Draft Traffic Impact Analysis

Proposed Commercial Development at 810 East Dunne Avenue

City of Morgan Hill, California

June 9, 2021

TJKM

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EXECUTIVE SUMMARY

This report summarizes the results of the Traffic Impact Analysis (TIA) conducted for the proposed commercial development located at 810 E. Dunne Avenue in City of Morgan Hill, California. The project proposes modifications to an existing gas station, including removing and replacing a fueling canopy, removing and replacing underground storage tanks, constructing a new convenience store or quick service restaurant of 5,005 square foot (s.f.) and a new car wash on an approximately 1.07 gross acre site. The proposed development consists of a 5,005 square foot (s.f.) convenience market or quick service restaurant, 8 fueling positions, and one car wash tunnel. The purpose of this report is to present the traffic impacts to the surrounding transportation network due to the proposed project.

The report includes evaluations and recommendations concerning intersection traffic operations, project site access and circulation, project driveway operations, delivery truck operations, project parking demand, and sight distance.

To evaluate the impacts on the transportation infrastructure due to the addition of traffic from the proposed project, TJKM evaluated two study intersections along E. Dunne Avenue during the a.m. and p.m. peak hours under two study scenarios. The scenarios include Baseline (2021) Conditions, without and with the proposed project.

Baseline Conditions

Under this scenario, all study intersections operate at acceptable LOS C or better during both a.m. and p.m. peak hours.

Project Trip Generation

The proposed project expects to generate a net of 903 daily trips, of which 62 trips are generated during the a.m. peak hour and 86 trips are generated during the p.m. peak hour. The existing development generates 1,204 daily trips, of which 60 trips are generated during the a.m. peak hour and 128 trips are generated during the p.m. peak hour. The proposed project generate two additional trips during the a.m. peak hour and no trips were generated during the p.m. peak hour.

Baseline plus Project Conditions

Under this scenario, all of the study intersections operate at acceptable LOS C or better. The project is expected to have a less-than-significant impact at all study intersections.

Queueing Analysis

The proposed project does not have an adverse effect on the expected left-turn or right-turn queues at the study intersections.

Site Access and On-Site Circulation

TJKM examined the project site plan in order to evaluate the adequacy of on-site vehicle circulation including refueling trucks, delivery trucks and emergency vehicles. The proposed project will be accessed via Walnut Grove Drive, and Commercial driveway on E. Dunne Avenue. Based on the evaluation, the proposed on-site vehicle circulation is adequate and should not result in traffic operations issues on-site that would result in significant impacts on City streets.

Sight Distance Analysis

Sight distance issues are expected for the proposed driveway for vehicles exiting the project site and turning right onto Walnut Grove Drive. TJKM recommends, appropriate signage should be added warning northbound vehicles of merging vehicles to make the driveways more visible to oncoming vehicles.

Parking Demand Analysis

The proposed project meets the required parking supply for vehicular parking to comply with the City of Morgan Hill Municipal Code.

1.0 INTRODUCTION

This report summarizes the results of the Traffic Impact Analysis (TIA) conducted for the proposed commercial development located at 810 E. Dunne Avenue in City of Morgan Hill, California. The project proposes modifications to existing gas station, including removing and replacing a fueling canopy, removing and replacing underground storage tanks, constructing a new convenience store or quick service restaurant of 5,005 square foot (s.f.) and a new car wash on an approximately 1.07 gross acre site. The proposed development consists of a 5,005 square foot (s.f.) convenience market or quick service restaurant, 8 fueling positions, and one car wash tunnel. The study purpose is to identify potential impacts of the proposed development on the surrounding transportation system and to recommend improvements to mitigate significant impacts. To assess impacts on the transportation infrastructure due to additional traffic from the proposed project, evaluation of study intersections is in accordance with the standards set forth by the LOS policies of City of Morgan Hill. Additionally, the study includes evaluation of queue length, sight distance, and parking demand as a result of added project traffic.

The project site is located at 810 E. Dunne Avenue as shown in **Figure 1**. The land is surrounded by residential, and commercial land uses. The proposed project will have a fueling canopy with 8 fueling positions, a 5,005 square foot convenience store or quick service restaurant, and a 1,733 foot long carwash. The proposed project site is located near to the US 101 Northbound off-ramp, and is likely to serve as a stop for travelers on the highway.

Currently, there are two vehicle access driveways: one on E. Dunne Avenue and another one on east of Walnut Grove Drive. The project includes closing the driveway along E. Dunne Avenue and proposes to relocate the existing driveway east of Walnut Grove Drive with 35 ft. wide and to provide one more new driveway. The proposed project will use the commercial driveway on E. Dunne Avenue to access the fueling station, convenience store or quick service restaurant and car wash tunnel.

1.1 Study Intersections and Scenarios

TJKM evaluated traffic conditions at two study intersections during the a.m. and p.m. peak hours for a typical weekday. The peak periods observed were between 7:00 a.m.-9:00 a.m. and 4:00 p.m.-6:00 p.m. TJKM projected baseline (2021) traffic conditions from intersection turning movement counts (TMC) provided in the Morgan Hill 2035 Draft Environmental Impact Report (DEIR), 2016. The study intersections and associated traffic controls are as follows:

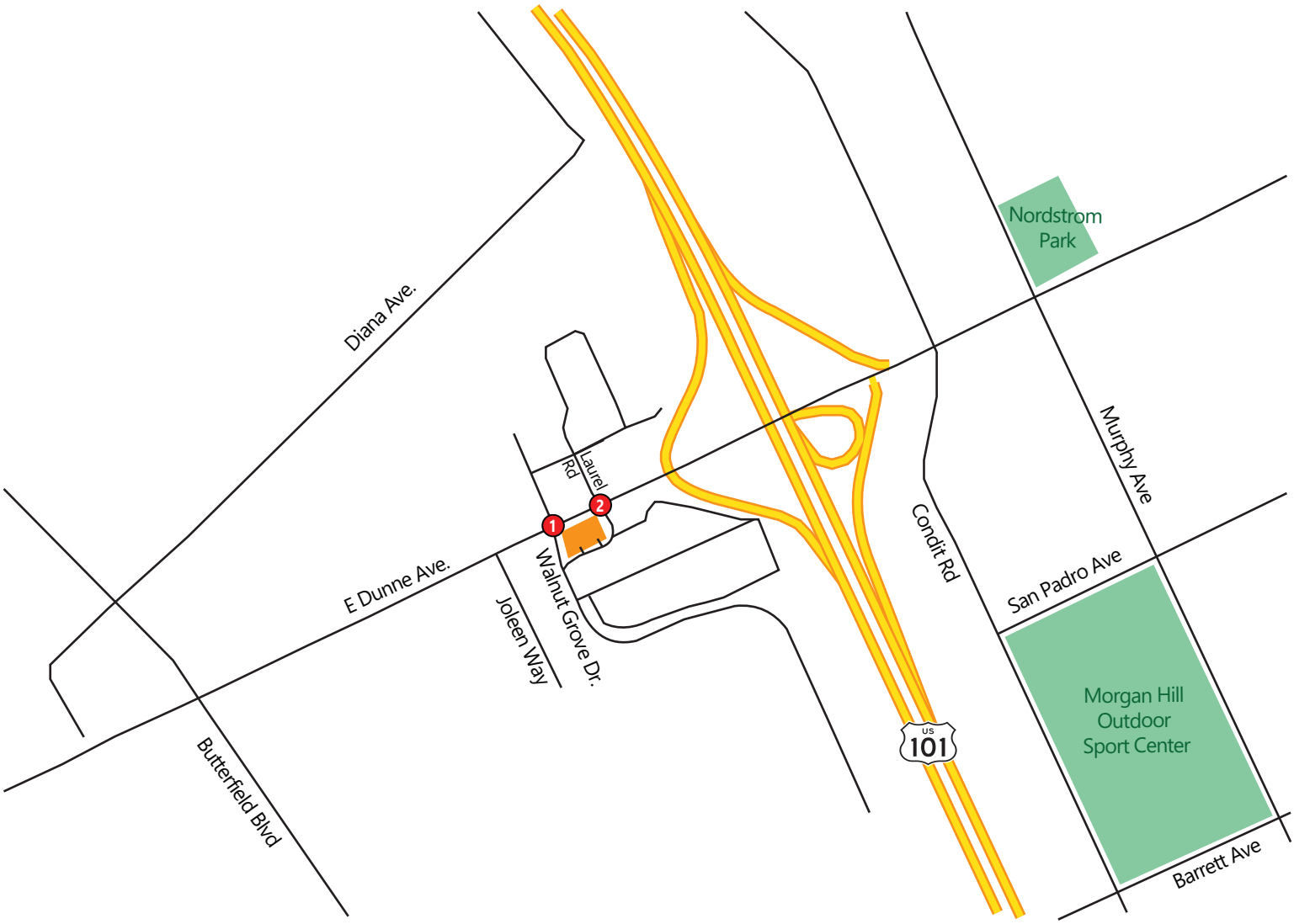
1. E. Dunne Avenue / Walnut Grove Drive (Signalized)
2. E. Dunne Avenue / Laurel Road-Commercial Driveway (Unsignalized)

Figure 1 illustrates the study area of the proposed project. **Figure 2** shows the proposed project site plan.

This study addresses the following two traffic scenarios:

- **Baseline Conditions** – This scenario evaluates the study intersections based on baseline traffic volumes, lane geometry and traffic controls.
- **Baseline plus Project Conditions –** This scenario is identical to Baseline Conditions, but with the addition of traffic from the proposed project.

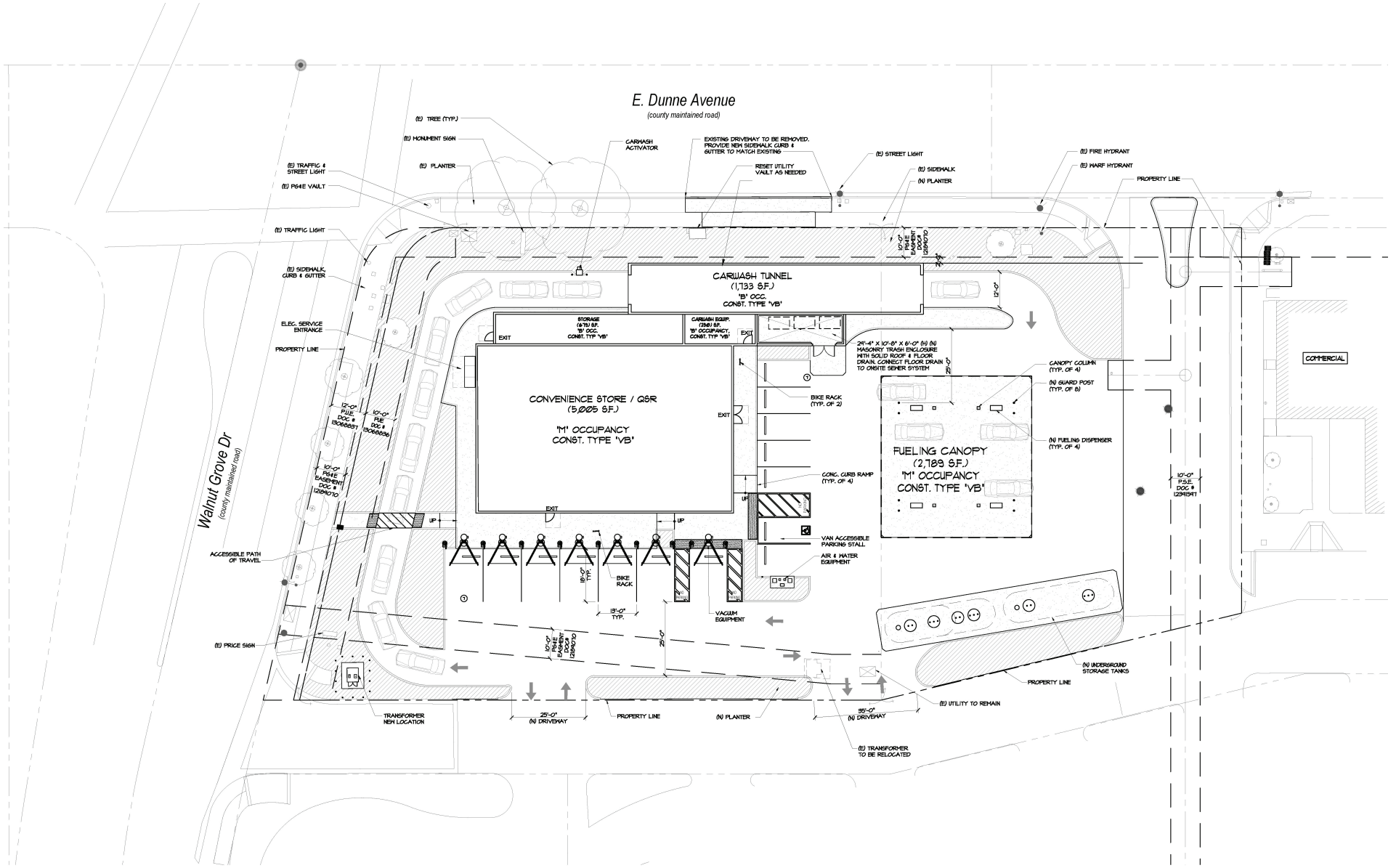
Figure 1: Vicinity Map



LEGEND

- Project Site
- Study Intersection

Figure 2 : Project Site Plan



2.0 STUDY METHODOLOGY

2.1 Level of Service Analysis Methodology

Traffic conditions at the study intersections were evaluated using level of service (LOS). Level of Service is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The analysis methods are described below.

