	Green Omit Phases		8						
7	Green Clear Omit Phs.								
8	Overlap Recall								
9	Queue Jump Phase								
A	Queue Jump Time								
B	Minimum Green								
C	Maximum Green								
D	Green Clear								
E	Yellow Change	3.4							
F	Red Clear	1.0							

Overlap Assignments <C+0+E=20>

- Extra 1 Flags**
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = Solid FDW on EV
 5 = Extended Status
 6 = International Ped
 7 = Flash - Clear Outputs
 8 = Spilt Ring

- Extra 2 Flags**
 1 = AWB During Initial
 2 = Reserved
 3 = Disable Min Walk
 4 = QuicNet System
 5 = Ignore P/P on EV
 6 = Manual Hold in FDW
 7 = Allow QuicNet PE
 8 = Flash Grn B4 Yellow

	C	Row
EV-A	0	0
EV-B	0	1
EV-C	0	2
EV-D	0	3
RR-1 *	---	4
RR-2 *	---	5
SE-1	0	6
SE-2	0	7

Preempt Priority
 <C+0+E=125>
 (* RR-1 is always Highest, and RR-2 is always Second Highest)

Row	Column Numbers ---->	E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	4 7
C	EV-C Phases	1 6
D	EV-D Phases	3 8
E	Extra 1 Config. Bits	1 34
F	IC Select (Interconnect)	2

Configuration <C+0+E=125>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	6
Ped for 4P Output	4
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	3

Configuration <C+0+E=125>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	12345678
Sequential Timing	
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reserve	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	12345678
Start-up Ped Calls	12345678

Specials <C+0+F=2>

- Flash to PE & PE Non-Lock**
 1 = EV A 5 = RR 1
 2 = EV B 6 = RR 2
 3 = EV C 7 = SE 1
 4 = EV D 8 = SE 2

- IC Select Flags**
 1 =
 2 = Modem
 3 = 7-Wire Slave
 4 =
 5 =
 6 = Simplex Master
 7 =
 8 = Offset Interrupter

	2	Row
		0
Phase 1	10	1
Phase 2	10	2
Phase 3	10	3
Phase 4	10	4
Phase 5	10	5
Phase 6	10	6
Phase 7	10	7
Phase 8	10	8

Coordination Transition Minimums
 <C+0+C=5>

Column Numbers ---->		Plan								
Plan Name ---->		1	2	3	4	5	6	7	8	9
0	Cycle Length									
1	Phase 1 - ForceOff									
2	Phase 2 - ForceOff									
3	Phase 3 - ForceOff									
4	Phase 4 - ForceOff									
5	Phase 5 - ForceOff									
6	Phase 6 - ForceOff									
7	Phase 7 - ForceOff									
8	Phase 8 - ForceOff									
9	Ring Offset									
A	Offset 1									
B	Offset 2									
C	Offset 3									
D	Perm 1 - End									
E	Hold Release									
F	Reserved									

Coordination - Bank 1 <C+0+C=1>

Coord Extra
 1 = Programmed WALK Time for Sync Phases
 2 = Always Terminate Sync Phase Peds

Row	E	Row
0		0
1	Plan 1 - Sync	1
2	Plan 2 - Sync	2
3	Plan 3 - Sync	3
4	Plan 4 - Sync	4
5	Plan 5 - Sync	5
6	Plan 6 - Sync	6
7	Plan 7 - Sync	7
8	Plan 8 - Sync	8
9	Plan 9 - Sync	9
A	NEMA Sync	A
B	NEMA Hold	B
C		C
D		D
E	Coord Extra	E
F		F

Sync Phases <C+0+C=1>

0	Ped Adjustment									
1	Perm 2 - Start									
2	Perm 2 - End									
3	Perm 3 - Start									
4	Perm 3 - End									
5	Reservice Time									
6	Reservice Phases									
7										
8	Pretimed Phases									
9	Max Recall									
A	Perm 1 Veh Phase									
B	Perm 1 Ped Phase									
C	Perm 2 Veh Phase									
D	Perm 2 Ped Phase									
E	Perm 3 Veh Phase									
F	Perm 3 Ped Phase									

Coordination - Bank 2 <C+0+C=2>

Row	F	Row
0	Free Lag	0
1	Plan 1 - Lag	1
2	Plan 2 - Lag	2
3	Plan 3 - Lag	3
4	Plan 4 - Lag	4
5	Plan 5 - Lag	5
6	Plan 6 - Lag	6
7	Plan 7 - Lag	7
8	Plan 8 - Lag	8
9	Plan 9 - Lag	9
A	External Lag	A
B	Lag Hold	B
C		C
D		D
E		E
F		F

Lag Phases <C+0+C=1>

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row	
0	One-Shot Timer	Latch 1 Set	NOT-3	Max 2	Pretimed	Set Monday	Dial 2 (7-Wire)	Sim Term	0	0
1	AND-5 (a)	Latch 1 Reset	NOT-4	Reserved	Plan 1	Ext. Perm 1	Dial 3 (7-Wire)	EV-A	71	1
2	AND-5 (b)	Latch 2 Set	OR-4 (a)	Reserved	Plan 2	Ext. Perm 2	Offset 1 (7-Wire)	EV-B	72	2
3	AND-6 (a)	Latch 2 Reset	OR-4 (b)	Reserved	Plan 3	Gate Down	Offset 2 (7-Wire)	EV-C	73	3
4	AND-6 (b)	NAND-3 (a)	OR-5 (a)	Reserved	Plan 4	Set Clock	Offset 3 (7-Wire)	EV-D	74	4
5	Reserved	NAND-3 (b)	OR-5 (b)	Reserved	Plan 5	Stop Time	Free (7-Wire)	RR-1	51	5
6	Reserved	NAND-4 (a)	OR-6 (a)	Reserved	Plan 6	Flash Sense	Flash (7-Wire)	RR-2	52	6
7	Reserved	NAND-4 (b)	OR-6 (b)	Reserved	Plan 7	Manual Enable	Excl. Ped Omit	Spec. Event 1		7
8	Spec. Funct. 1	OR-7 (a)	EXTMR	Reserved	Plan 8	Man. Advance	NOT-1	Spec. Event 2		8
9	Spec. Funct. 2	OR-7 (b)	Reserved	Max Inhibit (nema)	Plan 9	External Alarm	NOT-2	External Lag		9
A	Spec. Funct. 3	OR-7 (c)	AND-4 (a)	Force A (nema)	DELAY-A	Phase Bank 2	OR-1 (a)	201	AND-1 (a)	A
B	Spec. Funct. 4	OR-7 (d)	AND-4 (b)	Force B (nema)	DELAY-B	Phase Bank 3	OR-1 (b)	35	AND-1 (b)	B
C	Reserved	OR-8 (a)	NAND-1 (a)	C.N.A. (nema)	DELAY-C	Overlap Set 2	201	OR-2 (a)	AND-2 (a)	C
D	Reserved	OR-8 (b)	NAND-1 (b)	Hold (nema)	DELAY-D	Overlap Set 3	OR-2 (b)		AND-2 (b)	D
E	Reserved	OR-8 (c)	NAND-2 (a)	Max Recall	DELAY-E	Detector Set 2	OR-3 (a)		AND-3 (a)	E
F	Reserved	OR-8 (d)	NAND-2 (b)	Min Recall	DELAY-F	Detector Set 3	OR-3 (b)		AND-3 (b)	F

Assignable Inputs <C+0+E=126>

Row	Column 8	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row	
0	Reserved	Phase ON - 1	Preempt Fail	Flasher 0	Free	NOT-1	TOD Out 1	201	Dial 2 (7-Wire)	0
1	Reserved	Phase ON - 2	Sp Evnt Out 1	Flasher 1	Plan 1	OR-1	36	TOD Out 2	Dial 3 (7-Wire)	1
2	Reserved	Phase ON - 3	Sp Evnt Out 2	Fast Flasher	Plan 2	OR-2	TOD Out 3		Offset 1 (7-Wire)	2
3	Reserved	Phase ON - 4	Sp Evnt Out 3	EXTMR	Plan 3	OR-3	TOD Out 4		Offset 2 (7-Wire)	3
4	Reserved	Phase ON - 5	Sp Evnt Out 4	One-Shot Timer	Plan 4	AND-1	TOD Out 5		Offset 3 (7-Wire)	4
5	Reserved	Phase ON - 6	Sp Evnt Out 5	Reserved	Plan 5	AND-2	TOD Out 6		Free (7-Wire)	5
6	Reserved	Phase ON - 7	Sp Evnt Out 6	Latch 1	Plan 6	AND-3	TOD Out 7		Flash (7-Wire)	6
7	Reserved	Phase ON - 8	Sp Evnt Out 7	Latch 2	Plan 7	NOT-2	TOD Out 8		Preempt	7
8	Flh Yell Arrow 1	Ph. Check - 1	Sp Evnt Out 8	NOT-3	Plan 8	EV-A	Adv. Warn - 1		Low Priority A	8
9	Green 1	Ph. Check - 2	Coord On	NOT-4	Plan 9	EV-B	Adv. Warn - 2		Low Priority B	9
A	Flh Yell Arrow 3	Ph. Check - 3	Detector Fail	OR-4	Spec. Funct. 3	EV-C	DELAY-A		Low Priority C	A
B	Green 3	Ph. Check - 4	Spec. Funct. 1	OR-5	Spec. Funct. 4	EV-D	DELAY-B		Low Priority D	B
C	Flh Yell Arrow 5	Ph. Check - 5	Spec. Funct. 2	OR-6	NAND-3	RR-1	DELAY-C		AND-5	C
D	Green 5	Ph. Check - 6	Central Control	AND-4	NAND-4	RR-2	DELAY-D		AND-6	D
E	Flh Yell Arrow 7	Ph. Check - 7	Excl. Ped DW	NAND-1	OR-7	Spec. Event 1	DELAY-E		Reserved	E
F	Green 7	Ph. Check - 8	Excl. Ped WK	NAND-2	OR-8	Spec. Event 2	DELAY-F		Reserved	F

Assignable Outputs <C+0+E=127>

Column Numbers ---->		Phase							
Row	Phase Names ---->	1	2	3	4	5	6	7	8
0	Ped Walk								
1	Ped FDW								
2	Min Green								
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension								
6	Max Gap								
7	Min Gap								
8	Max Limit								
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every								
E	Yellow Change								
F	Red Clear								

Phase Timing - Bank 2 <C+0+F=2>

	9	A	B	C	D
Phase 1	---	---	---	---	---
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

Transition Type
0.X = Shortway
1.X = Lengthen
X.1 thru X.4 =
Number of
cycles when
lengthing

Transition Type <C/5+1+9>
TBC Transition

Hawk Select /1+0+4>
Hawk Select 200 = Mid-Block, 201 = Hawk

Address <C/1+0+6>
Select Parity <C/1+0+5>

AB3418 Comm 2 0 = No Parity, 1 = Even

Begin Month <C/5+2+A>
Begin Week <C/5+2+B>
End Month <C/5+2+C>
End Week <C/5+2+D>

Daylight Savings Time

Daylight Savings
Date
If set to all zeros,
standard dates
will be used.

Time B4 Yellow <F/1+C+E>
Phase Number <F/1+C+F>

Advance Warning Beacon - Sign 1

Time B4 Yellow .
Phase Number <F/1+D+F>

Advance Warning Beacon - Sign 2

Offset Time <C/5+2+E>
Max Cycle Time <C/5+2+F>

Yellow Yield Coordination

Omit Alarm
Local Alarm Disable <C/5+F+0>

IEN Status <C/5+1+B>
Synch Time <C/5+1+C>

Other Parameters

Row		1	2	3	4	5	6	7	8
0	Ped Walk								
1	Ped FDW								
2	Min Green								
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension								
6	Max Gap								
7	Min Gap								
8	Max Limit								
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every								
E	Yellow Change								
F	Red Clear								

Phase Timing - Bank 3 <C+0+F=3>

	9	A	B	C	D
Phase 1	---	---	---	---	---
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					

Max Initial
Alternate Walk
Alternate FDW
Alternate Initial
Alternate Extension

Alternate Timing

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
A										
B										
C										
D										
E										
F										

Special Event Schedule -- Table 1 <C+0+E=27>

Notes:

<E/27+5+F>
Limited Service Interval

Row	6 Clear	7 Time	8 Ped Call	9 Hold	A Advance	B Force Off	C Vehicle Call	D Permit Phases	E Ped Omit	F Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
A										
B										
C										
D										
E										
F										

Special Event Schedule -- Table 2 <C+0+E=28>

Notes:

