



HEXAGON TRANSPORTATION CONSULTANTS, INC.



# Hemlock Avenue Mixed-Use Development

Traffic Impact Analysis

Prepared for:

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## Executive Summary

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This report presents the results of the traffic impact analysis conducted for the proposed mixed-use development located at 2881 Hemlock Avenue and 376 South Baywood Avenue in San Jose. The project site is located within a designated Urban Village (Valley Fair/Santana Row). According to the Envision San Jose 2040 General Plan, the Urban Village strategy fosters:

- Mixed residential and employment activities that are attractive to an innovative workforce
- Revitalization of underutilized properties that have access to existing infrastructure
- Densities that support transit use, bicycling, and walking
- High-quality urban design

The proposed development would consist of the replacement of a 3,000-s.f. medical office building and a single-family home on the project site with 48 residential units and 19,130 s.f. of office space. The proposed project will include two below-grade parking levels with access from Hemlock Avenue and providing 67 parking spaces on-site.

### Scope of Study

The purpose of the study is to identify the potential traffic impacts related to the proposed project. The potential impacts related to the proposed development were evaluated following the standards and methodologies set forth by the City of San Jose and the Santa Clara Valley Transportation Authority (VTA). The VTA administers the County Congestion Management Program (CMP).

The study includes an analysis of AM and PM peak-hour traffic conditions for four signalized intersections and one unsignalized intersection within the City of San Jose. The study intersections were selected based upon the estimated number of project trips that are projected to be added through the intersections (10 or more trips per lane per hour). Any intersections outside of the study area to which the project would not add 10 or more trips per lane per hour, were not studied because the addition of project traffic would not be a sufficient amount to result in the degradation of intersection levels of service. The study also includes an operations analysis, based on vehicle-storage requirements at select intersections and an evaluation of the proposed site access and on-site circulation. An analysis of freeway segments was not performed because the proposed project would not add traffic equal to at least one percent of capacity of any freeway segment. However, per CMP guidelines, the traffic study includes an evaluation to document the determination that a freeway level of service analysis is not required.

Traffic conditions at all of the study intersections and freeway segments were analyzed for the weekday AM and PM peak hours. The weekday AM peak hour of traffic is generally between 7:00 and 9:00 AM

and the weekday PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on a typical weekday.

## Project Trip Generation

Based on the ITE trip generation rates and credit for existing uses on the project site, it is estimated that the proposed project would generate an additional 322 daily trips, with 32 trips (18 inbound and 14 outbound) occurring during the AM peak hour and 35 trips (13 inbound and 22 outbound) occurring during the PM peak hour.

## Background Plus Project Intersection Level of Service Analysis

Table ES-1 summarizes the results of the intersection level of service analysis under background plus project conditions. The results show that one intersection, *Monroe Street and Stevens Creek Boulevard*, would be significantly impacted by the project, according to City of San Jose impact criteria. The impact and proposed improvements to mitigate the impact are described below.

### ***(2) Monroe Street and Stevens Creek Boulevard (Protected Intersection)***

**Mitigation Measure.** The intersection of Monroe Street and Stevens Creek Boulevard has been identified as a City of San Jose Protected Intersection. Thus, in lieu of physical mitigations at the Monroe Street/Stevens Creek Boulevard intersection, the project will construct offsetting improvements to other parts of the citywide transportation system to improve system-wide roadway capacity or to enhance non-auto travel modes in furtherance of the General Plan goals and policies. Ideally, offsetting improvements should be implemented in the neighborhoods surrounding the project site and/or in the neighborhoods surrounding the protected intersection. The Protected Intersection Policy has established a fee to fund the identified alternative transportation improvements. The fee as of July 1, 2017 is equal to approximately \$3,021 per net peak hour project trip for impacts to a single protected intersection. The fee automatically adjusts annually on July 1<sup>st</sup> based on a 3.5 percent annual cost escalation. For the purpose of determining the Protected Intersection LOS impact fee, net peak hour project trips are defined as the total number of peak-hour trips generated by the project during the highest peak-hour period after all appropriate trip credits have been applied. The value of the improvements should be equal to the established fees. The Protected Intersection policy is described in more detail below.

### **City of San Jose Protected Intersection Policy**

The intersection of Monroe Street and Stevens Creek Boulevard would be significantly impacted by the project and has been identified as a City of San Jose Protected Intersection.

