

Appendix B. Transportation Impact Analysis

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Transportation Impact Analysis

Weld Boulevard Distribution Center Project

December 2020

LLG Ref. 3-20-3285

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Section 1 **Introduction**

Linscott, Law & Greenspan, Engineers (LLG) has been retained to determine and evaluate the potential traffic impacts to the local roadway system due to the proposed Weld Boulevard Distribution Center Project. The Project site is located on the north side of Weld Boulevard, west of Cuyamaca Street in the City of El Cajon.

This report includes the following:

- Project Description
- Existing Conditions Review
- Analysis Approach and Methodology
- Significance Criteria
- Analysis of Existing Conditions
- Trip Generation, Distribution, and Assignment
- Cumulative Projects Discussion
- Analysis of Near-Term Scenarios
- Analysis of Long-Term Scenarios
- Vehicle Miles Traveled Assessment
- Site Access and Circulation Review
- Weld Boulevard Queuing Review
- Active Transportation Review
- Conclusions

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Section 2 Project Description

The Project proposes the development of the Weld Boulevard Distribution Center on approximately 31.7 acres in the City of El Cajon. The site is part of the Gillespie Field Airport located directly east, and is owned by the County of San Diego. The City of El Cajon/City of Santee jurisdictional boundary is coincident with the northern and northwestern project site property lines. The site is bounded by industrial and residential land uses in the City of Santee to the north and northwest, respectively. The remainder of the site is bounded by land uses within the City of El Cajon, including the County of San Diego Operations Facility to the southwest, Weld Boulevard to the south, Cuyamaca Street to the east, Prospect Avenue to the north, and a concrete-lined section of the Forester Creek channel to the northeast.

In compliance with the California Environmental Quality Act (CEQA), an Addendum to the 2009 Forester Creek Industrial Park Project Environmental Impact Report (2009 EIR) is being prepared for the Project. The 2009 EIR evaluated an industrial park project with approximately 463,000 square feet of industrial development. The project has since changed, and the current Project proposes development of a 142,000-square-foot distribution warehouse consisting of 124,535 square feet of warehouse space and approximately 17,000 square feet of office space.

The remainder of the Project site would be developed with surface parking, including approximately 967 total parking spaces, which includes designated spaces for associates, support, managers, personal vans, and warehouse delivery vans located to the north, east, and west outskirts of the site. The Project would also include a van loading area consisting of approximately 72 spaces directly west of the warehouse building and van staging for approximately 72 vans immediately next to the loading area. There would be also be 6 grade level doors on the western side of the warehouse. In addition, there would be 15 dock-high doors (above grade) and a trailer and box truck loading area for approximately 13 vehicles to be located immediately north of the proposed warehouse.

Access to the site would be via three driveways on Weld Boulevard, one across from Gillespie Way (Project Driveway A) and two between the intersections of Gillespie Way and Cuyamaca Street (Project Driveways B and C). The driveways will be configured as follows:

- **Project Driveway A** at the intersection of Weld Boulevard/Gillespie Way is proposed to be signalized as a Project feature and will only provide outbound movements; no inbound traffic will be permitted at this driveway. The following lane configuration out of the site is proposed: one dedicated right-turn lane, one shared thru/left-turn lane and one dedicated left-turn lane. This driveway will be used exclusively for delivery van egress.
- **Project Driveway B** is proposed to provide right only inbound access and right-out/left-out egress onto Weld Blvd. Driveway B will exclusively serve the Associate parking area.

- **Project Driveway C** is proposed to provide right-in/right-out only access to/from the site. All trucks and delivery vans will access the site via Driveway C, and all trucks will exit the site via Driveway C.

The Project would also include the dedication of right-of-way and construction of curb and gutter improvements on Weld Boulevard along the project site frontage to City of El Cajon Standards. Pedestrian access would be provided via new sidewalks along the project site frontage on Weld Boulevard.

The delivery stations would operate 24 hours a day, 7 days a week, to support the delivery of packages to customer locations between 11:00 AM and 9:00 PM. The delivery operations would consist of approximately 230 delivery vans loading and departing from the delivery station at a rate of 75 vans every 20 minutes in the morning (between 9:50 AM and 11:10 AM) and returning to the delivery station in the evening (between 7:10 PM and 9:10 PM). There would be approximately 21 line-haul trucks delivering packages to the delivery station each night, primarily between the hours of 10:00 PM and 8:00 AM. However, during the holiday season, peak operation may reach up to 600 vans and 48 trucks in a 24-hour period. Table 2-1 shows the proposed daily shifts and number of employees working those shifts.

Table 2-1. Operational Shifts and Estimated Employees

Shifts	Start/End Time		Number of Employees	
			Standard Operations	Peak Season Operations
First Shift	2:00 a.m.	12:30 p.m.	102 associates	187 associates
Second Shift	6:00 a.m.	2:30 p.m.	32 associates	32 associates
Third Shift	1:30 p.m.	10:00 p.m.	32 associates	32 associates
PFSD Shift	2:00 p.m.	6:00 p.m.	26 associates	26 associates
RTS Shift	12:00 p.m.	10:30 p.m.	5 associates	6 associates
Drivers	9:20 a.m.	9:10 p.m.	230 drivers	600 drivers

Notes: PFSD = prime free same day; RTS = return to station

Figure 2-1 shows the general vicinity of the Project and Figure 2-2 shows a more detailed Project area map. The conceptual site plan is shown on Figure 2-3.

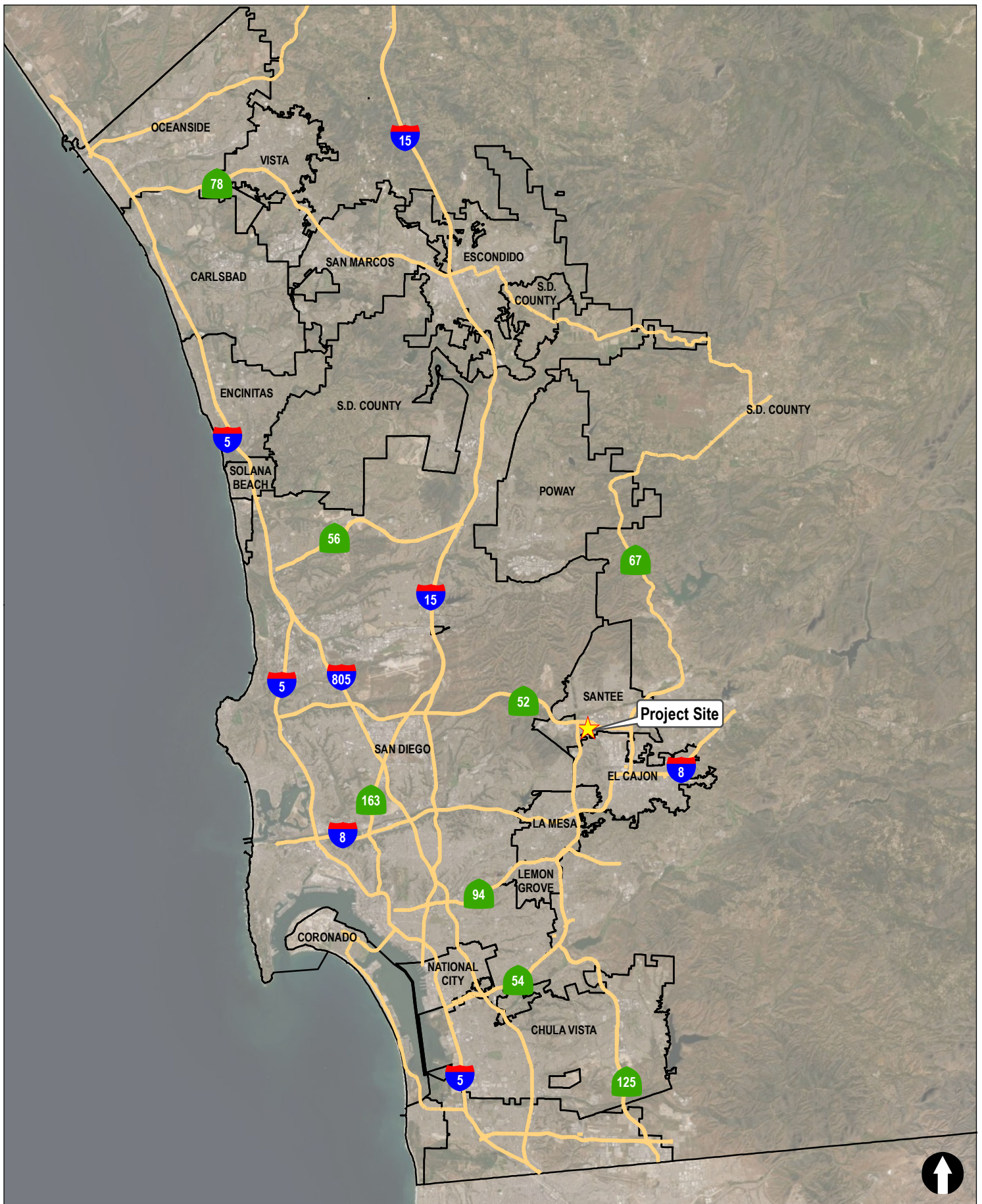


Figure 2-1
 Vicinity Map

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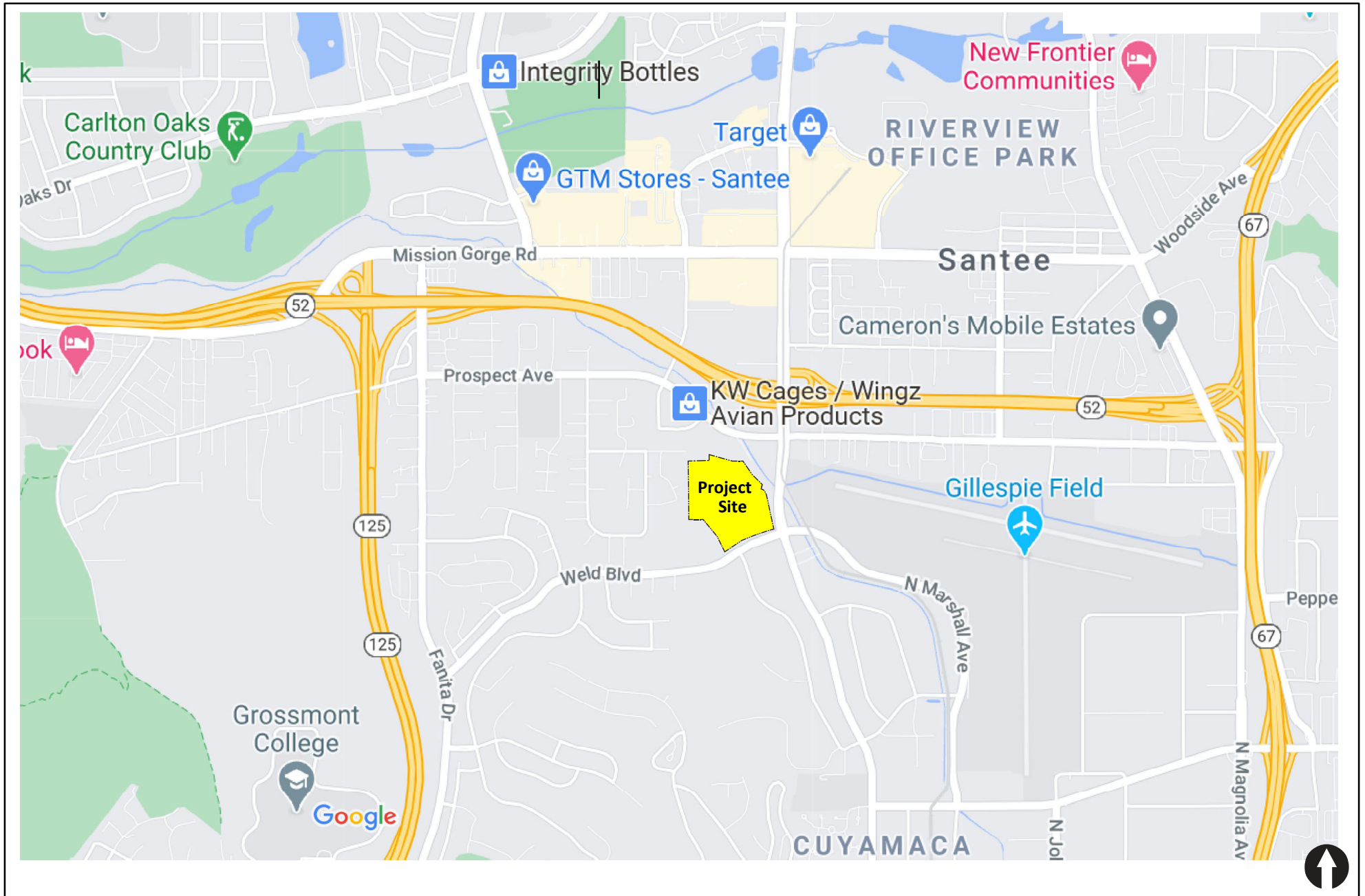


Figure 2-2

Project Area Map

WELD BOULEVARD DISTRIBUTION CENTER

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Section 3 Existing Conditions Review

Effective evaluation of the traffic impacts associated with the proposed Weld Boulevard Distribution Center project requires an understanding of the existing transportation system within the project area. Figure 3-1 shows an existing conditions diagram, including signalized intersections and lane configurations.

3.1 Existing Street Network

The following is a description of the existing street network in the study area.

Weld Boulevard extends from Fanita Drive to Cuyamaca Street. East of Cuyamaca Street, Weld Boulevard becomes Marshall Avenue. Weld Boulevard is a four-lane roadway that has a two-way left-turn median between Fanita Drive and Cuyamaca Street, including along the Project frontage. The speed limit along Weld Boulevard in the vicinity of the Project is 40 mph.

Marshall Avenue extends from Cuyamaca Street to south of Fletcher Parkway in El Cajon. It is generally a four-lane undivided roadway with a center two-way-left-turn lane. The posted speed limit is 40 mph.

Cuyamaca Street is classified as a Major Arterial within the City of Santee. It extends from Fletcher Parkway in El Cajon to just north of El Nopal in Santee. Cuyamaca Street varies as a four or six-lane roadway between Mission Gorge Road and Fletcher Parkway. The posted speed limit is 45 mph from the north City limit to Bradley Avenue.

Fanita Drive extends from Mission Gorge Road to Grossmont College Drive in El Cajon. It is currently constructed as two to three-lane undivided roadway. It is a two-lane roadway between Gibbons Street and Grossmont College Drive. The posted speed limit is 45 mph.

Bradley Avenue extends from Cuyamaca Street to east of SR 67 in El Cajon. It is generally a four-lane undivided roadway with a center two-way-left-turn lane. The posted speed limit is 45 mph.

3.2 Existing Traffic Volumes

Daily segment counts and peak hour (7:00–9:00 AM and 4:00–6:00 PM) intersection turning movement counts were conducted in September 2020 within the Project study area. Due to the ongoing Covid-19 pandemic, which has altered traffic patterns, a growth rate of 25% was applied to the September 2020 traffic counts in order to replicate pre-pandemic traffic levels. This growth rate is based on historical traffic data obtained from the City of El Cajon. Daily traffic counts were compared between the pre- and post-Covid time frames to assist in determining the proper factor. Additional information on how this rate was calculated is included in Appendix A.

Figure 3-2 depicts the Existing Traffic Volumes and Appendix B contains the traffic volume count sheets.

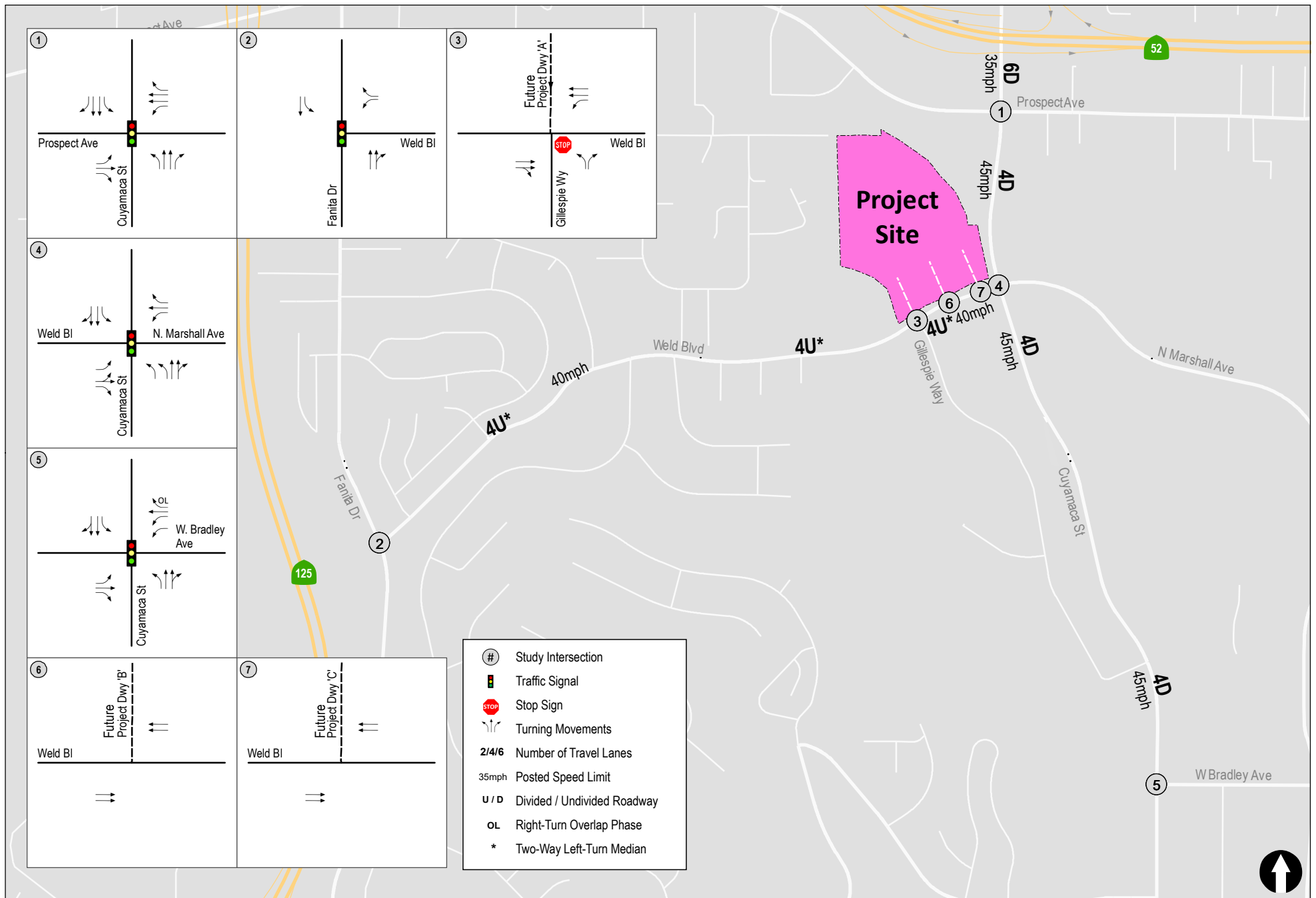


Figure 3-1

Existing Conditions Diagram

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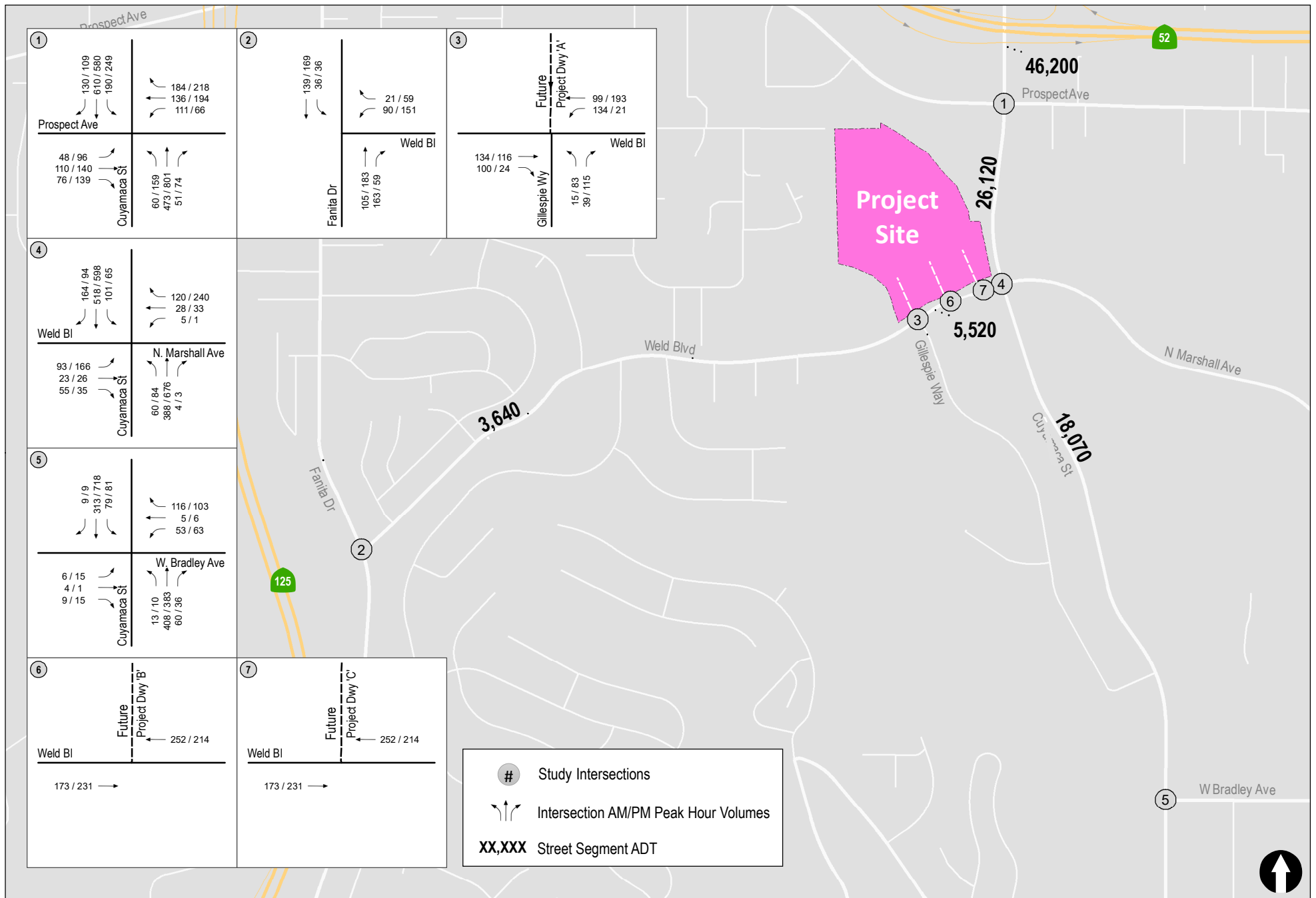


Figure 3-2

Existing Traffic Volumes

WELD BOULEVARD DISTRIBUTION CENTER

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Section 4 Analysis Approach and Methodology

4.1 Project Study Area

The following intersections and segments were analyzed in this report based on coordination with the City of El Cajon. These locations will carry the majority of the Project traffic.

Intersections

1. Cuyamaca Street/Prospect Avenue
2. Weld Boulevard/Fanita Drive
3. Weld Boulevard/Gillespie Way/Future Project Driveway “A”
4. Weld Boulevard/Cuyamaca Street
5. Cuyamaca Street/Bradley Avenue
6. Weld Boulevard/Future Project Driveway “B”
7. Weld Boulevard/Future Project Driveway “C”

Segments

Cuyamaca Street

- SR 52 to Prospect Avenue
- Prospect Avenue to Weld Boulevard
- Weld Boulevard to Bradley Avenue

Weld Boulevard

- Fanita Drive to Gillespie Way
- Gillespie Way to Cuyamaca Street

4.2 Analysis Approach

This traffic analysis assesses the above-mentioned key intersections and street segments in the Project study area. The study area locations were analyzed for the following scenarios to determine the potential impacts to the road network:

- Existing
- Near-Term without Project (Existing + Cumulative Project)
- Near-Term + Project
- Long-Term without Project
- Long-Term + Project

Only intersection analysis was conducted for the Near-Term scenarios and only segment analysis was conducted for the Long-Term scenarios, as required by the City.

4.3 Analysis Methodology

There are various methodologies used to analyze signalized intersections, unsignalized intersections and street segments. The measure of effectiveness for intersection and segment operations is level of service which denotes the operating conditions which occur at a given intersection or on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Levels of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst. Level of service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

4.3.1 Intersections

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 19 of the Highway Capacity Manual 6th Edition (HCM 6), with the assistance of the Synchro (version 10) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS. City of El Cajon and Caltrans location-specific signal timing information such as minimum greens, cycle lengths, splits for the freeway interchanges and real-time peak hour field observations were included in the analysis, where available.

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapters 20 and 21 of the HCM 6 with the assistance of the Synchro (version 10) computer software.

4.3.2 Street Segments

Street segments were analyzed based upon the comparison of ADT to the County of San Diego's Roadway Classification. Level of Service, and ADT Table since the City of El Cajon does not have a similar table. This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics. The County of San Diego's Roadway Classification. Level of Service, and ADT Table is attached in Appendix C.

Section 5 Significance Criteria

The City of El Cajon has established LOS D as the minimum acceptable operating condition for both intersections and roadway segments. The City of El Cajon follows the SANTEC/ITE Guidelines to determine whether or not traffic impacts on its roadway network system are considered “significant” with the exception that LOS D is considered acceptable.

According to the SANTEC/ITE guidelines, a project is considered to have a significant impact if new project traffic decreases the operations of surrounding roadways by a defined threshold. The defined thresholds for roadway segments and intersections are shown in Table 5-1 below. If the project exceeds the thresholds in Table 5-1, then the project is considered to have a significant project impact.

Table 5-1. City of El Cajon Traffic Impact Significant Thresholds

Level of Service with Project ^a	Allowable Increase Due to Project Impacts ^b		
	Roadway Segments		Intersections
	V/C	Speed (mph)	Delay (sec.)
E & F	0.02	1	2

Footnotes:

^a All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis (using Table 5-1 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).

^b If a proposed project’s traffic causes the values shown in the table to be exceeded, the impacts are deemed to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigations (within the Traffic Impact Study [TIS] report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note a above), 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.

General Notes:

V/C = Volume to Capacity Ratio

Speed = Arterial speed measured in miles per hour

Delay = Average stopped delay per vehicle measured in seconds for intersections

LOS = Level of Service

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Section 6 Analysis of Existing Conditions

6.1 Peak Hour Intersection Levels of Service

Table 6-1 summarizes the existing peak hour intersection operations. As seen in Table 6-1, all intersections are calculated to currently operate at LOS D or better.

The existing peak hour intersection analysis worksheets are included in Appendix D.

Table 6-1. Existing Intersection Operations

Intersection	Control Type	Peak Hour	Existing	
			Delay ^a	LOS ^b
1. Cuyamaca Street/Prospect Avenue	Signal	AM	53.5	D
		PM	51.9	D
2. Weld Boulevard/Fanita Drive	Signal	AM	11.9	B
		PM	11.6	B
3. Weld Boulevard/Gillespie Way/Future Project Driveway "A"	MSSC ^c	AM	14.3	B
		PM	11.6	B
4. Weld Boulevard/Cuyamaca Street	Signal	AM	25.3	C
		PM	31.0	C
5. Cuyamaca Street/Bradley Avenue	Signal	AM	18.0	B
		PM	16.9	B
6. Weld Boulevard/Future Project Driveway "B"	- ^d	AM	-	-
		PM	-	-
7. Weld Boulevard/Future Project Driveway "C"	- ^d	AM	-	-
		PM	-	-

Footnotes:

^a Average delay expressed in seconds per vehicle.

