

APPENDIX F
VMT Assessment and Trip Generation and
Operations Analysis



HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum

Date: June 4, 2021
To: Maria Kisyova, David J. Powers & Associates, Inc.
From: Robert Del Rio, T.E., Luis Descanzo
Subject: VMT Assessment for the Proposed World Oil Gas Station in Morgan Hill, California

Hexagon Transportation Consultants, Inc. has completed a vehicle-miles traveled (VMT) assessment for the proposed commercial development project located at 16720 Monterey Road (APN 817-01-002) in Morgan Hill, California (see Figure 1). The project as proposed would consist of the reconstruction of an existing gas station on-site to add two additional pump stations and retail space. The existing station provides four pump stations (eight gas pumps) and an 880 square-foot retail/convenience store. The proposed new gas station will provide a total of six pump stations (12 gas pumps) and a 2,115 square-foot retail store (see Figure 2 for site plan). The project would modify an existing driveway on Monterey Road from an 84-foot wide to a 32-foot wide driveway. No improvements to the existing 32-foot wide driveway on San Pedro Avenue are proposed. The purpose of this memorandum is to provide an assessment of the project's effect on VMT. The VMT assessment methodology and results are discussed below.

VMT Assessment Methodology and Results

Pursuant to Senate Bill (SB) 743, the California Environmental Quality Act (CEQA) 2019 Update Guidelines Section 15064.3, subdivision (b) states that VMT will be the metric in analyzing transportation impacts for land use projects for CEQA purposes. VMT is the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT measures the full distance of personal motorized vehicle-trips with one end within the project. Typically, development projects that are farther from other, complementary land uses (such as a business park far from housing) and in areas without transit or active transportation infrastructure (bike lanes, sidewalks, etc.) generate more driving than development near complementary land uses with more robust transportation options. Therefore, developments located in a central business district with high density and diversity of complementary land uses and frequent transit services are expected to internalize trips and generate shorter and fewer vehicle trips than developments located in a suburban area with low density of residential developments and no transit serve in the project vicinity.

The City of Morgan Hill, at the time of this report, is undertaking a process of updating its General Plan policies to incorporate VMT methodologies and significance thresholds to be consistent with SB 743 but has not released draft thresholds. In the absence of an adopted, or even draft, City policy with numeric thresholds, this assessment relies on OPR guidelines in analyzing the project's effects on VMT.

The *Technical Advisory on Evaluating Transportation Impacts in CEQA* published by the Governor's Office of Planning and Research (OPR) in December 2018 provides recommendations regarding VMT evaluation methodology, significance thresholds, and screening thresholds for land use projects. However, the evaluation of VMT for development projects is limited to general land use categories such