Protected Intersections consist of locations (there are a total of 30) that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect on other transportation facilities (such as pedestrian, bicycle, transit systems, etc.). Protected Intersections are, therefore, not required to maintain a Level of Service D, which is the City of San Jose standard. The deficiencies at all 30 Protected Intersections in the City of San Jose have been disclosed and overridden in previous EIRs.

If a development project has significant traffic impacts at a designated Protected Intersection, the project may be approved if offsetting Transportation System Improvements are provided. The offsetting improvements are intended to provide other transportation benefits for the community adjacent to the

traffic impact. The improvements may include enhancements to pedestrian, bicycle, and transit facilities, as well as neighborhood traffic calming measures and other roadway improvements.

The City will preliminarily identify a list of specific offsetting improvements. Priority is given to improvements identified in previously adopted plans such as area-wide specific or master plans, redevelopment plans, or plans prepared through the Strong Neighborhoods Initiative. Community outreach should occur in conjunction with the project review and approval process. Once the specific improvements have been identified, the developer must submit improvement plans to the City of San Jose Department of Public Works for review and approval. The specific offsetting improvements proposed can be finalized during the subsequent planning permit stages and can be described in the Final EIR.

## Freeway Segment Capacity

Per CMP technical guidelines, freeway segment level of service analysis shall be conducted on all segments to which the project is projected to add one percent or more to the segment capacity. Since the project is not projected to add one percent to any freeway segments in the area, freeway analysis for the CMP was not required.

## Cumulative Intersection Level of Service Analysis

Table ES-1 summarizes the results of the intersection level of service analysis under cumulative conditions. The results show that, measured against the City of San Jose level of service impact criteria, the project's contribution in total volume from background traffic conditions to cumulative traffic conditions would be less than 25 percent at all of the intersections identified to be impacted by the total cumulative project trips. Therefore, the proposed project traffic will not result in a significant impact under cumulative conditions.

## Other Transportation Issues

### *Site Access*

A two-level below-grade parking garage will provide 67 on-site parking spaces with one access point located along Hemlock Avenue along the southern perimeter of the project boundary. The driveway on Hemlock Avenue is shown to be 26 feet wide. According to the City of San Jose municipal code, on-site drive aisles that serve two-way drive aisles should be 26 feet wide and driveway widths should match the 26 feet wide drive aisles.

Adequate sight distance (sight distance triangles) in accordance with Caltrans standards should be provided at the project garage entrance. Sight distance triangles should be measured approximately 10 feet back from the traveled way. In addition, appropriate visible and/or audible warning signals should be provided at each of the project garage entrance to alert pedestrians and bicyclists of vehicles exiting the garage. Since the project garage entrance will be located at the western terminus of Hemlock Avenue, inbound and outbound project traffic will have minimal conflict with traffic on Hemlock Avenue.

### Truck Access

The site plan does not indicate an on-site loading/delivery area. The plans also do not indicate location of trash enclosures.

Overall, the site plan exhibits adequate site access for motor vehicles and large trucks. The City ultimately will determine the adequacy of the proposed driveways and internal on-site circulation design. The location of loading areas whether on-site or on-street will need to be identified and approved by the City.

### ***On-Site Circulation***

Access to each level of parking will be provided via ramps located near the Hemlock Avenue entrance. When entering the first parking level, drivers will have the option of turning left down a drive aisle or proceed around a rectangular drive aisle to a ramp down to the second level.

The City's standard width for two-way drive aisles is 26 feet wide where 90-degree parking is provided. This allows sufficient room for vehicles to back out of parking spaces. As shown on the site plan, the drive aisles within each of the parking levels measure 26 feet wide, which meet the City's standard width.

There is one proposed dead-end aisle near Hemlock Avenue on 2<sup>nd</sup> parking level. Dead end aisles are undesirable because drivers can enter the aisle, and upon discovering that there is no available parking, must back out or conduct three-point turns. In areas where parking spaces are designated for specific individuals, dead end aisles are less problematic. All locations where dead-end aisles are provided should be dedicated for employee use or assigned residential parking.