^b Level of Service.

^c MSSC = Minor Street Stop Controlled intersection. Worst-Case movement approach delay and LOS reported.

^d Intersection does not exist under Existing conditions

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C

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Section 7 Generation, Distribution and Assignment

7.1 Trip Generation

Trip generation estimates for the proposed development were based on detailed hourly traffic volume projections provided by the applicant. The traffic volume projections include trips associated with associates, trucks, delivery drivers, and delivery vans. Detailed information is provided in Appendix E.

Table 7-1 shows the Project's trip generation calculations during standard operations and during the peak season. During standard operations, the Project is calculated to generate 1,476 ADT with 2 AM peak hour trips (1 inbound/1 outbound) and 91 PM peak hour trips (61 inbound/30 outbound) during the PM peak hour.

During peak season operations, the Project is calculated to generate 3,548 ADT with 241 AM peak hour trips (89 inbound/152 outbound) and 456 PM peak hour trips (318 inbound/138 outbound) during the PM peak hour.

Standard operations are expected throughout the majority of the year. However, in order to provide a conservative analysis of the Project's potential impacts to the circulation system, the traffic volumes associated with the Project's peak season were used in the analysis.

7.2 Trip Distribution/Assignment

The Project-generated traffic was assigned to the three Project driveways based on detailed traffic volume projections for the site, as detailed in Appendix E. Project trips were distributed to the surrounding street network based on the site's access locations, the roadway system characteristics, the site's proximity to the nearby freeways, and the existing peak hour and daily traffic volumes. The majority of the trips are expected to be oriented to/from the north on Cuyamaca Street via SR 52.

Figure 7-1 shows the distribution of the Project trips. Figure 7-2 shows the peak season Project traffic volumes.

Table 7-1. Trip Generation Table

Trip Generation Scenario ^b	ADT ^a	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Standard Operations	1,476	1	1	2	61	30	91
Peak Season Operations ^c	3,548	89	152	241	318	138	456

Footnotes:

^a ADT=Average Daily Trips

^b Trip generation estimates for the proposed development were based on detailed hourly traffic volume projections provided by the applicant. Table 2-1 shows the proposed daily shifts and number of employees working those shifts. Detailed information is provided in Appendix E.

^c Standard operations are expected throughout the majority of the year. However, in order to provide a conservative analysis of the Project's potential impacts to the circulation system, the traffic volumes associated with the Project's peak season were used.

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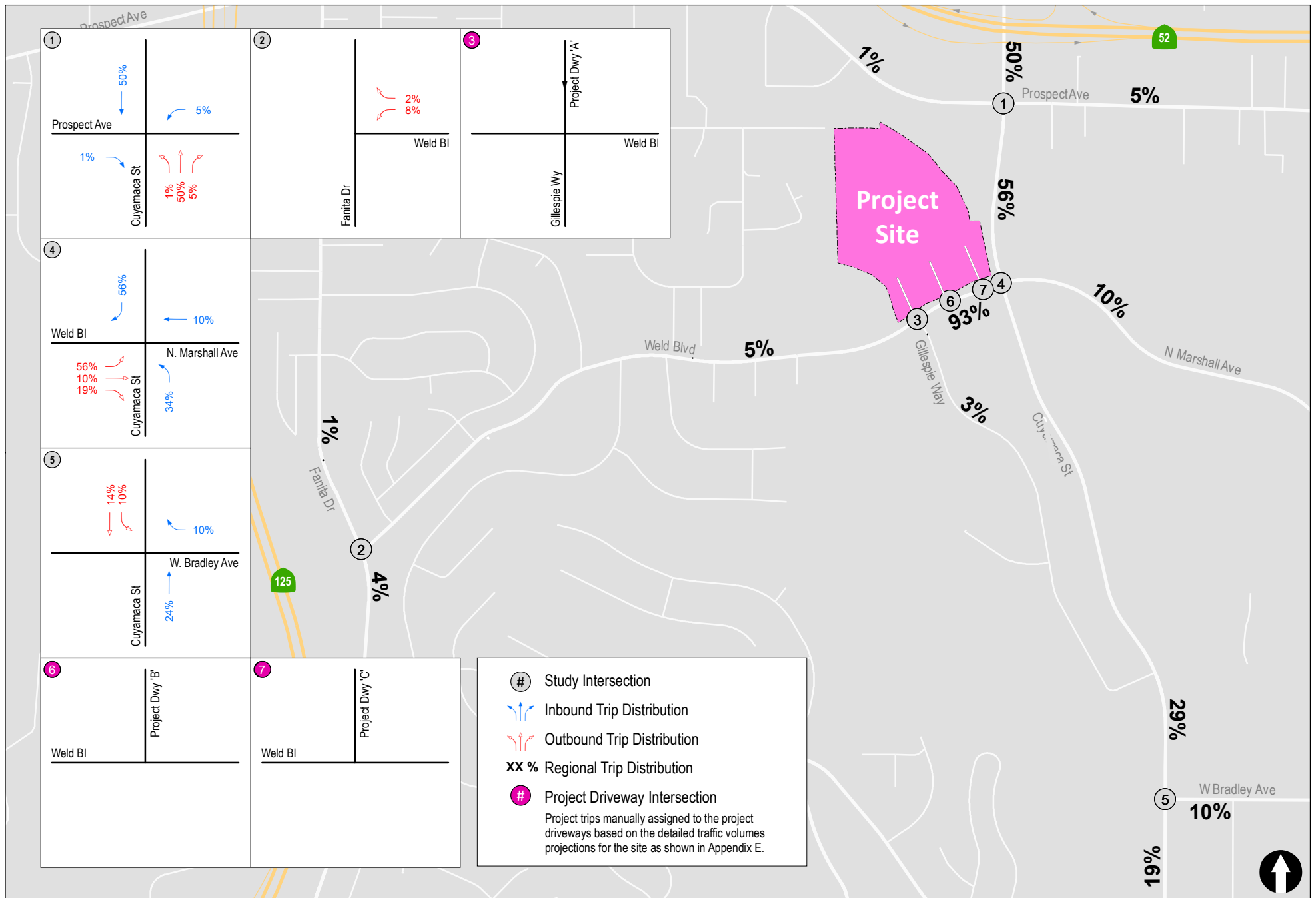


Figure 7-1

Project Traffic Distribution

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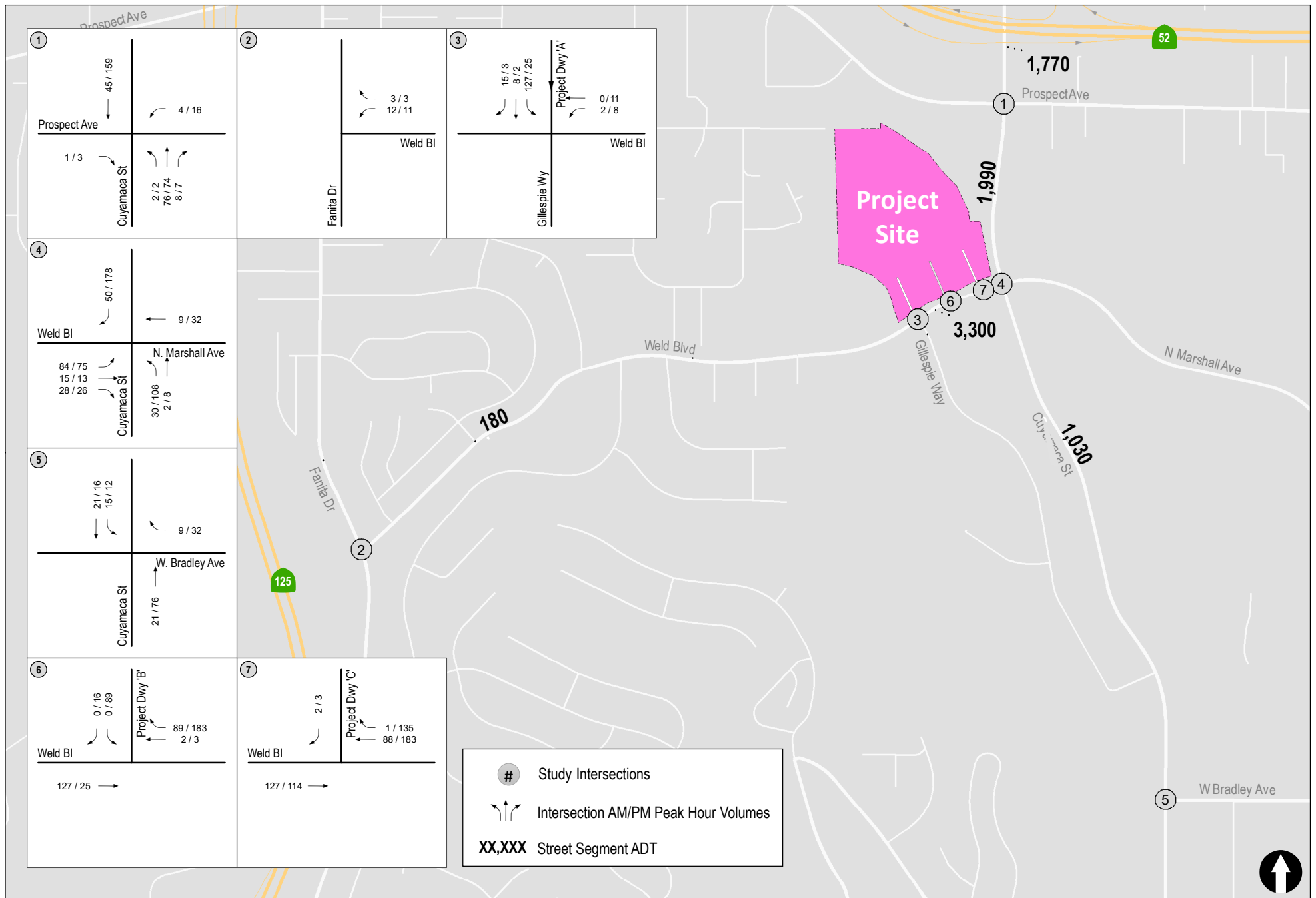


Figure 7-2

Project Traffic Volumes

WELD BOULEVARD DISTRIBUTION CENTER

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Section 8 Cumulative Impacts

There are other projects in the nearby area that will add traffic to the roadways and intersections in the study area. Nine (9) cumulative development projects located in the Cities of El Cajon and Santee were identified for inclusion in this traffic study. Table 8-1 provides a summary of each cumulative project.

Figure 8-1 shows the total assignment of cumulative project traffic volumes. Figure 8-2 shows the Near-Term (Existing + Cumulative projects) traffic volumes. Figure 8-3 shows the Near-Term (Existing + Cumulative projects) + Project traffic volumes.

Table 8-1. Cumulative Projects Summary

	Name/Applicant	Description	ADT ^a	AM		PM		Status
				In	Out	In	Out	
1	D'Lazio	20 condominiums	160	3	10	11	5	Approved – Under Construction
2	Las Olivitas	18 condominiums	144	2	10	10	4	Approved – Under Construction
3	Tyree & Vidovich Investments, LLC	4-lot residential subdivision	40	1	2	3	1	Approved – Under Construction
4	Mark and Laurie Miller	4-lot residential subdivision	40	1	2	3	1	Approved – Not Built
5	Prospect Estates II	46 single-family	460	11	26	32	14	Pending Entitlement
6	Costco and Expanded Food Court	Fuel facility with 11 dispensers	1,063	37	37	43	42	Pending Entitlement
7	Talwar	8 condominiums	64	1	4	4	2	Pending Entitlement
8	Dentt Industrial	112,000 SF industrial complex	896	89	10	22	86	Approved – Under Construction
9	New Industrial Building	16,000 SF	128	13	1	3	12	Approved – Under Construction
Total Cumulative Projects			2,931	158	102	131	167	—

Footnotes:

^a ADT=Average Daily Trips

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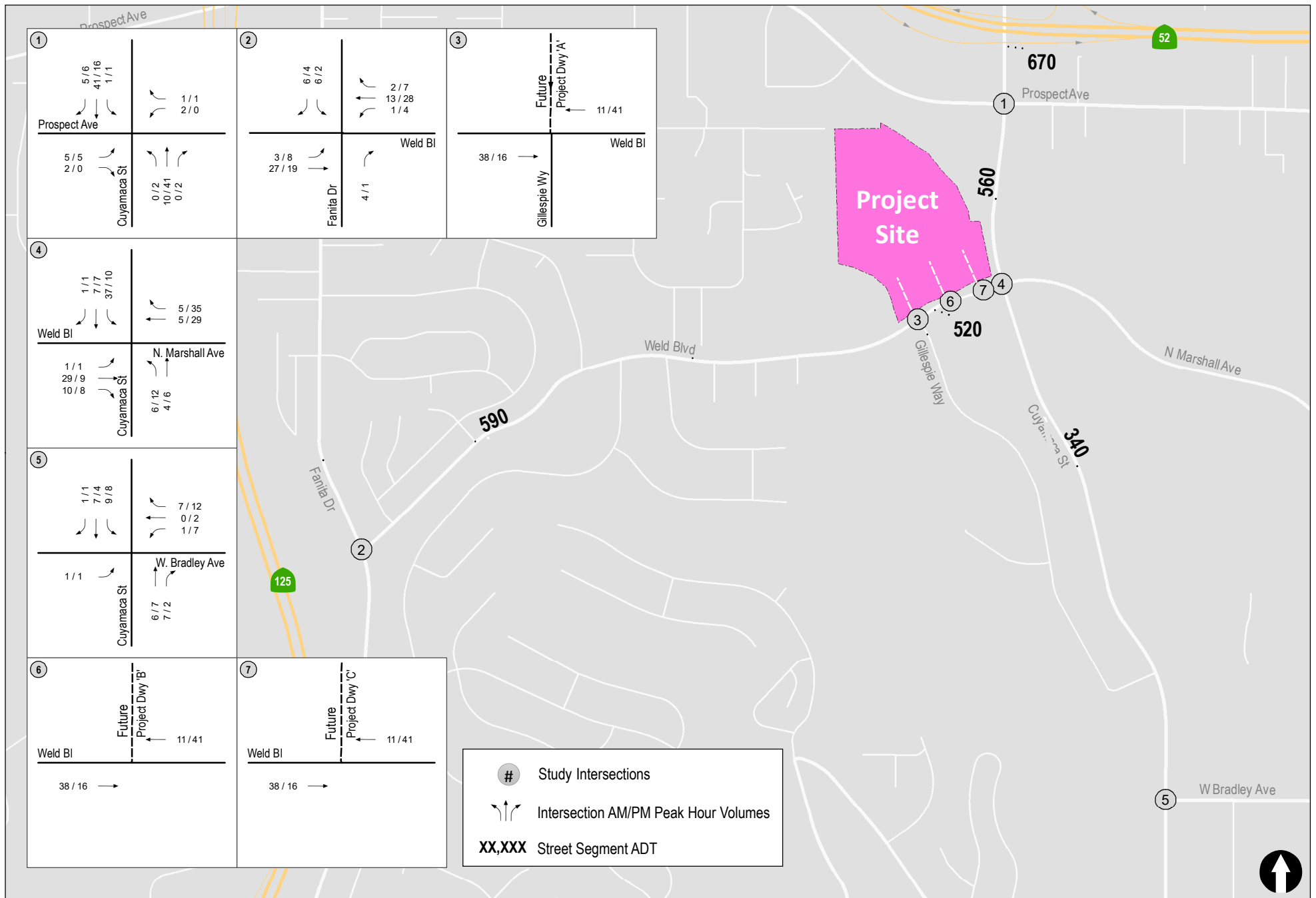


Figure 8-1

Cumulative Projects Traffic Volumes

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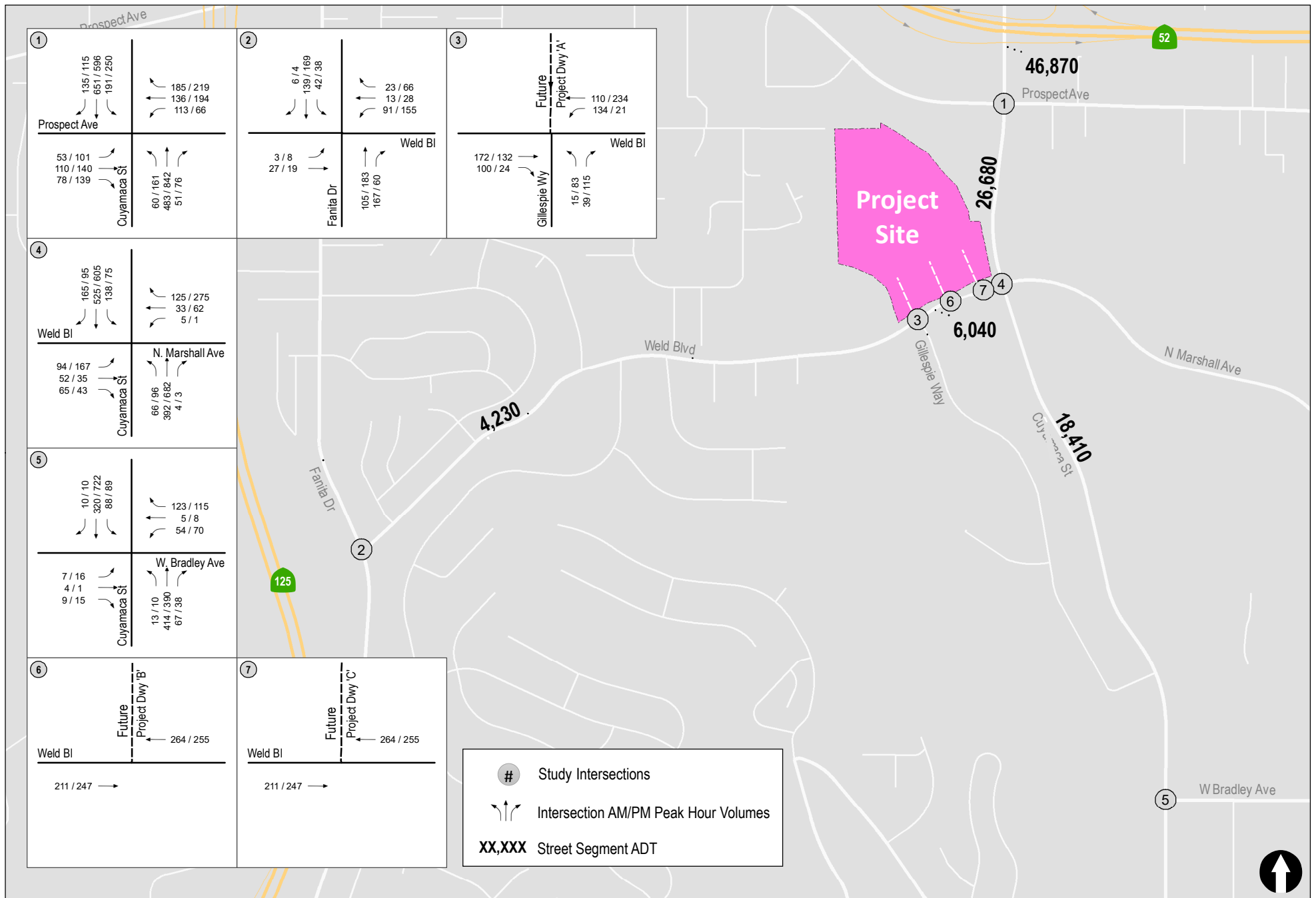


Figure 8-2

Near-Term (Existing + Cumulative Projects) Traffic Volumes

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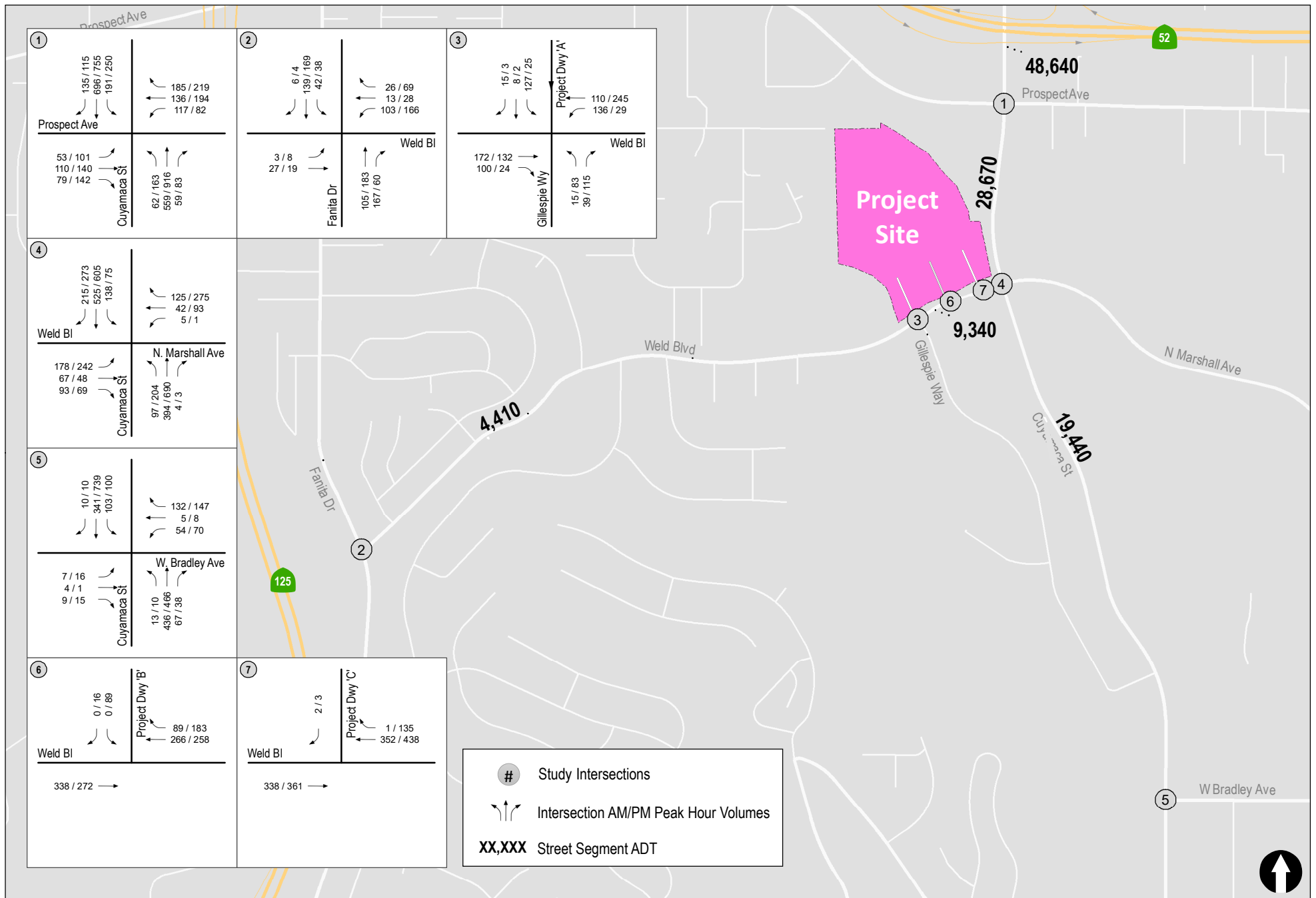


Figure 8-3

Near-Term (Existing + Cumulative Projects) + Project Traffic Volumes

WELD BOULEVARD DISTRIBUTION CENTER

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Section 9 Analysis of Near-Term Scenarios

9.1 Near-Term (Existing + Cumulative Projects) Analysis

9.1.1 Peak Hour Intersection Operations

Table 9-1 summarizes the Near-Term (Existing + Cumulative Projects) peak hour intersection operations. As seen in Table 9-1, all intersections are calculated to operate at LOS D or better.

The Near-Term (Existing + Cumulative Projects) peak hour intersection analysis worksheets are included in Appendix F.

9.2 Near-Term (Existing + Cumulative Projects) + Project Analysis

9.2.1 Peak Hour Intersection Operations

Table 9-1 summarizes the Near-Term (Existing + Cumulative Projects) + Project peak hour intersection operations. As seen in Table 9-1, all intersections are calculated to continue to operate at LOS D or better with the addition of Project traffic.

Based on the established significance criteria, the Project is not calculated to result in substantial effects to the study intersections and therefore, no improvements are required.

The Near-Term (Existing + Cumulative Projects) + Project peak hour intersection analysis worksheets are included in Appendix G.

Table 9-1. Near-Term Intersection Operations

Intersection	Control Type	Peak Hour	Near-Term Without Project		Near-Term With Project		Δ^c	Impact Type
			Delay ^a	LOS ^b	Delay	LOS		
1. Cuyamaca Street/Prospect Avenue	Signal	AM	53.3	D	53.4	D	0.1	None
		PM	52.2	D	52.3	D	0.1	
2. Weld Boulevard/Fanita Drive	Signal	AM	12.2	B	12.3	B	0.1	None
		PM	11.7	B	11.7	B	0.0	
3. Weld Boulevard/Gillespie Way/Future Project Driveway "A"	MSSC ^d /Signal ^e	AM	15.1	C	14.1	B	(1.0)	None
		PM	12.1	B	11.9	B	(0.2)	
4. Weld Boulevard/Cuyamaca Street	Signal	AM	37.3	D	41.7	D	4.4	None
		PM	33.9	C	41.0	D	7.1	
5. Cuyamaca Street/Bradley Avenue	Signal	AM	18.7	B	19.5	B	0.8	None
		PM	17.6	B	18.7	B	1.1	
6. Weld Boulevard/Future Project Driveway "B" ^f	MSSC	AM	-	-	0.0	A	-	None
		PM	-	-	14.1	B	-	
7. Weld Boulevard/Future Project Driveway "C" ^f	MSSC	AM	-	-	9.4	A	-	None
		PM	-	-	10.3	B	-	

Footnotes:

^a Average delay expressed in seconds per vehicle.

^b Level of Service.

^c Δ denotes the increase in delay due to Project.

^d MSSC = Minor Street Stop Controlled intersection. Worst-Case movement approach delay and LOS reported.

^e The intersection is proposed to be signalized as a Project feature.

^f Intersection does not exist under "without Project" conditions.

SIGNALIZED

**DELAY/LOS
THRESHOLDS**

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.1	F

UNSIGNALIZED

**DELAY/LOS
THRESHOLDS**

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 15.0	B
15.1 to 25.0	C
25.1 to 35.0	D
35.1 to 50.0	E
≥ 50.1	F

Section 10 Analysis of Long-Term Scenarios

10.1 Long-Term Volumes

Long-Term horizon year traffic volumes were obtained from SANDAG. However, the Year 2035 and Year 2050 traffic volumes from the SANDAG Series 13 model within the study area were found to be unrealistically low (in some cases less than half of the existing volumes) and were therefore not used in the Long-Term analysis.

Instead, the Long-Term traffic volumes were calculated by applying a 2% growth factor to the adjusted Year 2020 traffic volumes. The Long-Term volumes used in this analysis are substantially higher than the SANDAG forecasts, and therefore much more conservative. A comparison of the SANDAG Series 13 traffic volumes and the existing traffic volumes is included in Appendix H.