Signalized Intersections

Signalized study intersections are subject to the City of Morgan Hill level of service standards. The City of Morgan Hill level of service methodology is TRAFFIX, which is based on the 2000 Highway Capacity Manual (HCM) method for signalized intersections. TRAFFIX evaluates signalized intersections operations based on average delay time for all vehicles at the intersection. Since TRAFFIX is also the Congestion Management Program (CMP)-designated intersections level of service methodology, the City of Morgan Hill methodology employs the CMP defaults values for the analysis parameters, which include adjusted saturation flow rates to reflect conditions in Santa Clara County. All intersections within the City of Morgan Hill are required to meet the City's LOS standard of LOS D, with the exception of the following:

- LOS F for Downtown intersections and segments including at Main/Monterey, along Monterey Road between Main and Fifth Street, and along Depot Street at First through Fifth Street;
- LOS E for the following intersections and freeway zones:
    - Main Avenue and Del Monte Avenue
    - Main Avenue and Depot Street
    - Dunne Avenue and Del Monte Avenue
    - Dunne Avenue and Monterey Avenue
    - Dunne Avenue and Church Street
    - Dunne Avenue and Depot Street
    - Cochrane Road and Monterey Road
    - Tennant Avenue and Monterey Road
    - Tennant Avenue and Butterfield Boulevard
    - Cochrane Road Freeway Zone: from Madrone Parkway/Cochrane Plaza to Cochrane Road/DePaul Drive
    - Dunne Avenue Freeway Zone: from Walnut Grove Drive/East Dunne Avenue to Condit Road/E. Dunne Avenue
    - Tennant Avenue Freeway Zone: from Butterfield Boulevard/Tennant Avenue to Condit Road/Tennant Avenue

The correlation between average delay and level of service for signalized intersections is shown in **Table 1**.

Unsignalized Intersections

The methodology used to determine the level of service for unsignalized intersections is also TRAFFIX and the 2000 HCM methodology for unsignalized intersection analysis. This method is applicable for both two-way and all-way stop-controlled intersections. For the analysis of stop-controlled intersections, the 2000 HCM methodology evaluates intersection operations on the basis of average control delay time for all vehicles on the stop-controlled approaches. For the purpose of reporting level of service for one- and two-way stop-controlled intersections, the delay and corresponding level of service for the stop controlled minor street approach with the highest delay is reported. For all-way stop-controlled intersections, the reported average delay and corresponding level of service is the average for all approaches at the intersection. The City uses a minimum acceptable level of service standard of LOS D for unsignalized intersections, in accordance with its adopted threshold of significance in its *Guidelines for Preparation of Transportation Impact Reports*. The correlation between average delay and level of service for unsignalized intersections is shown in **Table 2**.

Table 1: Signalized Intersection Level of Service Criteria

Level of Service	Description	Signalized (seconds/vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	Up to 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	Greater than 80.0

Source: Transportation Research Board, 2000 Highway Capacity Manual. (Washington, D.C., 2000)

Table 2: Unsignalized Intersection Level of Service Criteria

Level of Service	Description	Signalized (seconds/vehicle)
A	Operations with very low delays occurring with favorable progression.	Up to 10.0
B	Operations with low delays occurring with good progression.	10.1 to 15.0
C	Operations with average delays resulting from fair progression.	15.1 to 25.0
D	Operation with longer delays due to a combination of unfavorable progression and high V/C ratios.	25.1 to 35.0
E	Operation with high delay values indicating poor progression and high V/C ratios. This is considered to be the limited of acceptable delay.	35.1 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation and poor progression.	Greater than 50.0

Source: Transportation Research Board, 2000 Highway Capacity Manual. (Washington, D.C., 2000)

Signal Warrants

The level of service analysis at unsignalized intersections is supplemented with an assessment of the need for signalization of the intersection. The need for signalization of unsignalized intersections is assessed based on the Peak Hour Volume Warrant (Warrant 3) described in the California Manual on Uniform Traffic Control Devices for Streets and Highways (CA MUTCD), Part 4, Highway Traffic Signals, 2010. This method makes no evaluation of intersection level of service, but simply provides an indication whether vehicular peak hour traffic volumes are, or would be, sufficient to justify installation of a traffic signal. The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the installation of a signal should be considered and further analysis performed when one or more of the warrants are met. Additionally, engineering judgment is exercised on a case-by-case basis to evaluate the effect a traffic signal will have on certain types of accidents and traffic conditions at the subject intersection as well as at adjacent intersections. Intersections that meet the peak hour warrant are subject to further analysis before determining that a traffic signal is necessary. Other options such as traffic control devices, signage, or geometric changes may be preferable based on existing field conditions.

3.0 EXISTING CONDITIONS

This section describes existing conditions in the immediate project site vicinity, including roadway facilities, bicycle and pedestrian facilities, and available transit service. In addition, this section presents existing traffic volumes and operations for the study intersections, including the results of LOS calculations.

3.1 Existing Setting and Roadway System

Important roadways in the immediate vicinity of the project site follow:

US 101 is a north-south freeway extending northward to San Francisco and southward through Gilroy. US 101 is an eight-lane freeway (three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction) north of Cochrane Road. South of Cochrane Road, it is a six-lane freeway with no HOV lanes. Access to and from the project area is provided via a full interchange at Dunne Avenue.

E.Dunne Avenue is classified in the City of Morgan Hill General Plan as a four-lane major arterial, with the exception of the two-lane arterial segment between Del Monte Avenue and Peak Avenue. Dunne Avenue transverses the City extending from the east part of town to the west. With a full interchange at US 101, Dunne Avenue provides regional access to the project site.

Walnut Grove Drive is a two-lane undivided roadway that extends from San Pedro Avenue northward to north of Laurel Road where it currently terminates as a cul-de-sac. A second segment of Walnut Grove Drive begins at Black Walnut Way, south of Main Avenue, and extends southward parallel and adjacent to US 101 to the Laurel-Honda GPA site, where it terminates as a cul-de-sac. Access to the project site would be provided from Walnut Grove Drive.

Laurel Road is a two-lane undivided roadway that mainly runs parallel to Dunne Avenue from Walnut Grove Drive to west of the US 101 southbound off-ramp, where it terminates as a cul-de-sac. Additionally, Laurel Road also extends southward from a middle point along Laurel Road (forming a T-intersection) to Dunne Avenue, providing limited access to and from Dunne Avenue.

3.2 Existing Pedestrian Facilities

Walkability is the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal "walkable" community includes wide sidewalks, a mix of land uses such as residential, employment, and shopping opportunities, a limited number of conflict points with vehicle traffic, and easy access to transit facilities, and services.

Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities.

In the immediate project vicinity, E.Dunne Avenue, Walnut Grove Drive, and Laurel Drive provide sidewalks on one or both sides of the roadway. E.Dunne Avenue has sidewalks on both sides and ADA-compliant curb ramps at intersections and driveways. Walnut Grove Drive has sidewalks on the eastern side of the street, but intermittent on the west side of the street. ADA compliant curb ramps, striped crosswalks, pedestrian signal heads are provided at the intersection of E.Dunne Avenue/Walnut Grove Drive. A striped crosswalk is also provided for the north leg of E Dunne Avenue/Laurel Road. **Figure 3** illustrates the existing pedestrian facilities within the project vicinity.

3.3 Existing Bicycle Facilities

Bicycle facilities include the following classifications from the 2017 City of Morgan Hill Bikeways, Trails, Parks and Recreation Master Plan:

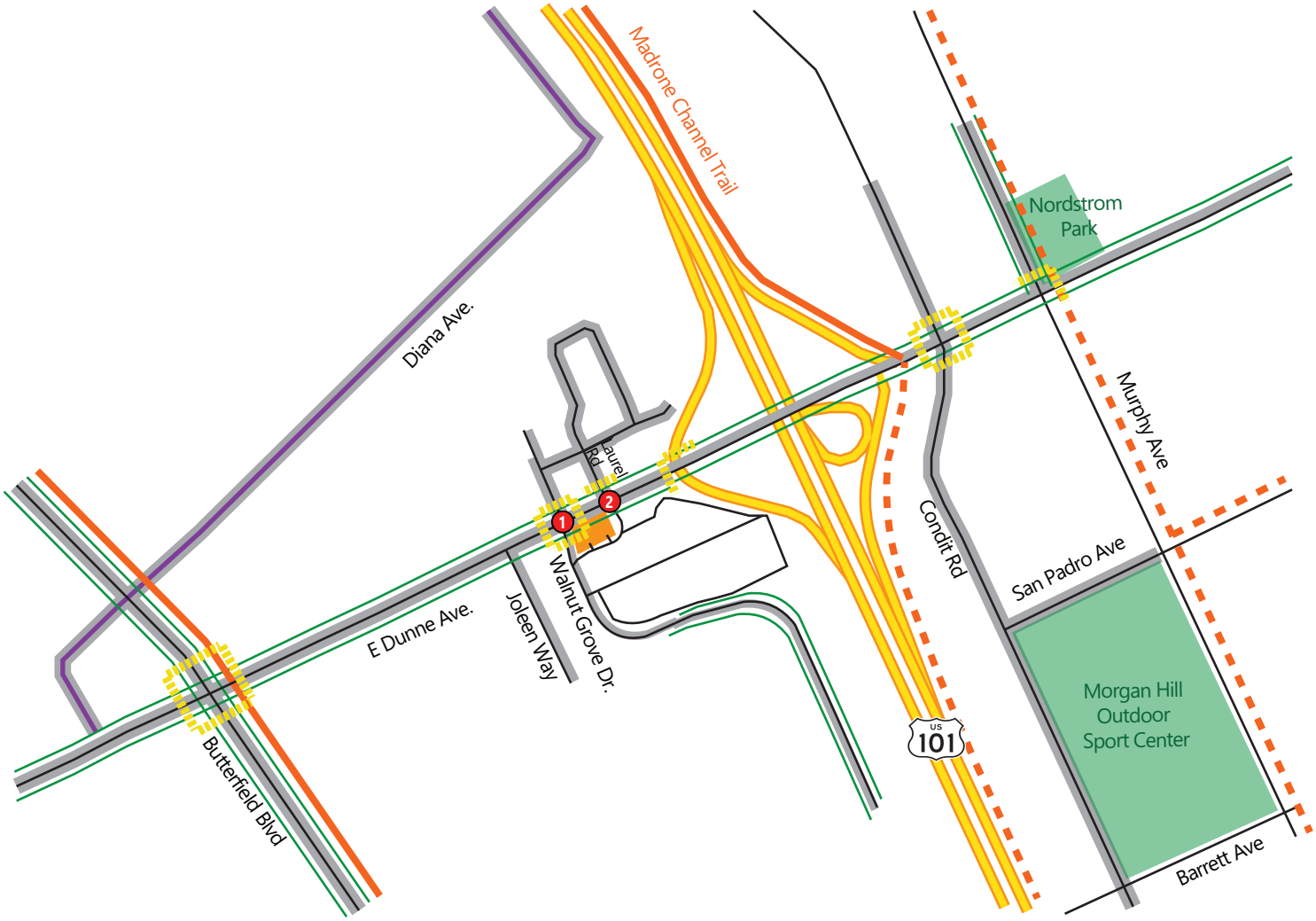
- **Multi-Use Trail (Class I)** – Allows for two-way, off street pedestrian and bicycle use. Conflicts with motorized vehicles is minimal. Trails are often found in parks, along rivers, beaches, utility corridors.
- **Buffered Bike Lanes (Class II)** – Buffered bike lanes are bicycle lanes that have striped buffer to separate the bicycle lane and vehicular traffic lane. In the immediate vicinity, there is a striped bike lane (no buffer) on both sides of E. Dunne Avenue.
- **Bicycle Boulevard (Class III)** – Bicycle boulevards are streets with low vehicular traffic volumes and speeds, and designated to give bicycle travel priority. There is usually appropriate signage, pavement markings, speed and volume management measures to discourage through trips by motor vehicles.
- **Protected Bike Lane (Class IV)** – This bikeway is for the exclusive use of bicycles and includes vertical separation from the vehicular travel lane by way of grade separation, flexible posts, inflexible physical barriers, or on-street parking.

Figure 3 illustrates the existing bicycle facilities in the project vicinity.

3.4 Existing Transit Facilities

Valley Transportation Authority (VTA) operates local and express buses that connect Morgan Hill with the rest of Santa Clara County. The closest VTA stop is nearly 0.75 mile away from the project. Caltrain also provides regional transit services that connects the South Bay to San Francisco. The Morgan Hill Caltrain Station is also nearly 0.75 mile away from the project site. Within the immediate vicinity of the project, there are no transit services available.

Figure 3: Existing Pedestrian and Bicycle Facilities



LEGEND

- Project Site
- Study Intersection
- Sidewalk
- Crosswalk
- Class I Bike Facility
- Proposed Class I Bike Facility
- Class II Bike Lane
- Class III Bike Route

3.5 Baseline Peak Hour Traffic Volumes and Lane Configurations

The existing operations of the study intersections were evaluated for the highest one-hour volumes during weekday morning (7:00 a.m.-9:00 a.m.) and evening (4:00 p.m.-6:00 p.m.) peak periods. Turning movement counts for vehicles, bicycles, and pedestrians were projected for baseline (2021) conditions from turning movement counts provided in the City of Morgan Hill 2035 DEIR for E. Dunne Avenue/Walnut Grove Drive and E. Dunne Avenue/Laurel Road. An annual growth rate of one percent per year was applied to 2014 intersection turning movement counts to project baseline (2021) conditions traffic volumes. Traffic volume worksheets are provided in **Appendix A**. A peak hour factor of 0.92 was assumed for all study intersections in the analysis. The baseline conditions lane configurations reflect existing conditions lane geometries. The City of Morgan Hill provided existing signal timing sheets for E. Dunne Avenue/Walnut Grove Drive. **Figure 4** illustrates the existing conditions lane geometry, traffic controls, and baseline peak hour volumes at the study intersections.