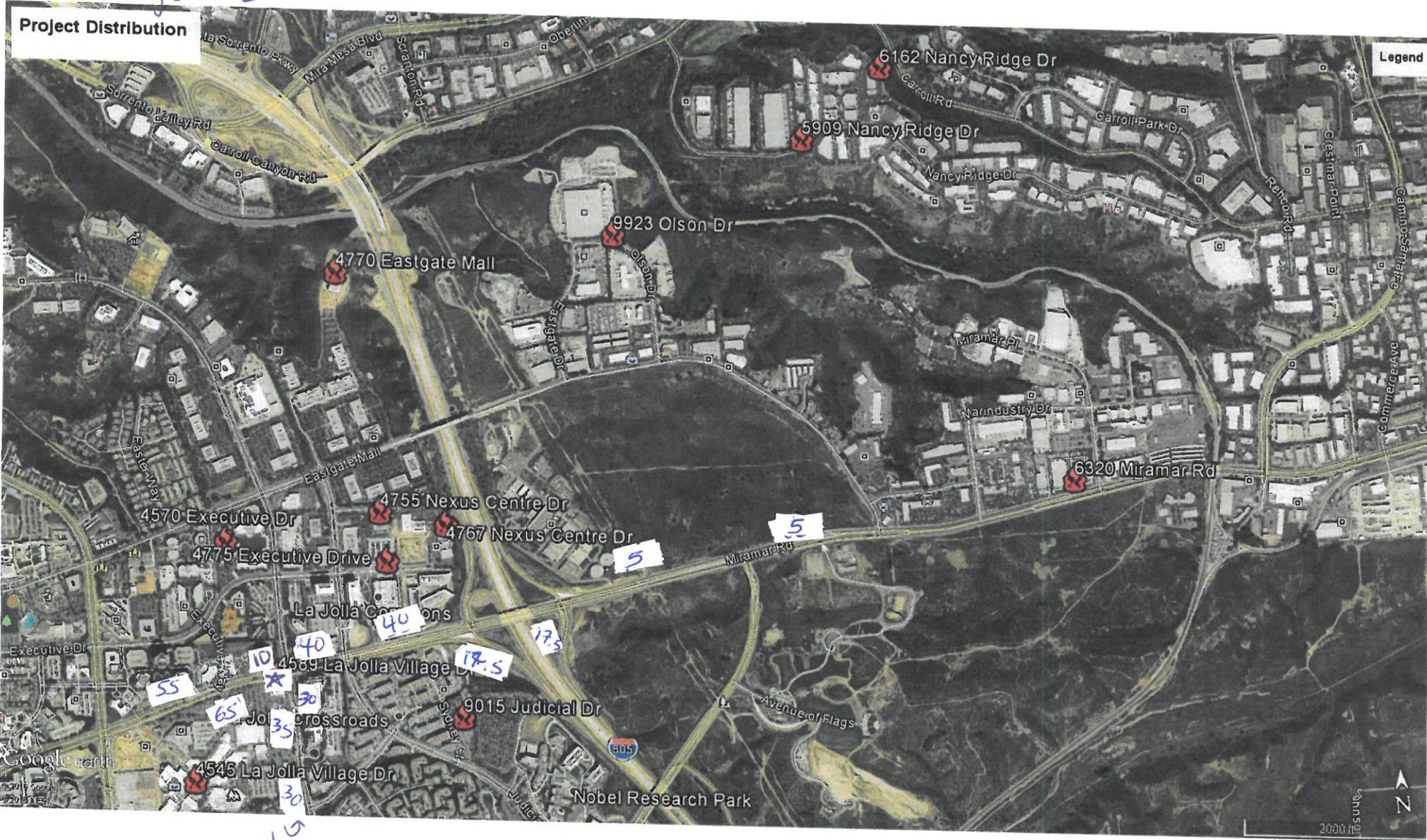
<E/28+5+F>
Limited Service Interval

Appendix B

Cumulative Projects Trip Distribution

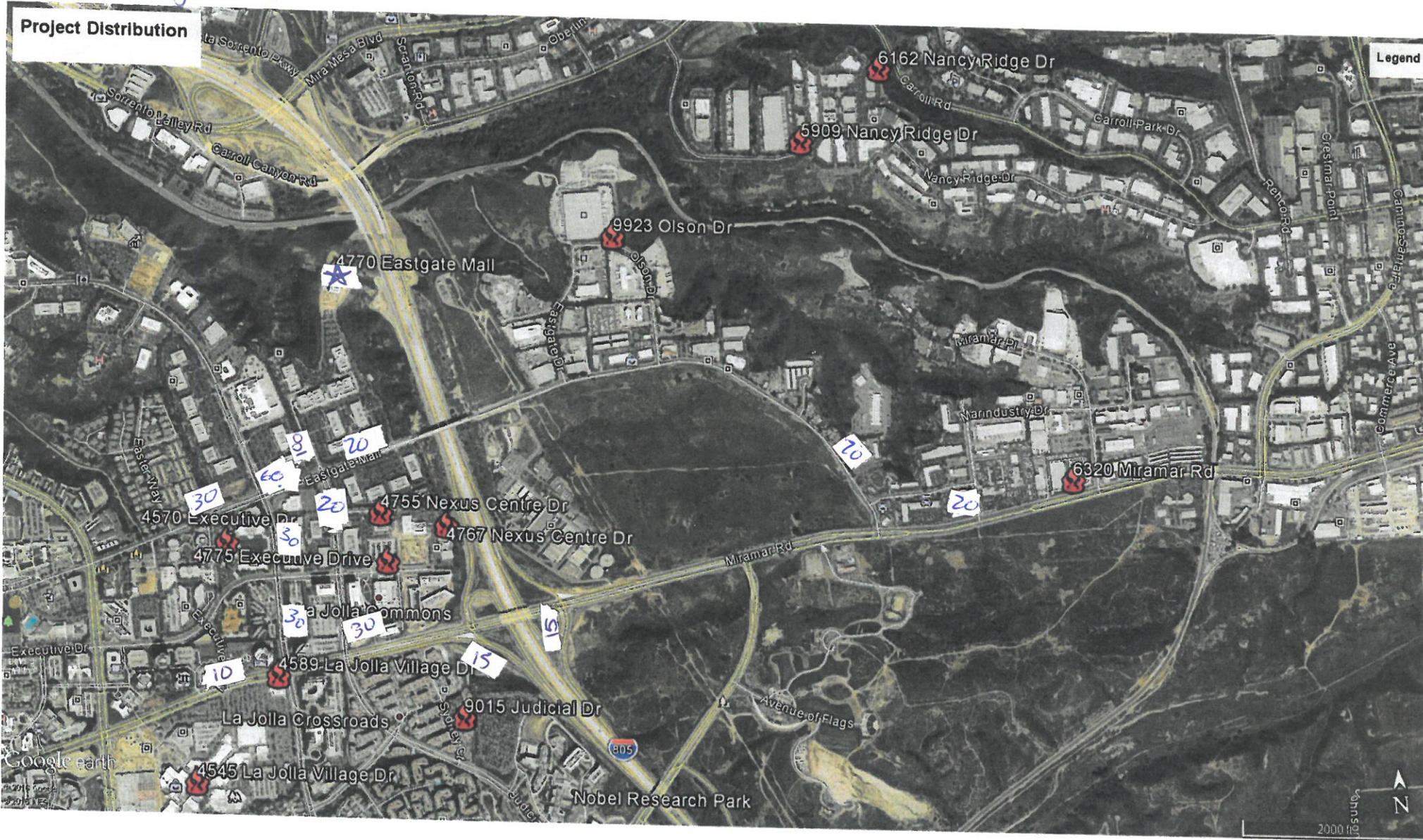
Project 2

Project Distribution

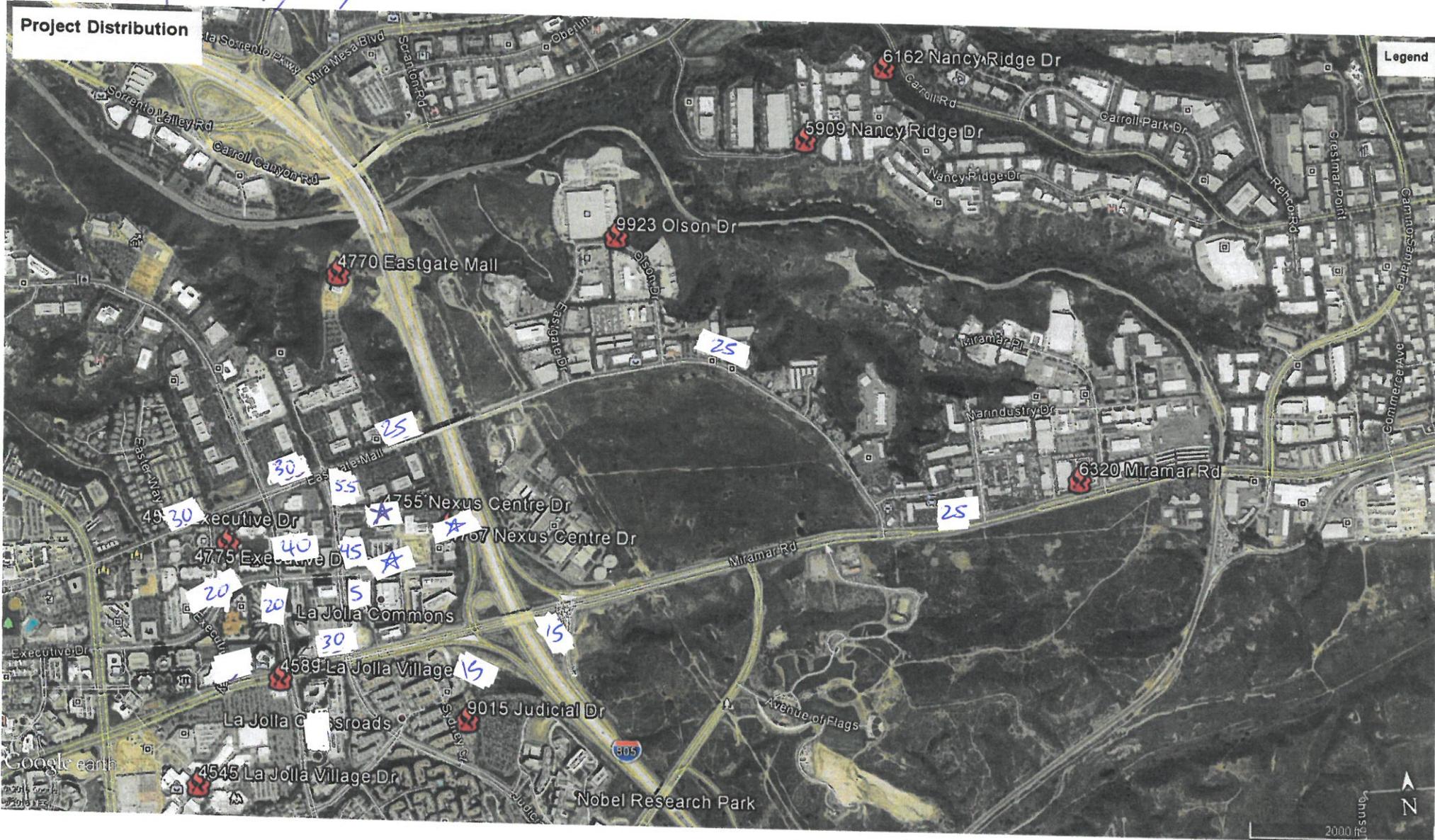


SS
10
65
35
30
5
5
5

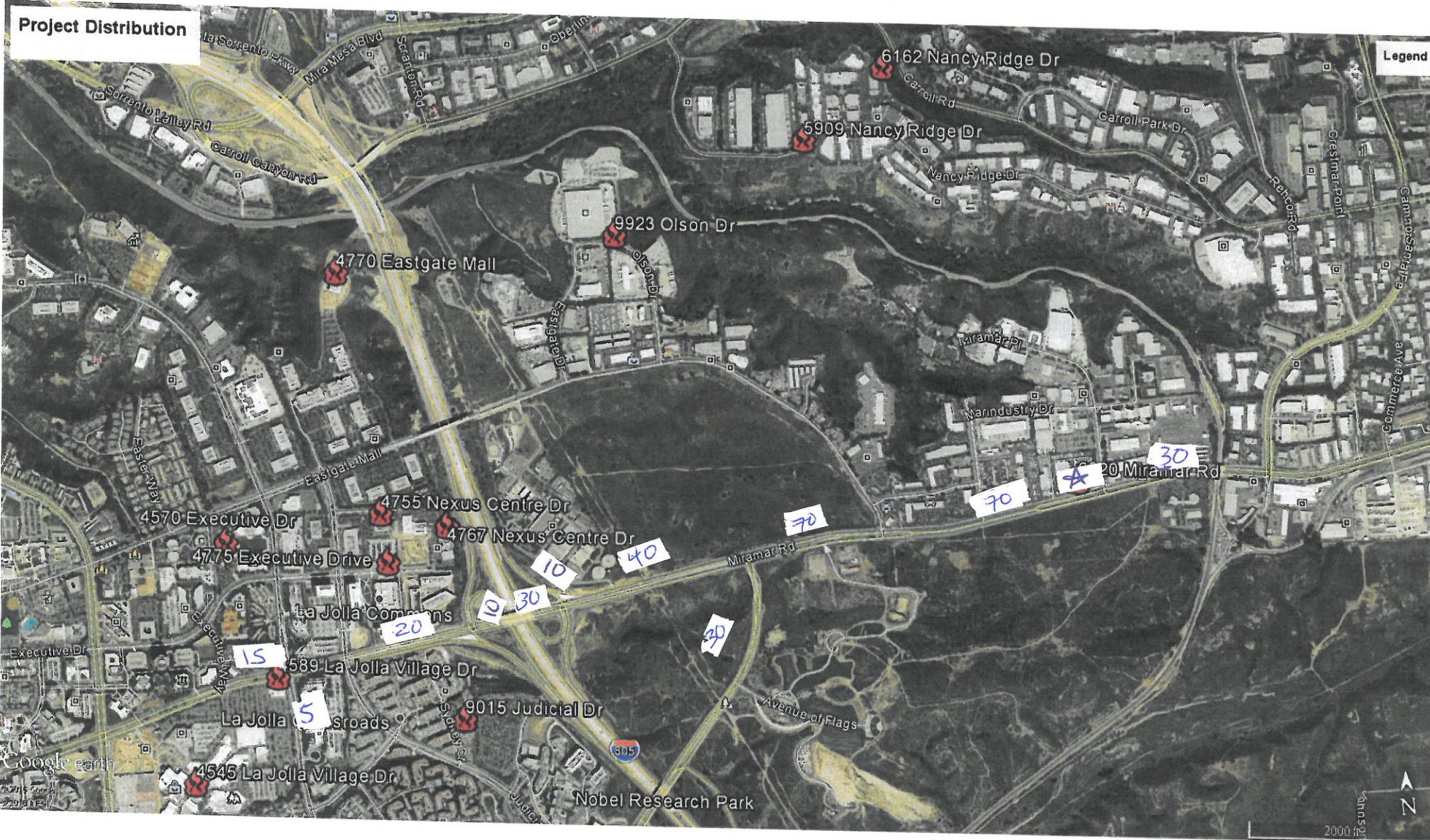
Project 3



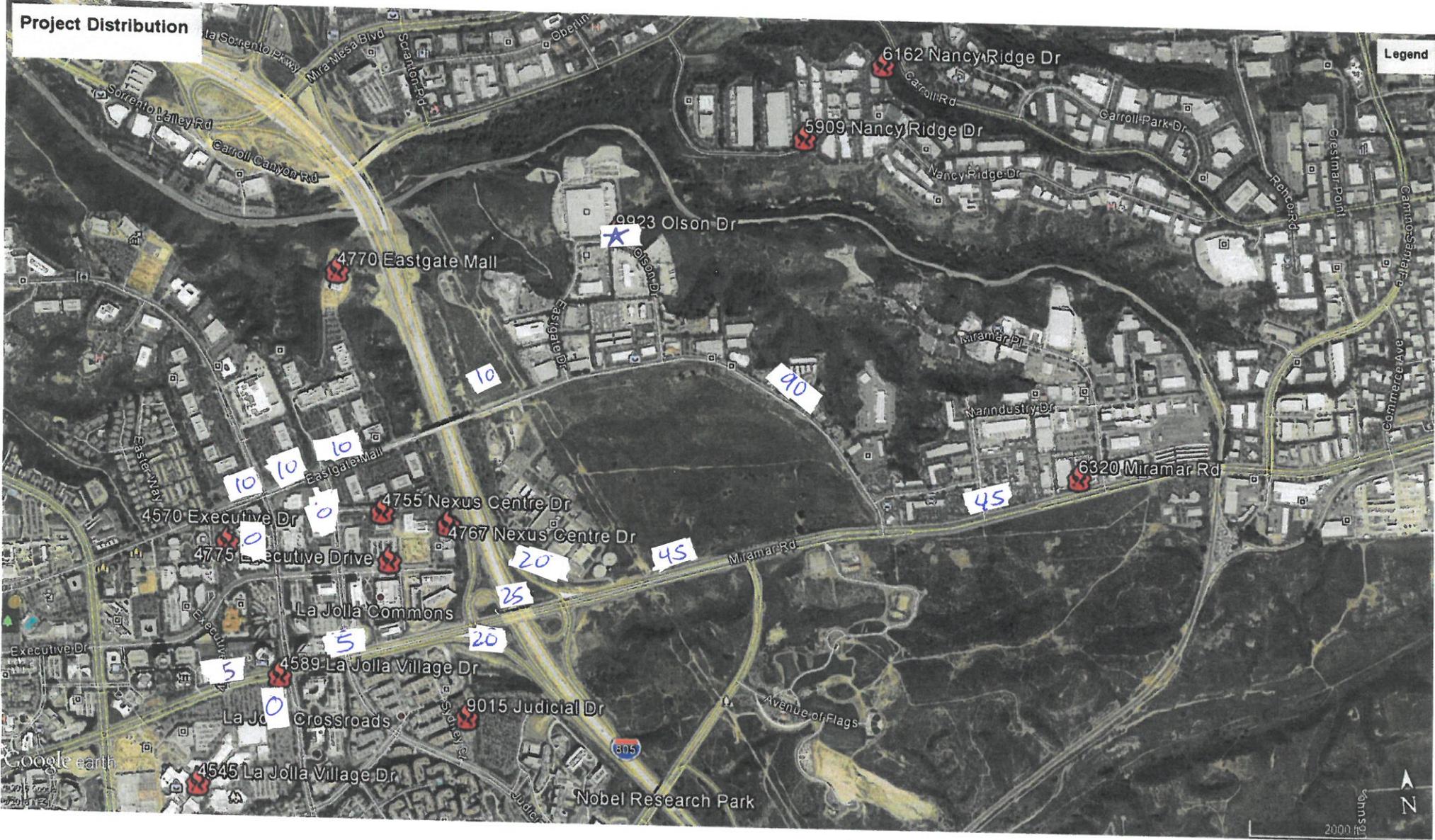
Project 4, 5, 6



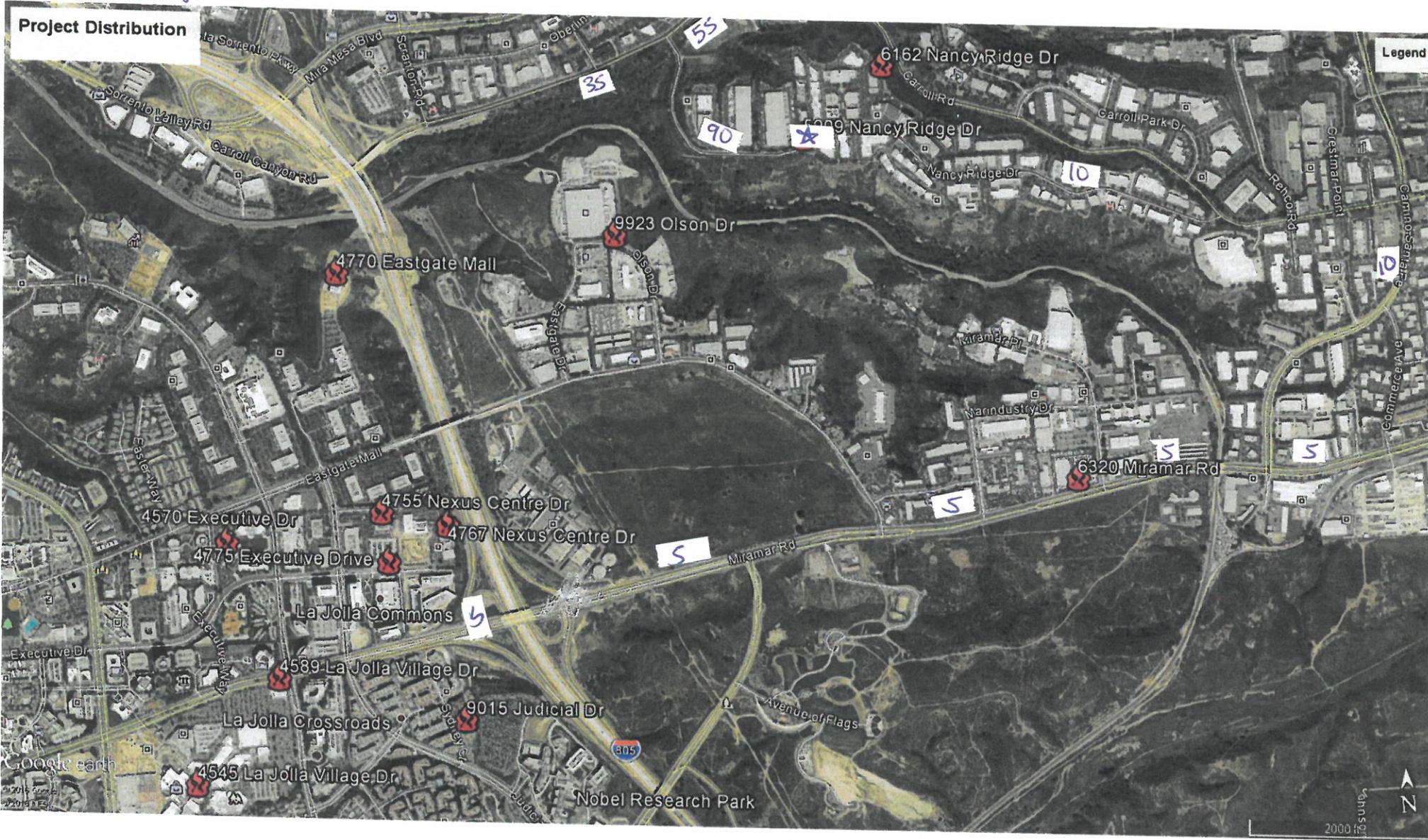
Project 7



Project 8



Project 9



Project 10



Project 11



Appendix C
Traffic Signal Warrant
- Project Driveway @ Eastgate Mall

**Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)**

		COUNT DATE	
Major St:	Eastgate Mall	# of Lanes:	1
Minor St:	Project Driveway	# of Lanes:	1
Speed limit or critical speed on major street traffic > 64 km/h (40 mph)		or	}
In built up area of isolated community of < 10,000 population.....			
			RURAL (R)
			URBAN (U)
Major St ADT (Total):	10100	Roadway Type:	Urban
Minor Street ADT (Highest Direction):	170		

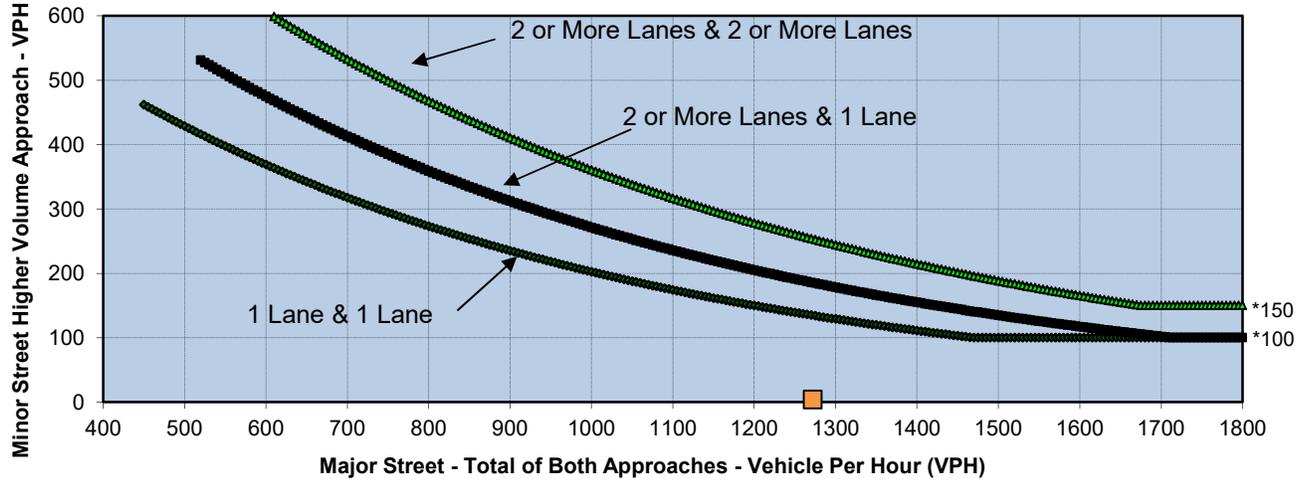
(Based on Estimated Average Daily Traffic - See Note)

CONDITION A - Minimum Vehicular Volume	Minimum Requirements EADT			
Satisfied	Not Satisfied	X	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach	Major Street	Minor Street	Urban	Rural
1	1	1	8000	5,600
2 or more	1	1	9,600	6,720
2 or more	2 or more	2 or more	9,600	6,720
1	2 or more	2 or more	8,000	5,600
			Urban	Rural
			2,400	1,680
			2,400	1,680
			3,200	2,240
			3,200	2,240
CONDITION B - Interruption of Continuous Traffic	Satisfied	Not Satisfied	X	Vehicles Per Day on Major Street (Total of Both Approaches)
Number of lanes for moving traffic on each approach	Major Street	Minor Street	Urban	Rural
1	1	1	12,000	8,400
2 or more	1	1	14,400	10,080
2 or more	2 or more	2 or more	14,400	10,080
1	2 or more	2 or more	12,000	8,400
			Urban	Rural
			1,200	850
			1,200	850
			1,600	1,120
			1,600	1,120
Combination of CONDITIONS A+B	Satisfied	Not Satisfied	X	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% or More		<u>7%</u> A	<u>14%</u> B	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

**Figure 4C-3
Warrant 3, Peak Hour**



* Note: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2006

Major Street **Eastgate Mall**
Minor Street **Project Driveway**

Project **North City Project**
Scenario **Existing + Project**
Peak Hour **AM**

Turn Movement Volumes

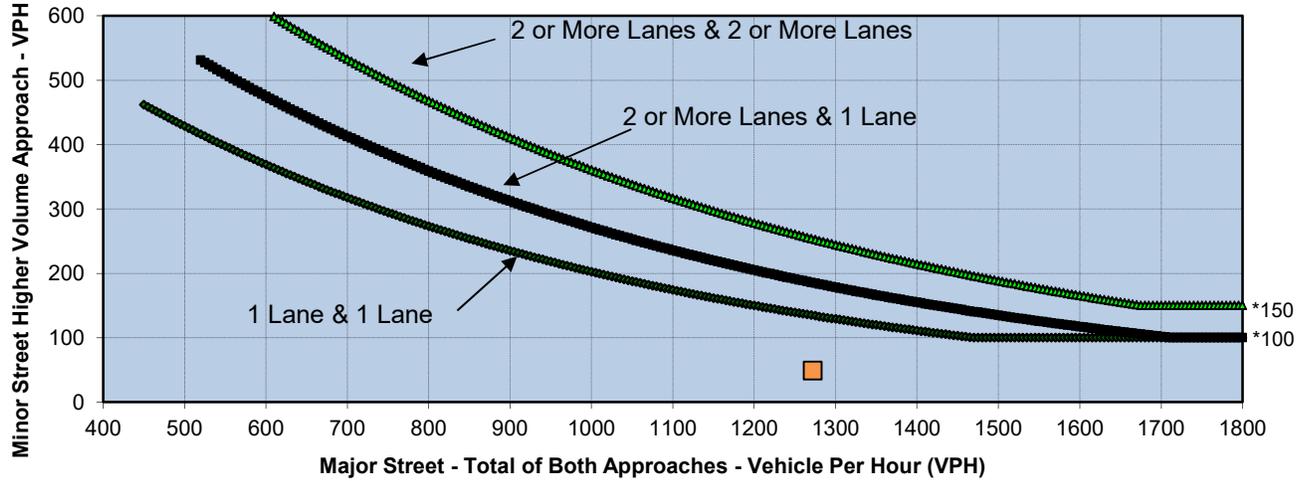
	NB	SB	EB	WB
Left	2	2	18	25
Through	0	0	192	994
Right	2	2	24	19
Total	4	4	234	1,038

Major Street Direction

North/South
X East/West

	Major Street Eastgate Mall	Minor Street Project Driveway	Warrant Met
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	1,272	4	

**Figure 4C-3
Warrant 3, Peak Hour**



* Note: 150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2006

Major Street **Eastgate Mall**
Minor Street **Project Driveway**

Project **North City Project**
Scenario **Existing + Project**
Peak Hour **PM**

Turn Movement Volumes

	NB	SB	EB	WB
Left	24	19	2	2
Through	0	0	1,106	158
Right	25	18	2	2
Total	49	37	1,110	162

Major Street Direction

North/South
X East/West

	Major Street	Minor Street	Warrant Met
	Eastgate Mall	Project Driveway	
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	1,272	49	

Appendix D
Peak Hour Intersection Calculation Worksheets
- Existing Conditions (Morena Pipelines)

Existing AM - Morena Pump Station
 F: Towne Centre Drive & Golden Haven Drive

02/13/2017



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	71	372	341	140	181	109		
Future Volume (veh/h)	71	372	341	140	181	109		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	78	409	397	163	213	128		
Adj No. of Lanes	1	1	2	0	1	2		
Peak Hour Factor	0.91	0.91	0.86	0.86	0.85	0.85		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	458	649	704	285	269	1879		
Arrive On Green	0.26	0.26	0.29	0.29	0.15	0.53		
Sat Flow, veh/h	1774	1583	2536	989	1774	3632		
Grp Volume(v), veh/h	78	409	286	274	213	128		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1661	1774	1770		
Q Serve(g_s), s	1.6	9.9	6.6	6.8	5.6	0.9		
Cycle Q Clear(g_c), s	1.6	9.9	6.6	6.8	5.6	0.9		
Prop In Lane	1.00	1.00		0.60	1.00			
Lane Grp Cap(c), veh/h	458	649	510	479	269	1879		
V/C Ratio(X)	0.17	0.63	0.56	0.57	0.79	0.07		
Avail Cap(c_a), veh/h	664	833	681	639	536	2686		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.9	11.4	14.6	14.7	19.8	5.5		
Incr Delay (d2), s/veh	0.1	0.4	2.1	2.3	2.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	4.3	3.5	3.4	2.9	0.4		
LnGrp Delay(d),s/veh	14.0	11.7	16.7	17.0	21.8	5.6		
LnGrp LOS	B	B	B	B	C	A		
Approach Vol, veh/h	487		560			341		
Approach Delay, s/veh	12.1		16.8			15.7		
Approach LOS	B		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.7	19.7				31.5		16.9
Change Period (Y+Rc), s	4.4	* 5.8				5.8		4.4
Max Green Setting (Gmax), s	11.6	* 19				36.7		18.1
Max Q Clear Time (g_c+1), s	11.6	8.8				2.9		11.9
Green Ext Time (p_c), s	0.2	4.8				9.5		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			14.9					
HCM 2010 LOS			B					
Notes								