Project traffic was added to the Long-Term Volumes to obtain the Long-Term + Project traffic volumes. Figure 10-1 illustrates the Long-Term segment volumes and Figure 10-2 illustrates the Long-Term + Project segment volumes.

10.2 Long-Term Segment Operations

Table 10-1 summarizes the Long-Term segment operations. As seen in Table 10-1, the study area segments are calculated to operate at LOS D or better under both without and with Project conditions.

Based on the established significance criteria, the Project is not calculated to result in substantial effects to the study street segments and therefore, no improvements are required.

Table 10-1. Long-Term Segment Operations

Street Segment	Capacity (LOS E) ^a	Long-Term			Long-Term + Project		
		ADT ^b	LOS ^c	V/C ^d	ADT ^b	LOS ^c	V/C ^d
Cuyamaca Street							
SR 52 to Prospect Avenue	57,000	47,120	D	0.827	48,890	D	0.858
Prospect Avenue to Weld Boulevard	37,000	26,640	C	0.720	28,630	C	0.774
Weld Boulevard to Bradley Avenue	57,000	18,430	B	0.498	19,460	B	0.526
Weld Boulevard							
Fanita Drive to Gillespie Way	37,000	8,800	A	0.238	8,980	A	0.243
Gillespie Way to Cuyamaca Street	37,000	8,600	A	0.232	11,900	A	0.322

Footnotes:

^a Capacity based on the County of San Diego Roadway Classification & LOS table (See Appendix C).

^b Average Daily Traffic

^c Level of Service.

^d Volume to Capacity

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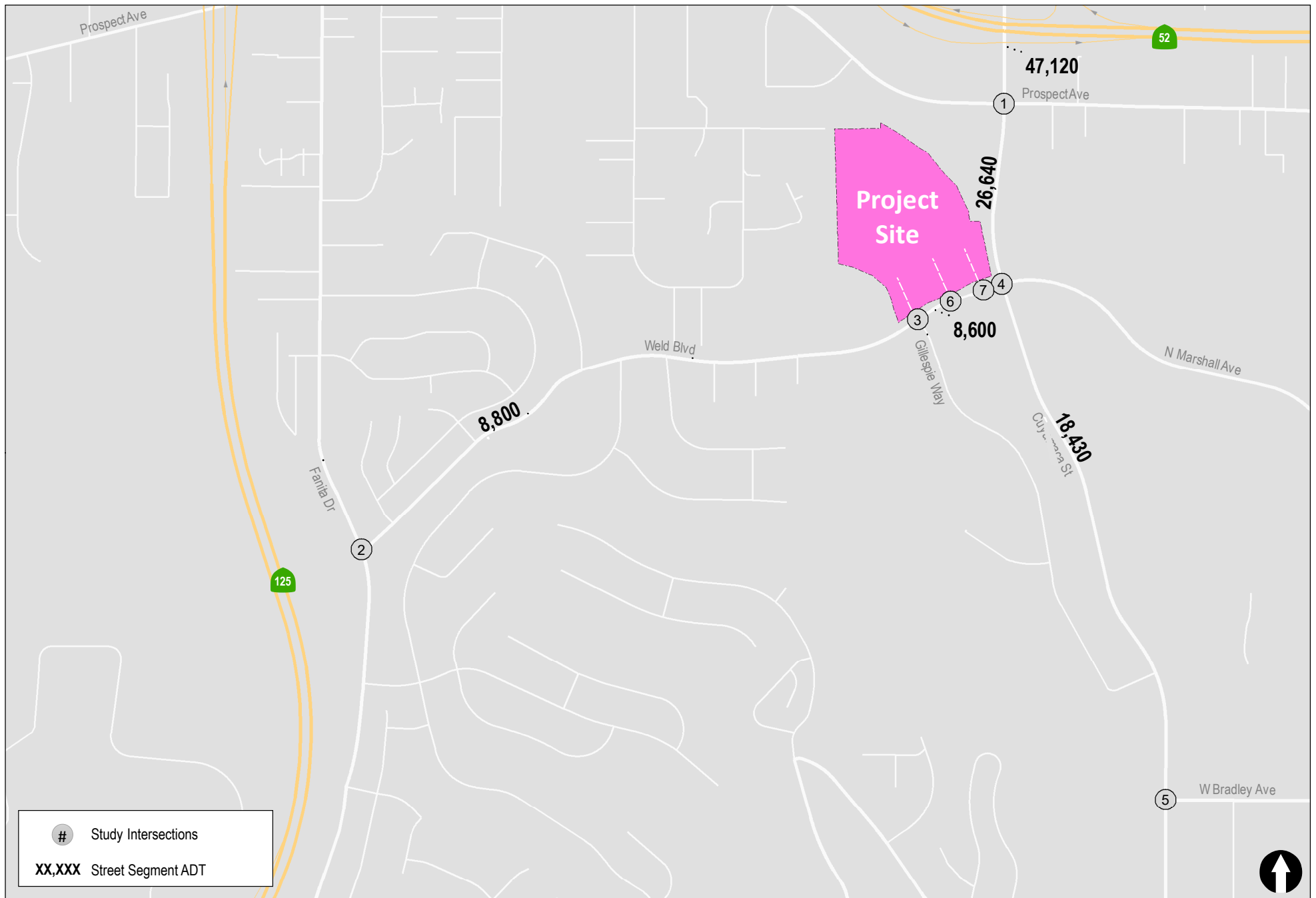


Figure 10-1

Long-Term Traffic Volumes

WELD BOULEVARD DISTRIBUTION CENTER

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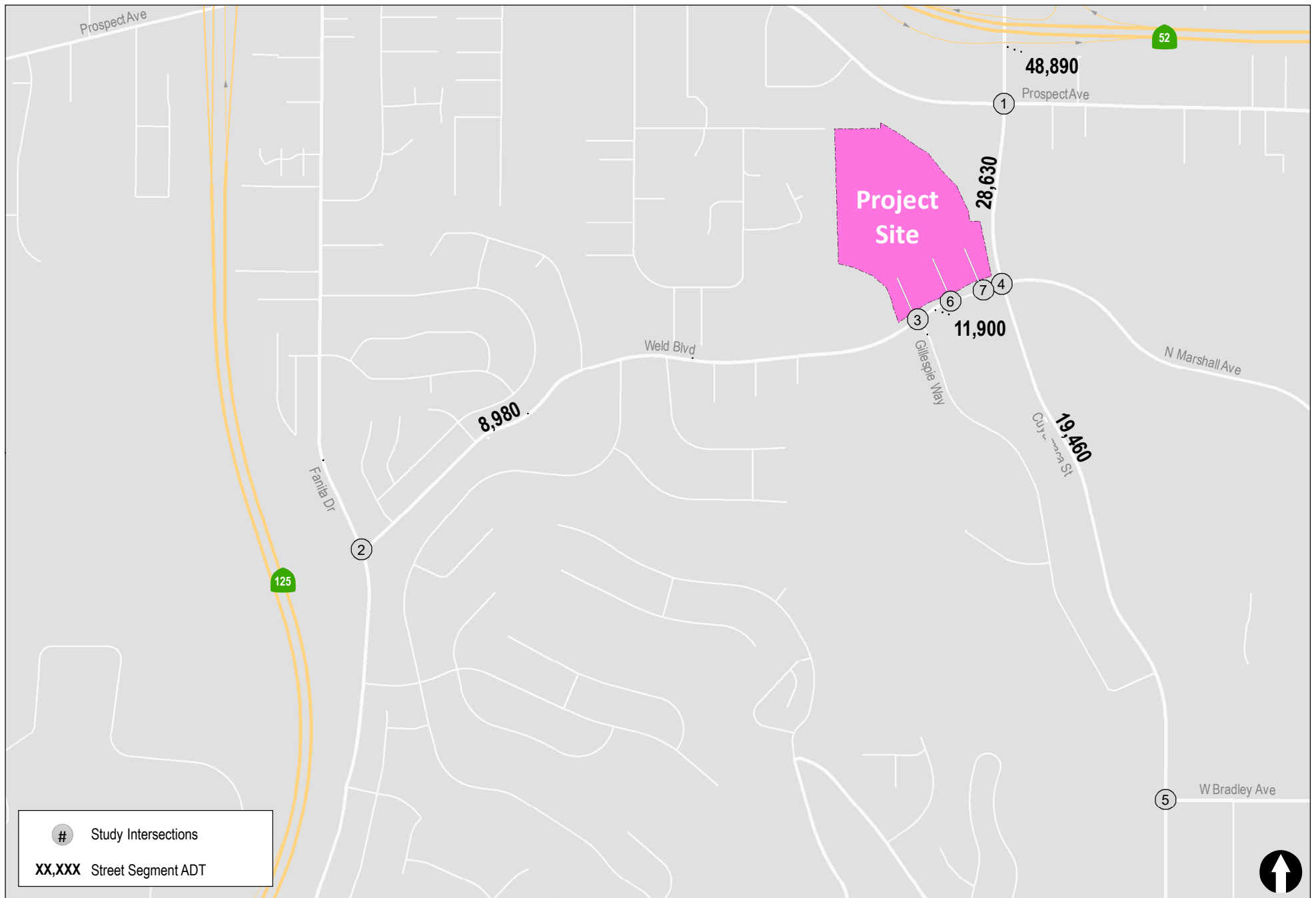


Figure 10-2

Long-Term + Project Traffic Volumes

WELD BOULEVARD DISTRIBUTION CENTER

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Section 11 Vehicle Miles Traveled Assessment

In compliance with the California Environmental Quality Act (CEQA), an Addendum to the 2009 Forester Creek Industrial Park Project Environmental Impact Report (2009 EIR) is being prepared for the Project. The 2009 EIR evaluated an industrial park project with approximately 463,000 square feet of industrial development. The project has since changed, and the current Project proposes development of an approximately 142,000 SF distribution warehouse, office space, parking, and designated product pick-up and drop-off areas. Even assuming the currently proposed Project under Peak Season conditions, as was conservatively done in the analysis presented in this study, the Project results in fewer ADT than the previously proposed and approved Project.

Traffic impacts for the previously approved Project were based on Level of Service (LOS) analysis. Therefore, in order to show that the currently proposed Project is in conformance with what was approved for the site, LOS analysis is used as the metric to determine impacts, and a VMT analysis is not warranted.

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Section 12 Site Access and Circulation Review

12.1 Site Access

Access to the site would be via three driveways on Weld Boulevard, one across from Gillespie Way (Project Driveway A) and two between the intersections of Gillespie Way and Cuyamaca Street (Project Driveways B and C). The driveways will be configured as follows:

- **Project Driveway A** at the intersection of Weld Boulevard/Gillespie Way is proposed to be signalized as a Project feature and will only provide outbound movements; no inbound traffic will be permitted at this driveway. The following lane configuration out of the site is proposed: one dedicated right-turn, one shared thru/left-turn lane and one dedicated left-turn lane. This driveway will be used exclusively for delivery van egress.
- **Project Driveway B** is proposed to provide right-in access and right-out/left-out egress onto Weld Blvd. Driveway B will exclusively serve the Associate parking area. A field level sight distance assessment revealed that there is adequate sight distance at this driveway for drivers leaving the site looking to both the east and the west. A formal sight distance analysis has not been prepared.
- **Project Driveway C** is proposed to provide right-in/right-out only access to/from the site. All trucks and delivery vans will access the site via Driveway C, and all trucks will exit the site via Driveway C.

Figure 12-1 shows the proposed lane configuration at the three driveways.

The Project driveways are calculated to operate acceptably at LOS B or better during the peak hours, as shown in Table 9-1.

12.2 Weld Boulevard Queuing Review

Access to the site will be via three driveways on Weld Boulevard as described above, within approximately 670' between Gillespie Way and Cuyamaca Street. There will be approximately 230' between Driveways A and B and between Driveways B and C, and approximately 210' between Driveway C and Cuyamaca Street. In order to ensure the closely spaced intersections don't result in congestion and backups along Weld Boulevard, thereby blocking access to the Project site and impeding non-Project related traffic in the area, an assessment of the potential queues on Weld Boulevard at Cuyamaca Street and Gillespie Way was conducted.

Weld Boulevard/Cuyamaca Street

The eastbound left-turn movement at Weld Boulevard/Cuyamaca Street is considered to be the critical movement at this intersection in terms of queuing since a backup of traffic at this movement could potentially block outbound traffic at Project Driveway B (Project Driveway A, which will

be located between Project Driveway B and Cuyamaca Street, will be limited to right-in/right-out only access, and will therefore not be affected by a potential eastbound left-turn queue at Cuyamaca Street intersection).

The eastbound left-turn pocket at the Weld Boulevard/Cuyamaca Street intersection provides approximately 100' of storage before terminating into a two-way left-turn lane where there is an additional 340' of storage before the location of the Proposed Driveway B. Therefore, a total of approximately 440' of storage for the eastbound left turn movement is available.

Based on the Synchro queue analysis, under Near-Term + Project conditions, the 95th percentile queue is calculated to be 205' (approximately 8 cars, assuming an average car length of 25') during the AM peak hour and 228' (approximately 9 cars) during the PM peak hour, as shown in Table 12-1. The 95th-percentile queue is defined to be the queue length that has only a 5-percent probability of being exceeded during the analysis time period. Therefore, the available storage for the eastbound left turn movement is expected to contain the eastbound left-turn queue the vast majority of the time and not extend to Project Driveway B.

Weld Boulevard/Gillespie Way

The westbound left-turn movement at Weld Boulevard/Gillespie Way is considered to be the critical movement at this intersection in terms of queuing since a backup of traffic at this movement could potentially block outbound traffic at Project Driveway B

The westbound left-turn pocket at the Weld Boulevard/Gillespie Way intersection provides approximately 50' of storage before terminating into a two-way left-turn lane where there is an additional 180' of storage before the location of the Proposed Driveway B. Therefore, a total of approximately 230' of storage for the westbound left turn is available.

Based on the Synchro queue analysis, under Near-Term + Project conditions, the 95th percentile queue is calculated to be 142' (approximately 7 cars) during the AM peak hour and 32' (approximately 2 cars) during the PM peak hour, as shown in Table 12-1. Therefore, the available storage for the westbound left turn movement is expected to contain the westbound left-turn queue the vast majority of the time and not extend to Project Driveway B.

Appendix I contains the Near-Term + Project queue analysis calculation worksheets.

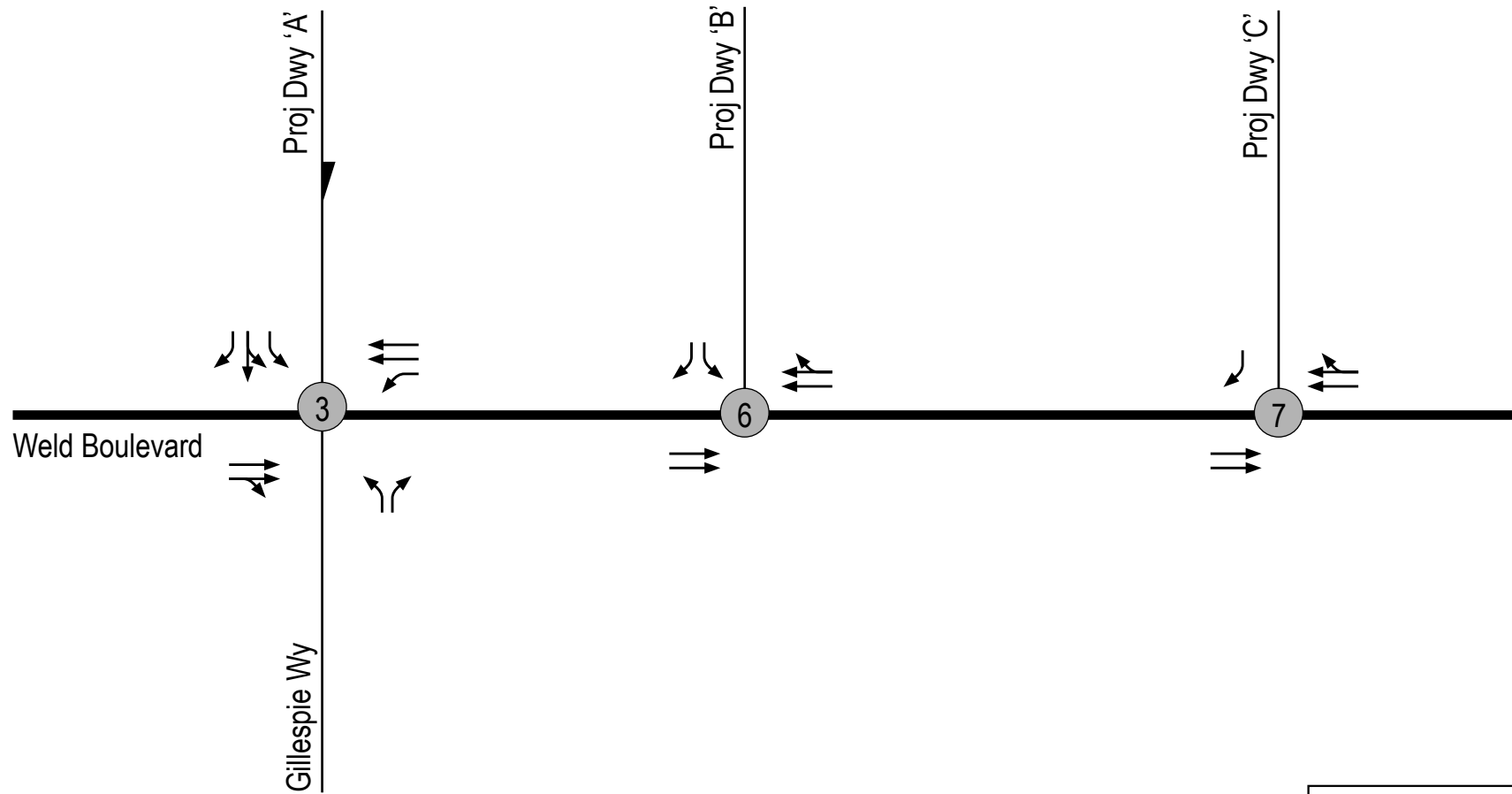
Table 12-1. Weld Boulevard Queuing Analysis

Intersection	Analysis Scenario	Peak Hour	Analyzed Movement	Available Storage	95 th Percentile Queue	
					Left-Turn Queue (Feet)	Left-Turn Queue (Cars) ^a
Weld Boulevard/Cuyamaca Street	Near-Term + Project	AM	Eastbound Left-Turn	440'	205'	8
		PM			228'	9
Weld Boulevard/Gillespie Way	Near-Term + Project	AM	Westbound Left-Turn	230'	142'	7
		PM			32'	2

Footnotes:

^a Assuming an average car length of 25'

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#	Study Intersections
↔	Proposed Turning Movements



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Section 13 Active Transportation Review

13.1 Pedestrian Conditions

Pedestrian facilities are intermittently provided within the Project study area. Paved sidewalks are provided on both sides of Cuyamaca Street and Weld Boulevard. A Class I bicycle/pedestrian path extends from the intersection of Weld Boulevard and Cuyamaca Street to Prospect Ave in Santee.

13.2 Transit Conditions

The Project site is located less than a half-mile from the Gillespie Field Station. Gillespie Field is a Green Line station of the San Diego Trolley. It is located across Marshall Avenue from Gillespie Field, a county airport.

The Green Line trolley route is a 23.6 mile light rail line in the San Diego Trolley system operated by San Diego Trolley, Inc. an operating division of the San Diego Metropolitan Transit System. The Green Line currently operates between Downtown San Diego and the city of Santee serving 27 stations. The Green Line runs every 15 minutes, seven days a week from approximately 4:30 AM to midnight. It runs every 30 minutes after midnight and on weekend mornings and evenings.

13.3 Bicycle Conditions

Class II Bike lanes are provided along Cuyamaca Street, south of Weld Boulevard, but no bike lanes are provided north of Weld Boulevard within the study area. According to the City of Santee General Plan 2020, bike routes are planned on Cuyamaca Street from State Route 52 to Weld Boulevard.

Class II Bike lanes are provided on both sides of Weld Boulevard between Cuyamaca Street and Fanita Drive.

In addition, Class I bicycle/pedestrian path extends from the intersection of Weld Boulevard and Cuyamaca Street to Prospect Ave in Santee.

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Section 14 Conclusions

Based on the City of El Cajon's significance criteria, the Project is not calculated to result in substantial effects to the study intersections or street segments and therefore no off-site improvements are required.

In the Near-Term condition, all study area intersections would continue to operate at LOS D or better with the addition of Project traffic and no significant impact would occur. Therefore, the direct impact to the Weld Boulevard/Gillespie Way intersection would not occur under the proposed Project as described in the 2009 EIR and Mitigation Measure TRA-2 identified for the 2009 project would not be required for the proposed project. This is because the proposed Project will signalize the intersection as a Project feature.

In the Long-Term condition, the study area segments are calculated to operate at LOS D or better with the addition of Project traffic. Similar to the 2009 project, the proposed Project would not result in a significant impact on any roadway segment under Long-Term conditions. The proposed Project would not result in the cumulative impact to the intersection of Fanita Drive and Grossmont College Drive that was identified in the 2009 EIR. Intersections were generally selected for analysis at locations where the project is expected to add 50 or more new peak hour trips in either direction. The project is not expected to add 50 or more peak hour trips to the intersection of Fanita Drive and Grossmont College Drive, and therefore this intersection was not selected for analysis and no impact would occur. Therefore, Mitigation Measures TRA-1 and TRA-3 identified for the 2009 project would not be required for the proposed project.

Access to the site would be via three driveways on Weld Boulevard, one across from Gillespie Way (Project Driveway A) and two between the intersections of Gillespie Way and Cuyamaca Street (Project Driveways B and C).

The Project driveways are calculated to operate acceptably at LOS B or better during the peak hours. Based on the acceptable levels of service, the queuing assessment provided in Section 12.1, and the limited access at all driveways (outbound only at Driveway A, right-in only/right and left out at Driveway B, and right-in/right-out only at Driveway C), the closely spaced driveway intersections are not expected to result in congestion and backups along Weld Boulevard the vast majority of the time.

The driveway lane configuration shown on Figure 12-1 should be provided to limit queuing impacts between the intersections along Weld Boulevard.

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Appendix A. Growth Rate Calculations

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STREET SEGMENT	Final Existing Volumes (25% Covid Factor applied to 2020 counts)	2020		2019		Delta	%
		Raw	Rounded	Raw	Rounded		
Cuyamaca St							
SR 52 to Prospect Ave	46,200	36,956	36,960				
Prospect Ave to Weld Blvd	26,120	20,899	20,900	23,654	23,650	2,750	13%
Weld Blvd to Bradley Ave	18,070	14,455	14,460	16,871	16,870	2,410	17%
Weld Blvd							
Fanita Dr to Gillespie Way	3,640	2,914	2,910	3,423	3,420	510	18%
Gillespie Way to Cuyamaca St	5,520	4,414	4,410	4,213	4,210	(200)	-5%
							Average 16%
							Final 25%

Appendix B. Traffic Volume Count Sheets

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Intersection Turning Movement - Peak Hour Vehicle Count



Location: #01
 Intersection: Cuyamaca Street & Prospect Avenue
 Date of Count: Wednesday, September 09, 2020

File Name: ITM-20-029-01
 Project: LLG Ref. 3-20-3285
 El Cajon

AM	Cuyamaca Street Southbound			Prospect Avenue Westbound			La Mesa Boulevard Northbound			Prospect Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	34	109	21	13	19	32	12	71	4	7	14	12	348
7:15	33	117	20	14	17	30	14	93	3	8	13	16	378
7:30	29	114	23	21	27	41	13	95	11	7	19	16	416
7:45	54	147	30	23	31	45	16	99	16	7	26	14	508
8:00	37	110	31	31	27	29	9	90	10	9	26	15	424
8:15	32	117	20	14	24	32	10	94	4	15	17	16	395
8:30	35	69	17	19	30	41	24	68	5	9	17	11	345
8:45	32	117	18	6	15	36	21	108	12	7	15	18	405
Total	286	900	180	141	190	286	119	718	65	69	147	118	3219
Approach%	20.9	65.9	13.2	22.9	30.8	46.4	13.2	79.6	7.2	20.7	44.0	35.3	
Total%	8.9	28.0	5.6	4.4	5.9	8.9	3.7	22.3	2.0	2.1	4.6	3.7	

AM Intersection Peak Hour: 07:30 to 08:30

Volume	152	488	104	89	109	147	48	378	41	38	88	61	1,743
Approach%	20.4	65.6	14.0	25.8	31.6	42.6	10.3	80.9	8.8	20.3	47.1	32.6	
Total%	8.7	28.0	6.0	5.1	6.3	8.4	2.8	21.7	2.4	2.2	5.0	3.5	
PHF			0.81			0.87			0.89			0.94	0.00

PM	Cuyamaca Street Southbound			Prospect Avenue Westbound			La Mesa Boulevard Northbound			Prospect Avenue Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	58	118	24	18	34	57	40	185	16	24	35	22	631
16:15	45	122	28	14	51	38	28	162	20	22	23	29	582
16:30	57	123	19	13	30	46	32	170	12	25	26	30	583
16:45	39	101	16	8	40	33	27	124	11	6	28	30	463
17:00	44	159	38	14	37	45	25	172	12	13	39	22	620
17:15	48	98	27	15	35	32	34	135	10	12	31	22	499
17:30	30	131	32	16	30	30	28	144	11	13	20	16	501
17:45	38	93	22	11	21	33	18	102	14	13	25	13	403
Total	359	945	206	109	278	314	232	1194	106	128	227	184	4282
Approach%	23.8	62.6	13.6	15.5	39.7	44.8	15.1	77.9	6.9	23.7	42.1	34.1	
Total%	8.4	22.1	4.8	2.5	6.5	7.3	5.4	27.9	2.5	3.0	5.3	4.3	

PM Intersection Peak Hour: 16:00 to 17:00

Volume	199	464	87	53	155	174	127	641	59	77	112	111	2,259
Approach%	26.5	61.9	11.6	13.9	40.6	45.5	15.4	77.5	7.1	25.7	37.3	37.0	
Total%	8.8	20.5	3.9	2.3	6.9	7.7	5.6	28.4	2.6	3.4	5.0	4.9	
PHF			0.94			0.88			0.86			0.93	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #01
 Intersection: Cuyamaca Street & Prospect Avenue
 Date of Count: Wednesday, September 09, 2020