### ***Transit Services***

The project site is not directly served by any transit services other than the limited-stop 323 VTA bus line that has a stop at the intersection of Santana Row and Stevens Creek Boulevard approximately 1,000 to 1,400 feet northwest of the project site. Local bus line 60 operates along Winchester Boulevard. Bus stops for this line in the northbound and southbound directions are located near the Winchester Boulevard/Olin Avenue and Winchester Boulevard/Stevens Creek Boulevard intersections, respectively. It can be assumed that some guests/employees of the proposed hotel would utilize the existing transit service. Applying an estimated three percent transit mode share, which is probably the highest that could be expected for the project, equates to approximately two new transit riders during the peak hours. Assuming the existing transit service would remain unchanged with line 60 providing service with 15-20-minute headways during the peak commute periods at bus stops along Winchester Boulevard, the estimated number of new transit riders using the bus stops located near the project site would equate to no more than one new rider per bus during the peak hours. VTA operations reports indicate that the 60 bus line as well as several other bus lines in the project area serve less than ideal ridership. Therefore, the new riders due to the proposed project could be accommodated by the current available capacity of the bus service in the study area and improvement of the existing transit service would not be necessary with the project.

### ***Bicycle and Pedestrian Facilities***

Currently, there is no existing bike link between the project site and other existing bike facilities in the area. The San Jose Bike Plan 2020 and Envision 2040 General Plan, as described below, identify planned improvements to the bicycle network within the City and provide policies and goals that are intended to promote and encourage the use of multi-modal travel options and reduce the identified project impacts to the roadway system. The planned improvements to the bicycle network will provide the project site with improved connections to surrounding pedestrian/bike and transit facilities and a balanced transportation system as outlined in the Envision 2040 General Plan goals and policies.

Pedestrian traffic primarily would consist of residents and employees of the proposed development walking to and from surrounding retail establishments, as well as bus stops on Stevens Creek Boulevard and Winchester Boulevard. Crosswalks with pedestrian signal heads are located at all signalized intersections in the study area. All of the roadways in the vicinity of the project site have sidewalks on both sides of the street.

### ***Public Transit/Pedestrian/Bike Improvements***

The proposed project site is located within the Valley Fair/Santana Row Urban Village boundary. Sites within an Urban Village must incorporate additional urban design and architectural elements that will facilitate a building with pedestrian orientated design and activate the pedestrian public right-of-way.

The Envision 2040 General Plan identifies goals and policies that are dedicated to the enhancement of the transportation infrastructure, including public transit and pedestrian/bike facilities. The Transportation Policies contained in the General Plan create incentives for non-auto modes of travel while reducing the use of single-occupant automobile travel as generally described below:

- Through the entitlement process for new development, fund needed transportation improvements for all transportation modes, giving first consideration to improvement of bicycling walking, and transit facilities.
- Give priority to the funding of multimodal projects to provide the most benefit to all users of the transportation system.
- Encourage the use of non-automobile travel modes to reduce vehicle miles traveled (VMT)
- Consider the impact on the overall transportation system when evaluating the impacts of new developments.
- Increase substantially the proportion of travel modes other than single-occupant vehicles.

The planned improvements discussed below are intended to reduce single-occupant vehicle travel by providing the project site with viable connections to surrounding pedestrian/bike and transit facilities and provide for a balanced transportation system as outlined in the Envision 2040 General Plan goals and policies. However, the full implementation of the improvements are beyond the means of the proposed project given that they may require right-of-way from adjacent properties. The project could be required to make a fair-share contribution towards the cost of the improvements since the identified improvements would be of benefit to the project.

### **Bicycle and Pedestrian Facility Improvements**

The Envision 2040 General Plan identifies the following goals in regard to bicycling and pedestrians:

- Provide a continuous pedestrian and bicycle system to enhance connectivity throughout the City by completing missing segments.
- Build pedestrian and bicycle improvements at the same time as improvements for vehicular circulation.
- Give priority to pedestrian improvement projects that improve pedestrian safety, improve pedestrian access to and within the Urban Villages and other growth areas.

The San Jose Bike Plan 2020 indicates that a variety of bicycle facilities are planned in the study area, some of which would benefit the project and adhere to the goals of the Envision 2040 General Plan. Of the planned facilities, the following are relevant to the project.