TJKM evaluated Average Daily Traffic (ADT) volume counts from turning movement counts at the following location:

- E. Dunne Avenue, between Walnut Grove Drive and Laurel Road – ADT is 21,030 vehicles per day (vpd).

3.6 Intersection Level of Service Analysis – Baseline Conditions

Baseline intersection lane configurations and traffic control, signal timings, peak-hour turning movement volumes, and peak-hour factors were used as inputs for the LOS calculations. The baseline operations of the study intersections were evaluated for the highest one-hour volume during the weekday a.m. and p.m. peak periods. All intersections were analyzed using the HCM 2000 LOS analysis methodology in the TRAFFIX software program. **Table 3** summarizes the results of the intersection LOS analysis for Baseline Conditions.

Under Baseline Conditions, without proposed project traffic, the study intersections operate within applicable jurisdictional standards of LOS C or better during both peak hours.

The peak hour signal warrant (warrant no. 3) from the California Manual of Uniform Traffic Control Devices (CA MUTCD) was evaluated for the unsignalized intersection of E.Dunne Avenue/Laurel Road, operating at LOS B during a.m., and LOS C during p.m. peak hour to determine if a traffic signal is warranted. The results show that the intersection does not meet the CA MUTCD peak hour signal warrant during the a.m. peak hour and does meets peak hour signal warrant during the p.m. peak hour. LOS and signal warrant worksheets are provided in **Appendix B**.

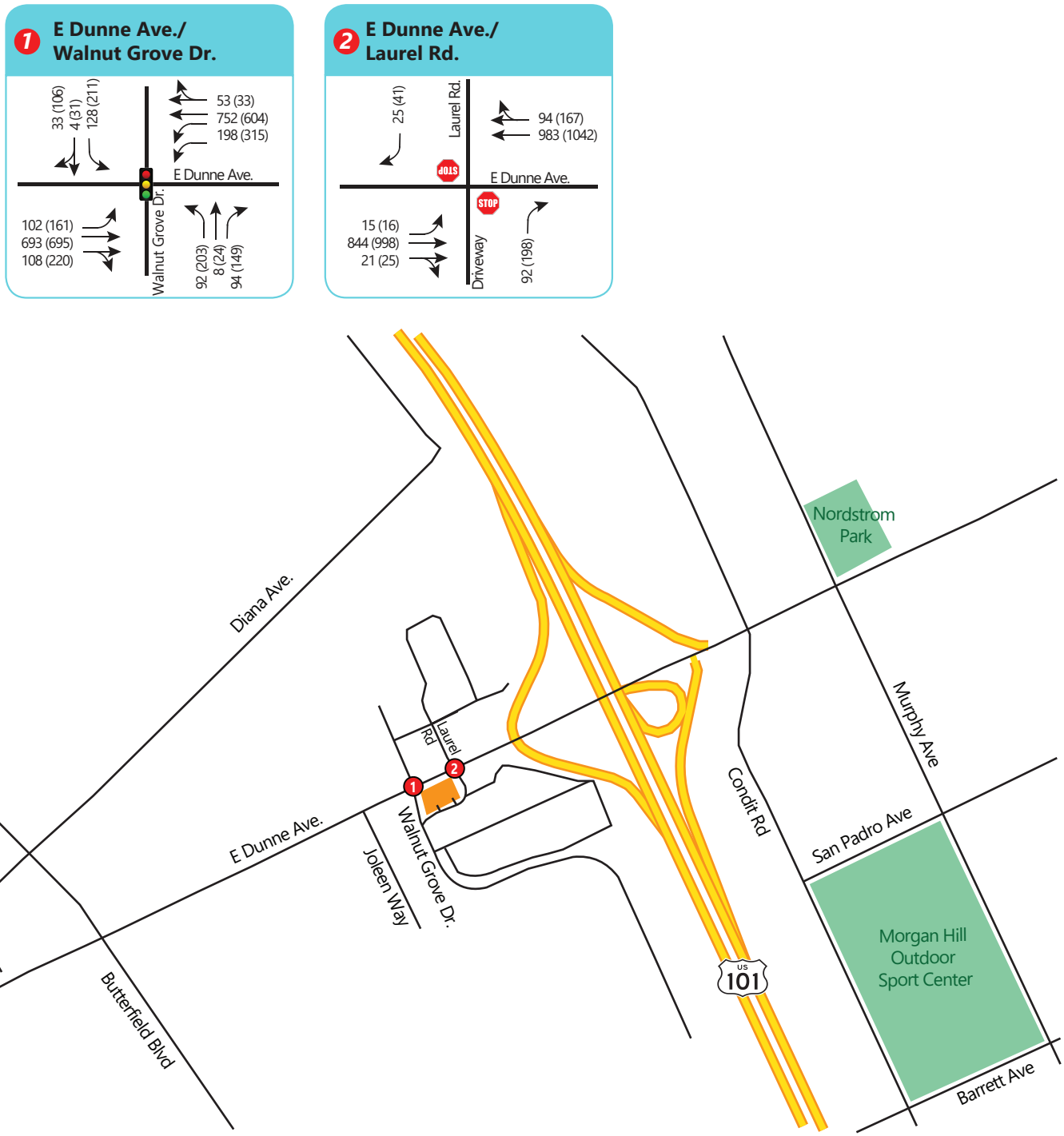
Table 3: Intersection Level of Service Analysis – Baseline Conditions

#	Study Intersections	Control[1]	Peak Hour[2]	Baseline Conditions			
				Delay[3]	LOS[4]	Critical V/C	Critical Delay
1	E.Dunne Avenue/Walnut Grove Drive	Signal	AM	18.5	B	0.444	16.9
			PM	29.5	C	0.552	28.3
2	E.Dunne Avenue/Laurel Road-Commercial Driveway	TWSC	AM	12.7	B	-	-
			PM	16.4	C	-	-

Notes:
[1] TWSC – Two-way stop-control
[2] AM – Weekday morning peak hour (between 7 and 9 a.m.); PM – Weekday evening peak hour (between 4 and 6 p.m.)
[3] Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections; Worst-approach delay expressed in seconds per vehicle for side-street stop-controlled intersections.
[4] LOS – Level of Service calculations conducted using TRAFFIX level of service analysis software package.

The average daily traffic on E. Dunne Avenue between Walnut Grove Drive and Laurel Road is 21,030 vehicles per day.

Figure 4: Existing Lane Geometry, Traffic Controls & Baseline Peak Hour Volumes



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4.0 BASELINE PLUS PROJECT CONDITIONS

This analysis scenario presents the impacts of the proposed development at the study intersections and surrounding roadway system. This scenario is similar to Baseline Conditions, but with the addition of traffic from the proposed project.

The amount of traffic added to the roadway system by the proposed development is estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. The first step estimates the amount of added traffic to the roadway network. The second step estimates the direction of travel to and from the project site. Third, the trips are assigned to specific roadway segments and intersection turning movements. The results of the process for the proposed project are described in the following sections.

4.1 Project Description

The proposed project is located at the northeast quadrant of the E.Dunne Avenue/Walnut Grove Drive intersection in City of Morgan Hill. The project proposes to modify an existing gas station including removing and replacing a fueling canopy, removing and replacing underground storage tanks, constructing a new convenience store or quick service restaurant of 5,005 square foot (s.f.) and a new car wash on an approximately 1.07 gross acre site. The proposed development consists of a 5,005 square foot (s.f.) convenience market or quick service restaurant, 8 fueling positions, and one car wash tunnel.

4.2 Project Trip Generation

Net project trips were estimated based on Trip Generation, 10th Edition (2017), published by the Institute of Transportation Engineers (ITE). Trips for the proposed gas station, convenience market, and car wash area were estimated using trip generation rates for the Convenience Market with Gasoline Pumps (ITE Code 853), and Automated car Wash (ITE Code 948) land uses. Some land uses, such as gas stations on major roadways, attract drivers already passing by on adjacent roadways. Pass-by trip reductions were applied to the proposed Convenience Market with Gasoline Pumps (ITE Code 853) land uses, as specified in the Trip Generation Handbook (3rd Edition). Peak hour pass-by rates for these uses ranged from 63 to 66 percent. The Handbook does not identify pass-by reduction rates for daily trips so the average rates for both peaks were used for the Convenience Market with Gasoline Pumps (ITE Code 853) land uses. **Table 4** shows the expected trips generated by the proposed project. The proposed project is expected to generate 903 net daily trips, with 62 net trips during the a.m. peak hour (31 inbound trips, 31 outbound trips) and 86 net trips during the p.m. peak hour (43 inbound trips, 43 outbound trips).

At the existing site, traffic volumes were not collected due to the COVID -19 pandemic induced change in traffic conditions. Alternatively, Gasoline/Service Station (ITE Code 944), and Automated Car Wash (ITE Code 948) was used for estimation based on the existing 14 fueling positions and 905 sq. ft car wash tunnel. As shown in **Table 4**,the existing land use was estimated to generate 1,204 weekday daily trips, 60

a.m. peak hour trips (30 inbound trips, 30 outbound trips), and 128 weekday p.m. peak hour trips (64 inbound trips, 64 outbound trips). The proposed project is expected to generate two additional trips during the a.m. peak hour and no net trips were expected to generate during the p.m. peak hour. The trip generation is approved by the City of Morgan Hill.

Table 4: Project Trip Generation

Land Use (ITE code)		Size	Unit	Daily		AM Peak						PM Peak					
				Rate	Trips	Rate	In %	Out %	In	Out	Total	Rate	In %	Out %	In	Out	Total
Proposed	Convenience Market with Gasoline Pumps (853)[1]	8.00	Fueling Positions	322.50	2,580	20.76	50	50	83	83	166	23.04	50	50	92	92	184
	Pass-By Trip Discount[2]			*-65%*	*-1,677*	*-63%*			*-52*	*-52*	*-104*	*-66%*			*-61*	*-61*	*-122*
	Automated Car Wash (948)[3]	1.733	ksf	NA[5]		NA[5]						14.2	50	50	12	12	24
Total Trips (A)					**903**				**31**	**31**	**62**				**43**	**43**	**86**
Existing	Gasoline/Service Station (944)[4]	14.00	Fueling Positions	172.01	2,408	10.28	50	50	72	72	144	14.03	50	50	98	98	196
	Pass-By Trip Discount[5]			*-50%*	*-1,204*	*-58%*			*-42*	*-42*	*-84*	*-42%*			*-41*	*-41*	*-82*
	Automated Car Wash (948)[6]	0.905	ksf	NA[5]		NA[5]						14.2	50	50	7	7	14
Total Trips (B)					**1,204**				**30**	**30**	**60**				**64**	**64**	**128**
Net Trips (A-B)					**-301**				**1**	**1**	**2**				**-21**	**-21**	**-42**

Notes:

Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, 2017

ksf-Thousand square feet

[1]Convenience Market with Gasoline Pumps (ITE Land Use Code 853) based upon number of fueling positions

[2]ITE Pass-By reduction rate of 63% in the AM peak hour and 66% in the PM peak hour for Convenience Market with Gasoline Pumps.

[3]Automated Car Wash (ITE Land Use Code 948) based upon square footage

[4]Gasoline/Service Station (ITE Land Use Code 944) based upon number of fueling positions

[5]ITE Pass-By reduction rate of 58% in the AM peak hour and 42% in the PM peak hour for Gasoline/Service Station.

4.3 Project Trip Distribution and Assignment

Trip distribution is a process that determines in what proportion vehicles would be expected to travel between the project site and various destinations outside the project study area. Assignment determines the various routes that vehicles would take from the project site to each destination using the estimated trip distribution.