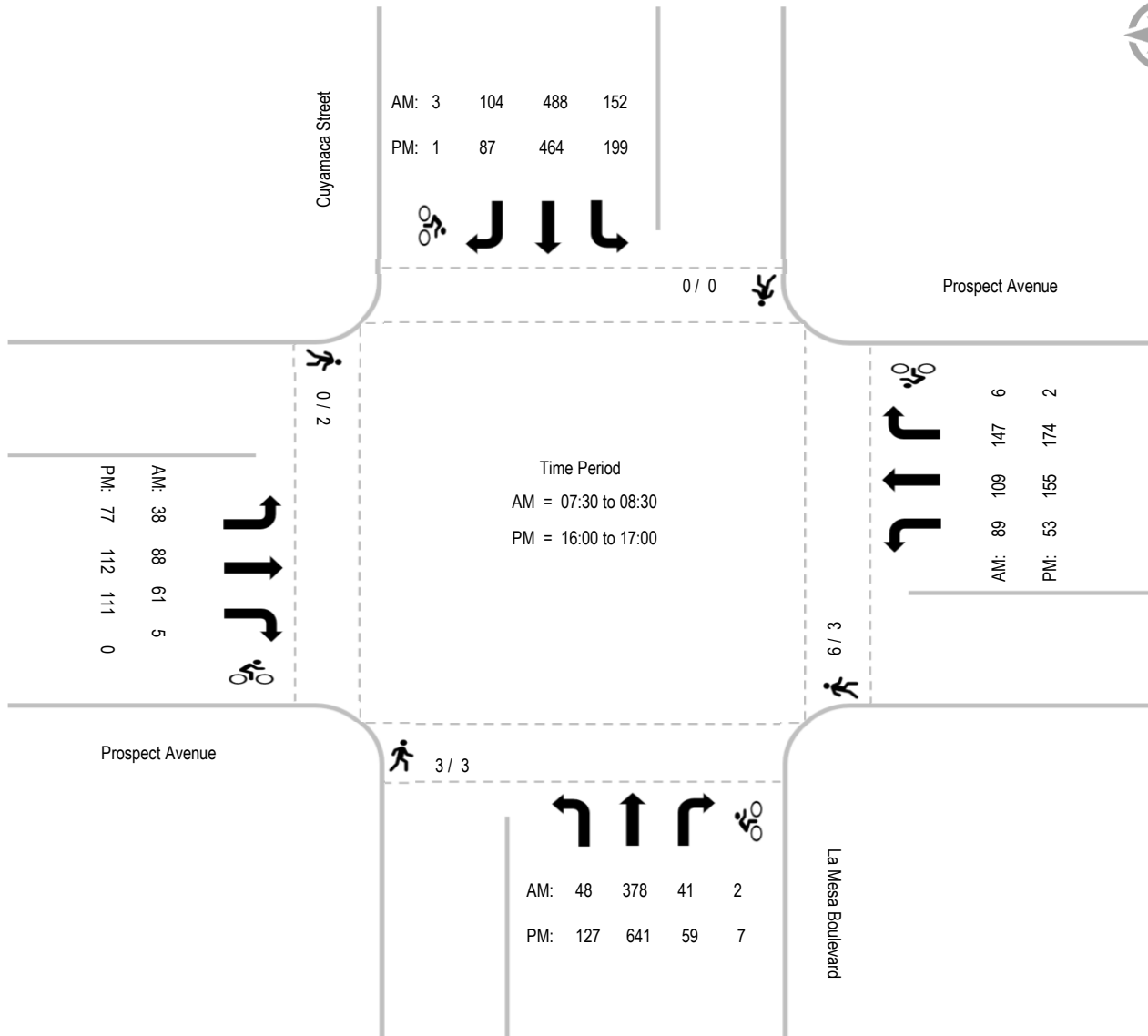
File Name: ITM-20-029-01
 Project: LLG Ref. 3-20-3285
 El Cajon

AM	Cuyamaca Street Southbound				Prospect Avenue Westbound				La Mesa Boulevard Northbound				Prospect Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	4
7:30	0	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	3	1
7:45	0	0	0	0	1	0	2	0	1	0	0	0	0	0	0	0	2	2
8:00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
8:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	1	1	3
8:30	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:45	0	0	0	0	2	0	0	0	1	0	0	1	0	0	0	0	3	1
Ped Total	0				6				3				0				9	
Bike Total		0	3	0		0	6	0		0	1	1		0	4	1		16

PM	Cuyamaca Street Southbound				Prospect Avenue Westbound				La Mesa Boulevard Northbound				Prospect Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
16:45	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	3	1
17:00	0	0	0	0	1	0	1	0	0	0	2	0	0	0	0	0	1	3
17:15	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3	0
17:30	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1
17:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ped Total	0				3				3				2				8	
Bike Total		0	1	0		0	2	0		0	4	3		0	0	0		10

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #01	File Name: ITM-20-029-01
	Intersection: Cuyamaca Street & Prospect Avenue	Project: LLG Ref. 3-20-3285
	Date of Count: Wednesday, September 09, 2020	El Cajon



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #02
 Intersection: Fanita Drive & Weld Boulevard
 Date of Count: Wednesday, September 09, 2020

File Name: ITM-20-029-02
 Project: LLG Ref. 3-20-3285
 El Cajon

AM	Fanita Drive Southbound			Weld Boulevard Westbound			Fanita Drive Northbound			- Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	3	29	0	10	0	6	0	29	20	0	0	0	97
7:15	6	25	0	24	0	3	0	15	32	0	0	0	105
7:30	6	29	0	13	0	2	0	19	33	0	0	0	102
7:45	9	28	0	18	0	4	0	28	37	0	0	0	124
8:00	8	29	0	17	0	8	0	22	28	0	0	0	112
8:15	7	31	0	15	0	9	0	25	15	0	0	0	102
8:30	6	17	0	9	0	9	0	17	21	0	0	0	79
8:45	1	30	0	13	0	5	0	23	15	0	0	0	87
Total	46	218	0	119	0	46	0	178	201	0	0	0	808
Approach%	17.4	82.6	-	72.1	-	27.9	-	47.0	53.0	-	-	-	
Total%	5.7	27.0	-	14.7	-	5.7	-	22.0	24.9	-	-	-	

AM Intersection Peak Hour: 07:15 to 08:15

Volume	29	111	-	72	-	17	-	84	130	-	-	-	443
Approach%	20.7	79.3	-	80.9	-	19.1	-	39.3	60.7	-	-	-	
Total%	6.5	25.1	-	16.3	-	3.8	-	19.0	29.3	-	-	-	
PHF			0.95			0.82			0.82			#DIV/0!	0.00

PM	Fanita Drive Southbound			Weld Boulevard Westbound			Fanita Drive Northbound			- Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	3	26	0	39	0	12	0	32	13	0	0	0	125
16:15	8	31	0	24	0	10	0	30	12	0	0	0	115
16:30	9	40	0	35	0	15	0	31	13	0	0	0	143
16:45	5	27	0	26	0	10	0	33	9	0	0	0	110
17:00	9	39	0	34	0	14	0	43	11	0	0	0	150
17:15	6	29	0	26	0	8	0	39	14	0	0	0	122
17:30	4	32	0	20	0	9	0	43	9	0	0	0	117
17:45	5	20	0	18	0	7	0	30	13	0	0	0	93
Total	49	244	0	222	0	85	0	281	94	0	0	0	975
Approach%	16.7	83.3	-	72.3	-	27.7	-	74.9	25.1	-	-	-	
Total%	5.0	25.0	-	22.8	-	8.7	-	28.8	9.6	-	-	-	

PM Intersection Peak Hour: 16:30 to 17:30

Volume	29	135	-	121	-	47	-	146	47	-	-	-	525
Approach%	17.7	82.3	-	72.0	-	28.0	-	75.6	24.4	-	-	-	
Total%	5.5	25.7	-	23.0	-	9.0	-	27.8	9.0	-	-	-	
PHF			0.84			0.84			0.89			#DIV/0!	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count



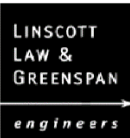
Location: #02
 Intersection: Fanita Drive & Weld Boulevard
 Date of Count: Wednesday, September 09, 2020

File Name: ITM-20-029-02
 Project: LLG Ref. 3-20-3285
 El Cajon

AM	Fanita Drive Southbound				Weld Boulevard Westbound				Fanita Drive Northbound				- Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0
7:15	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	4	1
7:30	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:45	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	1
Ped Total	0				9				0				0				9	
Bike Total		0	4	0		0	0	0		0	1	2		0	0	0		7

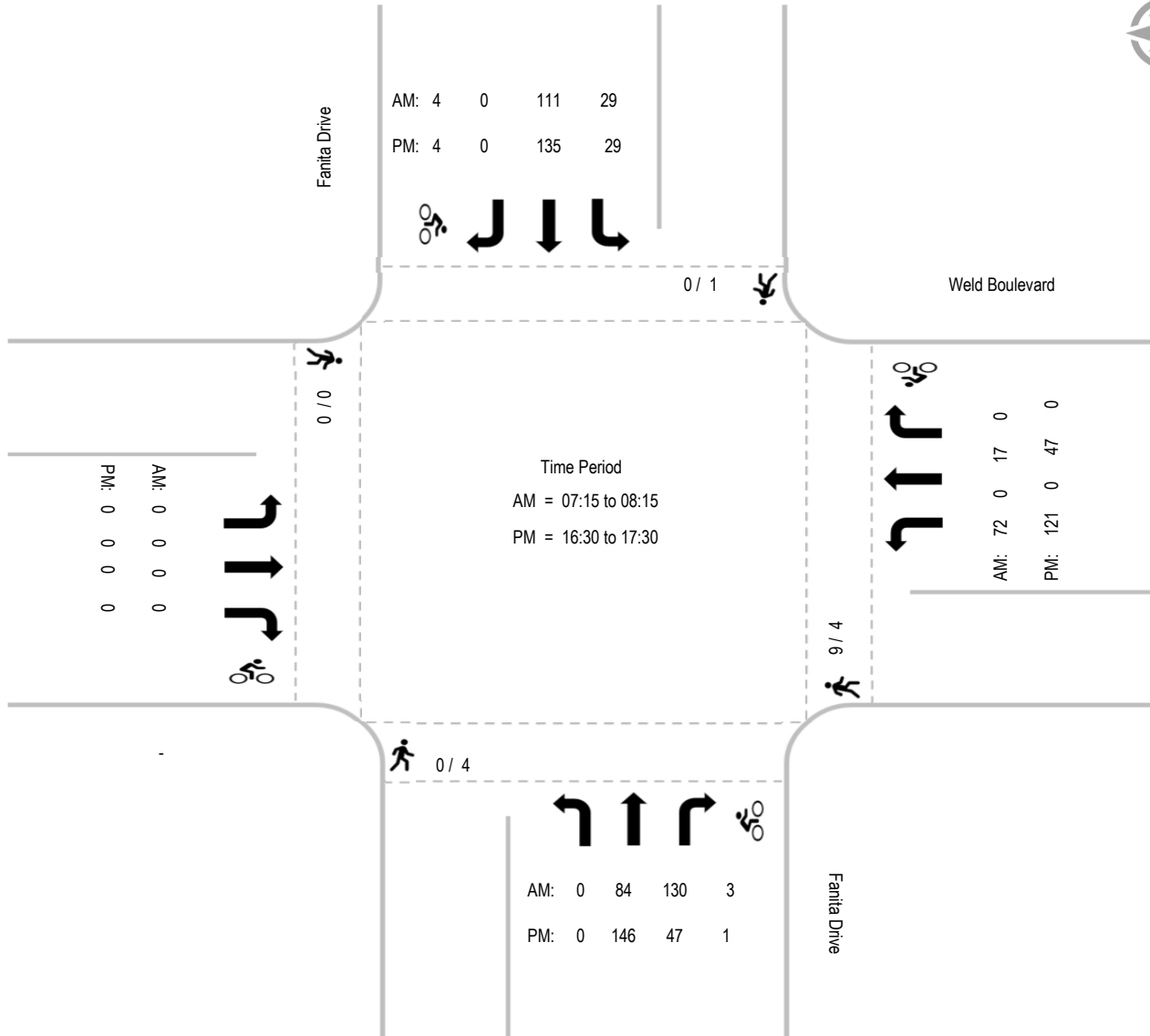
PM	Fanita Drive Southbound				Weld Boulevard Westbound				Fanita Drive Northbound				- Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
17:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
17:15	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	3	0
17:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
17:45	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	2	2
Ped Total	1				4				4				0				9	
Bike Total		1	3	0		0	0	0		0	1	0		0	0	0		5

Intersection Turning Movement - Peak Hour Summary



Location: #02
 Intersection: Fanita Drive & Weld Boulevard
 Date of Count: Wednesday, September 09, 2020

File Name: ITM-20-029-02
 Project: LLG Ref. 3-20-3285
 El Cajon



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #03
 Intersection: Gillespie Way & Weld Boulevard
 Date of Count: Wednesday, September 09, 2020

File Name: ITM-20-029-03
 Project: LLG Ref. 3-20-3285
 El Cajon

AM	Business Driveway Southbound			Weld Boulevard Westbound			Gillespie Way Northbound			Weld Boulevard Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	0	0	0	18	18	0	2	0	3	0	21	13	75
7:15	1	0	0	31	17	1	2	0	5	0	22	29	108
7:30	0	0	0	29	14	0	4	0	7	0	30	17	101
7:45	0	0	0	32	21	0	4	0	9	0	27	19	112
8:00	0	0	0	15	27	0	2	0	10	0	28	15	97
8:15	0	0	0	20	20	0	6	0	8	0	25	13	92
8:30	0	0	0	9	15	0	2	0	5	0	22	14	67
8:45	0	0	0	19	14	0	6	0	8	0	19	6	72
Total	1	0	0	173	146	1	28	0	55	0	194	126	724
Approach%	100.0	-	-	54.1	45.6	0.3	33.7	-	66.3	-	60.6	39.4	
Total%	0.1	-	-	23.9	20.2	0.1	3.9	-	7.6	-	26.8	17.4	

AM Intersection Peak Hour: 07:15 to 08:15

Volume	1	-	-	107	79	1	12	-	31	-	107	80	418
Approach%	100.0	-	-	57.2	42.2	0.5	27.9	-	72.1	-	57.2	42.8	
Total%	0.2	-	-	25.6	18.9	0.2	2.9	-	7.4	-	25.6	19.1	
PHF			0.25			0.88			0.83			0.92	0.00

PM	Business Driveway Southbound			Weld Boulevard Westbound			Gillespie Way Northbound			Weld Boulevard Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	1	0	1	5	44	0	23	0	19	0	28	4	125
16:15	0	0	0	4	36	1	11	0	28	1	27	4	112
16:30	0	0	0	4	40	0	18	0	30	0	25	6	123
16:45	0	0	0	4	34	0	14	0	15	0	13	5	85
17:00	0	0	0	5	42	0	18	0	22	0	22	2	111
17:15	0	0	0	2	17	0	14	0	9	0	21	0	63
17:30	0	0	0	5	29	0	14	0	11	0	13	0	72
17:45	0	0	0	3	19	0	7	0	10	0	22	0	61
Total	1	0	1	32	261	1	119	0	144	1	171	21	752
Approach%	50.0	-	50.0	10.9	88.8	0.3	45.2	-	54.8	0.5	88.6	10.9	
Total%	0.1	-	0.1	4.3	34.7	0.1	15.8	-	19.1	0.1	22.7	2.8	

PM Intersection Peak Hour: 16:00 to 17:00

Volume	1	-	1	17	154	1	66	-	92	1	93	19	445
Approach%	50.0	-	50.0	9.9	89.5	0.6	41.8	-	58.2	0.9	82.3	16.8	
Total%	0.2	-	0.2	3.8	34.6	0.2	14.8	-	20.7	0.2	20.9	4.3	
PHF			0.25			0.88			0.82			0.88	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #03
 Intersection: Gillespie Way & Weld Boulevard
 Date of Count: Wednesday, September 09, 2020

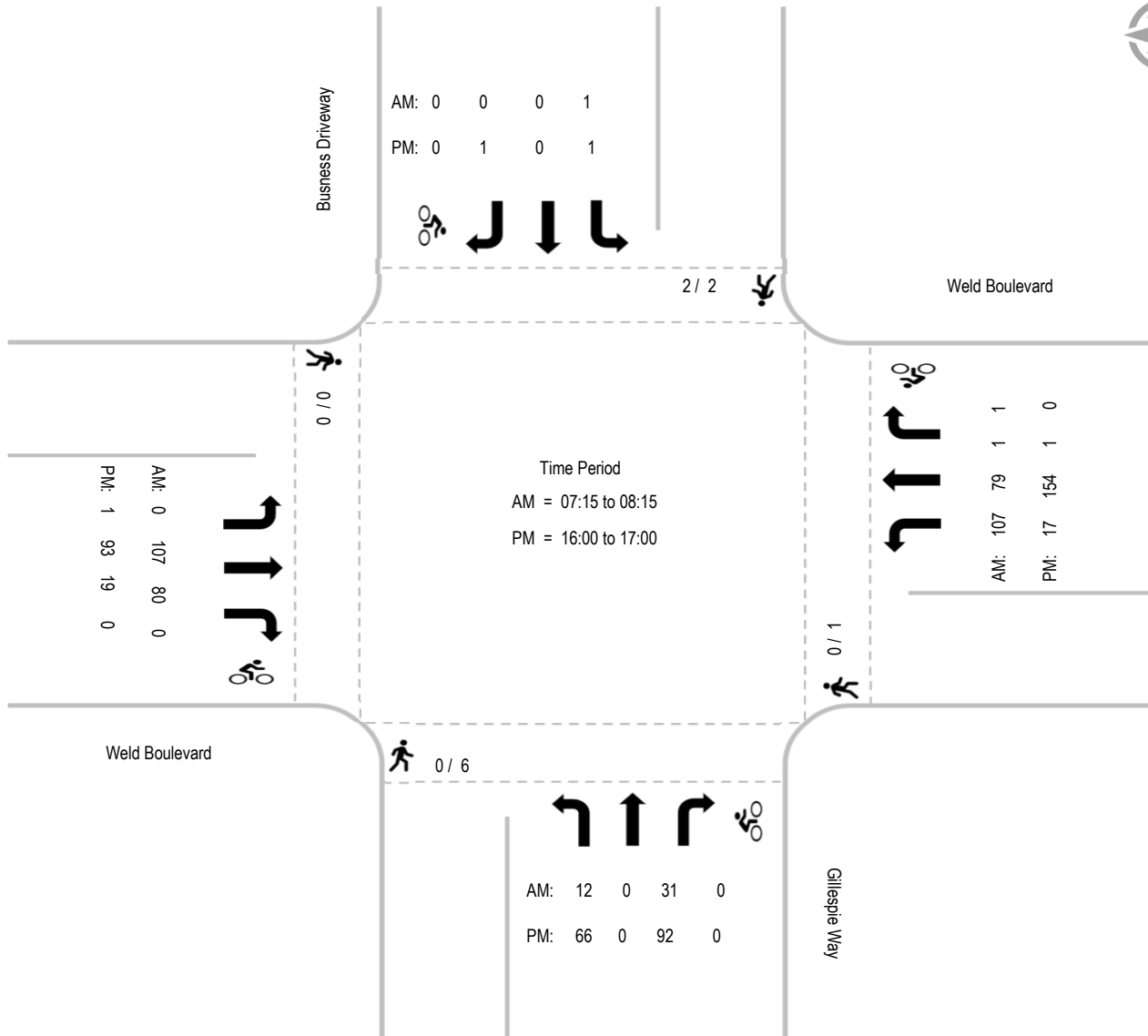
File Name: ITM-20-029-03
 Project: LLG Ref. 3-20-3285
 El Cajon

AM	Business Driveway Southbound				Weld Boulevard Westbound				Gillespie Way Northbound				Weld Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	1
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	2				0				0				0				2	
Bike Total		0	0	0		0	1	0		0	0	0		0	0	0		1

PM	Business Driveway Southbound				Weld Boulevard Westbound				Gillespie Way Northbound				Weld Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
17:30	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
17:45	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	5	0
Ped Total	2				1				6				0				9	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN <i>engineers</i>	Location: #03	File Name: ITM-20-029-03
	Intersection: Gillespie Way & Weld Boulevard	Project: LLG Ref. 3-20-3285
	Date of Count: Wednesday, September 09, 2020	El Cajon



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #04	File Name: ITM-20-029-04
Intersection: Cuyamaca Street & North Marshall Avenue	Project: LLG Ref. 3-20-3285
Date of Count: Wednesday, September 09, 2020	El Cajon

AM	Cuyamaca Street Southbound			N. Marshall Avenue Westbound			Cuyamaca Street Northbound			Weld Boulevard Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	16	87	29	0	5	28	4	52	0	13	3	10	247
7:15	18	101	37	0	5	19	6	85	0	16	4	5	296
7:30	24	86	32	1	3	26	1	84	0	19	6	12	294
7:45	20	116	39	2	6	21	29	78	1	17	4	16	349
8:00	19	111	23	1	8	30	12	63	2	22	4	11	306
8:15	11	97	29	2	3	31	3	69	2	20	4	10	281
8:30	13	77	20	2	2	24	6	83	1	13	7	4	252
8:45	21	93	30	2	2	25	2	85	0	18	4	6	288
Total	142	768	239	10	34	204	63	599	6	138	36	74	2313
Approach%	12.4	66.8	20.8	4.0	13.7	82.3	9.4	89.7	0.9	55.6	14.5	29.8	
Total%	6.1	33.2	10.3	0.4	1.5	8.8	2.7	25.9	0.3	6.0	1.6	3.2	

AM Intersection Peak Hour: 07:15 to 08:15

Volume	81	414	131	4	22	96	48	310	3	74	18	44	1,245
Approach%	12.9	66.1	20.9	3.3	18.0	78.7	13.3	85.9	0.8	54.4	13.2	32.4	
Total%	6.5	33.3	10.5	0.3	1.8	7.7	3.9	24.9	0.2	5.9	1.4	3.5	
PHF			0.89			0.78			0.84			0.92	0.00

PM	Cuyamaca Street Southbound			N. Marshall Avenue Westbound			Cuyamaca Street Northbound			Weld Boulevard Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	12	129	22	0	9	59	20	170	1	37	5	3	467
16:15	12	117	18	0	7	40	15	125	0	36	7	11	388
16:30	21	127	17	1	7	61	17	140	0	35	7	8	441
16:45	7	105	18	0	3	32	15	106	1	25	2	6	320
17:00	14	141	25	1	9	59	12	123	1	35	4	6	430
17:15	12	118	9	0	3	53	8	113	0	17	2	7	342
17:30	5	126	21	0	3	35	11	112	0	17	2	5	337
17:45	7	102	11	0	3	33	6	101	0	22	1	10	296
Total	90	965	141	2	44	372	104	990	3	224	30	56	3021
Approach%	7.5	80.7	11.8	0.5	10.5	89.0	9.5	90.2	0.3	72.3	9.7	18.1	
Total%	3.0	31.9	4.7	0.1	1.5	12.3	3.4	32.8	0.1	7.4	1.0	1.9	

PM Intersection Peak Hour: 16:00 to 17:00

Volume	52	478	75	1	26	192	67	541	2	133	21	28	1,616
Approach%	8.6	79.0	12.4	0.5	11.9	87.7	11.0	88.7	0.3	73.1	11.5	15.4	
Total%	3.2	29.6	4.6	0.1	1.6	11.9	4.1	33.5	0.1	8.2	1.3	1.7	
PHF			0.92			0.79			0.80			0.84	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #04
 Intersection: Cuyamaca Street & North Marshall Avenue
 Date of Count: Wednesday, September 09, 2020

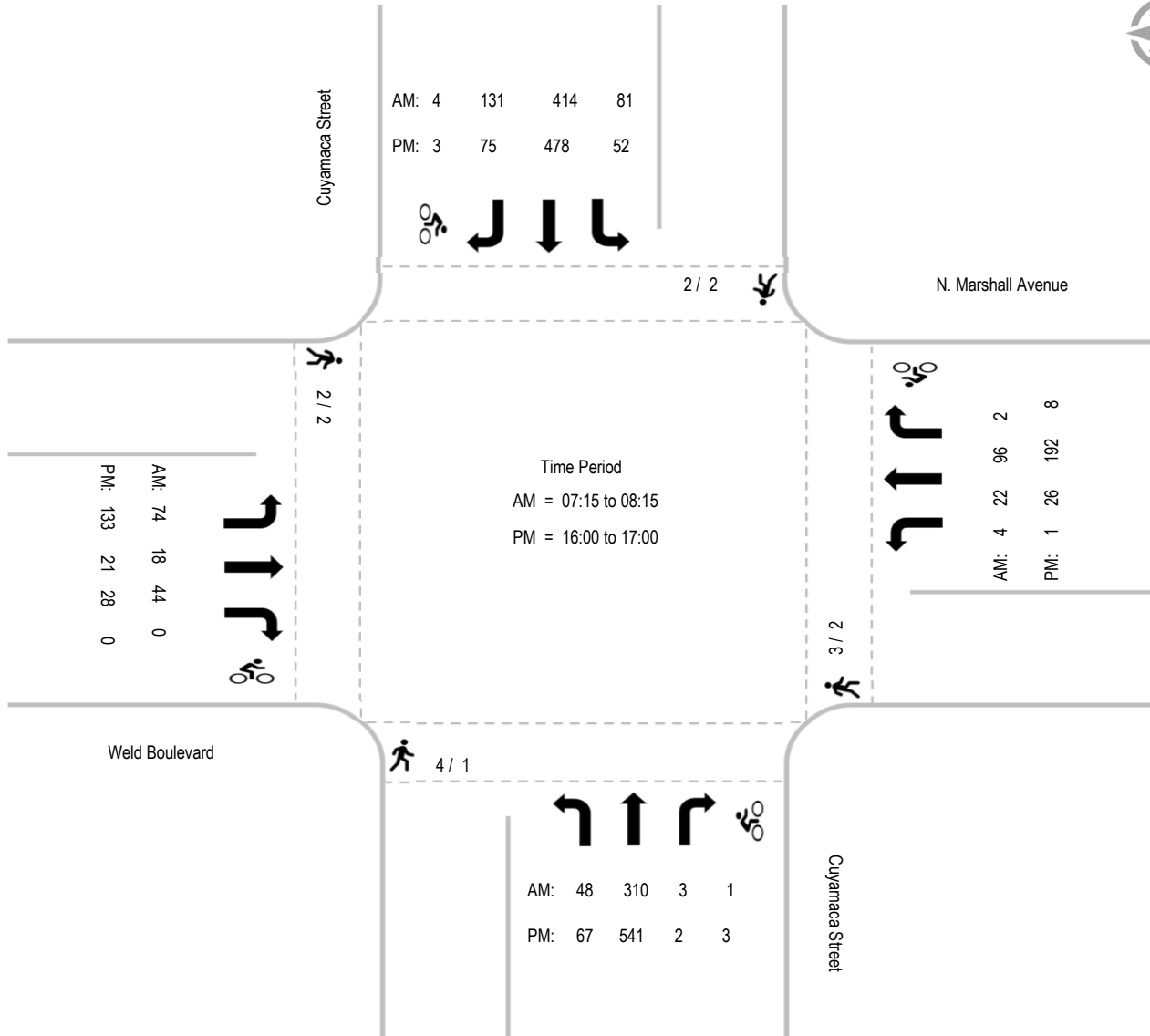
File Name: ITM-20-029-04
 Project: LLG Ref. 3-20-3285
 El Cajon

AM	Cuyamaca Street Southbound				N. Marshall Avenue Westbound				Cuyamaca Street Northbound				Weld Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:15	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
7:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1
7:45	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0
8:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:15	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	2	1
8:30	1	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	4	1
8:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Ped Total	2				3				4				2				11	
Bike Total		0	4	0		0	0	2		0	1	0		0	0	0		7

PM	Cuyamaca Street Southbound				N. Marshall Avenue Westbound				Cuyamaca Street Northbound				Weld Boulevard Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	3	0	0	0	0	0	2	0	0	0	2	3
16:15	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1
16:30	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
17:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:30	2	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	3	2
17:45	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3
Ped Total	2				2				1				2				7	
Bike Total		0	3	0		0	6	2		0	3	0		0	0	0		14

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #04	File Name: ITM-20-029-04
	Intersection: Cuyamaca Street & North Marshall Avenue	Project: LLG Ref. 3-20-3285
	Date of Count: Wednesday, September 09, 2020	El Cajon