Class II bike lanes are planned for:

- Moorpark Avenue, between Thorton Way and College Drive



- Winchester Boulevard, between Moorpark Avenue and Payne Avenue
- Tisch Way, between Winchester Boulevard and Monroe Street

### **Transit Facility Improvements**

The Envision 2040 General Plan identifies the following goals in regard to public transit:

- Pursue development of BRT, bus, shuttle, and fixed guideway services on designated streets and connections to major destinations.
- Ensure that roadways designated as Grand Boulevards adequately accommodate transit vehicle circulation and transit stops. Prioritize bus mobility along Stevens Creek Boulevard.

Stevens Creek Boulevard has been designated as a Grand Boulevard within the Envision 2040 General Plan. Grand Boulevards are intended to serve as major transportation corridors with priority given to public transit. There is a BRT line planned for the West San Carlos Street/Stevens Creek Boulevard corridor. The BRT will run on Stevens Creek Boulevard. Two BRT infrastructure solutions have been proposed: a single reversible transit-only lane between Winchester and MacArthur; and a dual-lane, transit-only overhead viaduct between Henry and MacArthur. The former option would include a center passing lane through the station loading areas, while the latter would include an aerial station.

The Stevens Creek Boulevard corridor serves as the primary access point to major retail/commercial destinations along Stevens Creek Boulevard and access to the area from the regional freeways of I-280 and I-880 is limited to their interchanges with Stevens Creek Boulevard. The proposed center lane BRT will require the removal of one travel lane in each direction of travel along a segment of Stevens Creek Boulevard between Winchester Boulevard and I-880 that is already congested. The removal of vehicular capacity along the primary travel corridor will result in a significant increase in congestion on the segment. Therefore, it is recommended that future BRT service along Stevens Creek Boulevard between Winchester Boulevard and I-880 be accommodated within the existing travel lanes.

The West San Carlos Street/Stevens Creek Boulevard BRT is in only the preliminary stages of its environmental review and there is no identified schedule for its completion.

### ***Effects on Surrounding Residential Streets***

The 24-hour tube counts indicate that the existing traffic volumes along Hemlock Avenue are approximately 940 daily vehicles. It is projected that the project would result in the addition of 322 daily trips to Hemlock Avenue. Although the projected average daily trips are within an acceptable range for this type of street, the added project trips constitute a measurable increase from the existing volumes. However, it is important to note that the proposed project is similar to surrounding land uses along Hemlock Avenue. In addition, the proposed project traffic is not considered cut-through traffic given that Hemlock Avenue serves as primary access road to the project site.

Speed surveys also were conducted along Hemlock Avenue. The posted speed limit along Hemlock Avenue is 25-mph. Based on the collected data, the 85<sup>th</sup> percentile speed along Hemlock Avenue is within the 25-mph posted speed limit. Therefore, it can be concluded that there is not an obvious speeding issue along Hemlock Avenue, and the posted speed limit is adequate.

## ***Parking***

### **Vehicle Parking**

Based on the City's parking requirements, the project is required to provide a total of 136 off-street parking spaces. The project is proposing a total of 67 parking spaces, which represents a reduction of 69 parking spaces, or 50 percent of the total required parking spaces, per the City's parking code. The project is located in the Valley Fair/Santana Row Urban Village. The Urban Village Overlay automatically allows for a 20 percent reduction in parking. In accordance with Sections 20.70.330 and 20.90.220 of the San Jose Code of Ordinances, which allows up to a 50 percent parking reduction, the additional 30 percent parking reduction is allowed with the implementation and maintenance of a TDM Plan. A separate TDM plan for the proposed project, dated April 20, 2018, has been prepared by Hexagon. The project will be required to submit and have approved by the City its TDM program.

### **Santana Residential Parking Program (RPP)**

The project site is located within the Santana Residential Parking Program (RPP) zone, where a permit is required to use on-street parking from 6PM to 7AM on weekdays and anytime on weekends and holidays. In order to obtain a parking permit, the applicant must live in or own a residential property or operate a business in a parking permit zone. Generally, this means that the residence or business must be located on the same side of the street and block face where permit parking signs are posted.

### **Bicycle Parking**

The City of San Jose requires one bicycle parking space for every four apartment units and one bicycle parking space for every 4,000 square feet of commercial (office) floor area. Based on these requirements and a floor area ratio (F.A.R.) of 0.85 for the office use, the project must provide 12 bicycle parking spaces for the residential use and 5 bicycle parking spaces for the commercial use. The proposed project includes bike racks and a designated.