Existing AM - Morena Pump Station
G Towne Centre Drive & Nobel Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔	↕↕↕	↔		↕↔		↔	↕	↔
Traffic Volume (veh/h)	331	500	11	7	190	76	18	126	87	21	31	185
Future Volume (veh/h)	331	500	11	7	190	76	18	126	87	21	31	185
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	389	588	12	8	209	27	23	162	50	26	38	226
Adj No. of Lanes	2	2	0	1	3	1	0	2	0	1	1	1
Peak Hour Factor	0.85	0.85	0.85	0.91	0.91	0.91	0.78	0.78	0.78	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	368	1058	22	15	1016	621	38	273	87	347	364	307
Arrive On Green	0.11	0.30	0.30	0.01	0.20	0.20	0.11	0.11	0.11	0.20	0.20	0.20
Sat Flow, veh/h	3442	3545	72	1774	5085	1558	340	2448	782	1774	1863	1571
Grp Volume(v), veh/h	389	293	307	8	209	27	125	0	110	26	38	226
Grp Sat Flow(s),veh/h/ln	1721	1770	1848	1774	1695	1558	1846	0	1725	1774	1863	1571
Q Serve(g_s), s	5.6	7.3	7.3	0.2	1.8	0.6	3.4	0.0	3.2	0.6	0.9	7.1
Cycle Q Clear(g_c), s	5.6	7.3	7.3	0.2	1.8	0.6	3.4	0.0	3.2	0.6	0.9	7.1
Prop In Lane	1.00		0.04	1.00		1.00	0.18		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	368	528	551	15	1016	621	206	0	193	347	364	307
V/C Ratio(X)	1.06	0.56	0.56	0.54	0.21	0.04	0.61	0.00	0.57	0.07	0.10	0.74
Avail Cap(c_a), veh/h	368	636	664	173	1768	852	635	0	593	610	641	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	15.4	15.4	25.9	17.5	9.7	22.2	0.0	22.1	17.2	17.3	19.8
Incr Delay (d2), s/veh	62.6	1.9	1.8	10.7	0.1	0.0	1.1	0.0	1.0	0.1	0.2	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	3.8	3.9	0.2	0.8	0.3	1.8	0.0	1.6	0.3	0.5	3.4
LnGrp Delay(d),s/veh	85.9	17.3	17.2	36.6	17.6	9.8	23.2	0.0	23.1	17.3	17.5	24.6
LnGrp LOS	F	B	B	D	B	A	C		C	B	B	C
Approach Vol, veh/h		989			244			235			290	
Approach Delay, s/veh		44.3			17.3			23.1			23.0	
Approach LOS		D			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.8	21.6		15.1	10.0	16.5		10.7				
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9				
Max Green Setting (Gmax), s	5.1	* 19		18.0	5.6	18.2		18.0				
Max Q Clear Time (g_c+1/2), s	12.2	9.3		9.1	7.6	3.8		5.4				
Green Ext Time (p_c), s	0.0	5.0		1.0	0.0	6.6		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				34.2								
HCM 2010 LOS				C								
Notes												

Existing AM - Morena Pump Station
H Genesee Avenue & Nobel Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕	↗	↔↔	↕↕		↔↔	↕↕	↗	↔↔	↕↕↕	↗
Traffic Volume (veh/h)	106	466	86	79	263	45	156	1424	163	55	228	42
Future Volume (veh/h)	106	466	86	79	263	45	156	1424	163	55	228	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	126	555	102	87	289	49	166	1515	173	75	312	58
Adj No. of Lanes	2	2	1	2	2	0	2	2	1	2	3	1
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.94	0.94	0.94	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	750	336	132	605	101	220	1398	625	702	2769	862
Arrive On Green	0.05	0.21	0.21	0.04	0.20	0.20	0.04	0.26	0.26	0.14	0.36	0.36
Sat Flow, veh/h	3442	3539	1583	3442	3034	508	3442	3539	1583	3442	5085	1583
Grp Volume(v), veh/h	126	555	102	87	167	171	166	1515	173	75	312	58
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1773	1721	1770	1583	1721	1695	1583
Q Serve(g_s), s	5.0	20.5	7.6	3.5	11.7	12.0	6.7	55.3	9.9	2.7	5.7	3.3
Cycle Q Clear(g_c), s	5.0	20.5	7.6	3.5	11.7	12.0	6.7	55.3	9.9	2.7	5.7	3.3
Prop In Lane	1.00		1.00	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	750	336	132	353	354	220	1398	625	702	2769	862
V/C Ratio(X)	0.72	0.74	0.30	0.66	0.47	0.48	0.76	1.08	0.28	0.11	0.11	0.07
Avail Cap(c_a), veh/h	371	1001	448	334	479	480	710	1398	625	702	2769	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.57	0.57	0.57	0.99	0.99	0.99
Uniform Delay (d), s/veh	65.5	51.6	46.5	66.4	49.5	49.6	65.9	51.5	23.8	49.3	22.1	21.3
Incr Delay (d2), s/veh	2.1	2.6	0.7	2.1	1.0	1.1	1.1	45.5	0.6	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	10.3	3.4	1.7	5.8	5.9	3.2	35.9	4.4	1.3	2.7	1.5
LnGrp Delay(d),s/veh	67.6	54.1	47.2	68.5	50.6	50.7	67.1	96.9	24.4	49.3	22.1	21.5
LnGrp LOS	E	D	D	E	D	D	E	F	C	D	C	C
Approach Vol, veh/h		783			425			1854			445	
Approach Delay, s/veh		55.4			54.3			87.5			26.6	
Approach LOS		E			D			F			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.5	61.0	9.8	34.8	13.3	82.1	11.5	33.0				
Change Period (Y+Rc), s	5.9	* 5.7	4.4	* 5.1	4.4	5.9	4.4	5.1				
Max Green Setting (Gmax), s	12.5	* 55	13.6	* 40	28.9	38.3	15.1	37.9				
Max Q Clear Time (g_c+1), s	14.5	57.3	5.5	22.5	8.7	7.7	7.0	14.0				
Green Ext Time (p_c), s	0.3	0.0	0.1	7.1	0.3	3.4	0.1	8.4				
Intersection Summary												
HCM 2010 Ctrl Delay			68.6									
HCM 2010 LOS			E									
Notes												

Existing AM - Morena Pump Station
 I : Genesee Avenue & Appleton Street/Lehrer Drive

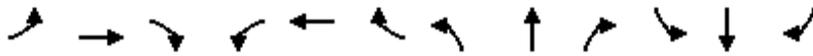
02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	390	18	45	33	37	276	12	1242	8	46	592	75
Future Volume (veh/h)	390	18	45	33	37	276	12	1242	8	46	592	75
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	470	22	54	37	42	310	16	1613	10	58	749	95
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.77	0.77	0.77	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	11	26	77	86	496	25	1678	10	75	1559	198
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.01	0.47	0.47	0.04	0.49	0.49
Sat Flow, veh/h	639	30	73	114	244	1406	1774	3606	22	1774	3161	401
Grp Volume(v), veh/h	546	0	0	389	0	0	16	791	832	58	419	425
Grp Sat Flow(s),veh/h/ln	743	0	0	1765	0	0	1774	1770	1859	1774	1770	1792
Q Serve(g_s), s	17.4	0.0	0.0	0.0	0.0	0.0	1.0	46.7	46.8	3.5	17.0	17.0
Cycle Q Clear(g_c), s	38.1	0.0	0.0	20.7	0.0	0.0	1.0	46.7	46.8	3.5	17.0	17.0
Prop In Lane	0.86		0.10	0.10		0.80	1.00		0.01	1.00		0.22
Lane Grp Cap(c), veh/h	324	0	0	659	0	0	25	823	865	75	873	884
V/C Ratio(X)	1.69	0.00	0.00	0.59	0.00	0.00	0.64	0.96	0.96	0.78	0.48	0.48
Avail Cap(c_a), veh/h	324	0	0	659	0	0	215	823	865	182	873	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.33	0.33	0.33	0.95	0.95	0.95
Uniform Delay (d), s/veh	41.8	0.0	0.0	29.5	0.0	0.0	53.0	27.9	28.0	51.2	18.2	18.2
Incr Delay (d2), s/veh	321.4	0.0	0.0	1.3	0.0	0.0	3.3	11.0	10.8	11.3	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.6	0.0	0.0	10.0	0.0	0.0	0.5	25.2	26.4	1.9	8.7	8.8
LnGrp Delay(d),s/veh	363.3	0.0	0.0	30.9	0.0	0.0	56.3	39.0	38.7	62.6	20.0	19.9
LnGrp LOS	F			C			E	D	D	E	B	B
Approach Vol, veh/h		546			389			1639			902	
Approach Delay, s/veh		363.3			30.9			39.0			22.7	
Approach LOS		F			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	56.0		43.0	5.9	59.1		43.0				
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9				
Max Green Setting (Gmax), s	45			38.1	13.1	41.7		38.1				
Max Q Clear Time (g_c+1), s	48.8			40.1	3.0	19.0		22.7				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	21.9		6.2				
Intersection Summary												
HCM 2010 Ctrl Delay	84.8											
HCM 2010 LOS	F											
Notes												

Existing AM - Morena Pump Station
 I : Genesee Avenue & Clairemont Mesa Boulevard

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔↔	↕↔		↔	↕↔	
Traffic Volume (veh/h)	154	373	138	99	553	228	178	943	93	81	381	85
Future Volume (veh/h)	154	373	138	99	553	228	178	943	93	81	381	85
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	159	385	142	110	614	253	187	993	98	90	423	94
Adj No. of Lanes	2	2	0	2	2	0	2	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.90	0.90	0.90	0.95	0.95	0.95	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	508	185	799	911	375	251	1044	103	113	913	201
Arrive On Green	0.02	0.07	0.07	0.23	0.37	0.37	0.07	0.32	0.32	0.13	0.63	0.63
Sat Flow, veh/h	3442	2543	926	3442	2447	1007	3442	3255	321	1774	2884	636
Grp Volume(v), veh/h	159	266	261	110	444	423	187	540	551	90	258	259
Grp Sat Flow(s),veh/h/ln	1721	1770	1699	1721	1770	1685	1721	1770	1806	1774	1770	1751
Q Serve(g_s), s	5.0	16.0	16.3	2.7	22.7	22.7	5.8	32.2	32.2	5.3	8.2	8.3
Cycle Q Clear(g_c), s	5.0	16.0	16.3	2.7	22.7	22.7	5.8	32.2	32.2	5.3	8.2	8.3
Prop In Lane	1.00		0.54	1.00		0.60	1.00		0.18	1.00		0.36
Lane Grp Cap(c), veh/h	224	354	340	799	659	627	251	568	580	113	560	554
V/C Ratio(X)	0.71	0.75	0.77	0.14	0.67	0.67	0.75	0.95	0.95	0.80	0.46	0.47
Avail Cap(c_a), veh/h	433	592	568	799	659	627	402	573	585	168	560	554
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	51.8	47.8	48.0	32.9	28.4	28.4	49.1	35.8	35.8	46.4	15.1	15.1
Incr Delay (d2), s/veh	1.5	13.6	15.0	0.0	5.4	5.7	1.7	25.4	25.1	7.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	9.2	9.1	1.3	12.1	11.6	2.8	19.7	20.1	2.8	3.9	3.9
LnGrp Delay(d),s/veh	53.3	61.4	63.0	32.9	33.8	34.1	50.8	61.2	61.0	53.9	15.2	15.3
LnGrp LOS	D	E	E	C	C	C	D	E	E	D	B	B
Approach Vol, veh/h		686			977			1278			607	
Approach Delay, s/veh		60.2			33.8			59.6			21.0	
Approach LOS		E			C			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.1	26.6	12.3	39.1	11.4	45.2	11.8	39.6				
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9				
Max Green Setting (Gmax), s	30	* 36	12.6	32.6	13.6	30.5	10.2	* 35				
Max Q Clear Time (g_c+1), s	11	18.3	7.8	10.3	7.0	24.7	7.3	34.2				
Green Ext Time (p_c), s	1.8	3.3	0.1	2.1	0.1	2.9	0.1	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			46.0									
HCM 2010 LOS			D									
Notes												

Existing AM - Morena Pump Station

1 : Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	457	21	22	584	188	59	31	51	206	32	34
Future Volume (veh/h)	13	457	21	22	584	188	59	31	51	206	32	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	14	497	23	27	704	227	81	42	70	229	36	38
Adj No. of Lanes	1	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.83	0.83	0.83	0.73	0.73	0.73	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	462	485	412	11	293	94	425	485	434	117	164	147
Arrive On Green	0.26	0.26	0.26	0.22	0.22	0.22	0.24	0.27	0.27	0.07	0.09	0.09
Sat Flow, veh/h	1774	1863	1583	50	1312	423	1774	1770	1583	1774	1770	1583
Grp Volume(v), veh/h	14	497	23	958	0	0	81	42	70	229	36	38
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1786	0	0	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.6	28.1	1.2	24.1	0.0	0.0	3.9	1.9	3.6	7.1	2.0	2.4
Cycle Q Clear(g_c), s	0.6	28.1	1.2	24.1	0.0	0.0	3.9	1.9	3.6	7.1	2.0	2.4
Prop In Lane	1.00		1.00	0.03		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	462	485	412	398	0	0	425	485	434	117	164	147
V/C Ratio(X)	0.03	1.03	0.06	2.40	0.00	0.00	0.19	0.09	0.16	1.96	0.22	0.26
Avail Cap(c_a), veh/h	462	485	412	398	0	0	425	485	434	117	464	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.66	0.66	0.66
Uniform Delay (d), s/veh	29.8	40.0	30.0	42.0	0.0	0.0	32.7	29.1	29.8	50.5	45.4	45.6
Incr Delay (d2), s/veh	0.0	47.5	0.0	639.6	0.0	0.0	0.1	0.4	0.8	453.5	2.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	20.8	0.5	82.6	0.0	0.0	1.9	1.0	1.7	18.2	1.1	1.2
LnGrp Delay(d),s/veh	29.8	87.5	30.0	681.5	0.0	0.0	32.8	29.5	30.6	503.9	47.4	48.4
LnGrp LOS	C	F	C	F			C	C	C	F	D	D
Approach Vol, veh/h		534			958			193			303	
Approach Delay, s/veh		83.5			681.5			31.3			392.6	
Approach LOS		F			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	1.5	34.5		33.0	30.8	15.2		29.0				
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.2		4.9				
Max Green Setting (Gmax), s	29.6			28.1	8.1	* 28		24.1				
Max Q Clear Time (g_c+1), s	5.6			30.1	5.9	4.4		26.1				
Green Ext Time (p_c), s	0.0	1.0		0.0	0.2	0.5		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				413.7								
HCM 2010 LOS				F								
Notes												

Existing AM - Morena Pump Station
 I : Clairemont Drive & Clairemont Mesa Boulevard

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕	↕	↕	↕	↕
Traffic Volume (veh/h)	133	237	122	273	408	21	225	219	228	35	198	122
Future Volume (veh/h)	133	237	122	273	408	21	225	219	228	35	198	122
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1676	1676	1676	1710
Adj Flow Rate, veh/h	148	263	136	294	439	23	268	261	271	43	244	151
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.93	0.93	0.93	0.84	0.84	0.84	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1100	891	447	353	572	30	160	767	343	52	334	199
Arrive On Green	0.36	0.43	0.43	0.11	0.19	0.19	0.10	0.24	0.24	0.03	0.17	0.17
Sat Flow, veh/h	3097	2055	1032	3097	3080	161	1597	3185	1425	1597	1920	1146
Grp Volume(v), veh/h	148	202	197	294	227	235	268	261	271	43	201	194
Grp Sat Flow(s),veh/h/ln	1549	1593	1494	1549	1593	1648	1597	1593	1425	1597	1593	1474
Q Serve(g_s), s	3.5	8.9	9.3	10.0	14.6	14.7	10.8	7.3	19.3	2.9	12.9	13.5
Cycle Q Clear(g_c), s	3.5	8.9	9.3	10.0	14.6	14.7	10.8	7.3	19.3	2.9	12.9	13.5
Prop In Lane	1.00		0.69	1.00		0.10	1.00		1.00	1.00		0.78
Lane Grp Cap(c), veh/h	1100	691	648	353	296	306	160	767	343	52	277	256
V/C Ratio(X)	0.13	0.29	0.30	0.83	0.77	0.77	1.68	0.34	0.79	0.82	0.73	0.76
Avail Cap(c_a), veh/h	1100	691	648	485	615	636	160	814	364	83	333	308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	19.8	19.9	46.8	41.7	41.8	48.6	33.9	38.4	51.9	42.2	42.5
Incr Delay (d2), s/veh	0.0	1.1	1.2	6.5	17.1	16.8	327.2	0.2	9.2	15.3	6.6	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.1	4.0	4.6	7.8	8.1	19.3	3.3	8.5	1.5	6.2	6.1
LnGrp Delay(d),s/veh	23.6	20.9	21.2	53.3	58.8	58.6	375.8	34.1	47.7	67.2	48.8	51.5
LnGrp LOS	C	C	C	D	E	E	F	C	D	E	D	D
Approach Vol, veh/h		547			756			800			438	
Approach Delay, s/veh		21.7			56.6			153.2			51.8	
Approach LOS		C			E			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	52.0	15.2	24.1	43.6	25.2	7.9	31.3				
Change Period (Y+Rc), s	4.4	5.2	4.4	* 5.3	5.2	* 5.1	4.4	5.3				
Max Green Setting (Gmax), s	10.9	38.6	10.8	* 23	13.9	* 42	5.6	27.6				
Max Q Clear Time (g_c+M), s	11.3	11.3	12.8	15.5	5.5	16.7	4.9	21.3				
Green Ext Time (p_c), s	0.3	3.1	0.0	3.2	1.9	3.4	0.0	3.0				
Intersection Summary												
HCM 2010 Ctrl Delay				78.7								
HCM 2010 LOS				E								
Notes												

Existing AM - Morena Pump Station
 I : Clairemont Drive & Balboa Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔	↕↕	↔	↔	↕↔	
Traffic Volume (veh/h)	208	815	69	337	768	90	139	322	332	152	271	310
Future Volume (veh/h)	208	815	69	337	768	90	139	322	332	152	271	310
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	248	970	82	362	826	97	176	408	420	171	304	348
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.84	0.84	0.84	0.93	0.93	0.93	0.79	0.79	0.79	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	1019	86	379	942	111	207	1011	627	176	475	425
Arrive On Green	0.10	0.31	0.31	0.11	0.30	0.30	0.12	0.29	0.29	0.10	0.27	0.27
Sat Flow, veh/h	3442	3304	279	3442	3191	375	1774	3539	1583	1774	1770	1583
Grp Volume(v), veh/h	248	520	532	362	458	465	176	408	420	171	304	348
Grp Sat Flow(s),veh/h/ln	1721	1770	1813	1721	1770	1797	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.0	29.0	29.0	10.5	24.8	24.8	9.8	9.4	22.0	9.7	15.3	20.8
Cycle Q Clear(g_c), s	7.0	29.0	29.0	10.5	24.8	24.8	9.8	9.4	22.0	9.7	15.3	20.8
Prop In Lane	1.00		0.15	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	356	546	559	379	522	530	207	1011	627	176	475	425
V/C Ratio(X)	0.70	0.95	0.95	0.95	0.88	0.88	0.85	0.40	0.67	0.97	0.64	0.82
Avail Cap(c_a), veh/h	356	546	560	379	576	585	218	1160	693	176	538	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	34.1	34.1	44.6	33.8	33.8	43.6	29.0	25.0	45.2	32.5	34.5
Incr Delay (d2), s/veh	4.9	27.0	26.6	34.1	13.4	13.2	23.7	0.2	1.9	58.7	1.9	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	18.2	18.6	6.8	14.0	14.2	6.2	4.6	9.9	7.6	7.7	10.2
LnGrp Delay(d),s/veh	48.5	61.1	60.7	78.7	47.2	47.0	67.4	29.2	26.9	103.9	34.4	43.9
LnGrp LOS	D	E	E	E	D	D	E	C	C	F	C	D
Approach Vol, veh/h		1300			1285			1004			823	
Approach Delay, s/veh		58.6			56.0			34.9			52.9	
Approach LOS		E			E			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	36.7	16.1	32.3	16.1	36.1	14.4	34.1				
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3				
Max Green Setting (Gmax), s	11.5	31.1	12.4	30.6	8.7	* 33	10.0	33.0				
Max Q Clear Time (g_c+M), s	11.5	31.0	11.8	22.8	9.0	26.8	11.7	24.0				
Green Ext Time (p_c), s	0.0	0.1	0.0	4.3	0.0	2.9	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay				51.4								
HCM 2010 LOS				D								
Notes												

Existing PM - Morena Pump Station
 1: Towne Centre Drive & Golden Haven Drive

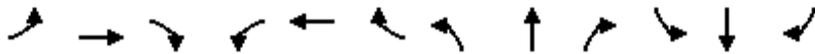
02/13/2017



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	134	326	209	70	176	614		
Future Volume (veh/h)	134	326	209	70	176	614		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	0.99			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	149	362	246	82	189	660		
Adj No. of Lanes	1	1	2	0	1	2		
Peak Hour Factor	0.90	0.90	0.85	0.85	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	445	555	855	277	602	1855		
Arrive On Green	0.25	0.25	0.33	0.33	0.10	0.52		
Sat Flow, veh/h	1774	1583	2710	849	1774	3632		
Grp Volume(v), veh/h	149	362	164	164	189	660		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1696	1774	1770		
Q Serve(g_s), s	3.1	8.7	3.1	3.3	2.9	4.9		
Cycle Q Clear(g_c), s	3.1	8.7	3.1	3.3	2.9	4.9		
Prop In Lane	1.00	1.00		0.50	1.00			
Lane Grp Cap(c), veh/h	445	555	578	554	602	1855		
V/C Ratio(X)	0.34	0.65	0.28	0.30	0.31	0.36		
Avail Cap(c_a), veh/h	729	809	825	790	878	2830		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.9	12.4	11.3	11.4	7.5	6.3		
Incr Delay (d2), s/veh	0.2	0.5	0.6	0.6	0.1	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.6	3.8	1.6	1.6	1.4	2.4		
LnGrp Delay(d),s/veh	14.0	12.9	11.9	12.0	7.6	6.5		
LnGrp LOS	B	B	B	B	A	A		
Approach Vol, veh/h	511		328			849		
Approach Delay, s/veh	13.2		11.9			6.8		
Approach LOS	B		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	8.9	20.6				29.5		15.7
Change Period (Y+Rc), s	4.4	* 5.8				5.8		4.4
Max Green Setting (Gmax), s	11.6	* 21				36.2		18.6
Max Q Clear Time (g_c+1), s	11.6	5.3				6.9		10.7
Green Ext Time (p_c), s	0.1	9.3				13.6		0.7
Intersection Summary								
HCM 2010 Ctrl Delay			9.7					
HCM 2010 LOS			A					
Notes								