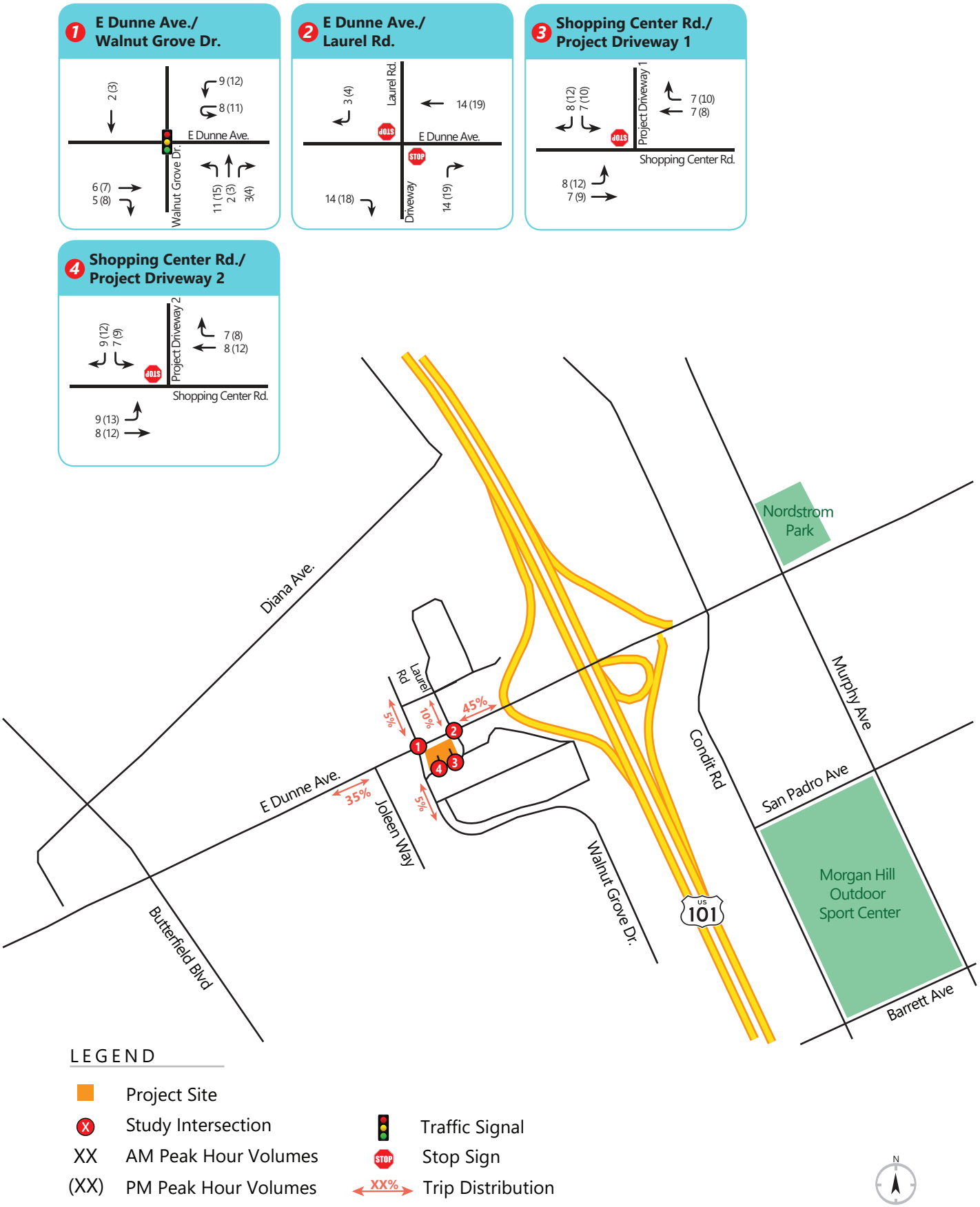
Trip distribution assumptions for the proposed project were developed based on traffic patterns in the project study area.

The trip distribution for the proposed project is as follows:

- 45% to/from the east of E.Dunne Avenue
- 35% to/from the west of E.Dunne Avenue
- 10% to/from the Laurel Road
- 5% to/from the north of Walnut Grove Drive
- 5% to/from the south of Walnut Grove Drive

The project trip distribution was approved by the City of Morgan Hill. **Figure 5** illustrates the trip distribution and assignment for the existing site trips and an additional new trips is expected to generate for proposed project. The addition of assigned project trips and traffic volumes under Baseline Conditions generate Baseline plus Project Conditions traffic volumes.

Figure 5: Trip Distribution & Assignment



4.4 Intersection Level of Service Analysis – Baseline plus Project Conditions

Level of service calculations were conducted for the study intersections to evaluate their operations under Baseline plus Project conditions using the methods described above. No adjustments were made to the intersection lane configurations or peak hour factors for the analysis of Baseline plus Project conditions. **Figure 6** shows projected turning movement volumes at the study intersections for Baseline plus Project Conditions. TJKM evaluated the LOS analysis for Baseline plus Project Conditions. **Table 5** summarizes the intersection LOS analysis results for the study intersections. The intersection LOS analysis results for Baseline Conditions are shown for comparison purposes.

Under this scenario, all study intersections operate within applicable jurisdictional standards of LOS C or better during both a.m. and p.m. peak hours. Based on the City of Morgan Hill impact criteria, the project is expected to have a less-than-significant impact at all the study intersections evaluated in this study.

Table 5: Intersection Level of Service Analysis – Baseline plus Project Conditions

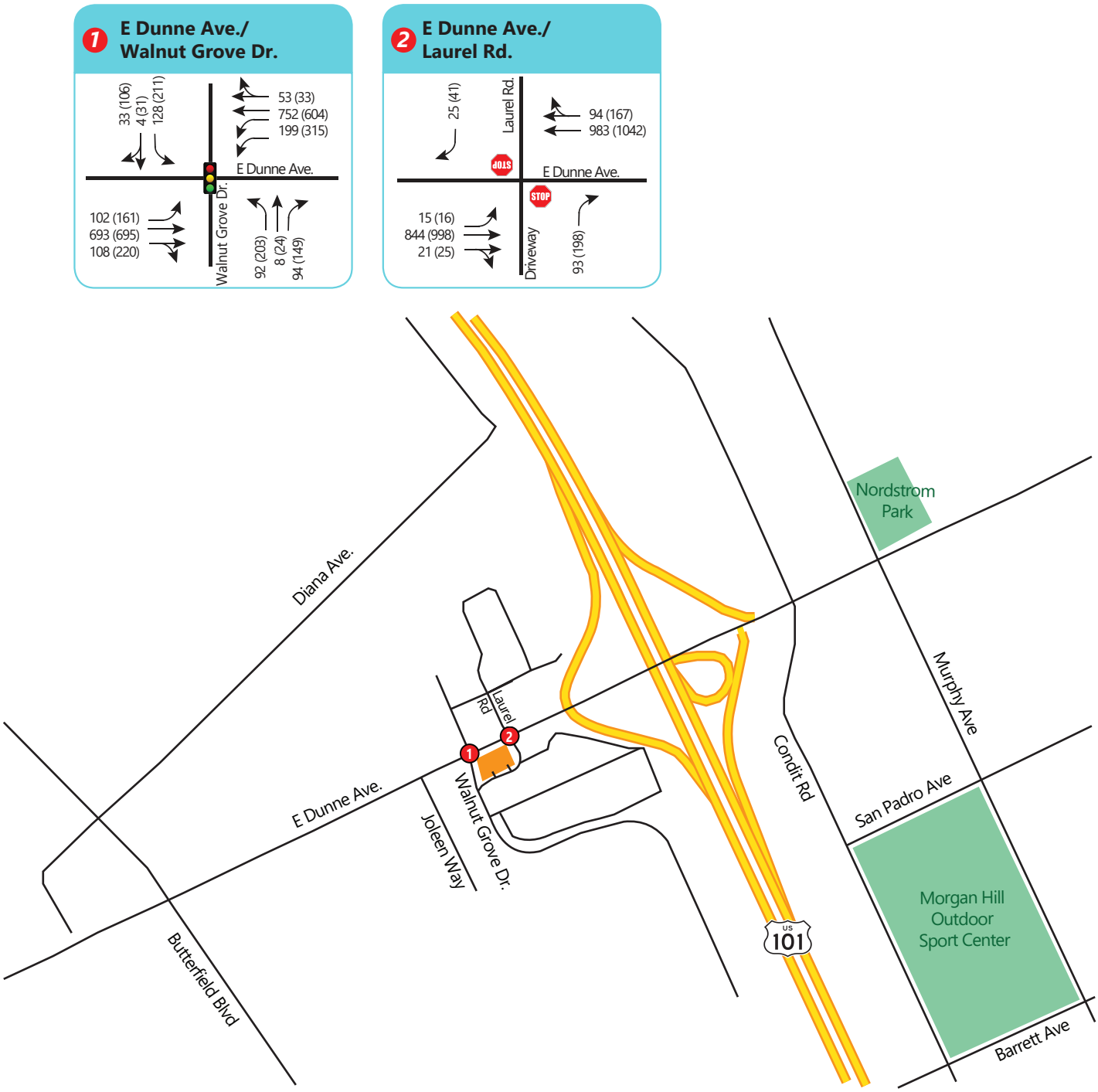
#	Study Intersections	Control[1]	Peak Hour[2]	Baseline Conditions		Baseline plus Project Conditions (Scenario 1)		Change in	
				Delay[3]	LOS[4]	Delay[3]	LOS[4]	Critical V/C[5]	Critical Delay[6]
1	E. Dunne Avenue/Walnut Grove Drive	Signal	AM	18.5	B	18.5	B	0.000	0.0
			PM	29.5	C	29.5	C	0.000	0.0
2	E. Dunne Avenue/Laurel Road	TWSC	AM	12.7	B	12.7	B	-	-
			PM	16.4	C	16.4	C	-	-

Notes:
[1] TWSC – Two-way stop-control
[2] AM – Weekday morning peak hour (between 7 and 9 a.m.); PM – Weekday evening peak hour (between 4 and 6 p.m.)
[3] Whole intersection weighted average control delay expressed in seconds per vehicle for signalized intersections; Worst-approach delay expressed in seconds per vehicle for side-street stop-controlled intersections.
[4] LOS – Level of Service calculations conducted using TRAFFIX level of service analysis software package.
[5] Change in critical volume to capacity ratio between Baseline and Baseline plus Project Conditions.
[6] Change in average critical movement delay between Baseline and Baseline plus Project Conditions.

The peak hour signal warrant (warrant no. 3) from the California Manual of Uniform Traffic Control Devices (CA MUTCD) was evaluated for the unsignalized intersection of E.Dunne Avenue/Laurel Road, operating at LOS B during a.m., and LOS C during p.m. peak hour to determine if a traffic signal is warranted. The results show that the intersection does not meet the CA MUTCD peak hour signal warrant during the a.m. peak hour and does meets peak hour signal warrant during the p.m. peak hour. LOS and signal warrant worksheets are provided in **Appendix C**.

The average daily traffic on E. Dunne Avenue between Walnut Grove Drive and Laurel Road is 21,030 vehicles per day under Baseline plus project Conditions.

Figure 6: Baseline plus Project Conditions Peak Hour Volumes



4.6 Vehicle Queueing Analysis

TJKM conducted a vehicle queueing and storage analysis for exclusive left and right turn pockets at the study intersections under Baseline and Baseline plus Project Conditions. The 95th percentile queues were analyzed using TRAFFIX software. Detailed calculations are included in the LOS appendices corresponding to each analysis scenario. **Table 6** summarizes the 95th percentile queue lengths at the study intersections under Baseline and Baseline plus Project scenarios. It should be noted that queue lengths at some locations exceed capacity in Baseline Conditions, creating a deficient conditions. However, the project would add only two vehicles in total to the baseline volumes during the a.m. peak hour. The following movements that are already in exceedance of the existing queues:

- At E. Dunne Avenue/Walnut Grove Drive: 95th percentile queue exceeds for eastbound left turn, eastbound through, westbound left turn, westbound through, northbound left turn, northbound right turn, southbound left turn, and southbound shared through right turn lane during one or both the peak hours. However, project won't increase in queue length at this intersection.

Table 6: 95th Percentile Queues at Study Intersections

#	Study Intersections	Lane Group	Storage Length	Baseline Conditions		Baseline plus Project Conditions		Change Scenario	
				AM	PM	AM	PM	AM	PM
1	E.Dunne Avenue/Walnut Grove Drive	EBL	125	125	**226**	125	**226**	0	0
		EBT	260	**370**	**516**	**370**	**516**	0	0
		WBL	120	100	**264**	100	**264**	0	0
		WBT	210	**321**	**354**	**321**	**354**	0	0
		NBL	105	**110**	**348**	**110**	**348**	0	0
		NBT	105	7	37	7	37	0	0
		NBR	105	67	**189**	67	**189**	0	0
		SBL	70	**170**	**314**	**170**	**314**	0	0
		SBTR	70	35	**226**	35	**226**	0	0
2	E.Dunne Avenue/Laurel Road	EBL	55	25	25	25	25	0	0
		EBT	230	0	0	0	0	0	0
		WBT	380	0	0	0	0	0	0
		NBR	135	25	45	25	45	0	0
		SBR	240	25	25	25	25	0	0

Notes: Storage length and 95th percentile queue is expressed in feet per lane
AM – morning peak hour, PM – evening peak hour
Bold indicates queue lengths exceeding capacity

5.0 ADDITIONAL ANALYSIS

The following sections provide additional analyses of other transportation issues associated with the project site, including:

- Site Access and On-Site Circulation;
- Driveway Sight Distance Analysis; and
- Parking Analysis

The analyses in these sections are based on professional judgment in accordance with the standards and methods employed by traffic engineers. Although operational issues are not considered CEQA impacts, they do describe traffic conditions that are relevant to describing the project environment.

5.1 Site Access and On-Site Circulation

This section analyzes site access and internal circulation for vehicles, pedestrians and bicycles based on the site plan presented on **Figure 2**. TJKM reviewed internal and external access for the project site for vehicles, pedestrians and bicycles.

TJKM reviewed the proposed project site plan to evaluate on-site access to the project. The proposed project's access will be the driveway along Walnut Grove Drive and the Laurel Road-Commercial Driveway access. Along the project frontage, E. Dunne Avenue consists of two travel lanes in each direction with a raised center median. Internally, there will be two driveways (25 feet wide and 35 feet wide) on the south project frontage as shown on the project site plan dated May 19, 2021. The project will provide a pork chop island on E. Dunne Avenue for ingress movements. All driveways and circulation aisles accommodate two-way travel. The turning radii appear to be adequate for the garbage and delivery trucks. The proposed garbage pickup is located at the northeast corner of the proposed convenience store/quick service restaurant Also, trash enclosure would connect the floor drain to the onsite sewer system. Small delivery vehicles for the convenience store/quick service restaurant will be able to use the parking stalls adjacent to the store; larger vehicles will be able to use the unused fueling positions.

The proposed car wash tunnel would be located within the site and oriented parallel to Walnut Grove Drive, with tunnel entrance near the south project site boundary and the exit near the north project site boundary.