**Table ES 1  
Intersection Level of Service Summary**

Int. #	Intersection	LOS Standard	Peak Hour	Count Date	Existing		Existing Plus Project				Background		Background Plus Project				Cumulative				
					Avg. Delay	LOS	Avg. Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg. Delay	LOS	Avg. Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	Avg. Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	% of Volume Increase
1	Winchester Boulevard and Stevens Creek Boulevard * (Protected)	D	AM	10/11/16	33.3	C	33.4	C	0.1	0.002	34.8	C	34.8	C	0.1	0.001	35.7	D	4.0	0.027	
			PM	10/20/16	47.0	D	47.0	D	0.0	0.000	<b>89.3</b>	<b>F</b>	<b>89.3</b>	<b>F</b>	<b>0.0</b>	<b>0.000</b>	<b>98.3</b>	<b>F</b>	<b>19.6</b>	<b>0.049</b>	2%
2	Monroe Street and Stevens Creek Boulevard (Protected)	D	AM	10/21/15	29.7	C	30.1	C	0.4	0.004	38.8	D	39.4	D	0.6	0.004	40.2	D	1.9	0.021	
			PM	10/21/15	34.6	C	35.2	D	0.6	0.009	<b>128.6</b>	<b>F</b>	<b>131.3</b>	<b>F</b>	<b>4.1</b>	<b>0.009</b>	<b>135.2</b>	<b>F</b>	<b>9.7</b>	<b>0.023</b>	13%
3	I-880 SB Ramps and Stevens Creek Boulevard *	D	AM	10/11/16	23.8	C	23.8	C	0.0	0.002	28.3	C	28.4	C	0.1	0.002	29.0	C	0.9	0.020	
			PM	11/10/16	22.5	C	22.6	C	0.0	0.003	25.5	C	25.6	C	0.2	0.003	26.6	C	2.6	0.029	
4	I-880 NB Ramps and Stevens Creek Boulevard	D	AM	04/24/18	19.7	B	19.7	B	0.0	0.002	21.2	C	21.2	C	0.0	0.002	21.4	C	0.2	0.014	
			PM	04/24/18	21.1	C	21.1	C	0.0	0.001	21.9	C	21.9	C	0.0	0.001	22.2	C	0.4	0.015	

\* Denotes CMP Intersection  
 Bold indicates unacceptable level of service.  
 Bold and boxed indicate significant impact.  
<sup>1</sup> LOS standard shown in the table is based on the City of San Jose's level of service policy. The LOS standard for CMP intersections is LOS E.

# 1.

## Introduction

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This report presents the results of the traffic impact analysis conducted for the proposed mixed-use development located at 2881 Hemlock Avenue and 376 South Baywood Avenue in San Jose. The project site is located within a designated Urban Village (Valley Fair/Santana Row). According to the Envision San Jose 2040 General Plan, the Urban Village strategy fosters:

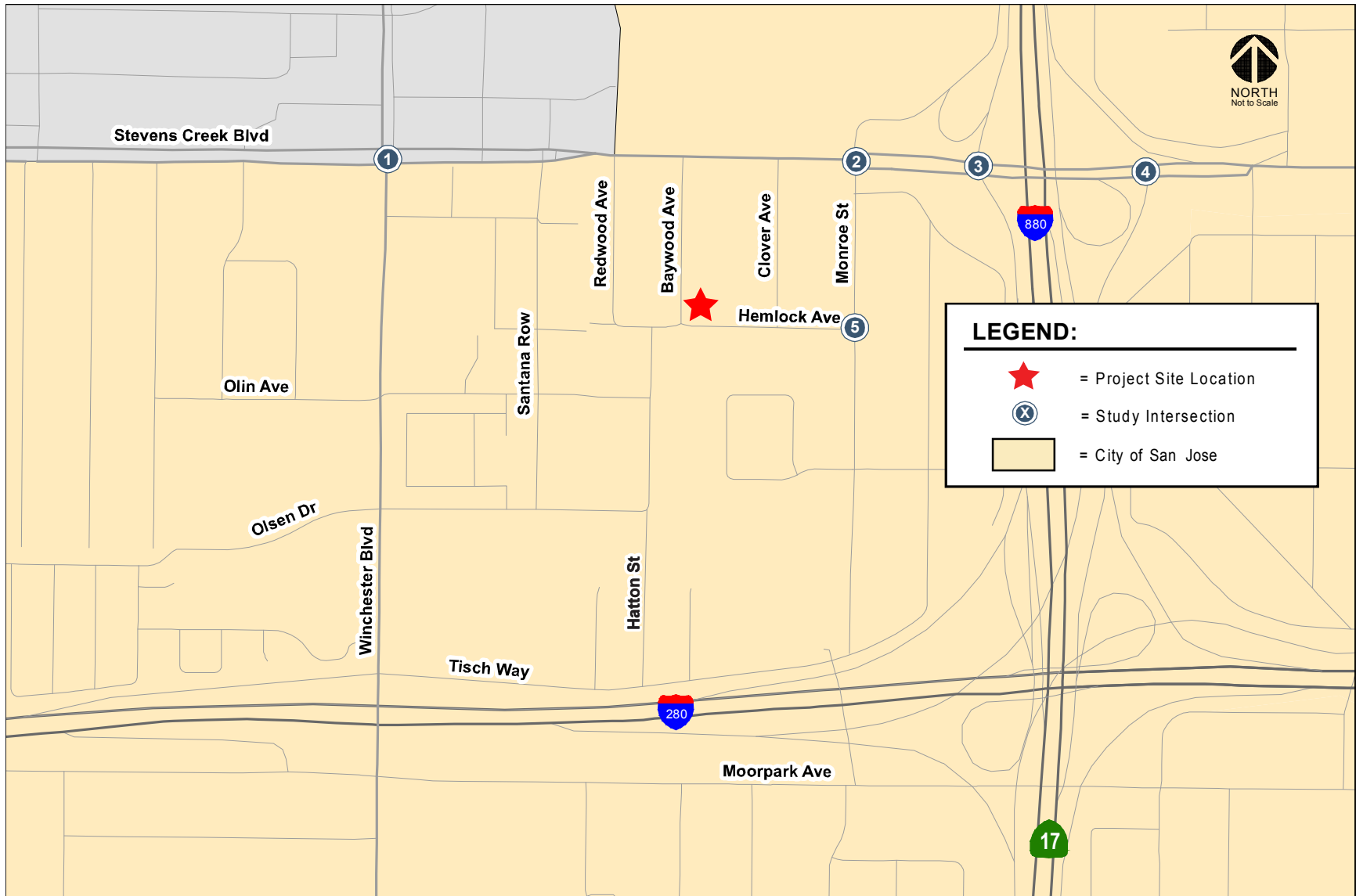
- Mixed residential and employment activities that are attractive to an innovative workforce
- Revitalization of underutilized properties that have access to existing infrastructure
- Densities that support transit use, bicycling, and walking
- High-quality urban design

The proposed development would consist of the replacement of a 3,000-s.f. medical office building and a single-family home on the project site with 48 residential units and 19,130 s.f. of office space. The proposed project will include two below-grade parking levels with access from Hemlock Avenue and providing 67 parking spaces on-site. The project site location and the surrounding study area are shown on Figure 1. The project site plan is shown on Figure 2.

