Appendix E

Traffic Impact Analysis

TRAFFIC STUDY

Esperanza Village Project

Traffic Impact Analysis

4024 Durfee Avenue
El Monte, CA

August 2022

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EXECUTIVE SUMMARY

This traffic study was prepared for Sirius Environmental by KOA for the proposed Esperanza Village Project. The following summarizes the traffic study results, conclusions, and recommendations:

- The project is the Esperanza Village project, proposed by Prima Development on the former MacLaren Hall property in the City of El Monte.

- The main objective of the project is to provide 340 affordable housing units to seniors and low-income families, as well as to provide new government space and other ancillary uses across six-buildings.

- The traffic impact analysis methodology and data sources were defined by a project scoping document, accepted by the City of El Monte on June 1, 2022.

- The project is anticipated to be completed and occupied within the year 2027.

CEQA and VMT Analysis

The project (California Environmental Quality Act) CEQA transportation impact determinations are as follows. There would be no significant project CEQA transportation impacts.

- The application of the project land uses to the San Gabriel Valley Council of Governments Vehicle Miles Traveled (VMT) Tool indicates that both the proposed residential and non-residential uses of the project can be screened from VMT analysis and be assumed to have a less than significant impact. The VMT impact standard of the City of El Monte is a threshold that is 15 percent below the local average.

- The project residential VMT value at 13.3 would be lower than the required 15 percent reduction from the area baseline value of 15.7 (with the maximum resulting threshold at 13.35). The project residential uses pass the low VMT screening.

- The project non-residential VMT value at 23.0 would be lower than the required 15 percent reduction from the area baseline value of 34.9 (with the maximum resulting threshold at 29.67). The project non-residential uses pass the low VMT screening.

- All of the proposed project uses can be screened from further analysis of VMT. A less than significant transportation impact under CEQA would occur due to the project.

Local Area Circulation Effects

- The project would generate a net total of 3,178 daily net trips, including 295 vehicle trips during the weekday a.m. peak hour and 265 vehicle trips during the weekday p.m. peak hour.

- The project has specific characteristics that are expected to reduce trips substantially from the totals analyzed, as a result of a highly transit-dependent population and an expected high usage of local

transit shuttle routes. The County Building 6 uses may have up to half its floor area (20,000 square feet) that are ancillary uses to the other project site uses and surrounding community, such as community meeting rooms, a café/snack bar, and childcare. The analysis of project trips is therefore very conservative, as it assumes all floor area would contain trip-generating uses.

- Local circulation effects were analyzed at four study intersections and four roadway segments.

- Most of the intersections would operate at good Level of Service (LOS) values of A or B. The Durfee Avenue/Ramona Boulevard intersection would worsen in operations from LOS D to E under existing conditions with the project, and within LOS E and LOS F under future conditions with the project. This delay occurs at the stop-sign controlled approach of Durfee Avenue at the intersection.

- A traffic signal warrant was conducted at the intersection of Durfee Avenue and Ramona Boulevard. This intersection meets the applied traffic signal warrant standards for peak-hour volumes, under future conditions both with and without the proposed project.

- The proposed project does not cause the signal warrant to be met at Durfee Avenue and Ramona Boulevard, but the LOS at this intersection is worsened to a value of F by the project. A fair-share financial contribution by the project toward future signalization of the intersection is recommended. The project volume share of volumes is 6.0 percent and 6.9 percent for the two peak hours.

- At the four study roadway segments, volume increases on the roadway segments would range from 27 percent to 47 percent (with this highest percent occurring on Gilman Road), but LOS values with the proposed project would be at LOS A or B based on the applied capacities and analyzed volumes. There would not be any significant circulation effects at the roadway segments due to the proposed project.

Parking Analysis

- Based on the proposed site uses and these requirements, the total required supply would be 526 spaces. The project site plan provides for 618 off-street parking spaces, providing a surplus over the County and City Code requirements, as applicable to the proposed site uses.

- Sharing of parking between uses will be defined as needed during final site plan review by the City, although reserved and/or gated parking is not planned to be established for any site uses.

- Hourly parking occupancy surveys were conducted on two roadways adjacent to the site on a weekday and a weekend day, during the 8:00 AM to 8:00 PM timeframes.

- The parking survey conducted at the roadway segments adjacent to the site in both the weekend and weekday periods, on-street parking on these roadway segment locations is half occupied or less during all daylight hours.

- In addition to parking supply proposed within the MacLaren Hall property, on-street diagonal parking spaces could be provided by the project along the Kerrwood Street and Gilman Road rights-of-way.

Circulation and Access Analysis

- The southern project driveway on Gilman Road, to the south of Building 2, could create conflicts with the pick-up/drop-off driveways of Twin Lakes Elementary School on the east side of the roadway. The entrance driveway for the school pick-up/drop-off area would be roughly aligned with this southern site driveway, and the exit driveway for the pick-up/drop-off area would be located to the north of this site driveway.

- The establishment of prohibited left-turn movements into and out of the southern site driveway at this location is recommended, thru installation of regulatory signage for site outbound traffic and northbound traffic on Gilman Road to indicate that these left-turn outbound movements are prohibited, which would remove most conflicts. This turning prohibition would be enforceable as part of Police traffic operations.

- Right turn movements from the southern project driveway on Gilman Road would take place to the north of the nearby mid-block crosswalk location. Drivers would have clear visibility of the crosswalk while making this turning movement.

- The mid-block crosswalk location on Gilman Road, adjacent to the project site and the Twin Lakes Elementary School, is signed and striped, and stop signs provide control for approaching vehicles in the northbound and southbound directions.

- The developer of the proposed project is pursuing with the school district an access route through the school campus to provide a link to the San Gabriel River Trail. It is recommended that the proposed project provide improvements at the current mid-block crosswalk, including restriping the crosswalk with high visibility striping and replacing the warning and stop signs with new signs to improve visibility. These improvements should be designed, approved, and implemented to the satisfaction of the City Engineer. Other improvements at this location may be defined by the separate neighborhood traffic management plan.

Study Roadway Segment Speeds

- Vehicle speeds were collected at the four study roadway segments by automatic measuring equipment, during collection of the 24-hour volume counts. This analysis was conducted as defined in the study scoping document, to determine if adjacent roadway speeds are high and if traffic calming measures might be necessary.

- On Kerrwood Street west of Bannister Avenue, excessive speeding is not observed at this location as the pace speed is 5 MPH above the speed limit, within the acceptable range of critical speed value as compared to the posted speed. No changes to the roadway, roadway striping or speed limits are recommended within this roadway segment.

- On Durfee Avenue south of Kerrwood Street, excessive speeding is observed at this location, at 10 MPH over the posted speed. It is recommended that the project fund a local neighborhood study including public outreach to define traffic-calming measures to be implemented at this location by project opening.

- On Gilman Road south of Woodville Drive, the critical speed on Gilman Road is 6 MPH higher than the posted speed limit. It is recommended that the project fund a local neighborhood study including public outreach to define traffic-calming measures to be implemented at this location by project opening.

- On Gilman Road south of Ramona Boulevard, the critical speed on Gilman Road south of Ramona Boulevard is 5 MPH higher than the posted speed limit, within the acceptable range of critical speed value as compared to the posted speed. No changes to the roadway, roadway striping or speed limits are recommended within this roadway segment.

- The higher identified speeds on Durfee Avenue and Gilman Road have defined the need for a neighborhood traffic management plan. The study would be funded by the proposed project, and any final recommended neighborhood roadway improvements would be funded by the proposed project.

- An agreement will be entered into with the City by the project applicant for the completion of the neighborhood traffic management plan, with a schedule for completion and implementation to be determined as part of the agreement.

1. INTRODUCTION

1.1 LEAD AND LOCAL AGENCY REVIEW

The analysis summarized in this report was completed based on the methodologies and procedures outlined in the *City of El Monte Transportation Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment* dated October 2020. This report presents the conclusions of the evaluation of CEQA and non-CEQA transportation impacts of the project

The four study intersections and three roadways segments are located within the City of El Monte. A scoping document was submitted to the City and accepted on June 1, 2022. The scoping document is provided in Appendix A.

1.2 PROJECT DESCRIPTION

The Esperanza Village project is proposed on the MacLaren Hall property in the City of El Monte at 4024 Durfee Avenue. The planned opening year is 2027. The project site development area is an 8.13-acre area, within the overall 13.79-acre MacLaren Hall property. The project site is bordered by Durfee Avenue along its frontage to the west, Kerrwood Street to the north, Gilman Road to the east, and single and multifamily residential to the south.

The facility will be composed of six buildings that include 340 affordable dwelling units across four buildings. These units will have the following characteristics:

Units by Income
Extremely Low Income (ELI) -174 units or 51.2%
Low Income (LI) – 162 units or 47.6%
Managers – 4 units or 1.2%

Units by Occupancy
ELI Family/Senior - 82
LI Family/Senior- 86
168 Family units

The other two buildings will contain the following uses:

Building 5 will be composed of a County PACE Center (elderly healthcare) of 18,000 square feet, a vocational school linked to the other clinic uses of 5,000 square feet, and a community medical clinic of 13,000 square feet. All of this space, at a total of 36,000 square feet, was analyzed as medical clinic use, based on the overall characteristics of the uses.

Building 6 will have 20,000 square feet to 40,000 square feet of space. The size and mix of uses in this building have not yet been determined. The building could potentially include clinics, a snack bar/café, a childcare center, and County-related offices, including space for the Department of Health Services and Department of Children and Family Services. The snack bar/café and childcare center would be ancillary to the other building uses. For purposes of analysis in this report, 40,000 square feet government office use was assumed. However, it is anticipated that the building will be smaller than this and contain a mix of uses oriented towards providing services to the on-site and adjacent community.

The remaining 5.6-acre portion of the MacLaren Hall property is not part of the 8.19-acre proposed development area and would be developed as a community park (MacLaren Community Park) separately from the proposed project.

The proposed site access points will be on Durfee Avenue. Parking will be provided throughout the site, with vehicular access via seven proposed driveways along Durfee Avenue, Kerrwood Street, and Gilman Road. Diagonal parking spaces could potentially be provided along the Durfee Avenue, Kerrwood Street, and Gilman Road rights-of-way adjacent to the project site.

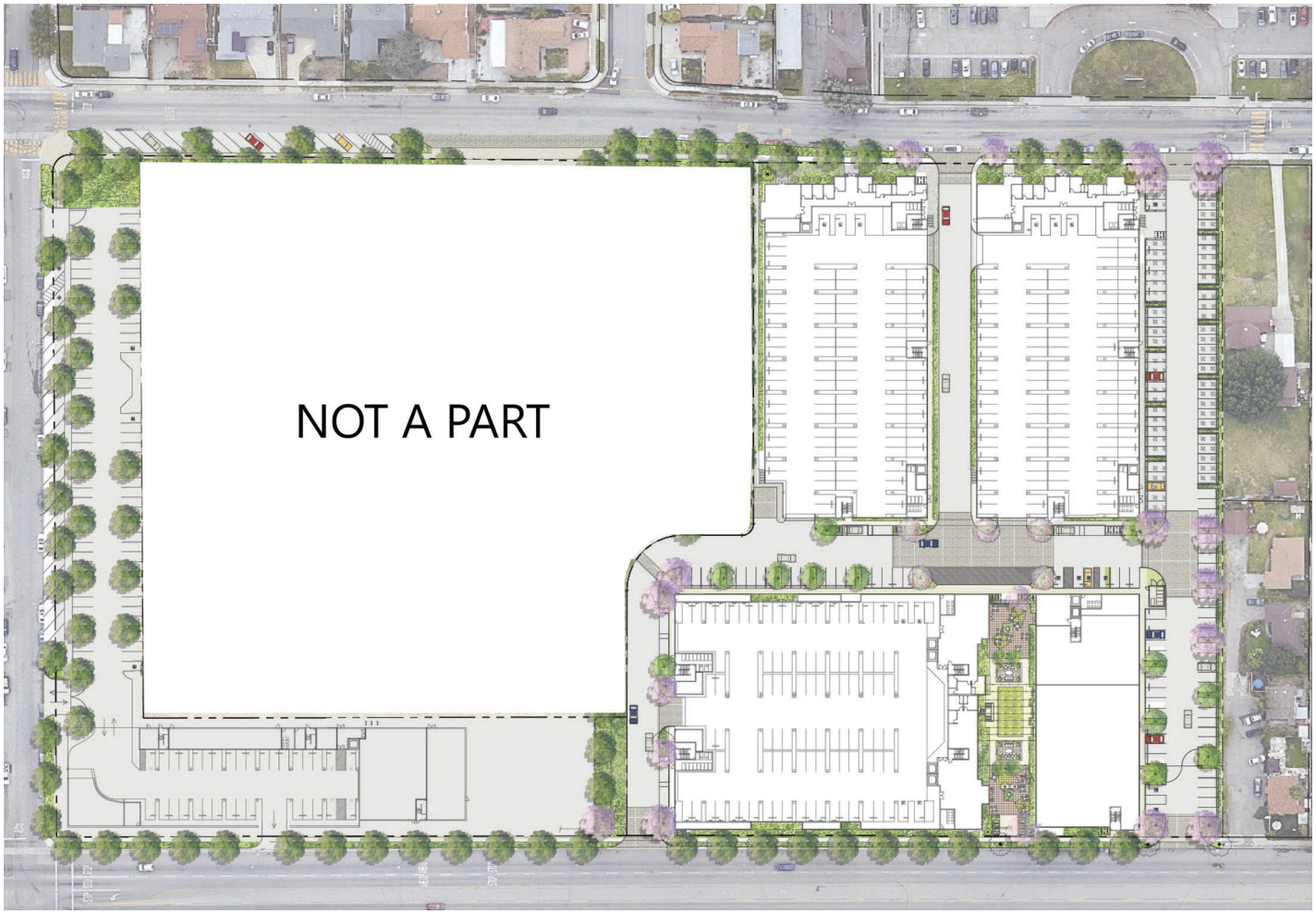
A recently approved 5.6-acre community park will also be built on the MacLaren property but it is not a part of the proposed project.

The proposed project site plan is provided on Figure 1.

FIGURE 1

MACLAREN HALL RESIDENTIAL PROJECT

Project Site Plan



2. CEQA TRANSPORTATION IMPACT ANALYSIS

The City of El Monte transportation guidelines for California Environmental Quality Act (CEQA) impacts are based on guidance from the State of California Office of Planning and Research for the assessment of vehicle miles traveled (VMT). City thresholds of significance and mitigation measure programs were considered for this analysis, as appropriate to the outcome of the VMT review for the project.

2.1 VMT ANALYSIS GUIDELINES

City guidelines for project VMT impacts are based on consistency with CEQA guidelines. Development projects are analyzed to determine if and how much each project would affect total VMT, unless they can be screened out from analysis requirements under specific categories. Guidance on screening and impact criteria was reviewed as part of the scoping process undertaken with the City for this project.

Screening Criteria Review

The following screening criteria were evaluated for the project, as they were deemed appropriate based on the project characteristics:

> *Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per employee, or per service population that is similar to the existing land uses in the low VMT area.*
>
> *1. If the proposed project is residential, the project is considered "screened out", if it is located within the Low VMT areas of the "PA/Residential Home-Based VMT per Capita". Alternatively, if the predominant land uses in the vicinity are nominally of the same type as the proposed project and the proposed project is reasonably expected to generate similar VMT as the existing land uses, the project is considered screened out if it is in the low VMT area for the "Total Daily VMT per Service Population".*
>
> *2. If the proposed project is office, commercial or industrial, the project is considered "screened out", if it is located within the Low VMT areas of the "PA/Daily Home-Based Work VMT per Employee". Alternatively, if the predominant land uses in the vicinity are nominally of the same type as the proposed project and the proposed project is reasonably expected to generate similar VMT as the existing land uses, the project is considered screened out if it is in the low VMT area for the "Total Daily VMT Service per Population".*

The proposed project residential use VMT analysis applied the Residential Home-Based VMT per Capita category, and is therefore appropriate.

The guidelines also state that if the analysis applies the Total VMT per Service Population metric, it must be verified that the project is consistent with the existing land use. This metric applies to the non-residential portion of the VMT analysis, and as the proposed project uses are services and government offices, they are consistent with former MacLaren Hall uses at the site.

2.2 VMT IMPACT REVIEW

The San Gabriel Valley COG Vehicle Miles Traveled Evaluation Tool was used to review the screening potential for the project. The Tool allows for a screening of impacts based on the presence of a project in a low VMT area.

The application of the project land uses to the Tool indicates that both the proposed residential and non-residential uses of the project can be screened from VMT analysis and be assumed to have a less than significant impact. The VMT impact standard of the City of El Monte is a threshold that is 15 percent below the local average. New projects under State greenhouse gas reduction laws and the State CEQA guidelines must have VMT generating characteristics that provide for a lowering of average regional VMT.

These are the results from the Tool, based on the data it applies for the local Transportation Analysis Zone (TAZ) that includes the project site:

- The project residential VMT value at 13.3 would be lower than the required 15 percent reduction from the area baseline value of 15.7 (with the maximum resulting threshold at 13.35). The project residential uses pass the low VMT screening.

- The project non-residential VMT value at 23.0 would be lower than the required 15 percent reduction from the area baseline value of 34.9 (with the maximum resulting threshold at 29.67). The project non-residential uses pass the low VMT screening.

All of the proposed project uses can be screened from further analysis of VMT. A less than significant transportation impact under CEQA would occur due to the project.

The VMT Tool output for the project residential units and the non-residential floor area is provided in Appendix B.

3. SITE ACCESS STUDY – OPERATIONAL ANALYSIS

In addition to the analysis of potential CEQA impacts, the City requires the analysis of potential local circulation impacts for proposed development projects. The determinations for this area of analysis are not tied to CEQA, and are focused on the City review of local effects of development projects.

Per the traffic analysis guidelines from the City of El Monte, a level of service analysis is required whenever a proposed development is expected to exceed 50 vehicle trips during the AM or PM peak hour period. The proposed development would generate between 295 trips in the AM peak hour period and 265 during the PM peak hour period.

This section provides a summary of the local circulation review conducted for the proposed project. A project completion year of 2027 has been applied.

3.1 STUDY METHODOLOGY

To determine the effects of the project on the operation of vehicular travel within the immediate project vicinity, an evaluation was made of the project contribution to delay and queuing at the study intersections under existing and future conditions.

KOA coordinated with City staff as the first step in the traffic analysis, and provided an initial and revised scoping document to the City, in order to define the study area and other major details.

The project study area includes the following four study intersections along the primary access routes to and from the site:

1. Gilman Road/Ramona Boulevard
2. Durfee Avenue/Ramona Boulevard
3. Durfee Avenue/Kerrwood Street
4. Durfee Avenue/Deana Street

The study roadway segments, where existing vehicle speeds and daily volumes were analyzed, are as follows:

- Kerrwood Street, east of Durfee Avenue
- Durfee Avenue, south of Kerrwood Street
- Gilman Road, south of Kerrwood Street
- Gilman Road, south of Ramona Boulevard

Figure 2 illustrates the locations of the study intersections and study roadway segments.

FIGURE 2

MACLAREN HALL RESIDENTIAL PROJECT

Study Area Map

Analysis Scenarios

The study included the analysis of the following traffic scenarios:

- Existing
- Existing with-Project
- Future without-Project
- Future with-Project

Project trip generation was based on land use intensities and trip rates defined by *Trip Generation, 11th edition,* published by the Institute of Transportation Engineers (ITE). Project trip distribution percentages were defined based on the expected local travel routes to and from the facility.

The existing with-project conditions scenario was included to analyze project impacts without cumulative projects and annual ambient growth.

In order to account for traffic growth in the study area through the Project opening year, an ambient/background traffic growth rate of one percent per year for five years (between existing year of 2022 and future project opening year of 2027) was applied to the traffic counts as well as a Peak Hour Factor (PHF) of 0.95 per the City of El Monte *Traffic Analysis Guidelines*.

Traffic from related projects (approved and pending developments) was also added to the study area. Based on the future without-project volumes plus traffic from the proposed project, the future with-project traffic volume conditions were determined and analyzed.

Level of Service Methodology

For analysis of Level of Service (LOS) at signalized intersections, the City of El Monte has designated the Highway Capacity Manual (HCM) methodology as the desired tool. A facility is at capacity (delay of 80 seconds or greater) when extreme congestion occurs. This total vehicle approach delay output of the HCM is a function of hourly volumes, signal phasing, and approach lane configuration, and green time for each leg of the intersection.

Level of service values range from LOS A to LOS F. LOS A indicates excellent operating conditions with little delay to motorists, whereas LOS F represents congested conditions with excessive vehicle delay. LOS E is typically defined as the operating capacity of a roadway. Table 1 defines the level of service criteria applied to the study intersections.

The City policy on LOS is to maintain a level of service (LOS) at most intersections outside of major roadway corridors, freeway interchanges, and commercial districts. Intersections in the City that do not meet these targets are considered deficient. If a Project increases total traffic at an intersection that is deficient based on LOS, improvements are to be considered.

Signalized intersections typically require improvements if the following conditions are met:

- The addition of project traffic to an intersection results in the degradation of intersection operations from operations from a level that meets the City's targets to a level that does not meet the City's target.

Unsignalized intersections typically require improvements if both of the following conditions are met:

- The addition of project traffic to an intersection results in the degradation of any individual movement at the intersection from operations from a level that meets the City's targets to a level that does not meet the City's target, and
- The intersection meets peak hour signal warrants either caused by project volumes, or project volumes are added at an intersection that meets peak hour signal warrants in the baseline scenario(s). Peak hour signal warrants should be determined based on one or more of the latest California Manual on Uniform Traffic Control Devices (CA MUTCD).

The fair share cost for the proposed improvements at unsignalized intersections in the cumulative condition are also to be calculated.

Table 1 –Intersection Level of Service Definitions

LOS	Definition	Signalized Intersection Average Stop Delay Per Vehicle (Sec/Veh) (HCM)	Stop-Controlled Intersection Average Stop Delay Per Vehicle (Sec/Veh) (HCM)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	≤10	≤10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	>10 - 20	>10 - 15
C	Good operation. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>20 - 35	>15 - 25
D	Fair operation. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	>35 - 55	>25 - 35
E	Poor operation. Some long standing vehicular queues develop on critical approaches.	>55 - 80	>35 - 50
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	>80	>50

Source*: Highway Capacity Manual*

3.2 EXISTING MOBILITY SYSTEM

This section describes the existing conditions within the study area in terms of roadway facilities, transit service, and traffic operating conditions.

All the roadway classifications are based on the City's Circulation Element. The key roadways within the study area are described here. The discussion is limited to specific roadways that traverse the study

intersections and serve the project site.

Deana Street is classified as a Local Street. This east-west roadway provides one travel lane in each direction. On-street parking is generally permitted on both sides of the street with the exception of Thursdays from 7 AM to 12 PM on the north side and 12-5PM on the south side of the street for street sweeping. The speed limit is 30 mph prima facie.

Durfee Avenue is classified as a Collector Street. This north-south roadway provides two travel lanes in each direction as well as a center left turn-lane. On-street parking is generally permitted on both sides of the roadway with the exception of Monday and Thursdays for street sweeping between 3AM-6AM. The posted speed limit is 35 miles per hour.

Gilman Road is classified as a Local Street. This north-south roadway provides one travel lane in each direction. On-street parking is generally permitted on both sides of the roadway with the exception of Thursdays between 7AM-12PM on the west side of the street and from 12PM-1PM on the east side of the street. The posted speed limit is 25 mph.

Kerrwood Street is classified as a Local Street. This east-west roadway provides one travel lane in each direction. On-street parking is generally permitted on both sides of the street with the exception of Thursdays from 7 AM to 12 PM for street sweeping. The speed limit is 30 mph prima facie.

Ramona Boulevard is classified as a Secondary Arterial Street. This east-west roadway provides two travel lanes in each direction. On-street parking is generally prohibited on both sides of the roadway in the vicinity of the site. The posted speed limit is 35 miles per hour.

Figure 3 illustrates the existing traffic controls and approach lane configurations at the study intersections.

Transit service is provided within one-quarter mile radius from the proposed project site, which is operated by Foothill Transit. Table 2 summarizes the project study area transit service.

Table 2 – Existing Transit Service

Agency	Line	From	To	Via	Peak Frequency
Foothill Transit	488	El Monte Station	Glendora	Ramona Boulevard	30 Mins
Foothill Transit	190	El Monte Station	Cal Poly Pomona	Ramona Boulevard	15 Mins
City of El Monte	Blue	Trolley Station	Trolley Station	Peck Road, Ramona Boulevard	40 Mins

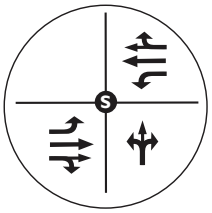
Source: *Foothilltransit.org*

FIGURE 3

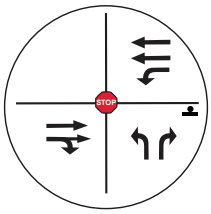
MACLAREN HALL RESIDENTIAL PROJECT

Existing Lane Configurations

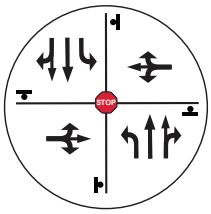
#1) Gilman Road & Ramona Boulevard



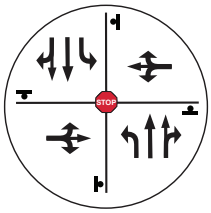
#2) Durfee Avenue & Ramona Boulevard



#3) Durfee Avenue & Kerrwood Street



#4) Durfee Avenue & Deana Street



LANE CONFIGURATION

- Signalized Intersection
- Stop Controlled Intersection
- Intersection Lane Geometry
- Stop Location

3.3 EXISTING CIRCULATION CONDITIONS

Traffic data was compiled from a combination of current year-2022 counts collected in the field by National Data and Surveying Services (NDS).

The traffic counts were conducted at the study intersections on Monday, June 06, 2022 during the peak timeframes of 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. The day was considered appropriate for counts, as no known atypical traffic conditions existed in the area and local schools were in session.

Fieldwork within the study area was undertaken to identify the condition of key study area roadways, including traffic control and approach lane configurations at each study intersection and on-street parking restrictions.

Based on the intersection lane configurations and the existing traffic volumes, average vehicle delay and corresponding levels of service (LOS) were determined for each of the study intersections during the weekday a.m. and p.m. peak hours for existing conditions. The existing with-project traffic volumes were derived by adding project trips to the existing traffic volumes.

Table 3 provides the operations analysis results for the existing conditions scenario, with vehicle delay in seconds and LOS values at the study intersections.

Table 3 – Existing Intersection Operations

Study Intersections		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS
1	Gilman Dr/ Ramona Blvd	17.1	B	18.6	B
2	Durfee Ave/ Ramona Blvd*	41.9	D	36.5	D
3	Durfee Ave/ Kerrwood St**	10.1	B	8.4	A
4	Durfee Ave/ Deana St**	10.50	B	9.0	A

LOS = Level of Service; HCM delay shown in X.X format.

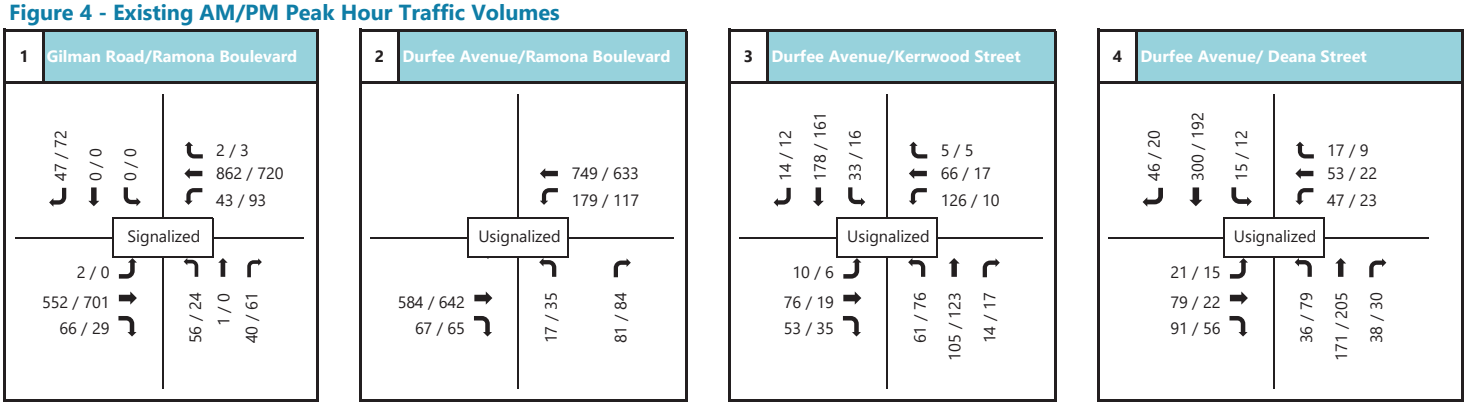
**Two-Way Stop Controlled Intersection- Delay is based on higher approach delay*

*** All-Way Stop Controlled Intersecton - Delay is based on overall intersection delay*

All study intersections currently operate at LOS D or better during the peak hours.

The existing weekday a.m. peak-hour and p.m. peak-hour traffic turning movement volumes are illustrated on Figure 4. The traffic count data sheets are provided in Appendix C, and the existing traffic analysis scenario worksheets are provided in Appendix D.

Figure 4 - Existing AM/PM Peak Hour Traffic Volumes



XX/XX AM /PM Peak Hour Traffic Volumes

3.4 PROJECT TRAFFIC

This section defines the traffic generated by the proposed project in a three-step process, including trip generation, trip distribution, and trip assignment.

The project land uses were analyzed as 36,000 square feet of medical clinic, 40,000 square feet of government office, 168 units of senior affordable housing and 168 units of family affordable housing, and four dwelling units for managers. Trip generation rates for each land use were applied from *Trip Generation, 11th edition*, published by the Institute of Transportation Engineers (ITE).

A trip generation credit was included for the previous MacLaren Hall site uses that would be replaced by the proposed project, based on the number of employees in those uses as defined by the County of Los Angeles. According to data from the County of Los Angeles Chief Executive Office and the County-wide eHR system, the number of employees that worked at the former uses at the project site within the proposed project footprint were a total of 90. Based on this number of employees, daily trips by employees are at least 180 per day, including inbound AM peak-hour trips and outbound PM peak-hour trips. Applying a conservative peak-hour commute ratio of 33 percent, it is estimated that there are 30 trips n each peak-hour. The totals conservatively do not include visitor trips.

The project has specific characteristics that are expected to reduce trips substantially from the totals analyzed, as a result of a highly transit-dependent population and an expected high usage of local transit shuttle routes. The County Building 6 uses may have up to half its floor area (20,000 square feet) that are ancillary uses to the other project site uses and surrounding community, such as community meeting rooms, a café/snack bar, and childcare. The analysis of project trips is therefore very conservative, as it considered all floor area as containing trip-generating uses.

The total estimated net weekday daily project vehicle trip total is 3,178, as calculated in Table 4. This includes 295 AM peak hour trips and 265 PM peak hour trips.

Table 4 – Project Trip Generation

MacLaren Park				Daily	AM Peak Hour			PM Peak Hour		
				Rates[1]						
ITE Code	Land Use	Intensity	Units	Total	Total	In	Out	Total	In	Out
220	Multifamily Housing (Low-Rise)	-	DU	6.74	0.4	0.24	0.76	0.51	0.63	0.37
223	Affordable Housing (Senior)	-	DU	-	0.18	0.58	0.42	0.09	0.61	0.39
223	Affordable Housing (Family)	-	DU	4.81	0.36	0.29	0.71	0.46	0.59	0.41
630	Medical Clinic	-	KSF	37.6	2.75	0.81	0.19	3.69	0.3	0.7
730	Government Office	-	KSF	22.59	3.34	0.75	0.25	1.71	0.25	0.75
				Proposed Uses						
220	Multifamily Housing (Low-Rise)	4	DU	27	2	0	2	2	1	1
223	Affordable Housing (Senior)[2]	168	DU	265	30	17	13	15	9	6
223	Affordable Housing (Family)	168	DU	808	60	17	43	77	45	32
630	Medical Clinic	36	KSF	1354	99	80	19	133	40	93
730	Government Office	40	KSF	904	134	101	34	68	17	51
				3358	325	215	111	295	112	183
Previous Use - Employee Trip Credit				(180)	(30)	(30)	0	(30)	0	(30)
			Total	**3178**	**295**	**185**	**111**	**265**	**112**	**153**

[1]Source: *ITE Trip Generation Manual 11th Edition*

[2] *Daily Trips for Senior Affordable Housing, for which rates are not defined by ITE, were calculated by applying a peak to daily ratio from the Family Affordable Housing category. The factor to define daily trips from peak hour trips in both the AM and PM is 5.898 (808/60+77), and this was applied to the 45 (30+15) senior affordable housing trips to define the 265 daily trips for that category.*

Project Trip Distribution

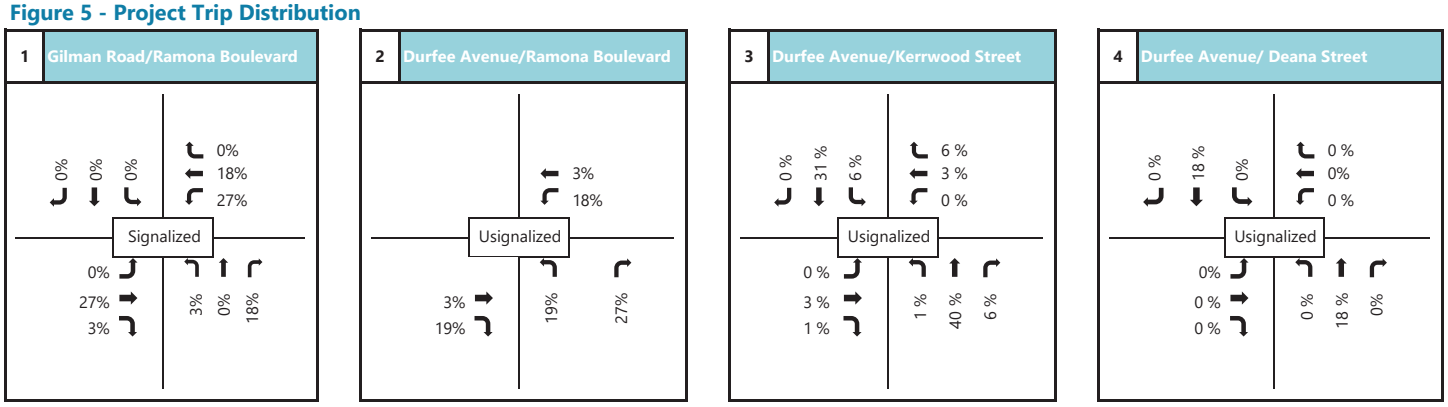
Trip distribution is the process of assigning the directions from which traffic will access the project site. Trip distribution is dependent upon the land use characteristics of the project, the local roadway network, and the general locations of other land uses to which project trips would originate or terminate.

Figure 5 illustrates the trip distribution percentages that were utilized for the project traffic.

Project Trip Assignment

Based on the trip generation and distribution assumptions described above, project traffic was assigned to the roadway system. The peak-hour project trip assignment is illustrated on Figure 6.