Figure 1
Site Location

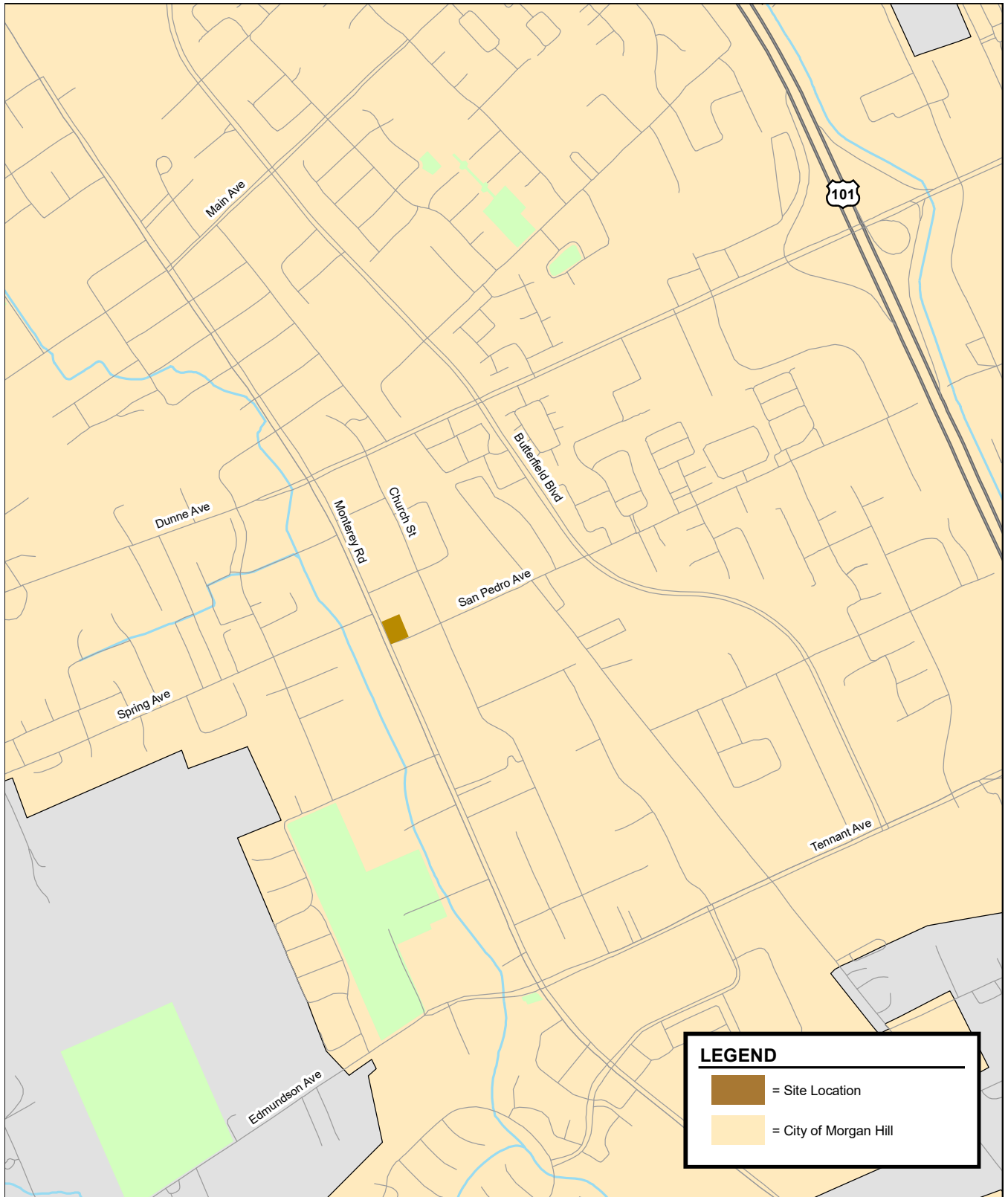
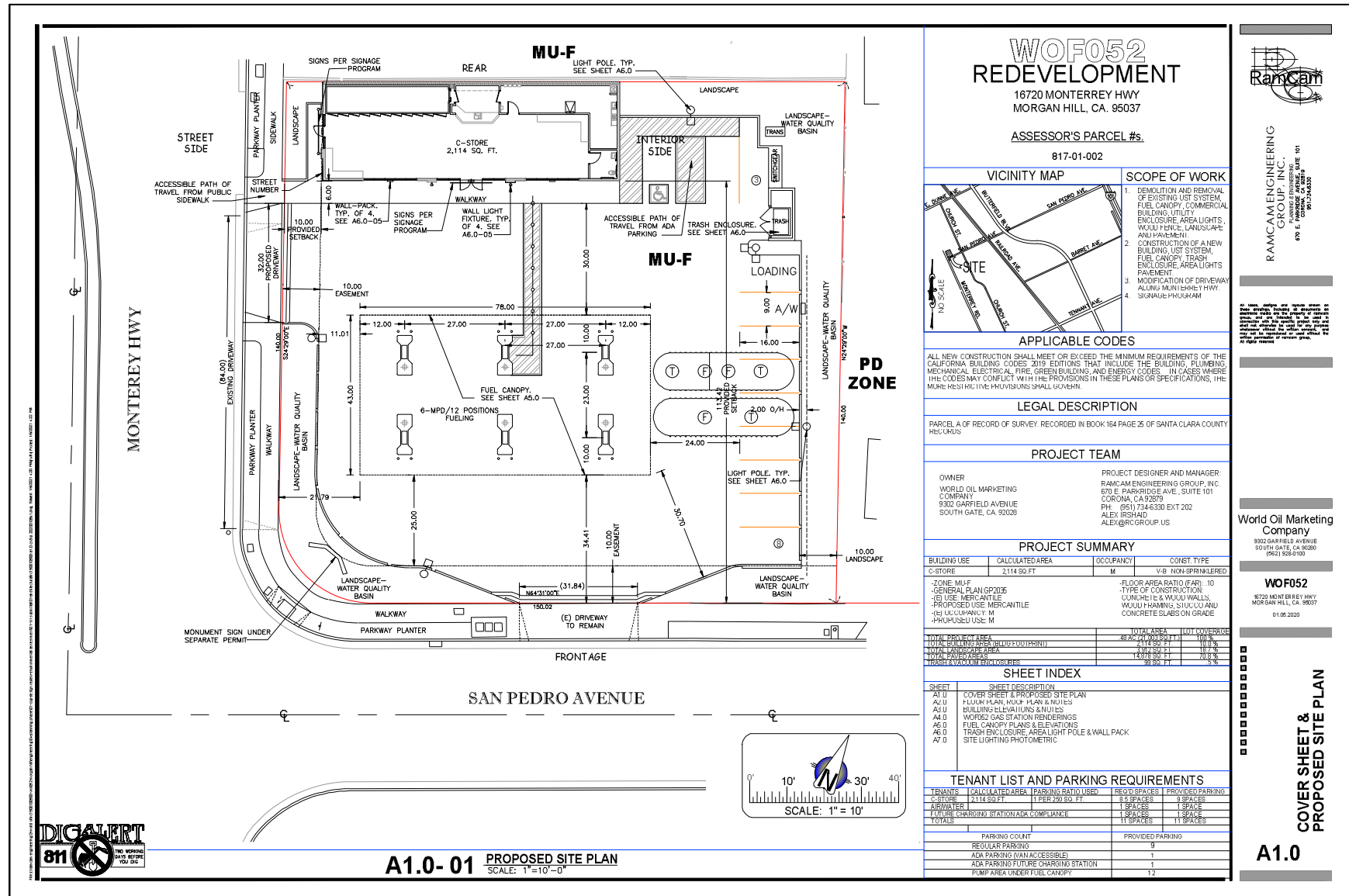


Figure 2
Site Plan



as residential, office, industrial, and retail. Therefore, the assessment of VMT for the proposed gas station required a conversion to an equivalent amount of one of the general land uses that has similar trip generating and trip origin/destination characteristics. The number and origination/destination of daily trips and resulting VMT generated by the proposed gas station would be similar to that of local-serving retail since the gas station will be centrally located within the city and not adjacent to a major regional freeway. Therefore, the proposed gas station was converted to an equivalent amount of local-serving retail space based on a comparison of estimated daily trips using ITE trip rates for the proposed gas station and typical retail uses.

Daily Trip Generation Estimates

Daily site-generated vehicular traffic for the proposed gas station was estimated based on trip generation rates compiled in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition (2017)*. The proposed project would increase the size of the retail use on site to greater than 2,000 square feet, therefore rates for "Gasoline/Service Station with Convenience Market" (ITE Land Use 945) were used to estimate the trips generated by the proposed gas station. Based on the trip generation rates and the project size, it is estimated that the proposed gas station will generate 2,464 new daily vehicle trips prior to any trip reductions (see Table 1).