In order to provide adequate on-site circulation for all vehicle types, including larger emergency vehicles and garbage and delivery trucks, the design of all drive aisles and access driveways should adhere to City of Morgan Hill design standards and guidelines. The design of the site must include adequate corner radii, driveway width, drive aisle width, parking dimensions, and signage to the satisfaction of the City of Morgan Hill design standards. Adhering to City of Morgan Hill standards and requirements, the proposed site access driveways and internal drive aisle layout would be adequate to accommodate circulation of both passenger and emergency vehicles.

Overall, the proposed on-site vehicle circulation is adequate and should not result in any traffic operations issues that would result in significant impacts on City streets.

5.2 Pedestrian Access

Pedestrian access to the project site will be facilitated by the existing sidewalk and crosswalk network on E. Dunne Avenue and Walnut Grove Drive. The intersection of E. Dunne Avenue/Walnut Grove Drive provides crosswalks and pedestrian signal heads to allow the crossing of pedestrians. The proposed project does not conflict with existing and planned pedestrian facilities; therefore, will not have an adverse effect on pedestrian facilities.

5.3 Bicycle Access

Bicycle access to the project site is provided by the existing Class II bike lanes along both sides of E.Dunne Avenue. Overall, existing bicycle facilities provide adequate connectivity between the proposed project site and surrounding neighborhoods. An impact to bicyclists occurs if the proposed project disrupts existing bicycle facilities; or conflicts or creates inconsistencies with adopted bicycle system plans, guidelines, policies or standards. The project does not conflict with existing and planned bicycle facilities; therefore, will not have an adverse effect on bicycle facilities.

5.4 Transit Access

There are no transit services available within the vicinity of the project site.

5.5 Driveway Sight Distance

Sight distance is evaluated to determine if a driver will have adequate visibility to enter a roadway safely without resulting in a conflict with traffic already on the roadway. According to the Highway Design Manual, Chapter 200, 2014, the required minimum stopping sight distance for design speed of 40 mph (E. Dunne Avenue) should be 300 feet. For a speed of 35 mph (Walnut Grove Drive), the stopping sight distance should be 250 feet. The line of sight for vehicles exiting the driveway on E.Dunne Avenue and vehicles travelling eastbound on E.Dunne Avenue is clear and visible. The line of sight for vehicles exiting the driveway on Walnut Grove Drive and vehicles travelling northbound on Walnut Grove Drive may be obstructed due to the existing landscaping and the driveway is at the end of a slight horizontal curve. Appropriate signage should be added warning northbound vehicles of merging vehicles to make the driveways more visible to oncoming vehicles.

5.6 Parking

Based on the project site plan (dated May 19, 2021), 22 spaces will be provided of which 5 spaces are standard parking (9 feet by 18 feet). One space will be provided for van accessible parking stalls (17 feet by 18 feet). One space will be provided for the air/water machine (11 feet by 18 feet). 7 spaces for the

vacuum stalls (13 feet by 18 feet) and 8 spaces for the fuel stations. The City of Morgan Hill Municipal Code (18.72.030/Table 18.72-2) requires that convenience market land uses provide 1 space per 250 square feet. Based on City requirements, 20 spaces are required. The project proposed 22 parking spaces plus up to 10 vehicles for stacking for the carwash tunnel. Based on the proposed parking spaces to be provided on site, no parking impacts are projected on City streets.

CONCLUSIONS AND RECOMMENDATIONS

Baseline Conditions

Under this scenario, all study intersections operate at acceptable LOS C or better during both a.m. and p.m. peak hours.

Project Trip Generation

The proposed project expects to generate a net of 903 daily trips, of which 62 trips are generated during the a.m. peak hour and 86 trips are generated during the p.m. peak hour. The existing development generates 1,204 daily trips, of which 60 trips are generated during the a.m. peak hour and 128 trips are generated during the p.m. peak hour. The proposed project generate two additional trips during the a.m. peak hour and no trips were generated during the p.m. peak hour.

Baseline plus Project Conditions

Under this scenario, all of the study intersections operate at acceptable LOS C or better. The project is expected to have a less-than-significant impact at all study intersections.

Queueing Analysis

The proposed project does not have an adverse effect on the expected left-turn or right-turn queues at the study intersections.

Site Access and On-Site Circulation

TJKM examined the project site plan in order to evaluate the adequacy of on-site vehicle circulation including refueling trucks, delivery trucks and emergency vehicles. The proposed project will be accessed via Walnut Grove Drive, and Commercial driveway on E.Dunne Avenue. Based on the evaluation, the proposed on-site vehicle circulation is adequate and should not result in traffic operations issues on-site that would result in significant impacts on City streets.

Sight Distance Analysis

Sight distance issues are expected for the proposed driveway for vehicles exiting the project site and turning right onto Walnut Grove Drive. TJKM recommends, appropriate signage should be added warning northbound vehicles of merging vehicles to make the driveways more visible to oncoming vehicles.

Parking Demand Analysis

The proposed project meets the required parking supply for vehicular parking to comply with the City of Morgan Hill Municipal Code.

Appendix A – Traffic Volume Worksheets

Volumes - AM Peak													
#	Study Intersection	Scenario	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	Dunne Avenue/Walnut Grove Drive	***2014***	95	646	101	185	701	49	86	7	88	119	4	31
		2021	**102**	**693**	**108**	**198**	**752**	**53**	**92**	**8**	**94**	**128**	**4**	**33**
2	Dunne Avenue/Laurel Road	***2014***	14	787	20	0	917	88	0	0	86	0	0	23
		2021	**15**	**844**	**21**	**0**	**983**	**94**	**0**	**0**	**92**	**0**	**0**	**25**
Volumes - PM Peak														
#	Study Intersection	Scenario	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
1	Dunne Avenue/Walnut Grove	***2014***	150	648	205	294	563	31	189	22	139	197	29	99
		2021	**161**	**695**	**220**	**315**	**604**	**33**	**203**	**24**	**149**	**211**	**31**	**106**
2	Dunne Avenue/Laurel Road	***2014***	15	931	23	0	972	156	0	0	185	0	0	38
		2021	**16**	**998**	**25**	**0**	**1042**	**167**	**0**	**0**	**198**	**0**	**0**	**41**

Ped Volumes - AM Peak						
#	Study Intersection	Scenario	EBT	WBT	NBT	SBT
1	Dunne Avenue/Walnut Grove	***2014***	0	1	1	0
		2021	**0**	**1**	**1**	**0**
2	Dunne Avenue/Laurel Road	***2014***	1	1	2	2
		2021	**1**	**1**	**2**	**2**
Volumes - PM Peak						
#	Study Intersection	Scenario	EBT	WBT	NBT	SBT
1	Dunne Avenue/Walnut Grove	***2014***	2	0	1	0
		2021	**2**	**0**	**1**	**0**
2	Dunne Avenue/Laurel Road	***2014***	0	0	0	1
		2021	**0**	**0**	**0**	**1**

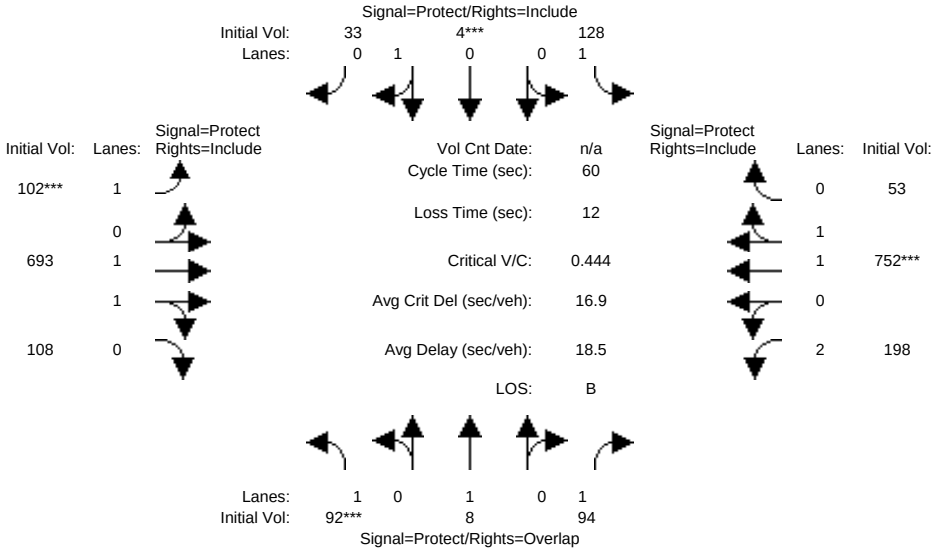
ADT Volumes							
#	Roadway Segment	Scenario	AM		PM		ADT
			EBT	WBT	EBT	WBT	
1	E.Dunne Avenue, between Walnut Grove Drive and Laurel Road	2021	880	1077	1039	1209	**21030**

Appendix B – Baseline Conditions Intersections Level of Service Worksheets

810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #1: E Dunne Avenue/Walnut Grove Drive



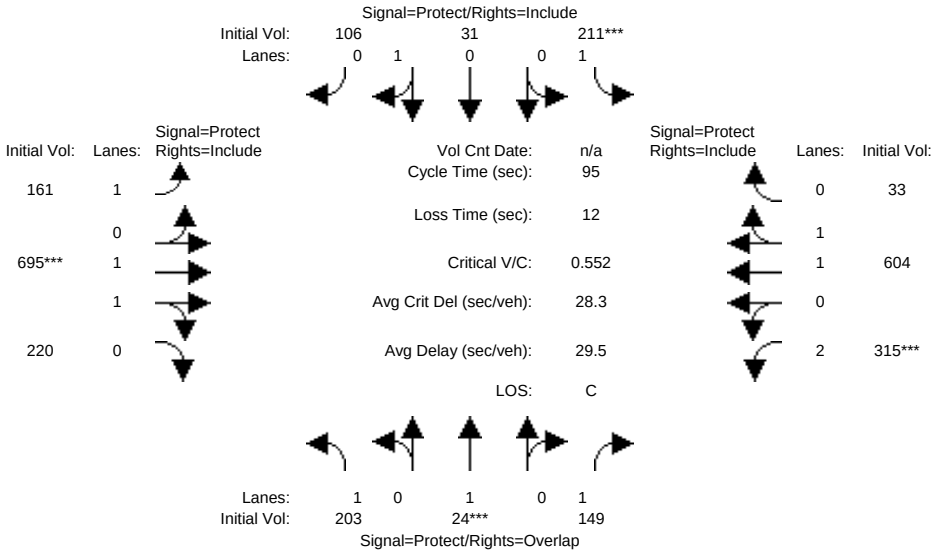
Street Name:	Walnut Grove Drive						E Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:7:00-9:00 AM												
Base Vol:	92	8	94	128	4	33	102	693	108	198	752	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	92	8	94	128	4	33	102	693	108	198	752	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	92	8	94	128	4	33	102	693	108	198	752	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	92	8	94	128	4	33	102	693	108	198	752	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	8	94	128	4	33	102	693	108	198	752	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	8	94	128	4	33	102	693	108	198	752	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.87	0.87	0.95	0.93	0.93	0.92	0.94	0.94
Lanes:	1.00	1.00	1.00	1.00	0.11	0.89	1.00	1.73	0.27	2.00	1.87	0.13
Final Sat.:	1805	1900	1614	1805	178	1468	1805	3061	477	3502	3339	235
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.06	0.07	0.02	0.02	0.06	0.23	0.23	0.06	0.23	0.23
Crit Moves:	****				****		****				****	
Green/Cycle:	0.12	0.17	0.34	0.12	0.17	0.17	0.12	0.34	0.34	0.18	0.40	0.40
Volume/Cap:	0.44	0.03	0.17	0.61	0.13	0.13	0.48	0.66	0.66	0.32	0.56	0.56
Delay/Veh:	26.1	21.0	13.9	30.3	21.5	21.5	26.6	18.3	18.3	21.9	14.5	14.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.1	21.0	13.9	30.3	21.5	21.5	26.6	18.3	18.3	21.9	14.5	14.5
LOS by Move:	C	C	B	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	110	7	67	170	35	35	125	370	370	100	321	321

Note: Queue reported is the distance per lane in feet.