Figure 5 - Project Trip Distribution



XX% Project Trip Distribution

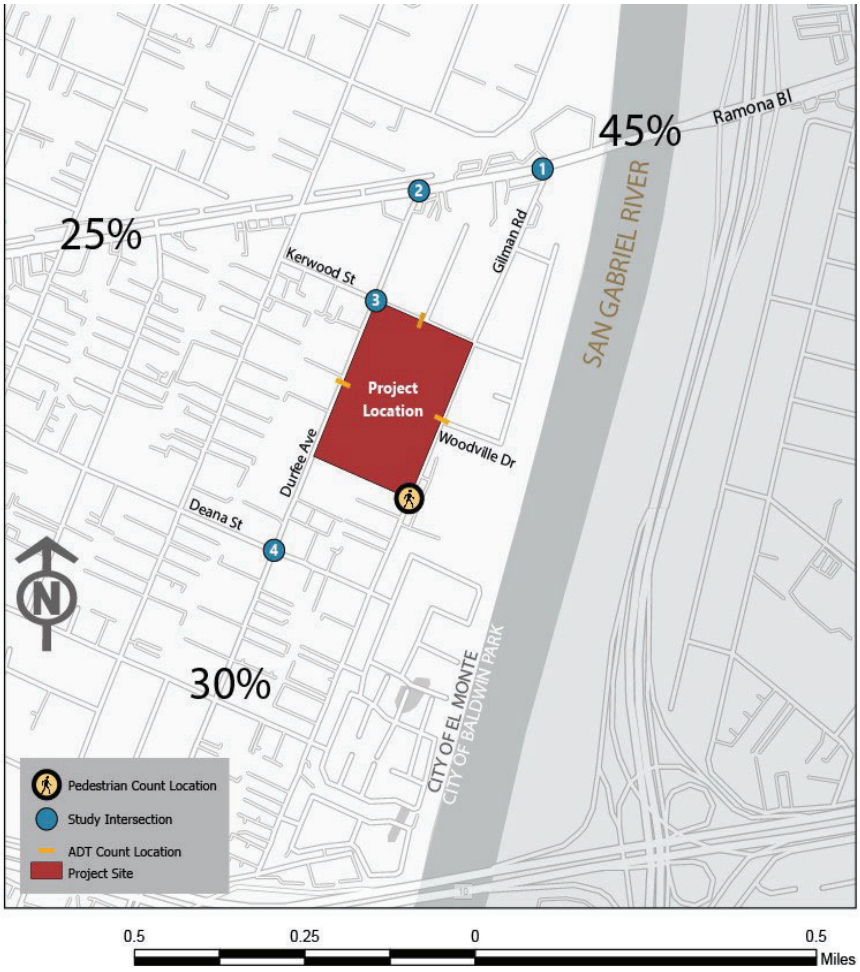
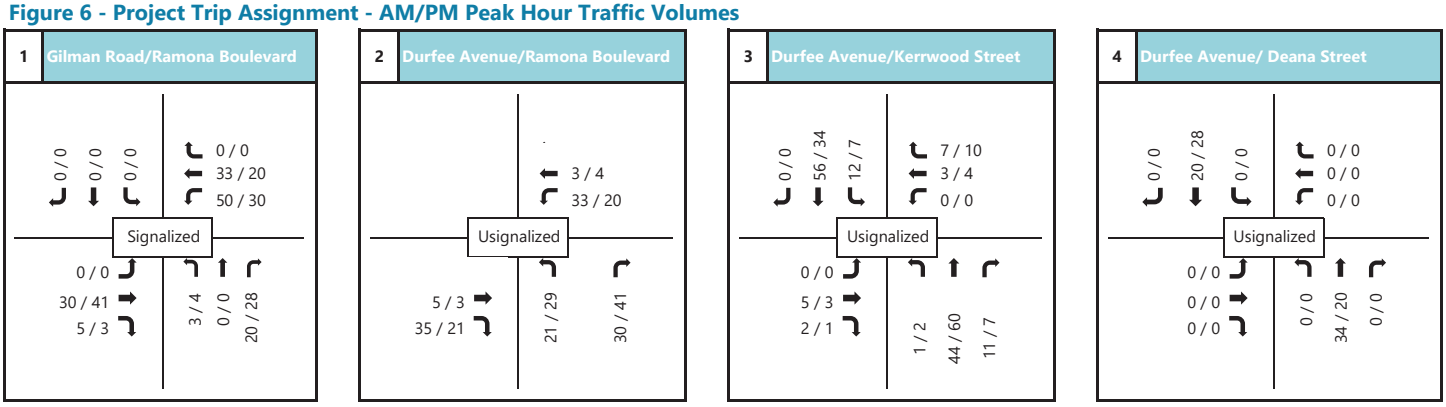
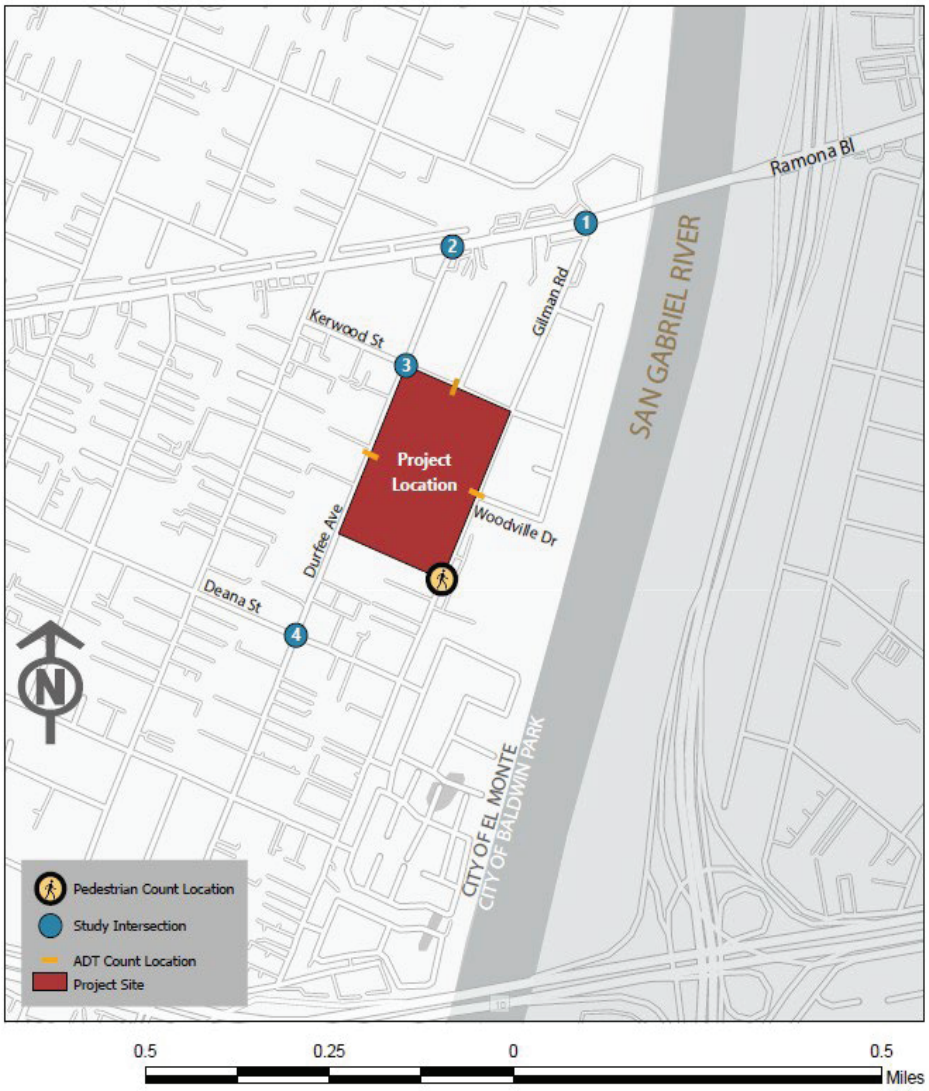
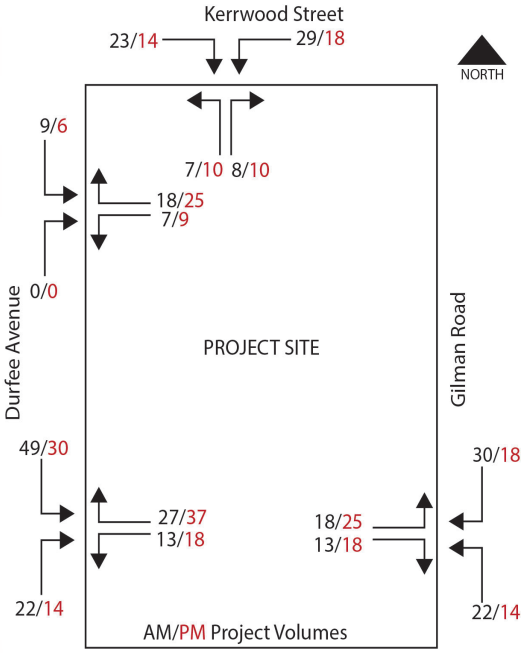


Figure 6 - Project Trip Assignment - AM/PM Peak Hour Traffic Volumes



XX/XX AM /PM Peak Hour Traffic Volumes





3.5 EXISTING WITH -PROJECT CONDITIONS

The existing conditions scenario traffic volumes were analyzed with the addition of proposed project trips. Table 5 provides a summary of study intersection operations for existing with-project conditions.

Table 5 – Existing with-Project Intersection Delay and Performance

Study Intersections		Peak Hour	Existing Conditions (2022)		Existing with Project Conditions (2022)		Change in Delay
			Delay in Sec.	LOS	Delay in Sec.	LOS	
1	Gilman Dr/ Ramona Blvd	AM	17.1	B	18.0	B	0.9
		PM	18.6	B	19.8	B	1.2
2	Durfee Ave/ Ramona Blvd*	AM	41.9	D	66.7	**E**	24.8
		PM	36.5	D	55.2	**E**	18.7
3	Durfee Ave/ Kerrwood St**	AM	10.1	B	10.6	B	0.5
		PM	8.4	A	8.7	A	0.3
4	Durfee Ave/ Deana St**	AM	10.5	B	10.8	B	0.3
		PM	9.0	A	9.1	A	0.1

LOS = Level of Service; HCM delay shown in X.X format.

**Two-Way Stop Controlled Intersection- Delay is based on higher approach delay*

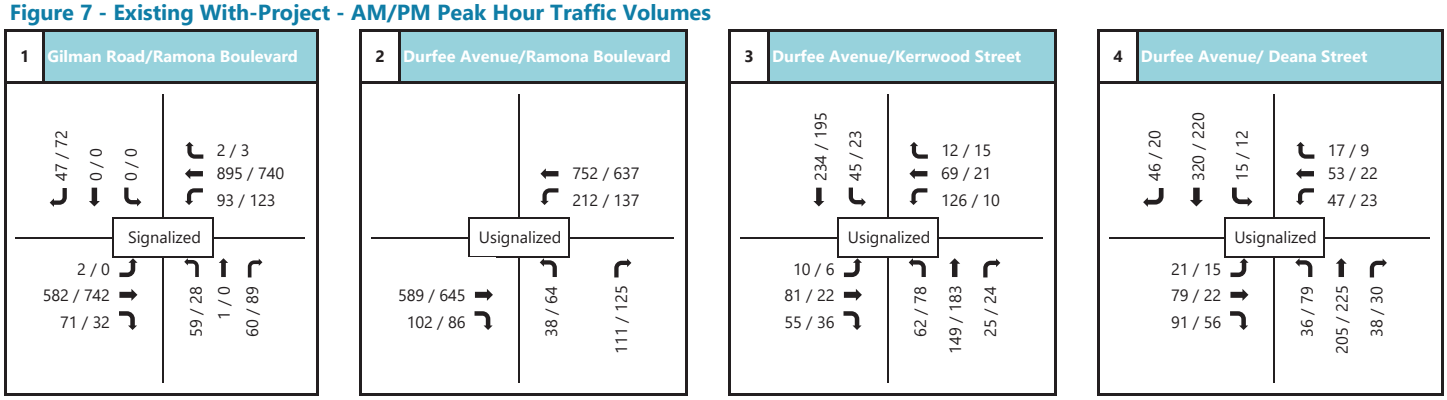
*** All-Way Stop Controlled Intersecton - Delay is based on overall intersection delay*

The addition of project traffic to the existing study area volumes causes the AM and PM peak LOS of the Durfee Avenue/Ramona Boulevard intersection to worsen from LOS D to E, with overall 24.8 and 18.7-second delay increases for each peak hour from the project. This delay occurs at the stop-sign controlled approach of Durfee Avenue at the intersection. The other intersection LOS values remain unchanged, with small delay increases due to project traffic.

The Durfee Avenue/Ramona Boulevard is deficient in terms of LOS with project traffic. Traffic signal warrants for this intersection are discussed in Section 3.6 of this report, along with improvement recommendations. The other three study intersections do not have deficient LOS under this analysis scenario.

The existing with-project volumes at the study intersections for the weekday a.m. peak-hour and p.m. peak-hour traffic turning movement volumes are illustrated on Figure 7. The analysis worksheets for this scenario are provided in Appendix E.

Figure 7 - Existing With-Project - AM/PM Peak Hour Traffic Volumes



XX/XX AM /PM Peak Hour Traffic Volumes

3.6 FUTURE CONDITIONS

This section provides an analysis of future traffic conditions in the study area with cumulative/area project trips and background growth added, but without project traffic. The proposed project is anticipated to be completed within the year 2027, and therefore this defined the future analysis year.

Ambient Growth

In order to acknowledge regional population and employment growth outside of the study area, an annual ambient traffic growth rate of one percent was applied to the existing scenario traffic volumes.

Area Projects

Traffic from cumulative area projects (approved and pending developments) was also included in the analysis. The projects were identified during coordination with the City of El Monte. A total of six pending projects within a one-mile radius of the project site were identified for inclusion in the analysis, including the adjacent and separate MacLaren Community Park.

Table 6 provides the trip generation estimates for the area projects. The last project in the list is the separate Community Park project adjacent to the proposed project site. That project has net negative trip totals in most timeframes, due to the credits taken in that project study for the removed MacLaren Hall uses and the former employment levels documented by the County.

The cumulative project locations are illustrated on Figure 8. The area project trip assignment volumes for the AM and PM peak hours are provided on Figure 9.

Table 6 – Area Projects Trip Generation

Cumulative Projects						Daily	AM Peak Hour			PM Peak Hour		
ID	Address	ITE Code	Land Use	Intensity	Units	Total	Total	In	Out	Total	In	Out
1	11730 Ramona Blvd	223	Affordable Housing	38	DU	183	14	4	10	17	10	7
		220	Multifamily Housing	1		7	0	0	0	1	1	0
2	11710-11720 Forest Grove St	220	Multifamily Housing	5	DU	34	2	0	2	3	2	1
3	3937 Peck Road	822	Retail	4	KSF	218	9	5	4	26	13	13
		712	Office	5		72	8	7	1	11	4	7
4	4123-4131 Peck Road	220	Multifamily Housing	14	DU	94	6	1	5	7	4	3
5	4336 Peck Road	822	Retail	9.406	KSF	512	22	13	9	62	31	31
6	4055 Gilman Road [1]	411 & 488	City Park	5.6	Acre	-179	-47	-54	8	-27	23	-50
Total						**941**	**14**	**-24**	**39**	**100**	**88**	**12**

[1] The Trip Generation for this project was defined by the *County of Los Angeles MacLaren Community Park Master Plan - Traffic Review* completed by KOA in September, 2021.

FIGURE 8

MACLAREN HALL RESIDENTIAL PROJECT

Location of Related Projects

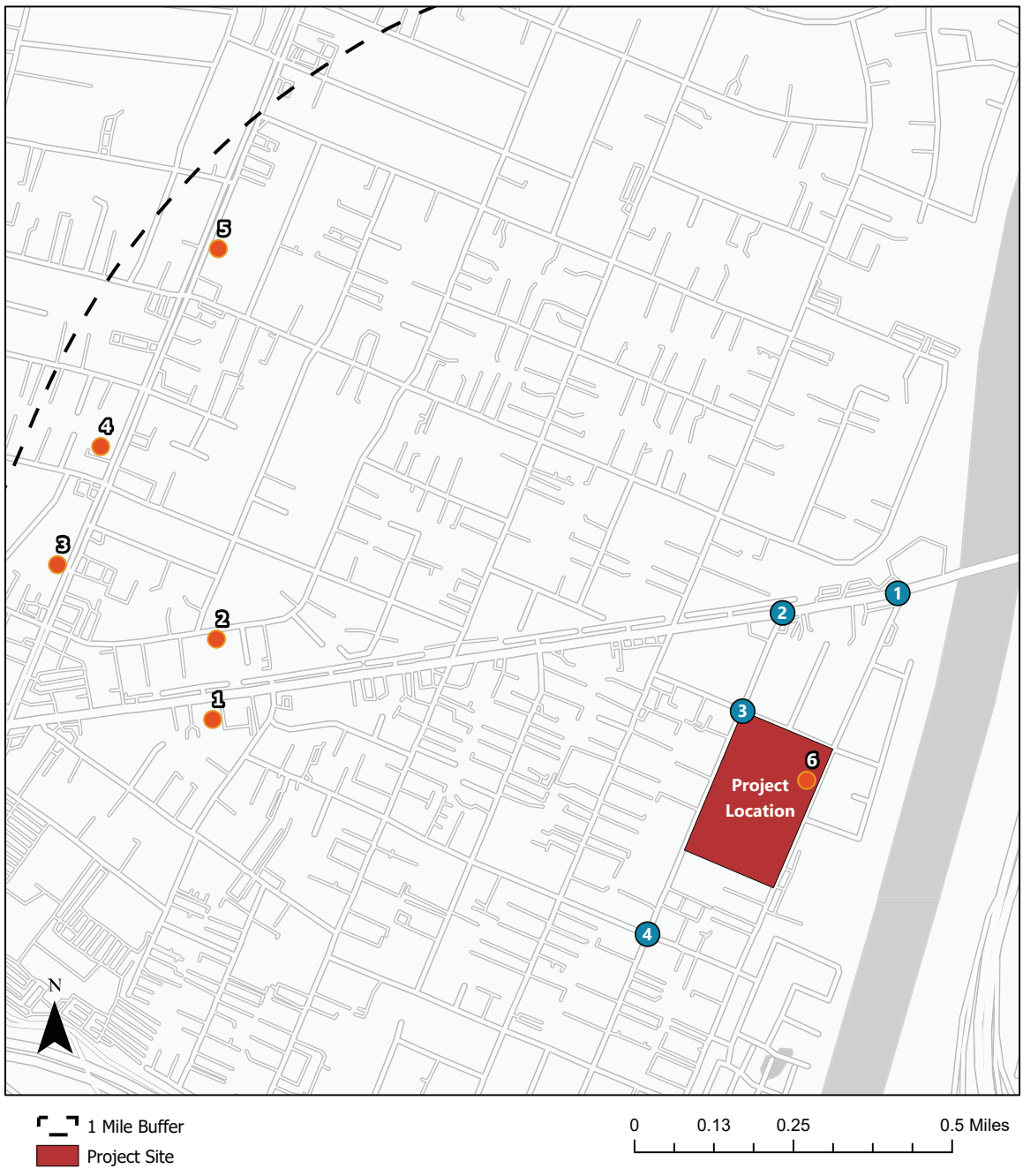
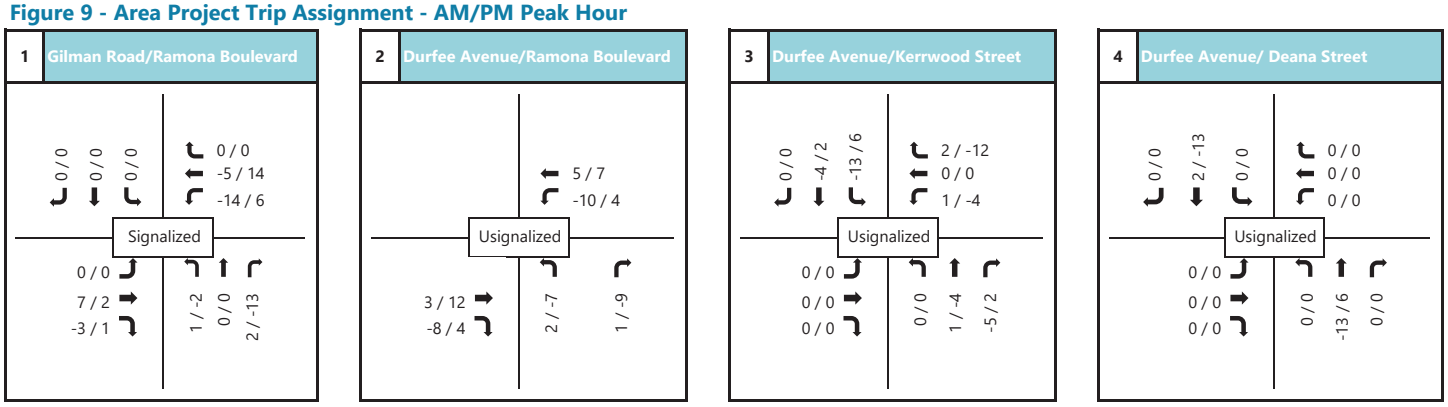


Figure 9 - Area Project Trip Assignment - AM/PM Peak Hour



XX/XX AM /PM Peak Hour Traffic Volumes

Future Conditions without and with Project Traffic

Future baseline traffic volumes for the without-project condition were determined by applying ambient traffic growth and area project traffic volumes to the existing traffic volumes. Under the future with-project scenario, the traffic volumes were derived by adding project trips to the future baseline traffic volumes.

Table 7 provides the results of the vehicle delay in seconds and LOS values at the study intersections for future without-project and future with-project conditions.

Table 7 – Future Intersection Delay and Performance

Study Intersections		Peak Hour	Future (2027) Without Project		Future (2027) with Project		Change in Delay
			Delay in Sec.	LOS	Delay in Sec.	LOS	
1	Gilman Dr/ Ramona Blvd	AM	17.7	B	18.6	B	0.9
		PM	18.7	B	19.9	B	1.2
2	Durfee Ave/ Ramona Blvd*	AM	54.7	**F**	103.8	**F**	49.1
		PM	49.0	**E**	86.3	**F**	37.3
3	Durfee Ave/ Kerrwood St**	AM	10.5	B	11.2	B	0.7
		PM	8.5	A	8.8	A	0.3
4	Durfee Ave/ Deana St**	AM	11.2	B	11.5	B	0.3
		PM	9.2	A	9.3	A	0.1

LOS = Level of Service; HCM delay shown in X.X format.

**Two-Way Stop Controlled Intersection- Delay is based on higher approach delay*

*** All-Way Stop Controlled Intersecton - Delay is based on overall intersection delay*

Most of the study intersections will continue to operate similarly to operations analyzed for the existing with-project conditions scenario.

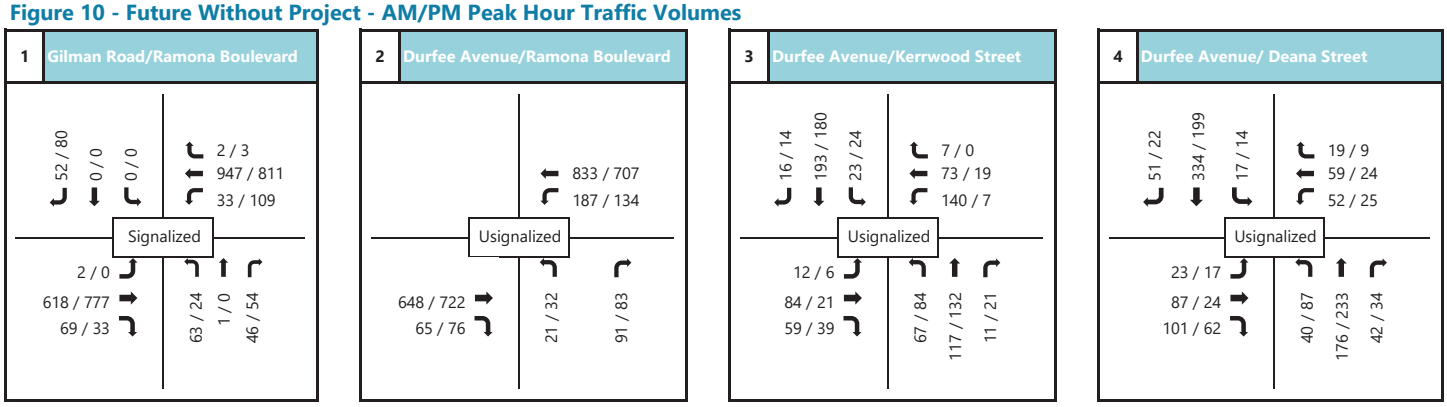
The intersection of Durfee Avenue and Ramona Boulevard is expected to worsen in level of service from E to F due to the project, with an increase in average approach delay to 103.8 seconds during the AM and to 86.3 seconds during the PM peak hour period. This increased delay is at the stop-sign controlled approach of Durfee Avenue at this location.

The Durfee Avenue/Ramona Boulevard is deficient in terms of LOS with project traffic. Traffic signal warrants for this intersection are discussed in Section 3.6 of this report, along with improvement recommendations. The other three study intersections do not have deficient LOS under this analysis scenario.

The Future without-project traffic volumes for the weekday a.m. and p.m. peak hours are illustrated on Figure 10. The Future without-project traffic analysis worksheets for this scenario are provided in Appendix E.

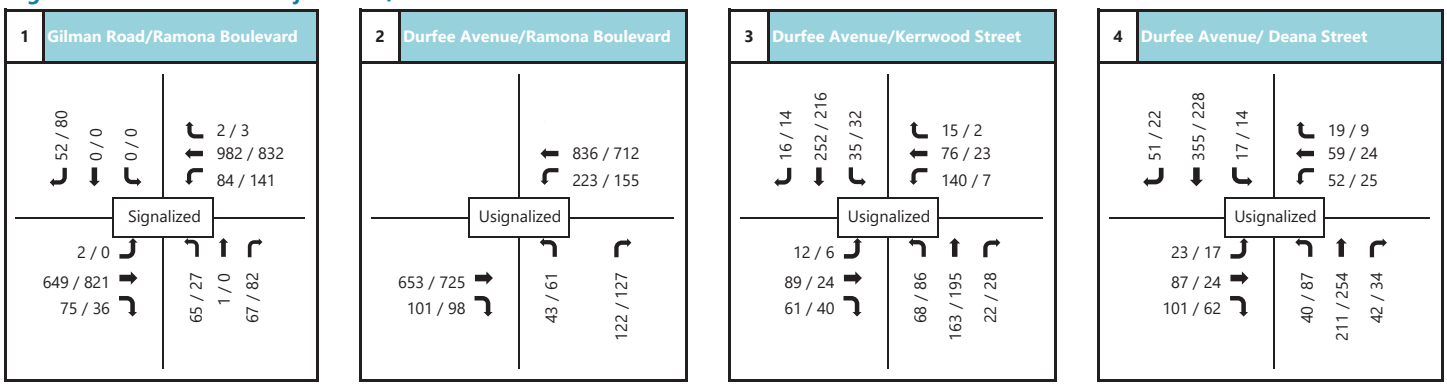
The Future with-project traffic volumes for the weekday a.m. and p.m. peak-hour volumes are illustrated in Figure 11. The analysis worksheets for this scenario are provided in Appendix F.

Figure 10 - Future Without Project - AM/PM Peak Hour Traffic Volumes



XX/XX AM /PM Peak Hour Traffic Volumes

Figure 11 – Future With-Project - AM/PM Peak Hour Traffic Volumes



XX/XX AM /PM Peak Hour Traffic Volumes

Traffic Signal Warrant

A traffic signal warrant was conducted at the intersection of Durfee Avenue and Ramona Boulevard. This intersection meets the applied Manual for Uniform Traffic Control Devices (MUTCD) traffic signal warrant standards for peak-hour volumes, based on the scenario volumes and number of approach lanes. The warrant is met under future conditions both with and without the proposed project.

The proposed project does not cause the signal warrant to be met, but the LOS at this intersection is worsened to a value of F by the project. A fair-share financial contribution by the project toward future signalization of the intersection is recommended. Table 8 provides the fair-share calculations based on vehicle volumes. The project volume share of volumes is 6.0 percent and 6.9 percent for the two peak hours.

Table 8 – Fair-Share Proportion of Project Traffic – Durfee Avenue and Ramona Boulevard Intersection

Volumes Basis	AM	PM
Future with-Project Volumes	1978	1878
Project Trips	119	129
Project Trips Proportion	6.0%	6.9%

The signal warrant analysis worksheets are provided in Appendix G.

3.7 PARKING ANALYSIS

Project Site Parking Supply

A total of 618 off-street vehicle parking spaces would be provided across the project site and the adjacent Community Park. The Esperanza Village site and the mixed-use Building 5 will have 490 spaces out of this total supply, and 115 parking spaces would be allocated to the County Building 6 and the adjacent Community Park, as follows:

- 388 spaces for the residential buildings (279 spaces for the affordable units and 109 spaces for the senior units)
- 115 spaces for mixed-use Building 5
- 87 spaces for Building 6 and Community Park
- 28 public spaces for Community Park

310 spaces would be located in the ground-level podium parking garages of the proposed residential buildings. The remaining 78 residential parking spaces would be provided at the surface parking areas adjacent to the four residential buildings.

At mixed-use Building 5, 115 surface parking spaces would be provided adjacent to the building.

At the County-related parcel, a total of 115 spaces would be provided as well. 33 parking spaces would be located within Building 6 either at-grade or above grade, and 82 parking spaces would be provided at the surface parking lot of the County-related parcel. The surface parking would be provided both for Building 6 and for park use.

Table 9 provides a summary of the parking requirements for the project site uses, based on the City of El

Monte Municipal Code and the County of Los Angeles Code for the County Building 6 assuming 40,000 square feet of office use. However, the size and mix of uses anticipated for Building 6 have not been finalized. Therefore, the City will work with the County to identify parking demand and supply for Building 6. Sharing of parking between uses will be defined as needed during final site plan review by the City, although reserved and/or gated parking is not planned to be established for any site uses.

Based on the proposed site uses and these requirements, the total maximum required supply would be 526 spaces. The project site plan provides for 618 parking spaces, providing a surplus over the Code requirements. Community Park use would peak outside of the daily operational hours for Building 6, and that parking is therefore shared between the two uses.

Table 9 – Project Parking Summary

Land Use	Size	Parking Requirement	Total Spaces Required
Affordable Housing - Extremely Low/Low Income	168 units	1 space/unit, 1 guest space for each 10 units	168 + 17 or 185
Affordable Housing - Senior	168 units	0.5 spaces/unit, 1 guest space for each 10 units	84 + 17 or 101
Manager Units	4 units	2 spaces/unit under 1,200 sq.ft. area	8
Building 5 / Medical Office	36 KSF	1 space/500 sq.ft	72
Building 6 / Government Office *	40 KSF	1 space/250 sq.ft	160
		Totals:	**526**
		Supply Provided:	**618**

** County parking requirements source: County of Los Angeles Title 22 - PLANNING AND ZONING Division 6 - DEVELOPMENT STANDARDS Chapter 22.112 – PARKING*

In addition to the parking supply proposed within the project site, diagonal parking spaces could potentially be provided along the Durfee Avenue, Kerrwood Street, and Gilman Road rights-of-way. The feasibility of providing this additional on-street parking adjacent to the project site is reviewed later within this report section.

On-Street Parking Existing Demand

Hourly parking occupancy surveys were conducted on two roadways adjacent to the site (west side of site and north side of site), on a weekday and a weekend day, during the 8:00 AM to 8:00 PM timeframes.

The locations were the following:

- Durfee Avenue, along the project frontage side of the street
- Kerrwood Street from Durfee Ave to Gilman Road (both sides of the street)

Table 10 provides a summary of parking demand at the analyzed locations for the weekend survey day of Saturday, June 4, 2022. The supply in number of spaces for each roadway segment is shown at the top of the table. The demand or occupancy in number of vehicles parked is shown by hour in the remaining rows of the table. The following are the highest periods of occupancy on the weekend:

- Durfee Avenue, east side – 7 percent occupied during the 11:00 AM and 12:00 PM hours
- Kerrwood Street, south side – 31 percent occupied during the 8:00 AM hour
- Kerrwood Street, south side – 57 percent occupied during the 8:00 AM, 9:00 AM, 12:00 PM, and 5:00 PM hours

The occupancy of the three corridors is highest on the north side of Kerrwood Street, which is directly adjacent to residential uses.

Table 10 – Weekend Parking Study Data

	Durfee Ave, East Side		Kerrwood St, South Side		Kerrwood St, North Side	
	From: *South End of Project Site*	***To:*** *Kerrwood St*	***From:*** *Durfee Ave*	***To:*** *Gilman Rd*	***From:*** *Gilman Rd*	***To:*** *Durfee Ave*
Restriction	**No Restriction**		**No Parking Thursday 12nn-5pm Street Sweeping**		**No Parking Thursday 7am-12nn Street Sweeping**	
Spaces	**46**		**26**		**16**	
8:00 AM	2		8		9	
9:00 AM	2		4		9	
10:00 AM	2		5		1	
11:00 AM	3		6		1	
12:00 PM	3		4		9	
1:00 PM	1		4		7	
2:00 PM	2		3		7	
3:00 PM	2		7		8	
4:00 PM	2		7		7	
5:00 PM	2		5		9	
6:00 PM	2		2		8	
7:00 PM	1		2		8	

Table 11 provides a summary of parking demand at the analyzed locations for the weekend survey day of Monday, June 6, 2022, in the same format as Table 9. The following are the highest periods of occupancy on the weekday:

- Durfee Avenue, east side – 2 percent occupied during the 8:00 AM, 10:00 AM., and 3:00 PM to 6:00 PM hours.
- Kerrwood Street, south side – 34 percent occupied during the 8:00 AM hour
- Kerrwood Street, south side – 43 percent occupied during the 8:00 AM, 9:00 AM, 11:00 AM, 2:00 PM, and 7:00 PM hours.

The occupancy of the three corridors remains highest on the north side of Kerrwood Street on weekdays, similar to weekend demand.

Table 11 – Weekday Parking Study Data

Restriction	Durfee Ave, East Side		Kerrwood St, South Side		Kerrwood St, North Side	
	From: South End of Project Site	*To:* Kerrwood St	*From:* Durfee Ave	*To:* Gilman Rd	*From:* Gilman Rd	*To:* Durfee Ave
	No Restriction		No Parking Thursday 12nn-5pm Street Sweeping		No Parking Thursday 7am-12nn Street Sweeping	
Spaces	**46**		**26**		**16**	
8:00 AM	1		9		7	
9:00 AM	0		8		7	
10:00 AM	1		7		6	
11:00 AM	0		8		7	
12:00 PM	0		8		5	
1:00 PM	0		8		6	
2:00 PM	0		7		7	
3:00 PM	1		8		5	
4:00 PM	1		7		6	
5:00 PM	1		8		6	
6:00 PM	1		7		6	
7:00 PM	0		6		7	

In general, in both the weekend and weekday periods, on-street parking on these roadway segment locations is half-occupied or less during all daylight hours.

On-Street Parking Supply

The project developer is planning to provide diagonal parking on adjacent roadways, where feasible, to supplement the site parking supply. The parking is not needed based on Code requirements any lack of adequate off-street parking, but is being provided to supplement parking supply for both the project and adjacent but separate planned park use. The demand for typical park use and for sporting events at the park is not known, as it was not defined for this separate County project.

The on-site parking that is adjacent to Building 6 and County parking for that building would be shared between the County Park and the County office uses. Peak use of the park for organized sporting events would occur on weekday evenings or on the weekends, when the Building 6 government office use would not be active. The park use, therefore, would not create any additional parking demand burden on the site that cannot be accommodated by the site parking supply.

The curb-to-curb and sidewalk widths of the roadways adjacent to the site were reviewed to determine the feasibility of providing diagonal parking on the site side of each roadway, as the project applicant has the goal of providing additional on-street parking for the proposed site uses.

Diagonal on-street parking, depending on geometric configuration and with the best angle of spaces for minimal use of roadway width being 30 degrees or 45 degrees, requires 17 to 19 feet for the parking spaces

and 14 to 16 feet for the adjacent lane for backing maneuvers. Therefore, the half-width of the roadway (from the curb to the centerline) must be 31 feet to 35 feet in width. The City will work with the County to identify the appropriate off-site parking configuration adjacent to County uses (the park and County Building 6). Approval will be subject to review by the City during final design of the improvements.

The design of the diagonal parking areas considered sight visibility for vehicles exiting the project driveways. The diagonal parking design for Gilman Road considered school pick-up/drop-off activity to the south of the project site. On-street diagonal parking was not included on this roadway past the southern end of the Community Park area, avoiding any potential conflicts between vehicle movements into and out of the diagonal parking areas and movements into and out of the school. The final design of the on-street proposed diagonal parking will be completed to the satisfaction of the City Engineer.

The review of each adjacent roadway is provided below, and the diagonal parking concept plans are provided in Appendix H.