Table 1
Trip Generation Summary

Land Use	ITE Land Use Code ¹	Size	Daily	
			Rate	Trip
Proposed Land Use				
Gasoline/Service Station with Convenience Market	945	12 Vehicle Fueling Positions	205.36	2,464
		Pass-by Reduction ²	56%	-1,380
<i>Sub-Total</i>				1,084
Existing Land Use Credit				
Gasoline/Service Station	944	8 Vehicle Fueling Positions	172.01	-1,376
		Pass-by Reduction ²	42%	578
<i>Sub-Total</i>				-798
Total Net Project Trips				286
Equivalent Land Use				
Retail (Shopping Center)	820		37.75	286
Equivalent Square Footage		7,578 Square Feet		
Notes:				
¹ Source: ITE <i>Trip Generation Manual</i> , 10th Edition 2017.				
² Peak-hour passerby reduction rates obtained from the ITE Trip Generation Handbook, Third Edition. Daily peak-hour pass-by reductions are assumed to be the same as their PM peak-hour pass-by rate.				

Trip generation for gas stations are typically adjusted to account for pass-by-trips. Pass-by-trips are trips that would already be on the adjacent roadways (and are therefore already counted in the existing traffic) but would turn into the site while passing by. Justification for applying the pass-by-trip reduction is founded on the observation that such gas station traffic is not actually generated by the gas station, however, is already part of the ambient traffic levels. Pass-by-trips are therefore excluded from the traffic projections to yield net new project trips generated by the project. The pass-by reductions were derived based on information contained in the ITE *Trip Generation Handbook*, Third Edition 2017. ITE data show that gasoline/service stations with convenience markets have average pass-by trip reductions of 62% in the AM peak-hour and 56% in the PM peak-hour. Therefore, the lesser of the peak hour pass-by reductions was applied to the estimated daily trips.

Trip credit for the existing gas station on site also was applied since traffic generated by the existing use would be eliminated once the proposed project is built. The rates published for “Gasoline/Service Station” (ITE Land Use 944) were used to estimate the trips generated by the existing gas station, the retail component of which is less than 2,000 square feet in size. As with the proposed gas station, a pass-by trip reduction was applied. The existing site-generated traffic was subtracted from the project traffic estimates to obtain the net increase in traffic associated with the construction of the proposed project. After applying the ITE trip rates, pass-by reductions, and existing site trip credit, it is estimated that the project would generate 286 net new vehicle-trips per day.

VMT Assessment

The OPR provides screening threshold recommendations that are intended to identify when a project should be expected to cause a less-than-significant impact without conducting a detailed VMT evaluation. The OPR screening thresholds recommendations are based on project size, maps, transit availability, and provision of affordable housing. The OPR recommendations include the screening threshold criteria listed below:

- OPR recommends that office or residential projects not exceeding a level of 15 percent below existing VMT per capita and employee may indicate a less-than-significant impact on VMT.
- OPR recommends that projects (including office, residential, retail, and mixed-use developments) proposed within ½ mile of an existing major transit stop or within ¼ mile of an existing stop along a high-quality transit corridor may be presumed to have a less-than-significant impact on VMT.
- OPR recommends that 100 percent affordable residential development in infill locations be presumed to have a less-than-significant impact on VMT.
- OPR recommends that projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant impact on VMT.
- OPR recommends that local-serving retail developments (considered to be less than 50,000 s.f. in size) may be assumed to cause a less-than-significant impact on VMT.

As discussed above, the proposed project was converted to equivalent amount of retail/commercial use for the purpose of the VMT assessment since the OPR screening criteria outlined above are not directly applicable to the proposed gas station uses. The results of the conversion of the proposed gas station to an equivalent amount of retail/commercial space, shown on Table 1, indicate that the proposed gas station would generate net new daily trips equivalent to that of an approximately 7,578 s.f. retail development. If no credit for the existing gas station use on site were applied, the proposed gas station would generate daily trips equivalent to that of an approximately 28,715 s.f. retail development.

Per the OPR recommendations, since the daily trips and resulting VMT estimated to be generated by the proposed gas station would be equivalent to that generated by retail uses of less than 50,000 s.f. in size, it may be presumed to be a local-serving facility and would therefore have a less-than-significant impact on VMT. The OPR guidelines suggest that by adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. As a result of the project having trip-making characteristics of a local-serving retail facility, it can be presumed that the project would have a less-than-significant impact on VMT.



Memorandum

Date: December 5, 2022
To: Maria Kisyova, David J. Powers & Associates, Inc.
From: Robert Del Rio, T.E., Luis Descanzo
Subject: Trip Generation and Operations Analysis for the Proposed World Oil Gas Station in Morgan Hill, California

Hexagon Transportation Consultants, Inc. has completed a trip generation and operations analysis for the proposed commercial development project located at 16720 Monterey Road (APN 817-01-002) in Morgan Hill, California (see Figure 1). The project as proposed would consist of the reconstruction of an existing gas station on-site to add two additional pump stations and retail space. The existing station provides four pump stations (eight gas pumps) and an 880 square-foot retail/convenience store. The proposed new gas station will provide a total of six pump stations (12 gas pumps) and a 2,115 square-foot retail store. The project would modify an existing driveway on Monterey Road from an 84-foot wide to a 32-foot wide driveway. No improvements to the existing 32-foot wide driveway on San Pedro Avenue are proposed. The methodology, results, and recommendations of the analysis are discussed below.