810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #1: E Dunne Avenue/Walnut Grove Drive



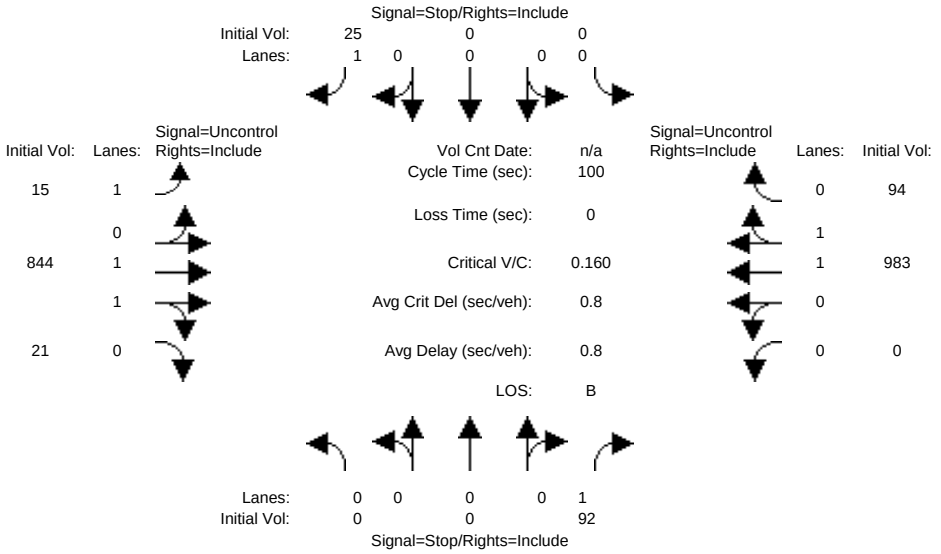
Street Name:	Walnut Grove Drive						E Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:4:00-6:00 PM												
Base Vol:	203	24	149	211	31	106	161	695	220	315	604	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	203	24	149	211	31	106	161	695	220	315	604	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	203	24	149	211	31	106	161	695	220	315	604	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	203	24	149	211	31	106	161	695	220	315	604	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	203	24	149	211	31	106	161	695	220	315	604	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	203	24	149	211	31	106	161	695	220	315	604	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.88	0.88	0.95	0.92	0.92	0.92	0.94	0.94
Lanes:	1.00	1.00	1.00	1.00	0.23	0.77	1.00	1.52	0.48	2.00	1.90	0.10
Final Sat.:	1805	1900	1615	1805	379	1297	1805	2643	837	3502	3396	186
Capacity Analysis Module:												
Vol/Sat:	0.11	0.01	0.09	0.12	0.08	0.08	0.09	0.26	0.26	0.09	0.18	0.18
Crit Moves:		****		****				****		****		
Green/Cycle:	0.15	0.11	0.25	0.19	0.14	0.14	0.19	0.43	0.43	0.15	0.38	0.38
Volume/Cap:	0.73	0.12	0.37	0.61	0.57	0.57	0.46	0.61	0.61	0.61	0.46	0.46
Uniform Del:	38.4	38.5	29.2	35.2	38.0	38.0	34.0	20.9	20.9	38.0	21.9	21.9
IncremntDel:	9.8	0.3	0.6	3.2	3.2	3.2	1.0	0.8	0.8	2.2	0.2	0.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	48.2	38.8	29.8	38.4	41.2	41.2	35.0	21.7	21.7	40.1	22.1	22.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	38.8	29.8	38.4	41.2	41.2	35.0	21.7	21.7	40.1	22.1	22.1
LOS by Move:	D	D	C	D	D	D	C	C	C	D	C	C
HCM2k95thQ:	348	37	189	314	226	225	226	516	516	264	354	354

Note: Queue reported is the distance per lane in feet.

810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #2: E Dunne Avenue/Laurel Road



Street Name:	Laurel Road						E Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module:7:00-9:00 AM												
Base Vol:	0	0	92	0	0	25	15	844	21	0	983	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	92	0	0	25	15	844	21	0	983	94
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	92	0	0	25	15	844	21	0	983	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	92	0	0	25	15	844	21	0	983	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	92	0	0	25	15	844	21	0	983	94
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	6.9	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	433	xxxx	xxxx	539	1077	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	577	xxxx	xxxx	492	655	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	577	xxxx	xxxx	492	655	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	0.16	xxxx	xxxx	0.05	0.02	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	14.1	xxxx	xxxx	4.0	1.8	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	12.4	xxxxx	xxxx	12.7	10.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	B	*	*	B	B	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	12.4			12.7			xxxxxx			xxxxxx		
ApproachLOS:	B			B			*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #2 E Dunne Avenue/Laurel Road

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 1			0 0 0 0 1			1 0 1 1 0			0 0 1 1 0		
Initial Vol:	0	0	92	0	0	25	15	844	21	0	983	94
ApproachDel:	12.4			12.7			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=92]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2074]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=25]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2074]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #2 E Dunne Avenue/Laurel Road

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 1			0 0 0 0 1			1 0 1 1 0			0 0 1 1 0		
Initial Vol:	0	0	92	0	0	25	15	844	21	0	983	94

Major Street Volume: 1957
Minor Approach Volume: 92
Minor Approach Volume Threshold: 54 [less than minimum of 100]

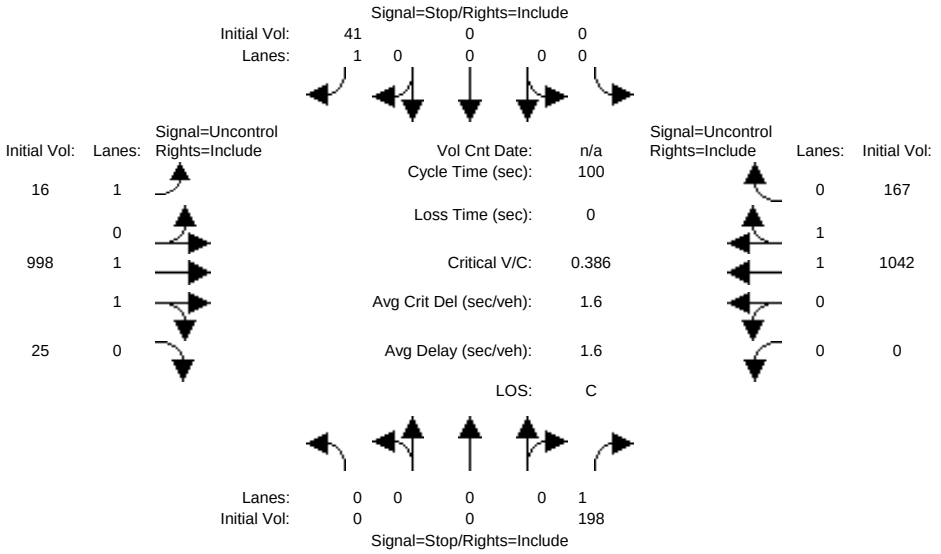
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #2: E Dunne Avenue/Laurel Road



Street Name:	Laurel Road						E Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:4:00-6:00 PM												
Base Vol:	0	0	198	0	0	41	16	998	25	0	1042	167
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	198	0	0	41	16	998	25	0	1042	167
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	198	0	0	41	16	998	25	0	1042	167
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	198	0	0	41	16	998	25	0	1042	167
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	198	0	0	41	16	998	25	0	1042	167
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	6.9	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	512	xxxx	xxxx	605	1209	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	513	xxxx	xxxx	446	584	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	513	xxxx	xxxx	446	584	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	0.39	xxxx	xxxx	0.09	0.03	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	45.1	xxxx	xxxx	7.5	2.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	16.4	xxxxx	xxxx	13.9	11.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	C	*	*	B	B	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	16.4			13.9			xxxxxx			xxxxxx		
ApproachLOS:	C			B			*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #2 E Dunne Avenue/Laurel Road

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 1			0 0 0 0 1			1 0 1 1 0			0 0 1 1 0		
Initial Vol:	0	0	198	0	0	41	16	998	25	0	1042	167
ApproachDel:	16.4			13.9			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=198]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2487]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=41]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2487]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #2 E Dunne Avenue/Laurel Road

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 1			0 0 0 0 1			1 0 1 1 0			0 0 1 1 0		
Initial Vol:	0	0	198	0	0	41	16	998	25	0	1042	167

Major Street Volume: 2248
Minor Approach Volume: 198
Minor Approach Volume Threshold: 6 [less than minimum of 100]

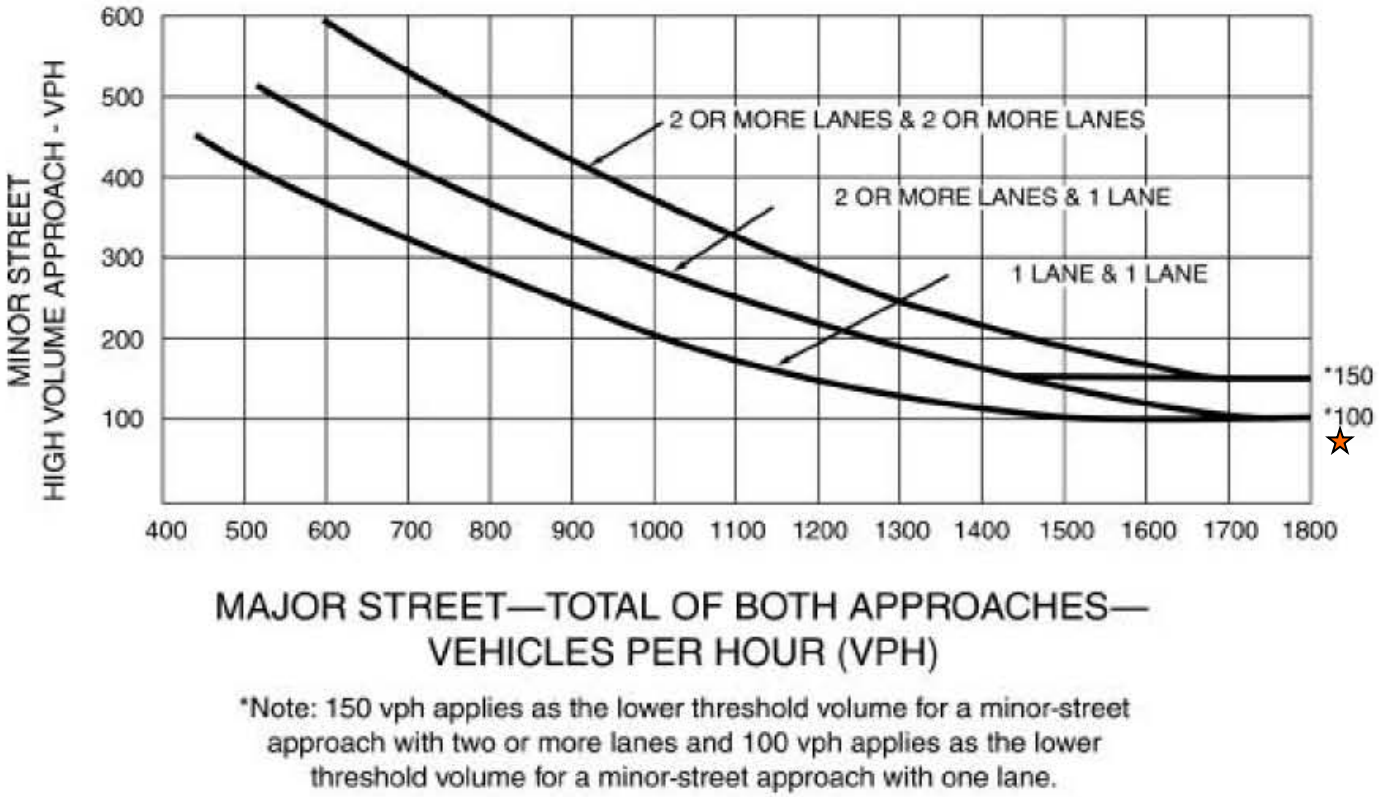
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Warrant (Urban Areas)

Intersection #2: E.Dunne Avenue/Laurel Road, Morgan Hill, CA
Scenario: Baseline Conditions

Figure 4C-3. Warrant 3, Peak Hour



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

Minor Street Volume = 92 (198) VPH

Major Street Volume = 1,957 (2,248) VPH

★ ***AM Peak Hour***

★ ***PM Peak Hour***

A signal is NOT WARRANTED in the a.m. Peak Hour
A signal is WARRANTED in the p.m. Peak Hour

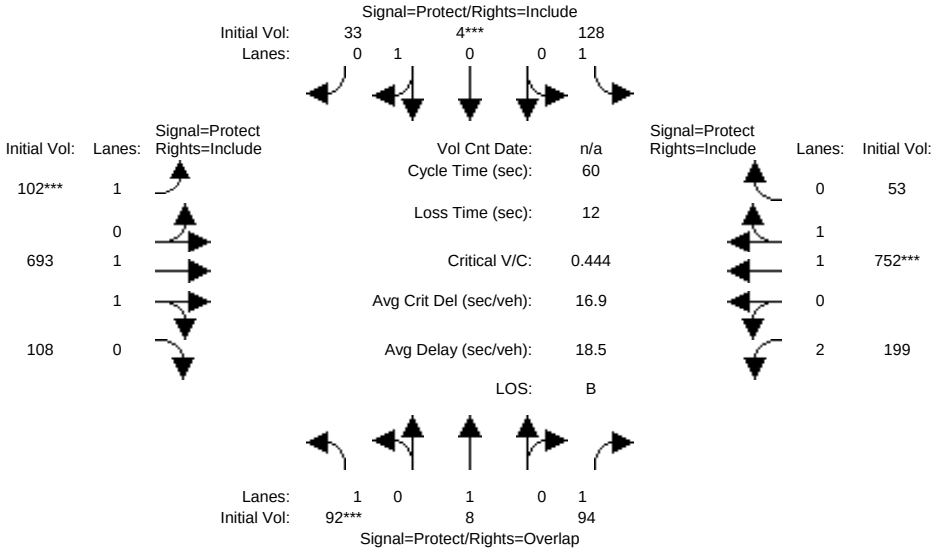
Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3

Appendix C – Baseline plus Project Conditions Intersections Level of Service Worksheets