Durfee Avenue – East Curb Parking

The roadway has four travel lanes, a center two-way left-turn lanes, and bicycle lanes adjacent to on-street vehicle parking areas. No site dedications are required or planned along the site frontage at this roadway. The presence of the bicycle lanes would make the addition infeasible of an on-street diagonal parking area on this roadway adjacent to the project site. The roadway configuration and on-street parking provisions will not be modified with the proposed project.

Gilman Road – West Curb Parking

On Gilman Road, along the project site frontage, the roadway has a total half-width (from the centerline to the edge of the roadway at the site boundary) right-of-way that is 35.7 feet wide. The current physical half-roadway width including sidewalks is 25 feet. Therefore, a 10-foot easement exists along this project site frontage, and this can be used for roadway widening and on-street parking improvements.

The existing curb-to-curb width of the roadway is 40 feet wide, with two 20-foot travel lane and on-street parking areas. The roadway has five-foot sidewalks. The 25-foot roadway half-width can be increased to 35 feet through the use of this easement and the implementation of roadway improvements by the project. A diagonal parking area of 17 feet in width can be provided, with a 14-foot adjacent travel lane for backing.

A five-foot sidewalk along the west side of the roadway, to be relocated and replaced with a planned site widening, plus the 31 feet for the diagonal parking and the adjacent travel lane, would provide for a total roadway width of 57 feet. This would allow for on-street diagonal parking adjacent to the site frontage.

This would provide 15 on-street public parking spaces and two disabled-access spaces, a change to 17 spaces from the current estimated supply in the same area of 13 spaces. As noted above the City will work with the County to identify the appropriate off-site parking configuration adjacent to Building 6 taking in to account safety concerns.

Kerrwood Street – South Curb Parking

On Kerrwood Street, the roadway has a 40-foot curb-to-curb width and five-foot sidewalks. The roadway half-width adjacent to the project site is 45 feet, with a 20-foot travel lane with parking and a five-foot

sidewalk. An existing five-foot easement at the project site frontage can be used to increase the roadway half-width from 25 feet to 30 feet, an increase of 5 feet.

The 31-foot to 35-foot width that is required for an on-street diagonal parking area and adjacent travel lane would be provided on this roadway via project dedications and roadway widening that would provide for a 53-foot total roadway width. This would allow for on-street diagonal parking adjacent to the site frontage.

This would provide 22 on-street public parking spaces and two disabled-access spaces, a change to 24 spaces from the current estimated supply in the same area of 26 spaces. The reduction in parking is due to modifications to driveway locations, clear areas for visibility at driveways, and corner treatments. As noted above the City will work with the County to identify the appropriate off-site parking configuration along Kerrwood Street.

3.8 ACCESS AND CIRCULATION ANALYSIS

The project site will be accessed by vehicles via seven proposed driveways. Pedestrians will be able to access the site via multiple access points on all site frontages. Three driveways including one outbound only driveway at the County Building 6 on Durfee Avenue, two driveways on Kerrwood Street adjacent to the park use, and two driveways on Gilman Road.

The residential use parking areas will be accessible via the Durfee Avenue and Gilman Road driveways, and internal roadways will provide access to surface parking areas and the parking areas within the four residential buildings. Building 5 will share access with the residential buildings. Building 6 and the separate Community Park will share a separate circulation route and access points on Kerrwood Street and an exit point on Durfee Avenue. Signage within the residential parking areas and the parking area for Building 5 will define designations of the parking areas by use, and use by park patrons will be prohibited via signage in these areas as well.

One of the three driveways on Durfee Avenue will be solely for egress purposes; this would help alleviate potential traffic queues, as this driveway is closer to the intersection of Durfee Avenue and Kerrwood Street. This exit-only driveway will be adjacent to Building 6, which would function as county office space. Access to the government office building would be through Kerrwood Street just north of Building 6. Kerrwood Street would also provide parking for park access while the remaining driveways on Gilman Road and Durfee Avenue would serve the project residential uses.

Driveways are adequately spaced along the site and there are no congestion issues that are expected to occur due to site vehicular ingress and egress activity. The southern project driveway on Gilman Road, to the south of Building 2, could create conflicts with the pick-up/drop-off driveways of Twin Lakes Elementary School on the east side of the roadway. The entrance driveway for the school pick-up/drop-off area would be roughly aligned with this southern site driveway, and the exit driveway for the pick-up/drop-off area would be located to the north of this site driveway. The establishment of prohibited left-turn movements into and out of the southern site driveway at this location is recommended, thru installation of regulatory signage for site outbound traffic and northbound traffic on Gilman Road to indicate that these left-turn outbound movements are prohibited, which would remove most conflicts.

This turning prohibition would be enforceable as part of Police traffic operations. Other potential measures may be considered during final review with the City, including potential physical designs of the driveway to restrict the related turning movements.

Right turn movements from the southern project driveway on Gilman Road would take place to the north of the nearby mid-block crosswalk location. Drivers would have clear visibility of the crosswalk while making this turning movement.

A pick-up/drop-off area for the separate but adjacent park use has been designated within the Project site, in the parking to the west of Building 6. Pick-up/drop-off operations would not conflict with adjacent roadway travel lanes, as this designated area is located within the development site. Access to this drop-off area would be possible through driveways on either Durfee Avenue or Gilman Road. This area would allow for loading and unloading of park users adjacent to the park without the use of parking spaces.

Pedestrian access to the site from Gilman Road and Durfee Avenue would be provided through proposed sidewalks that continue to the site residential buildings. Access to the park would also be provided via the on-site sidewalks.

Mid-Block Crosswalk Analysis

A pedestrian volume analysis was conducted at the Gilman Road mid-block crosswalk, located between the south end of the project site frontage and the frontage of Twin Lakes Elementary School. Pedestrian and bicycle volume counts were conducted on Monday June 6, 2022, during peak hours that overlapped the elementary school ingress and egress times.

The volumes are summarized in Table 12, in 15-minute increments by direction for the AM and PM peak hours when data was collected. The highest periods of pedestrian volumes are in the 8:00 AM to 8:15 PM period when 66 pedestrians crossed in an eastbound direction towards the school, and in the 2:45 PM to 3:00 PM period when 142 pedestrians crossed in a westbound direction away from the school. No bicyclists used this crossing location.

Table 12 – Gilman Road Mid-Block Crosswalk Pedestrian Volumes

TIME	Crosswalk Peds		TOTAL
	Going East	Going West	
7:30 AM	4	2	***6***
7:45 AM	52	3	***55***
8:00 AM	66	5	***71***
8:15 AM	24	1	***25***
2:40 PM	0	19	***19***
2:45 PM	2	142	***144***
3:00 PM	0	4	***4***
3:15 PM	0	0	***0***
3:30 PM	0	5	***5***
Totals	***148***	***181***	***329***

The mid-block crosswalk location on Gilman Road, adjacent to the project site and the Twin Lakes Elementary School, is signed and striped, and stop signs provide control for approaching vehicles in the northbound and southbound directions.

The developer of the proposed project is pursuing with the school district an access route through the school campus to provide a link to the San Gabriel River Trail. It is recommended that the proposed project provide improvements at the current mid-block crosswalk, including restriping the crosswalk with high visibility striping and replacing the warning and stop signs with new signs to improve visibility. These improvements should be designed, approved, and implemented to the satisfaction of the City Engineer. Other potential future improvements will be evaluated with the City before implementation of these improvements. The location will also be evaluated as part of the separate neighborhood traffic management plan.

Local Roadway Volumes Analysis

Gilman Road, a local roadway, will provide access between the project site and Ramona Boulevard to the north, the nearest arterial to the project site. Gilman Road borders the Project site on the east. Other roadways including Durfee Avenue and Kerrwood Street would provide access to other regional routes in other directions. The project is not expected to add a level of vehicle trips to the analyzed roadway segments that would cause deterioration to poor levels of service.

A volume and level of service analysis was completed for the study roadway segments, including project trip generation effects, as summarized in Table 13. The 24-hour traffic counts were conducted at the study roadway segments on Monday, June 6, 2022. Volume increases on the roadway segments would range from 34 percent to 69 percent (with this highest percent occurring on Durfee Avenue), but LOS values with the proposed project would be at LOS A or B based on the applied capacities and analyzed volumes. The project would not reduce the number of travel lanes on any of the analyzed roadways.

There would not be any significant circulation effects at the roadway segments due to the proposed project, based on this analysis.

Table 13 – Study Roadway Segment Analysis

ID	Segment	Classification	Lanes	Existing ADT	Capacity Per Lane	Total Capacity	Existing V/C Ratio	Existing LOS	With Project Trips Added	With Project ADT	With Project V/C Ratio	With Project LOS	% increase
1	Kerrwood Street	Local	2	1,864	2,500	5,000	0.373	A	731	2,595	0.519	A	39%
2	Durfee Avenue	Collector	4	6,033	5,000	20,000	0.302	A	1,628	7,661	0.383	A	27%
3	Gilman Road (S/O Woodville Dr)	Local	2	1,891	2,500	5,000	0.378	A	898	2,789	0.558	A	47%
4	Gilman Road (S/O Ramona Blvd)	Local	2	2,335	2,500	5,000	0.467	A	795	3,130	0.626	B	34%

Local Roadway Speeds Analysis

Vehicle speeds were collected at the four study roadway segments by automatic measuring equipment, during collection of the 24-hour volume counts. This analysis was conducted as defined in the study scoping document, to determine if adjacent roadway speeds are high and if traffic calming measures might be necessary. Speed measurements were made during periods of free-flowing traffic on normal weekdays with

dry pavement conditions on one weekday. The following speed data was calculated from the collected data:

- Average Speed – This speed represents the arithmetic average of all speeds recorded at the location.

- Critical Speed – This speed, also known as the 85th percentile speed, is the speed at or below which 85 percent of the traffic was observed. This value is the primary guide in establishing the speed limit as this value represents the top speed of most safe and reasonable motorists. In the absence of other factors such as a high collision rate, speed limits are usually established within a range of 5 miles per hour less than this speed.

- Pace – This is the 10 mile per hour speed range that contains the largest number of vehicles that were observed. The pace provides a measure of the dispersion of speeds within the sample surveyed. In the absence of other factors such as a high collision rate, speed limits are usually established within the 10 miles per hour speed range in the pace.

Posted speed guidelines established by the State of California were reviewed to determine if the posted speed limits are appropriate and if average vehicle speeds are in compliance. The following are the analysis summaries for each of the locations.

Kerrwood Street West of Bannister Avenue

Kerrwood Street is a two-lane residential roadway at the north frontage of the project site. Parking is permitted on both sides of the roadway. There is no posted speed limit, and therefore, the 25 MPH prima facie speed applies.

Speeds measured include an average speed of 24 MPH, a 10 MPH pace from 20 through 29, and a critical speed of 30 MPH. The speed limit on Kerrwood Street is consistent with California Vehicle Code guidelines. Excessive speeding is not observed at this location as the pace speed is 5 MPH above the speed limit, within the acceptable range of critical speed value as compared to the posted speed. No changes to the roadway, roadway striping or speed limits are recommended within this roadway segment.

Durfee Avenue South of Kerrwood Street

This segment of Durfee Avenue is a four-lane north-south roadway on the west side of the project site. The posted speed limit is 35 MPH. This segment of roadway has few driveways or access points.

Speeds measured include an average of 39 MPH, a 10 MPH pace from 35 through 44, and a critical speed of 45 MPH.

The speed limit on Durfee Avenue is not consistent with California Vehicle Code guidelines. Excessive speeding is observed at this location by 10 MPH. This major roadway is adjacent to residential uses and the west side of the project site. It is recommended that the project fund a local neighborhood study including public outreach to define traffic-calming measures to be implemented at this location by project opening.

Gilman Road South of Woodville Drive

This segment of Gilman Road is a two-lane north-south local roadway, located at the east frontage of the project site. Parking is permitted on both sides of the roadway with the exception of Thursdays for street

sweeping from 7:00AM to 12:00PM on the west side of the street and on Thursdays from 12:00PM to 5:00PM on the east side of the street. There is a posted speed limit of 25 MPH.

Speeds measured include an average of 24 MPH, a 10 MPH pace from 20 through 29, and a critical speed of 31 MPH.

The critical speed on Gilman Road is 6 MPH higher than the posted speed limit. As this location has a pace speed that exceeds the posted speed limit. This local roadway is adjacent to the east frontage of the project site and is adjacent to Twin Lake Elementary School. It is recommended that the project fund a local neighborhood study including public outreach to define traffic-calming measures to be implemented at this location by project opening.

Gilman Road South of Ramona Boulevard

This segment of Gilman Road is a two-lane north-south local roadway on the east frontage of the project site. Parking is permitted on the west side of the roadway and on the east side it is generally prohibited during school days from 7:30AM to 8:00AM, from 1:00PM to 3:00PM, and from 12:00PM to 1:00PM for street sweeping on Thursdays. There is a posted speed limit of 25MPH.

Speeds measured include an average of 23 MPH, a 10 MPH pace from 20 through 29, and a critical speed of 30 MPH.

The critical speed on Gilman Road south of Ramona Boulevard is 5 MPH higher than the posted speed limit, within the acceptable range of critical speed value as compared to the posted speed. No changes to the roadway, roadway striping or speed limits are recommended within this roadway segment.

The higher identified speeds on Durfee Avenue and Gilman Road have defined the need for a neighborhood traffic management plan. The study would be funded by the proposed project, and any final recommended neighborhood roadway improvements would be funded by the proposed project. Development of the plan will include the following efforts.

- A review of conditions on the two impacted roadways in the vicinity of the project site
- Development of potential solutions to high vehicle speeds in a toolbox or menu of improvements
- Conduct a first public meeting of local neighborhood residents to discuss the plan framework, issues, roadway characteristics, and the range of potential solutions.
- Generate recommended solutions, including options for each roadway
- Conduct a second public meeting to review solutions and options, and receive input on preferred solutions
- Provide a method for voting for the desired option amongst residents – through a mailer or in-meeting voting if feasible
- Conduct a third public meeting to discuss the final chosen options and implementation

An agreement will be entered into with the City by the project applicant for the completion of the neighborhood traffic management plan, with a schedule for completion and implementation to be determined as part of the agreement.

4. IMPACTS AND EFFECTS CONCLUSIONS

The project impact determinations are as follows, based on the analysis conducted and the application of the City of El Monte traffic impact guidelines:

CEQA and VMT Analysis

The project (California Environmental Quality Act) CEQA transportation impact determinations are as follows:

- The application of the project land uses to the San Gabriel Valley Council of Governments Vehicle Miles Traveled (VMT) Tool indicates that both the proposed residential and non-residential uses of the project can be screened from VMT analysis and be assumed to have a less than significant impact. The VMT impact standard of the City of El Monte is a threshold that is 15 percent below the local average.

- The project residential VMT value at 13.3 would be lower than the required 15 percent reduction from the area baseline value of 15.7 (with the maximum resulting threshold at 13.35). The project residential uses pass the low VMT screening.

- The project non-residential VMT value at 23.0 would be lower than the required 15 percent reduction from the area baseline value of 34.9 (with the maximum resulting threshold at 29.67). The project non-residential uses pass the low VMT screening.

- All of the proposed project uses can be screened from further analysis of VMT. A less than significant transportation impact under CEQA would occur due to the project.

Local Area Circulation Effects

- The project would generate a net total of 3,178 daily net trips, including 295 vehicle trips during the weekday a.m. peak hour and 265 vehicle trips during the weekday p.m. peak hour.

- The project has specific characteristics that are expected to reduce trips substantially from the totals analyzed, as a result of a highly transit-dependent population and an expected high usage of local transit shuttle routes. The County Building 6 uses may have up to half its floor area (20,000 square feet) that are ancillary uses to the other project site uses and surrounding community, such as community meeting rooms, a café/snack bar, and childcare. The analysis of project trips is therefore very conservative, as it considered all floor area as containing trip-generating uses.

- Local circulation effects were analyzed at four study intersections and four roadway segments.

- Most of the intersections would operate at good Level of Service (LOS) values of A or B. The Durfee Avenue/Ramona Boulevard intersection would worsen in operations from LOS D to E under existing conditions with the project, and within LOS E and LOS F under future conditions with the project. This delay occurs at the stop-sign controlled approach of Durfee Avenue at the intersection.

- A traffic signal warrant was conducted at the intersection of Durfee Avenue and Ramona Boulevard. This intersection meets the applied traffic signal warrant standards for peak-hour volumes, under future conditions both with and without the proposed project.

- The proposed project does not cause the signal warrant to be met at Durfee Avenue and Ramona Boulevard, but the LOS at this intersection is worsened to a value of F by the project. A fair-share financial contribution by the project toward future signalization of the intersection is recommended. The project volume share of volumes is 6.0 percent and 6.9 percent for the two peak hours.

- At the four study roadway segments, volume increases on the roadway segments would range from 27 percent to 47 percent (with this highest percent occurring on Gilman Road), but LOS values with the proposed project would be at LOS A or B based on the applied capacities and analyzed volumes. There would not be any significant circulation effects at the roadway segments due to the proposed project.

Parking Analysis

- Based on the proposed site uses and these requirements, the total required supply would be 526 spaces. The project site plan provides for 581 parking spaces, providing a surplus over Code requirements. Sharing of parking between uses will be defined as needed during final site plan review by the City, although reserved and/or gated parking is not planned to be established for any site uses.

- Hourly parking occupancy surveys were conducted on two roadways adjacent to the site on a weekday and a weekend day, during the 8:00 AM to 8:00 PM timeframes.

- The parking survey conducted at the roadway segments adjacent to the site in both the weekend and weekday periods, on-street parking on these roadway segment locations is half-occupied or less during all daylight hours.

- In addition to the parking supply proposed within the project site, diagonal parking spaces could potentially be provided along the Kerrwood Street and Gilman Road rights-of-way.

Circulation and Access Analysis

- The southern project driveway on Gilman Road, to the south of Building 2, could create conflicts with the pick-up/drop-off driveways of Twin Lakes Elementary School on the east side of the roadway. The entrance driveway for the school pick-up/drop-off area would be roughly aligned with this southern site driveway, and the exit driveway for the pick-up/drop-off area would be located to the north of this site driveway.

- The establishment of prohibited left-turn movements into and out of the southern site driveway at this location is recommended, thru installation of regulatory signage for site outbound traffic and northbound traffic on Gilman Road to indicate that these left-turn outbound movements are prohibited, which would remove most conflicts.

- The mid-block crosswalk location on Gilman Road, adjacent to the project site and the Twin Lakes Elementary School, is signed and striped and stop signs provide control for approaching vehicles in the northbound and southbound directions.

- The developer of the proposed project is interested in pursuing an access route through the school campus to provide a link to the San Gabriel River Trail. It is recommended that the proposed project provide improvements at the current mid-block crosswalk, including upgrading the crosswalk striping and warning and stop signs to improve visibility. These improvements should be designed, approved, and implemented to the satisfaction of the City Engineer. Other improvements at this location may be defined by the separate neighborhood traffic management plan.

Study Roadway Segment Speeds

- Vehicle speeds were collected at the four study roadway segments by automatic measuring equipment, during collection of the 24-hour volume counts. This analysis was conducted as defined in the study scoping document, to determine if adjacent roadway speeds are high and if traffic calming measures might be necessary.

- On Kerrwood Street west of Bannister Avenue, excessive speeding is not observed at this location as the pace speed is 5 MPH above the speed limit, within the acceptable range of critical speed value as compared to the posted speed. No changes to the roadway, roadway striping or speed limits are recommended within this roadway segment.

- On Durfee Avenue south of Kerrwood Street, excessive speeding is observed at this location, at 10 MPH over the posted speed. It is recommended that the project fund a local neighborhood study including public outreach to define traffic-calming measures to be implemented at this location by project opening.

- On Gilman Road south of Woodville Drive, the critical speed on Gilman Road is 6 MPH higher than the posted speed limit. It is recommended that the project fund a local neighborhood study including public outreach to define traffic-calming measures to be implemented at this location by project opening.

- On Gilman Road south of Ramona Boulevard, the critical speed on Gilman Road south of Ramona Boulevard is 5 MPH higher than the posted speed limit, within the acceptable range of critical speed value as compared to the posted speed. No changes to the roadway, roadway striping or speed limits are recommended within this roadway segment.

- The higher identified speeds on Durfee Avenue and Gilman Road have defined the need for a neighborhood traffic management plan. The study would be funded by the proposed project, and any final recommended neighborhood roadway improvements would be funded by the proposed project. An agreement will be entered into with the City by the project applicant for the completion of the neighborhood traffic management plan, with a schedule for completion and implementation to be determined as part of the agreement.

APPENDIX A
Scoping Document

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MONTEREY PARK ORANGE ONTARIO SAN DIEGO LA QUINTA

MEMORANDUM

Date: May 31, 2022

To: Jana Robbins – TransTech / City of El Monte

Cc: Betty Donavanik – City of El Monte
Kevin Ko – City of El Monte
Wendy Lockwood – Sirius Environmental

From: Brian Marchetti, AICP

Subject: Revised Traffic Scoping Document for MacLaren Project, El Monte

This document provides the proposed project details and traffic study methodology for consideration and comment by the City of El Monte, with updates based on City comments of 5/23.

Project Description

The El Monte MacLaren Hall Project is proposed for the site at 4024 Durfee Avenue in the City of El Monte. The planned opening year is 2024. The project site is bordered by Durfee Avenue along its frontage to the west, Kerrwood Street to the north, Gillman Road to the east, and single and multi-family residential to the south.

The facility will be composed of six buildings that include 340 affordable dwelling units across four buildings. These units will have the following characteristics:

Broken down by Income

- Extremely Low income (ELI) — 174 units or 51.2%
- Low Income (LI) — 162 units or 47.6%
- Managers — 4 units or 1.2%

Broken Down by Occupancy and Income

- ELI Family/Senior — 82
- LI Family/Senior — 86
- 168 Family units

The other two buildings will contain the following:

Building 5 will be composed of a County PACE Center (elderly healthcare) of 18,000 square feet, a vocational school linked to the other clinic uses of 5,000 square feet, and a community medical clinic of 13,000 square feet. All of this space, at a total of 36,000 square feet, will be analyzed as medical clinic use, based on the overall characteristics of the uses.

Building 6 will have 20,000 to 40,000 square feet of space, and will predominantly be used for government office space with a majority of the space being used as government offices and the remaining 4,000 square feet as a child care center that is ancillary to the other site uses. All of this space, at a total size of up to 40,000 square feet, will be analyzed as government office use.

The project is adjacent to a separate County/City site of 5.6 acres, which is being used for public park, recreation, and open space uses.

The proposed the site plan is provided in Attachment A.

The proposed site access points will be on Durfee Avenue. Parking will be provided throughout the site, with vehicular access via seven proposed driveways along Durfee Avenue, Kerrwood Street, and Gillman Road.

Vehicle Miles Traveled (VMT) Analysis

The San Gabriel Valley COG Vehicle Miles Traveled Evaluation Tool was used to review the screening potential for the project. The Tool allows for a screening of impacts based on the presence of a project in a low VMT area. The application of the project land used to the Tool indicates that the project can be screened from VMT analysis and be assumed to have a less than significant impact for both the proposed residential and non-residential uses.

The VMT Tool output for the project residential units and the non-residential floor area is provided in Attachment B.

Project Trip Generation

The trip generation land use inputs included the following:

- 168 affordable housing units for seniors
- 168 affordable housing units for families.
- Four manager residential units
- 36,000 square feet of medical clinic space
- 40,000 square feet of government office space.

According to data from the County of Los Angeles Chief Executive Office and the County-wide eHR system, there are 90 employees that work at the current uses within the project site that would be removed as a result of the project.

Based on this data, existing daily trips by employees are at least 180 per day, including outbound AM trips and inbound PM trips. Applying a conservative peak-hour commute ratio of 33 percent, out of the total number of 90 employees, it is estimated that there are 30 peak-hour employee trips.

The application of Institute of Transportation Engineers (ITE) rates from *Trip Generation, 11th edition* to these land uses results in estimated daily trips of 3,178, including 295 AM peak hour trips and 265 PM peak hour trips.

PROJECT TRIP GENERATION

MacLaren Park				Daily	AM Peak Hour			PM Peak Hour		
				Rates[1]						
ITE Code	Land Use	Intensity	Units	Total	Total	In	Out	Total	In	Out
220	Multifamily Housing (Low-Rise)	-	DU	6.74	0.4	0.24	0.76	0.51	0.63	0.37
223	Affordable Housing (Senior)	-	DU	-	0.18	0.58	0.42	0.09	0.61	0.39
223	Affordable Housing (Family)	-	DU	4.81	0.36	0.29	0.71	0.46	0.59	0.41
630	Medical Clinic	-	KSF	37.6	2.75	0.81	0.19	3.69	0.3	0.7
730	Government Office	-	KSF	22.59	3.34	0.75	0.25	1.71	0.25	0.75
				Proposed Uses						
220	Multifamily Housing (Low-Rise)	4	DU	27	2	0	2	2	1	1
223	Affordable Housing (Senior)[2]	168	DU	265	30	17	13	15	9	6
223	Affordable Housing (Family)	168	DU	808	60	17	43	77	45	32
630	Medical Clinic	36	KSF	1354	99	80	19	133	40	93
730	Government Office	40	KSF	904	134	101	34	68	17	51
				3358	325	215	111	295	112	183
Previous Use - Employee Trip Credit				(180)	(30)	(30)	0	(30)	0	(30)
			Total	**3178**	**295**	**185**	**111**	**265**	**112**	**153**

[1]Source: *ITE Trip Generation Manual 11th Edition*

[2] *Daily Trips for Senior Affodable Housing, for which rates are not defined by ITE, were calculated by applying a peak to daily ratio from the Family Affordable Housing category.*

Operational Analysis

The quantitative evaluation of the expected access and circulation operations will include a level of service and queuing analysis. Queuing will be evaluated for pre-project and post-project conditions at turn pockets, at the project study intersections and the major site driveway access point. It will be determined if the project would cause queuing to block nearby intersections and other site driveways.

The traffic study will examine four study intersections in the local area for analysis of local project circulation effects. The intersection traffic counts will be conducted on a weekday during the 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM time periods.

The study intersection locations are as follows, and are shown on the figure in Attachment C:

1. Gilman Road/Ramona Boulevard
2. Durfee Avenue/Ramona Boulevard
3. Durfee Avenue/ Kerwood Street
4. Durfee Avenue/Deana Street

The overall area project trip distribution percentages are included on the Attachment C figure. The percentages at the study intersections, totaling 100 percent for inbound and 100 percent for outbound trips, are provided on the figure in Attachment D.

The study roadway segments, where existing vehicle speeds and daily volumes will be analyzed, are as follows:

- Kerwood Street, east of Durfee Avenue
- Durfee Avenue, south of Kerwood Street
- Gilman Road, south of Kerwood Street
- Gilman Road, south of Ramona Boulevard

Hourly parking occupancy surveys will be conducted on two roadways, on a weekday and a Saturday, between 8AM to 8PM each day on:

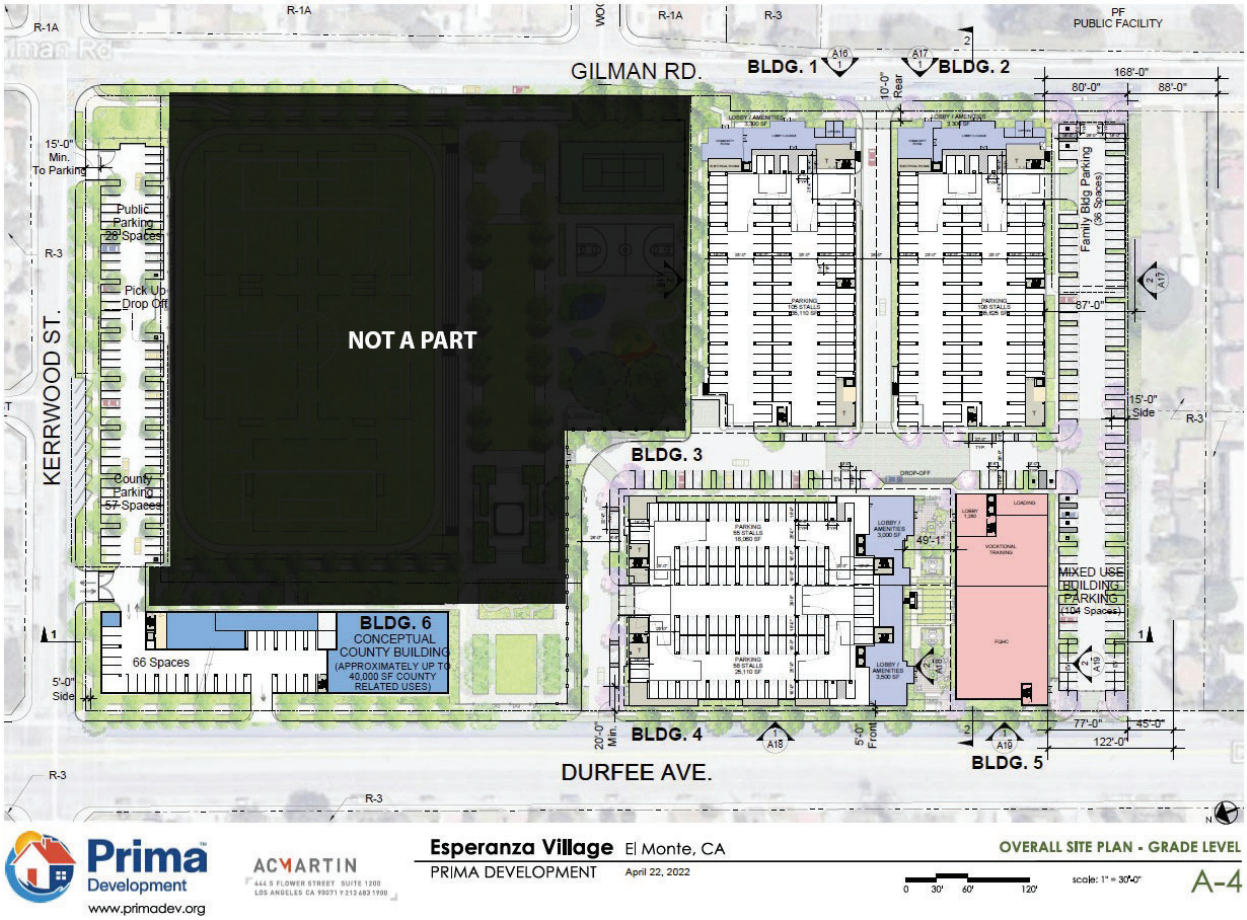
- Durfee Avenue, along the project frontage side of the street
- Kerwood Street from Durfee Ave to Gilman Road (both sides of the street)

Based on the results of the speed data analysis, potential solutions of traffic calming will be recommended as part of the study, as appropriate to the analysis results. The potential for diagonal parking on Durfee Avenue, based on final proposed off-site parking designs separate from this study, will be evaluated in terms of potential effects on operations.

Pedestrian counts will also be conducted during the peak egress and ingress hours of the Twin Lakes Elementary School, for the existing mid-block crosswalk on Gilman Road near the southeast corner of the project site between 7:30 AM and 8:30 AM and 2:40 PM and 3:40 PM during a weekday either Tuesday, Wednesday, or Thursday.

The report will evaluate potential queuing at the inbound left-turn of the project on driveways on Durfee Avenue, Gilman Road, and Kerwood Street. A Highway Capacity Manual analysis will be conducted based on the project trip generation and the volumes analyzed at the nearby study intersection. Cumulative/area projects as defined by City planning staff will be included to define future pre-project conditions. The change in projected operations between future pre-project and future post-project conditions will be analyzed to determine effects at the study intersections and study roadway segments.