Scope of Study

The current General Plan, *Morgan Hill 2035 General Plan*, adopted in July 2016 uses Level of Service (LOS) as its primary metric for the evaluation of the projected operation of the City's roadway system. Therefore, this traffic operations analysis based upon peak hour intersection level of service analysis is included for consistency with the General Plan goals and policies. The traffic operations analysis supplements the CEQA required VMT analysis provided in a separate memorandum. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

The purposes of the trip generation and operations analysis are to evaluate the magnitude of traffic that would be added to the roadway system due to the proposed project and to determine whether a comprehensive traffic study is required for the proposed project. The analysis consists of an evaluation of trip generation and peak-hour intersection level of service analysis at intersections in the immediate vicinity of the project site. Traffic conditions were evaluated for the scenarios listed below.

Existing Conditions. Existing conditions represent the existing peak-hour traffic volumes on the existing roadway network. Existing traffic volumes were represented by traffic counts collected in March 2019 at the study intersections.

Existing Plus Project Conditions. Existing plus project peak-hour traffic volumes were estimated by adding to the existing traffic volumes the additional traffic that would be generated by the proposed project. Existing plus project conditions were evaluated relative to existing conditions in order to determine the effects of the proposed project on existing traffic conditions.

Year 2025 Cumulative Conditions. Year 2025 Cumulative conditions represent future traffic volumes on the future transportation network. Year 2025 Cumulative conditions include traffic

Figure 1
Site Location

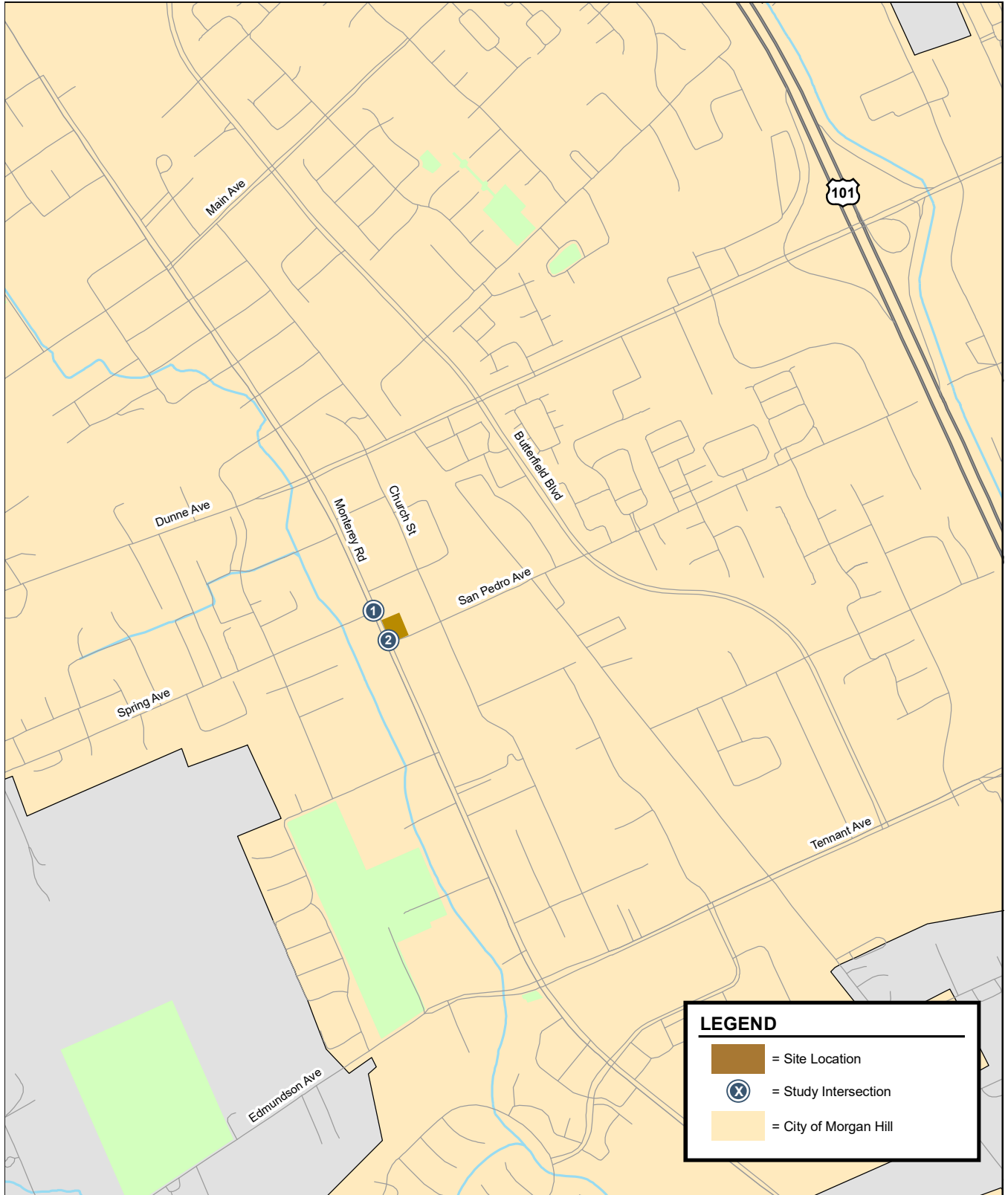
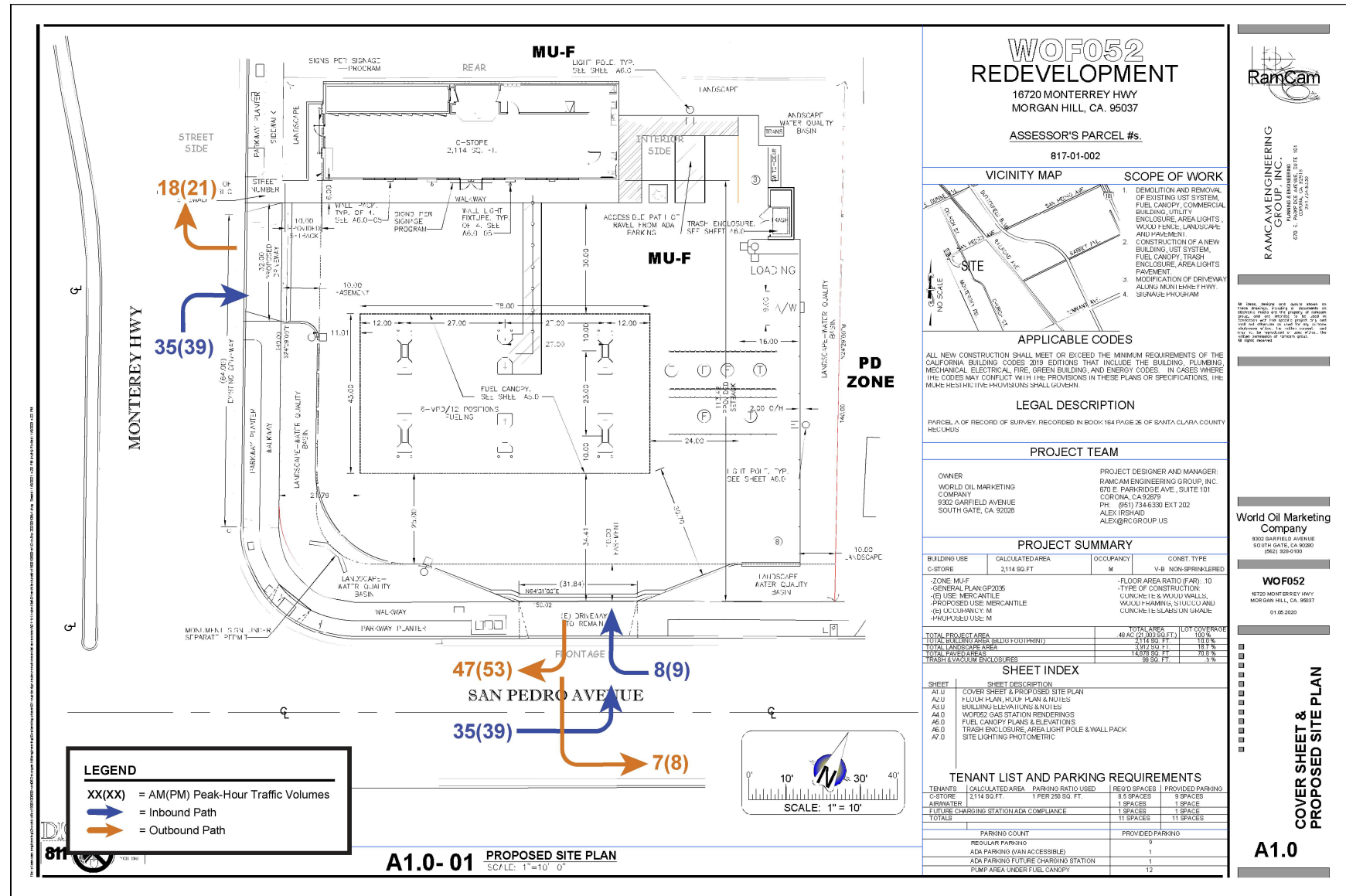