Intersection Turning Movement - Peak Hour Vehicle Count



Location: #05
 Intersection: Cuyamaca Street / Bradley Street
 Date of Count: Wednesday, September 09, 2020

File Name: ITM-20-029-05
 Project: LLG Ref. 3-20-3285
 El Cajon

AM	Cuyamaca Street Southbound			Bradley Street Westbound			Cuyamaca Street Northbound			Bradley Street Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00	15	46	0	9	1	24	3	67	10	2	1	2	180
7:15	19	54	0	8	2	19	2	110	12	0	0	3	229
7:30	16	50	3	9	1	34	4	61	15	1	1	2	197
7:45	17	70	2	15	0	24	3	87	14	2	0	1	235
8:00	11	76	2	10	1	16	1	68	7	2	2	1	197
8:15	16	71	2	14	0	23	3	57	5	1	0	3	195
8:30	15	67	1	12	1	23	0	66	3	2	0	1	191
8:45	13	61	0	11	0	10	3	75	5	1	2	3	184
Total	122	495	10	88	6	173	19	591	71	11	6	16	1608
Approach%	19.5	78.9	1.6	33.0	2.2	64.8	2.8	86.8	10.4	33.3	18.2	48.5	
Total%	7.6	30.8	0.6	5.5	0.4	10.8	1.2	36.8	4.4	0.7	0.4	1.0	

AM Intersection Peak Hour: 07:15 to 08:15

Volume	63	250	7	42	4	93	10	326	48	5	3	7	858
Approach%	19.7	78.1	2.2	30.2	2.9	66.9	2.6	84.9	12.5	33.3	20.0	46.7	
Total%	7.3	29.1	0.8	4.9	0.5	10.8	1.2	38.0	5.6	0.6	0.3	0.8	
PHF			0.90			0.79			0.77			0.75	0.00

PM	Cuyamaca Street Southbound			Bradley Street Westbound			Cuyamaca Street Northbound			Bradley Street Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16:00	15	149	2	15	1	26	1	87	8	4	1	3	312
16:15	22	138	1	12	0	23	5	79	12	4	0	3	299
16:30	14	168	2	11	2	17	1	74	7	3	0	2	301
16:45	14	119	2	12	2	16	1	66	2	1	0	4	239
17:00	10	164	6	16	4	13	4	72	5	3	0	5	302
17:15	12	129	3	15	13	25	0	77	6	3	0	1	284
17:30	13	115	3	9	4	15	4	80	4	0	2	4	253
17:45	17	106	3	15	6	18	4	74	7	2	2	3	257
Total	117	1088	22	105	32	153	20	609	51	20	5	25	2247
Approach%	9.5	88.7	1.8	36.2	11.0	52.8	2.9	89.6	7.5	40.0	10.0	50.0	
Total%	5.2	48.4	1.0	4.7	1.4	6.8	0.9	27.1	2.3	0.9	0.2	1.1	

PM Intersection Peak Hour: 16:00 to 17:00

Volume	65	574	7	50	5	82	8	306	29	12	1	12	1,151
Approach%	10.1	88.9	1.1	36.5	3.6	59.9	2.3	89.2	8.5	48.0	4.0	48.0	
Total%	5.6	49.9	0.6	4.3	0.4	7.1	0.7	26.6	2.5	1.0	0.1	1.0	
PHF			0.88			0.82			0.89			0.78	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count



Location: #05
 Intersection: Cuyamaca Street / Bradley Street
 Date of Count: Wednesday, September 09, 2020

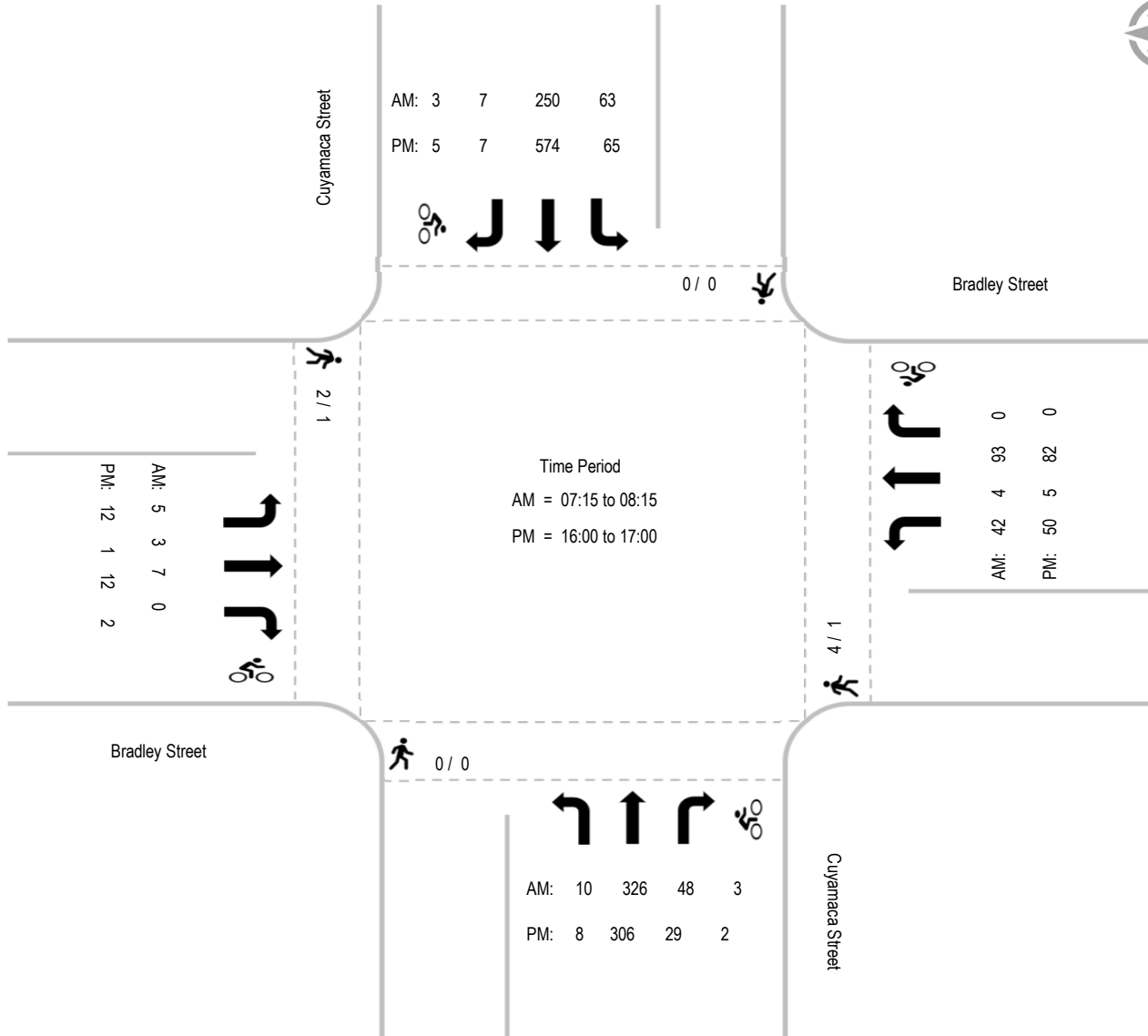
File Name: ITM-20-029-05
 Project: LLG Ref. 3-20-3285
 El Cajon

AM	Cuyamaca Street Southbound				Bradley Street Westbound				Cuyamaca Street Northbound				Bradley Street Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
7:45	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
8:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
8:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	2	2
8:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Ped Total	0				4				0				2				6	
Bike Total		0	3	0		0	0	0		0	3	0		0	0	0		6

PM	Cuyamaca Street Southbound				Bradley Street Westbound				Cuyamaca Street Northbound				Bradley Street Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
17:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
17:30	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1
17:45	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
Ped Total	0				1				0				1				2	
Bike Total		0	5	0		0	0	0		0	2	0		0	1	1		9

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location: #05	File Name: ITM-20-029-05
	Intersection: Cuyamaca Street / Bradley Street	Project: LLG Ref. 3-20-3285
	Date of Count: Wednesday, September 09, 2020	El Cajon



Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Cuyamaca St, between Mission Gorge and Prospect Ave**

Date: Wednesday, September 9, 2020						Total Daily Volume: 36956						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
157	115	53	83	140	339	653	1284	1575	1876	2354	2935	3068	2983	2964	3077	3087	2926	2446	2062	1288	743	429	319
48	32	17	14	17	32	112	247	371	426	536	685	785	832	747	767	753	818	625	583	384	246	137	114
49	28	5	15	31	63	147	263	406	460	550	723	758	713	682	764	799	708	638	531	325	194	118	58
40	27	10	19	49	93	199	355	347	446	620	733	764	757	793	749	824	749	616	481	323	161	93	78
20	28	21	35	43	151	195	419	451	544	648	794	761	681	742	797	711	651	567	467	256	142	81	69

Date: Wednesday, September 9, 2020						Total Daily Volume: 18259						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
89	62	37	45	87	170	325	704	886	1037	1223	1525	1497	1415	1445	1595	1472	1401	1112	899	558	307	215	153
24	19	9	6	9	15	55	133	195	239	290	374	380	390	360	401	376	376	302	251	166	95	60	51
29	19	4	5	16	26	71	124	225	233	269	371	380	352	355	387	394	357	284	240	150	86	59	27
25	11	5	11	33	42	95	205	186	254	329	354	365	334	380	387	371	360	291	187	124	71	53	38
11	13	19	23	29	87	104	242	280	311	335	426	372	339	350	420	331	308	235	221	118	55	43	37

Date: Wednesday, September 9, 2020						Total Daily Volume: 18697						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
68	53	16	38	53	169	328	580	689	839	1131	1410	1571	1568	1519	1482	1615	1525	1334	1163	730	436	214	166
24	13	8	8	8	17	57	114	176	187	246	311	405	442	387	366	377	442	323	332	218	151	77	63
20	9	1	10	15	37	76	139	181	227	281	352	378	361	327	377	405	351	354	291	175	108	59	31
15	16	5	8	16	51	104	150	161	192	291	379	399	423	413	362	453	389	325	294	199	90	40	40
9	15	2	12	14	64	91	177	171	233	313	368	389	342	392	377	380	343	332	246	138	87	38	32

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Cuyamaca St, between Prospect Ave and N. Marshall Ave**

Date: Wednesday, September 9, 2020						Total Daily Volume: 20899						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
128	60	63	83	171	426	897	1238	1198	1118	1222	1625	1669	1511	1673	1994	1629	1455	932	723	479	257	178	170
52	20	17	21	27	35	164	252	285	300	274	408	454	432	385	462	474	432	264	209	152	84	62	52
24	12	12	27	31	83	230	314	326	280	301	404	379	331	410	495	391	362	247	188	126	52	41	39
30	13	18	17	49	117	260	311	259	279	309	378	407	388	440	573	440	370	237	169	109	58	43	40
22	15	16	18	64	191	243	361	328	259	338	435	429	360	438	464	324	291	184	157	92	63	32	39

Date: Wednesday, September 9, 2020						Total Daily Volume: 11281						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
94	40	35	46	80	187	379	604	617	612	670	917	939	768	897	1185	985	830	482	356	223	142	100	93
40	16	5	14	11	16	57	113	132	161	146	236	273	230	210	252	305	242	142	118	75	46	36	37
17	7	8	16	20	39	102	156	164	156	165	224	192	176	207	313	230	219	127	91	58	28	17	14
25	6	13	6	19	60	125	159	150	157	190	205	230	172	263	359	257	204	126	80	47	38	27	16
12	11	9	10	30	72	95	176	171	138	169	252	244	190	217	261	193	165	87	67	43	30	20	26

Date: Wednesday, September 9, 2020						Total Daily Volume: 9618						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
34	20	28	37	91	239	518	634	581	506	552	708	730	743	776	809	644	625	450	367	256	115	78	77
12	4	12	7	16	19	107	139	153	139	128	172	181	202	175	210	169	190	122	91	77	38	26	15
7	5	4	11	11	44	128	158	162	124	136	180	187	155	203	182	161	143	120	97	68	24	24	25
5	7	5	11	30	57	135	152	109	122	119	173	177	216	177	214	183	166	111	89	62	20	16	24
10	4	7	8	34	119	148	185	157	121	169	183	185	170	221	203	131	126	97	90	49	33	12	13

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Cuyamaca St, between N. Marshall Ave and Bradley St**

Date: Wednesday, September 9, 2020						Total Daily Volume: 14455						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
77	46	52	63	135	306	591	824	821	793	870	1033	1097	1078	1126	1346	1153	1042	690	498	364	201	140	109
19	14	14	12	15	29	94	153	206	212	202	247	285	279	247	317	329	286	198	150	115	65	44	31
20	11	12	21	24	66	144	211	204	191	221	268	254	244	276	317	280	269	180	118	91	37	36	27
19	7	16	13	37	76	171	197	199	197	203	244	276	298	318	374	304	252	180	118	81	43	34	28
19	14	10	17	59	135	182	263	212	193	244	274	282	257	285	338	240	235	132	112	77	56	26	23

Date: Wednesday, September 9, 2020						Total Daily Volume: 6861						Description: Northbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
51	28	25	31	59	108	216	363	362	368	429	509	561	487	531	716	620	501	314	206	153	99	74	50
13	10	2	7	6	9	37	56	78	107	98	123	146	141	136	153	191	140	89	70	58	31	21	20
12	7	8	11	12	25	49	96	86	89	100	148	124	106	120	196	143	125	86	45	35	18	15	8
16	4	11	5	14	30	63	97	101	89	118	109	145	123	170	209	162	126	83	55	31	25	21	8
10	7	4	8	27	44	67	114	97	83	113	129	146	117	105	158	124	110	56	36	29	25	17	14

Date: Wednesday, September 9, 2020						Total Daily Volume: 7594						Description: Southbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
26	18	27	32	76	198	375	461	459	425	441	524	536	591	595	630	533	541	376	292	211	102	66	59
6	4	12	5	9	20	57	97	128	105	104	124	139	138	111	164	138	146	109	80	57	34	23	11
8	4	4	10	12	41	95	115	118	102	121	120	130	138	156	121	137	144	94	73	56	19	21	19
3	3	5	8	23	46	108	100	98	108	85	135	131	175	148	165	142	126	97	63	50	18	13	20
9	7	6	9	32	91	115	149	115	110	131	145	136	140	180	180	116	125	76	76	48	31	9	9

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Weld Blvd, between Fanita Dr and Gillespie Wy**

Date: Wednesday, September 9, 2020						Total Daily Volume: 2914						Description: Total Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
24	5	4	6	20	78	222	214	186	156	131	153	194	184	212	306	270	204	106	97	60	38	20	24
11	2	2	1	1	8	47	37	64	47	29	36	43	44	54	82	79	74	28	31	20	13	10	7
9	0	1	3	3	11	66	62	41	32	35	41	55	31	45	74	55	45	30	24	17	7	4	3
1	2	1	1	5	19	47	52	46	36	35	33	58	54	60	82	84	45	27	26	14	10	2	6
3	1	0	1	11	40	62	63	35	41	32	43	38	55	53	68	52	40	21	16	9	8	4	8

Date: Wednesday, September 9, 2020						Total Daily Volume: 1410						Description: Eastbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
3	2	2	3	16	66	187	151	112	84	70	72	84	86	84	101	80	62	39	42	32	17	9	6
1	1	0	0	1	6	38	26	40	21	14	18	22	22	21	27	17	19	10	15	7	5	5	1
1	0	1	2	3	9	59	42	26	22	16	19	21	14	20	35	20	15	11	10	12	3	2	0
0	0	1	0	4	17	41	40	29	18	19	13	27	28	25	21	25	11	8	8	10	4	1	2
1	1	0	1	8	34	49	43	17	23	21	22	14	22	18	18	18	17	10	9	3	5	1	3

Date: Wednesday, September 9, 2020						Total Daily Volume: 1504						Description: Westbound Volume											
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
21	3	2	3	4	12	35	63	74	72	61	81	110	98	128	205	190	142	67	55	28	21	11	18
10	1	2	1	0	2	9	11	24	26	15	18	21	22	33	55	62	55	18	16	13	8	5	6
8	0	0	1	0	2	7	20	15	10	19	22	34	17	25	39	35	30	19	14	5	4	2	3
1	2	0	1	1	2	6	12	17	18	16	20	31	26	35	61	59	34	19	18	4	6	1	4
2	0	0	0	3	6	13	20	18	18	11	21	24	33	35	50	34	23	11	7	6	3	3	5

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4542 Ruffner Street, Suite 100, San Diego, CA 92111

Average Daily Traffic

Location: **Weld Blvd, between Gillespie Wy and Cuyamaca St**

Date: Wednesday, September 9, 2020						Total Daily Volume: 4414											Description: Total Volume							
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
57	10	7	10	33	80	235	302	274	229	230	353	358	301	303	399	344	297	179	167	115	63	34	34	
36	4	1	2	3	8	38	55	86	71	40	79	103	65	67	111	83	96	46	40	33	16	12	6	
12	3	0	5	9	7	55	77	76	57	54	100	81	74	76	94	94	64	43	47	29	20	7	6	
4	1	3	2	12	25	62	85	53	56	61	82	92	84	81	117	93	65	49	43	30	13	5	9	
5	2	3	1	9	40	80	85	59	45	75	92	82	78	79	77	74	72	41	37	23	14	10	13	

Date: Wednesday, September 9, 2020						Total Daily Volume: 2110											Description: Eastbound Volume							
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	
40	5	4	3	22	42	84	130	129	112	109	189	168	132	149	202	197	137	78	70	48	22	17	21	
27	2	0	0	1	4	11	27	38	36	20	47	54	28	27	55	44	46	20	16	9	4	6	3	
8	1	0	1	6	4	21	27	33	24	23	46	33	31	43	38	63	32	22	23	19	7	2	4	
3	0	3	1	7	18	29	37	26	28	30	45	41	35	39	61	55	23	21	10	11	5	4	6	
2	2	1	1	8	16	23	39	32	24	36	51	40	38	40	48	35	36	15	21	9	6	5	8	

Date: Tuesday, September 15, 2020						Total Daily Volume: 2304											Description: Westbound Volume									
0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00			
17	5	3	7	11	38	151	172	145	117	121	164	190	169	154	197	147	160	101	97	67	41	17	13			
9	2	1	2	2	4	27	28	48	35	20	32	49	37	40	56	39	50	26	24	24	12	6	3			
4	2	0	4	3	3	34	50	43	33	31	54	48	43	33	56	31	32	21	24	10	13	5	2			
1	1	0	1	5	7	33	48	27	28	31	37	51	49	42	56	38	42	28	33	19	8	1	3			
3	0	2	0	1	24	57	46	27	21	39	41	42	40	39	29	39	36	26	16	14	8	5	5			

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Appendix C. County of San Diego Roadway Classification Table

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TABLE 5-3
AVERAGE DAILY VEHICLE TRIPS – COUNTY OF SAN DIEGO

MOBILITY ELEMENT ROADS		LEVELS OF SERVICE				
Roadway Classification	#of Travel Lanes	A	B	C	D	E
Expressway (6.1)	6	<36,000	<54,000	<70,000	<86,000	<108,000
Prime Arterial (6.2)	6	<22,200	<37,000	<44,600	<50,000	<57,000
Major Road	w/ Raised Median (4.1A)	4	<14,800	<24,700	<29,600	<33,400
	w/ Intermittent Turn Lanes (4.1B)	4	<13,700	<22,800	<27,400	<30,800
Boulevard	w/ Raised Median (4.2A)	4	<18,000	<21,000	<24,000	<27,000
	w/ Intermittent Turn Lanes (4.2B)	4	<16,800	<19,600	<22,500	<25,000
Community Collector	w/ Raised Median (2.1A)	2	<10,000	<11,700	<13,400	<15,000
	w/ Continuous Left-Turn Lane (2.1B)	2	<3,000	<6,000	<9,500	<13,500
	w/ Intermittent Turn Lanes (2.1C)	2	<3,000	<6,000	<9,500	<13,500
	w/ Passing Lane (2.1D)	2	<3,000	<6,000	<9,500	<13,500
	No Median (2.1E)	2	<1,900	<4,100	<7,100	<10,900
Light Collector	w/ Raised Median (2.2A)	2	<3,000	<6,000	<9,500	<13,500
	w/ Continuous Left-Turn Lane (2.2B)	2	<3,000	<6,000	<9,500	<13,500
	w/ Intermittent Turn Lanes (2.2C)	2	<3,000	<6,000	<9,500	<13,500
	W/ Passing Lane (2.2D)	2	<3,000	<6,000	<9,500	<13,500
	No Median (2.2E)	2	<1,900	<4,100	<7,100	<10,900
	w/ Reduced Shoulder (2.2F)	2	<5,800	<6,800	<7,800	<8,700
Minor Collector	w/ Raised Median (2.3A)	2	<3,000	<6,000	<7,000	<8,000
	w/ Intermittent (Turn Lane (2.3B)	2	<3,000	<6,000	<7,000	<8,000
	No Median (2.3C)	2	<1,900	<4,100	<6,000	<7,000
NON-MOBILITY ELEMENT ROADS **		LEVELS OF SERVICE				
Residential Collector	2	-	-	<4,500	-	-
Rural Residential Collector ***	2	-	-	<4,500	-	-
Residential Road	2	-	-	<1,500	-	-
Rural Residential Road ***	2	-	-	<1,500	-	-
Residential Cul-de-Sac or Loop Road	2	-	-	<200	-	-

The values shown are subject to adjustment based on the geometry of the roadway side frictions, and other relevant factors as determined by the Director, Department of Public Works.

**Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

***Rural Residential Collectors and Rural Residential Roads are intended to serve areas with lot sizes of 2 acres or more which do not have a demand for on-street parking. On-street parking is not assured for these cross sections. Additional right-of-way is needed if on-street parking is in paved area.

****See Tables 2A and 28 for roadway surfacing and right-of-way widths.

Appendix D. Existing Peak Hour Intersection Analysis Worksheets

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HCM 6th Signalized Intersection Summary

1: Cuyamaca St & Prospect Ave /Prospect Ave

09/17/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	110	76	111	136	184	60	473	51	190	610	130
Future Volume (veh/h)	48	110	76	111	136	184	60	473	51	190	610	130
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		0.97	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	117	81	128	156	211	67	531	57	235	753	160
Peak Hour Factor	0.94	0.94	0.94	0.87	0.87	0.87	0.89	0.89	0.89	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	279	231	109	617	270	86	1744	757	165	1901	837
Arrive On Green	0.04	0.15	0.15	0.06	0.17	0.17	0.05	0.49	0.49	0.09	0.54	0.54
Sat Flow, veh/h	1781	1870	1545	1781	3554	1554	1781	3554	1541	1781	3554	1564
Grp Volume(v), veh/h	51	117	81	128	156	211	67	531	57	235	753	160
Grp Sat Flow(s),veh/h/ln	1781	1870	1545	1781	1777	1554	1781	1777	1541	1781	1777	1564
Q Serve(g_s), s	2.7	5.4	4.5	5.8	3.6	12.3	3.5	8.5	1.9	8.8	11.9	5.0
Cycle Q Clear(g_c), s	2.7	5.4	4.5	5.8	3.6	12.3	3.5	8.5	1.9	8.8	11.9	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	65	279	231	109	617	270	86	1744	757	165	1901	837
V/C Ratio(X)	0.78	0.42	0.35	1.18	0.25	0.78	0.78	0.30	0.08	1.42	0.40	0.19
Avail Cap(c_a), veh/h	131	650	537	109	1190	520	118	1744	757	165	1901	837
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	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.4	36.7	36.3	44.6	33.9	37.5	44.7	14.5	12.8	43.1	13.0	11.4
Incr Delay (d2), s/veh	17.9	1.0	0.9	141.6	0.2	4.9	18.4	0.4	0.2	222.3	0.6	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	1.5	2.5	1.7	6.8	1.6	5.0	1.9	3.2	0.7	13.9	4.3	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	37.7	37.2	186.2	34.1	42.5	63.1	14.9	13.0	265.4	13.6	11.9
LnGrp LOS	E	D	D	F	C	D	E	B	B	F	B	B
Approach Vol, veh/h	249				495				655			
Approach Delay, s/veh	42.8				77.0				19.7			
Approach LOS	D				E				B			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	52.6	10.0	19.4	8.8	56.8	7.7	21.7				
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	5.2	* 4.2	* 6	* 4.2	5.2				
Max Green Setting (Gmax), s	* 8.8	27.8	* 5.8	33.0	* 6.3	* 30	* 7	31.8				
Max Q Clear Time (g_c+I1), s	10.8	10.5	7.8	7.4	5.5	13.9	4.7	14.3				
Green Ext Time (p_c), s	0.0	3.1	0.0	0.9	0.0	4.8	0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay 53.5

HCM 6th LOS D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

2: Fanita Dr & Weld Blvd

09/17/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	90	21	105	163	36	139
Future Volume (veh/h)	90	21	105	163	36	139
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	26	128	199	38	146
Peak Hour Factor	0.82	0.82	0.82	0.82	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	392	349	412	351	48	719
Arrive On Green	0.22	0.22	0.23	0.23	0.03	0.38
Sat Flow, veh/h	1781	1585	1870	1516	1781	1870
Grp Volume(v), veh/h	110	26	128	199	38	146
Grp Sat Flow(s), veh/h/ln	1781	1585	1777	1516	1781	1870
Q Serve(g_s), s	1.6	0.4	1.9	3.7	0.7	1.7
Cycle Q Clear(g_c), s	1.6	0.4	1.9	3.7	0.7	1.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	392	349	412	351	48	719
V/C Ratio(X)	0.28	0.07	0.31	0.57	0.79	0.20
Avail Cap(c_a), veh/h	2121	1887	1569	1338	974	2909
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	10.3	9.8	10.1	10.8	15.4	6.5
Incr Delay (d2), s/veh	0.4	0.1	0.4	1.4	24.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1	0.5	0.9	0.5	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.7	9.9	10.5	12.3	40.0	6.7
LnGrp LOS	B	A	B	B	D	A
Approach Vol, veh/h	136		327			184
Approach Delay, s/veh	10.6		11.6			13.6
Approach LOS	B		B			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.9	14.1		12.9		18.9
Change Period (Y+Rc), s	4.0	6.7		5.9		6.7
Max Green Setting (Gmax), s	17.4	28.1		37.9		49.5
Max Q Clear Time (g_c+I), s	12.5	5.7		3.6		3.7
Green Ext Time (p_c), s	0.0	1.8		0.4		0.8
Intersection Summary						
HCM 6th Ctrl Delay			11.9			
HCM 6th LOS			B			