ATTACHMENT A –
PROJECT SITE PLAN



Prima Development
www.primadev.org

ACMARTIN
444 S FLOWER STREET SUITE 1200
LOS ANGELES CA 90071 T 213 683 1900

Esperanza Village El Monte, CA
PRIMA DEVELOPMENT April 22, 2022

OVERALL SITE PLAN - GRADE LEVEL
0 30' 60' 120'
scale: 1" = 30'-0"
A-4

ATTACHMENT B –
CEQA ANALYSIS - VMT TOOL OUTPUT

SGVCOG VMT Evaluation Tool Report

Project Details

Timestamp of Analysis: May 13, 2022, 11:24:34 AM

Project Name: El Monte Esperanza Village

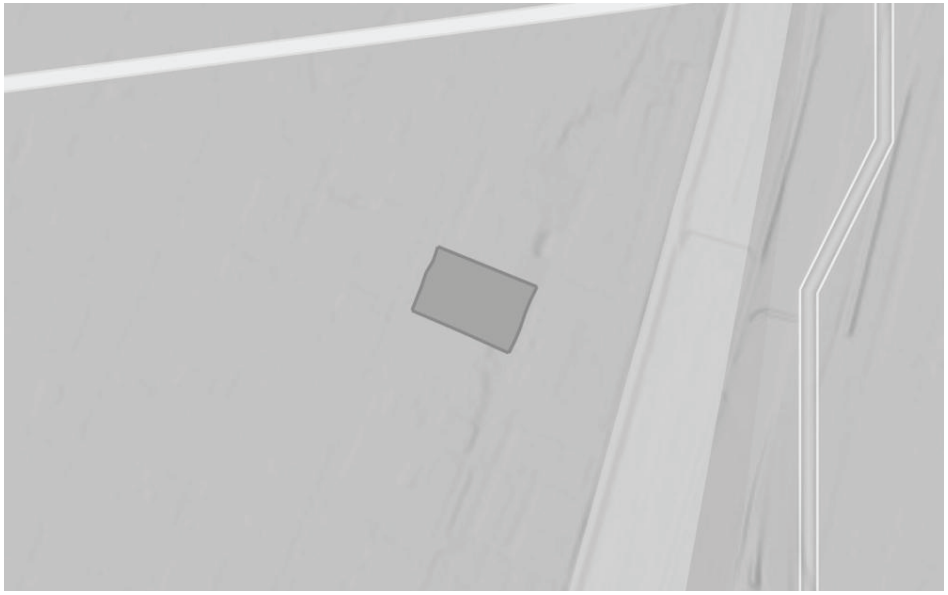
Project Description: County Office (Building 6) - Up to 40 ksfMixed-Use Building (Building 5) - Clinic 36ksfResidential units: 340Extremely Low income 51.2%, Low Income 47.6%, Managers 1.2% (4 units)168 Family units, 168 senior units

Project Location

jurisdiction:
El Monte

apn	TAZ
8549-005-900	22242100

Inside a TPA?
No (Fail)



Analysis Details

Data Version: SCAG Regional Travel Demand Model 2016 RTP Base Year 2012

Analysis Methodology: TAZ

Baseline Year: 2023

Project Land Use

Residential:

Single Family DU:	
Multifamily DU:	340
Total DUs:	340

Non-Residential:

Office KSF:	76
Local Serving Retail KSF:	
Industrial KSF:	

Residential Affordability (percent of all units):

Extremely Low Income:	51 %
Very Low Income:	0 %
Low Income:	48 %

Parking:

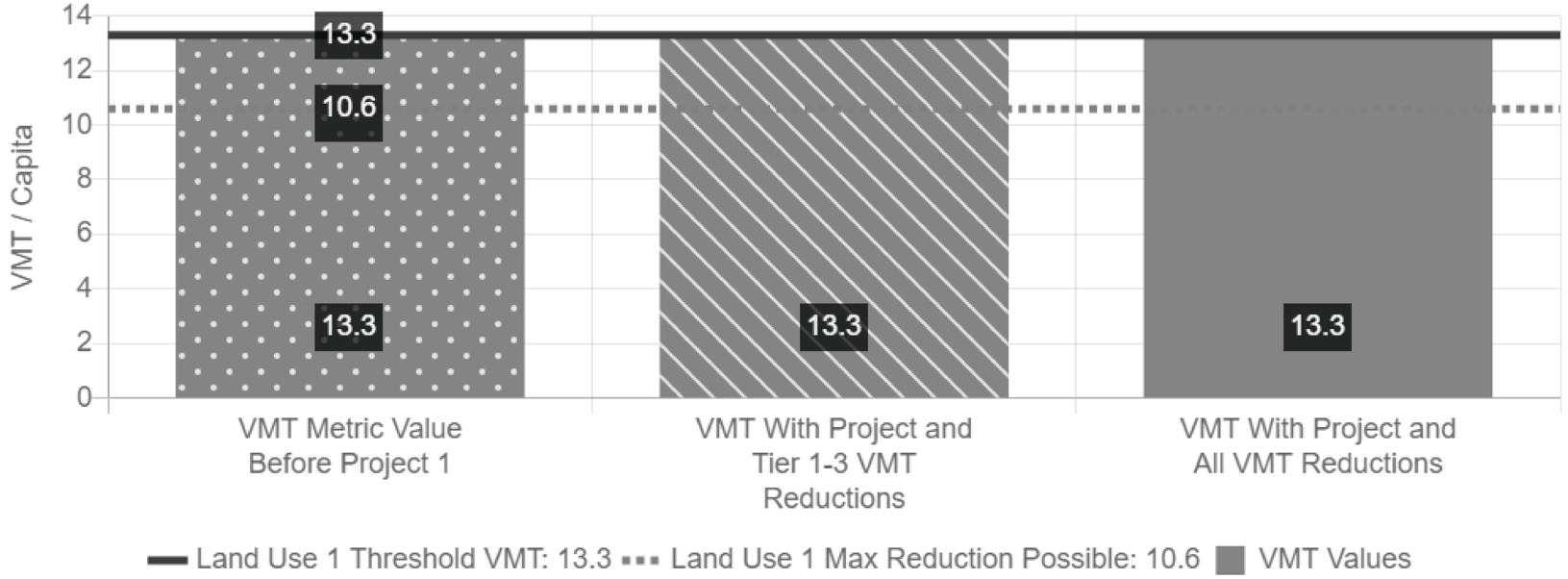
Motor Vehicle Parking:

Bicycle Parking:

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Without Project 1:	Home-based VMT per Capita
VMT Baseline Description 1:	SGVCOG Average
VMT Baseline Value 1:	15.65
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

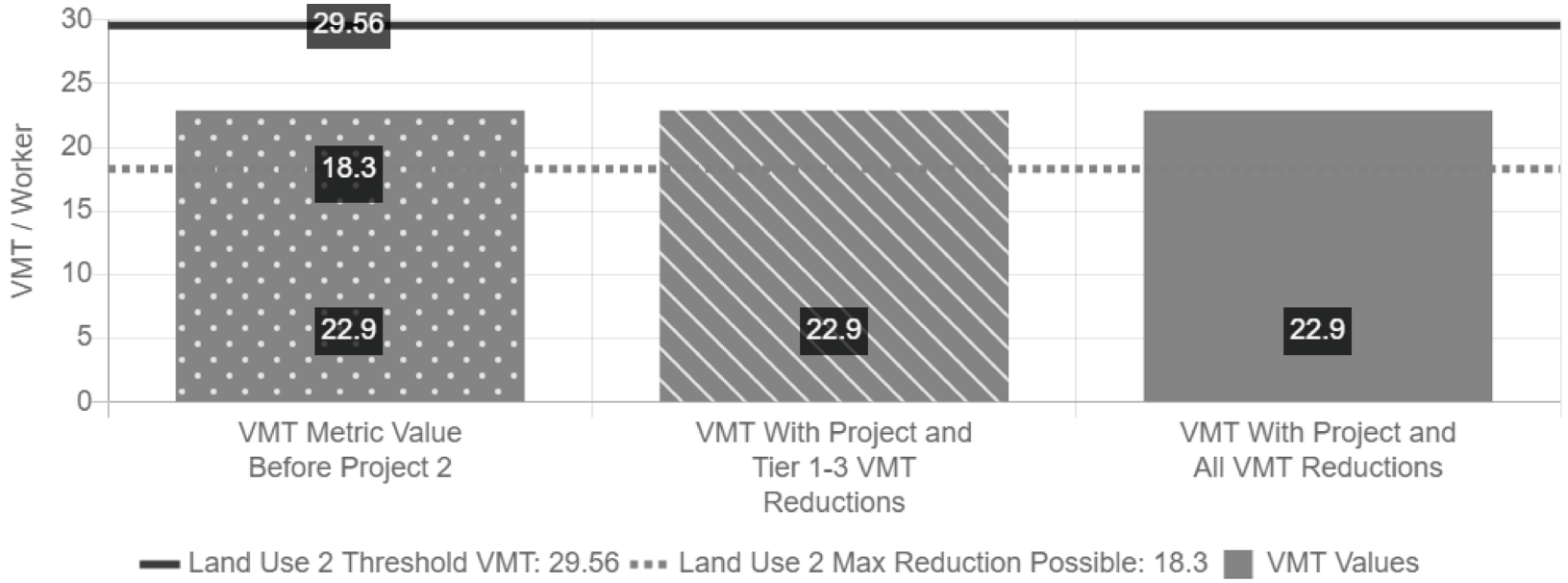
	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	13.3	13.3	13.3
Low VMT Screening Analysis	Yes (Pass)	Yes (Pass)	Yes (Pass)



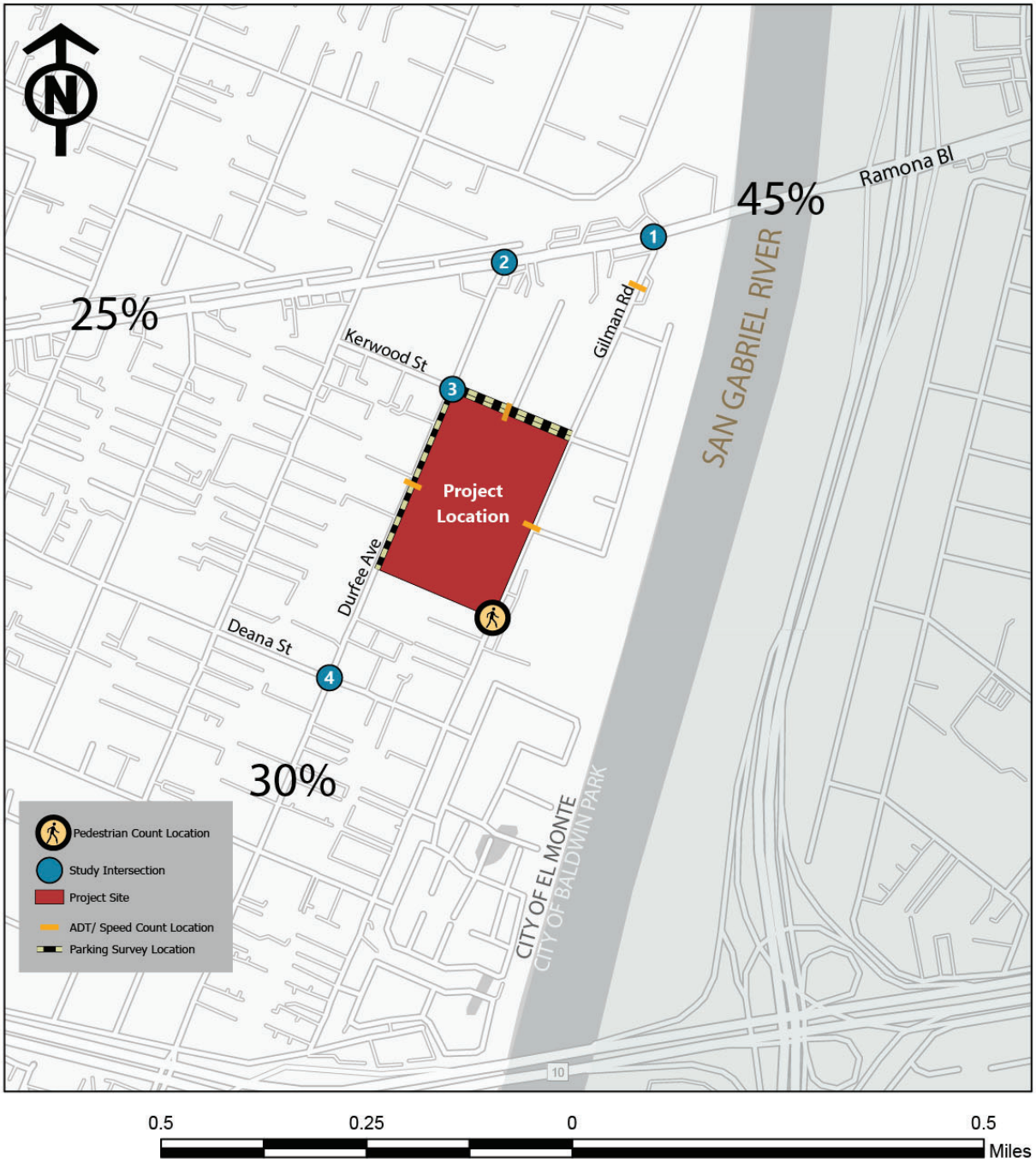
Office Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 2:	Office
VMT Without Project 2:	Total VMT per Service Population
VMT Baseline Description 2:	SGVCOG Average
VMT Baseline Value 2:	34.78
VMT Threshold Description 2:	-15%
Land Use 2 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	22.9	22.9	22.9
Low VMT Screening Analysis	Yes (Pass)	Yes (Pass)	Yes (Pass)



ATTACHMENT C –
LOCAL TRAFFIC ANALYSIS – MAP OF STUDY LOCATIONS
AND OVERALL TRIP DISTRIBUTION



ATTACHMENT D –

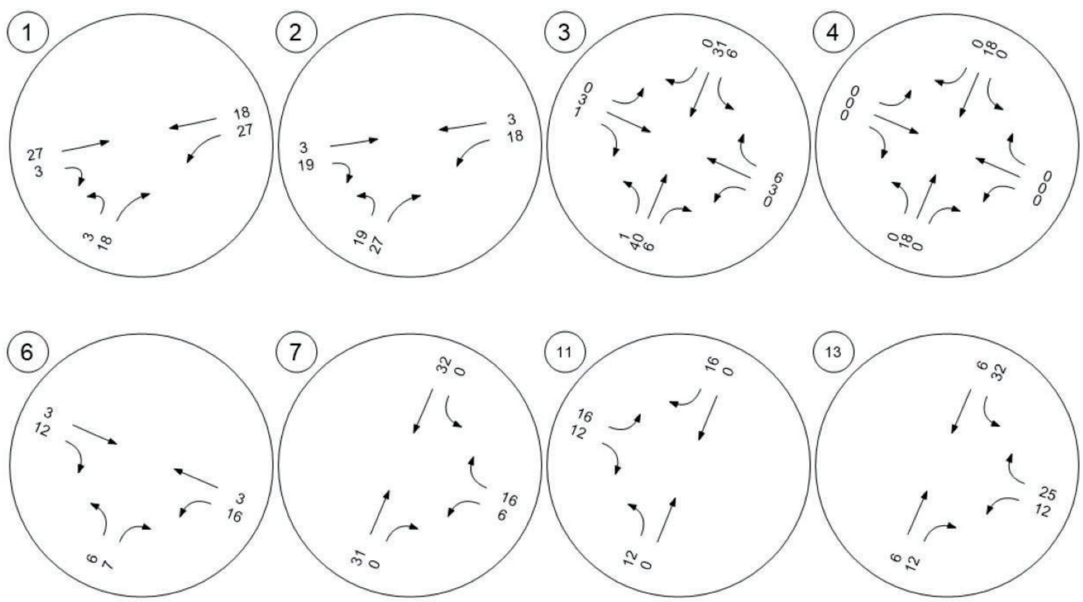
PROJECT TRIP DISTRIBUTION PERCENTAGES -

STUDY INTERSECTIONS

Generated with PTV VISTRO

Version 2021 (SP 0-6)

Traffic Volume - Net New Site Trips



APPENDIX B
VMT Calculations Output

SGVCOG VMT Evaluation Tool Report

Project Details

Timestamp of Analysis: August 10, 2022, 12:48:35 PM

Project Name: Esperanza Village

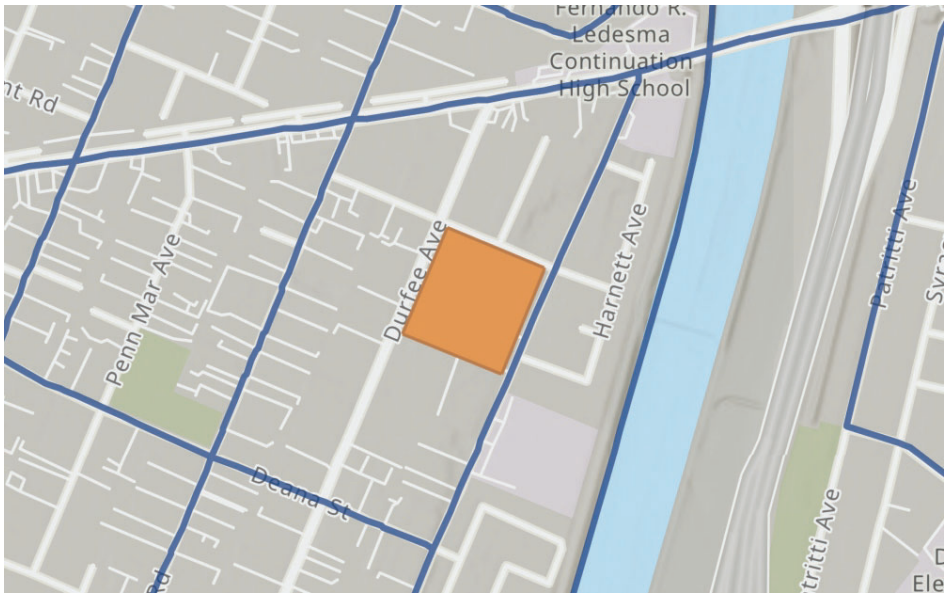
Project Description: 340 units multi-family, senior and affordable familymixed-se building of 36,000 sq.ft., County-related uses in 40,000 sq.ft. building

Project Location

jurisdiction:
El Monte

apn	TAZ
8549-004-900	22242100

Inside a TPA?
No (Fail)



Analysis Details

Data Version: SCAG Regional Travel Demand Model
2016 RTP Base Year 2012

Analysis Methodology: TAZ

Baseline Year: 2022

Project Land Use

Residential:

Single Family DU:	
Multifamily DU:	340
Total DUs:	340

Non-Residential:

Office KSF:	76
Local Serving Retail KSF:	
Industrial KSF:	

Residential Affordability (percent of all units):

Extremely Low Income:	51 %
Very Low Income:	0 %
Low Income:	48 %

Parking:

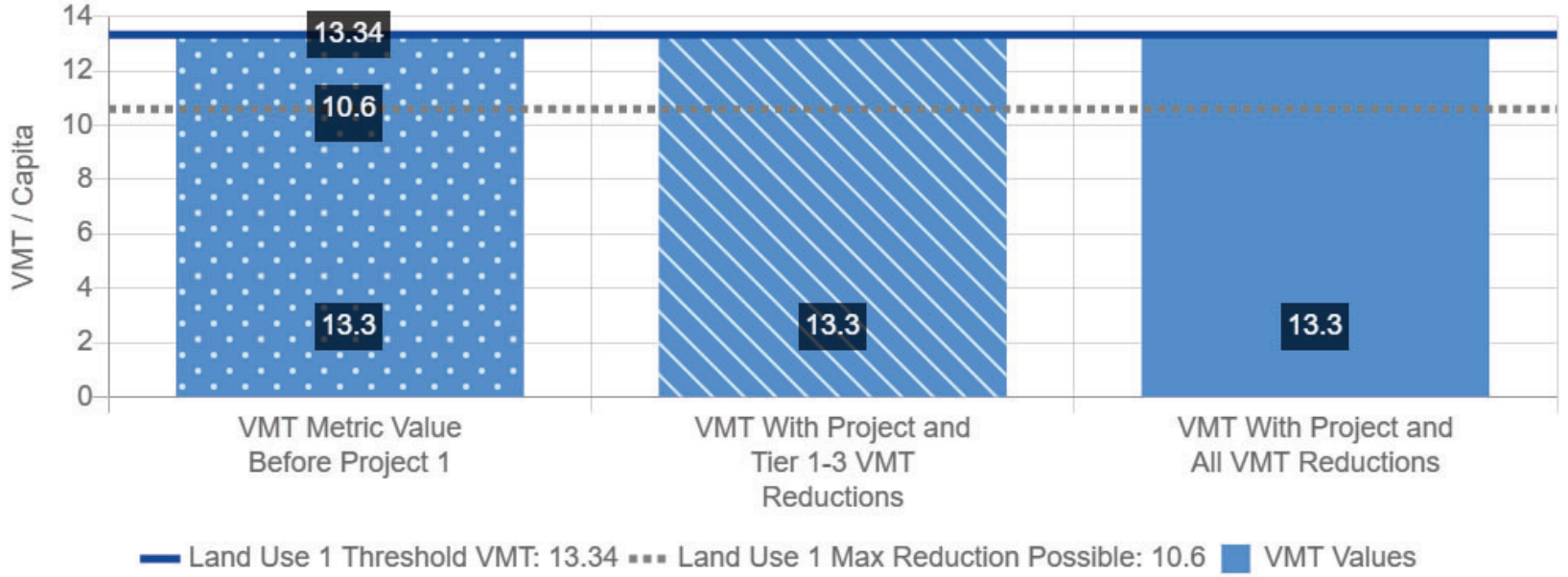
Motor Vehicle Parking:

Bicycle Parking:

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Without Project 1:	Home-based VMT per Capita
VMT Baseline Description 1:	SGVCOG Average
VMT Baseline Value 1:	15.7
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

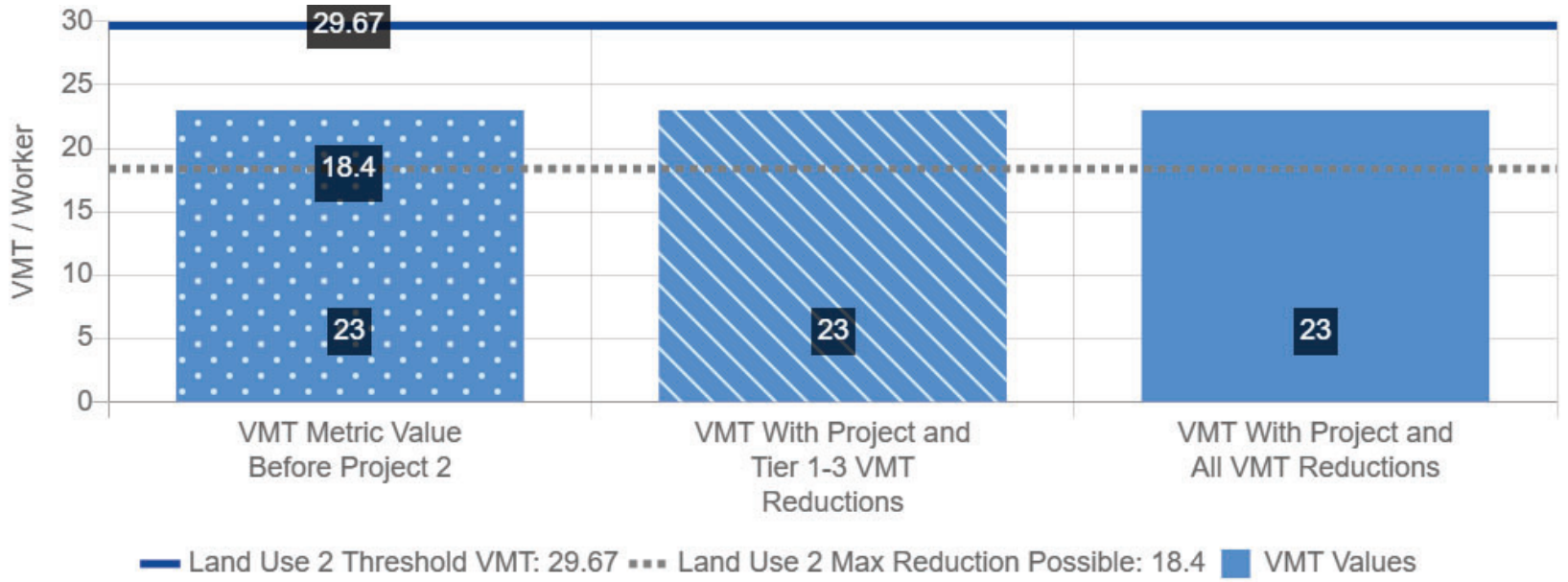
	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	13.3	13.3	13.3
Low VMT Screening Analysis	Yes (Pass)	Yes (Pass)	Yes (Pass)



Office Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 2:	Office
VMT Without Project 2:	Total VMT per Service Population
VMT Baseline Description 2:	SGVCOG Average
VMT Baseline Value 2:	34.9
VMT Threshold Description 2:	-15%
Land Use 2 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	23	23	23
Low VMT Screening Analysis	Yes (Pass)	Yes (Pass)	Yes (Pass)



APPENDIX C
Traffic Count Summaries

Prepared by National Data & Surveying Services

SPEED

Kerrwood St W/O Bannister Ave

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_001

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
0:00 AM	0	0	3	2	0	0	0	0	0	0	0	0	0	5
1:00	1	0	1	0	0	0	0	0	0	0	0	0	0	2
2:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:00	2	1	1	2	0	0	0	0	0	0	0	0	0	6
5:00	6	3	3	6	0	0	0	0	0	0	0	0	0	18
6:00	4	5	9	5	2	0	0	0	0	0	0	0	0	25
7:00	9	17	55	82	15	2	0	0	0	0	0	0	0	180
8:00	13	22	90	92	33	1	0	0	0	0	0	0	0	251
9:00	15	15	28	40	15	0	0	0	0	0	0	0	0	113
10:00	14	9	26	46	14	2	0	0	0	0	0	0	0	111
11:00	16	13	34	39	13	1	0	0	0	0	0	0	0	116
12:00 PM	17	17	22	41	15	0	0	0	0	0	0	0	0	112
13:00	11	11	49	52	24	2	0	0	0	0	0	0	0	149
14:00	13	25	100	99	24	1	0	0	0	0	0	0	0	262
15:00	10	16	44	32	15	1	0	0	0	0	0	0	0	118
16:00	12	6	28	39	11	1	0	0	0	0	0	0	0	97
17:00	10	14	30	23	7	4	0	0	0	0	0	0	0	88
18:00	6	8	20	28	7	0	0	0	0	0	0	0	0	69
19:00	6	5	18	12	2	1	0	0	0	0	0	0	0	44
20:00	4	7	16	6	4	0	0	0	0	0	0	0	0	37
21:00	3	9	8	10	1	0	0	0	0	0	0	0	0	31
22:00	1	2	1	7	1	0	0	0	0	0	0	0	0	12
23:00	5	2	3	3	1	0	0	0	0	0	0	0	0	14
Totals	178	209	590	667	204	16								1864
% of Totals	10%	11%	32%	36%	11%	1%								100%

AM Volumes	80	87	251	315	92	6	0	0	0	0	0	0	0	831
% AM	4%	5%	13%	17%	5%	0%								45%
AM Peak Hour	11:00	8:00	8:00	8:00	8:00	7:00								8:00
Volume	16	22	90	92	33	2								251
PM Volumes	98	122	339	352	112	10	0	0	0	0	0	0	0	1033
% PM	5%	7%	18%	19%	6%	1%								55%
PM Peak Hour	12:00	14:00	14:00	14:00	13:00	17:00								14:00
Volume	17	25	100	99	24	4								262

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	431	↔	23%	261	↔	14%	185	↔	10%	987	↔	53%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Kerrwood St	Summary	17	25	24	30	33	1864

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Kerrwood St W/O Bannister Ave

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	907	957	1,864

AM Period	NB		SB		EB		WB		TOTAL	
0:00	0		0		0		1		1	
0:15	0		0		0		1		1	
0:30	0		0		0		2		2	
0:45	0		0		1	1	0	4	1	5
1:00	0		0		0		1		1	
1:15	0		0		0		0			
1:30	0		0		0		1		1	
1:45	0		0		0		0	2		2
2:00	0		0		1		0		1	
2:15	0		0		0		0			
2:30	0		0		0		1		1	
2:45	0		0		0	1	0	1		2
3:00	0		0		0		0			
3:15	0		0		0		0			
3:30	0		0		0		0			
3:45	0		0		2	2	0		2	2
4:00	0		0		1		0		1	
4:15	0		0		0		1		1	
4:30	0		0		1		3		4	
4:45	0		0		0	2	0	4		6
5:00	0		0		1		4		5	
5:15	0		0		1		5		6	
5:30	0		0		1		3		4	
5:45	0		0		0	3	3	15	3	18
6:00	0		0		0		2		2	
6:15	0		0		2		4		6	
6:30	0		0		1		3		4	
6:45	0		0		3	6	10	19	13	25
7:00	0		0		2		3		5	
7:15	0		0		12		16		28	
7:30	0		0		23		17		40	
7:45	0		0		61	98	46	82	107	180
8:00	0		0		50		75		125	
8:15	0		0		26		54		80	
8:30	0		0		13		12		25	
8:45	0		0		7	96	14	155	21	251
9:00	0		0		10		33		43	
9:15	0		0		8		15		23	
9:30	0		0		13		11		24	
9:45	0		0		9	40	14	73	23	113
10:00	0		0		7		12		19	
10:15	0		0		26		7		33	
10:30	0		0		21		8		29	
10:45	0		0		19	73	11	38	30	111
11:00	0		0		13		11		24	
11:15	0		0		14		13		27	
11:30	0		0		10		32		42	
11:45	0		0		14	51	9	65	23	116
TOTALS						373		458		831
SPLIT %						44.9%		55.1%		44.6%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	0		0		13		20		33	
12:15	0		0		11		11		22	
12:30	0		0		19		9		28	
12:45	0		0		18	61	11	51	29	112
13:00	0		0		23		10		33	
13:15	0		0		22		10		32	
13:30	0		0		22		18		40	
13:45	0		0		27	94	17	55	44	149
14:00	0		0		24		45		69	
14:15	0		0		17		35		52	
14:30	0		0		20		18		38	
14:45	0		0		28	89	75	173	103	262
15:00	0		0		19		11		30	
15:15	0		0		11		17		28	
15:30	0		0		16		14		30	
15:45	0		0		17	63	13	55	30	118
16:00	0		0		16		11		27	
16:15	0		0		15		9		24	
16:30	0		0		10		10		20	
16:45	0		0		14	55	12	42	26	97
17:00	0		0		19		6		25	
17:15	0		0		14		5		19	
17:30	0		0		7		10		17	
17:45	0		0		15	55	12	33	27	88
18:00	0		0		15		9		24	
18:15	0		0		11		7		18	
18:30	0		0		7		7		14	
18:45	0		0		4	37	9	32	13	69
19:00	0		0		5		4		9	
19:15	0		0		9		1		10	
19:30	0		0		8		4		12	
19:45	0		0		6	28	7	16	13	44
20:00	0		0		4		5		9	
20:15	0		0		2		5		7	
20:30	0		0		9		4		13	
20:45	0		0		4	19	4	18	8	37
21:00	0		0		7		3		10	
21:15	0		0		4		6		10	
21:30	0		0		2		1		3	
21:45	0		0		6	19	2	12	8	31
22:00	0		0		1		1		2	
22:15	0		0		1		4		5	
22:30	0		0		2		2		4	
22:45	0		0		1	5	0	7	1	12
23:00	0		0		2		1		3	
23:15	0		0		4		1		5	
23:30	0		0		2		2		4	
23:45	0		0		1	9	1	5	2	14
TOTALS						534		499		1033
SPLIT %						51.7%		48.3%		55.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	907	957	1,864

AM Peak Hour			7:30	7:30	7:30
AM Pk Volume			160	192	352
Pk Hr Factor			0.656	0.640	0.704
7 - 9 Volume	0	0	194	237	431
7 - 9 Peak Hour			7:30	7:30	7:30
7 - 9 Pk Volume	0	0	160	192	352
Pk Hr Factor	0.000	0.000	0.656	0.640	0.704

PM Peak Hour			13:15	14:00	14:00
PM Pk Volume			95	173	262
Pk Hr Factor			0.880	0.577	0.636
4 - 6 Volume	0	0	110	75	185
4 - 6 Peak Hour			16:15	16:00	16:00
4 - 6 Pk Volume	0	0	58	42	97
Pk Hr Factor	0.000	0.000	0.763	0.875	0.898

Prepared by National Data & Surveying Services

SPEED

Durfee Ave S/O Kerrwood St

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_002

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
0:00 AM	0	0	3	5	9	11	5	3	1	1	1	0	0	39
1:00	0	0	0	0	9	6	5	1	1	0	1	0	0	23
2:00	0	0	1	1	6	7	0	1	0	1	0	0	0	17
3:00	0	0	1	2	3	8	7	3	1	0	0	0	0	25
4:00	0	0	0	5	11	12	16	7	0	1	0	0	0	52
5:00	0	1	5	7	18	32	23	13	4	1	0	0	0	104
6:00	2	4	4	7	33	70	49	18	7	1	0	0	0	195
7:00	1	2	6	21	92	164	138	54	16	2	0	0	0	496
8:00	3	7	8	22	96	171	104	41	10	2	0	0	0	464
9:00	0	3	11	13	50	94	65	34	6	1	0	0	0	277
10:00	3	4	3	15	43	80	69	26	4	1	0	0	0	248
11:00	1	2	16	16	48	102	88	42	9	1	1	0	0	326
12:00 PM	2	6	12	15	59	96	93	35	7	0	1	0	0	326
13:00	1	3	11	28	65	120	103	56	13	1	1	0	0	402
14:00	2	1	5	22	78	153	149	54	10	0	0	0	0	474
15:00	0	0	5	13	62	150	133	35	18	6	0	0	0	422
16:00	4	0	4	12	43	148	131	51	17	5	0	0	0	415
17:00	0	3	4	18	42	142	155	52	15	2	2	0	0	435
18:00	1	2	6	8	57	128	92	40	7	2	0	0	0	343
19:00	4	2	8	24	61	84	68	28	11	2	1	0	0	293
20:00	0	1	6	14	69	97	66	20	3	0	0	0	0	276
21:00	0	1	5	9	32	61	47	12	5	2	0	0	0	174
22:00	2	6	4	6	29	29	33	8	4	1	1	0	0	123
23:00	1	0	1	10	18	27	20	5	0	1	1	0	0	84
Totals	27	48	129	293	1033	1992	1659	639	169	34	10			6033
% of Totals	0%	1%	2%	5%	17%	33%	27%	11%	3%	1%	0%			100%

AM Volumes	10	23	58	114	418	757	569	243	59	12	3	0	0	2266
% AM	0%	0%	1%	2%	7%	13%	9%	4%	1%	0%	0%			38%
AM Peak Hour	8:00	8:00	11:00	8:00	8:00	8:00	7:00	7:00	7:00	7:00				7:00
Volume	3	7	16	22	96	171	138	54	16	2	1			496
PM Volumes	17	25	71	179	615	1235	1090	396	110	22	7	0	0	3767
% PM	0%	0%	1%	3%	10%	20%	18%	7%	2%	0%	0%			62%
PM Peak Hour	16:00	12:00	12:00	13:00	14:00	14:00	17:00	13:00	15:00	15:00	17:00			14:00
Volume	4	6	12	28	78	153	155	56	18	6	2			474

Directional Peak Periods All Speeds	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	960 ⟷	16%	728 ⟷	12%	850 ⟷	14%	3495 ⟷	58%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Durfee Ave	Summary	32	39	39	45	49	6033

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Durfee Ave S/O Kerrwood St

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_002

DAILY TOTALS	NB	SB	EB	WB	Total
	2,815	3,218	0	0	6,033

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	4		8		0	0	12		12:00	43		41		0	0	84	
0:15	6		5		0	0	11		12:15	36		42		0	0	78	
0:30	3		5		0	0	8		12:30	48		43		0	0	91	
0:45	5	18	3	21	0	0	8	39	12:45	30	157	43	169	0	0	73	326
1:00	1		6		0	0	7		13:00	51		41		0	0	92	
1:15	2		2		0	0	4		13:15	47		47		0	0	94	
1:30	2		6		0	0	8		13:30	39		53		0	0	92	
1:45	1	6	3	17	0	0	4	23	13:45	64	201	60	201	0	0	124	402
2:00	2		2		0	0	4		14:00	57		75		0	0	132	
2:15	3		3		0	0	6		14:15	55		65		0	0	120	
2:30	1		3		0	0	4		14:30	52		50		0	0	102	
2:45	0	6	3	11	0	0	3	17	14:45	57	221	63	253	0	0	120	474
3:00	2		3		0	0	5		15:00	45		58		0	0	103	
3:15	3		1		0	0	4		15:15	59		51		0	0	110	
3:30	6		3		0	0	9		15:30	41		54		0	0	95	
3:45	4	15	3	10	0	0	7	25	15:45	66	211	48	211	0	0	114	422
4:00	5		8		0	0	13		16:00	44		51		0	0	95	
4:15	6		5		0	0	11		16:15	52		48		0	0	100	
4:30	4		9		0	0	13		16:30	57		53		0	0	110	
4:45	9	24	6	28	0	0	15	52	16:45	57	210	53	205	0	0	110	415
5:00	9		11		0	0	20		17:00	57		46		0	0	103	
5:15	11		11		0	0	22		17:15	57		50		0	0	107	
5:30	20		14		0	0	34		17:30	54		61		0	0	115	
5:45	12	52	16	52	0	0	28	104	17:45	60	228	50	207	0	0	110	435
6:00	18		19		0	0	37		18:00	46		56		0	0	102	
6:15	20		25		0	0	45		18:15	51		43		0	0	94	
6:30	24		26		0	0	50		18:30	47		33		0	0	80	
6:45	20	82	43	113	0	0	63	195	18:45	36	180	31	163	0	0	67	343
7:00	26		61		0	0	87		19:00	28		33		0	0	61	
7:15	35		76		0	0	111		19:15	33		49		0	0	82	
7:30	42		85		0	0	127		19:30	37		35		0	0	72	
7:45	62	165	109	331	0	0	171	496	19:45	32	130	46	163	0	0	78	293
8:00	61		115		0	0	176		20:00	39		56		0	0	95	
8:15	32		77		0	0	109		20:15	33		28		0	0	61	
8:30	44		52		0	0	96		20:30	30		28		0	0	58	
8:45	44	181	39	283	0	0	83	464	20:45	32	134	30	142	0	0	62	276
9:00	28		44		0	0	72		21:00	28		20		0	0	48	
9:15	28		50		0	0	78		21:15	24		18		0	0	42	
9:30	27		32		0	0	59		21:30	24		17		0	0	41	
9:45	30	113	38	164	0	0	68	277	21:45	26	102	17	72	0	0	43	174
10:00	34		38		0	0	72		22:00	15		20		0	0	35	
10:15	26		23		0	0	49		22:15	10		19		0	0	29	
10:30	28		28		0	0	56		22:30	13		15		0	0	28	
10:45	35	123	36	125	0	0	71	248	22:45	12	50	19	73	0	0	31	123
11:00	37		27		0	0	64		23:00	11		8		0	0	19	
11:15	40		43		0	0	83		23:15	13		15		0	0	28	
11:30	37		46		0	0	83		23:30	9		11		0	0	20	
11:45	51	165	45	161	0	0	96	326	23:45	8	41	9	43	0	0	17	84
TOTALS		950		1316				2266	TOTALS		1865		1902				3767
SPLIT %		41.9%		58.1%				37.6%	SPLIT %		49.5%		50.5%				62.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,815	3,218	0	0	6,033

AM Peak Hour	7:15	7:30					7:15		PM Peak Hour	13:45	13:30					13:45		
AM Pk Volume	200	386					585		PM Pk Volume	228	253					478		
Pk Hr Factor	0.806	0.839					0.831		Pk Hr Factor	0.891	0.843					0.905		
7 - 9 Volume	346	614	0	0			960		4 - 6 Volume	438	412	0	0			850		
7 - 9 Peak Hour	7:15	7:30					7:15		4 - 6 Peak Hour	16:30	16:45					16:45		
7 - 9 Pk Volume	200	386	0	0			585		4 - 6 Pk Volume	228	210	0	0			435		
Pk Hr Factor	0.806	0.839	0.000	0.000			0.831		Pk Hr Factor	1.000	0.861	0.000	0.000			0.946		