Figure 2
Site Plan and Gross Project Trips at Driveways



growth projected to occur in the Year 2025 without the proposed project, including a proposed senior housing facility located at 16685 Church Street.

Year 2025 Cumulative with Project Conditions. Year 2025 Cumulative with project conditions consists of Year 2025 Cumulative traffic conditions with the addition of project traffic.

Project Trip Generation Estimates and Assignment

In determining the project trip generation, the magnitude of traffic entering and existing the site is estimated for the AM and PM peak hours. Through empirical research, data have been collected that quantify the amount of traffic produced by many types of land uses. The research is compiled in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition (2017)*. The standard trip generation rates can be applied to help predict the future traffic increases that would result from a new development. The proposed project would increase the size of the retail use on-site to greater than 2,000 square feet, therefore rates for "Gasoline/Service Station with Convenience Market" (ITE Land Use 945) were used to estimate the trips generated by the proposed gas station. Based on the trip generation rates and the project size, it is estimated that the proposed gas station is estimated to generate 150 new vehicle trips (77 inbound and 73 outbound) during the AM peak hour and 168 vehicle trips (86 inbound and 82 outbound) during the PM peak hour prior to any trip reductions (see Table 1).

Table 1
Trip Generation Summary

Land Use	ITE Land Use Code ¹	Size	Daily		AM Peak Hour			PM Peak Hour				
			Rate	Trip	Pk-Hr Rate	Trip		Pk-Hr Rate	Trip			
						In	Out	Total		In	Out	Total
Proposed Land Use												
Gasoline/Service Station with Convenience Market	945	12 Vehicle Fueling Positions	205.36	2,464	12.47	77	73	150	13.99	86	82	168
Pass-by Reduction ²			56%	-1,380	62%	-48	-45	-93	56%	-48	-46	-94
<i>Sub-Total</i>				<i>1,084</i>		<i>29</i>	<i>28</i>	<i>57</i>		<i>38</i>	<i>36</i>	<i>74</i>
Existing Land Use Credit												
Gasoline/Service Station	944	8 Vehicle Fueling Positions	172.01	-1,376	10.28	-41	-41	-82	14.03	-57	-56	-113
Pass-by Reduction ²			42%	578	58%	24	24	48	42%	24	24	48
<i>Sub-Total</i>				<i>-798</i>		<i>-17</i>	<i>-17</i>	<i>-34</i>		<i>-33</i>	<i>-32</i>	<i>-65</i>
Total Net Project Trips				286		12	11	23		5	4	9
Notes:												
¹ Source: ITE <i>Trip Generation Manual</i> , 10th Edition 2017.												
² AM and PM peak-hour passerby reduction rates obtained from the ITE Trip Generation Handbook, Third Edition. Daily peak-hour pass-by reductions are assumed to be the same as their PM peak-hour pass-by rate.												