Existing PM - Morena Pump Station
2: Towne Centre Drive & Nobel Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↕↕	↕		↕↔		↔	↕	↕
Traffic Volume (veh/h)	295	304	23	150	704	55	20	30	17	68	213	544
Future Volume (veh/h)	295	304	23	150	704	55	20	30	17	68	213	544
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	328	338	23	172	809	32	26	38	0	79	248	90
Adj No. of Lanes	2	2	0	1	3	1	0	2	0	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.87	0.87	0.87	0.78	0.78	0.78	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	353	933	63	182	1412	755	62	100	0	363	381	314
Arrive On Green	0.10	0.28	0.28	0.10	0.28	0.28	0.05	0.05	0.00	0.20	0.20	0.20
Sat Flow, veh/h	3442	3359	227	1774	5085	1553	1362	2295	0	1774	1863	1536
Grp Volume(v), veh/h	328	177	184	172	809	32	34	30	0	79	248	90
Grp Sat Flow(s),veh/h/ln	1721	1770	1817	1774	1695	1553	1795	1770	0	1774	1863	1536
Q Serve(g_s), s	5.2	4.4	4.4	5.3	7.5	0.6	1.0	0.9	0.0	2.0	6.7	2.7
Cycle Q Clear(g_c), s	5.2	4.4	4.4	5.3	7.5	0.6	1.0	0.9	0.0	2.0	6.7	2.7
Prop In Lane	1.00		0.13	1.00		1.00	0.76		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	353	491	504	182	1412	755	82	81	0	363	381	314
V/C Ratio(X)	0.93	0.36	0.36	0.95	0.57	0.04	0.42	0.37	0.00	0.22	0.65	0.29
Avail Cap(c_a), veh/h	353	593	609	182	1695	841	591	583	0	585	614	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	15.8	15.9	24.4	16.9	7.5	25.4	25.3	0.0	18.1	19.9	18.4
Incr Delay (d2), s/veh	30.0	0.9	0.9	50.5	0.4	0.0	1.3	1.0	0.0	0.4	2.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	2.2	2.3	5.1	3.5	0.4	0.5	0.5	0.0	1.0	3.7	1.2
LnGrp Delay(d),s/veh	54.4	16.7	16.7	74.9	17.4	7.5	26.6	26.4	0.0	18.5	22.6	19.1
LnGrp LOS	D	B	B	E	B	A	C	C		B	C	B
Approach Vol, veh/h		689			1013			64			417	
Approach Delay, s/veh		34.6			26.8			26.5			21.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	21.2		16.1	10.0	21.2		7.4				
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9				
Max Green Setting (Gmax), s	5.6	* 18		18.0	5.6	18.2		18.0				
Max Q Clear Time (g_c+1I), s	3.5	6.4		8.7	7.2	9.5		3.0				
Green Ext Time (p_c), s	0.0	7.1		1.9	0.0	5.6		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				28.2								
HCM 2010 LOS				C								
Notes												

Existing PM - Morena Pump Station
3: Genesee Avenue & Nobel Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (veh/h)	202	323	204	277	554	65	191	453	118	113	1230	121
Future Volume (veh/h)	202	323	204	277	554	65	191	453	118	113	1230	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	222	355	224	330	660	77	220	521	136	135	1464	144
Adj No. of Lanes	2	2	1	2	2	0	2	2	1	2	3	1
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.87	0.87	0.87	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	267	799	357	381	827	96	263	1698	760	178	2315	721
Arrive On Green	0.08	0.23	0.23	0.11	0.26	0.26	0.15	0.96	0.96	0.10	0.91	0.91
Sat Flow, veh/h	3442	3539	1583	3442	3194	372	3442	3539	1583	3442	5085	1583
Grp Volume(v), veh/h	222	355	224	330	365	372	220	521	136	135	1464	144
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1797	1721	1770	1583	1721	1695	1583
Q Serve(g_s), s	9.5	12.9	19.1	14.1	28.9	29.0	9.3	1.3	0.6	5.7	9.1	1.5
Cycle Q Clear(g_c), s	9.5	12.9	19.1	14.1	28.9	29.0	9.3	1.3	0.6	5.7	9.1	1.5
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	267	799	357	381	458	465	263	1698	760	178	2315	721
V/C Ratio(X)	0.83	0.44	0.63	0.87	0.80	0.80	0.84	0.31	0.18	0.76	0.63	0.20
Avail Cap(c_a), veh/h	324	816	365	580	538	546	342	1698	760	255	2315	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.79	0.79	0.79
Uniform Delay (d), s/veh	68.2	50.0	52.4	65.6	51.9	52.0	62.6	1.6	1.6	66.3	4.1	3.7
Incr Delay (d2), s/veh	12.1	0.6	3.8	5.8	7.2	7.2	9.8	0.4	0.5	3.3	1.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.4	8.7	7.0	15.0	15.3	4.8	0.5	0.3	2.8	4.0	0.7
LnGrp Delay(d),s/veh	80.3	50.5	56.2	71.4	59.2	59.2	72.4	2.0	2.1	69.6	5.1	4.2
LnGrp LOS	F	D	E	E	E	E	E	A	A	E	A	A
Approach Vol, veh/h		801			1067			877			1743	
Approach Delay, s/veh		60.4			62.9			19.7			10.0	
Approach LOS		E			E			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	77.9	21.0	39.0	15.9	74.2	16.0	43.9				
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1				
Max Green Setting (Gmax), s	1	* 60	25.3	* 35	14.9	55.6	14.1	45.6				
Max Q Clear Time (g_c+1I), s	1	3.3	16.1	21.1	11.3	11.1	11.5	31.0				
Green Ext Time (p_c), s	0.1	39.7	0.5	7.4	0.1	33.4	0.1	7.8				
Intersection Summary												
HCM 2010 Ctrl Delay			33.5									
HCM 2010 LOS			C									
Notes												

Existing PM - Morena Pump Station
 4: Genesee Avenue & Appleton Street/Lehrer Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	180	85	44	26	37	63	52	614	17	144	1180	247
Future Volume (veh/h)	180	85	44	26	37	63	52	614	17	144	1180	247
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	209	99	51	31	44	75	63	749	21	155	1269	266
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.86	0.86	0.86	0.84	0.84	0.84	0.82	0.82	0.82	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	83	43	91	130	187	81	1939	54	180	1775	368
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.05	0.55	0.55	0.10	0.61	0.61
Sat Flow, veh/h	770	365	188	249	575	824	1774	3516	99	1774	2920	605
Grp Volume(v), veh/h	359	0	0	150	0	0	63	377	393	155	763	772
Grp Sat Flow(s),veh/h/ln	322	0	0	1647	0	0	1774	1770	1845	1774	1770	1756
Q Serve(g_s), s	19.1	0.0	0.0	0.0	0.0	0.0	4.4	15.3	15.3	10.8	37.5	38.8
Cycle Q Clear(g_c), s	28.6	0.0	0.0	9.5	0.0	0.0	4.4	15.3	15.3	10.8	37.5	38.8
Prop In Lane	0.58		0.14	0.21		0.50	1.00		0.05	1.00		0.34
Lane Grp Cap(c), veh/h	345	0	0	408	0	0	81	976	1018	180	1075	1067
V/C Ratio(X)	1.04	0.00	0.00	0.37	0.00	0.00	0.78	0.39	0.39	0.86	0.71	0.72
Avail Cap(c_a), veh/h	345	0	0	408	0	0	172	976	1018	199	1075	1067
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	0.83	0.83	0.83	0.71	0.71	0.71
Uniform Delay (d), s/veh	51.3	0.0	0.0	41.3	0.0	0.0	59.5	16.1	16.1	55.7	17.1	17.3
Incr Delay (d2), s/veh	59.2	0.0	0.0	0.5	0.0	0.0	5.0	1.0	0.9	20.5	2.8	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.7	0.0	0.0	4.5	0.0	0.0	2.3	7.7	8.0	6.3	19.1	19.6
LnGrp Delay(d),s/veh	110.4	0.0	0.0	41.8	0.0	0.0	64.5	17.1	17.0	76.2	19.9	20.4
LnGrp LOS	F			D			E	B	B	E	B	C
Approach Vol, veh/h		359			150			833			1690	
Approach Delay, s/veh		110.4			41.8			20.6			25.3	
Approach LOS		F			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	75.3		33.5	10.1	82.4		33.5				
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9				
Max Green Setting (Gmax), s	1.1	* 69		28.6	12.2	70.1		28.6				
Max Q Clear Time (g_c+1/2), s	11.8	17.3		30.6	6.4	40.8		11.5				
Green Ext Time (p_c), s	0.0	43.1		0.0	0.0	26.2		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				34.9								
HCM 2010 LOS				C								
Notes												

Existing PM - Morena Pump Station
 5: Genesee Avenue & Clairemont Mesa Boulevard

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔↔	↕↔		↔	↕↔	
Traffic Volume (veh/h)	150	642	345	234	798	83	265	444	121	127	862	105
Future Volume (veh/h)	150	642	345	234	798	83	265	444	121	127	862	105
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	155	662	356	244	831	86	273	458	125	140	947	115
Adj No. of Lanes	2	2	0	2	2	0	2	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.96	0.96	0.96	0.97	0.97	0.97	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	913	491	299	1415	146	330	721	195	165	822	100
Arrive On Green	0.12	0.82	0.82	0.09	0.44	0.44	0.10	0.26	0.26	0.12	0.34	0.34
Sat Flow, veh/h	3442	2225	1196	3442	3238	335	3442	2754	746	1774	3178	386
Grp Volume(v), veh/h	155	526	492	244	454	463	273	293	290	140	527	535
Grp Sat Flow(s),veh/h/ln	1721	1770	1652	1721	1770	1804	1721	1770	1731	1774	1770	1795
Q Serve(g_s), s	5.5	16.6	16.6	8.8	24.5	24.5	9.8	18.5	18.7	9.7	32.6	32.6
Cycle Q Clear(g_c), s	5.5	16.6	16.6	8.8	24.5	24.5	9.8	18.5	18.7	9.7	32.6	32.6
Prop In Lane	1.00		0.72	1.00		0.19	1.00		0.43	1.00		0.22
Lane Grp Cap(c), veh/h	207	726	678	299	773	788	330	463	453	165	458	464
V/C Ratio(X)	0.75	0.73	0.73	0.82	0.59	0.59	0.83	0.63	0.64	0.85	1.15	1.15
Avail Cap(c_a), veh/h	385	726	678	385	773	788	464	486	475	211	458	464
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.47	0.47	0.47
Uniform Delay (d), s/veh	54.5	8.2	8.2	56.6	26.9	26.9	55.9	41.2	41.3	54.4	41.3	41.3
Incr Delay (d2), s/veh	2.0	6.1	6.6	8.0	3.3	3.2	5.9	1.8	2.0	9.6	80.1	80.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	8.8	8.3	4.5	12.7	12.9	4.9	9.3	9.2	5.2	26.0	26.4
LnGrp Delay(d),s/veh	56.5	14.3	14.7	64.5	30.1	30.1	61.9	43.0	43.2	64.0	121.4	121.4
LnGrp LOS	E	B	B	E	C	C	E	D	D	E	F	F
Approach Vol, veh/h		1173			1161			856			1202	
Approach Delay, s/veh		20.0			37.3			49.1			114.7	
Approach LOS		C			D			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.3	56.7	16.5	37.5	12.0	60.0	16.1	37.9				
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9				
Max Green Setting (Gmax), s	14.1	43.6	17.0	32.6	14.1	43.6	15.0	34.6				
Max Q Clear Time (g_c+10), s	10.8	18.6	11.8	34.6	7.5	26.5	11.7	20.7				
Green Ext Time (p_c), s	0.2	15.9	0.3	0.0	0.1	12.2	0.1	6.4				
Intersection Summary												
HCM 2010 Ctrl Delay					56.2							
HCM 2010 LOS					E							

Existing PM - Morena Pump Station
 6: Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	724	55	39	794	255	65	36	25	345	35	57
Future Volume (veh/h)	24	724	55	39	794	255	65	36	25	345	35	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	27	813	62	41	827	266	84	47	32	375	38	62
Adj No. of Lanes	1	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.96	0.96	0.96	0.77	0.77	0.77	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	382	401	341	14	290	93	105	705	438	128	617	552
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.06	0.34	0.34	0.07	0.35	0.35
Sat Flow, veh/h	1774	1863	1583	65	1302	419	1774	2099	1303	1774	1770	1583
Grp Volume(v), veh/h	27	813	62	1134	0	0	84	39	40	375	38	62
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1786	0	0	1774	1770	1633	1774	1770	1583
Q Serve(g_s), s	1.5	27.1	4.0	28.1	0.0	0.0	5.9	1.9	2.1	9.1	1.8	3.3
Cycle Q Clear(g_c), s	1.5	27.1	4.0	28.1	0.0	0.0	5.9	1.9	2.1	9.1	1.8	3.3
Prop In Lane	1.00		1.00	0.04		0.23	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	382	401	341	398	0	0	105	594	548	128	617	552
V/C Ratio(X)	0.07	2.03	0.18	2.85	0.00	0.00	0.80	0.07	0.07	2.93	0.06	0.11
Avail Cap(c_a), veh/h	382	401	341	398	0	0	124	598	552	128	617	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	39.4	49.5	40.4	49.0	0.0	0.0	58.5	28.4	28.5	58.5	27.3	27.8
Incr Delay (d2), s/veh	0.0	471.9	0.1	838.4	0.0	0.0	22.1	0.2	0.3	879.4	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	66.4	1.8	106.6	0.0	0.0	3.5	1.0	1.0	35.7	0.9	1.5
LnGrp Delay(d),s/veh	39.4	521.3	40.5	887.3	0.0	0.0	80.6	28.6	28.8	937.8	27.4	28.1
LnGrp LOS	D	F	D	F			F	C	C	F	C	C
Approach Vol, veh/h		902			1134			163			475	
Approach Delay, s/veh		473.8			887.3			55.4			746.3	
Approach LOS		F			F			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.5	47.5		32.0	11.9	49.1		33.0				
Change Period (Y+Rc), s	4.4	* 5.2		4.9	4.4	5.2		4.9				
Max Green Setting (Gmax), s		* 43		27.1	8.8	42.6		28.1				
Max Q Clear Time (g_c+M), s		4.1		29.1	7.9	5.3		30.1				
Green Ext Time (p_c), s	0.0	1.7		0.0	0.0	1.7		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			672.1									
HCM 2010 LOS			F									
Notes												

Existing PM - Morena Pump Station
 7: Clairemont Drive & Clairemont Mesa Boulevard

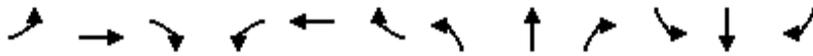
02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕	↕	↕	↕	↕
Traffic Volume (veh/h)	270	532	389	406	452	33	146	288	295	54	229	165
Future Volume (veh/h)	270	532	389	406	452	33	146	288	295	54	229	165
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1676	1676	1676	1710
Adj Flow Rate, veh/h	276	543	397	432	481	35	152	300	307	60	254	183
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.94	0.94	0.94	0.96	0.96	0.96	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	325	727	531	415	1333	97	174	804	360	75	342	238
Arrive On Green	0.10	0.41	0.41	0.13	0.44	0.44	0.11	0.25	0.25	0.05	0.19	0.19
Sat Flow, veh/h	3097	1758	1285	3097	3012	219	1597	3185	1425	1597	1799	1250
Grp Volume(v), veh/h	276	492	448	432	254	262	152	300	307	60	224	213
Grp Sat Flow(s),veh/h/ln	1549	1593	1450	1549	1593	1638	1597	1593	1425	1597	1593	1456
Q Serve(g_s), s	11.0	33.0	33.1	16.9	13.3	13.4	11.8	9.8	25.9	4.7	16.7	17.5
Cycle Q Clear(g_c), s	11.0	33.0	33.1	16.9	13.3	13.4	11.8	9.8	25.9	4.7	16.7	17.5
Prop In Lane	1.00		0.89	1.00		0.13	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	325	658	599	415	705	725	174	804	360	75	303	277
V/C Ratio(X)	0.85	0.75	0.75	1.04	0.36	0.36	0.87	0.37	0.85	0.80	0.74	0.77
Avail Cap(c_a), veh/h	411	658	599	415	705	725	188	804	360	189	399	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.62	0.62	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	31.4	31.4	54.5	23.3	23.3	55.2	38.9	44.9	59.5	48.1	48.4
Incr Delay (d2), s/veh	10.7	7.6	8.3	54.9	1.4	1.4	20.8	0.2	11.9	7.3	5.5	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	15.9	14.6	10.4	6.1	6.3	6.2	4.3	11.4	2.2	7.8	7.6
LnGrp Delay(d),s/veh	66.1	39.0	39.7	109.4	24.7	24.7	76.1	39.1	56.8	66.8	53.6	56.1
LnGrp LOS	E	D	D	F	C	C	E	D	E	E	D	E
Approach Vol, veh/h		1216			948			759			497	
Approach Delay, s/veh		45.4			63.3			53.6			56.2	
Approach LOS		D			E			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.3	57.3	18.2	29.3	17.6	61.0	10.3	37.1				
Change Period (Y+Rc), s	4.4	5.2	4.4	* 5.3	4.4	* 5.2	4.4	5.3				
Max Green Setting (Gmax), s	43.6	14.8	* 32	16.7	* 44	14.9	31.3					
Max Q Clear Time (g_c+10), s	35.1	13.8	19.5	13.0	15.4	6.7	27.9					
Green Ext Time (p_c), s	0.0	6.0	0.0	4.5	0.2	13.5	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			53.8									
HCM 2010 LOS			D									
Notes												

Existing PM - Morena Pump Station
8: Clairemont Drive & Balboa Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔	↕↕	↔	↔	↕↔	
Traffic Volume (veh/h)	379	1083	57	410	1020	104	83	306	336	250	504	291
Future Volume (veh/h)	379	1083	57	410	1020	104	83	306	336	250	504	291
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	395	1128	59	436	1085	111	88	326	357	263	531	306
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.94	0.94	0.94	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	414	1157	61	452	1085	111	109	809	570	273	695	400
Arrive On Green	0.12	0.34	0.34	0.13	0.33	0.33	0.06	0.23	0.23	0.15	0.32	0.32
Sat Flow, veh/h	3442	3422	179	3442	3242	331	1774	3539	1583	1774	2166	1246
Grp Volume(v), veh/h	395	583	604	436	592	604	88	326	357	263	434	403
Grp Sat Flow(s),veh/h/ln	1721	1770	1831	1721	1770	1804	1774	1770	1583	1774	1770	1643
Q Serve(g_s), s	15.3	43.6	43.6	16.9	44.8	44.8	6.6	10.5	24.9	19.7	29.5	29.6
Cycle Q Clear(g_c), s	15.3	43.6	43.6	16.9	44.8	44.8	6.6	10.5	24.9	19.7	29.5	29.6
Prop In Lane	1.00		0.10	1.00		0.18	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	414	599	619	452	592	604	109	809	570	273	568	527
V/C Ratio(X)	0.95	0.97	0.97	0.96	1.00	1.00	0.81	0.40	0.63	0.96	0.76	0.77
Avail Cap(c_a), veh/h	414	599	619	452	592	604	132	872	598	273	576	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	43.7	43.8	57.8	44.6	44.6	62.0	43.9	35.4	56.3	40.9	40.9
Incr Delay (d2), s/veh	32.4	30.3	29.9	32.8	36.9	36.9	21.0	0.2	1.6	44.2	5.7	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	26.3	27.1	10.1	27.9	28.5	3.9	5.1	11.1	13.0	15.4	14.4
LnGrp Delay(d),s/veh	91.0	74.0	73.6	90.7	81.4	81.5	83.1	44.1	37.0	100.5	46.6	47.2
LnGrp LOS	F	E	E	F	F	F	F	D	D	F	D	D
Approach Vol, veh/h		1582			1632			771			1100	
Approach Delay, s/veh		78.1			83.9			45.3			59.7	
Approach LOS		E			F			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.0	51.0	12.6	48.3	21.8	51.2	25.0	35.9				
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3				
Max Green Setting (Gmax), s	47.6	44.0	10.0	43.6	16.1	* 45	20.6	33.0				
Max Q Clear Time (g_c+max), s	47.6	45.6	8.6	31.6	17.3	46.8	21.7	26.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.9	0.0	0.0	0.0	3.7				
Intersection Summary												
HCM 2010 Ctrl Delay				71.0								
HCM 2010 LOS				E								
Notes												

Appendix E
Peak Hour Intersection Calculation Worksheets
- Near-Term Year 2022 with and without Construction Traffic
(Morena Pipelines)

Near-Term 2022 AM - Morena Pump Station
 F: Towne Centre Drive & Golden Haven Drive