Prepared by National Data & Surveying Services

SPEED

Gilman Rd S/O Woodville Dr

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_003

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
0:00 AM	0	0	4	4	4	0	0	0	0	0	0	0	0	12
1:00	0	0	1	4	3	1	0	0	0	0	0	0	0	9
2:00	1	0	4	1	1	0	0	0	0	0	0	0	0	7
3:00	2	1	2	1	1	1	0	0	0	0	0	0	0	8
4:00	2	0	3	4	1	0	0	0	0	0	0	0	0	10
5:00	7	2	8	12	6	2	1	0	0	0	0	0	0	38
6:00	4	4	10	14	9	11	1	0	0	0	0	0	0	53
7:00	9	42	64	54	17	2	0	0	0	0	0	0	0	188
8:00	16	67	92	59	12	4	2	0	0	0	0	0	0	252
9:00	7	8	27	23	17	5	1	0	0	0	0	0	0	88
10:00	5	4	22	39	20	2	2	0	0	0	0	0	0	94
11:00	11	6	29	22	11	2	0	0	0	0	0	0	0	81
12:00 PM	7	6	18	34	16	6	0	0	0	0	0	0	0	87
13:00	7	13	29	41	24	4	1	0	0	0	0	0	0	119
14:00	41	66	82	43	6	2	0	0	0	0	0	0	0	240
15:00	16	26	30	24	11	0	2	0	0	0	0	0	0	109
16:00	8	18	26	24	9	1	0	0	0	0	0	0	0	86
17:00	17	8	13	14	12	3	0	0	0	0	0	0	0	67
18:00	19	6	12	7	9	2	0	0	0	0	0	0	0	55
19:00	13	11	13	28	9	3	3	0	0	0	0	0	0	80
20:00	10	7	19	30	11	6	1	0	0	0	0	0	0	84
21:00	14	9	11	16	14	3	0	0	0	0	0	0	0	67
22:00	1	4	10	3	12	6	0	0	0	0	0	0	0	36
23:00	3	2	6	5	3	1	1	0	0	0	0	0	0	21
Totals	220	310	535	506	238	67	15							1891
% of Totals	12%	16%	28%	27%	13%	4%	1%							100%

AM Volumes	64	134	266	237	102	30	7	0	0	0	0	0	0	840
% AM	3%	7%	14%	13%	5%	2%	0%							44%
AM Peak Hour	8:00	8:00	8:00	8:00	10:00	6:00	8:00							8:00
Volume	16	67	92	59	20	11	2							252
PM Volumes	156	176	269	269	136	37	8	0	0	0	0	0	0	1051
% PM	8%	9%	14%	14%	7%	2%	0%							56%
PM Peak Hour	14:00	14:00	14:00	14:00	13:00	12:00	19:00							14:00
Volume	41	66	82	43	24	6	3							240

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	440	↔	23%	206	↔	11%	153	↔	8%	1092	↔	58%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Gilman Rd	Summary	16	24	24	31	35	1891

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Gilman Rd S/O Woodville Dr

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_003

DAILY TOTALS	NB	SB	EB	WB	Total
	1,152	739	0	0	1,891

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	2		1		0	0	3		12:00	16		8		0	0	24	
0:15	2		2		0	0	4		12:15	10		10		0	0	20	
0:30	0		0		0	0			12:30	11		10		0	0	21	
0:45	3	7	2	5	0	0	5	12	12:45	14	51	8	36	0	0	22	87
1:00	1		2		0	0	3		13:00	11		11		0	0	22	
1:15	0		1		0	0	1		13:15	17		12		0	0	29	
1:30	2		3		0	0	5		13:30	21		15		0	0	36	
1:45	0	3	0	6	0	0		9	13:45	19	68	13	51	0	0	32	119
2:00	0		2		0	0	2		14:00	28		31		0	0	59	
2:15	0		1		0	0	1		14:15	44		25		0	0	69	
2:30	0		2		0	0	2		14:30	28		17		0	0	45	
2:45	1	1	1	6	0	0	2	7	14:45	58	158	9	82	0	0	67	240
3:00	1		3		0	0	4		15:00	24		9		0	0	33	
3:15	1		0		0	0	1		15:15	20		6		0	0	26	
3:30	2		0		0	0	2		15:30	11		6		0	0	17	
3:45	1	5	0	3	0	0	1	8	15:45	26	81	7	28	0	0	33	109
4:00	2		2		0	0	4		16:00	21		10		0	0	31	
4:15	2		1		0	0	3		16:15	11		7		0	0	18	
4:30	2		1		0	0	3		16:30	15		8		0	0	23	
4:45	0	6	0	4	0	0		10	16:45	13	60	1	26	0	0	14	86
5:00	6		4		0	0	10		17:00	14		3		0	0	17	
5:15	6		1		0	0	7		17:15	11		3		0	0	14	
5:30	5		3		0	0	8		17:30	16		2		0	0	18	
5:45	9	26	4	12	0	0	13	38	17:45	14	55	4	12	0	0	18	67
6:00	8		1		0	0	9		18:00	17		1		0	0	18	
6:15	8		6		0	0	14		18:15	10		3		0	0	13	
6:30	9		6		0	0	15		18:30	9		2		0	0	11	
6:45	8	33	7	20	0	0	15	53	18:45	11	47	2	8	0	0	13	55
7:00	10		8		0	0	18		19:00	11		3		0	0	14	
7:15	7		12		0	0	19		19:15	11		5		0	0	16	
7:30	28		21		0	0	49		19:30	9		16		0	0	25	
7:45	59	104	43	84	0	0	102	188	19:45	11	42	14	38	0	0	25	80
8:00	75		56		0	0	131		20:00	8		14		0	0	22	
8:15	60		17		0	0	77		20:15	4		13		0	0	17	
8:30	18		6		0	0	24		20:30	7		15		0	0	22	
8:45	11	164	9	88	0	0	20	252	20:45	9	28	14	56	0	0	23	84
9:00	11		16		0	0	27		21:00	6		7		0	0	13	
9:15	15		9		0	0	24		21:15	10		8		0	0	18	
9:30	10		10		0	0	20		21:30	5		5		0	0	10	
9:45	15	51	2	37	0	0	17	88	21:45	13	34	13	33	0	0	26	67
10:00	10		7		0	0	17		22:00	7		6		0	0	13	
10:15	14		6		0	0	20		22:15	4		9		0	0	13	
10:30	18		12		0	0	30		22:30	3		4		0	0	7	
10:45	19	61	8	33	0	0	27	94	22:45	2	16	1	20	0	0	3	36
11:00	13		10		0	0	23		23:00	2		2		0	0	4	
11:15	9		9		0	0	18		23:15	2		4		0	0	6	
11:30	5		15		0	0	20		23:30	5		3		0	0	8	
11:45	14	41	6	40	0	0	20	81	23:45	1	10	2	11	0	0	3	21
TOTALS		502		338				**840**	**TOTALS**		650		401				**1051**
SPLIT %		59.8%		40.2%				**44.4%**	**SPLIT %**		61.8%		38.2%				**55.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,152	739	0	0	1,891

AM Peak Hour	7:30		7:30					**7:30**	**PM Peak Hour**	14:00		13:45					**14:00**
AM Pk Volume	222		137					**359**	**PM Pk Volume**	158		86					**240**
Pk Hr Factor	0.740		0.612					**0.685**	**Pk Hr Factor**	0.681		0.694					**0.870**
7 - 9 Volume	268		172		0	0		**440**	**4 - 6 Volume**	115		38		0	0		**153**
7 - 9 Peak Hour	7:30		7:30					**7:30**	**4 - 6 Peak Hour**	16:00		16:00					**16:00**
7 - 9 Pk Volume	222		137		0	0		**359**	**4 - 6 Pk Volume**	60		26		0	0		**86**
Pk Hr Factor	0.740		0.612		0.000	0.000		**0.685**	**Pk Hr Factor**	0.714		0.650		0.000	0.000		**0.694**

Prepared by National Data & Surveying Services

SPEED

Gilman Rd S/O Ramona Blvd

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_004

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
0:00 AM	0	1	5	13	7	0	0	0	0	0	0	0	0	26
1:00	0	2	3	6	3	1	0	0	0	0	0	0	0	15
2:00	1	0	1	2	1	0	0	0	0	0	0	0	0	5
3:00	0	0	4	1	1	3	0	0	0	0	0	0	0	9
4:00	0	2	3	7	0	4	0	0	0	0	0	0	0	16
5:00	0	1	9	15	20	3	0	0	0	0	0	0	0	48
6:00	6	4	15	31	14	5	0	0	1	0	0	0	0	76
7:00	55	25	36	37	8	2	0	1	0	0	0	0	0	164
8:00	32	28	36	24	6	1	0	0	0	0	0	0	0	127
9:00	21	26	43	40	3	0	0	0	0	0	0	0	0	133
10:00	21	38	51	23	5	0	0	0	0	0	0	0	0	138
11:00	19	33	52	15	10	1	0	0	0	0	0	0	0	130
12:00 PM	10	17	37	45	14	0	0	0	0	0	0	0	0	123
13:00	29	31	42	15	5	0	0	0	0	0	0	0	0	122
14:00	29	28	41	34	9	2	1	0	0	0	0	0	0	144
15:00	10	19	41	47	12	2	0	0	0	0	0	0	0	131
16:00	10	20	63	66	22	3	0	0	0	0	0	0	0	184
17:00	11	25	56	55	29	2	0	0	0	0	0	0	0	178
18:00	6	14	57	62	35	6	1	0	0	0	0	0	0	181
19:00	2	7	32	56	22	2	0	0	0	0	0	0	0	121
20:00	0	3	30	54	20	2	0	0	0	0	0	0	0	109
21:00	0	6	19	24	21	2	0	0	0	0	0	0	0	72
22:00	1	6	9	17	12	4	0	0	0	0	0	0	0	49
23:00	0	4	11	11	7	1	0	0	0	0	0	0	0	34
Totals	263	340	696	700	286	46	2	1	1					2335
% of Totals	11%	15%	30%	30%	12%	2%	0%	0%	0%					100%

AM Volumes	155	160	258	214	78	20	0	1	1	0	0	0	0	887
% AM	7%	7%	11%	9%	3%	1%		0%	0%					38%
AM Peak Hour	7:00	10:00	11:00	9:00	5:00	6:00		7:00	6:00					7:00
Volume	55	38	52	40	20	5		1	1					164
PM Volumes	108	180	438	486	208	26	2	0	0	0	0	0	0	1448
% PM	5%	8%	19%	21%	9%	1%	0%							62%
PM Peak Hour	13:00	13:00	16:00	16:00	18:00	18:00	14:00							16:00
Volume	29	31	63	66	35	6	1							184

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	291	↔	12%	245	↔	10%	362	↔	16%	1437	↔	62%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Gilman Rd	Summary	16	24	23	30	34	2335

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Gilman Rd S/O Ramona Blvd

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_004

DAILY TOTALS	NB	SB	EB	WB	Total
	1,324	1,011	0	0	2,335

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	3		4		0	0	7		12:00	19		14		0	0	33	
0:15	2		5		0	0	7		12:15	20		12		0	0	32	
0:30	1		4		0	0	5		12:30	17		12		0	0	29	
0:45	4	10	3	16	0	0	7	26	12:45	15	71	14	52	0	0	29	123
1:00	2		5		0	0	7		13:00	19		15		0	0	34	
1:15	0		1		0	0	1		13:15	15		10		0	0	25	
1:30	3		4		0	0	7		13:30	20		14		0	0	34	
1:45	0	5	0	10	0	0		15	13:45	13	67	16	55	0	0	29	122
2:00	0		1		0	0	1		14:00	23		19		0	0	42	
2:15	0		1		0	0	1		14:15	25		9		0	0	34	
2:30	0		1		0	0	1		14:30	13		13		0	0	26	
2:45	1	1	1	4	0	0	2	5	14:45	29	90	13	54	0	0	42	144
3:00	1		0		0	0	1		15:00	26		7		0	0	33	
3:15	0		0		0	0			15:15	28		12		0	0	40	
3:30	4		0		0	0	4		15:30	18		6		0	0	24	
3:45	3	8	1	1	0	0	4	9	15:45	26	98	8	33	0	0	34	131
4:00	2		2		0	0	4		16:00	23		19		0	0	42	
4:15	2		1		0	0	3		16:15	25		18		0	0	43	
4:30	8		0		0	0	8		16:30	22		28		0	0	50	
4:45	1	13	0	3	0	0	1	16	16:45	20	90	29	94	0	0	49	184
5:00	6		1		0	0	7		17:00	24		25		0	0	49	
5:15	9		3		0	0	12		17:15	26		22		0	0	48	
5:30	11		1		0	0	12		17:30	21		11		0	0	32	
5:45	13	39	4	9	0	0	17	48	17:45	25	96	24	82	0	0	49	178
6:00	13		0		0	0	13		18:00	26		18		0	0	44	
6:15	7		6		0	0	13		18:15	16		24		0	0	40	
6:30	13		9		0	0	22		18:30	21		31		0	0	52	
6:45	21	54	7	22	0	0	28	76	18:45	21	84	24	97	0	0	45	181
7:00	22		9		0	0	31		19:00	17		16		0	0	33	
7:15	16		16		0	0	32		19:15	14		7		0	0	21	
7:30	30		14		0	0	44		19:30	14		12		0	0	26	
7:45	43	111	14	53	0	0	57	164	19:45	13	58	28	63	0	0	41	121
8:00	19		22		0	0	41		20:00	13		16		0	0	29	
8:15	22		10		0	0	32		20:15	7		18		0	0	25	
8:30	23		7		0	0	30		20:30	7		19		0	0	26	
8:45	15	79	9	48	0	0	24	127	20:45	10	37	19	72	0	0	29	109
9:00	21		13		0	0	34		21:00	8		10		0	0	18	
9:15	20		11		0	0	31		21:15	7		9		0	0	16	
9:30	21		10		0	0	31		21:30	8		7		0	0	15	
9:45	25	87	12	46	0	0	37	133	21:45	9	32	14	40	0	0	23	72
10:00	15		7		0	0	22		22:00	7		11		0	0	18	
10:15	24		13		0	0	37		22:15	4		14		0	0	18	
10:30	20		17		0	0	37		22:30	4		4		0	0	8	
10:45	30	89	12	49	0	0	42	138	22:45	3	18	2	31	0	0	5	49
11:00	19		14		0	0	33		23:00	2		4		0	0	6	
11:15	18		16		0	0	34		23:15	3		3		0	0	6	
11:30	21		20		0	0	41		23:30	9		6		0	0	15	
11:45	12	70	10	60	0	0	22	130	23:45	3	17	4	17	0	0	7	34
TOTALS		566		321				887	TOTALS		758		690				1448
SPLIT %		63.8%		36.2%				38.0%	SPLIT %		52.3%		47.7%				62.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,324	1,011	0	0	2,335

AM Peak Hour	7:30	7:15					7:15		PM Peak Hour	14:45	16:30					16:30		
AM Pk Volume	114	66					174		PM Pk Volume	101	104					196		
Pk Hr Factor	0.663	0.750					0.763		Pk Hr Factor	0.871	0.897					0.980		
7 - 9 Volume	190	101	0	0			291		4 - 6 Volume	186	176	0	0			362		
7 - 9 Peak Hour	7:30	7:15					7:15		4 - 6 Peak Hour	17:00	16:30					16:30		
7 - 9 Pk Volume	114	66	0	0			174		4 - 6 Pk Volume	96	104	0	0			196		
Pk Hr Factor	0.663	0.750	0.000	0.000			0.763		Pk Hr Factor	0.923	0.897	0.000	0.000			0.980		

National Data & Surveying Services Intersection Turning Movement Count

Location: Gilman Rd & Ramona Blvd
City: El Monte
Control: Signalized

Project ID: 22-020196-001
Date: 6/6/2022

Data - Totals

NS/EW Streets:	Gilman Rd				Gilman Rd				Ramona Blvd				Ramona Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	0	14	0	0	0	7	0	2	106	1	0	12	142	0	0	286
7:15 AM	3	1	9	0	0	0	15	0	1	100	9	0	14	212	0	0	364
7:30 AM	10	0	13	0	0	0	14	0	1	141	4	0	15	217	1	1	417
7:45 AM	26	0	10	0	0	0	10	0	0	165	30	0	6	234	1	0	482
8:00 AM	17	0	8	0	0	0	8	0	0	146	23	0	7	199	0	0	408
8:15 AM	3	0	10	0	0	0	18	0	1	142	8	0	5	138	0	0	325
8:30 AM	2	0	15	1	0	0	8	0	1	145	4	0	1	171	0	0	348
8:45 AM	0	1	6	1	0	0	8	0	0	125	5	0	2	154	0	0	302
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	63	2	85	2	0	0	88	0	6	1070	84	0	62	1467	2	1	2932
APPROACH %'s :	41.45%	1.32%	55.92%	1.32%	0.00%	0.00%	100.00%	0.00%	0.52%	92.24%	7.24%	0.00%	4.05%	95.76%	0.13%	0.07%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	56	1	40	0	0	0	47	0	2	552	66	0	42	862	2	1	1671
PEAK HR FACTOR :	0.538	0.250	0.769	0.000	0.000	0.000	0.783	0.000	0.500	0.836	0.550	0.000	0.700	0.921	0.500	0.250	0.867
	0.674				0.783				0.795				0.941				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	0	15	0	0	0	30	0	0	175	9	0	5	186	1	0	423
4:15 PM	9	0	12	0	0	1	9	1	0	149	15	0	9	160	1	0	366
4:30 PM	3	0	12	0	0	0	10	0	0	186	10	0	22	154	0	0	397
4:45 PM	8	0	12	0	0	0	11	0	0	153	8	0	23	181	3	0	399
5:00 PM	7	0	16	0	0	0	20	0	0	184	4	0	27	196	0	1	455
5:15 PM	6	0	21	0	0	0	31	0	0	178	7	0	20	189	0	0	452
5:30 PM	4	0	9	0	0	0	27	0	0	150	5	1	9	177	0	0	382
5:45 PM	5	0	12	0	0	0	22	0	1	167	10	0	18	167	0	0	402
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	44	0	109	0	0	1	160	1	1	1342	68	1	133	1410	5	1	3276
APPROACH %'s :	28.76%	0.00%	71.24%	0.00%	0.00%	0.62%	98.77%	0.62%	0.07%	95.04%	4.82%	0.07%	8.59%	91.03%	0.32%	0.06%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	24	0	61	0	0	0	72	0	0	701	29	0	92	720	3	1	1703
PEAK HR FACTOR :	0.750	0.000	0.726	0.000	0.000	0.000	0.581	0.000	0.000	0.942	0.725	0.000	0.852	0.918	0.250	0.250	0.936
	0.787				0.581				0.931				0.911				

Prepared by National Data & Surveying Services

Gilman Rd & Ramona Blvd

Peak Hour Turning Movement Count

ID: 22-020196-001
City: El Monte

Day: Monday
Date: 6/6/2022

PEAK HOURS

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

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND (Gilman Rd)

AM	47	0	0	0	5	AM
NOON	0	0	0	0	0	NOON
PM	72	0	0	0	3	PM

EASTBOUND (Ramona Blvd)

AM	NOON	PM		
965	0	816		
0	0	0	0	
2	0	0	1	
552	0	701	2	
66	0	29	0	

WESTBOUND (Ramona Blvd)

			PM	NOON	AM
		0	3	0	2
		2	720	0	862
		1	92	0	42
		0	1	0	1
			763	0	593

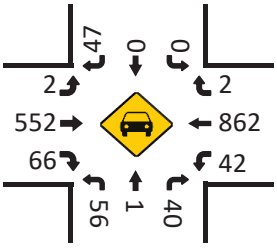
NORTHBOUND (Gilman Rd)

PM	121	0	24	0	61	PM
NOON	0	0	0	0	0	NOON
AM	108	0	56	1	40	AM

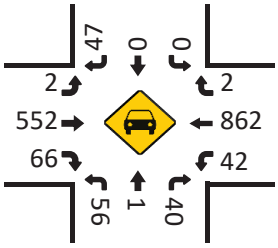
CONTROL: Signalized

		AM	NOON	PM
TEV	1671	0	1703	
PHF	0.87		0.94	

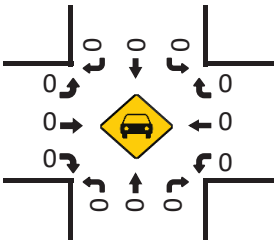
Total (AM)



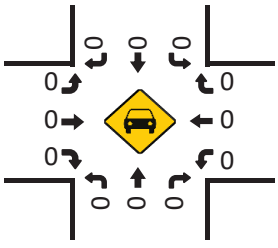
Total (AM)



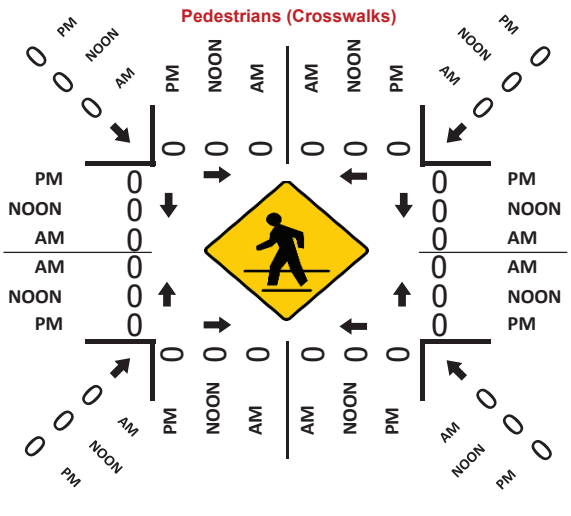
Total (NOON)



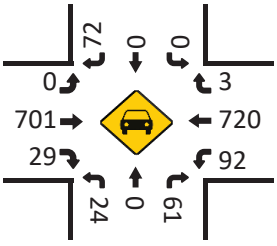
Total (NOON)



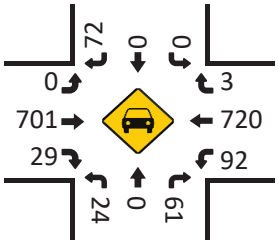
Pedestrians (Crosswalks)



Total (PM)



Total (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Durfee Ave & Ramona Blvd
City: El Monte
Control: 1-Way Stop (NB)

Project ID: 22-020196-002
Date: 6/6/2022

Data - Totals

NS/EW Streets:	Durfee Ave				Durfee Ave				Ramona Blvd				Ramona Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	5	0	18	0	0	0	0	0	0	104	7	0	25	117	0	0	276
7:15 AM	3	0	15	0	0	0	0	0	0	105	11	1	42	178	0	0	355
7:30 AM	6	0	14	0	0	0	0	0	0	144	13	0	47	177	0	0	401
7:45 AM	5	0	32	0	0	0	0	0	0	175	18	0	62	197	0	1	490
8:00 AM	3	0	20	0	0	0	0	0	0	160	25	1	23	197	0	4	433
8:15 AM	3	0	25	0	0	0	0	0	0	133	17	0	8	137	0	0	323
8:30 AM	6	0	20	0	0	0	0	0	0	129	7	0	10	161	0	0	333
8:45 AM	10	0	27	0	0	0	0	0	0	107	13	0	16	141	0	1	315
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	41	0	171	0	0	0	0	0	0	1057	111	2	233	1305	0	6	2926
APPROACH %'s :	19.34%	0.00%	80.66%	0.00%					0.00%	90.34%	9.49%	0.17%	15.09%	84.52%	0.00%	0.39%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	17	0	81	0	0	0	0	0	0	584	67	2	174	749	0	5	1679
PEAK HR FACTOR :	0.708	0.000	0.633	0.000	0.000	0.000	0.000	0.000	0.000	0.834	0.670	0.500	0.702	0.951	0.000	0.313	0.857
	0.662				0.000				0.846				0.892				

	Mjaor	Minor
	1581	98

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	0	1	0	0	0	0	0	0	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	8	0	27	0	0	0	0	0	0	168	17	0	12	176	0	0	408
4:15 PM	7	0	20	0	0	0	0	0	0	145	13	0	24	149	0	0	358
4:30 PM	12	0	22	0	0	0	0	0	0	177	16	0	18	139	0	0	384
4:45 PM	9	0	19	0	0	0	0	0	0	143	13	0	27	163	0	0	374
5:00 PM	4	0	20	0	0	0	0	0	0	164	14	0	42	167	0	0	411
5:15 PM	10	0	23	0	0	0	0	0	0	158	22	0	30	164	0	0	407
5:30 PM	10	0	18	0	0	0	0	0	0	142	11	0	24	163	0	0	368
5:45 PM	10	0	21	0	0	0	0	0	0	164	11	0	22	145	0	0	373
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	70	0	170	0	0	0	0	0	0	1261	117	0	199	1266	0	0	3083
APPROACH %'s :	29.17%	0.00%	70.83%	0.00%					0.00%	91.51%	8.49%	0.00%	13.58%	86.42%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	35	0	84	0	0	0	0	0	0	642	65	0	117	633	0	0	1576
PEAK HR FACTOR :	0.729	0.000	0.913	0.000	0.000	0.000	0.000	0.000	0.000	0.907	0.739	0.000	0.696	0.948	0.000	0.000	0.959
	0.875				0.000				0.916				0.897				

	Mjaor	Minor
	1457	119

Prepared by National Data & Surveying Services

Durfee Ave & Ramona Blvd

Peak Hour Turning Movement Count

ID: 22-020196-002
City: El Monte

Day: Monday
Date: 6/6/2022

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	7:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	4:00 PM - 06:00 PM

SOUTHBOUND (Durfee Ave)

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

EASTBOUND (Ramona Blvd)

AM	NOON	PM	
768	0	668	⇦
2	0	0	↶ 0
0	0	0	↱ 0
584	0	642	→ 2
67	0	65	↴ 0
AM	NOON	PM	

WESTBOUND (Ramona Blvd)

PM	NOON	AM	
0	0	0	0 ↰
633	0	749	2 ←
117	0	174	1 ↰
0	0	5	0 ↰
726	0	670	⇨
PM	NOON	AM	

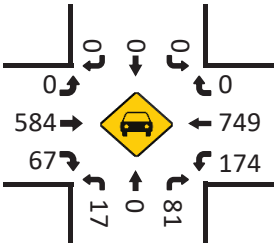
NORTHBOUND (Durfee Ave)

PM	182	0	35	0	84	PM
NOON	0	0	0	0	0	NOON
AM	241	0	17	0	81	AM

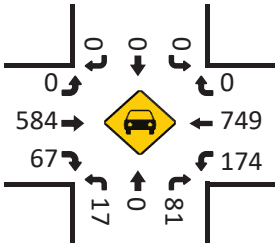
0 1 0 1

CONTROL			
1-Way Stop (NB)			
TEV	1679 AM	0 NOON	1576 PM
PHF	0.86		0.96

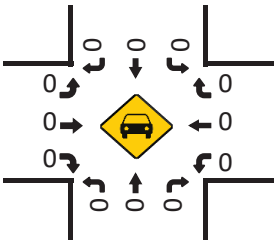
Total (AM)



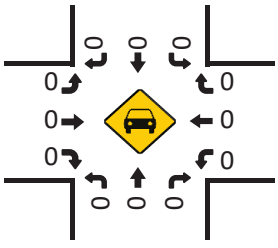
Total (AM)



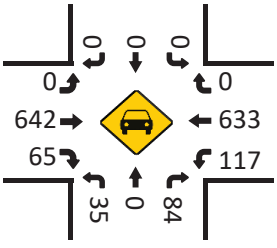
Total (NOON)



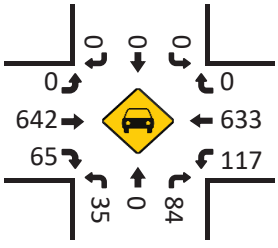
Total (NOON)



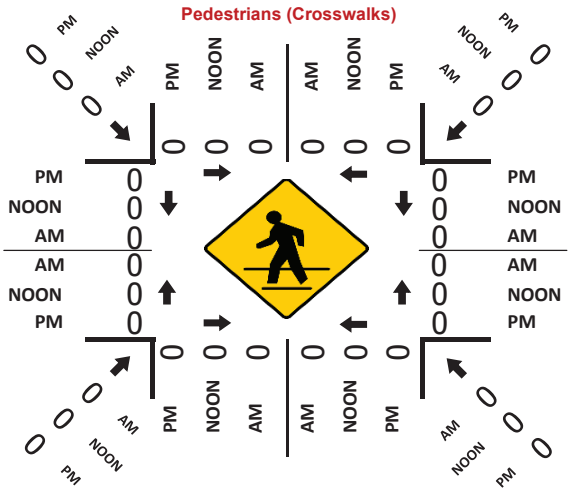
Total (PM)



Total (PM)



Pedestrians (Crosswalks)



National Data & Surveying Services Intersection Turning Movement Count

Location: Durfee Ave & Kerrwood St
City: El Monte
Control: 4-Way Stop

Project ID: 22-020196-003
Date: 6/6/2022

Data - Totals

NS/EW Streets:	Durfee Ave				Durfee Ave				Kerrwood St				Kerrwood St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	9	19	1	0	1	29	1	0	2	1	2	0	1	1	0	0	67
7:15 AM	10	12	3	0	4	45	3	0	2	3	6	0	8	4	2	0	102
7:30 AM	17	14	1	0	0	59	1	0	4	10	18	0	8	13	1	0	146
7:45 AM	20	35	4	0	12	67	4	0	3	27	14	0	29	16	0	0	231
8:00 AM	12	23	5	0	15	32	5	0	2	22	13	0	49	23	0	0	201
8:15 AM	12	33	4	0	6	20	4	0	1	17	8	0	40	14	4	0	163
8:30 AM	10	26	3	0	2	12	3	0	2	9	15	0	5	6	1	0	94
8:45 AM	15	25	3	0	3	22	3	0	3	4	11	0	6	3	3	0	101
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	105	187	24	0	43	286	24	0	19	93	87	0	146	80	11	0	1105
APPROACH %'s :	33.23%	59.18%	7.59%	0.00%	12.18%	81.02%	6.80%	0.00%	9.55%	46.73%	43.72%	0.00%	61.60%	33.76%	4.64%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	61	105	14	0	33	178	14	0	10	76	53	0	126	66	5	0	741
PEAK HR FACTOR :	0.763	0.750	0.700	0.000	0.550	0.664	0.700	0.000	0.625	0.704	0.736	0.000	0.643	0.717	0.313	0.000	0.802
	0.763				0.678				0.790				0.684				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	15	32	2	0	4	25	2	0	2	9	12	0	3	7	2	0	115
4:15 PM	8	28	2	0	4	34	1	0	3	6	10	0	5	4	1	0	106
4:30 PM	15	34	3	0	3	33	1	0	1	5	9	0	4	6	2	0	116
4:45 PM	23	29	4	0	2	43	3	0	1	6	10	0	4	4	2	0	131
5:00 PM	18	23	6	0	6	41	5	0	3	4	12	0	1	3	1	0	123
5:15 PM	20	37	4	0	5	44	3	0	1	4	4	0	1	4	0	0	127
5:30 PM	18	24	3	0	0	32	3	0	2	3	10	0	6	5	0	0	106
5:45 PM	18	27	3	0	1	31	2	0	3	6	10	0	4	3	4	0	112
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	135	234	27	0	25	283	20	0	16	43	77	0	28	36	12	0	936
APPROACH %'s :	34.09%	59.09%	6.82%	0.00%	7.62%	86.28%	6.10%	0.00%	11.76%	31.62%	56.62%	0.00%	36.84%	47.37%	15.79%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	76	123	17	0	16	161	12	0	6	19	35	0	10	17	5	0	497
PEAK HR FACTOR :	0.826	0.831	0.708	0.000	0.667	0.915	0.600	0.000	0.500	0.792	0.729	0.000	0.625	0.708	0.625	0.000	0.948
	0.885				0.909				0.789				0.667				

Prepared by National Data & Surveying Services

Durfee Ave & Kerrwood St

Peak Hour Turning Movement Count

ID: 22-020196-003
City: El Monte

Day: Monday
Date: 6/6/2022

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	4:00 PM - 06:00 PM

SOUTHBOUND (Durfee Ave)

AM	14	178	33	0	120	AM
NOON	0	0	0	0	0	NOON
PM	12	161	16	0	134	PM
	0	2	1	0		

EASTBOUND (Kerrwood St)

AM	NOON	PM	
141	0	105	
0	0	0	0
10	0	6	0
76	0	19	1
53	0	35	0
AM	NOON	PM	

WESTBOUND (Kerrwood St)

PM	NOON	AM	
5	0	5	0
17	0	66	1
10	0	126	0
0	0	0	0
52	0	123	
PM	NOON	AM	

CONTROL

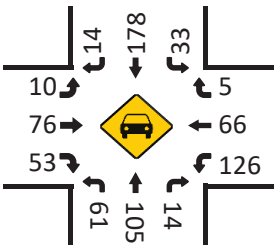
4-Way Stop

TEV	741 AM	0 NOON	497 PM
PHF	0.80		0.95

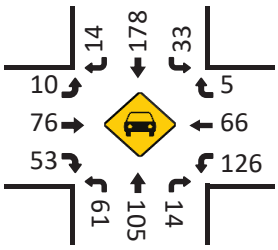
NORTHBOUND (Durfee Ave)

PM	206	0	76	123	17	PM
NOON	0	0	0	0	0	NOON
AM	357	0	61	105	14	AM
		0	1	2	0	

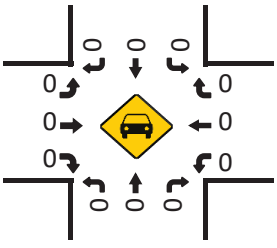
Total (AM)



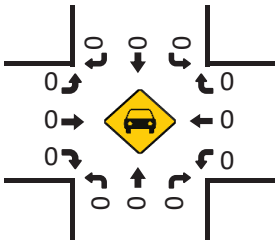
Total (AM)



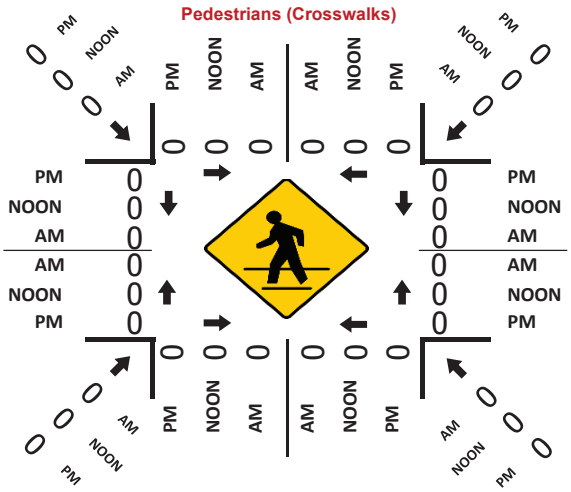
Total (NOON)



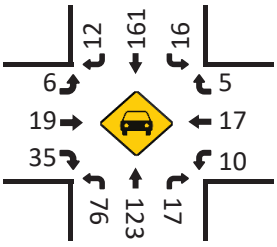
Total (NOON)



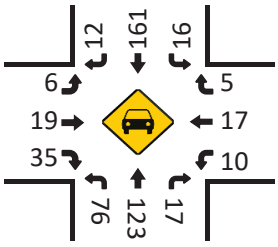
Pedestrians (Crosswalks)



Total (PM)



Total (PM)