Trip generation for gas stations are typically adjusted to account for pass-by-trips. Pass-by-trips are trips that would already be on the adjacent roadways (and are therefore already counted in the existing traffic) but would turn into the site while passing by. Justification for applying the pass-by-trip reduction is founded on the observation that such gas station traffic is not actually generated by the gas station, but is already part of the ambient traffic levels. Pass-by-trips are therefore excluded from the traffic projections to yield net new project trips generated by the project. However, at intersections providing direct access to the project site (i.e. project driveways), all project-generated traffic is included, including pass-by trips. The pass-by reductions were derived based on information contained in the ITE *Trip Generation Handbook*, Third Edition 2017. ITE data show that gasoline/service stations with convenience markets have average pass-by trip reductions of 62% in the AM peak-hour and 56% in the PM peak-hour.

Trip credit for the existing gas station on site also was applied since traffic generated by the existing use would be eliminated once the proposed project is built. The rates published for “Gasoline/Service Station” (ITE Land Use 944) were used to estimate the trips generated by the existing gas station, the retail component of which is less than 2,000 square feet in size. As with the proposed development, a pass-by trip reduction was applied. The existing site-generated traffic was subtracted from the project traffic estimates to obtain the net increase in traffic associated with the implementation of the proposed project.

After applying the ITE trip rates, pass-by reductions, and existing site trip credit, it is estimated that the project would generate 23 net new vehicle trips (12 inbound and 11 outbound) during the AM peak hour and 9 net new vehicle trips (5 inbound and 4 outbound) during the PM peak hour (see Table 1).

The directional distribution of site-generated traffic to and from the project site was estimated based on the existing travel patterns on the surrounding roadway network that reflect typical weekday AM and PM peak commute patterns, the location of the project driveways, freeway access points, and the locations of complimentary land uses. The peak-hour project trips associated with the proposed project were added to the transportation network in accordance with the distribution pattern. The project trip distribution pattern and assignment of project trips at the study intersections are shown on Figure 3.

Intersection Level of Service Analysis

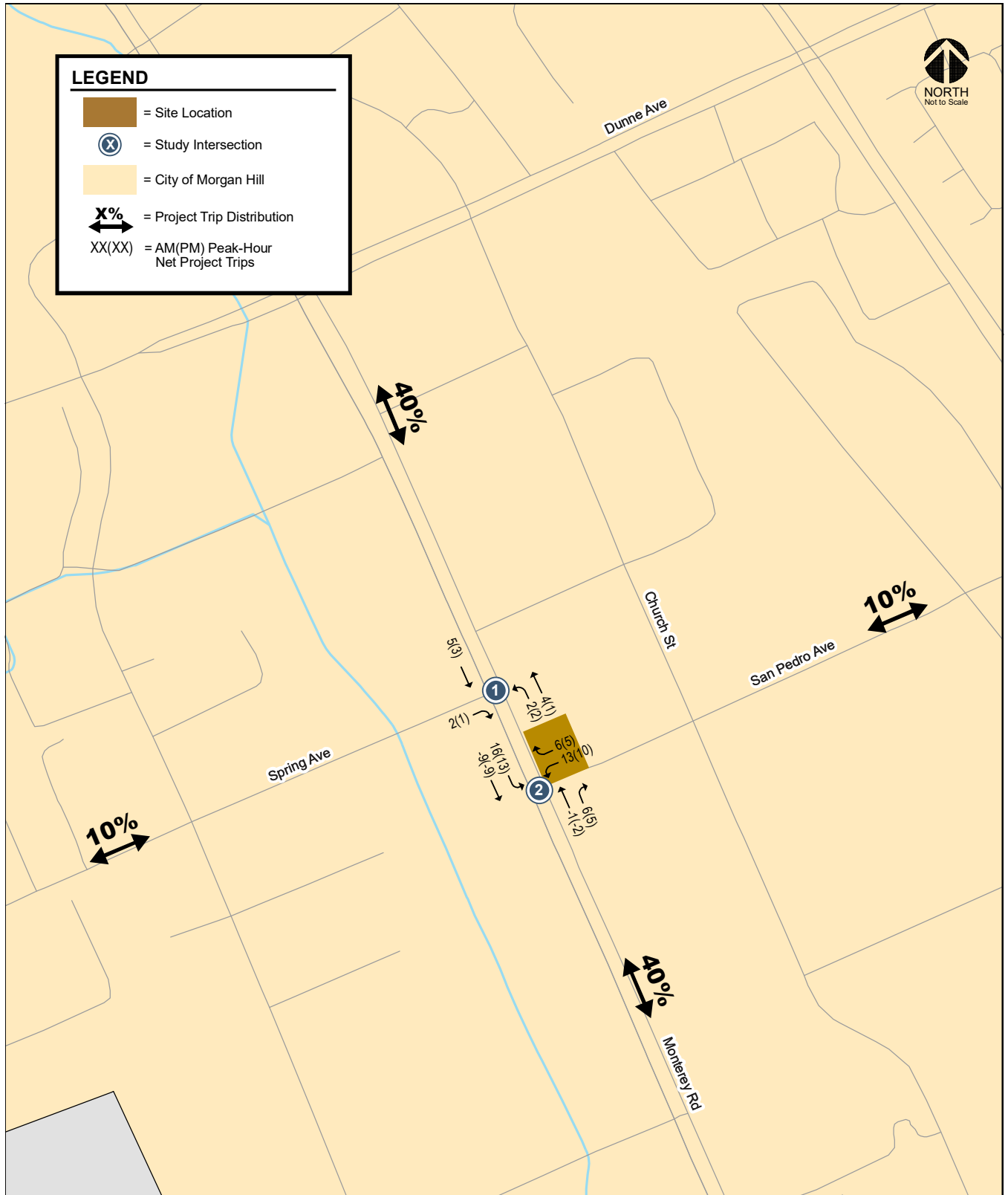
Traffic conditions at the intersection of Monterey Road/Spring Avenue and Monterey Road/San Pedro Avenue were analyzed for the weekday AM and PM peak hours of traffic. Other intersections in the project area were not studied because the addition of project trips will be minimal, less than 10 peak hour trips. The weekday AM peak hour of traffic generally falls within the 7:00 AM to 9:00 AM period and the weekday PM peak hour is typically in the 4:00 PM to 6:00 PM period. It is during these times that the most congested traffic conditions occur on a typical weekday.