02/13/2017



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	75	375	345	145	185	115		
Future Volume (veh/h)	75	375	345	145	185	115		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	82	408	375	158	201	125		
Adj No. of Lanes	1	1	2	0	1	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	463	641	690	286	256	1849		
Arrive On Green	0.26	0.26	0.28	0.28	0.14	0.52		
Sat Flow, veh/h	1774	1583	2516	1004	1774	3632		
Grp Volume(v), veh/h	82	408	272	261	201	125		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1658	1774	1770		
Q Serve(g_s), s	1.7	9.7	6.1	6.3	5.1	0.8		
Cycle Q Clear(g_c), s	1.7	9.7	6.1	6.3	5.1	0.8		
Prop In Lane	1.00	1.00		0.61	1.00			
Lane Grp Cap(c), veh/h	463	641	504	472	256	1849		
V/C Ratio(X)	0.18	0.64	0.54	0.55	0.79	0.07		
Avail Cap(c_a), veh/h	683	838	692	648	558	2761		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.5	11.2	14.2	14.3	19.4	5.6		
Incr Delay (d2), s/veh	0.1	0.4	1.9	2.2	2.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	4.3	3.2	3.1	2.7	0.4		
LnGrp Delay(d),s/veh	13.5	11.6	16.2	16.4	21.5	5.6		
LnGrp LOS	B	B	B	B	C	A		
Approach Vol, veh/h	490		533			326		
Approach Delay, s/veh	11.9		16.3			15.4		
Approach LOS	B		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.2	19.2				30.4		16.7
Change Period (Y+Rc), s	4.4	* 5.8				5.8		4.4
Max Green Setting (Gmax), s	11.8	* 18				36.7		18.1
Max Q Clear Time (g_c+1), s	11.8	8.3				2.8		11.7
Green Ext Time (p_c), s	0.2	4.7				9.0		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			14.5					
HCM 2010 LOS			B					
Notes								

Near-Term 2022 AM - Morena Pump Station
 G Towne Centre Drive & Nobel Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔	↕↕↕	↕		↕↔		↔	↕	↕
Traffic Volume (veh/h)	340	510	15	10	195	80	20	130	90	25	35	190
Future Volume (veh/h)	340	510	15	10	195	80	20	130	90	25	35	190
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	370	554	16	11	212	87	22	141	98	27	38	207
Adj No. of Lanes	2	2	0	1	3	1	0	2	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	369	1040	30	20	1020	603	35	228	162	326	342	288
Arrive On Green	0.11	0.30	0.30	0.01	0.20	0.20	0.12	0.12	0.12	0.18	0.18	0.18
Sat Flow, veh/h	3442	3510	101	1774	5085	1559	289	1862	1326	1774	1863	1570
Grp Volume(v), veh/h	370	279	291	11	212	87	141	0	120	27	38	207
Grp Sat Flow(s),veh/h/ln	1721	1770	1842	1774	1695	1559	1848	0	1629	1774	1863	1570
Q Serve(g_s), s	5.6	6.9	6.9	0.3	1.8	1.9	3.8	0.0	3.7	0.7	0.9	6.5
Cycle Q Clear(g_c), s	5.6	6.9	6.9	0.3	1.8	1.9	3.8	0.0	3.7	0.7	0.9	6.5
Prop In Lane	1.00		0.05	1.00		1.00	0.16		0.81	1.00		1.00
Lane Grp Cap(c), veh/h	369	525	546	20	1020	603	226	0	199	326	342	288
V/C Ratio(X)	1.00	0.53	0.53	0.55	0.21	0.14	0.62	0.00	0.60	0.08	0.11	0.72
Avail Cap(c_a), veh/h	369	636	662	173	1770	833	636	0	561	611	641	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	15.4	15.4	25.7	17.4	10.5	21.8	0.0	21.7	17.7	17.8	20.1
Incr Delay (d2), s/veh	47.9	1.7	1.6	8.4	0.1	0.1	1.0	0.0	1.1	0.2	0.2	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	3.6	3.7	0.2	0.9	1.1	2.0	0.0	1.7	0.3	0.5	3.2
LnGrp Delay(d),s/veh	71.2	17.1	17.0	34.1	17.5	10.6	22.8	0.0	22.8	17.9	18.0	24.8
LnGrp LOS	F	B	B	C	B	B	C		C	B	B	C
Approach Vol, veh/h		940			310			261			272	
Approach Delay, s/veh		38.4			16.2			22.8			23.2	
Approach LOS		D			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	21.5		14.5	10.0	16.5		11.3				
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9				
Max Green Setting (Gmax), s	5.0	* 19		18.0	5.6	18.2		18.0				
Max Q Clear Time (g_c+1/2), s	12.3	8.9		8.5	7.6	3.9		5.8				
Green Ext Time (p_c), s	0.0	5.1		1.0	0.0	6.5		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				29.9								
HCM 2010 LOS				C								
Notes												

Near-Term 2022 AM - Morena Pump Station
H Genesee Avenue & Nobel Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑↑	↗	↔↔	↑↑↑	↗
Traffic Volume (veh/h)	110	470	90	80	265	50	170	1440	180	60	230	45
Future Volume (veh/h)	110	470	90	80	265	50	170	1440	180	60	230	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	120	511	98	87	288	54	185	1565	196	65	250	49
Adj No. of Lanes	2	2	1	2	2	0	2	2	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	708	317	132	565	105	238	1398	625	743	2802	872
Arrive On Green	0.05	0.20	0.20	0.04	0.19	0.19	0.07	0.40	0.40	0.07	0.18	0.18
Sat Flow, veh/h	3442	3539	1583	3442	2983	552	3442	3539	1583	3442	5085	1583
Grp Volume(v), veh/h	120	511	98	87	169	173	185	1565	196	65	250	49
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1765	1721	1770	1583	1721	1695	1583
Q Serve(g_s), s	4.8	18.9	7.4	3.5	12.0	12.3	7.4	55.3	9.8	2.5	5.7	3.6
Cycle Q Clear(g_c), s	4.8	18.9	7.4	3.5	12.0	12.3	7.4	55.3	9.8	2.5	5.7	3.6
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	708	317	132	335	334	238	1398	625	743	2802	872
V/C Ratio(X)	0.71	0.72	0.31	0.66	0.51	0.52	0.78	1.12	0.31	0.09	0.09	0.06
Avail Cap(c_a), veh/h	371	1001	448	334	479	478	710	1398	625	743	2802	872
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.53	0.53	0.53	0.99	0.99	0.99
Uniform Delay (d), s/veh	65.6	52.4	47.8	66.4	50.9	51.0	64.1	42.3	19.5	52.1	28.1	27.2
Incr Delay (d2), s/veh	2.1	2.1	0.8	2.1	1.2	1.3	1.1	59.6	0.7	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	9.4	3.3	1.7	6.0	6.1	3.6	38.6	4.4	1.2	2.7	1.6
LnGrp Delay(d),s/veh	67.7	54.5	48.5	68.5	52.1	52.3	65.2	101.9	20.2	52.1	28.1	27.3
LnGrp LOS	E	D	D	E	D	D	E	F	C	D	C	C
Approach Vol, veh/h		729			429			1946			364	
Approach Delay, s/veh		55.8			55.5			90.2			32.3	
Approach LOS		E			E			F			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	36.1	61.0	9.8	33.1	14.1	83.0	11.3	31.6				
Change Period (Y+Rc), s	5.9	* 5.7	4.4	* 5.1	4.4	5.9	4.4	5.1				
Max Green Setting (Gmax), s	12.1	* 55	13.6	* 40	28.9	38.3	15.1	37.9				
Max Q Clear Time (g_c+14), s	14.5	57.3	5.5	20.9	9.4	7.7	6.8	14.3				
Green Ext Time (p_c), s	0.3	0.0	0.1	7.1	0.3	2.7	0.1	7.9				
Intersection Summary												
HCM 2010 Ctrl Delay			72.6									
HCM 2010 LOS			E									
Notes												

Near-Term 2022 AM - Morena Pump Station
 I : Genesee Avenue & Appleton Street/Lehrer Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	390	20	50	35	40	280	20	1250	15	50	600	80
Future Volume (veh/h)	390	20	50	35	40	280	20	1250	15	50	600	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	424	22	54	38	43	304	22	1359	16	54	652	87
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	12	29	79	89	491	32	1677	20	70	1537	205
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.02	0.47	0.47	0.04	0.49	0.49
Sat Flow, veh/h	644	33	82	119	252	1393	1774	3583	42	1774	3140	418
Grp Volume(v), veh/h	500	0	0	385	0	0	22	671	704	54	367	372
Grp Sat Flow(s),veh/h/ln	759	0	0	1764	0	0	1774	1770	1855	1774	1770	1789
Q Serve(g_s), s	17.7	0.0	0.0	0.0	0.0	0.0	1.3	35.1	35.1	3.3	14.4	14.5
Cycle Q Clear(g_c), s	38.1	0.0	0.0	20.4	0.0	0.0	1.3	35.1	35.1	3.3	14.4	14.5
Prop In Lane	0.85		0.11	0.10		0.79	1.00		0.02	1.00		0.23
Lane Grp Cap(c), veh/h	329	0	0	659	0	0	32	828	869	70	866	876
V/C Ratio(X)	1.52	0.00	0.00	0.58	0.00	0.00	0.69	0.81	0.81	0.78	0.42	0.42
Avail Cap(c_a), veh/h	329	0	0	659	0	0	215	828	869	182	866	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.32	0.32	0.32	0.96	0.96	0.96
Uniform Delay (d), s/veh	41.7	0.0	0.0	29.4	0.0	0.0	52.7	24.6	24.6	51.4	17.8	17.8
Incr Delay (d2), s/veh	248.2	0.0	0.0	1.3	0.0	0.0	3.2	2.9	2.7	12.2	1.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.5	0.0	0.0	9.9	0.0	0.0	0.7	17.8	18.7	1.8	7.4	7.5
LnGrp Delay(d),s/veh	289.9	0.0	0.0	30.7	0.0	0.0	55.9	27.5	27.4	63.6	19.2	19.2
LnGrp LOS	F			C			E	C	C	E	B	B
Approach Vol, veh/h		500			385			1397			793	
Approach Delay, s/veh		289.9			30.7			27.9			22.2	
Approach LOS		F			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	56.4		43.0	6.3	58.7		43.0				
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9				
Max Green Setting (Gmax), s	45			38.1	13.1	41.7		38.1				
Max Q Clear Time (g_c+1), s	37.1			40.1	3.3	16.5		22.4				
Green Ext Time (p_c), s	0.0	7.2		0.0	0.0	23.1		5.8				
Intersection Summary												
HCM 2010 Ctrl Delay				69.4								
HCM 2010 LOS				E								
Notes												

Near-Term 2022 AM - Morena Pump Station
 I : Genesee Avenue & Clairemont Mesa Boulevard

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↓		↔↔	↑↓		↔↔	↑↓		↔	↑↓	
Traffic Volume (veh/h)	155	375	140	100	555	230	180	945	95	85	385	90
Future Volume (veh/h)	155	375	140	100	555	230	180	945	95	85	385	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	168	408	152	109	603	250	196	1027	103	92	418	98
Adj No. of Lanes	2	2	0	2	2	0	2	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	533	196	747	892	369	260	1053	106	115	908	211
Arrive On Green	0.02	0.07	0.07	0.22	0.37	0.37	0.08	0.32	0.32	0.13	0.64	0.64
Sat Flow, veh/h	3442	2534	934	3442	2442	1012	3442	3249	326	1774	2852	663
Grp Volume(v), veh/h	168	284	276	109	437	416	196	559	571	92	258	258
Grp Sat Flow(s),veh/h/ln	1721	1770	1698	1721	1770	1684	1721	1770	1805	1774	1770	1746
Q Serve(g_s), s	5.2	17.0	17.3	2.8	22.5	22.5	6.0	33.7	33.8	5.4	8.1	8.2
Cycle Q Clear(g_c), s	5.2	17.0	17.3	2.8	22.5	22.5	6.0	33.7	33.8	5.4	8.1	8.2
Prop In Lane	1.00		0.55	1.00		0.60	1.00		0.18	1.00		0.38
Lane Grp Cap(c), veh/h	234	372	357	747	646	615	260	573	585	115	563	556
V/C Ratio(X)	0.72	0.76	0.77	0.15	0.68	0.68	0.75	0.97	0.98	0.80	0.46	0.46
Avail Cap(c_a), veh/h	433	592	568	747	646	615	402	573	585	168	563	556
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	51.8	47.6	47.7	34.2	28.9	28.9	48.9	36.1	36.1	46.3	14.8	14.9
Incr Delay (d2), s/veh	1.5	13.5	14.8	0.0	5.6	5.9	1.7	31.1	30.9	8.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	9.7	9.6	1.3	11.9	11.4	2.9	21.4	21.8	2.9	3.9	3.9
LnGrp Delay(d),s/veh	53.3	61.1	62.5	34.2	34.5	34.8	50.6	67.1	67.0	54.9	15.0	15.1
LnGrp LOS	D	E	E	C	C	C	D	E	E	D	B	B
Approach Vol, veh/h		728			962			1326			608	
Approach Delay, s/veh		59.8			34.6			64.6			21.1	
Approach LOS		E			C			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	38.4	27.7	12.6	39.3	11.7	44.4	11.9	39.9				
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9				
Max Green Setting (Gmax), s	36	* 36	12.6	32.6	13.6	30.5	10.2	* 35				
Max Q Clear Time (g_c+1), s	19.3	19.3	8.0	10.2	7.2	24.5	7.4	35.8				
Green Ext Time (p_c), s	1.8	3.4	0.1	2.1	0.1	3.0	0.1	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				48.4								
HCM 2010 LOS				D								
Notes												

Near-Term 2022 AM - Morena Pump Station
 6: Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	460	25	25	585	190	60	35	55	210	35	35
Future Volume (veh/h)	15	460	25	25	585	190	60	35	55	210	35	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	500	27	27	636	207	65	38	60	228	38	38
Adj No. of Lanes	1	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	462	485	412	12	291	95	425	485	434	117	166	145
Arrive On Green	0.26	0.26	0.26	0.22	0.22	0.22	0.24	0.27	0.27	0.07	0.09	0.09
Sat Flow, veh/h	1774	1863	1583	55	1305	425	1774	1770	1583	1774	1790	1566
Grp Volume(v), veh/h	16	500	27	870	0	0	65	38	60	228	38	38
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1785	0	0	1774	1770	1583	1774	1770	1586
Q Serve(g_s), s	0.7	28.1	1.4	24.1	0.0	0.0	3.1	1.7	3.1	7.1	2.1	2.4
Cycle Q Clear(g_c), s	0.7	28.1	1.4	24.1	0.0	0.0	3.1	1.7	3.1	7.1	2.1	2.4
Prop In Lane	1.00		1.00	0.03		0.24	1.00		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	462	485	412	398	0	0	425	485	434	117	164	147
V/C Ratio(X)	0.03	1.03	0.07	2.18	0.00	0.00	0.15	0.08	0.14	1.95	0.23	0.26
Avail Cap(c_a), veh/h	462	485	412	398	0	0	425	485	434	117	464	416
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.64	0.64	0.64
Uniform Delay (d), s/veh	29.8	40.0	30.1	42.0	0.0	0.0	32.4	29.1	29.6	50.5	45.4	45.6
Incr Delay (d2), s/veh	0.0	49.3	0.0	541.1	0.0	0.0	0.1	0.3	0.7	449.2	2.1	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	21.0	0.6	71.7	0.0	0.0	1.5	0.9	1.4	18.0	1.1	1.2
LnGrp Delay(d),s/veh	29.8	89.2	30.1	583.0	0.0	0.0	32.5	29.4	30.2	499.6	47.5	48.3
LnGrp LOS	C	F	C	F			C	C	C	F	D	D
Approach Vol, veh/h		543			870			163			304	
Approach Delay, s/veh		84.5			583.0			30.9			386.7	
Approach LOS		F			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.5	34.5		33.0	30.8	15.2		29.0				
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.2		4.9				
Max Green Setting (Gmax), s	29.6			28.1	8.1	* 28		24.1				
Max Q Clear Time (g_c+1/9), s	5.1			30.1	5.1	4.4		26.1				
Green Ext Time (p_c), s	0.0	0.8		0.0	0.2	0.5		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			359.4									
HCM 2010 LOS			F									
Notes												

Near-Term 2022 AM - Morena Pump Station
 7: Clairemont Drive & Clairemont Mesa Boulevard

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔	↕↕	↔	↔	↕↔	
Traffic Volume (veh/h)	135	240	125	275	410	25	230	220	230	40	200	125
Future Volume (veh/h)	135	240	125	275	410	25	230	220	230	40	200	125
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1676	1676	1676	1710
Adj Flow Rate, veh/h	147	261	136	299	446	27	250	239	250	43	217	136
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1125	910	460	358	580	35	160	729	326	52	310	186
Arrive On Green	0.36	0.44	0.44	0.12	0.19	0.19	0.10	0.23	0.23	0.03	0.16	0.16
Sat Flow, veh/h	3097	2050	1036	3097	3052	184	1597	3185	1425	1597	1915	1151
Grp Volume(v), veh/h	147	201	196	299	232	241	250	239	250	43	179	174
Grp Sat Flow(s),veh/h/ln	1549	1593	1494	1549	1593	1644	1597	1593	1425	1597	1593	1473
Q Serve(g_s), s	3.4	8.7	9.1	10.2	14.9	15.0	10.8	6.8	17.7	2.9	11.5	12.1
Cycle Q Clear(g_c), s	3.4	8.7	9.1	10.2	14.9	15.0	10.8	6.8	17.7	2.9	11.5	12.1
Prop In Lane	1.00		0.69	1.00		0.11	1.00		1.00	1.00		0.78
Lane Grp Cap(c), veh/h	1125	707	663	358	303	312	160	729	326	52	257	238
V/C Ratio(X)	0.13	0.28	0.30	0.84	0.77	0.77	1.57	0.33	0.77	0.82	0.69	0.73
Avail Cap(c_a), veh/h	1125	707	663	485	615	635	160	814	364	83	333	308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	19.1	19.2	46.8	41.5	41.5	48.6	34.7	38.9	51.9	42.8	43.0
Incr Delay (d2), s/veh	0.0	1.0	1.1	6.9	16.9	16.7	279.1	0.3	7.7	15.3	4.7	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.0	4.0	4.7	8.0	8.3	17.1	3.0	7.7	1.5	5.4	5.4
LnGrp Delay(d),s/veh	23.0	20.1	20.3	53.7	58.4	58.2	327.7	35.0	46.6	67.2	47.5	49.8
LnGrp LOS	C	C	C	D	E	E	F	C	D	E	D	D
Approach Vol, veh/h		544			772			739			396	
Approach Delay, s/veh		21.0			56.5			137.9			50.6	
Approach LOS		C			E			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.9	53.2	15.2	22.8	44.4	25.6	7.9	30.0				
Change Period (Y+Rc), s	4.4	5.2	4.4	* 5.3	5.2	* 5.1	4.4	5.3				
Max Green Setting (Gmax), s	10.9	38.6	10.8	* 23	13.9	* 42	5.6	27.6				
Max Q Clear Time (g_c+M), s	11.2	11.1	12.8	14.1	5.4	17.0	4.9	19.7				
Green Ext Time (p_c), s	0.3	3.1	0.0	3.3	1.9	3.5	0.0	3.2				
Intersection Summary												
HCM 2010 Ctrl Delay				72.2								
HCM 2010 LOS				E								
Notes												

Near-Term 2022 AM - Morena Pump Station
 8: Clairemont Drive & Balboa Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕	↕	↔	↕	↕
Traffic Volume (veh/h)	210	820	70	340	770	90	140	325	335	155	275	315
Future Volume (veh/h)	210	820	70	340	770	90	140	325	335	155	275	315
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	228	891	76	370	837	98	152	353	364	168	299	342
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	334	983	84	422	966	113	184	932	611	196	478	428
Arrive On Green	0.10	0.30	0.30	0.12	0.30	0.30	0.10	0.26	0.26	0.11	0.27	0.27
Sat Flow, veh/h	3442	3301	282	3442	3193	374	1774	3539	1583	1774	1770	1583
Grp Volume(v), veh/h	228	478	489	370	464	471	152	353	364	168	299	342
Grp Sat Flow(s),veh/h/ln	1721	1770	1813	1721	1770	1797	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.2	25.0	25.0	10.2	23.8	23.8	8.1	7.8	17.6	8.9	14.3	19.3
Cycle Q Clear(g_c), s	6.2	25.0	25.0	10.2	23.8	23.8	8.1	7.8	17.6	8.9	14.3	19.3
Prop In Lane	1.00		0.16	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	334	527	540	422	535	543	184	932	611	196	478	428
V/C Ratio(X)	0.68	0.91	0.91	0.88	0.87	0.87	0.83	0.38	0.60	0.86	0.63	0.80
Avail Cap(c_a), veh/h	334	548	562	422	600	609	229	1215	738	196	574	514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	32.5	32.5	41.5	31.7	31.7	42.3	29.0	23.5	42.0	30.8	32.7
Incr Delay (d2), s/veh	4.6	18.6	18.3	17.7	11.8	11.6	15.1	0.2	0.6	28.6	1.3	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	14.9	15.2	5.9	13.4	13.5	4.7	3.8	7.8	5.9	7.1	9.3
LnGrp Delay(d),s/veh	46.6	51.1	50.7	59.1	43.5	43.3	57.4	29.1	24.2	70.7	32.1	39.6
LnGrp LOS	D	D	D	E	D	D	E	C	C	E	C	D
Approach Vol, veh/h		1195			1305			869			809	
Approach Delay, s/veh		50.1			47.9			32.0			43.3	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	34.3	14.3	31.3	15.0	35.5	15.0	30.6				
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3				
Max Green Setting (Gmax), s	18	29.8	12.4	31.2	8.3	* 33	10.6	33.0				
Max Q Clear Time (g_c+M2), s	12.5	27.0	10.1	21.3	8.2	25.8	10.9	19.6				
Green Ext Time (p_c), s	0.0	1.7	0.0	4.6	0.1	3.3	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay				44.3								
HCM 2010 LOS				D								
Notes												

Near-Term 2022 PM - Morena Pump Station
 1: Towne Center Drive & Golden Haven Drive