National Data & Surveying Services Intersection Turning Movement Count

Location: Durfee Ave & Deana St
City: El Monte
Control: 4-Way Stop

Project ID: 22-020196-004
Date: 6/6/2022

Data - Total

NS/EW Streets:	Durfee Ave				Durfee Ave				Deana St				Deana St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	7	24	3	0	0	23	2	0	5	0	11	0	4	2	0	0	81
7:15 AM	13	28	9	0	1	55	6	0	2	4	16	0	8	3	2	0	147
7:30 AM	8	35	8	0	3	79	5	0	4	11	20	0	13	6	1	0	193
7:45 AM	6	59	10	0	5	89	10	0	6	19	19	0	11	12	6	0	252
8:00 AM	14	41	15	0	4	77	17	0	7	27	35	0	12	17	6	0	272
8:15 AM	8	36	5	0	3	55	14	0	4	22	17	0	11	18	4	0	197
8:30 AM	6	38	4	0	1	28	1	0	3	1	15	0	7	5	3	0	112
8:45 AM	4	31	3	0	3	32	5	0	4	4	20	0	6	4	1	0	117
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	66	292	57	0	20	438	60	0	35	88	153	0	72	67	23	0	1371
APPROACH %'s :	15.90%	70.36%	13.73%	0.00%	3.86%	84.56%	11.58%	0.00%	12.68%	31.88%	55.43%	0.00%	44.44%	41.36%	14.20%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	36	171	38	0	15	300	46	0	21	79	91	0	47	53	17	0	914
PEAK HR FACTOR :	0.643	0.725	0.633	0.000	0.750	0.843	0.676	0.000	0.750	0.731	0.650	0.000	0.904	0.736	0.708	0.000	0.840
	0.817				0.868				0.692				0.836				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	15	47	5	0	4	34	2	0	5	6	16	0	7	8	3	0	152
4:15 PM	14	38	8	0	3	54	3	0	1	5	12	0	8	6	1	0	153
4:30 PM	18	53	9	0	3	43	3	0	2	6	19	0	7	4	0	0	167
4:45 PM	24	52	7	0	5	50	3	0	2	7	12	0	4	11	4	0	181
5:00 PM	18	44	5	0	1	56	7	0	7	6	15	0	4	4	2	1	170
5:15 PM	19	56	9	0	3	43	7	0	4	3	10	0	7	3	3	0	167
5:30 PM	27	42	5	0	2	49	5	0	2	4	15	0	5	4	1	0	161
5:45 PM	19	53	9	0	1	42	2	0	0	6	16	0	3	2	1	0	154
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	154	385	57	0	22	371	32	0	23	43	115	0	45	42	15	1	1305
APPROACH %'s :	25.84%	64.60%	9.56%	0.00%	5.18%	87.29%	7.53%	0.00%	12.71%	23.76%	63.54%	0.00%	43.69%	40.78%	14.56%	0.97%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	79	205	30	0	12	192	20	0	15	22	56	0	22	22	9	1	685
PEAK HR FACTOR :	0.823	0.915	0.833	0.000	0.600	0.857	0.714	0.000	0.536	0.786	0.737	0.000	0.786	0.500	0.563	0.250	0.946
	0.935				0.875				0.830				0.711				

National Data & Surveying Services Intersection Turning Movement Count

Location: Durfee Ave & Deana St
City: El Monte
Control: 4-Way Stop

Project ID: 22-020196-004
Date: 6/6/2022

Data - Totals

NS/EW Streets:	Durfee Ave				Durfee Ave				Deana St				Deana St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	7	24	3	0	0	23	2	0	5	0	11	0	4	2	0	0	81
7:15 AM	13	28	9	0	1	55	6	0	2	4	16	0	8	3	2	0	147
7:30 AM	8	35	8	0	3	79	5	0	4	11	20	0	13	6	1	0	193
7:45 AM	6	59	10	0	5	89	10	0	6	19	19	0	11	12	6	0	252
8:00 AM	14	41	15	0	4	77	17	0	7	27	35	0	12	17	6	0	272
8:15 AM	8	36	5	0	3	55	14	0	4	22	17	0	11	18	4	0	197
8:30 AM	6	38	4	0	1	28	1	0	3	1	15	0	7	5	3	0	112
8:45 AM	4	31	3	0	3	32	5	0	4	4	20	0	6	4	1	0	117
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	66	292	57	0	20	438	60	0	35	88	153	0	72	67	23	0	1371
APPROACH %'s :	15.90%	70.36%	13.73%	0.00%	3.86%	84.56%	11.58%	0.00%	12.68%	31.88%	55.43%	0.00%	44.44%	41.36%	14.20%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
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PEAK HR FACTOR :	0.643	0.725	0.633	0.000	0.750	0.843	0.676	0.000	0.750	0.731	0.650	0.000	0.904	0.736	0.708	0.000	0.840
	0.817				0.868				0.692				0.836				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	15	47	5	0	4	34	2	0	5	6	16	0	7	8	3	0	152
4:15 PM	14	38	8	0	3	54	3	0	1	5	12	0	8	6	1	0	153
4:30 PM	18	53	9	0	3	43	3	0	2	6	19	0	7	4	0	0	167
4:45 PM	24	52	7	0	5	50	3	0	2	7	12	0	4	11	4	0	181
5:00 PM	18	44	5	0	1	56	7	0	7	6	15	0	4	4	2	1	170
5:15 PM	19	56	9	0	3	43	7	0	4	3	10	0	7	3	3	0	167
5:30 PM	27	42	5	0	2	49	5	0	2	4	15	0	5	4	1	0	161
5:45 PM	19	53	9	0	1	42	2	0	0	6	16	0	3	2	1	0	154
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	154	385	57	0	22	371	32	0	23	43	115	0	45	42	15	1	1305
APPROACH %'s :	25.84%	64.60%	9.56%	0.00%	5.18%	87.29%	7.53%	0.00%	12.71%	23.76%	63.54%	0.00%	43.69%	40.78%	14.56%	0.97%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	79	205	30	0	12	192	20	0	15	22	56	0	22	22	9	1	685
PEAK HR FACTOR :	0.823	0.915	0.833	0.000	0.600	0.857	0.714	0.000	0.536	0.786	0.737	0.000	0.786	0.500	0.563	0.250	0.946
	0.935				0.875				0.830				0.711				

Prepared by National Data & Surveying Services

Durfee Ave & Deana St

Peak Hour Turning Movement Count

ID: 22-020196-004
City: El Monte

Day: Monday
Date: 6/6/2022

PEAK HOURS

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

COUNT PERIODS

AM	7:00 AM - 09:00 AM
NOON	NONE
PM	4:00 PM - 06:00 PM

SOUTHBOUND (Durfee Ave)

AM	46	300	15	0	209	AM
NOON	0	0	0	0	0	NOON
PM	20	192	12	0	229	PM
	0	2	1	0		

EASTBOUND (Deana St)

AM	NOON	PM	
135	0	121	
0	0	0	0
21	0	15	0
79	0	22	1
91	0	56	0
AM	NOON	PM	

WESTBOUND (Deana St)

	PM	NOON	AM
0	9	0	17
1	22	0	53
0	22	0	47
0	1	0	0
	65	0	132
	PM	NOON	AM

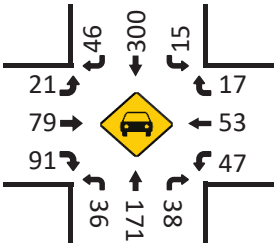
CONTROL: 4-Way Stop

TEV	914 AM	0 NOON	685 PM
PHF	0.84		0.95

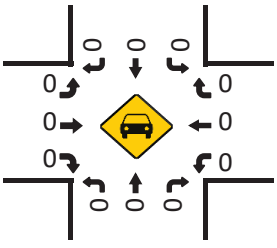
NORTHBOUND (Durfee Ave)

PM	270	0	79	205	30	PM
NOON	0	0	0	0	0	NOON
AM	438	0	36	171	38	AM
		0	1	2	0	

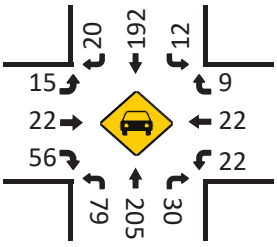
Total (AM)



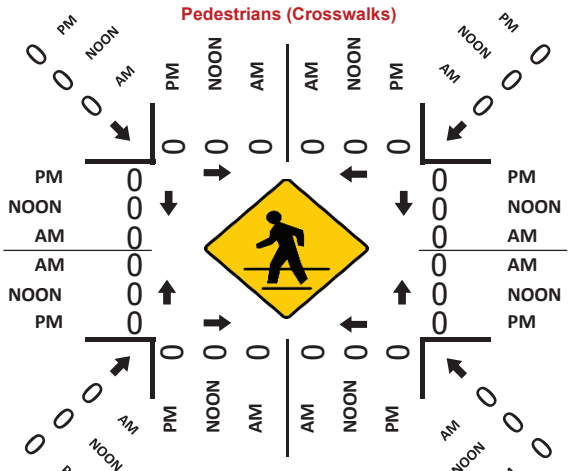
Total (NOON)



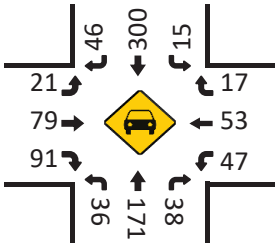
Total (PM)



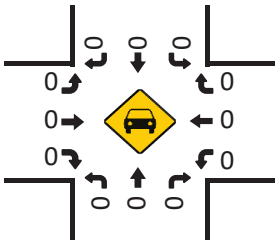
Pedestrians (Crosswalks)



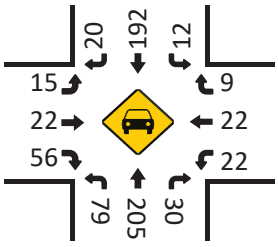
Total (AM)



Total (NOON)



Total (PM)



SPEED

Kerrwood St W/O Bannister Ave

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_001

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
0:00 AM	0	0	3	2	0	0	0	0	0	0	0	0	0	5
1:00	1	0	1	0	0	0	0	0	0	0	0	0	0	2
2:00	0	0	1	1	0	0	0	0	0	0	0	0	0	2
3:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:00	2	1	1	2	0	0	0	0	0	0	0	0	0	6
5:00	6	3	3	6	0	0	0	0	0	0	0	0	0	18
6:00	4	5	9	5	2	0	0	0	0	0	0	0	0	25
7:00	9	17	55	82	15	2	0	0	0	0	0	0	0	180
8:00	13	22	90	92	33	1	0	0	0	0	0	0	0	251
9:00	15	15	28	40	15	0	0	0	0	0	0	0	0	113
10:00	14	9	26	46	14	2	0	0	0	0	0	0	0	111
11:00	16	13	34	39	13	1	0	0	0	0	0	0	0	116
12:00 PM	17	17	22	41	15	0	0	0	0	0	0	0	0	112
13:00	11	11	49	52	24	2	0	0	0	0	0	0	0	149
14:00	13	25	100	99	24	1	0	0	0	0	0	0	0	262
15:00	10	16	44	32	15	1	0	0	0	0	0	0	0	118
16:00	12	6	28	39	11	1	0	0	0	0	0	0	0	97
17:00	10	14	30	23	7	4	0	0	0	0	0	0	0	88
18:00	6	8	20	28	7	0	0	0	0	0	0	0	0	69
19:00	6	5	18	12	2	1	0	0	0	0	0	0	0	44
20:00	4	7	16	6	4	0	0	0	0	0	0	0	0	37
21:00	3	9	8	10	1	0	0	0	0	0	0	0	0	31
22:00	1	2	1	7	1	0	0	0	0	0	0	0	0	12
23:00	5	2	3	3	1	0	0	0	0	0	0	0	0	14
Totals	178	209	590	667	204	16								1864
% of Totals	10%	11%	32%	36%	11%	1%								100%

AM Volumes	80	87	251	315	92	6	0	0	0	0	0	0	0	831
% AM	4%	5%	13%	17%	5%	0%								45%
AM Peak Hour	11:00	8:00	8:00	8:00	8:00	7:00								8:00
Volume	16	22	90	92	33	2								251
PM Volumes	98	122	339	352	112	10	0	0	0	0	0	0	0	1033
% PM	5%	7%	18%	19%	6%	1%								55%
PM Peak Hour	12:00	14:00	14:00	14:00	13:00	17:00								14:00
Volume	17	25	100	99	24	4								262

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	431	↔	23%	261	↔	14%	185	↔	10%	987	↔	53%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Kerrwood St	Summary	17	25	24	30	33	1864

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Kerrwood St W/O Bannister Ave

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	907	957	1,864

AM Period	NB		SB		EB		WB		TOTAL	
0:00	0		0		0		1		1	
0:15	0		0		0		1		1	
0:30	0		0		0		2		2	
0:45	0		0		1	1	0	4	1	5
1:00	0		0		0		1		1	
1:15	0		0		0		0			
1:30	0		0		0		1		1	
1:45	0		0		0		0	2		2
2:00	0		0		1		0		1	
2:15	0		0		0		0			
2:30	0		0		0		1		1	
2:45	0		0		0	1	0	1		2
3:00	0		0		0		0			
3:15	0		0		0		0			
3:30	0		0		0		0			
3:45	0		0		2	2	0		2	2
4:00	0		0		1		0		1	
4:15	0		0		0		1		1	
4:30	0		0		1		3		4	
4:45	0		0		0	2	0	4		6
5:00	0		0		1		4		5	
5:15	0		0		1		5		6	
5:30	0		0		1		3		4	
5:45	0		0		0	3	3	15	3	18
6:00	0		0		0		2		2	
6:15	0		0		2		4		6	
6:30	0		0		1		3		4	
6:45	0		0		3	6	10	19	13	25
7:00	0		0		2		3		5	
7:15	0		0		12		16		28	
7:30	0		0		23		17		40	
7:45	0		0		61	98	46	82	107	180
8:00	0		0		50		75		125	
8:15	0		0		26		54		80	
8:30	0		0		13		12		25	
8:45	0		0		7	96	14	155	21	251
9:00	0		0		10		33		43	
9:15	0		0		8		15		23	
9:30	0		0		13		11		24	
9:45	0		0		9	40	14	73	23	113
10:00	0		0		7		12		19	
10:15	0		0		26		7		33	
10:30	0		0		21		8		29	
10:45	0		0		19	73	11	38	30	111
11:00	0		0		13		11		24	
11:15	0		0		14		13		27	
11:30	0		0		10		32		42	
11:45	0		0		14	51	9	65	23	116
TOTALS						373		458		831
SPLIT %						44.9%		55.1%		44.6%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	0		0		13		20		33	
12:15	0		0		11		11		22	
12:30	0		0		19		9		28	
12:45	0		0		18	61	11	51	29	112
13:00	0		0		23		10		33	
13:15	0		0		22		10		32	
13:30	0		0		22		18		40	
13:45	0		0		27	94	17	55	44	149
14:00	0		0		24		45		69	
14:15	0		0		17		35		52	
14:30	0		0		20		18		38	
14:45	0		0		28	89	75	173	103	262
15:00	0		0		19		11		30	
15:15	0		0		11		17		28	
15:30	0		0		16		14		30	
15:45	0		0		17	63	13	55	30	118
16:00	0		0		16		11		27	
16:15	0		0		15		9		24	
16:30	0		0		10		10		20	
16:45	0		0		14	55	12	42	26	97
17:00	0		0		19		6		25	
17:15	0		0		14		5		19	
17:30	0		0		7		10		17	
17:45	0		0		15	55	12	33	27	88
18:00	0		0		15		9		24	
18:15	0		0		11		7		18	
18:30	0		0		7		7		14	
18:45	0		0		4	37	9	32	13	69
19:00	0		0		5		4		9	
19:15	0		0		9		1		10	
19:30	0		0		8		4		12	
19:45	0		0		6	28	7	16	13	44
20:00	0		0		4		5		9	
20:15	0		0		2		5		7	
20:30	0		0		9		4		13	
20:45	0		0		4	19	4	18	8	37
21:00	0		0		7		3		10	
21:15	0		0		4		6		10	
21:30	0		0		2		1		3	
21:45	0		0		6	19	2	12	8	31
22:00	0		0		1		1		2	
22:15	0		0		1		4		5	
22:30	0		0		2		2		4	
22:45	0		0		1	5	0	7	1	12
23:00	0		0		2		1		3	
23:15	0		0		4		1		5	
23:30	0		0		2		2		4	
23:45	0		0		1	9	1	5	2	14
TOTALS						534		499		1033
SPLIT %						51.7%		48.3%		55.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	907	957	1,864

AM Peak Hour			7:30	7:30	7:30
AM Pk Volume			160	192	352
Pk Hr Factor			0.656	0.640	0.704
7 - 9 Volume	0	0	194	237	431
7 - 9 Peak Hour			7:30	7:30	7:30
7 - 9 Pk Volume	0	0	160	192	352
Pk Hr Factor	0.000	0.000	0.656	0.640	0.704

PM Peak Hour			13:15	14:00	14:00
PM Pk Volume			95	173	262
Pk Hr Factor			0.880	0.577	0.636
4 - 6 Volume	0	0	110	75	185
4 - 6 Peak Hour			16:15	16:00	16:00
4 - 6 Pk Volume	0	0	58	42	97
Pk Hr Factor	0.000	0.000	0.763	0.875	0.898

Prepared by National Data & Surveying Services

SPEED

Durfee Ave S/O Kerrwood St

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_002

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
0:00 AM	0	0	3	5	9	11	5	3	1	1	1	0	0	39
1:00	0	0	0	0	9	6	5	1	1	0	1	0	0	23
2:00	0	0	1	1	6	7	0	1	0	1	0	0	0	17
3:00	0	0	1	2	3	8	7	3	1	0	0	0	0	25
4:00	0	0	0	5	11	12	16	7	0	1	0	0	0	52
5:00	0	1	5	7	18	32	23	13	4	1	0	0	0	104
6:00	2	4	4	7	33	70	49	18	7	1	0	0	0	195
7:00	1	2	6	21	92	164	138	54	16	2	0	0	0	496
8:00	3	7	8	22	96	171	104	41	10	2	0	0	0	464
9:00	0	3	11	13	50	94	65	34	6	1	0	0	0	277
10:00	3	4	3	15	43	80	69	26	4	1	0	0	0	248
11:00	1	2	16	16	48	102	88	42	9	1	1	0	0	326
12:00 PM	2	6	12	15	59	96	93	35	7	0	1	0	0	326
13:00	1	3	11	28	65	120	103	56	13	1	1	0	0	402
14:00	2	1	5	22	78	153	149	54	10	0	0	0	0	474
15:00	0	0	5	13	62	150	133	35	18	6	0	0	0	422
16:00	4	0	4	12	43	148	131	51	17	5	0	0	0	415
17:00	0	3	4	18	42	142	155	52	15	2	2	0	0	435
18:00	1	2	6	8	57	128	92	40	7	2	0	0	0	343
19:00	4	2	8	24	61	84	68	28	11	2	1	0	0	293
20:00	0	1	6	14	69	97	66	20	3	0	0	0	0	276
21:00	0	1	5	9	32	61	47	12	5	2	0	0	0	174
22:00	2	6	4	6	29	29	33	8	4	1	1	0	0	123
23:00	1	0	1	10	18	27	20	5	0	1	1	0	0	84
Totals	27	48	129	293	1033	1992	1659	639	169	34	10			6033
% of Totals	0%	1%	2%	5%	17%	33%	27%	11%	3%	1%	0%			100%

AM Volumes	10	23	58	114	418	757	569	243	59	12	3	0	0	2266
% AM	0%	0%	1%	2%	7%	13%	9%	4%	1%	0%	0%			38%
AM Peak Hour	8:00	8:00	11:00	8:00	8:00	8:00	7:00	7:00	7:00	7:00				7:00
Volume	3	7	16	22	96	171	138	54	16	2	1			496
PM Volumes	17	25	71	179	615	1235	1090	396	110	22	7	0	0	3767
% PM	0%	0%	1%	3%	10%	20%	18%	7%	2%	0%	0%			62%
PM Peak Hour	16:00	12:00	12:00	13:00	14:00	14:00	17:00	13:00	15:00	15:00	17:00			14:00
Volume	4	6	12	28	78	153	155	56	18	6	2			474

Directional Peak Periods All Speeds	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	960 ⟷	16%	728 ⟷	12%	850 ⟷	14%	3495 ⟷	58%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Durfee Ave	Summary	32	39	39	45	49	6033

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Durfee Ave S/O Kerrwood St

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_002

DAILY TOTALS	NB	SB	EB	WB	Total
	2,815	3,218	0	0	6,033

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	4		8		0	0	12		12:00	43		41		0	0	84	
0:15	6		5		0	0	11		12:15	36		42		0	0	78	
0:30	3		5		0	0	8		12:30	48		43		0	0	91	
0:45	5	18	3	21	0	0	8	39	12:45	30	157	43	169	0	0	73	326
1:00	1		6		0	0	7		13:00	51		41		0	0	92	
1:15	2		2		0	0	4		13:15	47		47		0	0	94	
1:30	2		6		0	0	8		13:30	39		53		0	0	92	
1:45	1	6	3	17	0	0	4	23	13:45	64	201	60	201	0	0	124	402
2:00	2		2		0	0	4		14:00	57		75		0	0	132	
2:15	3		3		0	0	6		14:15	55		65		0	0	120	
2:30	1		3		0	0	4		14:30	52		50		0	0	102	
2:45	0	6	3	11	0	0	3	17	14:45	57	221	63	253	0	0	120	474
3:00	2		3		0	0	5		15:00	45		58		0	0	103	
3:15	3		1		0	0	4		15:15	59		51		0	0	110	
3:30	6		3		0	0	9		15:30	41		54		0	0	95	
3:45	4	15	3	10	0	0	7	25	15:45	66	211	48	211	0	0	114	422
4:00	5		8		0	0	13		16:00	44		51		0	0	95	
4:15	6		5		0	0	11		16:15	52		48		0	0	100	
4:30	4		9		0	0	13		16:30	57		53		0	0	110	
4:45	9	24	6	28	0	0	15	52	16:45	57	210	53	205	0	0	110	415
5:00	9		11		0	0	20		17:00	57		46		0	0	103	
5:15	11		11		0	0	22		17:15	57		50		0	0	107	
5:30	20		14		0	0	34		17:30	54		61		0	0	115	
5:45	12	52	16	52	0	0	28	104	17:45	60	228	50	207	0	0	110	435
6:00	18		19		0	0	37		18:00	46		56		0	0	102	
6:15	20		25		0	0	45		18:15	51		43		0	0	94	
6:30	24		26		0	0	50		18:30	47		33		0	0	80	
6:45	20	82	43	113	0	0	63	195	18:45	36	180	31	163	0	0	67	343
7:00	26		61		0	0	87		19:00	28		33		0	0	61	
7:15	35		76		0	0	111		19:15	33		49		0	0	82	
7:30	42		85		0	0	127		19:30	37		35		0	0	72	
7:45	62	165	109	331	0	0	171	496	19:45	32	130	46	163	0	0	78	293
8:00	61		115		0	0	176		20:00	39		56		0	0	95	
8:15	32		77		0	0	109		20:15	33		28		0	0	61	
8:30	44		52		0	0	96		20:30	30		28		0	0	58	
8:45	44	181	39	283	0	0	83	464	20:45	32	134	30	142	0	0	62	276
9:00	28		44		0	0	72		21:00	28		20		0	0	48	
9:15	28		50		0	0	78		21:15	24		18		0	0	42	
9:30	27		32		0	0	59		21:30	24		17		0	0	41	
9:45	30	113	38	164	0	0	68	277	21:45	26	102	17	72	0	0	43	174
10:00	34		38		0	0	72		22:00	15		20		0	0	35	
10:15	26		23		0	0	49		22:15	10		19		0	0	29	
10:30	28		28		0	0	56		22:30	13		15		0	0	28	
10:45	35	123	36	125	0	0	71	248	22:45	12	50	19	73	0	0	31	123
11:00	37		27		0	0	64		23:00	11		8		0	0	19	
11:15	40		43		0	0	83		23:15	13		15		0	0	28	
11:30	37		46		0	0	83		23:30	9		11		0	0	20	
11:45	51	165	45	161	0	0	96	326	23:45	8	41	9	43	0	0	17	84
TOTALS		950		1316				2266	TOTALS		1865		1902				3767
SPLIT %		41.9%		58.1%				37.6%	SPLIT %		49.5%		50.5%				62.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,815	3,218	0	0	6,033

AM Peak Hour	7:15	7:30					7:15		PM Peak Hour	13:45	13:30					13:45		
AM Pk Volume	200	386					585		PM Pk Volume	228	253					478		
Pk Hr Factor	0.806	0.839					0.831		Pk Hr Factor	0.891	0.843					0.905		
7 - 9 Volume	346	614	0	0			960		4 - 6 Volume	438	412	0	0			850		
7 - 9 Peak Hour	7:15	7:30					7:15		4 - 6 Peak Hour	16:30	16:45					16:45		
7 - 9 Pk Volume	200	386	0	0			585		4 - 6 Pk Volume	228	210	0	0			435		
Pk Hr Factor	0.806	0.839	0.000	0.000			0.831		Pk Hr Factor	1.000	0.861	0.000	0.000			0.946		

Prepared by National Data & Surveying Services

SPEED

Gilman Rd S/O Woodville Dr

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_003

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
0:00 AM	0	0	4	4	4	0	0	0	0	0	0	0	0	12
1:00	0	0	1	4	3	1	0	0	0	0	0	0	0	9
2:00	1	0	4	1	1	0	0	0	0	0	0	0	0	7
3:00	2	1	2	1	1	1	0	0	0	0	0	0	0	8
4:00	2	0	3	4	1	0	0	0	0	0	0	0	0	10
5:00	7	2	8	12	6	2	1	0	0	0	0	0	0	38
6:00	4	4	10	14	9	11	1	0	0	0	0	0	0	53
7:00	9	42	64	54	17	2	0	0	0	0	0	0	0	188
8:00	16	67	92	59	12	4	2	0	0	0	0	0	0	252
9:00	7	8	27	23	17	5	1	0	0	0	0	0	0	88
10:00	5	4	22	39	20	2	2	0	0	0	0	0	0	94
11:00	11	6	29	22	11	2	0	0	0	0	0	0	0	81
12:00 PM	7	6	18	34	16	6	0	0	0	0	0	0	0	87
13:00	7	13	29	41	24	4	1	0	0	0	0	0	0	119
14:00	41	66	82	43	6	2	0	0	0	0	0	0	0	240
15:00	16	26	30	24	11	0	2	0	0	0	0	0	0	109
16:00	8	18	26	24	9	1	0	0	0	0	0	0	0	86
17:00	17	8	13	14	12	3	0	0	0	0	0	0	0	67
18:00	19	6	12	7	9	2	0	0	0	0	0	0	0	55
19:00	13	11	13	28	9	3	3	0	0	0	0	0	0	80
20:00	10	7	19	30	11	6	1	0	0	0	0	0	0	84
21:00	14	9	11	16	14	3	0	0	0	0	0	0	0	67
22:00	1	4	10	3	12	6	0	0	0	0	0	0	0	36
23:00	3	2	6	5	3	1	1	0	0	0	0	0	0	21
Totals	220	310	535	506	238	67	15							1891
% of Totals	12%	16%	28%	27%	13%	4%	1%							100%

AM Volumes	64	134	266	237	102	30	7	0	0	0	0	0	0	840
% AM	3%	7%	14%	13%	5%	2%	0%							44%
AM Peak Hour	8:00	8:00	8:00	8:00	10:00	6:00	8:00							8:00
Volume	16	67	92	59	20	11	2							252
PM Volumes	156	176	269	269	136	37	8	0	0	0	0	0	0	1051
% PM	8%	9%	14%	14%	7%	2%	0%							56%
PM Peak Hour	14:00	14:00	14:00	14:00	13:00	12:00	19:00							14:00
Volume	41	66	82	43	24	6	3							240

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	440	↔	23%	206	↔	11%	153	↔	8%	1092	↔	58%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Gilman Rd	Summary	16	24	24	31	35	1891

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Gilman Rd S/O Woodville Dr

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_003

DAILY TOTALS	NB	SB	EB	WB	Total
	1,152	739	0	0	1,891

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	2		1		0	0	3		12:00	16		8		0	0	24	
0:15	2		2		0	0	4		12:15	10		10		0	0	20	
0:30	0		0		0	0			12:30	11		10		0	0	21	
0:45	3	7	2	5	0	0	5	12	12:45	14	51	8	36	0	0	22	87
1:00	1		2		0	0	3		13:00	11		11		0	0	22	
1:15	0		1		0	0	1		13:15	17		12		0	0	29	
1:30	2		3		0	0	5		13:30	21		15		0	0	36	
1:45	0	3	0	6	0	0		9	13:45	19	68	13	51	0	0	32	119
2:00	0		2		0	0	2		14:00	28		31		0	0	59	
2:15	0		1		0	0	1		14:15	44		25		0	0	69	
2:30	0		2		0	0	2		14:30	28		17		0	0	45	
2:45	1	1	1	6	0	0	2	7	14:45	58	158	9	82	0	0	67	240
3:00	1		3		0	0	4		15:00	24		9		0	0	33	
3:15	1		0		0	0	1		15:15	20		6		0	0	26	
3:30	2		0		0	0	2		15:30	11		6		0	0	17	
3:45	1	5	0	3	0	0	1	8	15:45	26	81	7	28	0	0	33	109
4:00	2		2		0	0	4		16:00	21		10		0	0	31	
4:15	2		1		0	0	3		16:15	11		7		0	0	18	
4:30	2		1		0	0	3		16:30	15		8		0	0	23	
4:45	0	6	0	4	0	0		10	16:45	13	60	1	26	0	0	14	86
5:00	6		4		0	0	10		17:00	14		3		0	0	17	
5:15	6		1		0	0	7		17:15	11		3		0	0	14	
5:30	5		3		0	0	8		17:30	16		2		0	0	18	
5:45	9	26	4	12	0	0	13	38	17:45	14	55	4	12	0	0	18	67
6:00	8		1		0	0	9		18:00	17		1		0	0	18	
6:15	8		6		0	0	14		18:15	10		3		0	0	13	
6:30	9		6		0	0	15		18:30	9		2		0	0	11	
6:45	8	33	7	20	0	0	15	53	18:45	11	47	2	8	0	0	13	55
7:00	10		8		0	0	18		19:00	11		3		0	0	14	
7:15	7		12		0	0	19		19:15	11		5		0	0	16	
7:30	28		21		0	0	49		19:30	9		16		0	0	25	
7:45	59	104	43	84	0	0	102	188	19:45	11	42	14	38	0	0	25	80
8:00	75		56		0	0	131		20:00	8		14		0	0	22	
8:15	60		17		0	0	77		20:15	4		13		0	0	17	
8:30	18		6		0	0	24		20:30	7		15		0	0	22	
8:45	11	164	9	88	0	0	20	252	20:45	9	28	14	56	0	0	23	84
9:00	11		16		0	0	27		21:00	6		7		0	0	13	
9:15	15		9		0	0	24		21:15	10		8		0	0	18	
9:30	10		10		0	0	20		21:30	5		5		0	0	10	
9:45	15	51	2	37	0	0	17	88	21:45	13	34	13	33	0	0	26	67
10:00	10		7		0	0	17		22:00	7		6		0	0	13	
10:15	14		6		0	0	20		22:15	4		9		0	0	13	
10:30	18		12		0	0	30		22:30	3		4		0	0	7	
10:45	19	61	8	33	0	0	27	94	22:45	2	16	1	20	0	0	3	36
11:00	13		10		0	0	23		23:00	2		2		0	0	4	
11:15	9		9		0	0	18		23:15	2		4		0	0	6	
11:30	5		15		0	0	20		23:30	5		3		0	0	8	
11:45	14	41	6	40	0	0	20	81	23:45	1	10	2	11	0	0	3	21
TOTALS		502		338				**840**	**TOTALS**		650		401				**1051**
SPLIT %		59.8%		40.2%				**44.4%**	**SPLIT %**		61.8%		38.2%				**55.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,152	739	0	0	1,891

AM Peak Hour	7:30		7:30					**7:30**	**PM Peak Hour**	14:00		13:45					**14:00**
AM Pk Volume	222		137					**359**	**PM Pk Volume**	158		86					**240**
Pk Hr Factor	0.740		0.612					**0.685**	**Pk Hr Factor**	0.681		0.694					**0.870**
7 - 9 Volume	268		172		0	0		**440**	**4 - 6 Volume**	115		38		0	0		**153**
7 - 9 Peak Hour	7:30		7:30					**7:30**	**4 - 6 Peak Hour**	16:00		16:00					**16:00**
7 - 9 Pk Volume	222		137		0	0		**359**	**4 - 6 Pk Volume**	60		26		0	0		**86**
Pk Hr Factor	0.740		0.612		0.000	0.000		**0.685**	**Pk Hr Factor**	0.714		0.650		0.000	0.000		**0.694**

Prepared by National Data & Surveying Services

SPEED

Gilman Rd S/O Ramona Blvd

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_004

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
0:00 AM	0	1	5	13	7	0	0	0	0	0	0	0	0	26
1:00	0	2	3	6	3	1	0	0	0	0	0	0	0	15
2:00	1	0	1	2	1	0	0	0	0	0	0	0	0	5
3:00	0	0	4	1	1	3	0	0	0	0	0	0	0	9
4:00	0	2	3	7	0	4	0	0	0	0	0	0	0	16
5:00	0	1	9	15	20	3	0	0	0	0	0	0	0	48
6:00	6	4	15	31	14	5	0	0	1	0	0	0	0	76
7:00	55	25	36	37	8	2	0	1	0	0	0	0	0	164
8:00	32	28	36	24	6	1	0	0	0	0	0	0	0	127
9:00	21	26	43	40	3	0	0	0	0	0	0	0	0	133
10:00	21	38	51	23	5	0	0	0	0	0	0	0	0	138
11:00	19	33	52	15	10	1	0	0	0	0	0	0	0	130
12:00 PM	10	17	37	45	14	0	0	0	0	0	0	0	0	123
13:00	29	31	42	15	5	0	0	0	0	0	0	0	0	122
14:00	29	28	41	34	9	2	1	0	0	0	0	0	0	144
15:00	10	19	41	47	12	2	0	0	0	0	0	0	0	131
16:00	10	20	63	66	22	3	0	0	0	0	0	0	0	184
17:00	11	25	56	55	29	2	0	0	0	0	0	0	0	178
18:00	6	14	57	62	35	6	1	0	0	0	0	0	0	181
19:00	2	7	32	56	22	2	0	0	0	0	0	0	0	121
20:00	0	3	30	54	20	2	0	0	0	0	0	0	0	109
21:00	0	6	19	24	21	2	0	0	0	0	0	0	0	72
22:00	1	6	9	17	12	4	0	0	0	0	0	0	0	49
23:00	0	4	11	11	7	1	0	0	0	0	0	0	0	34
Totals	263	340	696	700	286	46	2	1	1					2335
% of Totals	11%	15%	30%	30%	12%	2%	0%	0%	0%					100%

AM Volumes	155	160	258	214	78	20	0	1	1	0	0	0	0	887
% AM	7%	7%	11%	9%	3%	1%		0%	0%					38%
AM Peak Hour	7:00	10:00	11:00	9:00	5:00	6:00		7:00	6:00					7:00
Volume	55	38	52	40	20	5		1	1					164
PM Volumes	108	180	438	486	208	26	2	0	0	0	0	0	0	1448
% PM	5%	8%	19%	21%	9%	1%	0%							62%
PM Peak Hour	13:00	13:00	16:00	16:00	18:00	18:00	14:00							16:00
Volume	29	31	63	66	35	6	1							184

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	291	↔	12%	245	↔	10%	362	↔	16%	1437	↔	62%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Gilman Rd	Summary	16	24	23	30	34	2335