HCM 6th TWSC
3: Gillespie Way/Project Dwy & Weld Blvd

09/17/2020

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↱		↱	↑↑		↱		↱			
Traffic Vol, veh/h	0	134	100	134	99	0	15	0	39	0	0	0
Future Vol, veh/h	0	134	100	134	99	0	15	0	39	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	185	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	88	88	88	83	83	83	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	146	109	152	113	0	18	0	47	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	-	0	0	255	0	0	562	-	128			
Stage 1	-	-	-	-	-	-	201	-	-			
Stage 2	-	-	-	-	-	-	361	-	-			
Critical Hdwy	-	-	-	4.14	-	-	6.84	-	6.94			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-	-			
Follow-up Hdwy	-	-	-	2.22	-	-	3.52	-	3.32			
Pot Cap-1 Maneuver	0	-	-	1307	-	0	457	0	898			
Stage 1	0	-	-	-	-	0	813	0	-			
Stage 2	0	-	-	-	-	0	676	0	-			
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1307	-	-	404	0	898			
Mov Cap-2 Maneuver	-	-	-	-	-	-	404	0	-			
Stage 1	-	-	-	-	-	-	813	0	-			
Stage 2	-	-	-	-	-	-	598	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	0			4.7			10.6					
HCM LOS	B											
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBT	EBR	WBL	WBT						
Capacity (veh/h)	404 898		-	-	1307	-						
HCM Lane V/C Ratio	0.045 0.052		-	-	0.117	-						
HCM Control Delay (s)	14.3 9.2		-	-	8.1	-						
HCM Lane LOS	B A		-	-	A	-						
HCM 95th %tile Q(veh)	0.1 0.2		-	-	0.4	-						

HCM 6th Signalized Intersection Summary

4: Cuyamaca St & Weld Blvd

09/17/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	23	55	5	28	120	60	388	4	101	518	164
Future Volume (veh/h)	93	23	55	5	28	120	60	388	4	101	518	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	78	60	6	36	154	71	462	5	113	582	184
Peak Hour Factor	0.92	0.92	0.92	0.78	0.78	0.78	0.84	0.84	0.84	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	338	372	17	257	213	191	1864	20	121	1403	442
Arrive On Green	0.05	0.18	0.18	0.01	0.14	0.14	0.06	0.52	0.52	0.07	0.53	0.53
Sat Flow, veh/h	1781	1870	1575	1781	1870	1554	3456	3600	39	1781	2647	835
Grp Volume(v), veh/h	63	78	60	6	36	154	71	228	239	113	390	376
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1870	1554	1728	1777	1862	1781	1777	1705
Q Serve(g_s), s	3.1	3.2	2.7	0.3	1.5	8.5	1.8	6.4	6.4	5.7	11.9	12.0
Cycle Q Clear(g_c), s	3.1	3.2	2.7	0.3	1.5	8.5	1.8	6.4	6.4	5.7	11.9	12.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		0.49
Lane Grp Cap(c), veh/h	94	338	372	17	257	213	191	920	964	121	942	904
V/C Ratio(X)	0.67	0.23	0.16	0.36	0.14	0.72	0.37	0.25	0.25	0.94	0.41	0.42
Avail Cap(c_a), veh/h	131	584	579	131	584	485	234	920	964	121	942	904
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	0.86	0.86	0.86
Uniform Delay (d), s/veh	41.8	31.5	27.3	44.3	34.2	37.2	41.0	12.0	12.0	41.8	12.7	12.7
Incr Delay (d2), s/veh	7.9	0.3	0.2	12.8	0.2	4.6	1.2	0.6	0.6	56.8	1.2	1.2
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	1.5	1.4	1.0	0.2	0.7	3.4	0.8	2.4	2.5	4.3	4.4	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	31.9	27.5	57.1	34.4	41.7	42.2	12.7	12.6	98.5	13.9	14.0
LnGrp LOS	D	C	C	E	C	D	D	B	B	F	B	B
Approach Vol, veh/h	201				196				538			
Approach Delay, s/veh	36.2				40.9				16.5			
Approach LOS	D				D				B			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	52.8	4.8	21.8	9.5	53.9	8.8	17.9				
Change Period (Y+Rc), s	4.5	6.2	4.0	5.5	4.5	6.2	4.0	5.5				
Max Green Setting (Gmax), s	6.1	29.0	6.6	28.1	6.1	29.0	6.6	28.1				
Max Q Clear Time (g_c+I1), s	7.7	8.4	2.3	5.2	3.8	14.0	5.1	10.5				
Green Ext Time (p_c), s	0.0	2.4	0.0	0.5	0.0	3.9	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay	25.3											
HCM 6th LOS	C											
Notes												

HCM 6th Signalized Intersection Summary

5: Cuyamaca St & Bradley St

09/17/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	4	9	53	5	116	13	408	60	79	313	9
Future Volume (veh/h)	6	4	9	53	5	116	13	408	60	79	313	9
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		0.98	1.00		0.98
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	5	12	67	6	147	17	530	78	88	348	10
Peak Hour Factor	0.75	0.75	0.75	0.79	0.79	0.79	0.77	0.77	0.77	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	11	123	104	187	224	290	41	1845	270	113	2241	64
Arrive On Green	0.01	0.07	0.07	0.05	0.12	0.12	0.02	0.60	0.60	0.06	0.64	0.64
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3098	454	1781	3525	101
Grp Volume(v), veh/h	8	5	12	67	6	147	17	303	305	88	175	183
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1775	1781	1777	1849
Q Serve(g_s), s	0.4	0.2	0.6	1.7	0.3	7.5	0.8	7.5	7.6	4.4	3.6	3.6
Cycle Q Clear(g_c), s	0.4	0.2	0.6	1.7	0.3	7.5	0.8	7.5	7.6	4.4	3.6	3.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.26	1.00		0.05
Lane Grp Cap(c), veh/h	11	123	104	187	224	290	41	1058	1057	113	1130	1176
V/C Ratio(X)	0.74	0.04	0.11	0.36	0.03	0.51	0.41	0.29	0.29	0.78	0.15	0.16
Avail Cap(c_a), veh/h	150	499	423	311	520	541	160	1058	1057	160	1130	1176
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	44.7	39.4	39.6	41.1	35.0	33.1	43.4	8.9	8.9	41.5	6.6	6.6
Incr Delay (d2), s/veh	66.4	0.1	0.5	1.2	0.0	1.4	6.5	0.7	0.7	14.5	0.3	0.3
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	0.4	0.1	0.3	0.7	0.1	2.8	0.4	2.7	2.7	2.3	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.1	39.5	40.0	42.2	35.0	34.5	49.9	9.6	9.6	56.0	6.9	6.9
LnGrp LOS	F	D	D	D	D	C	D	A	A	E	A	A
Approach Vol, veh/h	25			220			625			446		
Approach Delay, s/veh	62.7			36.9			10.7			16.6		
Approach LOS	E			D			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	59.5	9.4	10.9	6.6	63.1	4.5	15.8				
Change Period (Y+Rc), s	4.5	5.9	4.5	5.0	4.5	5.9	4.0	5.0				
Max Green Setting (Gmax), s	10.1	29.9	8.1	24.0	8.1	29.9	7.6	25.0				
Max Q Clear Time (g_c+I), s	10.4	9.6	3.7	2.6	2.8	5.6	2.4	9.5				
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.0	1.8	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

1: Cuyamaca St & Prospect Ave /Prospect Ave

09/17/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	140	139	66	194	218	159	801	74	249	580	109
Future Volume (veh/h)	96	140	139	66	194	218	159	801	74	249	580	109
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		0.97	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	103	151	149	75	220	248	185	931	86	265	617	116
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.86	0.86	0.86	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	400	332	96	708	310	204	1502	651	184	1461	643
Arrive On Green	0.07	0.21	0.21	0.05	0.20	0.20	0.11	0.42	0.42	0.10	0.41	0.41
Sat Flow, veh/h	1781	1870	1551	1781	3554	1555	1781	3554	1540	1781	3554	1563
Grp Volume(v), veh/h	103	151	149	75	220	248	185	931	86	265	617	116
Grp Sat Flow(s),veh/h/ln	1781	1870	1551	1781	1777	1555	1781	1777	1540	1781	1777	1563
Q Serve(g_s), s	5.4	6.6	7.9	4.0	5.0	14.4	9.7	19.5	3.2	9.8	11.8	4.5
Cycle Q Clear(g_c), s	5.4	6.6	7.9	4.0	5.0	14.4	9.7	19.5	3.2	9.8	11.8	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	400	332	96	708	310	204	1502	651	184	1461	643
V/C Ratio(X)	0.85	0.38	0.45	0.78	0.31	0.80	0.91	0.62	0.13	1.44	0.42	0.18
Avail Cap(c_a), veh/h	122	650	539	99	1190	521	204	1502	651	184	1461	643
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	0.66	0.66	0.66	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	31.9	32.5	44.4	32.5	36.2	41.5	21.4	16.8	42.6	19.9	17.8
Incr Delay (d2), s/veh	39.1	0.6	1.0	31.1	0.2	4.8	28.4	1.3	0.3	227.0	0.9	0.6
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	3.7	3.0	3.0	2.6	2.2	5.8	5.7	7.6	1.2	15.7	4.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.8	32.5	33.4	75.5	32.7	41.0	69.9	22.7	17.0	269.6	20.8	18.4
LnGrp LOS	F	C	C	E	C	D	E	C	B	F	C	B
Approach Vol, veh/h	403			543			1202			998		
Approach Delay, s/veh	45.7			42.4			29.6			86.6		
Approach LOS	D			D			C			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	46.2	9.3	25.5	15.1	45.1	10.7	24.1				
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	5.2	* 4.2	* 6	* 4.2	5.2				
Max Green Setting (Gmax), s	* 9.8	27.3	* 5.3	33.0	* 11	* 26	* 6.5	31.8				
Max Q Clear Time (g_c+I1), s	11.8	21.5	6.0	9.9	11.7	13.8	7.4	16.4				
Green Ext Time (p_c), s	0.0	3.0	0.0	1.3	0.0	3.4	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			51.9									
HCM 6th LOS			D									
Notes												

HCM 6th Signalized Intersection Summary

2: Fanita Dr & Weld Blvd

09/17/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	151	59	183	59	36	169
Future Volume (veh/h)	151	59	183	59	36	169
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.97	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	70	206	66	43	201
Peak Hour Factor	0.84	0.84	0.89	0.89	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	397	353	580	180	53	704
Arrive On Green	0.22	0.22	0.22	0.22	0.03	0.38
Sat Flow, veh/h	1781	1585	2742	820	1781	1870
Grp Volume(v), veh/h	180	70	136	136	43	201
Grp Sat Flow(s), veh/h/ln	1781	1585	1777	1692	1781	1870
Q Serve(g_s), s	2.7	1.1	2.0	2.1	0.8	2.4
Cycle Q Clear(g_c), s	2.7	1.1	2.0	2.1	0.8	2.4
Prop In Lane	1.00	1.00		0.48	1.00	
Lane Grp Cap(c), veh/h	397	353	389	371	53	704
V/C Ratio(X)	0.45	0.20	0.35	0.37	0.81	0.29
Avail Cap(c_a), veh/h	2148	1912	1589	1513	986	2946
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	10.6	9.9	10.4	10.4	15.2	6.8
Incr Delay (d2), s/veh	0.8	0.3	0.5	0.6	24.1	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	0.8	0.3	0.5	0.5	0.6	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.4	10.2	10.9	11.0	39.2	7.1
LnGrp LOS	B	B	B	B	D	A
Approach Vol, veh/h	250		272			244
Approach Delay, s/veh	11.0		11.0			12.7
Approach LOS	B		B			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	4.9	13.6		12.9		18.5
Change Period (Y+Rc), s	4.0	6.7		5.9		6.7
Max Green Setting (Gmax), s	17.4	28.1		37.9		49.5
Max Q Clear Time (g_c+I), s	12.8	4.1		4.7		4.4
Green Ext Time (p_c), s	0.1	1.4		0.7		1.1
Intersection Summary						
HCM 6th Ctrl Delay			11.6			
HCM 6th LOS			B			

HCM 6th TWSC
3: Gillespie Way/Project Dwy & Weld Blvd

09/17/2020

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↱		↱	↑↑		↱	↱				
Traffic Vol, veh/h	0	116	24	21	193	0	83	0	115	0	0	0
Future Vol, veh/h	0	116	24	21	193	0	83	0	115	0	0	0
Conflicting Peds, #/hr	0	0	6	0	0	2	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	82	82	82	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	132	27	24	219	0	101	0	140	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	-	0	0	165	0	0	310	419	87			
Stage 1	-	-	-	-	-	-	152	152	-			
Stage 2	-	-	-	-	-	-	158	267	-			
Critical Hdwy	-	-	-	4.14	-	-	6.84	6.54	6.94			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-			
Follow-up Hdwy	-	-	-	2.22	-	-	3.52	4.02	3.32			
Pot Cap-1 Maneuver	0	-	-	1411	-	0	658	524	954			
Stage 1	0	-	-	-	-	0	860	771	-			
Stage 2	0	-	-	-	-	0	854	687	-			
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1403	-	-	643	0	948			
Mov Cap-2 Maneuver	-	-	-	-	-	-	643	0	-			
Stage 1	-	-	-	-	-	-	855	0	-			
Stage 2	-	-	-	-	-	-	839	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	0			0.7			10.4					
HCM LOS							B					
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBT	EBR	WBL	WBT						
Capacity (veh/h)	643 948		-	-	1403	-						
HCM Lane V/C Ratio	0.157 0.148		-	-	0.017	-						
HCM Control Delay (s)	11.6 9.5		-	-	7.6	-						
HCM Lane LOS	B A		-	-	A	-						
HCM 95th %tile Q(veh)	0.6 0.5		-	-	0.1	-						

HCM 6th Signalized Intersection Summary

4: Cuyamaca St & Weld Blvd

09/17/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	26	35	1	33	240	84	676	3	65	598	94
Future Volume (veh/h)	166	26	35	1	33	240	84	676	3	65	598	94
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		0.98	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	220	0	42	1	42	304	105	845	4	71	650	102
Peak Hour Factor	0.84	0.84	0.84	0.79	0.79	0.79	0.80	0.80	0.80	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	0	569	3	415	344	196	1604	8	92	1343	210
Arrive On Green	0.08	0.00	0.30	0.00	0.22	0.22	0.06	0.44	0.44	0.05	0.44	0.44
Sat Flow, veh/h	3563	0	1583	1781	1870	1549	3456	3626	17	1781	3071	481
Grp Volume(v), veh/h	220	0	42	1	42	304	105	414	435	71	376	376
Grp Sat Flow(s),veh/h/ln	1781	0	1583	1781	1870	1549	1728	1777	1867	1781	1777	1775
Q Serve(g_s), s	6.0	0.0	1.7	0.1	1.8	19.0	3.0	16.9	16.9	3.9	15.1	15.1
Cycle Q Clear(g_c), s	6.0	0.0	1.7	0.1	1.8	19.0	3.0	16.9	16.9	3.9	15.1	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.27
Lane Grp Cap(c), veh/h	292	0	569	3	415	344	196	786	826	92	777	776
V/C Ratio(X)	0.75	0.00	0.07	0.34	0.10	0.88	0.54	0.53	0.53	0.77	0.48	0.48
Avail Cap(c_a), veh/h	374	0	597	187	599	496	346	786	826	178	777	776
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	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	44.9	0.0	21.1	49.9	31.0	37.7	45.9	20.3	20.3	46.8	20.1	20.1
Incr Delay (d2), s/veh	6.3	0.0	0.1	57.7	0.1	12.6	2.3	2.5	2.4	11.6	1.9	1.9
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	0.0	0.6	0.1	0.8	8.1	1.3	7.0	7.3	2.0	6.2	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	0.0	21.2	107.5	31.1	50.3	48.1	22.8	22.7	58.4	22.0	22.0
LnGrp LOS	D	A	C	F	C	D	D	C	C	E	C	C
Approach Vol, veh/h		262			347			954			823	
Approach Delay, s/veh		46.4			48.1			25.5			25.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	50.4	4.2	35.7	10.2	49.9	12.2	27.7				
Change Period (Y+Rc), s	4.5	6.2	4.0	5.5	4.5	6.2	4.0	5.5				
Max Green Setting (Gmax), s	10.0	27.3	10.5	32.0	10.0	27.3	10.5	32.0				
Max Q Clear Time (g_c+I1), s	5.9	18.9	2.1	3.7	5.0	17.1	8.0	21.0				
Green Ext Time (p_c), s	0.0	3.1	0.0	0.1	0.1	3.1	0.2	1.0				
Intersection Summary												
HCM 6th Ctrl Delay			31.0									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

5: Cuyamaca St & Bradley St

09/17/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1	15	63	6	103	10	383	36	81	718	9
Future Volume (veh/h)	15	1	15	63	6	103	10	383	36	81	718	9
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		1.00	1.00		0.98	1.00		0.98
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	1	19	77	7	126	11	430	40	92	816	10
Peak Hour Factor	0.78	0.78	0.78	0.82	0.82	0.82	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	111	92	183	196	271	28	2043	189	118	2418	30
Arrive On Green	0.01	0.06	0.06	0.05	0.10	0.10	0.02	0.62	0.62	0.07	0.67	0.67
Sat Flow, veh/h	1781	1870	1554	3456	1870	1585	1781	3281	304	1781	3594	44
Grp Volume(v), veh/h	19	1	19	77	7	126	11	232	238	92	403	423
Grp Sat Flow(s),veh/h/ln	1781	1870	1554	1728	1870	1585	1781	1777	1808	1781	1777	1861
Q Serve(g_s), s	1.1	0.1	1.2	2.2	0.3	7.2	0.6	5.7	5.7	5.1	9.6	9.6
Cycle Q Clear(g_c), s	1.1	0.1	1.2	2.2	0.3	7.2	0.6	5.7	5.7	5.1	9.6	9.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.02
Lane Grp Cap(c), veh/h	22	111	92	183	196	271	28	1106	1125	118	1195	1252
V/C Ratio(X)	0.85	0.01	0.21	0.42	0.04	0.47	0.39	0.21	0.21	0.78	0.34	0.34
Avail Cap(c_a), veh/h	205	524	435	415	542	564	214	1106	1125	214	1195	1252
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	49.3	44.3	44.8	45.9	40.2	37.3	48.7	8.2	8.2	46.0	6.9	6.9
Incr Delay (d2), s/veh	53.7	0.0	1.1	1.5	0.1	1.2	8.6	0.4	0.4	10.7	0.8	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	0.8	0.0	0.5	0.9	0.2	2.8	0.3	2.0	2.1	2.5	3.1	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.0	44.3	45.9	47.4	40.3	38.6	57.3	8.6	8.6	56.7	7.7	7.7
LnGrp LOS	F	D	D	D	D	D	E	A	A	E	A	A
Approach Vol, veh/h	39			210			481			918		
Approach Delay, s/veh	73.6			41.9			9.7			12.6		
Approach LOS	E			D			A			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.1	68.2	9.8	10.9	6.1	73.2	5.3	15.5				
Change Period (Y+Rc), s	4.5	5.9	4.5	5.0	4.5	5.9	4.0	5.0				
Max Green Setting (Gmax), s	12.0	28.1	12.0	28.0	12.0	28.1	11.5	29.0				
Max Q Clear Time (g_c+I1), s	7.7	7.7	4.2	3.2	2.6	11.6	3.1	9.2				
Green Ext Time (p_c), s	0.1	2.5	0.1	0.0	0.0	4.3	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Appendix E. Site Specific Trip Generation Projections

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DIB4 in El Cajon, CA - 2W4F SS

Time	Associates			Trucks			DSP Drivers			DSP Vans			Flex			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
00:00	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
00:30	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
01:00	0	183	183	1	1	2	0	0	0	0	0	0	0	0	0	1	184	185
01:30	187	0	187	1	1	2	0	0	0	0	0	0	0	0	0	188	1	189
02:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
02:30	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
03:00	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
03:30	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
04:00	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
04:30	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
05:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
05:30	32	0	32	1	0	1	0	0	0	0	0	0	0	0	0	33	0	33
06:00	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
06:30	0	0	0	1	1	2	100	0	100	0	0	0	0	0	0	101	1	102
07:00	0	0	0	1	1	2	76	0	76	0	75	75	0	0	0	77	76	153
07:30	0	0	0	0	1	1	12	0	12	0	75	75	0	0	0	12	76	88
08:00	0	0	0	0	0	0	0	0	0	0	38	38	0	0	0	0	38	38
08:30	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
09:00	0	0	0	1	1	2	25	0	25	0	0	0	0	0	0	26	1	27
09:30	0	0	0	1	1	2	100	0	100	0	0	0	0	0	0	101	1	102
10:00	0	0	0	0	1	1	125	0	125	0	75	75	0	0	0	125	76	201
10:30	0	0	0	0	0	0	100	0	100	0	150	150	0	0	0	100	150	250
11:00	0	0	0	1	0	1	62	0	62	0	75	75	0	0	0	63	75	138
11:30	6	0	6	0	1	1	0	0	0	0	112	112	0	0	0	6	113	119
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	187	187	0	0	0	0	0	0	0	0	0	0	0	0	0	187	187
13:00	32	0	32	0	0	0	0	0	0	0	0	0	0	0	0	32	0	32
13:30	26	0	26	0	0	0	0	0	0	0	0	0	0	0	0	26	0	26
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	32	32	0	0	0	0	0	0	0	0	0	0	0	0	0	32	32
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	1	0	1	0	0	0	0	0	0	60	0	60	61	0	61
16:30	0	0	0	2	1	3	0	0	0	19	0	19	0	30	30	21	31	52
17:00	183	0	183	1	2	3	0	57	57	38	0	38	0	30	30	222	89	311
17:30	0	0	0	1	1	2	0	48	48	95	0	95	0	0	0	96	49	145
18:00	0	26	26	1	1	2	0	75	75	28	0	28	0	0	0	29	102	131
18:30	0	0	0	7	1	8	0	8	8	8	0	8	0	0	0	15	9	24
19:00	0	0	0	5	7	12	0	19	19	19	0	19	0	0	0	24	26	50
19:30	0	0	0	2	5	7	0	38	38	95	0	95	0	0	0	97	43	140
20:00	0	0	0	2	2	4	0	132	132	85	0	85	0	0	0	87	134	221
20:30	0	0	0	2	2	4	0	95	95	141	0	141	0	0	0	143	97	240
21:00	0	0	0	2	2	4	0	103	103	54	0	54	0	0	0	56	105	161
21:30	0	0	0	1	2	3	0	25	25	18	0	18	0	0	0	19	27	46
22:00	0	32	32	1	1	2	0	0	0	0	0	0	0	0	0	1	33	34
22:30	0	6	6	1	1	2	0	0	0	0	0	0	0	0	0	1	7	8
23:00	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
23:30	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
Total	466	466	932	48	48	96	600	600	1,200	600	600	1,200	60	60	120	1,774	1,774	3,548

CO Shift:	5:30 PM	1:00 AM	183	Assoc.
2nd Shift:	2:00 AM	12:30 PM	187	Assoc.
2nd Shift:	6:00 AM	2:30 PM	32	Assoc.
3rd Shift:	1:30 PM	10:00 PM	32	Assoc.
PFSO Shift:	2:00 PM	6:00 PM	26	Assoc.
RTS Shift:	12:00 PM	10:30 PM	6	Assoc.

DIB4 in El Cajon, CA - 2W4F SS

	Autos			Trucks			Vans			Total		
Time	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
00:00	0	0	0	2	2	4	0	0	0	2	2	4
01:00	187	183	370	2	2	4	0	0	0	189	185	374
02:00	0	0	0	1	1	2	0	0	0	1	1	2
03:00	0	0	0	2	2	4	0	0	0	2	2	4
04:00	0	0	0	2	2	4	0	0	0	2	2	4
05:00	32	0	32	1	1	2	0	0	0	33	1	34
06:00	100	0	100	2	2	4	0	0	0	102	2	104
07:00	76	0	76	1	1	2	0	75	75	77	76	153
07:30	12	0	12	0	1	1	0	75	75	12	76	88
08:00	0	0	0	0	0	0	0	38	38	0	38	38
08:30	0	0	0	1	0	1	0	0	0	1	0	1
09:00	125	0	125	2	2	4	0	0	0	127	2	129
10:00	225	0	225	0	1	1	0	225	225	225	226	451
11:00	68	0	68	1	1	2	0	187	187	69	188	257
12:00	0	187	187	0	0	0	0	0	0	0	187	187
13:00	58	0	58	0	0	0	0	0	0	58	0	58
14:00	0	32	32	0	0	0	0	0	0	0	32	32
15:00	0	0	0	0	0	0	0	0	0	0	0	0
16:00	60	0	60	1	0	1	0	0	0	61	0	61
16:30	0	30	30	2	1	3	19	0	19	21	31	52
17:00	183	87	270	1	2	3	38	0	38	222	89	311
17:30	0	48	48	1	1	2	95	0	95	96	49	145
18:00	0	109	109	8	2	10	36	0	36	44	111	155
19:00	0	57	57	7	12	19	114	0	114	121	69	190
20:00	0	227	227	4	4	8	226	0	226	230	231	461
21:00	0	128	128	3	4	7	72	0	72	75	132	207
22:00	0	38	38	2	2	4	0	0	0	2	40	42
23:00	0	0	0	2	2	4	0	0	0	2	2	4
Total	1,126	1,126	2,252	48	48	96	600	600	1,200	1,774	1,774	3,548

**Appendix F. Existing + Cumulative Projects
Peak Hour Intersection Analysis Worksheets**

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HCM 6th Signalized Intersection Summary

1: Cuyamaca St & Prospect Ave /Prospect Ave

09/17/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	110	78	113	136	185	60	483	51	191	651	135
Future Volume (veh/h)	53	110	78	113	136	185	60	483	51	191	651	135
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		0.97	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	56	117	83	130	156	213	67	543	57	236	804	167
Peak Hour Factor	0.94	0.94	0.94	0.87	0.87	0.87	0.89	0.89	0.89	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	288	238	109	621	272	86	1727	749	165	1884	829
Arrive On Green	0.04	0.15	0.15	0.06	0.17	0.17	0.05	0.49	0.49	0.09	0.53	0.53
Sat Flow, veh/h	1781	1870	1546	1781	3554	1554	1781	3554	1541	1781	3554	1564
Grp Volume(v), veh/h	56	117	83	130	156	213	67	543	57	236	804	167
Grp Sat Flow(s),veh/h/ln	1781	1870	1546	1781	1777	1554	1781	1777	1541	1781	1777	1564
Q Serve(g_s), s	3.0	5.4	4.6	5.8	3.6	12.5	3.5	8.8	1.9	8.8	13.1	5.3
Cycle Q Clear(g_c), s	3.0	5.4	4.6	5.8	3.6	12.5	3.5	8.8	1.9	8.8	13.1	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	72	288	238	109	621	272	86	1727	749	165	1884	829
V/C Ratio(X)	0.78	0.41	0.35	1.20	0.25	0.78	0.78	0.31	0.08	1.43	0.43	0.20
Avail Cap(c_a), veh/h	131	650	537	109	1190	520	118	1727	749	165	1884	829
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	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.2	36.3	35.9	44.6	33.8	37.5	44.7	14.8	13.0	43.1	13.6	11.7
Incr Delay (d2), s/veh	16.3	0.9	0.9	148.1	0.2	4.9	18.3	0.4	0.2	224.8	0.7	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	1.6	2.5	1.8	7.0	1.6	5.0	1.9	3.3	0.7	14.0	4.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.4	37.2	36.8	192.7	34.0	42.4	63.0	15.3	13.2	267.9	14.3	12.3
LnGrp LOS	E	D	D	F	C	D	E	B	B	F	B	B
Approach Vol, veh/h	256			499			667			1207		
Approach Delay, s/veh	42.4			78.9			19.9			63.6		
Approach LOS	D			E			B			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	52.2	10.0	19.8	8.8	56.4	8.0	21.8				
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	5.2	* 4.2	* 6	* 4.2	5.2				
Max Green Setting (Gmax), s	* 8.8	27.8	* 5.8	33.0	* 6.3	* 30	* 7	31.8				
Max Q Clear Time (g_c+I1), s	10.8	10.8	7.8	7.4	5.5	15.1	5.0	14.5				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.9	0.0	5.0	0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay 53.3