02/13/2017



Movement	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations										
Traffic Volume (veh/h)	140	330	215	75	180	620				
Future Volume (veh/h)	140	330	215	75	180	620				
Number	3	18	2	12	1	6				
Initial Q (Qb), veh	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00					
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863				
Adj Flow Rate, veh/h	152	359	234	82	196	674				
Adj No. of Lanes	1	1	2	0	1	2				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Percent Heavy Veh, %	2	2	2	2	2	2				
Cap, veh/h	437	573	793	269	205	1849				
Arrive On Green	0.25	0.25	0.31	0.31	0.12	0.52				
Sat Flow, veh/h	1774	1583	2672	877	1774	3632				
Grp Volume(v), veh/h	152	359	158	158	196	674				
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1686	1774	1770				
Q Serve(g_s), s	3.1	8.3	3.0	3.2	4.9	5.0				
Cycle Q Clear(g_c), s	3.1	8.3	3.0	3.2	4.9	5.0				
Prop In Lane	1.00	1.00		0.52	1.00					
Lane Grp Cap(c), veh/h	437	573	544	518	205	1849				
V/C Ratio(X)	0.35	0.63	0.29	0.30	0.96	0.36				
Avail Cap(c_a), veh/h	727	832	725	691	205	2140				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	13.7	11.6	11.6	11.7	19.4	6.2				
Incr Delay (d2), s/veh	0.2	0.4	0.6	0.7	50.1	0.3				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	1.5	3.6	1.5	1.5	5.2	2.4				
LnGrp Delay(d),s/veh	13.9	12.0	12.3	12.4	69.5	6.5				
LnGrp LOS	B	B	B	B	E	A				
Approach Vol, veh/h	511		316			870				
Approach Delay, s/veh	12.6		12.3			20.7				
Approach LOS	B		B			C				
Timer	1	2	3	4	5	6	7	8		
Assigned Phs	1	2				6		8		
Phs Duration (G+Y+Rc), s	9.5	19.4				28.9		15.3		
Change Period (Y+Rc), s	4.4	* 5.8				5.8		4.4		
Max Green Setting (Gmax), s	5.1	* 18				26.7		18.1		
Max Q Clear Time (g_c+10), s	10.5	5.2				7.0		10.3		
Green Ext Time (p_c), s	0.0	8.0				10.8		0.6		
Intersection Summary										
HCM 2010 Ctrl Delay			16.7							
HCM 2010 LOS			B							
Notes										

Near-Term 2022 PM - Morena Pump Station
 2: Towne Center Drive & Nobel Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↔		↔	↑↑↑	↔		↔↔		↔	↑	↔
Traffic Volume (veh/h)	300	310	30	160	715	65	20	30	20	75	220	550
Future Volume (veh/h)	300	310	30	160	715	65	20	30	20	75	220	550
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	326	337	30	174	777	42	22	33	4	82	239	90
Adj No. of Lanes	2	2	0	1	3	1	0	2	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	910	80	186	1410	743	56	91	11	348	366	308
Arrive On Green	0.10	0.28	0.28	0.10	0.28	0.28	0.04	0.04	0.04	0.20	0.20	0.20
Sat Flow, veh/h	3442	3282	290	1774	5085	1560	1282	2076	258	1774	1863	1571
Grp Volume(v), veh/h	326	181	186	174	777	42	31	0	28	82	239	90
Grp Sat Flow(s),veh/h/ln	1721	1770	1802	1774	1695	1560	1799	0	1817	1774	1863	1571
Q Serve(g_s), s	5.0	4.4	4.5	5.2	7.0	0.8	0.9	0.0	0.8	2.1	6.3	2.6
Cycle Q Clear(g_c), s	5.0	4.4	4.5	5.2	7.0	0.8	0.9	0.0	0.8	2.1	6.3	2.6
Prop In Lane	1.00		0.16	1.00		1.00	0.71		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	361	491	500	186	1410	743	79	0	79	348	366	308
V/C Ratio(X)	0.90	0.37	0.37	0.94	0.55	0.06	0.39	0.00	0.35	0.24	0.65	0.29
Avail Cap(c_a), veh/h	361	606	617	186	1732	842	606	0	612	598	628	529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	15.5	15.6	23.7	16.5	7.6	24.9	0.0	24.8	18.1	19.8	18.3
Incr Delay (d2), s/veh	24.6	0.9	0.9	47.2	0.4	0.0	1.2	0.0	1.0	0.5	2.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	2.2	2.4	5.0	3.3	0.5	0.5	0.0	0.4	1.1	3.5	1.2
LnGrp Delay(d),s/veh	48.2	16.5	16.5	71.0	16.9	7.6	26.0	0.0	25.8	18.6	22.6	19.0
LnGrp LOS	D	B	B	E	B	A	C		C	B	C	B
Approach Vol, veh/h		693			993			59			411	
Approach Delay, s/veh		31.4			25.9			25.9			21.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0			15.4	10.0	20.8		7.2				
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9				
Max Green Setting (Gmax), s	5.6	* 18		18.0	5.6	18.2		18.0				
Max Q Clear Time (g_c+1I), s	2.5	6.5		8.3	7.0	9.0		2.9				
Green Ext Time (p_c), s	0.0	7.0		1.9	0.0	5.8		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			26.8									
HCM 2010 LOS			C									
Notes												

Near-Term 2022 PM - Morena Pump Station
3: Genesee Avenue & Nobel Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕	↗	↔↔	↕↕		↔↔	↕↕	↗	↔↔	↕↕↕	↗
Traffic Volume (veh/h)	205	325	210	280	560	70	200	460	125	120	1235	130
Future Volume (veh/h)	205	325	210	280	560	70	200	460	125	120	1235	130
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	223	353	228	304	609	76	217	500	136	130	1342	141
Adj No. of Lanes	2	2	1	2	2	0	2	2	1	2	3	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	786	352	355	783	98	260	1743	780	173	2376	740
Arrive On Green	0.08	0.22	0.22	0.10	0.25	0.25	0.15	0.99	0.99	0.10	0.93	0.93
Sat Flow, veh/h	3442	3539	1583	3442	3168	395	3442	3539	1583	3442	5085	1583
Grp Volume(v), veh/h	223	353	228	304	340	345	217	500	136	130	1342	141
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	1721	1770	1793	1721	1770	1583	1721	1695	1583
Q Serve(g_s), s	9.6	12.9	19.6	13.0	26.8	26.9	9.2	0.4	0.2	5.5	5.5	1.1
Cycle Q Clear(g_c), s	9.6	12.9	19.6	13.0	26.8	26.9	9.2	0.4	0.2	5.5	5.5	1.1
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	786	352	355	438	443	260	1743	780	173	2376	740
V/C Ratio(X)	0.83	0.45	0.65	0.86	0.78	0.78	0.83	0.29	0.17	0.75	0.56	0.19
Avail Cap(c_a), veh/h	324	816	365	580	538	545	342	1743	780	255	2376	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.85	0.85	0.85
Uniform Delay (d), s/veh	68.2	50.4	53.0	66.2	52.6	52.6	62.8	0.6	0.6	66.5	2.8	2.7
Incr Delay (d2), s/veh	12.2	0.6	4.4	3.6	5.8	5.8	9.3	0.4	0.4	2.6	0.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.4	9.0	6.4	13.8	14.1	4.7	0.2	0.2	2.7	2.4	0.5
LnGrp Delay(d),s/veh	80.4	51.0	57.4	69.7	58.4	58.5	72.0	1.0	1.0	69.1	3.6	3.1
LnGrp LOS	F	D	E	E	E	E	E	A	A	E	A	A
Approach Vol, veh/h		804			989			853			1613	
Approach Delay, s/veh		61.0			61.9			19.0			8.9	
Approach LOS		E			E			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.9	79.8	19.9	38.4	15.7	76.0	16.1	42.2				
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1				
Max Green Setting (Gmax), s	11.9	* 60	25.3	* 35	14.9	55.6	14.1	45.6				
Max Q Clear Time (g_c+1I), s	11.9	2.4	15.0	21.6	11.2	7.5	11.6	28.9				
Green Ext Time (p_c), s	0.1	36.9	0.4	7.0	0.1	33.0	0.1	8.2				
Intersection Summary												
HCM 2010 Ctrl Delay			33.1									
HCM 2010 LOS			C									
Notes												

Near-Term 2022 PM - Morena Pump Station
 4: Genesee Avenue & Appleton Street/Lehrer Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	180	90	45	30	40	65	55	620	20	150	1190	255
Future Volume (veh/h)	180	90	45	30	40	65	55	620	20	150	1190	255
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	196	98	49	33	43	71	60	674	22	163	1293	277
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	87	43	97	128	178	77	1914	62	188	1774	375
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.04	0.55	0.55	0.11	0.61	0.61
Sat Flow, veh/h	766	383	191	274	566	785	1774	3498	114	1774	2909	615
Grp Volume(v), veh/h	343	0	0	147	0	0	60	341	355	163	780	790
Grp Sat Flow(s),veh/h/ln	1340	0	0	1625	0	0	1774	1770	1843	1774	1770	1754
Q Serve(g_s), s	19.3	0.0	0.0	0.0	0.0	0.0	4.2	13.6	13.6	11.4	38.7	40.3
Cycle Q Clear(g_c), s	28.6	0.0	0.0	9.3	0.0	0.0	4.2	13.6	13.6	11.4	38.7	40.3
Prop In Lane	0.57		0.14	0.22		0.48	1.00		0.06	1.00		0.35
Lane Grp Cap(c), veh/h	349	0	0	404	0	0	77	968	1008	188	1079	1070
V/C Ratio(X)	0.98	0.00	0.00	0.36	0.00	0.00	0.78	0.35	0.35	0.87	0.72	0.74
Avail Cap(c_a), veh/h	349	0	0	404	0	0	172	970	1011	199	1079	1070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.79	0.79	0.79	0.72	0.72	0.72
Uniform Delay (d), s/veh	51.0	0.0	0.0	41.2	0.0	0.0	59.7	16.0	16.0	55.4	17.2	17.5
Incr Delay (d2), s/veh	43.3	0.0	0.0	0.5	0.0	0.0	4.9	0.8	0.8	22.5	3.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.1	0.0	0.0	4.4	0.0	0.0	2.2	6.8	7.1	6.8	19.8	20.3
LnGrp Delay(d),s/veh	94.3	0.0	0.0	41.7	0.0	0.0	64.6	16.8	16.8	78.0	20.2	20.8
LnGrp LOS	F			D			E	B	B	E	C	C
Approach Vol, veh/h		343			147			756			1733	
Approach Delay, s/veh		94.3			41.7			20.6			25.9	
Approach LOS		F			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	74.7		33.5	9.9	82.6		33.5				
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9				
Max Green Setting (Gmax), s	1.1	* 69		28.6	12.2	70.1		28.6				
Max Q Clear Time (g_c+M), s	1.4	15.6		30.6	6.2	42.3		11.3				
Green Ext Time (p_c), s	0.0	43.6		0.0	0.0	24.7		2.7				
Intersection Summary												
HCM 2010 Ctrl Delay				33.2								
HCM 2010 LOS				C								
Notes												

Near-Term 2022 PM - Morena Pump Station
 5: Genesee Avenue & Clairemont Mesa Boulevard

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↔		↔↔	↑↔		↔↔	↑↔		↔	↑↔	
Traffic Volume (veh/h)	155	645	350	235	800	85	270	445	125	135	870	110
Future Volume (veh/h)	155	645	350	235	800	85	270	445	125	135	870	110
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	168	701	380	255	870	92	293	484	136	147	946	120
Adj No. of Lanes	2	2	0	2	2	0	2	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	891	482	309	1381	146	349	720	201	172	818	104
Arrive On Green	0.13	0.80	0.80	0.09	0.43	0.43	0.10	0.26	0.26	0.13	0.34	0.34
Sat Flow, veh/h	3442	2219	1201	3442	3230	342	3442	2734	764	1774	3161	401
Grp Volume(v), veh/h	168	559	522	255	477	485	293	312	308	147	530	536
Grp Sat Flow(s),veh/h/ln	1721	1770	1651	1721	1770	1802	1721	1770	1728	1774	1770	1792
Q Serve(g_s), s	5.9	21.3	21.4	9.2	26.6	26.6	10.5	19.9	20.1	10.2	32.6	32.6
Cycle Q Clear(g_c), s	5.9	21.3	21.4	9.2	26.6	26.6	10.5	19.9	20.1	10.2	32.6	32.6
Prop In Lane	1.00		0.73	1.00		0.19	1.00		0.44	1.00		0.22
Lane Grp Cap(c), veh/h	220	711	663	309	756	770	349	466	455	172	458	464
V/C Ratio(X)	0.76	0.79	0.79	0.82	0.63	0.63	0.84	0.67	0.68	0.86	1.16	1.16
Avail Cap(c_a), veh/h	385	711	663	385	756	770	464	486	475	211	458	464
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.49	0.49	0.49
Uniform Delay (d), s/veh	54.0	9.5	9.5	56.4	28.3	28.3	55.6	41.5	41.6	54.0	41.3	41.3
Incr Delay (d2), s/veh	2.0	8.5	9.1	9.3	4.0	3.9	7.8	2.6	2.9	11.4	82.6	82.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	11.6	10.9	4.8	13.8	14.0	5.4	10.1	9.9	5.5	26.4	26.7
LnGrp Delay(d),s/veh	56.0	18.0	18.6	65.6	32.2	32.2	63.4	44.1	44.5	65.4	123.9	123.9
LnGrp LOS	E	B	B	E	C	C	E	D	D	E	F	F
Approach Vol, veh/h		1249			1217			913			1213	
Approach Delay, s/veh		23.4			39.2			50.4			116.8	
Approach LOS		C			D			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	55.7	55.6	17.2	37.5	12.5	58.8	16.6	38.1				
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9				
Max Green Setting (Gmax), s	43.6	43.6	17.0	32.6	14.1	43.6	15.0	34.6				
Max Q Clear Time (g_c+M), s	23.4	23.4	12.5	34.6	7.9	28.6	12.2	22.1				
Green Ext Time (p_c), s	0.1	14.5	0.3	0.0	0.1	11.5	0.0	6.2				
Intersection Summary												
HCM 2010 Ctrl Delay				57.6								
HCM 2010 LOS				E								

Near-Term 2022 PM - Morena Pump Station
 6: Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	725	60	40	795	260	70	40	30	350	40	60
Future Volume (veh/h)	25	725	60	40	795	260	70	40	30	350	40	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	27	788	65	43	864	283	76	43	33	380	43	65
Adj No. of Lanes	1	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	382	401	341	14	289	95	96	672	465	128	626	560
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.05	0.34	0.34	0.07	0.35	0.35
Sat Flow, veh/h	1774	1863	1583	64	1296	424	1774	2003	1385	1774	1770	1583
Grp Volume(v), veh/h	27	788	65	1190	0	0	76	37	39	380	43	65
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1785	0	0	1774	1770	1618	1774	1770	1583
Q Serve(g_s), s	1.5	27.1	4.2	28.1	0.0	0.0	5.3	1.8	2.0	9.1	2.0	3.5
Cycle Q Clear(g_c), s	1.5	27.1	4.2	28.1	0.0	0.0	5.3	1.8	2.0	9.1	2.0	3.5
Prop In Lane	1.00		1.00	0.04		0.24	1.00		0.86	1.00		1.00
Lane Grp Cap(c), veh/h	382	401	341	398	0	0	96	594	543	128	626	560
V/C Ratio(X)	0.07	1.97	0.19	2.99	0.00	0.00	0.79	0.06	0.07	2.97	0.07	0.12
Avail Cap(c_a), veh/h	382	401	341	398	0	0	124	598	547	128	626	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.56	0.56	0.56
Uniform Delay (d), s/veh	39.4	49.5	40.5	49.0	0.0	0.0	58.9	28.4	28.5	58.5	27.0	27.4
Incr Delay (d2), s/veh	0.0	444.0	0.1	902.2	0.0	0.0	17.2	0.2	0.3	896.3	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	63.3	1.9	113.6	0.0	0.0	3.1	0.9	0.9	36.3	1.0	1.6
LnGrp Delay(d),s/veh	39.4	493.5	40.6	951.2	0.0	0.0	76.1	28.6	28.7	954.7	27.1	27.7
LnGrp LOS	D	F	D	F			E	C	C	F	C	C
Approach Vol, veh/h		880			1190			152			488	
Approach Delay, s/veh		446.1			951.2			52.4			749.5	
Approach LOS		F			F			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.5	47.5		32.0	11.2	49.8		33.0				
Change Period (Y+Rc), s	4.4	* 5.2		4.9	4.4	5.2		4.9				
Max Green Setting (Gmax), s		* 43		27.1	8.8	42.6		28.1				
Max Q Clear Time (g_c+M), s		4.0		29.1	7.3	5.5		30.1				
Green Ext Time (p_c), s	0.0	1.8		0.0	0.0	1.8		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				700.4								
HCM 2010 LOS				F								
Notes												

Near-Term 2022 PM - Morena Pump Station
 7: Clairemont Drive & Clairemont Mesa Boulevard

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕	↕	↔	↕	↕
Traffic Volume (veh/h)	270	535	390	410	455	35	150	290	300	55	230	170
Future Volume (veh/h)	270	535	390	410	455	35	150	290	300	55	230	170
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1676	1676	1676	1676	1676	1710
Adj Flow Rate, veh/h	293	582	424	446	495	38	163	315	326	60	250	185
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	342	722	526	415	1302	100	185	814	364	75	331	236
Arrive On Green	0.11	0.41	0.41	0.13	0.43	0.43	0.12	0.26	0.26	0.05	0.19	0.19
Sat Flow, veh/h	3097	1760	1282	3097	2999	230	1597	3185	1425	1597	1778	1268
Grp Volume(v), veh/h	293	527	479	446	262	271	163	315	326	60	223	212
Grp Sat Flow(s),veh/h/ln	1549	1593	1450	1549	1593	1636	1597	1593	1425	1597	1593	1453
Q Serve(g_s), s	11.7	36.7	36.7	16.9	14.1	14.1	12.7	10.3	27.8	4.7	16.7	17.5
Cycle Q Clear(g_c), s	11.7	36.7	36.7	16.9	14.1	14.1	12.7	10.3	27.8	4.7	16.7	17.5
Prop In Lane	1.00		0.88	1.00		0.14	1.00		1.00	1.00		0.87
Lane Grp Cap(c), veh/h	342	653	595	415	691	710	185	814	364	75	297	271
V/C Ratio(X)	0.86	0.81	0.81	1.07	0.38	0.38	0.88	0.39	0.90	0.80	0.75	0.78
Avail Cap(c_a), veh/h	411	653	595	415	691	710	188	814	364	189	399	364
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.59	0.59	0.59	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	32.7	32.7	54.5	24.1	24.2	54.8	38.7	45.3	59.5	48.5	48.8
Incr Delay (d2), s/veh	12.6	10.2	11.1	65.2	1.6	1.6	22.4	0.2	15.6	7.3	5.9	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	17.9	16.5	11.0	6.5	6.7	6.7	4.5	12.5	2.2	7.9	7.6
LnGrp Delay(d),s/veh	67.6	43.0	43.9	119.7	25.7	25.7	77.3	38.9	60.9	66.8	54.4	57.1
LnGrp LOS	E	D	D	F	C	C	E	D	E	E	D	E
Approach Vol, veh/h		1299			979			804			495	
Approach Delay, s/veh		48.9			68.6			55.6			57.1	
Approach LOS		D			E			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.3	56.9	19.0	28.8	18.3	59.9	10.3	37.5				
Change Period (Y+Rc), s	4.4	5.2	4.4	* 5.3	4.4	* 5.2	4.4	5.3				
Max Green Setting (Gmax), s	43.6	14.8	* 32	16.7	* 44	14.9	31.3					
Max Q Clear Time (g_c+max), s	38.7	14.7	19.5	13.7	16.1	6.7	29.8					
Green Ext Time (p_c), s	0.0	3.8	0.0	4.0	0.2	14.3	0.0	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				56.9								
HCM 2010 LOS				E								
Notes												

Near-Term 2022 PM - Morena Pump Station
8: Clairemont Drive & Balboa Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔	↕↕	↔	↔	↕↔	
Traffic Volume (veh/h)	380	1085	60	410	1020	105	85	310	340	255	510	295
Future Volume (veh/h)	380	1085	60	410	1020	105	85	310	340	255	510	295
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	413	1179	65	446	1109	114	92	337	370	277	554	321
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	428	1198	66	461	1125	116	113	771	557	284	680	393
Arrive On Green	0.12	0.35	0.35	0.13	0.35	0.35	0.06	0.22	0.22	0.16	0.31	0.31
Sat Flow, veh/h	3442	3411	188	3442	3241	333	1774	3539	1583	1774	2161	1251
Grp Volume(v), veh/h	413	611	633	446	605	618	92	337	370	277	454	421
Grp Sat Flow(s),veh/h/ln	1721	1770	1830	1721	1770	1804	1774	1770	1583	1774	1770	1642
Q Serve(g_s), s	17.3	49.6	49.7	18.7	49.1	49.3	7.4	11.9	28.6	22.5	34.2	34.3
Cycle Q Clear(g_c), s	17.3	49.6	49.7	18.7	49.1	49.3	7.4	11.9	28.6	22.5	34.2	34.3
Prop In Lane	1.00		0.10	1.00		0.18	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	428	622	643	461	614	626	113	771	557	284	557	517
V/C Ratio(X)	0.97	0.98	0.98	0.97	0.98	0.99	0.82	0.44	0.66	0.98	0.81	0.82
Avail Cap(c_a), veh/h	428	622	643	461	614	626	137	806	573	284	557	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.1	46.6	46.6	62.4	46.9	47.0	67.0	49.0	39.7	60.6	45.8	45.8
Incr Delay (d2), s/veh	34.4	31.7	31.5	33.4	32.3	32.5	22.1	0.3	2.5	46.2	8.9	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	29.8	30.8	11.0	29.5	30.2	4.3	5.9	12.9	14.6	18.1	16.9
LnGrp Delay(d),s/veh	97.6	78.3	78.1	95.8	79.2	79.5	89.1	49.2	42.2	106.8	54.7	55.4
LnGrp LOS	F	E	E	F	E	E	F	D	D	F	D	E
Approach Vol, veh/h		1657			1669			799			1152	
Approach Delay, s/veh		83.0			83.7			50.6			67.5	
Approach LOS		F			F			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.8	56.6	13.6	50.9	23.7	56.7	27.6	36.9				
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3				
Max Green Setting (Gmax), s	19.4	49.6	11.2	45.0	18.0	* 50	23.2	33.0				
Max Q Clear Time (g_c+20), s	20.7	51.7	9.4	36.3	19.3	51.3	24.5	30.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				74.9								
HCM 2010 LOS				E								
Notes												

Near-Term 2022 AM + Construction - Morena Pump Station
 1: Towne Center Drive & Golden Haven Drive