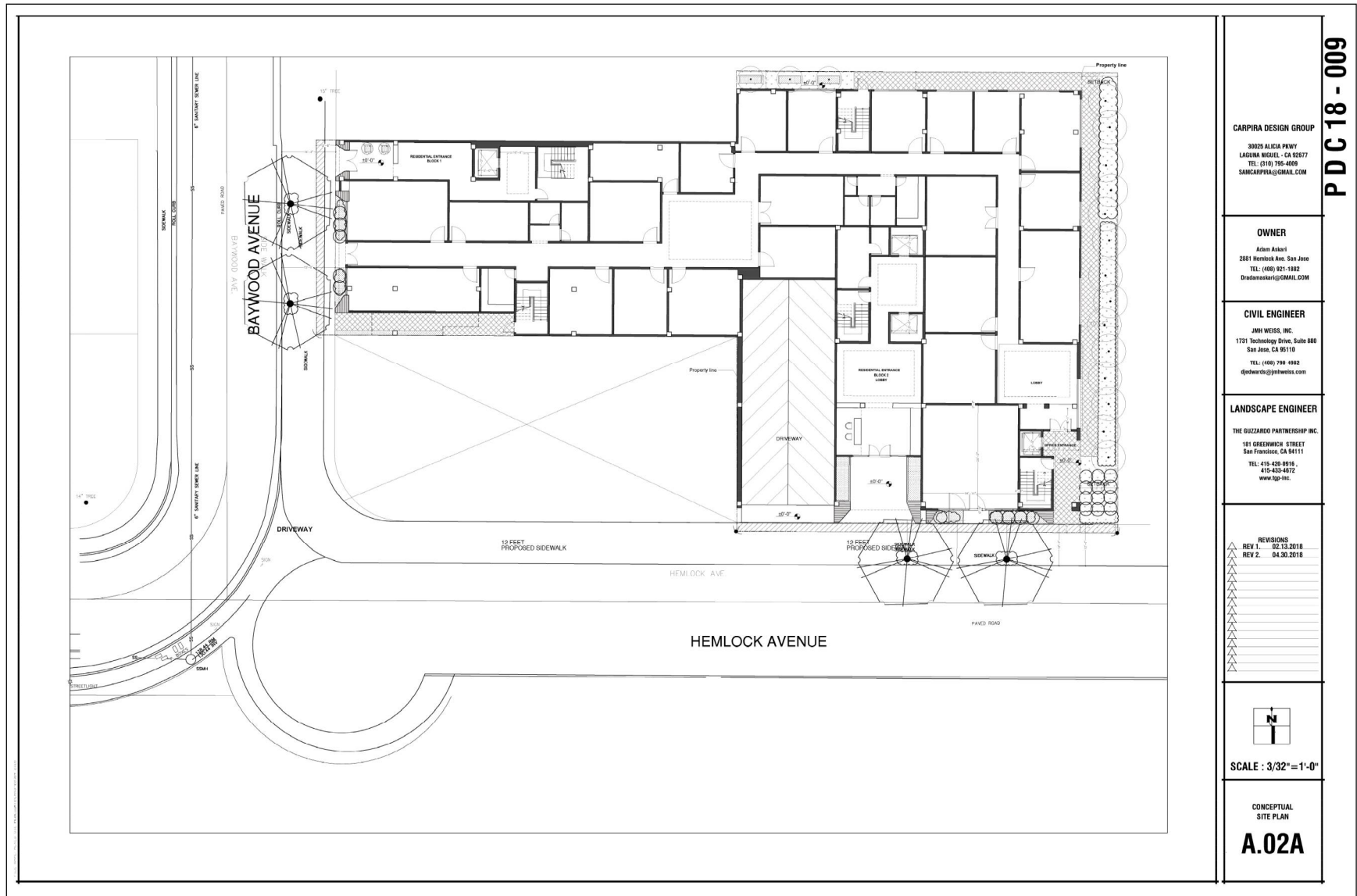
### Scope of Study

The purpose of the study is to identify the potential traffic impacts related to the proposed project. The potential impacts related to the proposed development were evaluated following the standards and methodologies set forth by the City of San Jose and the Santa Clara Valley Transportation Authority (VTA). The VTA administers the County Congestion Management Program (CMP).

The study includes an analysis of AM and PM peak-hour traffic conditions for four signalized intersections and one unsignalized intersection within the City of San Jose. The study intersections were selected based upon the estimated number of project trips that are projected to be added through the intersections (10 or more trips per lane per hour). Any intersections outside of the study area to which the project would not add 10 or more trips per lane per hour, were not studied because the addition of project traffic would not be a sufficient amount to result in the degradation of intersection levels of service. The study also includes an operations analysis, based on vehicle-storage requirements at select intersections and an evaluation of the proposed site access and on-site circulation. An analysis of freeway segments was not performed because the proposed project would not add traffic equal to at least one percent of capacity of any freeway segment. However, per CMP guidelines, the traffic study includes an evaluation to document the determination that a freeway level of service analysis is not required. The study intersections are identified below.