HCM 6th LOS D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

2: Fanita Dr & Weld Blvd

09/17/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	91	23	105	167	42	139
Future Volume (veh/h)	91	23	105	167	42	139
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	28	128	204	44	146
Peak Hour Factor	0.82	0.82	0.82	0.82	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	388	346	417	356	54	729
Arrive On Green	0.22	0.22	0.23	0.23	0.03	0.39
Sat Flow, veh/h	1781	1585	1870	1516	1781	1870
Grp Volume(v), veh/h	111	28	128	204	44	146
Grp Sat Flow(s), veh/h/ln	1781	1585	1777	1516	1781	1870
Q Serve(g_s), s	1.7	0.5	1.9	3.8	0.8	1.7
Cycle Q Clear(g_c), s	1.7	0.5	1.9	3.8	0.8	1.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	388	346	417	356	54	729
V/C Ratio(X)	0.29	0.08	0.31	0.57	0.81	0.20
Avail Cap(c_a), veh/h	2102	1871	1555	1327	965	2883
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	10.5	10.0	10.1	10.9	15.5	6.5
Incr Delay (d2), s/veh	0.4	0.1	0.4	1.5	24.4	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.5	0.1	0.5	0.9	0.6	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	10.9	10.1	10.5	12.3	39.9	6.6
LnGrp LOS	B	B	B	B	D	A
Approach Vol, veh/h	139		332			190
Approach Delay, s/veh	10.7		11.6			14.3
Approach LOS	B		B			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.0	14.2		12.9		19.2
Change Period (Y+Rc), s	4.0	6.7		5.9		6.7
Max Green Setting (Gmax), s	17.4	28.1		37.9		49.5
Max Q Clear Time (g_c+I), s	12.8	5.8		3.7		3.7
Green Ext Time (p_c), s	0.1	1.8		0.4		0.8
Intersection Summary						
HCM 6th Ctrl Delay			12.2			
HCM 6th LOS			B			

HCM 6th TWSC
3: Gillespie Way/Project Dwy & Weld Blvd

09/17/2020

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↱		↱	↑↑		↱		↱			
Traffic Vol, veh/h	0	172	100	134	110	0	15	0	39	0	0	0
Future Vol, veh/h	0	172	100	134	110	0	15	0	39	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	2	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	185	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	88	88	88	83	83	83	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	187	109	152	125	0	18	0	47	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	-	0	0	296	0	0	609	-	148			
Stage 1	-	-	-	-	-	-	242	-	-			
Stage 2	-	-	-	-	-	-	367	-	-			
Critical Hdwy	-	-	-	4.14	-	-	6.84	-	6.94			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-	-			
Follow-up Hdwy	-	-	-	2.22	-	-	3.52	-	3.32			
Pot Cap-1 Maneuver	0	-	-	1262	-	0	427	0	872			
Stage 1	0	-	-	-	-	0	776	0	-			
Stage 2	0	-	-	-	-	0	671	0	-			
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1262	-	-	376	0	872			
Mov Cap-2 Maneuver	-	-	-	-	-	-	376	0	-			
Stage 1	-	-	-	-	-	-	776	0	-			
Stage 2	-	-	-	-	-	-	590	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	0			4.5			11					
HCM LOS	B											
Minor Lane/Major Mvmt	NBLn1		NBLn2	EBT	EBR	WBL	WBT					
Capacity (veh/h)	376		872	-	-	1262	-					
HCM Lane V/C Ratio	0.048		0.054	-	-	0.121	-					
HCM Control Delay (s)	15.1		9.4	-	-	8.2	-					
HCM Lane LOS	C		A	-	-	A	-					
HCM 95th %tile Q(veh)	0.2		0.2	-	-	0.4	-					

HCM 6th Signalized Intersection Summary

4: Cuyamaca St & Weld Blvd

09/17/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	52	65	5	33	125	66	392	4	138	525	165
Future Volume (veh/h)	94	52	65	5	33	125	66	392	4	138	525	165
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	88	71	6	42	160	79	467	5	155	590	185
Peak Hour Factor	0.92	0.92	0.92	0.78	0.78	0.78	0.84	0.84	0.84	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	354	389	17	264	219	198	1833	20	121	1378	431
Arrive On Green	0.06	0.19	0.19	0.01	0.14	0.14	0.06	0.51	0.51	0.07	0.52	0.52
Sat Flow, veh/h	1781	1870	1575	1781	1870	1554	3456	3601	39	1781	2653	830
Grp Volume(v), veh/h	80	88	71	6	42	160	79	230	242	155	395	380
Grp Sat Flow(s),veh/h/ln	1781	1870	1575	1781	1870	1554	1728	1777	1862	1781	1777	1706
Q Serve(g_s), s	4.0	3.6	3.2	0.3	1.8	8.9	2.0	6.6	6.6	6.1	12.4	12.4
Cycle Q Clear(g_c), s	4.0	3.6	3.2	0.3	1.8	8.9	2.0	6.6	6.6	6.1	12.4	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		0.49
Lane Grp Cap(c), veh/h	103	354	389	17	264	219	198	904	948	121	923	886
V/C Ratio(X)	0.78	0.25	0.18	0.36	0.16	0.73	0.40	0.25	0.25	1.28	0.43	0.43
Avail Cap(c_a), veh/h	131	584	583	131	584	485	234	904	948	121	923	886
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	0.84	0.84	0.84
Uniform Delay (d), s/veh	41.8	31.0	26.7	44.3	34.0	37.0	40.9	12.5	12.5	42.0	13.4	13.4
Incr Delay (d2), s/veh	20.2	0.4	0.2	12.8	0.3	4.6	1.3	0.7	0.6	170.2	1.2	1.3
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	2.3	1.6	1.2	0.2	0.8	3.5	0.8	2.5	2.6	8.3	4.6	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	31.4	27.0	57.1	34.2	41.6	42.2	13.1	13.1	212.2	14.6	14.7
LnGrp LOS	E	C	C	E	C	D	D	B	B	F	B	B
Approach Vol, veh/h		239			208			551			930	
Approach Delay, s/veh		40.3			40.6			17.3			47.5	
Approach LOS		D			D			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	52.0	4.8	22.6	9.7	52.9	9.2	18.2				
Change Period (Y+Rc), s	4.5	6.2	4.0	5.5	4.5	6.2	4.0	5.5				
Max Green Setting (Gmax), s	6.1	29.0	6.6	28.1	6.1	29.0	6.6	28.1				
Max Q Clear Time (g_c+I1), s	8.1	8.6	2.3	5.6	4.0	14.4	6.0	10.9				
Green Ext Time (p_c), s	0.0	2.4	0.0	0.6	0.0	3.9	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			37.3									
HCM 6th LOS			D									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

5: Cuyamaca St & Bradley St

09/17/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	4	9	54	5	123	13	414	67	88	320	10
Future Volume (veh/h)	7	4	9	54	5	123	13	414	67	88	320	10
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		0.98	1.00		0.98
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	5	12	68	6	156	17	538	87	98	356	11
Peak Hour Factor	0.75	0.75	0.75	0.79	0.79	0.79	0.77	0.77	0.77	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	12	124	105	188	223	300	41	1796	289	125	2234	69
Arrive On Green	0.01	0.07	0.07	0.05	0.12	0.12	0.02	0.59	0.59	0.07	0.64	0.64
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3053	492	1781	3516	108
Grp Volume(v), veh/h	9	5	12	68	6	156	17	312	313	98	179	188
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1767	1781	1777	1848
Q Serve(g_s), s	0.5	0.2	0.6	1.7	0.3	8.0	0.8	7.9	8.0	4.9	3.7	3.7
Cycle Q Clear(g_c), s	0.5	0.2	0.6	1.7	0.3	8.0	0.8	7.9	8.0	4.9	3.7	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		0.06
Lane Grp Cap(c), veh/h	12	124	105	188	223	300	41	1045	1040	125	1129	1174
V/C Ratio(X)	0.75	0.04	0.11	0.36	0.03	0.52	0.41	0.30	0.30	0.79	0.16	0.16
Avail Cap(c_a), veh/h	150	499	423	311	520	551	160	1045	1040	160	1129	1174
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	44.6	39.4	39.6	41.0	35.0	32.8	43.4	9.3	9.3	41.2	6.7	6.7
Incr Delay (d2), s/veh	63.1	0.1	0.5	1.2	0.0	1.4	6.5	0.7	0.7	17.5	0.3	0.3
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	0.4	0.1	0.3	0.7	0.1	3.0	0.4	2.8	2.8	2.7	1.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.7	39.5	40.0	42.2	35.1	34.2	49.9	10.0	10.0	58.7	7.0	7.0
LnGrp LOS	F	D	D	D	D	C	D	A	B	E	A	A
Approach Vol, veh/h	26			230			642			465		
Approach Delay, s/veh	63.3			36.6			11.1			17.9		
Approach LOS	E			D			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	58.9	9.4	10.9	6.6	63.1	4.6	15.7				
Change Period (Y+Rc), s	4.5	5.9	4.5	5.0	4.5	5.9	4.0	5.0				
Max Green Setting (Gmax), s	10.8	29.9	8.1	24.0	8.1	29.9	7.6	25.0				
Max Q Clear Time (g_c+I), s	10.8	10.0	3.7	2.6	2.8	5.7	2.5	10.0				
Green Ext Time (p_c), s	0.0	3.5	0.0	0.0	0.0	1.9	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

1: Cuyamaca St & Prospect Ave /Prospect Ave

09/17/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	140	139	66	194	219	161	842	76	250	596	115
Future Volume (veh/h)	101	140	139	66	194	219	161	842	76	250	596	115
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		0.97	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	151	149	75	220	249	187	979	88	266	634	122
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.86	0.86	0.86	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	401	333	96	711	311	204	1500	650	184	1459	642
Arrive On Green	0.07	0.21	0.21	0.05	0.20	0.20	0.11	0.42	0.42	0.10	0.41	0.41
Sat Flow, veh/h	1781	1870	1551	1781	3554	1555	1781	3554	1540	1781	3554	1563
Grp Volume(v), veh/h	109	151	149	75	220	249	187	979	88	266	634	122
Grp Sat Flow(s),veh/h/ln	1781	1870	1551	1781	1777	1555	1781	1777	1540	1781	1777	1563
Q Serve(g_s), s	5.8	6.6	7.9	4.0	5.0	14.5	9.9	20.9	3.3	9.8	12.2	4.7
Cycle Q Clear(g_c), s	5.8	6.6	7.9	4.0	5.0	14.5	9.9	20.9	3.3	9.8	12.2	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	401	333	96	711	311	204	1500	650	184	1459	642
V/C Ratio(X)	0.89	0.38	0.45	0.78	0.31	0.80	0.91	0.65	0.14	1.45	0.43	0.19
Avail Cap(c_a), veh/h	122	650	539	99	1190	521	204	1500	650	184	1459	642
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	0.63	0.63	0.63	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	31.9	32.4	44.4	32.4	36.2	41.6	21.9	16.8	42.6	20.1	17.9
Incr Delay (d2), s/veh	50.6	0.6	0.9	31.1	0.2	4.8	29.3	1.4	0.3	229.2	0.9	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	4.2	3.0	3.0	2.6	2.2	5.8	5.8	8.2	1.2	15.8	4.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.5	32.5	33.4	75.5	32.7	41.0	70.9	23.3	17.1	271.8	21.0	18.6
LnGrp LOS	F	C	C	E	C	D	E	C	B	F	C	B
Approach Vol, veh/h	409			544			1254			1022		
Approach Delay, s/veh	49.3			42.4			30.0			86.0		
Approach LOS	D			D			C			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	46.1	9.3	25.6	15.1	45.0	10.7	24.2				
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	5.2	* 4.2	* 6	* 4.2	5.2				
Max Green Setting (Gmax), s	* 9.8	27.3	* 5.3	33.0	* 11	* 26	* 6.5	31.8				
Max Q Clear Time (g_c+I1), s	11.8	22.9	6.0	9.9	11.9	14.2	7.8	16.5				
Green Ext Time (p_c), s	0.0	2.5	0.0	1.3	0.0	3.4	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			52.2									
HCM 6th LOS			D									
Notes												

HCM 6th Signalized Intersection Summary

2: Fanita Dr & Weld Blvd

09/17/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	155	66	183	60	38	169
Future Volume (veh/h)	155	66	183	60	38	169
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.97	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	185	79	206	67	45	201
Peak Hour Factor	0.84	0.84	0.89	0.89	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	396	353	578	182	55	705
Arrive On Green	0.22	0.22	0.22	0.22	0.03	0.38
Sat Flow, veh/h	1781	1585	2732	829	1781	1870
Grp Volume(v), veh/h	185	79	136	137	45	201
Grp Sat Flow(s), veh/h/ln	1781	1585	1777	1690	1781	1870
Q Serve(g_s), s	2.8	1.3	2.0	2.2	0.8	2.4
Cycle Q Clear(g_c), s	2.8	1.3	2.0	2.2	0.8	2.4
Prop In Lane	1.00	1.00		0.49	1.00	
Lane Grp Cap(c), veh/h	396	353	389	370	55	705
V/C Ratio(X)	0.47	0.22	0.35	0.37	0.81	0.28
Avail Cap(c_a), veh/h	2146	1909	1587	1510	985	2942
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	10.6	10.0	10.4	10.4	15.2	6.8
Incr Delay (d2), s/veh	0.9	0.3	0.5	0.6	24.0	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	0.8	0.3	0.5	0.5	0.6	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.5	10.3	10.9	11.1	39.2	7.1
LnGrp LOS	B	B	B	B	D	A
Approach Vol, veh/h	264		273			246
Approach Delay, s/veh	11.1		11.0			12.9
Approach LOS	B		B			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.0	13.6		12.9		18.6
Change Period (Y+Rc), s	4.0	6.7		5.9		6.7
Max Green Setting (Gmax), s	17.4	28.1		37.9		49.5
Max Q Clear Time (g_c+I), s	12.8	4.2		4.8		4.4
Green Ext Time (p_c), s	0.1	1.4		0.8		1.1
Intersection Summary						
HCM 6th Ctrl Delay			11.7			
HCM 6th LOS			B			

HCM 6th TWSC
3: Gillespie Way/Project Dwy & Weld Blvd

09/17/2020

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↱		↱	↑↑		↱	↱				
Traffic Vol, veh/h	0	132	24	21	234	0	83	0	115	0	0	0
Future Vol, veh/h	0	132	24	21	234	0	83	0	115	0	0	0
Conflicting Peds, #/hr	0	0	6	0	0	2	0	0	1	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	82	82	82	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	150	27	24	266	0	101	0	140	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	-	0	0	183	0	0	351	484	96			
Stage 1	-	-	-	-	-	-	170	170	-			
Stage 2	-	-	-	-	-	-	181	314	-			
Critical Hdwy	-	-	-	4.14	-	-	6.84	6.54	6.94			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-			
Follow-up Hdwy	-	-	-	2.22	-	-	3.52	4.02	3.32			
Pot Cap-1 Maneuver	0	-	-	1389	-	0	620	481	942			
Stage 1	0	-	-	-	-	0	843	757	-			
Stage 2	0	-	-	-	-	0	832	655	-			
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1381	-	-	606	0	936			
Mov Cap-2 Maneuver	-	-	-	-	-	-	606	0	-			
Stage 1	-	-	-	-	-	-	838	0	-			
Stage 2	-	-	-	-	-	-	818	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	0			0.6			10.6					
HCM LOS							B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT						
Capacity (veh/h)	606	936	-	-	1381	-						
HCM Lane V/C Ratio	0.167	0.15	-	-	0.017	-						
HCM Control Delay (s)	12.1	9.5	-	-	7.7	-						
HCM Lane LOS	B	A	-	-	A	-						
HCM 95th %tile Q(veh)	0.6	0.5	-	-	0.1	-						

HCM 6th Signalized Intersection Summary

4: Cuyamaca St & Weld Blvd

09/17/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	35	43	1	62	275	96	682	3	75	605	95
Future Volume (veh/h)	167	35	43	1	62	275	96	682	3	75	605	95
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		0.98	1.00		0.97	1.00		0.98
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	0	51	1	78	348	120	852	4	82	658	103
Peak Hour Factor	0.84	0.84	0.84	0.79	0.79	0.79	0.80	0.80	0.80	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	0	617	3	466	387	200	1470	7	105	1249	195
Arrive On Green	0.08	0.00	0.33	0.00	0.25	0.25	0.06	0.41	0.41	0.06	0.41	0.41
Sat Flow, veh/h	3563	0	1584	1781	1870	1551	3456	3627	17	1781	3072	480
Grp Volume(v), veh/h	229	0	51	1	78	348	120	417	439	82	380	381
Grp Sat Flow(s),veh/h/ln	1781	0	1584	1781	1870	1551	1728	1777	1867	1781	1777	1775
Q Serve(g_s), s	6.3	0.0	2.0	0.1	3.3	21.7	3.4	18.3	18.3	4.5	16.2	16.2
Cycle Q Clear(g_c), s	6.3	0.0	2.0	0.1	3.3	21.7	3.4	18.3	18.3	4.5	16.2	16.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.27
Lane Grp Cap(c), veh/h	301	0	617	3	466	387	200	720	757	105	722	722
V/C Ratio(X)	0.76	0.00	0.08	0.34	0.17	0.90	0.60	0.58	0.58	0.78	0.53	0.53
Avail Cap(c_a), veh/h	374	0	617	187	599	496	346	720	757	178	722	722
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	1.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	44.8	0.0	19.2	49.9	29.4	36.3	46.0	23.1	23.1	46.4	22.4	22.4
Incr Delay (d2), s/veh	7.0	0.0	0.1	57.7	0.2	16.3	2.9	3.4	3.2	10.5	2.4	2.5
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	3.0	0.0	0.7	0.1	1.4	9.6	1.5	7.8	8.1	2.2	6.7	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	0.0	19.3	107.5	29.6	52.7	48.9	26.5	26.3	56.9	24.8	24.9
LnGrp LOS	D	A	B	F	C	D	D	C	C	E	C	C
Approach Vol, veh/h		280			427			976			843	
Approach Delay, s/veh		45.9			48.6			29.2			28.0	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	46.7	4.2	38.7	10.3	46.8	12.4	30.4				
Change Period (Y+Rc), s	4.5	6.2	4.0	5.5	4.5	6.2	4.0	5.5				
Max Green Setting (Gmax), s	10.0	27.3	10.5	32.0	10.0	27.3	10.5	32.0				
Max Q Clear Time (g_c+I1), s	6.5	20.3	2.1	4.0	5.4	18.2	8.3	23.7				
Green Ext Time (p_c), s	0.0	2.8	0.0	0.1	0.1	2.9	0.2	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			33.9									
HCM 6th LOS			C									
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Summary

5: Cuyamaca St & Bradley St

09/17/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	1	15	70	8	115	10	390	38	89	722	10
Future Volume (veh/h)	16	1	15	70	8	115	10	390	38	89	722	10
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		1.00	1.00		0.98	1.00		0.98
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	1	19	85	10	140	11	438	43	101	820	11
Peak Hour Factor	0.78	0.78	0.78	0.82	0.82	0.82	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	112	93	188	196	280	28	2007	196	128	2409	32
Arrive On Green	0.01	0.06	0.06	0.05	0.10	0.10	0.02	0.62	0.62	0.07	0.67	0.67
Sat Flow, veh/h	1781	1870	1554	3456	1870	1585	1781	3263	319	1781	3589	48
Grp Volume(v), veh/h	21	1	19	85	10	140	11	238	243	101	406	425
Grp Sat Flow(s),veh/h/ln	1781	1870	1554	1728	1870	1585	1781	1777	1805	1781	1777	1860
Q Serve(g_s), s	1.2	0.1	1.2	2.4	0.5	8.0	0.6	5.9	6.0	5.6	9.7	9.7
Cycle Q Clear(g_c), s	1.2	0.1	1.2	2.4	0.5	8.0	0.6	5.9	6.0	5.6	9.7	9.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.18	1.00		0.03
Lane Grp Cap(c), veh/h	25	112	93	188	196	280	28	1093	1110	128	1193	1249
V/C Ratio(X)	0.84	0.01	0.20	0.45	0.05	0.50	0.39	0.22	0.22	0.79	0.34	0.34
Avail Cap(c_a), veh/h	205	524	435	415	542	574	214	1093	1110	214	1193	1249
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	49.2	44.2	44.8	45.8	40.3	37.2	48.7	8.6	8.6	45.7	7.0	7.0
Incr Delay (d2), s/veh	48.1	0.0	1.1	1.7	0.1	1.4	8.6	0.5	0.5	10.2	0.8	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	0.9	0.0	0.5	1.0	0.2	3.1	0.3	2.2	2.2	2.7	3.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.3	44.3	45.8	47.5	40.4	38.5	57.3	9.0	9.0	55.9	7.8	7.8
LnGrp LOS	F	D	D	D	D	D	E	A	A	E	A	A
Approach Vol, veh/h	41			235			492			932		
Approach Delay, s/veh	72.1			41.9			10.1			13.0		
Approach LOS	E			D			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	67.4	9.9	11.0	6.1	73.0	5.4	15.5				
Change Period (Y+Rc), s	4.5	5.9	4.5	5.0	4.5	5.9	4.0	5.0				
Max Green Setting (Gmax), s	12.0	28.1	12.0	28.0	12.0	28.1	11.5	29.0				
Max Q Clear Time (g_c+I), s	17.6	8.0	4.4	3.2	2.6	11.7	3.2	10.0				
Green Ext Time (p_c), s	0.1	2.6	0.1	0.0	0.0	4.3	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

**Appendix G. Existing + Project + Cumulative Projects
Peak Hour Intersection Analysis Worksheets**

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HCM 6th Signalized Intersection Summary

1: Cuyamaca St & Prospect Ave /Prospect Ave

10/14/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	110	79	117	136	185	62	559	59	191	696	135
Future Volume (veh/h)	53	110	79	117	136	185	62	559	59	191	696	135
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		0.97	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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	56	117	84	134	156	213	70	628	66	236	859	167
Peak Hour Factor	0.94	0.94	0.94	0.87	0.87	0.87	0.89	0.89	0.89	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	288	238	109	621	272	90	1727	749	165	1876	826
Arrive On Green	0.04	0.15	0.15	0.06	0.17	0.17	0.05	0.49	0.49	0.09	0.53	0.53
Sat Flow, veh/h	1781	1870	1546	1781	3554	1554	1781	3554	1541	1781	3554	1564
Grp Volume(v), veh/h	56	117	84	134	156	213	70	628	66	236	859	167
Grp Sat Flow(s),veh/h/ln	1781	1870	1546	1781	1777	1554	1781	1777	1541	1781	1777	1564
Q Serve(g_s), s	3.0	5.4	4.6	5.8	3.6	12.5	3.7	10.5	2.2	8.8	14.3	5.4
Cycle Q Clear(g_c), s	3.0	5.4	4.6	5.8	3.6	12.5	3.7	10.5	2.2	8.8	14.3	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	72	288	238	109	621	272	90	1727	749	165	1876	826
V/C Ratio(X)	0.78	0.41	0.35	1.23	0.25	0.78	0.78	0.36	0.09	1.43	0.46	0.20
Avail Cap(c_a), veh/h	137	650	537	109	1178	515	122	1727	749	165	1876	826
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	45.2	36.3	35.9	44.6	33.8	37.5	44.6	15.2	13.1	43.1	14.0	11.8
Incr Delay (d2), s/veh	16.2	0.9	0.9	161.3	0.2	5.0	17.1	0.5	0.2	224.8	0.8	0.6
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	1.6	2.5	1.8	7.4	1.6	5.0	2.0	3.9	0.8	14.0	5.2	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.4	37.2	36.8	205.9	34.0	42.5	61.7	15.8	13.3	267.9	14.8	12.4
LnGrp LOS	E	D	D	F	C	D	E	B	B	F	B	B
Approach Vol, veh/h		257			503			764			1262	
Approach Delay, s/veh		42.3			83.4			19.8			61.8	
Approach LOS		D			F			B			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	52.2	10.0	19.8	9.0	56.2	8.0	21.8				
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	5.2	* 4.2	* 6	* 4.2	5.2				
Max Green Setting (Gmax), s	* 8.8	27.8	* 5.8	33.0	* 6.5	* 30	* 7.3	31.5				
Max Q Clear Time (g_c+I1), s	10.8	12.5	7.8	7.4	5.7	16.3	5.0	14.5				
Green Ext Time (p_c), s	0.0	3.6	0.0	0.9	0.0	5.1	0.0	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			52.4									
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Summary

2: Fanita Dr & Weld Blvd

10/14/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	103	26	105	167	42	139
Future Volume (veh/h)	103	26	105	167	42	139
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	32	128	204	44	146
Peak Hour Factor	0.82	0.82	0.82	0.82	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	388	346	417	356	54	729
Arrive On Green	0.22	0.22	0.23	0.23	0.03	0.39
Sat Flow, veh/h	1781	1585	1870	1516	1781	1870
Grp Volume(v), veh/h	126	32	128	204	44	146
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1516	1781	1870
Q Serve(g_s), s	1.9	0.5	1.9	3.8	0.8	1.7
Cycle Q Clear(g_c), s	1.9	0.5	1.9	3.8	0.8	1.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	388	346	417	356	54	729
V/C Ratio(X)	0.32	0.09	0.31	0.57	0.81	0.20
Avail Cap(c_a), veh/h	2102	1871	1555	1327	965	2883
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	10.6	10.0	10.1	10.9	15.5	6.5
Incr Delay (d2), s/veh	0.5	0.1	0.4	1.5	24.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1	0.5	0.9	0.6	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.0	10.1	10.5	12.3	39.9	6.6
LnGrp LOS	B	B	B	B	D	A
Approach Vol, veh/h	158		332			190
Approach Delay, s/veh	10.9		11.6			14.3
Approach LOS	B		B			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.0	14.2		12.9		19.2
Change Period (Y+Rc), s	4.0	6.7		5.9		6.7
Max Green Setting (Gmax), s	17.4	28.1		37.9		49.5
Max Q Clear Time (g_c+I), s	12.8	5.8		3.9		3.7
Green Ext Time (p_c), s	0.1	1.8		0.4		0.8
Intersection Summary						
HCM 6th Ctrl Delay			12.2			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary