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Gilman Rd S/O Ramona Blvd

Day: Monday
Date: 6/6/2022

City: El Monte
Project #: CA22_020197_004

DAILY TOTALS	NB	SB	EB	WB	Total
	1,324	1,011	0	0	2,335

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	3		4		0	0	7		12:00	19		14		0	0	33	
0:15	2		5		0	0	7		12:15	20		12		0	0	32	
0:30	1		4		0	0	5		12:30	17		12		0	0	29	
0:45	4	10	3	16	0	0	7	26	12:45	15	71	14	52	0	0	29	123
1:00	2		5		0	0	7		13:00	19		15		0	0	34	
1:15	0		1		0	0	1		13:15	15		10		0	0	25	
1:30	3		4		0	0	7		13:30	20		14		0	0	34	
1:45	0	5	0	10	0	0		15	13:45	13	67	16	55	0	0	29	122
2:00	0		1		0	0	1		14:00	23		19		0	0	42	
2:15	0		1		0	0	1		14:15	25		9		0	0	34	
2:30	0		1		0	0	1		14:30	13		13		0	0	26	
2:45	1	1	1	4	0	0	2	5	14:45	29	90	13	54	0	0	42	144
3:00	1		0		0	0	1		15:00	26		7		0	0	33	
3:15	0		0		0	0			15:15	28		12		0	0	40	
3:30	4		0		0	0	4		15:30	18		6		0	0	24	
3:45	3	8	1	1	0	0	4	9	15:45	26	98	8	33	0	0	34	131
4:00	2		2		0	0	4		16:00	23		19		0	0	42	
4:15	2		1		0	0	3		16:15	25		18		0	0	43	
4:30	8		0		0	0	8		16:30	22		28		0	0	50	
4:45	1	13	0	3	0	0	1	16	16:45	20	90	29	94	0	0	49	184
5:00	6		1		0	0	7		17:00	24		25		0	0	49	
5:15	9		3		0	0	12		17:15	26		22		0	0	48	
5:30	11		1		0	0	12		17:30	21		11		0	0	32	
5:45	13	39	4	9	0	0	17	48	17:45	25	96	24	82	0	0	49	178
6:00	13		0		0	0	13		18:00	26		18		0	0	44	
6:15	7		6		0	0	13		18:15	16		24		0	0	40	
6:30	13		9		0	0	22		18:30	21		31		0	0	52	
6:45	21	54	7	22	0	0	28	76	18:45	21	84	24	97	0	0	45	181
7:00	22		9		0	0	31		19:00	17		16		0	0	33	
7:15	16		16		0	0	32		19:15	14		7		0	0	21	
7:30	30		14		0	0	44		19:30	14		12		0	0	26	
7:45	43	111	14	53	0	0	57	164	19:45	13	58	28	63	0	0	41	121
8:00	19		22		0	0	41		20:00	13		16		0	0	29	
8:15	22		10		0	0	32		20:15	7		18		0	0	25	
8:30	23		7		0	0	30		20:30	7		19		0	0	26	
8:45	15	79	9	48	0	0	24	127	20:45	10	37	19	72	0	0	29	109
9:00	21		13		0	0	34		21:00	8		10		0	0	18	
9:15	20		11		0	0	31		21:15	7		9		0	0	16	
9:30	21		10		0	0	31		21:30	8		7		0	0	15	
9:45	25	87	12	46	0	0	37	133	21:45	9	32	14	40	0	0	23	72
10:00	15		7		0	0	22		22:00	7		11		0	0	18	
10:15	24		13		0	0	37		22:15	4		14		0	0	18	
10:30	20		17		0	0	37		22:30	4		4		0	0	8	
10:45	30	89	12	49	0	0	42	138	22:45	3	18	2	31	0	0	5	49
11:00	19		14		0	0	33		23:00	2		4		0	0	6	
11:15	18		16		0	0	34		23:15	3		3		0	0	6	
11:30	21		20		0	0	41		23:30	9		6		0	0	15	
11:45	12	70	10	60	0	0	22	130	23:45	3	17	4	17	0	0	7	34
TOTALS		566		321				887	TOTALS		758		690				1448
SPLIT %		63.8%		36.2%				38.0%	SPLIT %		52.3%		47.7%				62.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,324	1,011	0	0	2,335

AM Peak Hour	7:30	7:15					7:15		PM Peak Hour	14:45	16:30					16:30		
AM Pk Volume	114	66					174		PM Pk Volume	101	104					196		
Pk Hr Factor	0.663	0.750					0.763		Pk Hr Factor	0.871	0.897					0.980		
7 - 9 Volume	190	101	0	0			291		4 - 6 Volume	186	176	0	0			362		
7 - 9 Peak Hour	7:30	7:15					7:15		4 - 6 Peak Hour	17:00	16:30					16:30		
7 - 9 Pk Volume	114	66	0	0			174		4 - 6 Pk Volume	96	104	0	0			196		
Pk Hr Factor	0.663	0.750	0.000	0.000			0.763		Pk Hr Factor	0.923	0.897	0.000	0.000			0.980		

APPENDIX D
Existing LOS Worksheets

Vistro File: J:\...\MacLaren_TIS.vistro
Report File: J:\...\EXAM.pdf

Scenario 1 EXAM
6/21/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gilman Rd/ Ramona Blvd	Signalized	HCM 6th Edition	NB Left	0.340	17.1	B
2	Durfee Ave/ Ramona Blvd	Two-way stop	HCM 6th Edition	NB Left	0.149	41.9	E
3	Durfee Ave/ Kerwood St	All-way stop	HCM 6th Edition	WB Left	0.315	10.1	B
4	Durfee Ave/ Deana St	All-way stop	HCM 6th Edition	EB Right	0.308	10.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gilman Rd/ Ramona Blvd

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.340

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	125.00	100.00	100.00	70.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	56	1	40	0	0	47	2	552	66	43	862	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	1	40	0	0	47	2	552	66	43	862	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	0	10	0	0	12	1	138	17	11	216	1
Total Analysis Volume [veh/h]	56	1	40	0	0	47	2	552	66	43	862	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	59	0	0	59	0	0	181	0	0	181	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C	L	C	C
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	55	55	177	177	177	177	177	177
g / C, Green / Cycle	0.23	0.23	0.74	0.74	0.74	0.74	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.07	0.03	0.00	0.19	0.19	0.06	0.26	0.26
s, saturation flow rate [veh/h]	1353	1431	576	1683	1621	725	1683	1682
c, Capacity [veh/h]	334	343	398	1241	1195	514	1241	1240
d1, Uniform Delay [s]	75.95	73.72	15.74	10.17	10.18	14.01	11.13	11.13
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.20	0.83	0.02	0.49	0.51	0.32	0.77	0.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.14	0.01	0.25	0.25	0.08	0.35	0.35
d, Delay for Lane Group [s/veh]	78.15	74.56	15.76	10.66	10.69	14.33	11.90	11.90
Lane Group LOS	E	E	B	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.23	2.44	0.05	5.81	5.64	0.92	8.77	8.76
50th-Percentile Queue Length [ft/ln]	130.69	60.91	1.13	145.31	140.95	23.09	219.14	218.96
95th-Percentile Queue Length [veh/ln]	8.98	4.39	0.08	9.77	9.53	1.66	13.62	13.61
95th-Percentile Queue Length [ft/ln]	224.43	109.64	2.03	244.16	238.30	41.57	340.52	340.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	78.15	78.15	78.15	74.56	74.56	74.56	15.76	10.67	10.69	14.33	11.90	11.90
Movement LOS	E	E	E	E	E	E	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	78.15			74.56			10.69			12.01		
Approach LOS	E			E			B			B		
d_I, Intersection Delay [s/veh]	17.12											
Intersection LOS	B											
Intersection V/C	0.340											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	0.00	111.17	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.923	0.000	2.836	0.000
Crosswalk LOS	A	F	C	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	458	458	1475	1475
d_b, Bicycle Delay [s]	71.30	71.30	8.27	8.27
I_b,int, Bicycle LOS Score for Intersection	1.720	1.637	2.071	2.308
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Durfee Ave/ Ramona Blvd

Control Type:	Two-way stop	Delay (sec / veh):	41.9
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.149

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	70.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	17	81	584	67	179	749
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	81	584	67	179	749
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	20	146	17	45	187
Total Analysis Volume [veh/h]	17	81	584	67	179	749
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.15	0.12	0.01	0.00	0.19	0.01
d_M, Delay for Movement [s/veh]	41.87	11.11	0.00	0.00	9.78	0.00
Movement LOS	E	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.50	0.41	0.00	0.00	0.71	0.00
95th-Percentile Queue Length [ft/ln]	12.57	10.25	0.00	0.00	17.71	0.00
d_A, Approach Delay [s/veh]	16.44		0.00		1.89	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	2.01					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 3: Durfee Ave/ Kerwood St

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.315

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	70.00	100.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	61	105	14	33	178	14	10	76	53	126	66	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	105	14	33	178	14	10	76	53	126	66	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	26	4	8	45	4	3	19	13	32	17	1
Total Analysis Volume [veh/h]	61	105	14	33	178	14	10	76	53	126	66	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	565	613	632	569	620	631	651	625
Degree of Utilization, x	0.11	0.10	0.09	0.06	0.16	0.15	0.21	0.32

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.36	0.32	0.31	0.18	0.55	0.53	0.80	1.35
95th-Percentile Queue Length [ft]	9.03	8.02	7.77	4.60	13.65	13.37	20.11	33.66
Approach Delay [s/veh]	9.35			9.49			10.03	11.39
Approach LOS	A			A			B	B
Intersection Delay [s/veh]	10.06							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Durfee Ave/ Deana St

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.308

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	75.00	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	36	171	38	15	300	46	21	79	91	47	53	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	171	38	15	300	46	21	79	91	47	53	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	43	10	4	75	12	5	20	23	12	13	4
Total Analysis Volume [veh/h]	36	171	38	15	300	46	21	79	91	47	53	17
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	553	601	627	566	614	636	621	584
Degree of Utilization, x	0.07	0.17	0.17	0.03	0.28	0.27	0.31	0.20

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.21	0.63	0.59	0.08	1.15	1.10	1.30	0.74
95th-Percentile Queue Length [ft]	5.20	15.65	14.85	2.04	28.77	27.54	32.52	18.56
Approach Delay [s/veh]	9.75			10.59			11.35	10.71
Approach LOS	A			B			B	B
Intersection Delay [s/veh]	10.54							
Intersection LOS	B							

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Report File: J:\...\EXPM.pdf

Scenario 2 EXPM
6/21/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gilman Rd/ Ramona Blvd	Signalized	HCM 6th Edition	NB Right	0.289	18.6	B
2	Durfee Ave/ Ramona Blvd	Two-way stop	HCM 6th Edition	NB Left	0.236	36.5	E
3	Durfee Ave/ Kerwood St	All-way stop	HCM 6th Edition	NB Left	0.120	8.4	A
4	Durfee Ave/ Deana St	All-way stop	HCM 6th Edition	WB Left	0.169	9.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gilman Rd/ Ramona Blvd

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.289

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	125.00	100.00	100.00	70.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	24	0	61	0	0	72	0	701	29	93	720	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	24	0	61	0	0	72	0	701	29	93	720	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	15	0	0	18	0	175	7	23	180	1
Total Analysis Volume [veh/h]	24	0	61	0	0	72	0	701	29	93	720	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street [		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street [		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	63	0	0	63	0	0	177	0	0	177	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C	L	C	C
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	59	173	173	173	173	173	173
g / C, Green / Cycle	0.25	0.25	0.72	0.72	0.72	0.72	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.06	0.05	0.00	0.22	0.22	0.14	0.21	0.21
s, saturation flow rate [veh/h]	1401	1431	657	1683	1660	653	1683	1681
c, Capacity [veh/h]	364	367	448	1213	1196	444	1213	1211
d1, Uniform Delay [s]	72.25	71.87	0.00	11.96	11.97	18.70	11.91	11.91
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.50	1.20	0.00	0.64	0.65	1.07	0.63	0.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.20	0.00	0.30	0.30	0.21	0.30	0.30
d, Delay for Lane Group [s/veh]	73.75	73.06	0.00	12.61	12.62	19.77	12.54	12.54
Lane Group LOS	E	E	A	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	4.41	3.71	0.00	7.61	7.51	2.46	7.46	7.45
50th-Percentile Queue Length [ft/ln]	110.26	92.87	0.00	190.21	187.85	61.55	186.48	186.22
95th-Percentile Queue Length [veh/ln]	7.85	6.69	0.00	12.13	12.01	4.43	11.94	11.92
95th-Percentile Queue Length [ft/ln]	196.37	167.17	0.00	303.30	300.24	110.79	298.46	298.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.75	73.75	73.75	73.06	73.06	73.06	0.00	12.61	12.62	19.77	12.54	12.54
Movement LOS	E	E	E	E	E	E	A	B	B	B	B	B
d_A, Approach Delay [s/veh]	73.75			73.06			12.61			13.37		
Approach LOS	E			E			B			B		
d_I, Intersection Delay [s/veh]	18.58											
Intersection LOS	B											
Intersection V/C	0.289											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	0.00	111.17	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.994	0.000	2.784	0.000
Crosswalk LOS	A	F	C	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	492	492	1442	1442
d_b, Bicycle Delay [s]	68.25	68.25	9.35	9.35
I_b,int, Bicycle LOS Score for Intersection	1.700	1.678	2.162	2.233
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Durfee Ave/ Ramona Blvd

Control Type:	Two-way stop	Delay (sec / veh):	36.5
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.236

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	70.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	35	84	642	65	117	633
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	84	642	65	117	633
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	21	161	16	29	158
Total Analysis Volume [veh/h]	35	84	642	65	117	633
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.24	0.13	0.01	0.00	0.13	0.01
d_M, Delay for Movement [s/veh]	36.54	11.44	0.00	0.00	9.67	0.00
Movement LOS	E	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.87	0.45	0.00	0.00	0.45	0.00
95th-Percentile Queue Length [ft/ln]	21.78	11.20	0.00	0.00	11.34	0.00
d_A, Approach Delay [s/veh]	18.82		0.00		1.51	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	2.14					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 3: Durfee Ave/ Kerwood St

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.120

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	70.00	100.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	76	123	17	16	161	12	6	19	35	10	17	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	76	123	17	16	161	12	6	19	35	10	17	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	31	4	4	40	3	2	5	9	3	4	1
Total Analysis Volume [veh/h]	76	123	17	16	161	12	6	19	35	10	17	5
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	661	728	753	657	724	738	712	669
Degree of Utilization, x	0.12	0.10	0.09	0.02	0.12	0.12	0.08	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.39	0.32	0.31	0.07	0.41	0.40	0.28	0.15
95th-Percentile Queue Length [ft]	9.70	7.95	7.65	1.87	10.13	9.91	6.88	3.76
Approach Delay [s/veh]	8.35			8.29			8.52	8.66
Approach LOS	A			A			A	A
Intersection Delay [s/veh]	8.37							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: Durfee Ave/ Deana St

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.169

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	75.00	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	79	205	30	12	192	20	15	22	56	23	22	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	205	30	12	192	20	15	22	56	23	22	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	51	8	3	48	5	4	6	14	6	6	2
Total Analysis Volume [veh/h]	79	205	30	12	192	20	15	22	56	23	22	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	633	694	719	623	683	701	671	630
Degree of Utilization, x	0.12	0.17	0.16	0.02	0.16	0.15	0.14	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.43	0.61	0.58	0.06	0.55	0.53	0.48	0.28
95th-Percentile Queue Length [ft]	10.63	15.15	14.54	1.47	13.68	13.28	11.99	7.02
Approach Delay [s/veh]	8.91			8.83			9.23	9.26
Approach LOS	A			A			A	A
Intersection Delay [s/veh]	8.96							
Intersection LOS	A							

APPENDIX E
Existing with-Project LOS Worksheets

Vistro File: J:\...\MacLaren_TIS.vistro
Report File: J:\...\EXWPROJAM.pdf

Scenario 1 EXAM
6/21/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gilman Rd/ Ramona Blvd	Signalized	HCM 6th Edition	NB Right	0.367	18.0	B
2	Durfee Ave/ Ramona Blvd	Two-way stop	HCM 6th Edition	NB Left	0.402	66.7	F
3	Durfee Ave/ Kerwood St	All-way stop	HCM 6th Edition	WB Left	0.346	10.6	B
4	Durfee Ave/ Deana St	All-way stop	HCM 6th Edition	EB Right	0.314	10.8	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gilman Rd/ Ramona Blvd

Control Type:	Signalized	Delay (sec / veh):	18.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.367

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	125.00	100.00	100.00	70.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	56	1	40	0	0	47	2	552	66	43	862	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	20	0	0	0	0	30	5	50	33	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	1	60	0	0	47	2	582	71	93	895	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	0	15	0	0	12	1	146	18	23	224	1
Total Analysis Volume [veh/h]	59	1	60	0	0	47	2	582	71	93	895	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing major street [	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing minor stree	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing minor street [	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	59	0	0	59	0	0	181	0	0	181	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C	L	C	C
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	55	55	177	177	177	177	177	177
g / C, Green / Cycle	0.23	0.23	0.74	0.74	0.74	0.74	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.09	0.03	0.00	0.20	0.20	0.13	0.27	0.27
s, saturation flow rate [veh/h]	1366	1431	558	1683	1620	701	1683	1682
c, Capacity [veh/h]	335	343	384	1241	1195	496	1241	1240
d1, Uniform Delay [s]	77.31	73.72	16.15	10.30	10.31	15.59	11.27	11.27
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.96	0.83	0.02	0.53	0.55	0.84	0.82	0.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.14	0.01	0.27	0.27	0.19	0.36	0.36
d, Delay for Lane Group [s/veh]	80.26	74.56	16.18	10.83	10.86	16.43	12.09	12.09
Lane Group LOS	F	E	B	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.61	2.44	0.05	6.23	6.03	2.21	9.22	9.22
50th-Percentile Queue Length [ft/ln]	165.23	60.91	1.15	155.74	150.81	55.13	230.60	230.42
95th-Percentile Queue Length [veh/ln]	10.83	4.39	0.08	10.32	10.06	3.97	14.20	14.20
95th-Percentile Queue Length [ft/ln]	270.63	109.64	2.06	258.07	251.51	99.24	355.12	354.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	80.26	80.26	80.26	74.56	74.56	74.56	16.18	10.84	10.86	16.43	12.09	12.09
Movement LOS	F	F	F	E	E	E	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	80.26			74.56			10.86			12.50		
Approach LOS	F			E			B			B		
d_I, Intersection Delay [s/veh]	18.01											
Intersection LOS	B											
Intersection V/C	0.367											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	0.00	111.17	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.032	0.000	2.852	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	458	458	1475	1475
d_b, Bicycle Delay [s]	71.30	71.30	8.27	8.27
I_b,int, Bicycle LOS Score for Intersection	1.758	1.637	2.100	2.376
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Durfee Ave/ Ramona Blvd

Control Type:	Two-way stop	Delay (sec / veh):	66.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.402

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	70.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	17	81	584	67	179	749
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	30	5	35	33	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	111	589	102	212	752
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	28	147	26	53	188
Total Analysis Volume [veh/h]	38	111	589	102	212	752
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.40	0.17	0.01	0.00	0.24	0.01
d_M, Delay for Movement [s/veh]	66.70	11.67	0.00	0.00	10.23	0.00
Movement LOS	F	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	1.64	0.61	0.00	0.00	0.92	0.00
95th-Percentile Queue Length [ft/ln]	40.97	15.29	0.00	0.00	22.88	0.00
d_A, Approach Delay [s/veh]	25.70		0.00		2.25	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	3.33					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Durfee Ave/ Kerwood St

Control Type:	All-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.346

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	70.00	100.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	61	105	14	33	178	14	10	76	53	126	66	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	44	11	12	56	0	0	5	2	0	3	7
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	149	25	45	234	14	10	81	55	126	69	12
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	37	6	11	59	4	3	20	14	32	17	3
Total Analysis Volume [veh/h]	62	149	25	45	234	14	10	81	55	126	69	12
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	546	592	613	552	599	608	618	599
Degree of Utilization, x	0.11	0.15	0.14	0.08	0.21	0.20	0.24	0.35

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.38	0.51	0.49	0.26	0.77	0.76	0.92	1.54
95th-Percentile Queue Length [ft]	9.55	12.82	12.33	6.62	19.32	19.00	22.89	38.44
Approach Delay [s/veh]	9.81			10.14			10.63	12.16
Approach LOS	A			B			B	B
Intersection Delay [s/veh]	10.61							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Durfee Ave/ Deana St

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.314

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	75.00	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	36	171	38	15	300	46	21	79	91	47	53	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	34	0	0	20	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	205	38	15	320	46	21	79	91	47	53	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	51	10	4	80	12	5	20	23	12	13	4
Total Analysis Volume [veh/h]	36	205	38	15	320	46	21	79	91	47	53	17
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	549	595	618	560	608	626	609	573
Degree of Utilization, x	0.07	0.20	0.20	0.03	0.30	0.29	0.31	0.20

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.21	0.76	0.73	0.08	1.26	1.21	1.34	0.76
95th-Percentile Queue Length [ft]	5.25	19.00	18.15	2.06	31.57	30.28	33.45	19.02
Approach Delay [s/veh]	10.07			10.91			11.60	10.90
Approach LOS	B			B			B	B
Intersection Delay [s/veh]	10.80							
Intersection LOS	B							

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Report File: J:\...\EXWPROJPM.pdf

Scenario 2 EXPM
6/21/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gilman Rd/ Ramona Blvd	Signalized	HCM 6th Edition	NB Right	0.326	19.8	B
2	Durfee Ave/ Ramona Blvd	Two-way stop	HCM 6th Edition	NB Left	0.483	55.2	F
3	Durfee Ave/ Kerwood St	All-way stop	HCM 6th Edition	NB Left	0.147	8.7	A
4	Durfee Ave/ Deana St	All-way stop	HCM 6th Edition	WB Left	0.185	9.1	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gilman Rd/ Ramona Blvd

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.326

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	125.00	100.00	100.00	70.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	24	0	61	0	0	72	0	701	29	93	720	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	28	0	0	0	0	41	3	30	20	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	0	89	0	0	72	0	742	32	123	740	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	22	0	0	18	0	186	8	31	185	1
Total Analysis Volume [veh/h]	28	0	89	0	0	72	0	742	32	123	740	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major stree		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing major street		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing minor stree		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing minor street		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis	Permis
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	63	0	0	63	0	0	177	0	0	177	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C	L	C	C
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	59	173	173	173	173	173	173
g / C, Green / Cycle	0.25	0.25	0.72	0.72	0.72	0.72	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.08	0.05	0.00	0.23	0.23	0.20	0.22	0.22
s, saturation flow rate [veh/h]	1405	1431	645	1683	1659	627	1683	1681
c, Capacity [veh/h]	364	367	439	1213	1196	424	1213	1211
d1, Uniform Delay [s]	73.91	71.87	0.00	12.17	12.17	20.63	12.00	12.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.32	1.20	0.00	0.70	0.71	1.73	0.65	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.20	0.00	0.32	0.32	0.29	0.31	0.31
d, Delay for Lane Group [s/veh]	76.24	73.06	0.00	12.87	12.88	22.36	12.66	12.66
Lane Group LOS	E	E	A	B	B	C	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	6.24	3.71	0.00	8.21	8.10	3.55	7.72	7.71
50th-Percentile Queue Length [ft/ln]	155.99	92.87	0.00	205.29	202.57	88.86	193.12	192.86
95th-Percentile Queue Length [veh/ln]	10.34	6.69	0.00	12.91	12.77	6.40	12.28	12.27
95th-Percentile Queue Length [ft/ln]	258.40	167.17	0.00	322.78	319.27	159.94	307.07	306.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.24	76.24	76.24	73.06	73.06	73.06	0.00	12.88	12.88	22.36	12.66	12.66
Movement LOS	E	E	E	E	E	E	A	B	B	C	B	B
d_A, Approach Delay [s/veh]	76.24			73.06			12.88			14.04		
Approach LOS	E			E			B			B		
d_I, Intersection Delay [s/veh]	19.85											
Intersection LOS	B											
Intersection V/C	0.326											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	0.00	111.17	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.069	0.000	2.801	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	492	492	1442	1442
d_b, Bicycle Delay [s]	68.25	68.25	9.35	9.35
l_b,int, Bicycle LOS Score for Intersection	1.753	1.678	2.198	2.274
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Durfee Ave/ Ramona Blvd

Control Type:	Two-way stop	Delay (sec / veh):	55.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	70.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	35	84	642	65	117	633
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	29	41	3	21	20	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	125	645	86	137	637
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	31	161	22	34	159
Total Analysis Volume [veh/h]	64	125	645	86	137	637
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.48	0.20	0.01	0.00	0.16	0.01
d_M, Delay for Movement [s/veh]	55.20	12.10	0.00	0.00	9.92	0.00
Movement LOS	F	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.22	0.73	0.00	0.00	0.56	0.00
95th-Percentile Queue Length [ft/ln]	55.57	18.30	0.00	0.00	13.95	0.00
d_A, Approach Delay [s/veh]	26.70		0.00		1.76	
Approach LOS	D		A		A	
d_I, Intersection Delay [s/veh]	3.78					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Durfee Ave/ Kerwood St

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.147

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	70.00	100.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	76	123	17	16	161	12	6	19	35	10	17	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	60	7	7	34	0	0	3	1	0	4	10
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	78	183	24	23	195	12	6	22	36	10	21	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	46	6	6	49	3	2	6	9	3	5	4
Total Analysis Volume [veh/h]	78	183	24	23	195	12	6	22	36	10	21	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	648	712	736	642	705	717	681	658
Degree of Utilization, x	0.12	0.15	0.14	0.04	0.15	0.14	0.09	0.07

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.41	0.51	0.49	0.11	0.51	0.50	0.31	0.22
95th-Percentile Queue Length [ft]	10.21	12.67	12.20	2.78	12.82	12.58	7.75	5.62
Approach Delay [s/veh]	8.64			8.62			8.84	8.88
Approach LOS	A			A			A	A
Intersection Delay [s/veh]	8.67							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: Durfee Ave/ Deana St

Control Type:	All-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.185

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	75.00	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	79	205	30	12	192	20	15	22	56	23	22	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	0	28	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	79	225	30	12	220	20	15	22	56	23	22	9
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	56	8	3	55	5	4	6	14	6	6	2
Total Analysis Volume [veh/h]	79	225	30	12	220	20	15	22	56	23	22	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	629	689	712	620	679	694	660	619
Degree of Utilization, x	0.13	0.18	0.18	0.02	0.18	0.17	0.14	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.43	0.67	0.65	0.06	0.64	0.62	0.49	0.29
95th-Percentile Queue Length [ft]	10.71	16.86	16.22	1.48	15.96	15.54	12.22	7.14
Approach Delay [s/veh]	9.04			9.03			9.35	9.37
Approach LOS	A			A			A	A
Intersection Delay [s/veh]	9.10							
Intersection LOS	A							

APPENDIX F
Future Pre-Project LOS Worksheets

Vistro File: J:\...\MacLaren_TIS_v3.vistro
Report File: J:\...\Future_Without_Project_AM_PHF_v2.pdf

Scenario 5 Future_Without_Project_AM
8/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gilman Rd/ Ramona Blvd	Signalized	HCM 6th Edition	NB Left	0.376	17.7	B
2	Durfee Ave/ Ramona Blvd	Two-way stop	HCM 6th Edition	NB Left	0.226	54.7	F
3	Durfee Ave/ Kerwood St	All-way stop	HCM 6th Edition	WB Left	0.358	10.5	B
4	Durfee Ave/ Deana St	All-way stop	HCM 6th Edition	EB Right	0.349	11.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gilman Rd/ Ramona Blvd

Control Type:	Signalized	Delay (sec / veh):	17.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.376

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	125.00	100.00	100.00	70.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	56	1	40	0	0	47	2	552	66	43	862	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	2	0	0	0	0	7	-3	-14	-5	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	60	1	44	0	0	49	2	587	66	31	900	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	0	12	0	0	13	1	154	17	8	237	1
Total Analysis Volume [veh/h]	63	1	46	0	0	52	2	618	69	33	947	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	59	0	0	59	0	0	181	0	0	181	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C	L	C	C
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	55	55	177	177	177	177	177	177
g / C, Green / Cycle	0.23	0.23	0.74	0.74	0.74	0.74	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.08	0.04	0.00	0.21	0.21	0.05	0.28	0.28
s, saturation flow rate [veh/h]	1354	1431	532	1683	1624	680	1683	1682
c, Capacity [veh/h]	334	343	363	1241	1198	479	1241	1240
d1, Uniform Delay [s]	76.65	73.99	16.84	10.43	10.44	14.56	11.52	11.52
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.62	0.94	0.03	0.57	0.59	0.28	0.90	0.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.15	0.01	0.28	0.28	0.07	0.38	0.38
d, Delay for Lane Group [s/veh]	79.27	74.93	16.87	11.00	11.03	14.84	12.41	12.41
Lane Group LOS	E	E	B	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	6.00	2.71	0.05	6.63	6.43	0.72	9.97	9.96
50th-Percentile Queue Length [ft/ln]	149.93	67.66	1.18	165.81	160.81	18.07	249.30	249.12
95th-Percentile Queue Length [veh/ln]	10.01	4.87	0.08	10.86	10.59	1.30	15.15	15.14
95th-Percentile Queue Length [ft/ln]	250.33	121.80	2.12	271.40	264.80	32.52	378.77	378.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	79.27	79.27	79.27	74.93	74.93	74.93	16.87	11.01	11.03	14.84	12.41	12.41
Movement LOS	E	E	E	E	E	E	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	79.27			74.93			11.03			12.49		
Approach LOS	E			E			B			B		
d_I, Intersection Delay [s/veh]	17.72											
Intersection LOS	B											
Intersection V/C	0.376											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	0.00	111.17	0.00
I_p,int, Pedestrian LOS Score for Intersection	1.911	0.000	2.873	0.000
Crosswalk LOS	A	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	458	458	1475	1475
d_b, Bicycle Delay [s]	71.30	71.30	8.27	8.27
I_b,int, Bicycle LOS Score for Intersection	1.741	1.645	2.128	2.370
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Durfee Ave/ Ramona Blvd

Control Type:	Two-way stop	Delay (sec / veh):	54.7
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.226

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	70.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	17	81	584	67	179	749
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	1	3	-8	-10	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	20	86	616	62	178	791
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	23	162	16	47	208
Total Analysis Volume [veh/h]	21	91	648	65	187	833
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.14	0.01	0.00	0.21	0.01
d_M, Delay for Movement [s/veh]	54.72	11.56	0.00	0.00	10.17	0.00
Movement LOS	F	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.80	0.49	0.00	0.00	0.80	0.00
95th-Percentile Queue Length [ft/ln]	20.11	12.34	0.00	0.00	19.97	0.00
d_A, Approach Delay [s/veh]	19.65		0.00		1.86	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	2.22					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Durfee Ave/ Kerwood St

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.358

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	70.00	100.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	61	105	14	33	178	14	10	76	53	126	66	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	-5	-13	-4	0	0	0	0	1	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	111	10	22	183	15	11	80	56	133	69	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	29	3	6	48	4	3	21	15	35	18	2
Total Analysis Volume [veh/h]	67	117	11	23	193	16	12	84	59	140	73	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	549	596	608	554	601	612	637	615
Degree of Utilization, x	0.12	0.11	0.11	0.04	0.17	0.17	0.24	0.36

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.41	0.36	0.35	0.13	0.63	0.61	0.95	1.62
95th-Percentile Queue Length [ft]	10.34	8.97	8.77	3.24	15.63	15.30	23.77	40.49
Approach Delay [s/veh]	9.65			9.83			10.47	12.09
Approach LOS	A			A			B	B
Intersection Delay [s/veh]	10.53							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Durfee Ave/ Deana St

Control Type:	All-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.349

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	75.00	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	36	171	38	15	300	46	21	79	91	47	53	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-13	0	0	2	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	167	40	16	317	48	22	83	96	49	56	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	44	11	4	83	13	6	22	25	13	15	5
Total Analysis Volume [veh/h]	40	176	42	17	334	51	23	87	101	52	59	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	536	579	606	550	597	617	605	568
Degree of Utilization, x	0.07	0.19	0.18	0.03	0.32	0.31	0.35	0.23

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.24	0.69	0.65	0.10	1.39	1.33	1.56	0.88
95th-Percentile Queue Length [ft]	6.04	17.19	16.29	2.39	34.75	33.24	39.00	21.94
Approach Delay [s/veh]	10.12			11.29			12.12	11.22
Approach LOS	B			B			B	B
Intersection Delay [s/veh]	11.16							
Intersection LOS	B							

Vistro File: J:\...\MacLaren_TIS_v3.vistro
Report File: J:\...\Future_Without_Project_PM_PHF_v2.pdf

Scenario 6 Future_Without_Project_PM
8/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gilman Rd/ Ramona Blvd	Signalized	HCM 6th Edition	SB Right	0.309	18.7	B
2	Durfee Ave/ Ramona Blvd	Two-way stop	HCM 6th Edition	NB Left	0.283	49.0	E
3	Durfee Ave/ Kerwood St	All-way stop	HCM 6th Edition	NB Left	0.135	8.5	A
4	Durfee Ave/ Deana St	All-way stop	HCM 6th Edition	EB Right	0.195	9.2	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gilman Rd/ Ramona Blvd

Control Type:	Signalized	Delay (sec / veh):	18.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.309

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	125.00	100.00	100.00	70.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	24	0	61	0	0	72	0	701	29	93	720	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-2	0	-13	0	0	0	0	2	1	6	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	0	51	0	0	76	0	738	31	104	770	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	0	13	0	0	20	0	194	8	27	203	1
Total Analysis Volume [veh/h]	24	0	54	0	0	80	0	777	33	109	811	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing m		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	63	0	0	63	0	0	177	0	0	177	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C	L	C	C
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	59	173	173	173	173	173	173
g / C, Green / Cycle	0.25	0.25	0.72	0.72	0.72	0.72	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.06	0.06	0.00	0.24	0.24	0.18	0.24	0.24
s, saturation flow rate [veh/h]	1401	1431	604	1683	1659	606	1683	1681
c, Capacity [veh/h]	364	367	406	1213	1196	408	1213	1212
d1, Uniform Delay [s]	71.88	72.30	0.00	12.34	12.34	20.78	12.34	12.34
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.34	1.36	0.00	0.75	0.76	1.60	0.75	0.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.22	0.00	0.34	0.34	0.27	0.34	0.34
d, Delay for Lane Group [s/veh]	73.23	73.66	0.00	13.09	13.11	22.38	13.09	13.09
Lane Group LOS	E	E	A	B	B	C	B	B
Critical Lane Group	No	Yes	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	4.02	4.16	0.00	8.72	8.60	3.14	8.70	8.69
50th-Percentile Queue Length [ft/ln]	100.62	103.88	0.00	217.95	215.04	78.43	217.55	217.27
95th-Percentile Queue Length [veh/ln]	7.24	7.48	0.00	13.56	13.41	5.65	13.54	13.53
95th-Percentile Queue Length [ft/ln]	181.12	186.98	0.00	339.00	335.29	141.18	338.49	338.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.23	73.23	73.23	73.66	73.66	73.66	0.00	13.10	13.11	22.38	13.09	13.09
Movement LOS	E	E	E	E	E	E	A	B	B	C	B	B
d_A, Approach Delay [s/veh]	73.23			73.66			13.10			14.18		
Approach LOS	E			E			B			B		
d_I, Intersection Delay [s/veh]	18.67											
Intersection LOS	B											
Intersection V/C	0.309											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	0.00	111.17	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.023	0.000	2.814	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	492	492	1442	1442
d_b, Bicycle Delay [s]	68.25	68.25	9.35	9.35
l_b,int, Bicycle LOS Score for Intersection	1.688	1.692	2.228	2.321
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Durfee Ave/ Ramona Blvd

Control Type:	Two-way stop	Delay (sec / veh):	49.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.283

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	70.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	35	84	642	65	117	633
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	-7	-9	12	4	4	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	30	79	686	72	127	672
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	21	181	19	33	177
Total Analysis Volume [veh/h]	32	83	722	76	134	707
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.14	0.01	0.00	0.16	0.01
d_M, Delay for Movement [s/veh]	48.98	11.95	0.00	0.00	10.24	0.00
Movement LOS	E	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	1.07	0.48	0.00	0.00	0.58	0.00
95th-Percentile Queue Length [ft/ln]	26.79	11.94	0.00	0.00	14.55	0.00
d_A, Approach Delay [s/veh]	22.26		0.00		1.63	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	2.24					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 3: Durfee Ave/ Kerwood St

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.135

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	70.00	100.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	76	123	17	16	161	12	6	19	35	10	17	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	-4	2	6	2	0	0	0	0	-4	0	-12
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	125	20	23	171	13	6	20	37	7	18	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	33	5	6	45	3	2	5	10	2	5	0
Total Analysis Volume [veh/h]	84	132	21	24	180	14	6	21	39	7	19	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	658	724	753	655	720	735	701	648
Degree of Utilization, x	0.13	0.11	0.10	0.04	0.13	0.13	0.09	0.04

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.44	0.35	0.34	0.11	0.46	0.45	0.31	0.13
95th-Percentile Queue Length [ft]	10.93	8.83	8.46	2.85	11.60	11.34	7.76	3.13
Approach Delay [s/veh]	8.44			8.41			8.67	8.80
Approach LOS	A			A			A	A
Intersection Delay [s/veh]	8.47							
Intersection LOS	A							

Generated with PTV VISTRO

Version 2022 (SP 0-1)