02/13/2017



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	75	375	372	145	185	134		
Future Volume (veh/h)	75	375	372	145	185	134		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1900	1863		
Adj Flow Rate, veh/h	82	408	404	158	201	146		
Adj No. of Lanes	1	1	1	0	0	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	673	455	516	202	0	757		
Arrive On Green	0.38	0.38	0.41	0.41	0.00	0.41		
Sat Flow, veh/h	1774	1583	1269	496	0	1863		
Grp Volume(v), veh/h	82	408	0	562	0	146		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1766	0	1863		
Q Serve(g_s), s	1.4	16.2	0.0	13.2	0.0	2.4		
Cycle Q Clear(g_c), s	1.4	16.2	0.0	13.2	0.0	2.4		
Prop In Lane	1.00	1.00		0.28	0.00			
Lane Grp Cap(c), veh/h	673	455	0	718	0	757		
V/C Ratio(X)	0.12	0.90	0.00	0.78	0.00	0.19		
Avail Cap(c_a), veh/h	673	455	0	844	0	1238		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00		
Uniform Delay (d), s/veh	9.6	29.1	0.0	12.3	0.0	9.1		
Incr Delay (d2), s/veh	0.0	19.6	0.0	5.5	0.0	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	13.1	0.0	7.5	0.0	1.3		
LnGrp Delay(d),s/veh	9.7	48.7	0.0	17.8	0.0	9.4		
LnGrp LOS	A	D		B		A		
Approach Vol, veh/h	490		562			146		
Approach Delay, s/veh	42.2		17.8			9.4		
Approach LOS	D		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	0.0	25.2				25.2		22.5
Change Period (Y+Rc), s	4.4	* 5.8				5.8		4.4
Max Green Setting (Gmax), s	5.4	* 23				31.7		18.1
Max Q Clear Time (g_c+I), s	10.0	15.2				4.4		18.2
Green Ext Time (p_c), s	0.0	4.2				9.7		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			26.7					
HCM 2010 LOS			C					
Notes								

Near-Term 2022 AM + Construction - Morena Pump Station
 2: Towne Center Drive & Nobel Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	367	510	15	10	195	80	20	130	90	25	35	209
Future Volume (veh/h)	367	510	15	10	195	80	20	130	90	25	35	209
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	399	554	16	11	212	87	22	141	98	27	38	227
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	465	574	17	57	871	347	54	183	119	57	50	238
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	588	817	24	28	1238	494	80	979	637	94	270	1274
Grp Volume(v), veh/h	969	0	0	310	0	0	261	0	0	292	0	0
Grp Sat Flow(s),veh/h/ln	1428	0	0	1760	0	0	1697	0	0	1639	0	0
Q Serve(g_s), s	55.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear(g_c), s	62.0	0.0	0.0	6.3	0.0	0.0	14.5	0.0	0.0	17.4	0.0	0.0
Prop In Lane	0.41		0.02	0.04		0.28	0.08		0.38	0.09		0.78
Lane Grp Cap(c), veh/h	1056	0	0	1275	0	0	356	0	0	346	0	0
V/C Ratio(X)	0.92	0.00	0.00	0.24	0.00	0.00	0.73	0.00	0.00	0.84	0.00	0.00
Avail Cap(c_a), veh/h	1071	0	0	1291	0	0	356	0	0	346	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.5	0.0	0.0	5.3	0.0	0.0	38.6	0.0	0.0	39.8	0.0	0.0
Incr Delay (d2), s/veh	12.7	0.0	0.0	0.1	0.0	0.0	6.7	0.0	0.0	17.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.7	0.0	0.0	3.1	0.0	0.0	7.5	0.0	0.0	9.6	0.0	0.0
LnGrp Delay(d),s/veh	26.2	0.0	0.0	5.4	0.0	0.0	45.3	0.0	0.0	57.6	0.0	0.0
LnGrp LOS	C			A			D			E		
Approach Vol, veh/h		969			310			261			292	
Approach Delay, s/veh		26.2			5.4			45.3			57.6	
Approach LOS		C			A			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		75.7		23.4		75.7		23.4				
Change Period (Y+Rc), s		* 6		4.9		6.0		4.9				
Max Green Setting (Gmax), s		* 71		18.5		70.6		18.5				
Max Q Clear Time (g_c+1), s		64.0		19.4		8.3		16.5				
Green Ext Time (p_c), s		5.7		0.0		31.0		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				30.4								
HCM 2010 LOS				C								
Notes												

Near-Term 2022 AM + Construction - Morena Pump Station
 3: Genesee Avenue & Nobel Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗	↘		↔			↔		↖	↗	↘
Traffic Volume (veh/h)	110	470	90	99	265	50	170	1440	207	60	230	45
Future Volume (veh/h)	110	470	90	99	265	50	170	1440	207	60	230	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	120	511	98	108	288	54	185	1565	225	65	250	49
Adj No. of Lanes	2	2	1	0	1	0	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	1041	466	0	326	61	0	629	90	340	1169	993
Arrive On Green	0.05	0.29	0.29	0.00	0.21	0.21	0.00	0.13	0.13	0.25	0.83	0.83
Sat Flow, veh/h	3442	3539	1583	0	1526	286	0	1593	229	1774	1863	1583
Grp Volume(v), veh/h	120	511	98	0	0	342	0	0	1790	65	250	49
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	0	0	1812	0	0	1822	1774	1863	1583
Q Serve(g_s), s	4.8	16.7	6.5	0.0	0.0	25.6	0.0	0.0	55.3	4.0	3.8	0.7
Cycle Q Clear(g_c), s	4.8	16.7	6.5	0.0	0.0	25.6	0.0	0.0	55.3	4.0	3.8	0.7
Prop In Lane	1.00		1.00	0.00		0.16	0.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	169	1041	466	0	0	387	0	0	720	340	1169	993
V/C Ratio(X)	0.71	0.49	0.21	0.00	0.00	0.88	0.00	0.00	2.49	0.19	0.21	0.05
Avail Cap(c_a), veh/h	371	1041	466	0	0	491	0	0	720	340	1169	993
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.09	0.97	0.97	0.97
Uniform Delay (d), s/veh	65.6	40.8	37.2	0.0	0.0	53.3	0.0	0.0	60.9	43.7	4.6	4.4
Incr Delay (d2), s/veh	2.1	0.5	0.3	0.0	0.0	14.6	0.0	0.0	669.4	0.1	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	8.2	2.9	0.0	0.0	14.4	0.0	0.0	161.8	2.0	2.0	0.3
LnGrp Delay(d),s/veh	67.7	41.3	37.5	0.0	0.0	67.9	0.0	0.0	730.3	43.8	5.0	4.5
LnGrp LOS	E	D	D			E			F	D	A	A
Approach Vol, veh/h		729			342			1790			364	
Approach Delay, s/veh		45.1			67.9			730.3			11.9	
Approach LOS		D			E			F			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.7	61.0	0.0	46.3	0.0	93.7	11.3	35.0				
Change Period (Y+Rc), s	5.9	* 5.7	4.4	* 5.1	4.4	5.9	4.4	5.1				
Max Green Setting (Gmax), s	12.5	* 55	13.6	* 40	28.9	38.3	15.1	37.9				
Max Q Clear Time (g_c+10), s	10.0	57.3	0.0	18.7	0.0	5.8	6.8	27.6				
Green Ext Time (p_c), s	0.2	0.0	0.0	7.6	0.0	2.5	0.1	2.3				
Intersection Summary												
HCM 2010 Ctrl Delay	424.1											
HCM 2010 LOS	F											
Notes												

Near-Term 2022 AM + Construction - Morena Pump Station
 4: Genesee Avenue & Appleton Street/Lehrer Drive

06/28/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	390	20	50	35	40	280	20	1277	15	50	619	80
Future Volume (veh/h)	390	20	50	35	40	280	20	1277	15	50	619	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	424	22	54	38	43	304	22	1388	16	54	673	87
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	12	29	79	89	491	32	1678	19	70	791	102
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.02	0.47	0.47	0.04	0.49	0.49
Sat Flow, veh/h	644	33	82	119	252	1393	1774	3584	41	1774	1617	209
Grp Volume(v), veh/h	500	0	0	385	0	0	22	685	719	54	0	760
Grp Sat Flow(s),veh/h/ln	759	0	0	1764	0	0	1774	1770	1855	1774	0	1826
Q Serve(g_s), s	17.7	0.0	0.0	0.0	0.0	0.0	1.3	36.3	36.3	3.3	0.0	39.3
Cycle Q Clear(g_c), s	38.1	0.0	0.0	20.4	0.0	0.0	1.3	36.3	36.3	3.3	0.0	39.3
Prop In Lane	0.85		0.11	0.10		0.79	1.00		0.02	1.00		0.11
Lane Grp Cap(c), veh/h	329	0	0	659	0	0	32	828	869	70	0	894
V/C Ratio(X)	1.52	0.00	0.00	0.58	0.00	0.00	0.69	0.83	0.83	0.78	0.00	0.85
Avail Cap(c_a), veh/h	329	0	0	659	0	0	215	828	869	182	0	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.09	0.09	0.09	0.86	0.00	0.86
Uniform Delay (d), s/veh	41.7	0.0	0.0	29.4	0.0	0.0	52.7	24.9	24.9	51.4	0.0	24.1
Incr Delay (d2), s/veh	248.2	0.0	0.0	1.3	0.0	0.0	0.9	0.9	0.9	11.1	0.0	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.5	0.0	0.0	9.9	0.0	0.0	0.7	17.9	18.8	1.8	0.0	21.8
LnGrp Delay(d),s/veh	289.9	0.0	0.0	30.7	0.0	0.0	53.7	25.8	25.8	62.5	0.0	32.8
LnGrp LOS	F			C			D	C	C	E		C
Approach Vol, veh/h		500			385			1426			814	
Approach Delay, s/veh		289.9			30.7			26.3			34.8	
Approach LOS		F			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	56.4		43.0	6.3	58.7		43.0				
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9				
Max Green Setting (Gmax), s	11.1	* 45		38.1	13.1	41.7		38.1				
Max Q Clear Time (g_c+I1), s	5.3	38.3		40.1	3.3	41.3		22.4				
Green Ext Time (p_c), s	0.0	6.1		0.0	0.0	0.4		5.8				
Intersection Summary												
HCM 2010 Ctrl Delay				71.2								
HCM 2010 LOS				E								
Notes												

Near-Term 2022 AM + Construction - Morena Pump Station
5: Genesee Avenue & Clairemont Mesa Boulevard

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	375	140	100	555	230	180	945	95	85	385	109
Future Volume (veh/h)	182	375	140	100	555	230	180	945	95	85	385	109
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	198	408	152	109	603	250	196	1027	103	92	418	118
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	520	192	350	354	147	207	540	54	159	422	119
Arrive On Green	0.13	0.21	0.21	0.20	0.28	0.28	0.12	0.32	0.32	0.12	0.40	0.40
Sat Flow, veh/h	1774	2534	934	1774	1252	519	1774	1666	167	1774	1398	395
Grp Volume(v), veh/h	198	284	276	109	0	853	196	0	1130	92	0	536
Grp Sat Flow(s),veh/h/ln	1774	1770	1698	1774	0	1771	1774	0	1833	1774	0	1793
Q Serve(g_s), s	11.9	16.4	16.7	5.7	0.0	30.5	11.8	0.0	35.0	5.3	0.0	32.1
Cycle Q Clear(g_c), s	11.9	16.4	16.7	5.7	0.0	30.5	11.8	0.0	35.0	5.3	0.0	32.1
Prop In Lane	1.00		0.55	1.00		0.29	1.00		0.09	1.00		0.22
Lane Grp Cap(c), veh/h	223	363	349	350	0	500	207	0	594	159	0	541
V/C Ratio(X)	0.89	0.78	0.79	0.31	0.00	1.71	0.95	0.00	1.90	0.58	0.00	0.99
Avail Cap(c_a), veh/h	223	592	568	350	0	500	207	0	594	168	0	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	0.99	0.99	0.99	1.00	0.00	1.00	1.00	0.00	1.00	0.47	0.00	0.47
Uniform Delay (d), s/veh	46.4	40.6	40.7	37.1	0.0	38.8	47.4	0.0	36.5	45.6	0.0	32.2
Incr Delay (d2), s/veh	30.8	15.2	16.7	0.2	0.0	325.9	47.1	0.0	412.2	1.2	0.0	24.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	9.6	9.4	2.8	0.0	60.1	8.5	0.0	85.7	2.6	0.0	19.3
LnGrp Delay(d),s/veh	77.3	55.8	57.4	37.2	0.0	364.6	94.5	0.0	448.7	46.8	0.0	56.2
LnGrp LOS	E	E	E	D		F	F		F	D		E
Approach Vol, veh/h		758			962			1326			628	
Approach Delay, s/veh		62.0			327.5			396.3			54.8	
Approach LOS		E			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	36.3	27.2	17.0	37.5	18.0	35.5	14.6	39.9				
Change Period (Y+Rc), s	5.0	* 5	4.4	4.9	4.4	5.0	4.9	* 4.9				
Max Green Setting (Gmax), s	36	* 36	12.6	32.6	13.6	30.5	10.2	* 35				
Max Q Clear Time (g_c+1), s	18.7	18.7	13.8	34.1	13.9	32.5	7.3	37.0				
Green Ext Time (p_c), s	0.2	3.5	0.0	0.0	0.0	0.0	0.8	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			251.0									
HCM 2010 LOS			F									
Notes												

Near-Term 2022 AM + Construction - Morena Pump Station
 6: Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕	↕	↕			↕	
Traffic Volume (veh/h)	42	460	25	25	585	190	60	35	55	210	35	54
Future Volume (veh/h)	42	460	25	25	585	190	60	35	55	210	35	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	46	500	27	27	636	207	65	38	60	228	38	59
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	41	442	412	12	291	95	425	248	392	0	61	95
Arrive On Green	0.26	0.26	0.26	0.22	0.22	0.22	0.24	0.38	0.38	0.00	0.09	0.09
Sat Flow, veh/h	156	1699	1583	55	1305	425	1774	652	1029	0	659	1023
Grp Volume(v), veh/h	546	0	27	870	0	0	65	0	98	0	0	97
Grp Sat Flow(s),veh/h/ln	1855	0	1583	1785	0	0	1774	0	1681	0	0	1682
Q Serve(g_s), s	28.1	0.0	1.4	24.1	0.0	0.0	3.1	0.0	4.1	0.0	0.0	6.0
Cycle Q Clear(g_c), s	28.1	0.0	1.4	24.1	0.0	0.0	3.1	0.0	4.1	0.0	0.0	6.0
Prop In Lane	0.08		1.00	0.03		0.24	1.00		0.61	0.00		0.61
Lane Grp Cap(c), veh/h	483	0	412	398	0	0	425	0	640	0	0	156
V/C Ratio(X)	1.13	0.00	0.07	2.18	0.00	0.00	0.15	0.00	0.15	0.00	0.00	0.62
Avail Cap(c_a), veh/h	483	0	412	398	0	0	425	0	640	0	0	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.09
Uniform Delay (d), s/veh	40.0	0.0	30.1	42.0	0.0	0.0	32.4	0.0	22.0	0.0	0.0	47.2
Incr Delay (d2), s/veh	82.2	0.0	0.0	541.1	0.0	0.0	0.1	0.0	0.5	0.0	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.4	0.0	0.6	71.7	0.0	0.0	1.5	0.0	2.0	0.0	0.0	2.8
LnGrp Delay(d),s/veh	122.1	0.0	30.1	583.0	0.0	0.0	32.5	0.0	22.5	0.0	0.0	48.9
LnGrp LOS	F		C	F			C		C			D
Approach Vol, veh/h		573			870			163			97	
Approach Delay, s/veh		117.8			583.0			26.5			48.9	
Approach LOS		F			F			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	46.0		33.0	30.8	15.2		29.0				
Change Period (Y+Rc), s	4.4	4.9		4.9	4.9	* 5.2		4.9				
Max Green Setting (Gmax), s	29.6			28.1	8.1	* 28		24.1				
Max Q Clear Time (g_c+1), s	6.1			30.1	5.1	8.0		26.1				
Green Ext Time (p_c), s	0.0	0.8		0.0	0.2	0.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			342.8									
HCM 2010 LOS			F									
Notes												

Near-Term 2022 AM + Construction - Morena Pump Station
 7: Clairemont Drive & Clairemont Mesa Boulevard

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	240	125	275	410	25	230	247	230	40	219	125
Future Volume (veh/h)	135	240	125	275	410	25	230	247	230	40	219	125
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1710	1676	1710	1710	1676	1710
Adj Flow Rate, veh/h	147	261	136	299	446	27	250	268	250	43	238	136
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	655	922	466	250	580	35	0	204	191	0	256	146
Arrive On Green	0.41	0.45	0.45	0.16	0.19	0.19	0.00	0.26	0.26	0.00	0.26	0.26
Sat Flow, veh/h	1597	2050	1036	1597	3052	184	0	799	746	0	1003	573
Grp Volume(v), veh/h	147	201	196	299	232	241	0	0	518	0	0	374
Grp Sat Flow(s),veh/h/ln	1597	1593	1494	1597	1593	1644	0	0	1545	0	0	1575
Q Serve(g_s), s	6.5	8.6	9.0	16.9	14.9	15.0	0.0	0.0	27.6	0.0	0.0	25.0
Cycle Q Clear(g_c), s	6.5	8.6	9.0	16.9	14.9	15.0	0.0	0.0	27.6	0.0	0.0	25.0
Prop In Lane	1.00		0.69	1.00		0.11	0.00		0.48	0.00		0.36
Lane Grp Cap(c), veh/h	655	717	672	250	303	312	0	0	395	0	0	403
V/C Ratio(X)	0.22	0.28	0.29	1.20	0.77	0.77	0.00	0.00	1.31	0.00	0.00	0.93
Avail Cap(c_a), veh/h	655	717	672	250	615	635	0	0	395	0	0	403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.85	0.00	0.00	1.00
Uniform Delay (d), s/veh	20.7	18.7	18.8	45.5	41.5	41.5	0.0	0.0	40.2	0.0	0.0	39.2
Incr Delay (d2), s/veh	0.1	1.0	1.1	120.7	16.9	16.7	0.0	0.0	155.1	0.0	0.0	27.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.9	3.9	15.8	8.0	8.3	0.0	0.0	28.7	0.0	0.0	14.0
LnGrp Delay(d),s/veh	20.8	19.7	19.9	166.2	58.4	58.2	0.0	0.0	195.3	0.0	0.0	67.1
LnGrp LOS	C	B	B	F	E	E			F			E
Approach Vol, veh/h		544			772			518			374	
Approach Delay, s/veh		20.0			100.1			195.3			67.1	
Approach LOS		C			F			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.3	53.8	0.0	32.9	49.5	25.6	0.0	32.9				
Change Period (Y+Rc), s	4.4	5.2	4.4	* 5.3	5.2	* 5.1	4.4	5.3				
Max Green Setting (Gmax), s	10.0	38.6	10.8	* 23	13.9	* 42	5.6	27.6				
Max Q Clear Time (g_c+110), s	10.0	11.0	0.0	27.0	8.5	17.0	0.0	29.6				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.0	1.4	3.5	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				97.1								
HCM 2010 LOS				F								
Notes												

Near-Term 2022 AM + Construction - Morena Pump Station
 8: Clairemont Drive & Balboa Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕	↕	↔	↕	↕
Traffic Volume (veh/h)	210	820	70	340	770	90	140	352	335	155	294	315
Future Volume (veh/h)	210	820	70	340	770	90	140	352	335	155	294	315
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	228	891	76	370	837	98	152	383	364	168	320	342
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	981	84	421	965	113	183	938	613	195	480	430
Arrive On Green	0.10	0.30	0.30	0.12	0.30	0.30	0.10	0.26	0.26	0.11	0.27	0.27
Sat Flow, veh/h	3442	3301	282	3442	3193	374	1774	3539	1583	1774	1770	1583
Grp Volume(v), veh/h	228	478	489	370	464	471	152	383	364	168	320	342
Grp Sat Flow(s),veh/h/ln	1721	1770	1813	1721	1770	1797	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.2	25.0	25.0	10.2	23.9	23.9	8.1	8.6	17.6	9.0	15.5	19.3
Cycle Q Clear(g_c), s	6.2	25.0	25.0	10.2	23.9	23.9	8.1	8.6	17.6	9.0	15.5	19.3
Prop In Lane	1.00		0.16	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	333	526	539	421	535	543	183	938	613	195	480	430
V/C Ratio(X)	0.68	0.91	0.91	0.88	0.87	0.87	0.83	0.41	0.59	0.86	0.67	0.80
Avail Cap(c_a), veh/h	333	547	560	421	598	608	228	1212	736	195	573	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	32.6	32.6	41.6	31.8	31.8	42.4	29.2	23.5	42.2	31.2	32.6
Incr Delay (d2), s/veh	4.8	18.8	18.5	18.0	11.9	11.8	15.3	0.2	0.6	29.1	2.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	15.0	15.3	5.9	13.4	13.6	4.7	4.2	7.8	6.0	7.8	9.3
LnGrp Delay(d),s/veh	46.9	51.4	51.1	59.6	43.7	43.6	57.6	29.4	24.1	71.3	33.2	39.5
LnGrp LOS	D	D	D	E	D	D	E	C	C	E	C	D
Approach Vol, veh/h		1195			1305			899			830	
Approach Delay, s/veh		50.4			48.2			32.0			43.5	
Approach LOS		D			D			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	34.4	14.4	31.5	15.0	35.5	15.0	30.8				
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3				
Max Green Setting (Gmax), s	18	29.8	12.4	31.2	8.3	* 33	10.6	33.0				
Max Q Clear Time (g_c+M2), s	12.5	27.0	10.1	21.3	8.2	25.9	11.0	19.6				
Green Ext Time (p_c), s	0.0	1.6	0.0	4.8	0.1	3.2	0.0	5.8				
Intersection Summary												
HCM 2010 Ctrl Delay				44.5								
HCM 2010 LOS				D								
Notes												

Near-Term 2022 PM + Construction - Morena Pump Station
 1: Towne Center Drive & Golden Haven Drive