3: Gillespie Way/Project Dwy A & Weld Blvd

10/14/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↱		↱	↑↑		↱		↱	↱	↱	↱
Traffic Volume (veh/h)	0	172	100	136	110	0	15	0	39	127	8	15
Future Volume (veh/h)	0	172	100	136	110	0	15	0	39	127	8	15
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	187	109	155	125	0	18	0	47	144	0	16
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.83	0.83	0.83	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0	2	0	2	2	2	2
Cap, veh/h	0	385	214	203	1506	0	41	0	0	393	0	237
Arrive On Green	0.00	0.17	0.17	0.11	0.42	0.00	0.02	0.00	0.00	0.11	0.00	0.15
Sat Flow, veh/h	0	2296	1225	1781	3647	0	1781	18		3563	0	1585
Grp Volume(v), veh/h	0	149	147	155	125	0	18	23.3		144	0	16
Grp Sat Flow(s),veh/h/ln	0	1777	1650	1781	1777	0	1781	C		1781	0	1585
Q Serve(g_s), s	0.0	2.5	2.7	2.8	0.7	0.0	0.3			1.3	0.0	0.3
Cycle Q Clear(g_c), s	0.0	2.5	2.7	2.8	0.7	0.0	0.3			1.3	0.0	0.3
Prop In Lane	0.00		0.74	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	311	289	203	1506	0	41			393	0	237
V/C Ratio(X)	0.00	0.48	0.51	0.76	0.08	0.00	0.44			0.37	0.00	0.07
Avail Cap(c_a), veh/h	0	957	888	320	2019	0	266			533	0	853
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.4	12.5	14.4	5.8	0.0	16.1			13.8	0.0	12.2
Incr Delay (d2), s/veh	0.0	1.1	1.4	5.8	0.0	0.0	7.2			0.6	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
%ile BackOfQ(50%),veh/ln	0.0	0.8	0.8	1.2	0.1	0.0	0.2			0.4	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.6	13.9	20.2	5.8	0.0	23.3			14.4	0.0	12.3
LnGrp LOS	A	B	B	C	A	A	C			B	A	B
Approach Vol, veh/h	296			280			160			160		
Approach Delay, s/veh	13.7			13.8			14.2			14.2		
Approach LOS	B			B			B			B		
Timer - Assigned Phs	1		3	4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2		8.3	10.4	5.3	9.5	18.7					
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	5.0		6.0	18.0	5.0	18.0	19.0					
Max Q Clear Time (g_c+I), s	13.3		4.8	4.7	2.3	2.3	2.7					
Green Ext Time (p_c), s	0.1		0.0	1.3	0.0	0.0	0.5					
Intersection Summary												
HCM 6th Ctrl Delay			14.1									
HCM 6th LOS			B									
Notes												

HCM 6th Signalized Intersection Summary

4: Cuyamaca St & Weld Blvd

10/14/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	67	93	5	42	125	97	394	4	138	525	215
Future Volume (veh/h)	178	67	93	5	42	125	97	394	4	138	525	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	157	101	6	54	160	115	469	5	155	590	242
Peak Hour Factor	0.92	0.92	0.92	0.78	0.78	0.78	0.84	0.84	0.84	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	385	424	17	265	220	217	1774	19	121	1218	499
Arrive On Green	0.07	0.21	0.21	0.01	0.14	0.14	0.06	0.49	0.49	0.07	0.50	0.50
Sat Flow, veh/h	1781	1870	1576	1781	1870	1555	3456	3601	38	1781	2447	1002
Grp Volume(v), veh/h	133	157	101	6	54	160	115	231	243	155	428	404
Grp Sat Flow(s),veh/h/ln	1781	1870	1576	1781	1870	1555	1728	1777	1862	1781	1777	1672
Q Serve(g_s), s	6.6	6.6	4.5	0.3	2.3	8.9	2.9	6.8	6.8	6.1	14.4	14.4
Cycle Q Clear(g_c), s	6.6	6.6	4.5	0.3	2.3	8.9	2.9	6.8	6.8	6.1	14.4	14.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		0.60
Lane Grp Cap(c), veh/h	131	385	424	17	265	220	217	876	918	121	884	832
V/C Ratio(X)	1.02	0.41	0.24	0.36	0.20	0.73	0.53	0.26	0.26	1.28	0.48	0.49
Avail Cap(c_a), veh/h	131	584	592	131	584	485	234	876	918	121	884	832
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	0.82	0.82	0.82
Uniform Delay (d), s/veh	41.7	31.0	25.7	44.3	34.1	37.0	40.9	13.3	13.3	42.0	15.0	15.0
Incr Delay (d2), s/veh	83.6	0.7	0.3	12.8	0.4	4.5	2.0	0.7	0.7	169.4	1.6	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	5.8	2.9	1.6	0.2	1.0	3.5	1.2	2.6	2.7	8.2	5.5	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.3	31.7	26.0	57.1	34.5	41.5	42.9	14.0	14.0	211.4	16.5	16.6
LnGrp LOS	F	C	C	E	C	D	D	B	B	F	B	B
Approach Vol, veh/h	391			220			589			987		
Approach Delay, s/veh	62.1			40.2			19.7			47.2		
Approach LOS	E			D			B			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	50.6	4.8	24.0	10.2	51.0	10.6	18.2				
Change Period (Y+Rc), s	4.5	6.2	4.0	5.5	4.5	6.2	4.0	5.5				
Max Green Setting (Gmax), s	10.6	29.0	6.6	28.1	6.1	29.0	6.6	28.1				
Max Q Clear Time (g_c+1.1), s	10.6	8.8	2.3	8.6	4.9	16.4	8.6	10.9				
Green Ext Time (p_c), s	0.0	2.4	0.0	1.0	0.0	4.0	0.0	0.7				

Intersection Summary

HCM 6th Ctrl Delay 41.7

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

5: Cuyamaca St & Bradley St

10/14/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	4	9	54	5	132	13	436	67	103	341	10
Future Volume (veh/h)	7	4	9	54	5	132	13	436	67	103	341	10
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		0.98	1.00		0.98
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	5	12	68	6	167	17	566	87	114	379	11
Peak Hour Factor	0.75	0.75	0.75	0.79	0.79	0.79	0.77	0.77	0.77	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	12	126	107	188	226	319	41	1774	272	143	2234	65
Arrive On Green	0.01	0.07	0.07	0.05	0.12	0.12	0.02	0.58	0.58	0.08	0.63	0.63
Sat Flow, veh/h	1781	1870	1585	3456	1870	1585	1781	3077	471	1781	3524	102
Grp Volume(v), veh/h	9	5	12	68	6	167	17	326	327	114	191	199
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1870	1585	1781	1777	1772	1781	1777	1849
Q Serve(g_s), s	0.5	0.2	0.6	1.7	0.3	8.5	0.8	8.6	8.6	5.7	4.0	4.0
Cycle Q Clear(g_c), s	0.5	0.2	0.6	1.7	0.3	8.5	0.8	8.6	8.6	5.7	4.0	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.06
Lane Grp Cap(c), veh/h	12	126	107	188	226	319	41	1025	1022	143	1126	1172
V/C Ratio(X)	0.75	0.04	0.11	0.36	0.03	0.52	0.41	0.32	0.32	0.80	0.17	0.17
Avail Cap(c_a), veh/h	150	499	423	311	520	568	160	1025	1022	160	1126	1172
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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	39.2	39.4	41.0	34.9	32.1	43.4	9.9	9.9	40.7	6.8	6.8
Incr Delay (d2), s/veh	63.1	0.1	0.5	1.2	0.0	1.3	6.5	0.8	0.8	21.8	0.3	0.3
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	0.4	0.1	0.3	0.7	0.1	3.2	0.4	3.1	3.1	3.2	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.7	39.4	39.9	42.2	34.9	33.4	49.9	10.7	10.7	62.5	7.1	7.1
LnGrp LOS	F	D	D	D	C	C	D	B	B	E	A	A
Approach Vol, veh/h	26			241			670			504		
Approach Delay, s/veh	63.3			35.9			11.7			19.6		
Approach LOS	E			D			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.7	57.8	9.4	11.1	6.6	62.9	4.6	15.9				
Change Period (Y+Rc), s	4.5	5.9	4.5	5.0	4.5	5.9	4.0	5.0				
Max Green Setting (Gmax), s	1.7	29.9	8.1	24.0	8.1	29.9	7.6	25.0				
Max Q Clear Time (g_c+I1), s	1.7	10.6	3.7	2.6	2.8	6.0	2.5	10.5				
Green Ext Time (p_c), s	0.0	3.6	0.0	0.0	0.0	2.0	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

HCM 6th TWSC
6: Weld Blvd & Proj Dwy B

10/14/2020

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	0	338	266	89	0	0
Future Vol, veh/h	0	338	266	89	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	367	289	97	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0 522 193
Stage 1	-	-	- 338 -
Stage 2	-	-	- 184 -
Critical Hdwy	-	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	-	-	- 3.52 3.32
Pot Cap-1 Maneuver	0	-	- 484 816
Stage 1	0	-	- 694 -
Stage 2	0	-	- 829 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- 484 816
Mov Cap-2 Maneuver	-	-	- 484 -
Stage 1	-	-	- 694 -
Stage 2	-	-	- 829 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

HCM 6th TWSC
7: Weld Blvd & Proj Dwy C

10/14/2020

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	338	352	1	0	2
Future Vol, veh/h	0	338	352	1	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	367	383	1	0	2

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 192
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.32
Pot Cap-1 Maneuver	0	-	- - 0 817
Stage 1	0	-	- - 0 -
Stage 2	0	-	- - 0 -
Platoon blocked, %	-	-	- - -
Mov Cap-1 Maneuver	-	-	- - 817
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	817
HCM Lane V/C Ratio	-	-	-	0.003
HCM Control Delay (s)	-	-	-	9.4
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	0

HCM 6th Signalized Intersection Summary

1: Cuyamaca St & Prospect Ave /Prospect Ave

10/14/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	140	142	82	194	219	163	916	83	250	755	115
Future Volume (veh/h)	101	140	142	82	194	219	163	916	83	250	755	115
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		0.97	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	151	153	93	220	249	190	1065	97	266	803	122
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.86	0.86	0.86	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	398	330	99	711	311	204	1500	650	184	1459	642
Arrive On Green	0.07	0.21	0.21	0.06	0.20	0.20	0.11	0.42	0.42	0.10	0.41	0.41
Sat Flow, veh/h	1781	1870	1551	1781	3554	1555	1781	3554	1540	1781	3554	1563
Grp Volume(v), veh/h	109	151	153	93	220	249	190	1065	97	266	803	122
Grp Sat Flow(s),veh/h/ln	1781	1870	1551	1781	1777	1555	1781	1777	1540	1781	1777	1563
Q Serve(g_s), s	5.8	6.6	8.2	4.9	5.0	14.5	10.0	23.5	3.7	9.8	16.3	4.7
Cycle Q Clear(g_c), s	5.8	6.6	8.2	4.9	5.0	14.5	10.0	23.5	3.7	9.8	16.3	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	398	330	99	711	311	204	1500	650	184	1459	642
V/C Ratio(X)	0.89	0.38	0.46	0.94	0.31	0.80	0.93	0.71	0.15	1.45	0.55	0.19
Avail Cap(c_a), veh/h	122	650	539	99	1190	521	204	1500	650	184	1459	642
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	0.57	0.57	0.57	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	32.0	32.7	44.7	32.4	36.2	41.7	22.6	16.9	42.6	21.3	17.9
Incr Delay (d2), s/veh	50.6	0.6	1.0	69.6	0.2	4.8	30.2	1.7	0.3	229.2	1.5	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	4.2	3.0	3.1	4.1	2.2	5.8	5.9	9.2	1.3	15.8	6.5	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.5	32.6	33.7	114.3	32.7	41.0	71.9	24.3	17.2	271.8	22.8	18.6
LnGrp LOS	F	C	C	F	C	D	E	C	B	F	C	B
Approach Vol, veh/h	413			562			1352			1191		
Approach Delay, s/veh	49.3			49.9			30.5			78.0		
Approach LOS	D			D			C			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	46.1	9.5	25.4	15.1	45.0	10.7	24.2				
Change Period (Y+Rc), s	* 4.2	6.0	* 4.2	5.2	* 4.2	* 6	* 4.2	5.2				
Max Green Setting (Gmax), s	* 9.8	27.3	* 5.3	33.0	* 11	* 26	* 6.5	31.8				
Max Q Clear Time (g_c+I1), s	11.8	25.5	6.9	10.2	12.0	18.3	7.8	16.5				
Green Ext Time (p_c), s	0.0	1.2	0.0	1.3	0.0	3.3	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			51.9									
HCM 6th LOS			D									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

2: Fanita Dr & Weld Blvd

10/14/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	166	69	183	60	38	169
Future Volume (veh/h)	166	69	183	60	38	169
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.97	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	82	206	67	45	201
Peak Hour Factor	0.84	0.84	0.89	0.89	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	396	353	578	182	55	705
Arrive On Green	0.22	0.22	0.22	0.22	0.03	0.38
Sat Flow, veh/h	1781	1585	2732	829	1781	1870
Grp Volume(v), veh/h	198	82	136	137	45	201
Grp Sat Flow(s), veh/h/ln	1781	1585	1777	1690	1781	1870
Q Serve(g_s), s	3.1	1.3	2.0	2.2	0.8	2.4
Cycle Q Clear(g_c), s	3.1	1.3	2.0	2.2	0.8	2.4
Prop In Lane	1.00	1.00		0.49	1.00	
Lane Grp Cap(c), veh/h	396	353	389	370	55	705
V/C Ratio(X)	0.50	0.23	0.35	0.37	0.81	0.28
Avail Cap(c_a), veh/h	2146	1909	1587	1510	985	2942
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	10.7	10.0	10.4	10.4	15.2	6.8
Incr Delay (d2), s/veh	1.0	0.3	0.5	0.6	24.0	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	0.9	0.3	0.5	0.5	0.6	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.7	10.4	10.9	11.1	39.2	7.1
LnGrp LOS	B	B	B	B	D	A
Approach Vol, veh/h	280		273			246
Approach Delay, s/veh	11.3		11.0			12.9
Approach LOS	B		B			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.0	13.6		12.9		18.6
Change Period (Y+Rc), s	4.0	6.7		5.9		6.7
Max Green Setting (Gmax), s	17.4	28.1		37.9		49.5
Max Q Clear Time (g_c+I), s	12.8	4.2		5.1		4.4
Green Ext Time (p_c), s	0.1	1.4		0.8		1.1
Intersection Summary						
HCM 6th Ctrl Delay			11.7			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary

3: Gillespie Way/Project Dwy A & Weld Blvd

10/14/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑		↑		↑	↑	↑	↑
Traffic Volume (veh/h)	0	132	24	29	245	0	83	0	115	25	2	3
Future Volume (veh/h)	0	132	24	29	245	0	83	0	115	25	2	3
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		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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0	1870	0	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	150	27	33	278	0	101	0	140	28	0	3
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.82	0.82	0.82	0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0	2	0	2	2	2	2
Cap, veh/h	0	488	86	71	1208	0	164	0	0	122	0	243
Arrive On Green	0.00	0.16	0.16	0.04	0.34	0.00	0.09	0.00	0.00	0.03	0.00	0.15
Sat Flow, veh/h	0	3104	530	1781	3647	0	1781	101		3563	0	1585
Grp Volume(v), veh/h	0	87	90	33	278	0	101	18.0		28	0	3
Grp Sat Flow(s),veh/h/ln	0	1777	1763	1781	1777	0	1781	B		1781	0	1585
Q Serve(g_s), s	0.0	1.4	1.5	0.6	1.8	0.0	1.8			0.2	0.0	0.1
Cycle Q Clear(g_c), s	0.0	1.4	1.5	0.6	1.8	0.0	1.8			0.2	0.0	0.1
Prop In Lane	0.00		0.30	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	288	286	71	1208	0	164			122	0	243
V/C Ratio(X)	0.00	0.30	0.31	0.47	0.23	0.00	0.62			0.23	0.00	0.01
Avail Cap(c_a), veh/h	0	982	975	274	1965	0	301			580	0	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.0	12.0	15.3	7.7	0.0	14.2			15.3	0.0	11.7
Incr Delay (d2), s/veh	0.0	0.6	0.6	4.7	0.1	0.0	3.7			0.9	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
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.5	0.3	0.4	0.0	0.7			0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.6	12.7	20.0	7.8	0.0	18.0			16.2	0.0	11.7
LnGrp LOS	A	B	B	C	A	A	B			B	A	B
Approach Vol, veh/h	177			311			31					
Approach Delay, s/veh	12.6			9.1			15.8					
Approach LOS	B			A			B					
Timer - Assigned Phs	1		3	4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6		5.8	9.8	7.5	9.5		15.6				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.3		5.0	18.0	5.5	18.5		18.0				
Max Q Clear Time (g_c+I), s	12.2		2.6	3.5	3.8	2.1		3.8				
Green Ext Time (p_c), s	0.0		0.0	0.7	0.0	0.0		1.3				

Intersection Summary

HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Cuyamaca St & Weld Blvd

10/14/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	48	69	1	93	275	204	690	3	75	605	273
Future Volume (veh/h)	242	48	69	1	93	275	204	690	3	75	605	273
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		0.98	1.00		0.97	1.00		0.98
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	329	0	82	1	118	348	255	862	4	82	658	297
Peak Hour Factor	0.84	0.84	0.84	0.79	0.79	0.79	0.80	0.80	0.80	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	0	708	3	468	388	321	1391	6	105	828	374
Arrive On Green	0.10	0.00	0.35	0.00	0.25	0.25	0.09	0.38	0.38	0.06	0.35	0.35
Sat Flow, veh/h	3563	0	1584	1781	1870	1551	3456	3627	17	1781	2367	1068
Grp Volume(v), veh/h	329	0	82	1	118	348	255	422	444	82	494	461
Grp Sat Flow(s),veh/h/ln	1781	0	1584	1781	1870	1551	1728	1777	1867	1781	1777	1658
Q Serve(g_s), s	9.1	0.0	3.0	0.1	5.0	21.7	7.2	19.2	19.2	4.5	25.0	25.0
Cycle Q Clear(g_c), s	9.1	0.0	3.0	0.1	5.0	21.7	7.2	19.2	19.2	4.5	25.0	25.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.01	1.00		0.64
Lane Grp Cap(c), veh/h	374	0	708	3	468	388	321	681	716	105	621	580
V/C Ratio(X)	0.88	0.00	0.12	0.34	0.25	0.90	0.79	0.62	0.62	0.78	0.80	0.80
Avail Cap(c_a), veh/h	374	0	708	187	599	496	346	681	716	178	621	580
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	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	44.1	0.0	16.1	49.9	30.0	36.2	44.4	24.9	24.9	46.4	29.3	29.3
Incr Delay (d2), s/veh	20.6	0.0	0.1	57.7	0.3	15.8	11.4	4.2	4.0	9.5	8.3	8.8
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	5.0	0.0	1.1	0.1	2.2	9.6	3.5	8.3	8.7	2.2	11.4	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.8	0.0	16.2	107.5	30.3	52.1	55.8	29.1	28.9	55.9	37.5	38.1
LnGrp LOS	E	A	B	F	C	D	E	C	C	E	D	D
Approach Vol, veh/h	411			467			1121			1037		
Approach Delay, s/veh	55.1			46.7			35.1			39.2		
Approach LOS	E			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	44.5	4.2	40.9	13.8	41.2	14.5	30.5				
Change Period (Y+Rc), s	4.5	6.2	4.0	5.5	4.5	6.2	4.0	5.5				
Max Green Setting (Gmax), s	10.0	27.3	10.5	32.0	10.0	27.3	10.5	32.0				
Max Q Clear Time (g_c+10), s	10.5	21.2	2.1	5.0	9.2	27.0	11.1	23.7				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.2	0.1	0.2	0.0	1.2				

Intersection Summary

HCM 6th Ctrl Delay 41.0

HCM 6th LOS D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

5: Cuyamaca St & Bradley St

10/14/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	1	15	70	8	147	10	466	38	100	739	10
Future Volume (veh/h)	16	1	15	70	8	147	10	466	38	100	739	10
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		1.00	1.00		0.98	1.00		0.98
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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	1	19	85	10	179	11	524	43	114	840	11
Peak Hour Factor	0.78	0.78	0.78	0.82	0.82	0.82	0.89	0.89	0.89	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	151	126	188	236	327	28	1944	159	143	2334	31
Arrive On Green	0.01	0.08	0.08	0.05	0.13	0.13	0.02	0.59	0.59	0.08	0.65	0.65
Sat Flow, veh/h	1781	1870	1557	3456	1870	1585	1781	3319	272	1781	3590	47
Grp Volume(v), veh/h	21	1	19	85	10	179	11	280	287	114	416	435
Grp Sat Flow(s),veh/h/ln	1781	1870	1557	1728	1870	1585	1781	1777	1814	1781	1777	1861
Q Serve(g_s), s	1.2	0.0	1.1	2.4	0.5	10.1	0.6	7.7	7.8	6.3	10.7	10.7
Cycle Q Clear(g_c), s	1.2	0.0	1.1	2.4	0.5	10.1	0.6	7.7	7.8	6.3	10.7	10.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		0.03
Lane Grp Cap(c), veh/h	25	151	126	188	236	327	28	1041	1063	143	1155	1209
V/C Ratio(X)	0.84	0.01	0.15	0.45	0.04	0.55	0.39	0.27	0.27	0.80	0.36	0.36
Avail Cap(c_a), veh/h	205	524	436	415	542	587	214	1041	1063	214	1155	1209
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	49.2	42.3	42.8	45.8	38.4	35.5	48.7	10.2	10.2	45.2	8.0	8.0
Incr Delay (d2), s/veh	48.1	0.0	0.5	1.7	0.1	1.4	8.6	0.6	0.6	11.9	0.9	0.8
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	0.9	0.0	0.4	1.0	0.2	3.9	0.3	2.9	3.0	3.1	3.6	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.3	42.3	43.3	47.5	38.5	36.9	57.3	10.8	10.8	57.1	8.9	8.8
LnGrp LOS	F	D	D	D	D	D	E	B	B	E	A	A
Approach Vol, veh/h	41					274		578		965		
Approach Delay, s/veh	70.9					40.3		11.7		14.5		
Approach LOS	E					D		B		B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	64.5	9.9	13.1	6.1	70.9	5.4	17.6				
Change Period (Y+Rc), s	4.5	5.9	4.5	5.0	4.5	5.9	4.0	5.0				
Max Green Setting (Gmax), s	12.5	28.1	12.0	28.0	12.0	28.1	11.5	29.0				
Max Q Clear Time (g_c+I), s	19.3	9.8	4.4	3.1	2.6	12.7	3.2	12.1				
Green Ext Time (p_c), s	0.1	3.0	0.1	0.0	0.0	4.3	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			18.7									
HCM 6th LOS			B									

HCM 6th TWSC
6: Weld Blvd & Proj Dwy B

10/14/2020

Intersection

Int Delay, s/veh 1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	0	272	258	183	89	16
Future Vol, veh/h	0	272	258	183	89	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	296	280	199	97	17

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0 528 240
Stage 1	-	-	- 380 -
Stage 2	-	-	- 148 -
Critical Hdwy	-	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	-	-	- 3.52 3.32
Pot Cap-1 Maneuver	0	-	- 480 761
Stage 1	0	-	- 661 -
Stage 2	0	-	- 864 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- 480 761
Mov Cap-2 Maneuver	-	-	- 480 -
Stage 1	-	-	- 661 -
Stage 2	-	-	- 864 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	509
HCM Lane V/C Ratio	-	-	-	0.224
HCM Control Delay (s)	-	-	-	14.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.9

HCM 6th TWSC
7: Weld Blvd & Proj Dwy C

10/14/2020

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	361	438	135	0	3
Future Vol, veh/h	0	361	438	135	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	392	476	147	0	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 312
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.32
Pot Cap-1 Maneuver	0	-	- - 0 684
Stage 1	0	-	- - 0 -
Stage 2	0	-	- - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 684
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	684
HCM Lane V/C Ratio	-	-	-	0.005
HCM Control Delay (s)	-	-	-	10.3
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

Appendix H. Long-Term Traffic Volumes Comparison

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STREET SEGMENT	Adjusted 2020 (+25%)	SANDAG Series 13		Proposed Long-Term (2% Growth from Adjusted 2020 on Cuyamaca)	Proposed Long-Term + Project
		2035	2050		
Cuyamaca St					
SR 52 to Prospect Ave	46,200	17,000	17,700	47,120	48,890
Prospect Ave to Weld Blvd	26,120	19,900	21,200	26,640	28,630
Weld Blvd to Bradley Ave	18,070	15,400	15,800	18,430	19,280
Weld Blvd					
Fanita Dr to Gillespie Way	3,640	8,200	8,800	8,800	9,160
Gillespie Way to Cuyamaca St	5,520	8,300	8,600	8,600	11,620

**Appendix I. Near-Term + Project
Queue Analysis Calculation Worksheets**

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Queues

3: Gillespie Way/Project Dwy A & Weld Blvd

10/20/2020



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	296	155	125	18	47	73	74	16
v/c Ratio	0.45	0.69	0.09	0.10	0.08	0.41	0.73	0.02
Control Delay	13.8	42.1	9.9	23.1	0.3	30.6	60.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	42.1	9.9	23.1	0.3	30.6	60.0	0.1
Queue Length 50th (ft)	22	39	10	4	0	18	18	0
Queue Length 95th (ft)	60	#142	28	21	0	#74	#75	0
Internal Link Dist (ft)	419		135				256	
Turn Bay Length (ft)				185				
Base Capacity (vph)	1344	225	2139	187	715	178	102	715
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.69	0.06	0.10	0.07	0.41	0.73	0.02

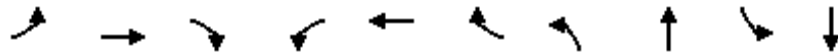
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

4: Cuyamaca St & Weld Blvd

10/20/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	131	135	101	6	54	160	115	474	155	832
v/c Ratio	1.07	1.38	0.12	0.05	0.09	0.27	0.50	0.42	1.30	0.73
Control Delay	142.6	256.7	3.3	40.0	22.6	5.2	37.2	30.2	220.8	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	142.6	256.7	3.3	40.0	22.6	5.2	37.2	30.2	220.8	29.1
Queue Length 50th (ft)	~87	~108	0	3	22	0	33	143	~114	200
Queue Length 95th (ft)	#205	#227	27	13	41	28	47	172	#232	265
Internal Link Dist (ft)		173			392			792		1305
Turn Bay Length (ft)	115						265		125	
Base Capacity (vph)	123	98	810	129	581	596	232	1138	119	1134
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	1.38	0.12	0.05	0.09	0.27	0.50	0.42	1.30	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

3: Gillespie Way/Project Dwy A & Weld Blvd

10/20/2020



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	177	33	278	101	140	15	14	3
v/c Ratio	0.23	0.13	0.27	0.36	0.14	0.06	0.44	0.00
Control Delay	16.8	24.2	14.1	28.3	2.2	23.4	63.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	24.2	14.1	28.3	2.2	23.4	63.2	0.0
Queue Length 50th (ft)	17	8	34	26	0	4	~8	0
Queue Length 95th (ft)	46	32	57	#77	15	20	20	0
Internal Link Dist (ft)	419		131				256	
Turn Bay Length (ft)				185				
Base Capacity (vph)	1800	257	2434	283	1020	259	32	919
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.13	0.11	0.36	0.14	0.06	0.44	0.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

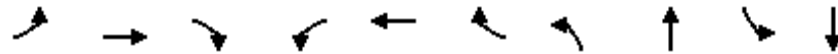
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

4: Cuyamaca St & Weld Blvd

10/20/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	170	175	82	1	118	348	255	867	82	955
v/c Ratio	0.97	1.14	0.09	0.01	0.20	0.53	0.75	0.80	0.52	0.98
Control Delay	106.0	159.2	2.8	44.0	25.8	11.8	62.0	39.9	55.4	59.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	106.0	159.2	2.8	44.0	25.8	11.8	62.0	39.9	55.4	59.5
Queue Length 50th (ft)	115	~137	0	1	54	50	87	203	50	299
Queue Length 95th (ft)	#228	#252	19	6	85	92	111	324	98	#440
Internal Link Dist (ft)		187			392			792		1305
Turn Bay Length (ft)	115						265		125	
Base Capacity (vph)	176	153	905	185	596	660	343	1079	177	971
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	1.14	0.09	0.01	0.20	0.53	0.74	0.80	0.46	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.