810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing plus Project AM

Intersection #1: E Dunne Avenue/Walnut Grove Drive



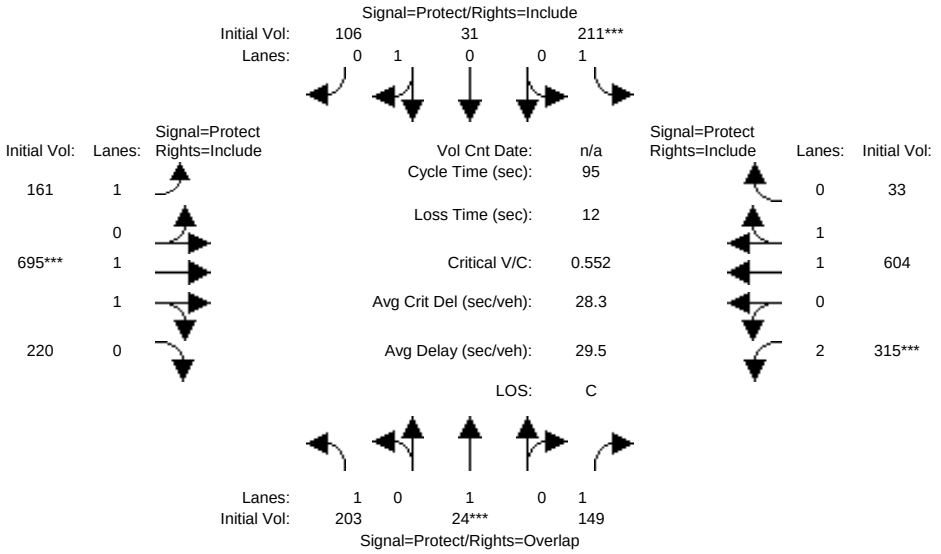
Street Name:	Walnut Grove Drive						E Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:7:00-9:00 AM												
Base Vol:	92	8	94	128	4	33	102	693	108	198	752	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	92	8	94	128	4	33	102	693	108	198	752	53
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project Tri:	0	0	0	0	0	0	0	0	0	1	0	0
Initial Fut:	92	8	94	128	4	33	102	693	108	199	752	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	92	8	94	128	4	33	102	693	108	199	752	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	92	8	94	128	4	33	102	693	108	199	752	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	92	8	94	128	4	33	102	693	108	199	752	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.87	0.87	0.95	0.93	0.93	0.92	0.94	0.94
Lanes:	1.00	1.00	1.00	1.00	0.11	0.89	1.00	1.73	0.27	2.00	1.87	0.13
Final Sat.:	1805	1900	1615	1805	178	1468	1805	3061	477	3502	3339	235
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.06	0.07	0.02	0.02	0.06	0.23	0.23	0.06	0.23	0.23
Crit Moves:	****				****		****				****	
Green/Cycle:	0.12	0.17	0.34	0.12	0.17	0.17	0.12	0.34	0.34	0.18	0.40	0.40
Volume/Cap:	0.44	0.03	0.17	0.61	0.13	0.13	0.48	0.66	0.66	0.32	0.56	0.56
Uniform Del:	24.7	20.9	13.8	25.2	21.3	21.3	24.8	16.8	16.8	21.6	13.9	13.9
IncremntDel:	1.5	0.0	0.1	5.1	0.2	0.2	1.8	1.4	1.4	0.3	0.5	0.5
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	26.1	21.0	13.9	30.3	21.5	21.5	26.6	18.3	18.3	21.9	14.5	14.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.1	21.0	13.9	30.3	21.5	21.5	26.6	18.3	18.3	21.9	14.5	14.5
LOS by Move:	C	C	B	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	110	7	67	170	35	35	125	370	370	100	321	321

Note: Queue reported is the distance per lane in feet.

810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing plus Project PM

Intersection #1: E Dunne Avenue/Walnut Grove Drive



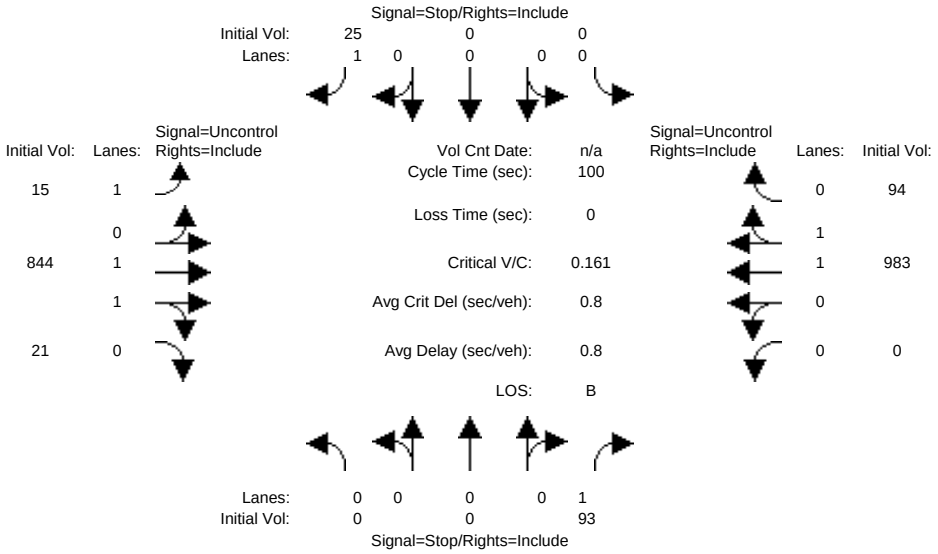
Street Name:	Walnut Grove Drive						E Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:4:00-6:00 PM												
Base Vol:	203	24	149	211	31	106	161	695	220	315	604	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	203	24	149	211	31	106	161	695	220	315	604	33
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	203	24	149	211	31	106	161	695	220	315	604	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	203	24	149	211	31	106	161	695	220	315	604	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	203	24	149	211	31	106	161	695	220	315	604	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	203	24	149	211	31	106	161	695	220	315	604	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	0.88	0.88	0.95	0.92	0.92	0.92	0.94	0.94
Lanes:	1.00	1.00	1.00	1.00	0.23	0.77	1.00	1.52	0.48	2.00	1.90	0.10
Final Sat.:	1805	1900	1615	1805	380	1300	1805	2643	837	3502	3396	186
Capacity Analysis Module:												
Vol/Sat:	0.11	0.01	0.09	0.12	0.08	0.08	0.09	0.26	0.26	0.09	0.18	0.18
Crit Moves:		****		****				****		****		
Green/Cycle:	0.15	0.11	0.25	0.19	0.14	0.14	0.19	0.43	0.43	0.15	0.38	0.38
Volume/Cap:	0.73	0.12	0.37	0.61	0.57	0.57	0.46	0.61	0.61	0.61	0.46	0.46
Uniform Del:	38.4	38.5	29.2	35.2	38.0	38.0	34.0	20.9	20.9	38.0	21.9	21.9
IncremntDel:	9.8	0.3	0.6	3.2	3.2	3.2	1.0	0.8	0.8	2.2	0.2	0.2
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	48.2	38.8	29.8	38.4	41.2	41.2	35.0	21.7	21.7	40.1	22.1	22.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.2	38.8	29.8	38.4	41.2	41.2	35.0	21.7	21.7	40.1	22.1	22.1
LOS by Move:	D	D	C	D	D	D	C	C	C	D	C	C
HCM2k95thQ:	348	37	189	314	225	225	226	516	516	264	354	354

Note: Queue reported is the distance per lane in feet.

810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project AM

Intersection #2: E Dunne Avenue/Laurel Road



Street Name:	Laurel Road						E Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:7:00-9:00 AM												
Base Vol:	0	0	92	0	0	25	15	844	21	0	983	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	92	0	0	25	15	844	21	0	983	94
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project Tri:	0	0	1	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	93	0	0	25	15	844	21	0	983	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	93	0	0	25	15	844	21	0	983	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	93	0	0	25	15	844	21	0	983	94
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	6.9	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	433	xxxx	xxxx	539	1077	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	577	xxxx	xxxx	492	655	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	577	xxxx	xxxx	492	655	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	0.16	xxxx	xxxx	0.05	0.02	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	14.3	xxxx	xxxx	4.0	1.8	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	12.4	xxxxx	xxxx	12.7	10.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	B	*	*	B	B	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	12.4			12.7			xxxxxx			xxxxxx		
ApproachLOS:	B			B			*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #2 E Dunne Avenue/Laurel Road

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Lanes:	0	0	0	0 1	0	0	0	0 1	1	0	1	1 0	0	0	1	1 0
Initial Vol:	0	0	93		0	0	25		15	844	21		0	983	94	
ApproachDel:	12.4				12.7				xxxxxx				xxxxxx			

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=93]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2075]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=25]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2075]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #2 E Dunne Avenue/Laurel Road

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Lanes:	0	0	0	0 1	0	0	0	0 1	1	0	1	1 0	0	0	1	1 0
Initial Vol:	0	0	93		0	0	25		15	844	21		0	983	94	

Major Street Volume: 1957
Minor Approach Volume: 93
Minor Approach Volume Threshold: 54 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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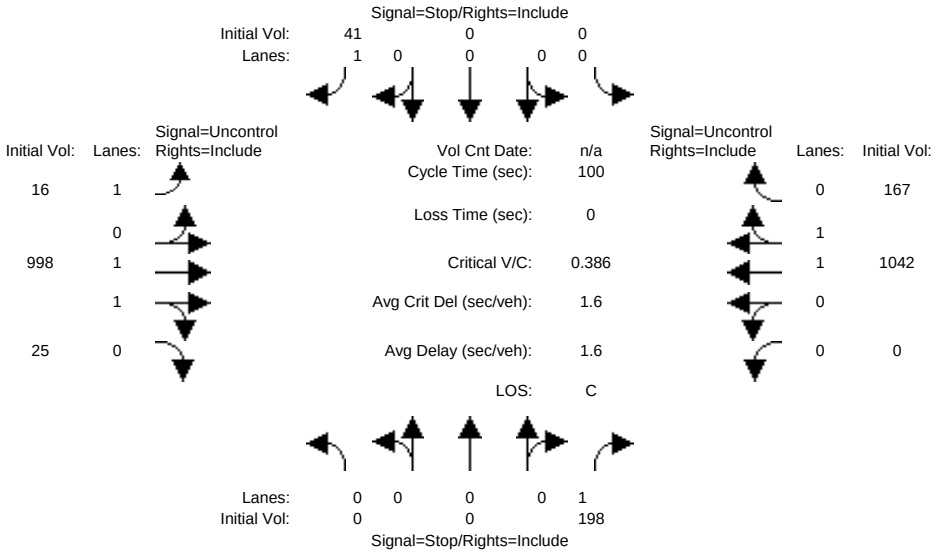
810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project PM

Intersection #2: E Dunne Avenue/Laurel Road



Street Name:	Laurel Road						E Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:4:00-6:00 PM												
Base Vol:	0	0	198	0	0	41	16	998	25	0	1042	167
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	198	0	0	41	16	998	25	0	1042	167
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	198	0	0	41	16	998	25	0	1042	167
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	198	0	0	41	16	998	25	0	1042	167
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	198	0	0	41	16	998	25	0	1042	167
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	6.9	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	512	xxxx	xxxx	605	1209	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	513	xxxx	xxxx	446	584	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	513	xxxx	xxxx	446	584	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	0.39	xxxx	xxxx	0.09	0.03	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	45.1	xxxx	xxxx	7.5	2.1	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	16.4	xxxxx	xxxx	13.9	11.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	C	*	*	B	B	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	16.4			13.9			xxxxxx			xxxxxx		
ApproachLOS:	C			B			*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #2 E Dunne Avenue/Laurel Road

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 1			0 0 0 0 1			1 0 1 1 0			0 0 1 1 0		
Initial Vol:	0	0	198	0	0	41	16	998	25	0	1042	167
ApproachDel:	16.4			13.9			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=198]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2487]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[southbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=41]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2487]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER
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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #2 E Dunne Avenue/Laurel Road

****

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 1			0 0 0 0 1			1 0 1 1 0			0 0 1 1 0		
Initial Vol:	0	0	198	0	0	41	16	998	25	0	1042	167

Major Street Volume: 2248
Minor Approach Volume: 198
Minor Approach Volume Threshold: 6 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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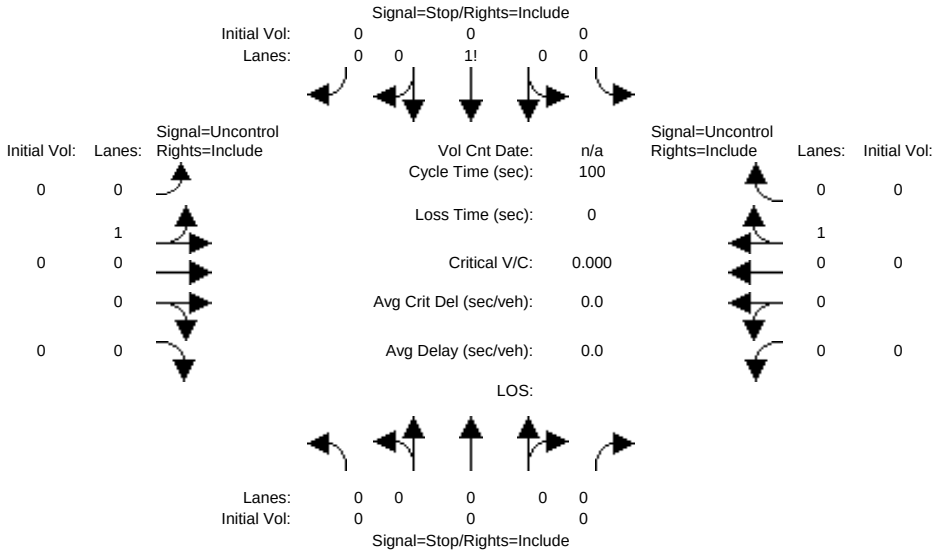
810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project AM

Intersection #3: Shopping Center Road/Project Driveway 1



Street Name: Project Driveway 1 Shopping Center Road

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:7:00-9:00 AM												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project Tri:	0	0	0	7	0	7	7	7	0	0	7	7
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FollowUpTim:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflict Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Move Cap.:	1	1	1	1	1	1	1	1	1	1	1	1
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Del:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LOS by Move:												
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
SharedQueue:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shrd ConDel:	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Shared LOS:												
ApproachDel:		0.0			0.0			0.0			0.0	
ApproachLOS:												

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #3 Shopping Center Road/Project Driveway 1

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	0 0	1! 0	0	0 1	0 0	0	0 0	0 1	0
Initial Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ApproachDel:	0.0			0.0			0.0			0.0		