02/13/2017



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	140	330	234	75	180	647		
Future Volume (veh/h)	140	330	234	75	180	647		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1900	1863		
Adj Flow Rate, veh/h	152	359	254	82	196	703		
Adj No. of Lanes	1	1	1	0	0	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	399	356	892	288	257	819		
Arrive On Green	0.22	0.22	0.66	0.66	0.66	0.66		
Sat Flow, veh/h	1774	1583	1346	435	305	1236		
Grp Volume(v), veh/h	152	359	0	336	899	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1781	1541	0		
Q Serve(g_s), s	5.8	18.0	0.0	6.3	32.5	0.0		
Cycle Q Clear(g_c), s	5.8	18.0	0.0	6.3	38.8	0.0		
Prop In Lane	1.00	1.00		0.24	0.22			
Lane Grp Cap(c), veh/h	399	356	0	1180	1076	0		
V/C Ratio(X)	0.38	1.01	0.00	0.28	0.84	0.00		
Avail Cap(c_a), veh/h	399	356	0	1180	1076	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	26.3	31.0	0.0	5.6	11.5	0.0		
Incr Delay (d2), s/veh	0.6	49.6	0.0	0.6	7.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	12.7	0.0	3.3	18.3	0.0		
LnGrp Delay(d),s/veh	26.9	80.7	0.0	6.2	19.2	0.0		
LnGrp LOS	C	F		A	B			
Approach Vol, veh/h	511		336			899		
Approach Delay, s/veh	64.7		6.2			19.2		
Approach LOS	E		A			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		57.5				57.5		22.5
Change Period (Y+Rc), s		4.5				4.5		4.5
Max Green Setting (Gmax), s		53.0				53.0		18.0
Max Q Clear Time (g_c+I1), s		8.3				40.8		20.0
Green Ext Time (p_c), s		13.6				7.1		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			30.0					
HCM 2010 LOS			C					

Near-Term 2022 PM + Construction - Morena Pump Station
 2: Towne Center Drive & Nobel Drive

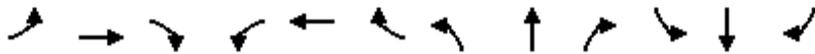
02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	319	310	30	160	715	65	20	30	20	75	220	577
Future Volume (veh/h)	319	310	30	160	715	65	20	30	20	75	220	577
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	347	337	33	174	777	71	22	33	22	82	239	627
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	157	15	186	718	65	98	141	80	73	145	361
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	274	267	26	256	1222	110	175	419	238	119	429	1070
Grp Volume(v), veh/h	717	0	0	1022	0	0	77	0	0	948	0	0
Grp Sat Flow(s),veh/h/ln	567	0	0	1589	0	0	832	0	0	1619	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.5	0.0	0.0
Cycle Q Clear(g_c), s	70.5	0.0	0.0	70.5	0.0	0.0	3.6	0.0	0.0	40.5	0.0	0.0
Prop In Lane	0.48		0.05	0.17		0.07	0.29		0.29	0.09		0.66
Lane Grp Cap(c), veh/h	378	0	0	968	0	0	319	0	0	579	0	0
V/C Ratio(X)	1.90	0.00	0.00	1.06	0.00	0.00	0.24	0.00	0.00	1.64	0.00	0.00
Avail Cap(c_a), veh/h	378	0	0	968	0	0	319	0	0	579	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.9	0.0	0.0	25.8	0.0	0.0	27.5	0.0	0.0	40.8	0.0	0.0
Incr Delay (d2), s/veh	414.2	0.0	0.0	44.7	0.0	0.0	1.8	0.0	0.0	294.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	15.9	0.0	0.0	44.0	0.0	0.0	1.9	0.0	0.0	66.5	0.0	0.0
LnGrp Delay(d),s/veh	443.1	0.0	0.0	70.5	0.0	0.0	29.3	0.0	0.0	335.6	0.0	0.0
LnGrp LOS	F			F			C			F		
Approach Vol, veh/h		717			1022			77			948	
Approach Delay, s/veh		443.1			70.5			29.3			335.6	
Approach LOS		F			E			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		75.0		45.0		75.0		45.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		70.5		40.5		70.5		40.5				
Max Q Clear Time (g_c+I1), s		72.5		42.5		72.5		5.6				
Green Ext Time (p_c), s		0.0		0.0		0.0		11.4				
Intersection Summary												
HCM 2010 Ctrl Delay				256.9								
HCM 2010 LOS				F								

Near-Term 2022 PM + Construction - Morena Pump Station
 3: Genesee Avenue & Nobel Drive

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	325	210	307	560	70	200	460	144	120	1235	130
Future Volume (veh/h)	205	325	210	307	560	70	200	460	144	120	1235	130
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1900	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	223	353	228	334	609	76	217	500	157	130	1342	141
Adj No. of Lanes	2	2	1	0	1	0	0	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	1456	651	0	494	62	0	561	176	131	960	816
Arrive On Green	0.08	0.41	0.41	0.00	0.30	0.30	0.00	0.14	0.14	0.07	0.52	0.52
Sat Flow, veh/h	3442	3539	1583	0	1624	203	0	1360	427	1774	1863	1583
Grp Volume(v), veh/h	223	353	228	0	0	685	0	0	657	130	1342	141
Grp Sat Flow(s),veh/h/ln	1721	1770	1583	0	0	1827	0	0	1787	1774	1863	1583
Q Serve(g_s), s	9.6	9.8	14.9	0.0	0.0	45.6	0.0	0.0	54.2	11.0	77.3	7.1
Cycle Q Clear(g_c), s	9.6	9.8	14.9	0.0	0.0	45.6	0.0	0.0	54.2	11.0	77.3	7.1
Prop In Lane	1.00		1.00	0.00		0.11	0.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	268	1456	651	0	0	555	0	0	737	131	960	816
V/C Ratio(X)	0.83	0.24	0.35	0.00	0.00	1.23	0.00	0.00	0.89	0.99	1.40	0.17
Avail Cap(c_a), veh/h	324	1456	651	0	0	555	0	0	737	131	960	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.46	0.09	0.09	0.09
Uniform Delay (d), s/veh	68.2	28.9	30.4	0.0	0.0	52.2	0.0	0.0	61.5	69.4	36.3	19.3
Incr Delay (d2), s/veh	12.2	0.1	0.5	0.0	0.0	120.0	0.0	0.0	8.0	21.1	179.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	4.8	6.6	0.0	0.0	41.5	0.0	0.0	28.5	6.2	87.4	3.1
LnGrp Delay(d),s/veh	80.4	29.0	30.8	0.0	0.0	172.2	0.0	0.0	69.5	90.5	216.0	19.4
LnGrp LOS	F	C	C			F			E	F	F	B
Approach Vol, veh/h		804			685			657			1613	
Approach Delay, s/veh		43.8			172.2			69.5			188.7	
Approach LOS		D			F			E			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.5	67.7	0.0	66.8	0.0	83.2	16.1	50.7				
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1				
Max Green Setting (Gmax), s	1	* 60	25.3	* 35	14.9	55.6	14.1	45.6				
Max Q Clear Time (g_c+M3), s	0	56.2	0.0	16.9	0.0	79.3	11.6	47.6				
Green Ext Time (p_c), s	0.0	3.3	0.0	9.0	0.0	0.0	0.1	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			133.8									
HCM 2010 LOS			F									
Notes												

Near-Term 2022 PM + Construction - Morena Pump Station
 4: Genesee Avenue & Appleton Street/Lehrer Drive

06/28/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	90	45	30	40	65	55	639	20	150	1217	255
Future Volume (veh/h)	180	90	45	30	40	65	55	639	20	150	1217	255
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	196	98	49	33	43	71	60	695	22	163	1323	277
Adj No. of Lanes	0	1	0	0	1	0	1	2	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	87	43	97	128	178	77	1916	61	188	911	191
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.04	0.55	0.55	0.11	0.61	0.61
Sat Flow, veh/h	766	383	191	274	566	785	1774	3502	111	1774	1495	313
Grp Volume(v), veh/h	343	0	0	147	0	0	60	351	366	163	0	1600
Grp Sat Flow(s),veh/h/ln	1340	0	0	1625	0	0	1774	1770	1843	1774	0	1808
Q Serve(g_s), s	19.3	0.0	0.0	0.0	0.0	0.0	4.2	14.1	14.1	11.4	0.0	76.8
Cycle Q Clear(g_c), s	28.6	0.0	0.0	9.3	0.0	0.0	4.2	14.1	14.1	11.4	0.0	76.8
Prop In Lane	0.57		0.14	0.22		0.48	1.00		0.06	1.00		0.17
Lane Grp Cap(c), veh/h	349	0	0	404	0	0	77	968	1008	188	0	1102
V/C Ratio(X)	0.98	0.00	0.00	0.36	0.00	0.00	0.78	0.36	0.36	0.87	0.00	1.45
Avail Cap(c_a), veh/h	349	0	0	404	0	0	172	970	1011	199	0	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.09	0.09	0.09	0.09	0.00	0.09
Uniform Delay (d), s/veh	51.0	0.0	0.0	41.2	0.0	0.0	59.7	16.1	16.1	55.4	0.0	24.6
Incr Delay (d2), s/veh	43.3	0.0	0.0	0.5	0.0	0.0	0.6	0.1	0.1	3.7	0.0	203.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.1	0.0	0.0	4.4	0.0	0.0	2.1	6.9	7.1	5.8	0.0	100.3
LnGrp Delay(d),s/veh	94.3	0.0	0.0	41.7	0.0	0.0	60.2	16.2	16.2	59.1	0.0	228.4
LnGrp LOS	F			D			E	B	B	E		F
Approach Vol, veh/h		343			147			777			1763	
Approach Delay, s/veh		94.3			41.7			19.6			212.7	
Approach LOS		F			D			B			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.8	74.7		33.5	9.9	82.6		33.5				
Change Period (Y+Rc), s	4.4	* 5.8		4.9	4.4	5.8		4.9				
Max Green Setting (Gmax), s	14.1	* 69		28.6	12.2	70.1		28.6				
Max Q Clear Time (g_c+I1), s	13.4	16.1		30.6	6.2	78.8		11.3				
Green Ext Time (p_c), s	0.0	51.1		0.0	0.0	0.0		2.7				
Intersection Summary												
HCM 2010 Ctrl Delay				141.5								
HCM 2010 LOS				F								
Notes												

Near-Term 2022 PM + Construction - Morena Pump Station
5: Genesee Avenue & Clairemont Mesa Boulevard

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	645	350	235	800	85	270	445	125	135	870	137
Future Volume (veh/h)	174	645	350	235	800	85	270	445	125	135	870	137
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	189	701	380	255	870	92	293	484	136	147	946	149
Adj No. of Lanes	1	2	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	768	416	199	573	61	239	414	116	173	407	64
Arrive On Green	0.22	0.69	0.69	0.11	0.35	0.35	0.13	0.30	0.30	0.07	0.17	0.17
Sat Flow, veh/h	1774	2219	1201	1774	1657	175	1774	1400	393	1774	1572	248
Grp Volume(v), veh/h	189	559	522	255	0	962	293	0	620	147	0	1095
Grp Sat Flow(s),veh/h/ln	1774	1770	1651	1774	0	1832	1774	0	1793	1774	0	1819
Q Serve(g_s), s	13.2	33.3	33.4	14.1	0.0	43.6	17.0	0.0	37.3	10.3	0.0	32.6
Cycle Q Clear(g_c), s	13.2	33.3	33.4	14.1	0.0	43.6	17.0	0.0	37.3	10.3	0.0	32.6
Prop In Lane	1.00		0.73	1.00		0.10	1.00		0.22	1.00		0.14
Lane Grp Cap(c), veh/h	199	612	571	199	0	634	239	0	531	173	0	471
V/C Ratio(X)	0.95	0.91	0.91	1.28	0.00	1.52	1.22	0.00	1.17	0.85	0.00	2.33
Avail Cap(c_a), veh/h	199	612	571	199	0	634	239	0	531	211	0	471
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.00	0.09
Uniform Delay (d), s/veh	48.6	17.8	17.8	56.0	0.0	41.2	54.5	0.0	44.4	58.0	0.0	52.1
Incr Delay (d2), s/veh	49.6	20.3	21.5	160.6	0.0	241.0	132.2	0.0	94.5	2.2	0.0	597.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.1	19.0	18.2	15.8	0.0	64.4	17.1	0.0	32.4	5.2	0.0	94.5
LnGrp Delay(d),s/veh	98.2	38.1	39.3	216.6	0.0	282.2	186.7	0.0	138.9	60.2	0.0	649.6
LnGrp LOS	F	D	D	F		F	F		F	E		F
Approach Vol, veh/h		1270			1217			913			1242	
Approach Delay, s/veh		47.5			268.4			154.2			579.9	
Approach LOS		D			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	48.5	48.6	21.4	37.5	18.5	48.6	16.7	42.2				
Change Period (Y+Rc), s	4.4	5.0	4.4	4.9	4.4	5.0	4.4	4.9				
Max Green Setting (Gmax), s	43.6	43.6	17.0	32.6	14.1	43.6	15.0	34.6				
Max Q Clear Time (g_c+1.0), s	35.4	35.4	19.0	34.6	15.2	45.6	12.3	39.3				
Green Ext Time (p_c), s	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			268.9									
HCM 2010 LOS			F									

Near-Term 2022 PM + Construction - Morena Pump Station
 6: Clairemont Mesa Boulevard & Clairemont Drive/Kleefeld Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕		↕	↕			↕	
Traffic Volume (veh/h)	44	725	60	40	795	260	70	40	30	350	40	87
Future Volume (veh/h)	44	725	60	40	795	260	70	40	30	350	40	87
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1863	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	48	788	65	43	864	283	76	43	33	380	43	95
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	23	377	341	14	289	95	96	434	333	0	183	404
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.05	0.44	0.44	0.00	0.35	0.35
Sat Flow, veh/h	107	1751	1583	64	1296	424	1774	979	751	0	518	1143
Grp Volume(v), veh/h	836	0	65	1190	0	0	76	0	76	0	0	138
Grp Sat Flow(s),veh/h/ln	1857	0	1583	1785	0	0	1774	0	1730	0	0	1661
Q Serve(g_s), s	27.1	0.0	4.2	28.1	0.0	0.0	5.3	0.0	3.2	0.0	0.0	7.4
Cycle Q Clear(g_c), s	27.1	0.0	4.2	28.1	0.0	0.0	5.3	0.0	3.2	0.0	0.0	7.4
Prop In Lane	0.06		1.00	0.04		0.24	1.00		0.43	0.00		0.69
Lane Grp Cap(c), veh/h	399	0	341	398	0	0	96	0	766	0	0	588
V/C Ratio(X)	2.09	0.00	0.19	2.99	0.00	0.00	0.79	0.00	0.10	0.00	0.00	0.23
Avail Cap(c_a), veh/h	399	0	341	398	0	0	124	0	766	0	0	588
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.09
Uniform Delay (d), s/veh	49.5	0.0	40.5	49.0	0.0	0.0	58.9	0.0	20.5	0.0	0.0	28.7
Incr Delay (d2), s/veh	500.2	0.0	0.1	902.2	0.0	0.0	17.2	0.0	0.3	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	69.4	0.0	1.9	113.6	0.0	0.0	3.1	0.0	1.6	0.0	0.0	3.4
LnGrp Delay(d),s/veh	549.6	0.0	40.6	951.2	0.0	0.0	76.1	0.0	20.7	0.0	0.0	28.8
LnGrp LOS	F		D	F			E		C			C
Approach Vol, veh/h		901			1190			152			138	
Approach Delay, s/veh		512.9			951.2			48.4			28.8	
Approach LOS		F			F			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	61.0		32.0	11.2	49.8		33.0				
Change Period (Y+Rc), s	4.4	* 5.2		4.9	4.4	5.2		4.9				
Max Green Setting (Gmax), s	0.0	* 43		27.1	8.8	42.6		28.1				
Max Q Clear Time (g_c+1), s	0.0	5.2		29.1	7.3	9.4		30.1				
Green Ext Time (p_c), s	0.0	2.1		0.0	0.0	2.1		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			674.2									
HCM 2010 LOS			F									
Notes												

Near-Term 2022 PM + Construction - Morena Pump Station
 7: Clairemont Drive & Clairemont Mesa Boulevard

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	535	390	410	455	35	150	309	300	55	257	170
Future Volume (veh/h)	270	535	390	410	455	35	150	309	300	55	257	170
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1710	1710	1676	1710	1710	1676	1710
Adj Flow Rate, veh/h	293	582	424	446	495	38	163	336	326	60	279	185
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	875	637	214	1495	114	0	196	190	0	236	157
Arrive On Green	0.13	0.50	0.50	0.13	0.50	0.50	0.00	0.25	0.25	0.00	0.25	0.25
Sat Flow, veh/h	1597	1760	1282	1597	2999	230	0	783	760	0	942	624
Grp Volume(v), veh/h	293	527	479	446	262	271	0	0	662	0	0	464
Grp Sat Flow(s),veh/h/ln	1597	1593	1450	1597	1593	1636	0	0	1542	0	0	1566
Q Serve(g_s), s	16.7	31.3	31.3	16.9	12.5	12.5	0.0	0.0	31.6	0.0	0.0	31.6
Cycle Q Clear(g_c), s	16.7	31.3	31.3	16.9	12.5	12.5	0.0	0.0	31.6	0.0	0.0	31.6
Prop In Lane	1.00		0.88	1.00		0.14	0.00		0.49	0.00		0.40
Lane Grp Cap(c), veh/h	212	791	720	214	794	815	0	0	387	0	0	393
V/C Ratio(X)	1.38	0.67	0.67	2.08	0.33	0.33	0.00	0.00	1.71	0.00	0.00	1.18
Avail Cap(c_a), veh/h	212	791	720	214	794	815	0	0	387	0	0	393
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.58	0.00	0.00	1.00
Uniform Delay (d), s/veh	54.6	23.8	23.8	54.5	19.0	19.0	0.0	0.0	47.2	0.0	0.0	47.2
Incr Delay (d2), s/veh	199.6	4.4	4.8	502.8	1.1	1.1	0.0	0.0	326.5	0.0	0.0	104.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.1	14.7	13.5	37.3	5.7	5.9	0.0	0.0	48.5	0.0	0.0	25.1
LnGrp Delay(d),s/veh	254.3	28.2	28.6	557.4	20.1	20.1	0.0	0.0	373.7	0.0	0.0	152.0
LnGrp LOS	F	C	C	F	C	C			F			F
Approach Vol, veh/h		1299			979			662			464	
Approach Delay, s/veh		79.4			264.9			373.7			152.0	
Approach LOS		E			F			F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.3	67.8	0.0	36.9	21.1	68.0	0.0	36.9				
Change Period (Y+Rc), s	4.4	5.2	4.4	* 5.3	4.4	* 5.2	4.4	5.3				
Max Green Setting (Gmax), s	43.6	14.8	* 32	16.7	* 44	14.9	31.3					
Max Q Clear Time (g_c+10), s	33.3	0.0	33.6	18.7	14.5	0.0	33.6					
Green Ext Time (p_c), s	0.0	7.2	0.0	0.0	0.0	14.7	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			199.9									
HCM 2010 LOS			F									
Notes												

Near-Term 2022 PM + Construction - Morena Pump Station
 8: Clairemont Drive & Balboa Avenue

02/13/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔	↕↕	↔	↔	↕↔	
Traffic Volume (veh/h)	380	1085	60	410	1020	105	85	329	340	255	537	295
Future Volume (veh/h)	380	1085	60	410	1020	105	85	329	340	255	537	295
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	413	1179	65	446	1109	114	92	358	370	277	584	321
Adj No. of Lanes	2	2	0	2	2	0	1	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	428	1198	66	461	1125	116	113	772	557	284	694	381
Arrive On Green	0.12	0.35	0.35	0.13	0.35	0.35	0.06	0.22	0.22	0.16	0.31	0.31
Sat Flow, veh/h	3442	3411	188	3442	3241	333	1774	3539	1583	1774	2206	1212
Grp Volume(v), veh/h	413	611	633	446	605	618	92	358	370	277	468	437
Grp Sat Flow(s),veh/h/ln	1721	1770	1830	1721	1770	1804	1774	1770	1583	1774	1770	1649
Q Serve(g_s), s	17.3	49.6	49.7	18.7	49.1	49.3	7.4	12.8	28.6	22.5	35.7	35.8
Cycle Q Clear(g_c), s	17.3	49.6	49.7	18.7	49.1	49.3	7.4	12.8	28.6	22.5	35.7	35.8
Prop In Lane	1.00		0.10	1.00		0.18	1.00		1.00	1.00		0.74
Lane Grp Cap(c), veh/h	428	622	643	461	614	626	113	772	557	284	557	519
V/C Ratio(X)	0.97	0.98	0.98	0.97	0.98	0.99	0.82	0.46	0.66	0.98	0.84	0.84
Avail Cap(c_a), veh/h	428	622	643	461	614	626	137	806	573	284	557	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.1	46.6	46.6	62.4	46.9	47.0	67.0	49.3	39.7	60.6	46.3	46.3
Incr Delay (d2), s/veh	34.5	31.8	31.5	33.4	32.3	32.5	22.1	0.3	2.5	46.2	10.9	11.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	29.8	30.8	11.0	29.6	30.2	4.3	6.2	12.9	14.7	19.1	17.9
LnGrp Delay(d),s/veh	97.6	78.3	78.1	95.9	79.3	79.5	89.1	49.6	42.2	106.8	57.2	58.0
LnGrp LOS	F	E	E	F	E	E	F	D	D	F	E	E
Approach Vol, veh/h		1657			1669			820			1182	
Approach Delay, s/veh		83.1			83.8			50.7			69.1	
Approach LOS		F			F			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.8	56.6	13.6	50.9	23.7	56.7	27.6	36.9				
Change Period (Y+Rc), s	4.4	5.7	4.4	5.3	5.7	* 6.4	4.4	5.3				
Max Green Setting (Gmax), s	19.4	49.6	11.2	45.0	18.0	* 50	23.2	33.0				
Max Q Clear Time (g_c+20), s	20.7	51.7	9.4	37.8	19.3	51.3	24.5	30.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.5	0.0	0.0	0.0	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay				75.2								
HCM 2010 LOS				E								
Notes												