Signalized Intersection Analysis

Signalized study intersections are subject to the City of Morgan Hill's level of service standards. The City of Morgan Hill's 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 CMP-designated intersection 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

Figure 3
Project Trip Distribution and Net Project Trip Assignment (Existing Plus Project Conditions)



- 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/East Dunne Avenue
- Tennant Avenue Freeway Zone: from Butterfield Boulevard/Tennant Avenue to Condit Road/Tennant Avenue

According to the City of Morgan Hill level of service guidelines, a development is said to create a significant adverse effect on traffic conditions at a signalized intersection if for either peak hour:

1. The level of service at the intersection degrades from an acceptable level (LOS D or LOS E as identified above) under no project conditions to an unacceptable level (LOS E or F) under project conditions, or
2. The level of service at the intersection is an unacceptable level (LOS E or F as identified above) under no project conditions and the addition of project trips causes the average critical delay to increase by four (4) or more seconds *and* the volume-to-capacity ratio (V/C) to increase by 0.01.

An exception to this rule applies when the addition of project traffic reduces the amount of average delay for critical movements (i.e., the change in average delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by 0.01 or more.

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.

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, 2014. 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.

Level of Service Results

The results of the intersection level of service analysis show that under existing conditions, the intersection of Monterey Road and San Pedro Avenue currently operates at a LOS F during the PM peak hour, which is below the City standard. The addition of project traffic would increase delays during the PM peak hour and also would degrade AM peak hour operations to an unacceptable LOS E. Under Year 2025 Cumulative conditions, the intersection is projected to operate at an unacceptable LOS F during both peak hours (without and with the proposed project). The substandard level of service is due to long delays experienced by turn-movements from San Pedro Avenue that is caused by limited gaps in traffic flow on Monterey Road. The approved Senior Housing development at 16685 Church Street is conditioned to construct a raised median along Monterey Road that would restrict left-turns out of San Pedro Avenue to southbound Monterey Road. With the left-turn restriction, only right-turns in and out at both San Pedro Avenue (east leg of the intersection) and the existing driveway (west leg of the intersection) as well as southbound left-turns would be allowed. With this intersection improvement, the intersection of Monterey Road and San Pedro Avenue would operate at an acceptable level of service under Existing and Year 2025 Cumulative conditions.

The results of the intersection level of service analysis also show that the study intersection of Monterey Road and Spring Avenue currently operates and is projected to continue to operate at an acceptable LOS B or better conditions under Year 2025 Cumulative conditions, and the addition of project traffic would not result in the degradation of the study intersection's levels of service during the AM and PM peak hours.

Based on the results of the intersection level of service analysis, the project would not have an adverse effect on operations at the study intersection. The results of level of service analysis are summarized in Table 2.

Site Access

The evaluation of site access is based on the site plan prepared by Ramcam Engineering Group dated January 5, 2020. Site access was evaluated to determine the adequacy of the site's access points with regard to the following: traffic volume, geometric design, and sight distance. Site access was evaluated in accordance with generally accepted traffic engineering standards and transportation planning principles.

As shown on Figure 2, the project would modify an existing driveway on Monterey Road from an 84-foot wide to a 32-foot wide driveway. The driveway would be located approximately 130 feet north of San Pedro Avenue. No improvements to the existing 32-foot wide driveway on San Pedro Avenue, located 130 feet east of Monterey Road, are proposed.

Driveway Design and Operations

Based on the project trip generation and trip assignment, it is estimated that a maximum of 86 inbound trips and 82 outbound trips would enter and exit the site during the peak hours. The estimated project trips at the project driveways are shown on Figure 2. Based on the relatively low traffic volumes on San Pedro Avenue and due to the right-in/right-out only operations at the Monterey Road driveway, operational issues are not expected to occur at the project driveways.

The City of Morgan Hill Design Standards specify a minimum driveway width of 16 feet and a maximum width of 36 feet. The site plan indicates both project driveways would measure 32 feet wide and would therefore meet City standards for driveway width.

Table 2
Intersection Level of Service Summary

Int. #	Intersection	Int. Control ¹	LOS Std	Peak Hour	Count Date	Existing		Existing Plus Project				Mitigation		Year 2025 Cumulative		Year 2025 Cumulative with Project				Mitigation			
						Delay ²	LOS	Delay ²	LOS	Crit. Delay	Incr. In	Crit. V/C	Delay ²	LOS	Delay ²	LOS	Delay ²	LOS	Crit. Delay	Incr. In	Crit. V/C	Delay ²	LOS
1	Monterey Road and Spring Avenue	Signal	D	AM	03/14/19	5.1	A	5.2	A	0.1	0.002			4.7	A	4.7	A	0.1	0.002				
			PM	03/21/19	11.3	B	11.4	B	0.0	0.001			12.0	B	12.0	B	0.0	0.001					
2	Monterey Road and San Pedro Avenue	OWSC	D	AM	03/14/19	26.7	D	37.3	E	N/A	N/A	12.7	B	51.8	F	98.9	F	N/A	N/A	14.5	B		
			PM	03/14/19	71.1	F	135.7	F	N/A	N/A	14.3	B	>250	F	>250	F	N/A	N/A	15.3	C			

Notes:

¹OWSC = One-Way Stop-Controlled

²The reported delay and corresponding level of service for signalized intersections represent the average delay for all approaches at the intersection.