Intersection Level Of Service Report

Intersection 4: Durfee Ave/ Deana St

Control Type:	All-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.195

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	75.00	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	79	205	30	12	192	20	15	22	56	23	22	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	0	-13	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	221	32	13	189	21	16	23	59	24	23	9
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	58	8	3	50	6	4	6	16	6	6	2
Total Analysis Volume [veh/h]	87	233	34	14	199	22	17	24	62	25	24	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	625	685	709	612	670	688	658	616
Degree of Utilization, x	0.14	0.19	0.19	0.02	0.16	0.16	0.16	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.48	0.72	0.69	0.07	0.59	0.57	0.55	0.31
95th-Percentile Queue Length [ft]	12.04	17.97	17.23	1.75	14.70	14.25	13.80	7.76
Approach Delay [s/veh]	9.16			9.02			9.48	9.45
Approach LOS	A			A			A	A
Intersection Delay [s/veh]	9.18							
Intersection LOS	A							

APPENDIX G
Future Post-Project LOS Worksheets

Vistro File: J:\...\MacLaren_TIS_v3.vistro
Report File: J:\...\Future_With_Project_AM_PHF_v2.pdf

Scenario 7 Future_With_Project_AM
8/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gilman Rd/ Ramona Blvd	Signalized	HCM 6th Edition	NB Right	0.403	18.6	B
2	Durfee Ave/ Ramona Blvd	Two-way stop	HCM 6th Edition	NB Left	0.573	103.8	F
3	Durfee Ave/ Kerwood St	All-way stop	HCM 6th Edition	WB Left	0.393	11.2	B
4	Durfee Ave/ Deana St	All-way stop	HCM 6th Edition	EB Right	0.356	11.5	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gilman Rd/ Ramona Blvd

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	125.00	100.00	100.00	70.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	56	1	40	0	0	47	2	552	66	43	862	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	0	22	0	0	0	0	37	2	35	28	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	1	64	0	0	49	2	617	71	80	933	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	0	17	0	0	13	1	162	19	21	246	1
Total Analysis Volume [veh/h]	65	1	67	0	0	52	2	649	75	84	982	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	59	0	0	59	0	0	181	0	0	181	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C	L	C	C
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	55	55	177	177	177	177	177	177
g / C, Green / Cycle	0.23	0.23	0.74	0.74	0.74	0.74	0.74	0.74
(v / s)_i Volume / Saturation Flow Rate	0.10	0.04	0.00	0.22	0.22	0.13	0.29	0.29
s, saturation flow rate [veh/h]	1368	1431	515	1683	1623	657	1683	1682
c, Capacity [veh/h]	336	343	349	1241	1197	460	1241	1240
d1, Uniform Delay [s]	78.04	73.99	17.33	10.58	10.59	16.34	11.69	11.69
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.47	0.94	0.03	0.61	0.64	0.87	0.95	0.95
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.15	0.01	0.30	0.30	0.18	0.40	0.40
d, Delay for Lane Group [s/veh]	81.51	74.93	17.36	11.19	11.23	17.21	12.64	12.64
Lane Group LOS	F	E	B	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.41	2.71	0.05	7.10	6.87	2.05	10.49	10.49
50th-Percentile Queue Length [ft/ln]	185.35	67.66	1.20	177.47	171.81	51.15	262.35	262.17
95th-Percentile Queue Length [veh/ln]	11.88	4.87	0.09	11.47	11.17	3.68	15.81	15.80
95th-Percentile Queue Length [ft/ln]	296.99	121.80	2.15	286.71	279.29	92.08	395.17	394.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	81.51	81.51	81.51	74.93	74.93	74.93	17.36	11.21	11.23	17.21	12.64	12.64
Movement LOS	F	F	F	E	E	E	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	81.51			74.93			11.23			13.00		
Approach LOS	F			E			B			B		
d_I, Intersection Delay [s/veh]	18.58											
Intersection LOS	B											
Intersection V/C	0.403											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	0.00	111.17	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.023	0.000	2.888	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	458	458	1475	1475
d_b, Bicycle Delay [s]	71.30	71.30	8.27	8.27
l_b,int, Bicycle LOS Score for Intersection	1.779	1.645	2.159	2.441
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Durfee Ave/ Ramona Blvd

Control Type:	Two-way stop	Delay (sec / veh):	103.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.573

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	70.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	17	81	584	67	179	749
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	23	31	7	26	24	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	41	116	620	96	212	794
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	31	163	25	56	209
Total Analysis Volume [veh/h]	43	122	653	101	223	836
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.57	0.20	0.01	0.00	0.26	0.01
d_M, Delay for Movement [s/veh]	103.76	12.21	0.00	0.00	10.72	0.00
Movement LOS	F	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	2.48	0.73	0.00	0.00	1.05	0.00
95th-Percentile Queue Length [ft/ln]	62.07	18.14	0.00	0.00	26.24	0.00
d_A, Approach Delay [s/veh]	36.07		0.00		2.26	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	4.22					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Durfee Ave/ Kerwood St

Control Type:	All-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	70.00	100.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	61	105	14	33	178	14	10	76	53	126	66	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	45	6	-2	52	0	0	5	2	1	3	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	65	155	21	33	239	15	11	85	58	133	72	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	41	6	9	63	4	3	22	15	35	19	4
Total Analysis Volume [veh/h]	68	163	22	35	252	16	12	89	61	140	76	15
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	531	574	589	536	580	588	603	587
Degree of Utilization, x	0.13	0.16	0.16	0.07	0.23	0.23	0.27	0.39

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.44	0.57	0.55	0.21	0.89	0.87	1.08	1.87
95th-Percentile Queue Length [ft]	10.95	14.29	13.84	5.22	22.19	21.80	27.05	46.64
Approach Delay [s/veh]	10.18			10.60			11.16	13.04
Approach LOS	B			B			B	B
Intersection Delay [s/veh]	11.18							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Durfee Ave/ Deana St

Control Type:	All-way stop	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.356

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	75.00	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	36	171	38	15	300	46	21	79	91	47	53	17
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	0	22	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	200	40	16	337	48	22	83	96	49	56	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	53	11	4	89	13	6	22	25	13	15	5
Total Analysis Volume [veh/h]	40	211	42	17	355	51	23	87	101	52	59	19
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	530	573	596	543	589	607	592	556
Degree of Utilization, x	0.08	0.22	0.21	0.03	0.34	0.33	0.36	0.23

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.24	0.84	0.80	0.10	1.53	1.46	1.61	0.90
95th-Percentile Queue Length [ft]	6.09	20.92	19.94	2.42	38.21	36.62	40.18	22.51
Approach Delay [s/veh]	10.48			11.69			12.41	11.44
Approach LOS	B			B			B	B
Intersection Delay [s/veh]	11.47							
Intersection LOS	B							

Vistro File: J:\...\MacLaren_TIS_v3.vistro
Report File: J:\...\Future_With_Project_PM_PHF_v2.pdf

Scenario 8 Future_With_Project_PM
8/8/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Gilman Rd/ Ramona Blvd	Signalized	HCM 6th Edition	NB Right	0.345	19.9	B
2	Durfee Ave/ Ramona Blvd	Two-way stop	HCM 6th Edition	NB Left	0.612	86.3	F
3	Durfee Ave/ Kerwood St	All-way stop	HCM 6th Edition	NB Left	0.163	8.8	A
4	Durfee Ave/ Deana St	All-way stop	HCM 6th Edition	EB Right	0.212	9.3	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Gilman Rd/ Ramona Blvd

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	125.00	100.00	100.00	70.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			No			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	24	0	61	0	0	72	0	701	29	93	720	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	14	0	0	0	0	44	4	36	34	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	26	0	78	0	0	76	0	780	34	134	790	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	0	21	0	0	20	0	205	9	35	208	1
Total Analysis Volume [veh/h]	27	0	82	0	0	80	0	821	36	141	832	3
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	240
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	4	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	10	0	0	10	0	0	10	0	0	10	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	63	0	0	63	0	0	177	0	0	177	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C	L	C	C
C, Cycle Length [s]	240	240	240	240	240	240	240	240
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	59	59	173	173	173	173	173	173
g / C, Green / Cycle	0.25	0.25	0.72	0.72	0.72	0.72	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.08	0.06	0.00	0.26	0.26	0.24	0.25	0.25
s, saturation flow rate [veh/h]	1408	1431	592	1683	1658	580	1683	1681
c, Capacity [veh/h]	365	367	397	1213	1195	387	1213	1212
d1, Uniform Delay [s]	73.45	72.30	0.00	12.58	12.58	23.36	12.44	12.44
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.09	1.36	0.00	0.82	0.83	2.64	0.78	0.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.22	0.00	0.36	0.36	0.36	0.34	0.34
d, Delay for Lane Group [s/veh]	75.54	73.66	0.00	13.40	13.41	26.00	13.22	13.22
Lane Group LOS	E	E	A	B	B	C	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	5.76	4.16	0.00	9.41	9.27	4.51	9.00	8.99
50th-Percentile Queue Length [ft/ln]	144.02	103.88	0.00	235.13	231.83	112.84	225.04	224.76
95th-Percentile Queue Length [veh/ln]	9.70	7.48	0.00	14.43	14.27	8.00	13.92	13.91
95th-Percentile Queue Length [ft/ln]	242.43	186.98	0.00	360.86	356.69	199.94	348.05	347.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	75.54	75.54	75.54	73.66	73.66	73.66	0.00	13.40	13.41	26.00	13.22	13.22
Movement LOS	E	E	E	E	E	E	A	B	B	C	B	B
d_A, Approach Delay [s/veh]	75.54			73.66			13.40			15.06		
Approach LOS	E			E			B			B		
d_I, Intersection Delay [s/veh]	19.94											
Intersection LOS	B											
Intersection V/C	0.345											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	0.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	111.17	0.00	111.17	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.101	0.000	2.829	0.000
Crosswalk LOS	B	F	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	492	492	1442	1442
d_b, Bicycle Delay [s]	68.25	68.25	9.35	9.35
l_b,int, Bicycle LOS Score for Intersection	1.739	1.692	2.267	2.365
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Durfee Ave/ Ramona Blvd

Control Type:	Two-way stop	Delay (sec / veh):	86.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	70.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	49.21	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		No		No	

Volumes

Name						
Base Volume Input [veh/h]	35	84	642	65	117	633
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	21	33	15	25	24	11
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	121	689	93	147	676
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	32	181	24	39	178
Total Analysis Volume [veh/h]	61	127	725	98	155	712
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.61	0.22	0.01	0.00	0.19	0.01
d_M, Delay for Movement [s/veh]	86.30	12.78	0.00	0.00	10.56	0.00
Movement LOS	F	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	2.94	0.81	0.00	0.00	0.71	0.00
95th-Percentile Queue Length [ft/ln]	73.51	20.31	0.00	0.00	17.80	0.00
d_A, Approach Delay [s/veh]	36.63		0.00		1.89	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	4.54					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 3: Durfee Ave/ Kerwood St

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.163

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	70.00	100.00	100.00	70.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	76	123	17	16	161	12	6	19	35	10	17	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	56	9	13	36	0	0	3	1	-4	4	-3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	185	27	30	205	13	6	23	38	7	22	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	49	7	8	54	3	2	6	10	2	6	1
Total Analysis Volume [veh/h]	86	195	28	32	216	14	6	24	40	7	23	2
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	647	711	736	642	704	717	672	629
Degree of Utilization, x	0.13	0.16	0.15	0.05	0.16	0.16	0.10	0.05

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.46	0.55	0.53	0.16	0.58	0.57	0.35	0.16
95th-Percentile Queue Length [ft]	11.43	13.85	13.29	3.93	14.52	14.23	8.67	4.01
Approach Delay [s/veh]	8.73			8.73			8.97	9.03
Approach LOS	A			A			A	A
Intersection Delay [s/veh]	8.77							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: Durfee Ave/ Deana St

Control Type:	All-way stop	Delay (sec / veh):	9.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.212

Intersection Setup

Name											
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	75.00	100.00	100.00	65.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	79	205	30	12	192	20	15	22	56	23	22	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	0	0	15	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	83	241	32	13	217	21	16	23	59	24	23	9
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	63	8	3	57	6	4	6	16	6	6	2
Total Analysis Volume [veh/h]	87	254	34	14	228	22	17	24	62	25	24	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	621	680	702	609	666	682	647	606
Degree of Utilization, x	0.14	0.21	0.21	0.02	0.19	0.18	0.16	0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.49	0.80	0.77	0.07	0.69	0.67	0.56	0.32
95th-Percentile Queue Length [ft]	12.13	19.92	19.15	1.76	17.16	16.69	14.08	7.90
Approach Delay [s/veh]	9.32			9.23			9.61	9.57
Approach LOS	A			A			A	A
Intersection Delay [s/veh]	9.35							
Intersection LOS	A							

APPENDIX H
Traffic Signal Warrant Analysis Worksheets

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street:	Ramona Boulevard
Minor Street:	Durfee Avenue
Scenario:	Future + Project

SUMMARY OF RESULTS

		Warrant Satisfy?
Warrant 1	Eight-Hour Vehicle Volume	No
Warrant 2	Four-Hour Vehicle Volume	No
Warrant 3	Peak Hour	**YES**
Warrant 4	Pedestrian Volume	No
Warrant 5	School Crossing	N/A
Warrant 6	Coordinated Signal System	N/A
Warrant 7	Crash Experience	N/A
Warrant 8	Roadway Network	N/A
Warrant 9	Intersection Near a Grade Crossing	N/A

INTERSECTION: Ramona Boulevard & Durfee Avenue

Figure 4C-101 (CA). Traffic Signal Warrants Worksheets (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* **YES** ☐ **NO** ☒

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	2pm - 3pm	3pm - 4pm	4pm - 5pm	5pm - 6pm	Hour
Both Approaches - Major Street		x					
Higher Approach - Minor Street		x					

*All plotted points fall above the curves in Figure 4C-1. (Urban Areas)	YES ☐	NO ☒
OR, All plotted points fall above the curves in Figure 4C-2. (Rural Areas)	YES ☐	NO ☒

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

SATISFIED **YES** ☒ **NO** ☐

PART A

SATISFIED **YES** ☐ **NO** ☒

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1	The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	YES ☐ NO ☒ *2 vehicle-hours of delay*
2	The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	YES ☒ NO ☐
3	The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	YES ☒ NO ☐

PART B

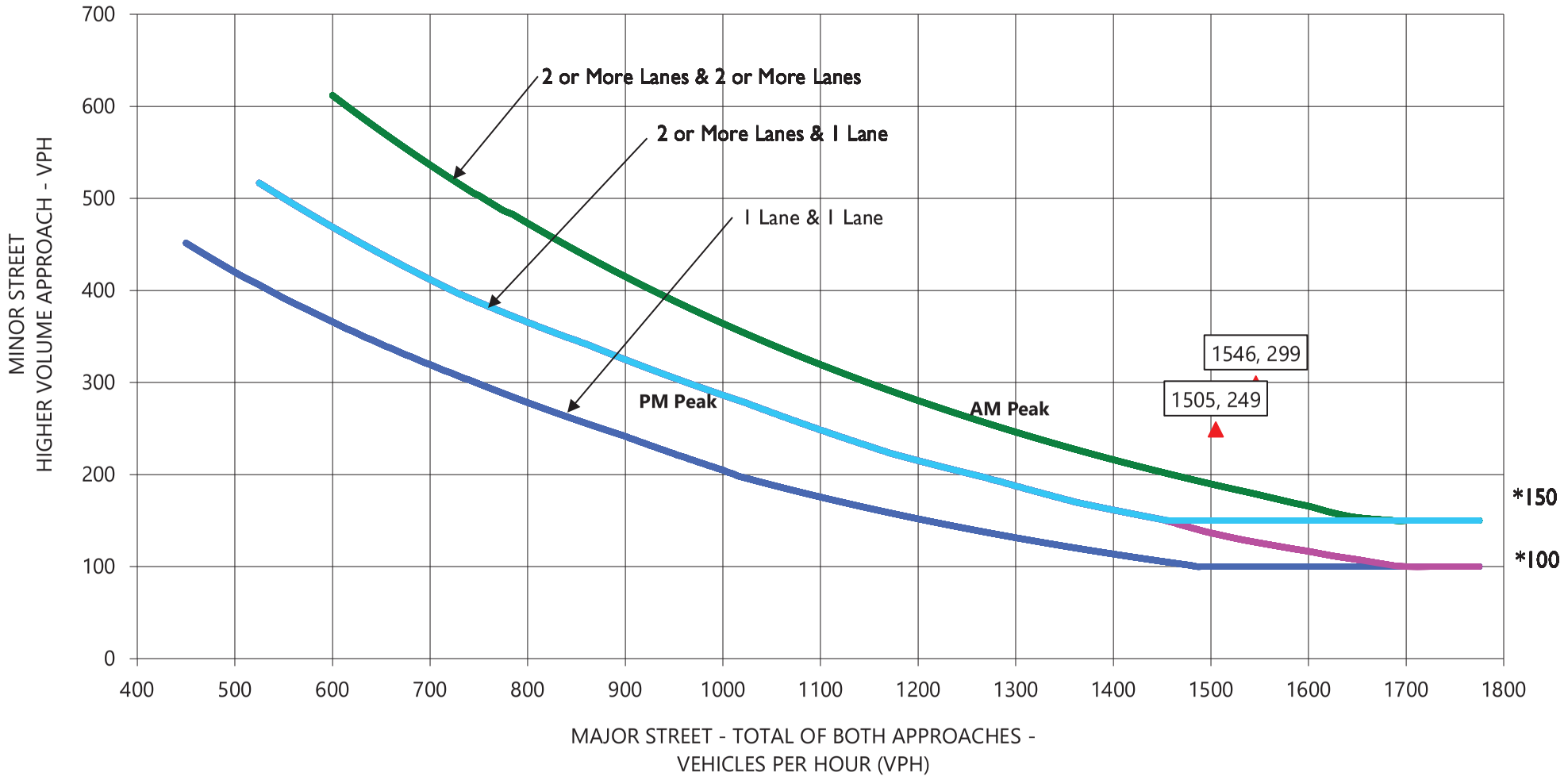
SATISFIED **YES** ☒ **NO** ☐

APPROACH LANES	One	2 or More	*am peak*	*pm peak*
Both Approaches - Major Street		x	1,546	1,505
Higher Approach - Minor Street		x	299	249

The plotted point falls above the curve in Figure 4C-3.	YES ☒	NO ☐
OR, The plotted point falls above the curve in Figure 4C-4.	YES ☐	NO ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3 Warrant 3
Ramona Boulevard & Durfee Avenue
AM (PM) Peak hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2014
Future with-Project



*Note: 150 vph applies as the lower threshold volume for a mjinor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

LEGEND
▲ Major approaches combined: VPH
Minor street: VPH

Peak Hour Volumes Satify Warrants? YES

SUMMARY OF TRAFFIC SIGNAL WARRANT ANALYSIS

Major Street:	Ramona Boulevard
Minor Street:	Durfee Avenue
Scenario:	Future + Project

SUMMARY OF RESULTS

		Warrant Satisfy?
Warrant 1	Eight-Hour Vehicle Volume	No
Warrant 2	Four-Hour Vehicle Volume	No
Warrant 3	Peak Hour	**YES**
Warrant 4	Pedestrian Volume	No
Warrant 5	School Crossing	N/A
Warrant 6	Coordinated Signal System	N/A
Warrant 7	Crash Experience	N/A
Warrant 8	Roadway Network	N/A
Warrant 9	Intersection Near a Grade Crossing	N/A

INTERSECTION: Ramona Boulevard & Durfee Avenue

Figure 4C-101 (CA). Traffic Signal Warrants Worksheets (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED* **YES** ☐ **NO** ☒

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	2pm - 3pm	3pm - 4pm	4pm - 5pm	5pm - 6pm	Hour
Both Approaches - Major Street		x					
Higher Approach - Minor Street		x					

*All plotted points fall above the curves in Figure 4C-1. (Urban Areas)	YES ☐	NO ☒
OR, All plotted points fall above the curves in Figure 4C-2. (Rural Areas)	YES ☐	NO ☒

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

SATISFIED **YES** ☒ **NO** ☐

PART A

SATISFIED **YES** ☐ **NO** ☒

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1	The total delay experienced for traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	YES ☐ NO ☒ *4 vehicle-hours of delay*
2	The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	YES ☒ NO ☐
3	The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	YES ☒ NO ☐

PART B

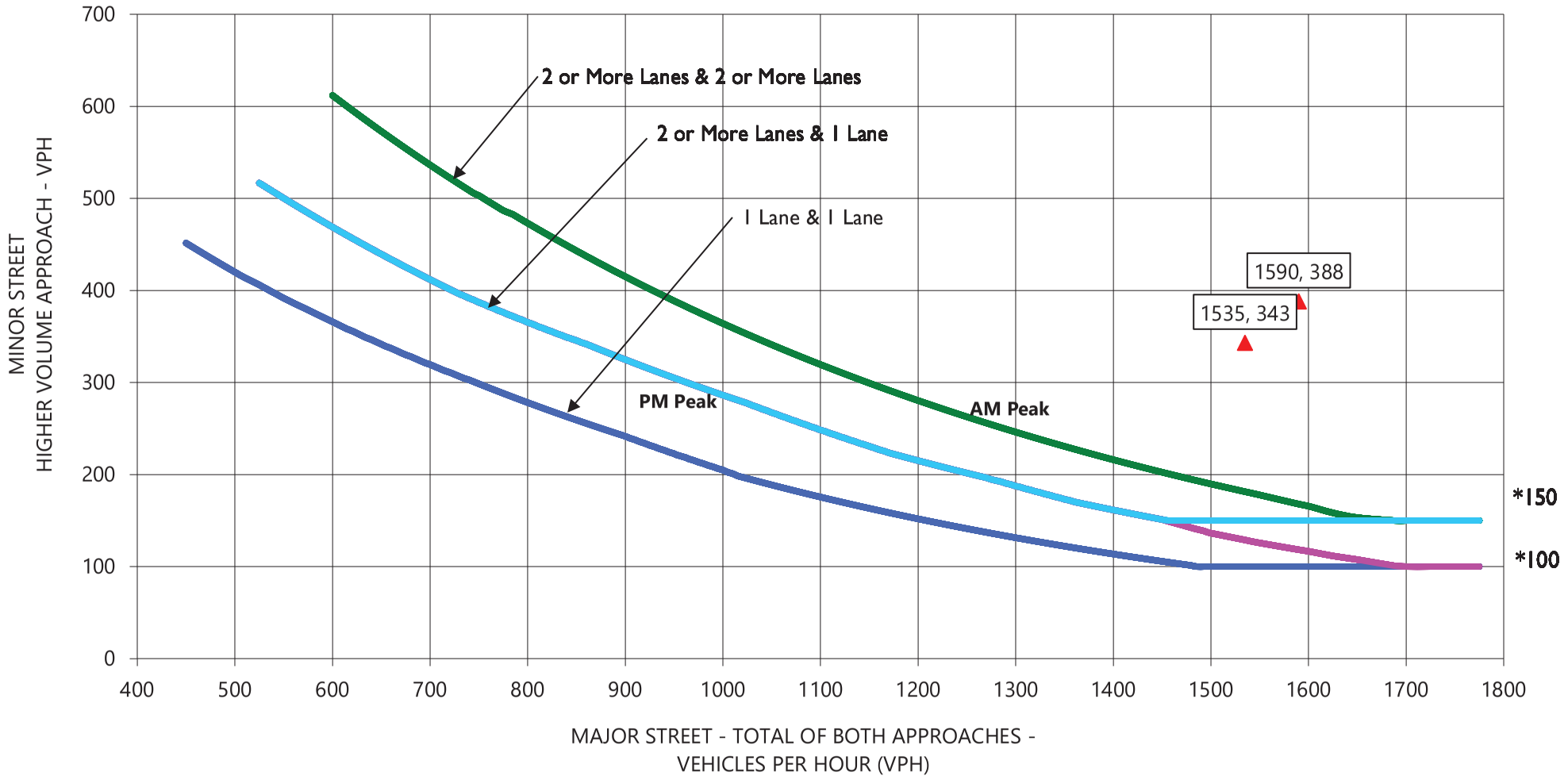
SATISFIED **YES** ☒ **NO** ☐

APPROACH LANES	One	2 or More	*am peak*	*pm peak*
Both Approaches - Major Street		x	1,590	1,535
Higher Approach - Minor Street		x	388	343

The plotted point falls above the curve in Figure 4C-3.	YES ☒	NO ☐
OR, The plotted point falls above the curve in Figure 4C-4.	YES ☐	NO ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3 Warrant 3
Ramona Boulevard & Durfee Avenue
AM (PM) Peak hour Traffic Signal Warrant Based on
California Manual on Uniform Traffic Control Devices, 2014
Future with-Project



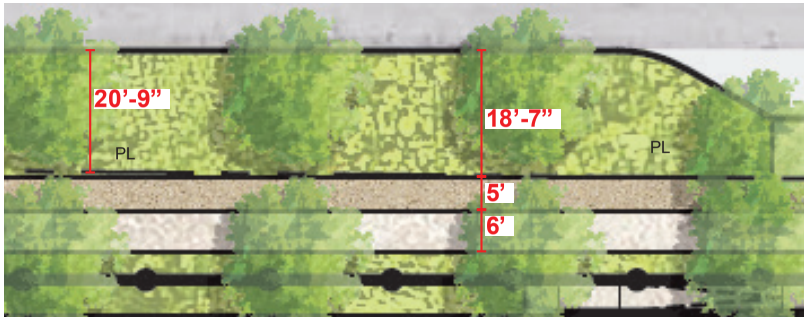
*Note: 150 vph applies as the lower threshold volume for a mjinor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

LEGEND
▲ Major approaches combined: VPH
Minor street: VPH

Peak Hour Volumes Satify Warrants? YES

APPENDIX I
On-Street Diagonal Parking Concept Plans

KEYMAP
NTS



PLAN A:
GILMAN ROAD

EXISTING CONDITION A:
GILMAN ROAD

PLAN B:
KERRWOOD STREET

EXISTING CONDITION B:
KERRWOOD STREET

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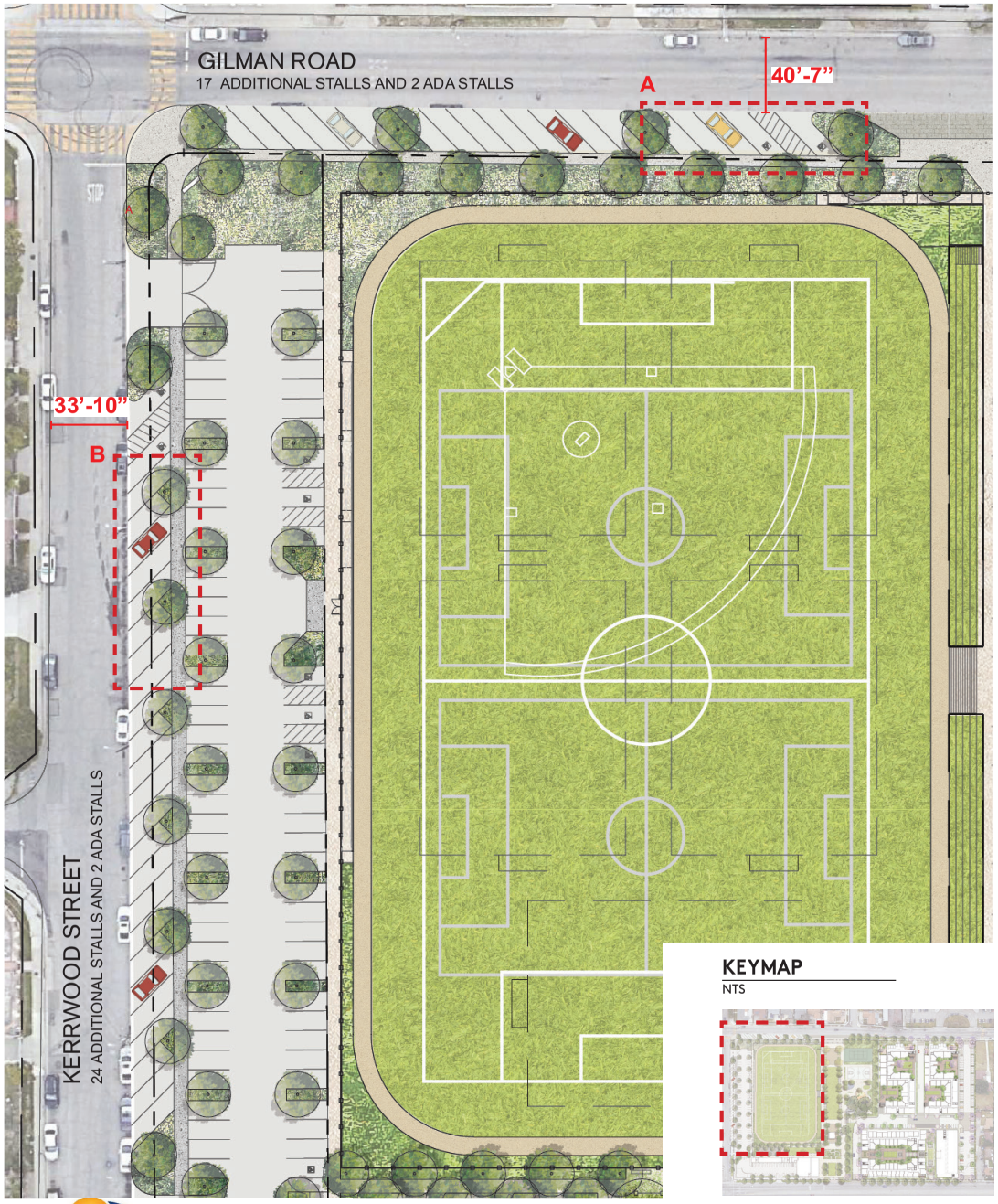
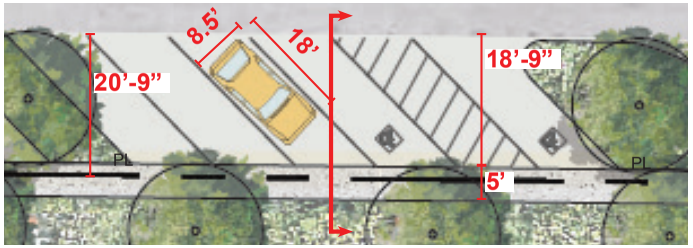
PRIMA DEVELOPMENT AUGUST 4, 2022

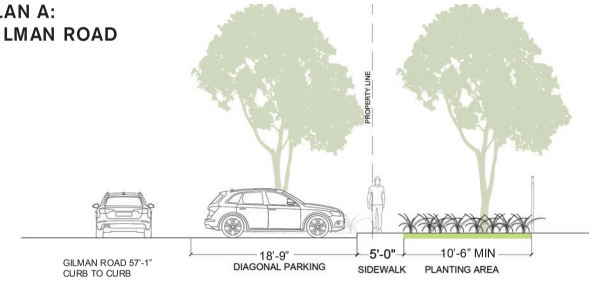
Existing On-Street Parking



KEYMAP
NTS

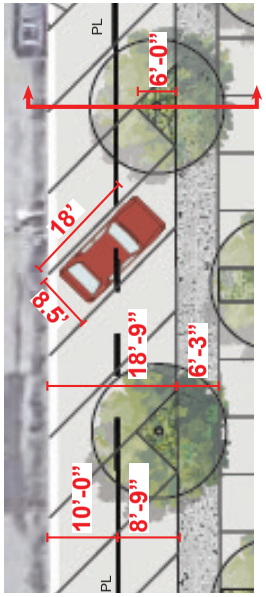


PLAN A:
GILMAN ROAD



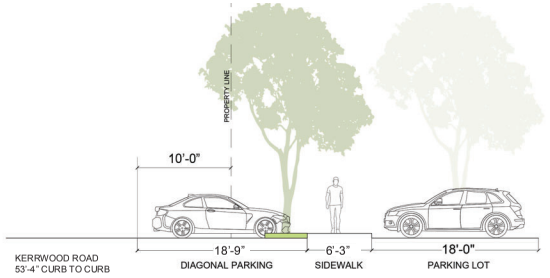
SECTION A:
GILMAN ROAD

SCALE : 1/8"=1'-0"



PLAN B:
KERRWOOD STREET

Triangular Planter Reference Image



SCALE : 1/8"=1'-0"

SECTION B:
KERRWOOD STREET

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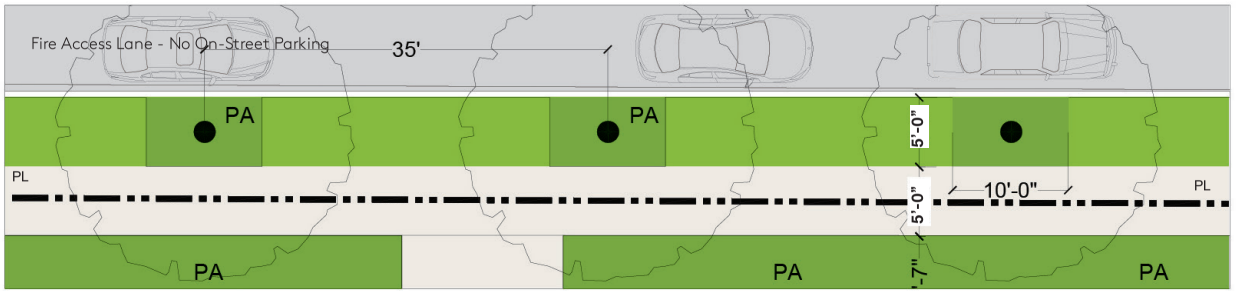
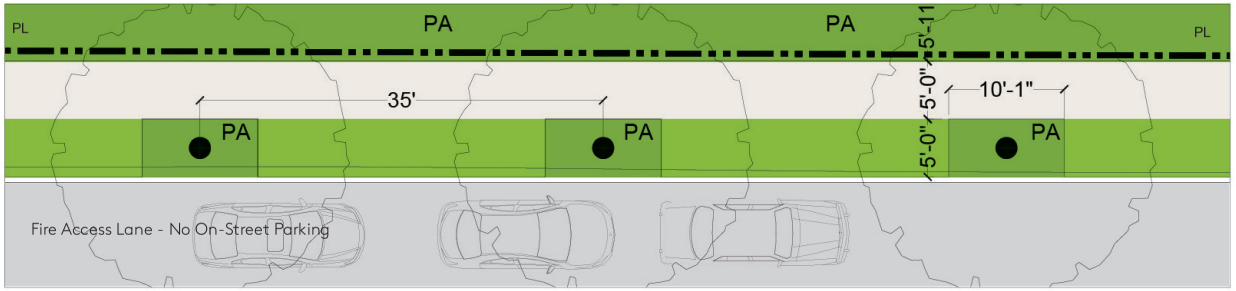
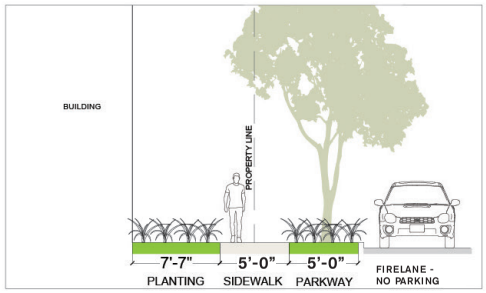
Proposed On-Street Parking



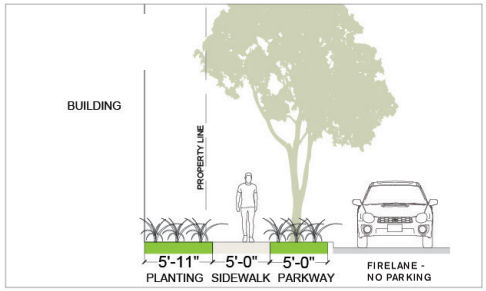
A **Gilman Rd - Sidewalk with continuous parkway**



B **Durfee Ave - Sidewalk with continuous parkway**



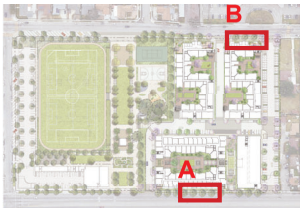
A Gilman Rd - Section



B Durfee Ave - Section

KEYMAP

NTS



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Sidewalk Study

SCALE : 1/4"=1'-0"

L40