SIGNAL WARRANT DISCLAIMER
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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #3 Shopping Center Road/Project Driveway 1

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0	0	0 0	1! 0	0	0 1	0 0	0	0 0	0 1	0
Initial Vol:	0	0	0	0	0	0	0	0	0	0	0	0

Major Street Volume: 0
Minor Approach Volume: 0
Minor Approach Volume Threshold: +Inf

SIGNAL WARRANT DISCLAIMER
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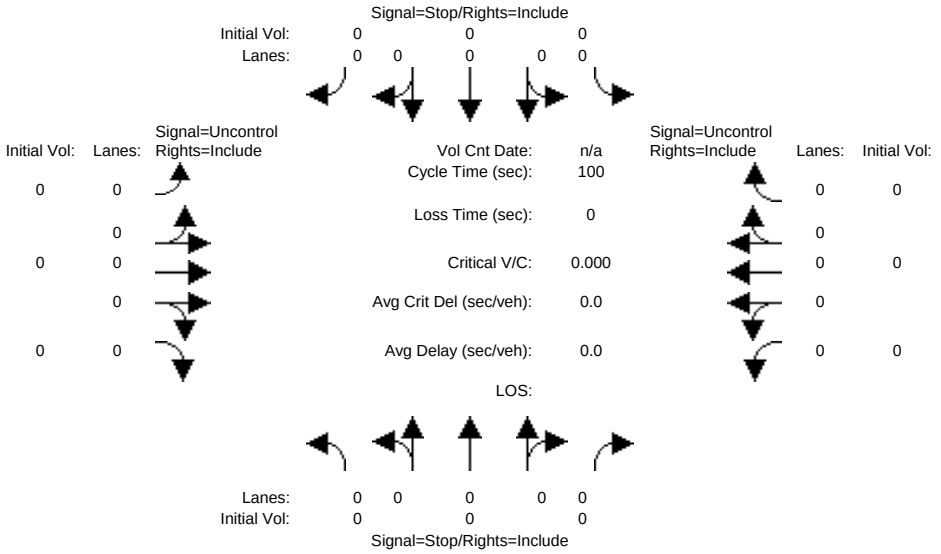
810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project PM

Intersection #3: Shopping Center Road/Project Driveway 1



Street Name:	Project Driveway 1						Shopping Center Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:4:00-6:00 PM												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project Tri:	0	0	0	10	0	11	11	9	0	0	9	9
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FollowUpTim:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflict Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Move Cap.:	1	1	1	1	1	1	1	1	1	1	1	1
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Del:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LOS by Move:												
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
SharedQueue:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shrd ConDel:	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Shared LOS:												
ApproachDel:		0.0			0.0			0.0			0.0	
ApproachLOS:												

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #3 Shopping Center Road/Project Driveway 1

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0 0		0 0	0 0 0		0 0	0 0 0		0 0	0 0 0	
Initial Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ApproachDel:	0.0			0.0			0.0			0.0		

SIGNAL WARRANT DISCLAIMER
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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #3 Shopping Center Road/Project Driveway 1

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0	0 0 0		0 0	0 0 0		0 0	0 0 0		0 0	0 0 0	
Initial Vol:	0	0	0	0	0	0	0	0	0	0	0	0

Major Street Volume: 0
Minor Approach Volume: 0
Minor Approach Volume Threshold: +Inf

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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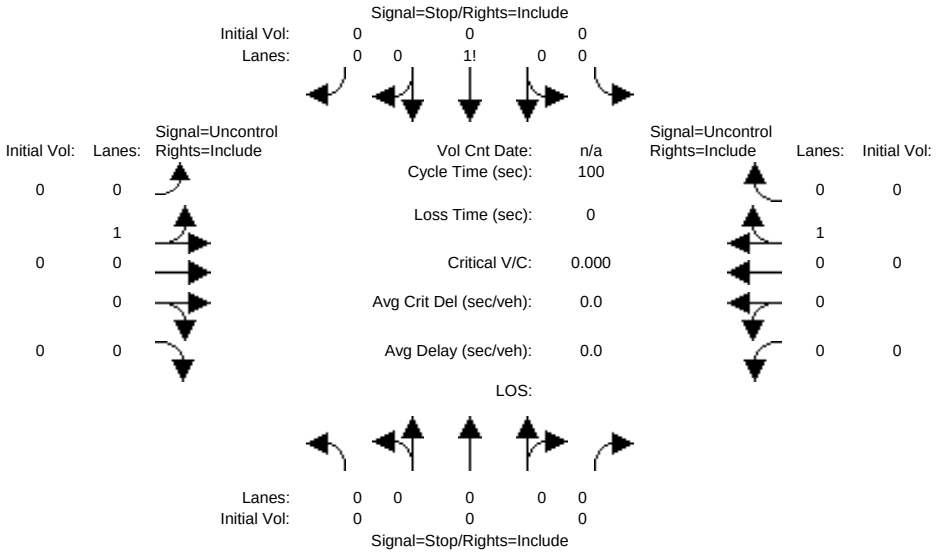
810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project AM

Intersection #4: Shopping Center Road/Project Driveway 2



Street Name:	Project Driveway 2						Shopping Center Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:7:00-9:00 AM												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project Tri:	0	0	0	7	0	8	8	7	0	0	7	7
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FollowUpTim:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflict Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Move Cap.:	1	1	1	1	1	1	1	1	1	1	1	1
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Del:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LOS by Move:												
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
SharedQueue:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shrd ConDel:	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Shared LOS:												
ApproachDel:		0.0			0.0			0.0			0.0	
ApproachLOS:												

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #4 Shopping Center Road/Project Driveway 2

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0	0 0		0 0	1! 0 0		0 1	0 0	0	0 0	0 1	0
Initial Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ApproachDel:	0.0			0.0			0.0			0.0		

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #4 Shopping Center Road/Project Driveway 2

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0	0 0		0 0	1! 0 0		0 1	0 0	0	0 0	0 1	0
Initial Vol:	0	0	0	0	0	0	0	0	0	0	0	0

Major Street Volume: 0
Minor Approach Volume: 0
Minor Approach Volume Threshold: +Inf

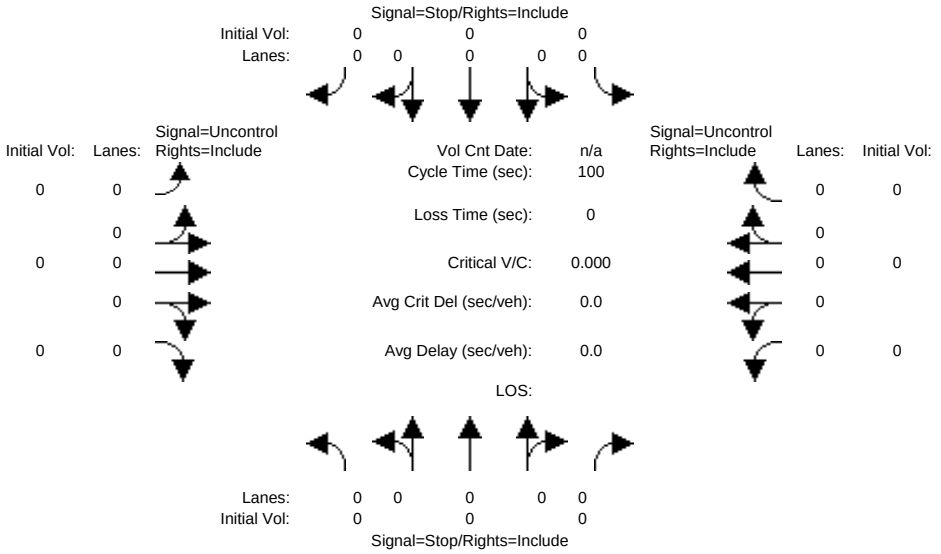
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

810 E Dunne Avenue Traffic Study
City of Morgan Hill, CA

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project PM

Intersection #4: Shopping Center Road/Project Driveway 2



Street Name:	Project Driveway 2						Shopping Center Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:4:00-6:00 PM												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project Tri:	0	0	0	9	0	10	11	11	0	0	11	9
Initial Fut:	0	0	0	0	0	0	0	0	0	0	0	0
User Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Adj:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PHF Volume:	0	0	0	0	0	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FollowUpTim:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capacity Module:												
Cnflict Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Potent Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
Move Cap.:	1	1	1	1	1	1	1	1	1	1	1	1
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Del:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LOS by Move:												
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	0	0	0	0	0	0	0	0	0	0	0	0
SharedQueue:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shrd ConDel:	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Shared LOS:												
ApproachDel:		0.0			0.0			0.0			0.0	
ApproachLOS:												

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

****

Intersection #4 Shopping Center Road/Project Driveway 2

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 0			0 0 0 0 0			0 0 0 0 0			0 0 0 0 0		
Initial Vol:	0	0	0	0	0	0	0	0	0	0	0	0
ApproachDel:	0.0			0.0			0.0			0.0		

SIGNAL WARRANT DISCLAIMER
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Peak Hour Volume Signal Warrant Report [Urban]

****

Intersection #4 Shopping Center Road/Project Driveway 2

****

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 0 0 0			0 0 0 0 0			0 0 0 0 0			0 0 0 0 0		
Initial Vol:	0	0	0	0	0	0	0	0	0	0	0	0

Major Street Volume: 0
Minor Approach Volume: 0
Minor Approach Volume Threshold: +Inf

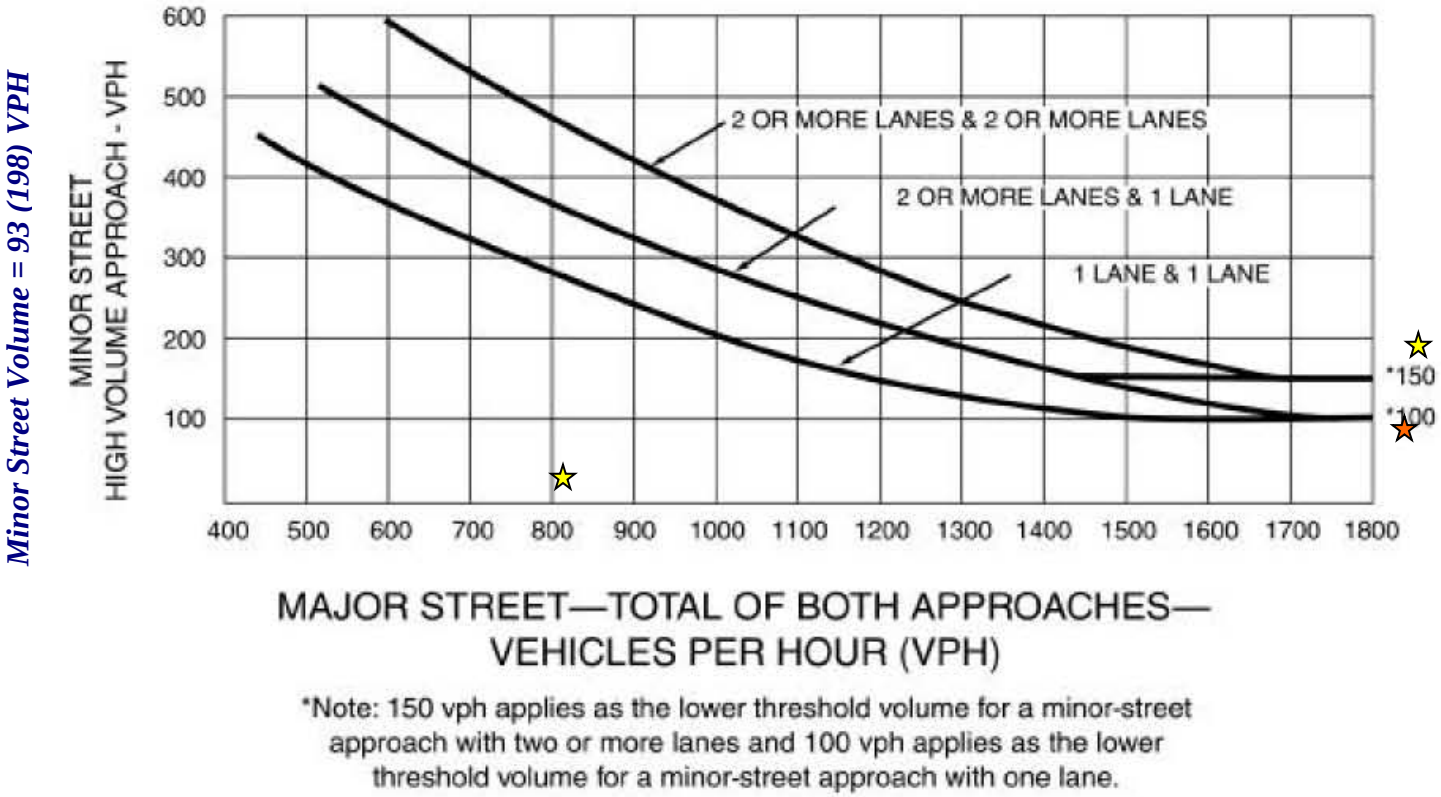
SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Warrant (Urban Areas)

Intersection #2: E.Dunne Avenue/Laurel Road, Morgan Hill, CA
Scenario: Baseline plus Project Conditions

Figure 4C-3. Warrant 3, Peak Hour



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

Major Street Volume = 1,957 (2,248) VPH

AM Peak Hour

PM Peak Hour

A signal is NOT WARRANTED in the a.m. Peak Hour
A signal is WARRANTED in the p.m. Peak Hour

Source: CA MUTCD 2014, Chapter 4C – Traffic Control Signal Needs Studies, Part 4 - Highway Traffic Signals, Figure 4C-3