The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.

Bold indicates unacceptable level of service or signal warrant met.

Bold and boxed indicate significant impact.

Sight Distance

The project driveways should be free and clear of any obstructions to provide adequate sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and other vehicles traveling on Monterey Road and San Pedro Avenue. Landscaping and signage should be located in such a way to ensure an unobstructed view for drivers exiting the site. Sight distance generally should be provided in accordance with Caltrans standards. The minimum acceptable sight distance is most often the stopping sight distance.

San Pedro Avenue has a posted speed limit of 25 mph. For a design speed of 25 mph, the recommended Caltrans' stopping sight distance is 150 feet. Based on the project site plan and observations in the field, vehicles exiting the project site driveway would have adequate sight distance of westbound San Pedro Avenue. It should be noted that the existing driveway is located only 130 feet east of Monterey Road. However, vehicles turning from Monterey Road onto eastbound San Pedro Avenue would be traveling at speeds significantly less than 25 mph. Therefore, the driveway would have adequate sight distance along eastbound San Pedro Avenue.

Monterey Road has a posted speed limit of 35 mph. For a design speed of 35 mph, the recommended Caltrans' stopping sight distance is 250 feet. Based on the project site plan and observations in the field, vehicles exiting the project site driveway would have adequate sight distance along northbound Monterey Road. It should be noted that the proposed driveway would be located only 130 feet north of San Pedro Avenue. However, vehicles turning from San Pedro Avenue onto northbound Monterey Road would be traveling at speeds significantly less than 35 mph. Therefore, the proposed site driveway would have adequate sight distance along northbound Monterey Road.

On-Site Circulation

The project proposes to replace all existing pump stations on-site, which are currently oriented in an east-west direction. The site plan shows all new pump stations oriented in a north-south direction with on-site queuing space for at least one vehicle (approximately 25 feet) at each row of pump stations. Therefore, queues are not expected to spill-out of the site driveways. Drive aisles surrounding the northern, eastern, and southern sides of the fuel canopy are shown on the site plan to range from 24 to 30 feet wide, which allows for two-way circulation throughout the site. The drive aisle along the western side of the canopy (directly adjacent to Monterey Road) is shown to be 11 feet wide and will support one-way traffic if the adjacent pumping stations are occupied by vehicles. Overall, the proposed layout of the new gas station will allow for continuous circulation into and out of both project driveways and sufficient queueing space on-site.

Transit, Pedestrian, and Bicycle Facility Evaluation

The project site is served by VTA bus routes that run along Monterey Road. Frequent Route 68 (Gilroy Transit Center to San Jose Diridon Transit Center) serves bus stops at the intersection of Monterey Avenue and Spring Avenue, less than 400 feet walking distance from the project site.

In the vicinity of the project site, there are continuous sidewalks along most roadways and crosswalks provided at signalized intersections. It should be noted that a crosswalk is planned to be installed across the east leg of the Monterey Road/San Pedro Avenue intersection. Additionally, sidewalks along eastbound San Pedro Avenue between Monterey Road and Church Street would be constructed.

There are bike lanes in the project area located on Monterey Road, Tennant Avenue, Butterfield Boulevard, and Dunne Avenue. A trailhead providing access to the West Little Llagas Creek Trail is located less than 400 feet west of the project site. The trail runs southward between Spring Avenue and

La Crosse Drive, roughly parallel with Monterey Road. The project is not expected to generate a significant amount of bicycle trips. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site.

Traffic Study Requirements

The need for the preparation of a comprehensive traffic impact analysis for a particular development is based on its estimated trip generation and its effect on surrounding transportation facilities. The City of Morgan Hill requires the completion of a full traffic impact analysis if one of the following criteria are met:

1. Generates 100 or more net new peak hour trips; except that projects located in the 14-block Downtown Core area are exempt from this requirement. Net new peak hour trips are defined as the number of trips generated by the proposed development minus trips generated by existing development on the project site. (This threshold is consistent with the Valley Transportation Authority (VTA) policy.)
2. Adds 50 to 99 net new peak hour trips to the roadway system where nearby intersections are currently operating at or below the City's LOS standard, or projected to operate at or below the City's LOS standard with traffic added by approved developments; except that projects located in the 14-block Downtown Core area are exempt from this requirement. Adjacent or nearby intersections are defined as intersections to which the proposed development or proposed land use change adds 10 or more vehicle peak hour trips per lane.
3. Creates a transportation issue that City staff requests to have analyzed.

The proposed project will result in the addition of 23 net new AM peak-hour trips and 9 net new PM peak-hour trips to the roadway system under existing plus project conditions.

The results of the intersection level of service analysis show that with planned improvements, at the Monterey Road/San Pedro Avenue intersection, the addition of project traffic would not result in the degradation of the study intersection's levels of service during the AM and PM peak hours.

Therefore, the evaluation of trip generation and intersection operations concludes that the proposed project will not result in an adverse effect on operations to intersections in the project area and is consistent with the *Morgan Hill 2035 General Plan* goals and policies. However, City staff ultimately determines the need for traffic studies for new developments.