**Figure 1**  
**Site Location and Study Intersections**



**PDC 18 - 009**


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**REVISIONS**  
 REV 1. 02.13.2018  
 REV 2. 04.30.2018

  
**SCALE : 3/32" = 1'-0"**

**CONCEPTUAL SITE PLAN**  
**A.02A**

**Figure 2**  
**Site Plan**

### **Study Intersections**

1. Winchester Boulevard and Stevens Creek Boulevard\* (Protected)
2. Monroe Street and Stevens Creek Boulevard (Protected)
3. I-880 SB Ramps and Stevens Creek Boulevard\*
4. I-880 NB Ramps and Stevens Creek Boulevard
5. Monroe Street and Hemlock Avenue (Unsignalized)

\*Denotes CMP Intersection

Traffic conditions at all of the study intersections and freeway segments were analyzed for the weekday AM and PM peak hours. The weekday AM peak hour of traffic is generally between 7:00 and 9:00 AM and the weekday PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on a typical weekday. Traffic conditions were evaluated for the following scenarios:

- Scenario 1: *Existing Conditions.*** Existing AM and PM peak hour traffic volumes at all study intersections were obtained from the City of San Jose, the 2016 CMP Annual Monitoring Report, previously completed traffic studies, and supplemented with new manual turning-movement counts conducted in April 2018.
- Scenario 2: *Existing Plus Project Conditions.*** Existing plus project peak hour traffic volumes were estimated by adding to existing traffic volumes the additional traffic generated by the project. Existing plus project conditions were evaluated relative to existing conditions in order to determine the effects the project would have on the existing roadway network.
- Scenario 3: *Background Conditions.*** Background traffic volumes were estimated by adding to existing peak hour volumes the projected volumes from approved but not yet completed developments. The added traffic from approved but not yet completed developments was provided by the City of San Jose in the form of the Approved Trips Inventory (ATI). Background conditions represent the baseline conditions to which project conditions are compared for the purpose of determining project impacts.
- Scenario 4: *Background Plus Project Conditions.*** Projected peak hour traffic volumes with the project were estimated by adding to background traffic volumes the additional traffic generated by the project. Background plus project conditions were evaluated relative to background conditions in order to determine potential project impacts.
- Scenario 5: *Cumulative Conditions.*** Cumulative conditions represent future traffic volumes on the future transportation network. Cumulative conditions include traffic growth projected to occur due to the approved development projects, the proposed project, and other proposed but not yet approved (pending) development projects in the study area.

## **Methodology**

This section presents the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

## **Data Requirements**

The data required for the analysis were obtained from previous traffic studies, new traffic counts, the City of San Jose, the 2016 CMP Annual Monitoring Report, and field observations. The following data were collected from these sources:

- existing traffic volumes
- lane configurations
- signal timing and phasing
- average speeds on freeway segments
- a list of approved and planned projects

## **Analysis Methodologies and Level of Service Standards**

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 located in the City of San Jose are subject to the City of San Jose's level of service standards. The City of San Jose 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 on the basis of average delay time for all vehicles at the intersection. Since TRAFFIX is also the CMP-designated intersections level of service methodology, the City of San Jose's methodologies employs the CMP defaults values for the analysis parameters. The City of San Jose's level of service standard for intersections is LOS D or better. The correlation between average delay and level of service is shown in Table 1.

### **City of San Jose Protected Intersection Policy**

The intersections of Winchester Boulevard/Stevens Creek Boulevard and Monroe Street/Stevens Creek Boulevard have been identified as City of San Jose Protected Intersections.

Protected Intersections consist of locations (there are a total of 30) that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect on other transportation facilities (such as pedestrian, bicycle, transit systems, etc.). Protected Intersections are, therefore, not required to maintain a Level of Service D, which is the City of San Jose standard. The deficiencies at all 30 Protected Intersections in the City of San Jose have been disclosed and overridden in previous EIRs.

If a development project has significant traffic impacts at a designated Protected Intersection, the project may be approved if offsetting Transportation System Improvements are provided. The offsetting improvements are intended to provide other transportation benefits for the community adjacent to the traffic impact. The improvements may include enhancements to pedestrian, bicycle, and transit facilities, as well as neighborhood traffic calming measures and other roadway improvements.

The City will preliminarily identify a list of specific offsetting improvements. Priority is given to improvements identified in previously adopted plans such as area-wide specific or master plans, redevelopment plans, or plans prepared through the Strong Neighborhoods Initiative. Community outreach should occur in conjunction with the project review and approval process. Once the specific improvements have been identified, the developer must submit improvement plans to the City of San



**Table 1**  
**Signalized Intersection Level of Service Definitions Based on Control Delay**

Level of Service	Description	Average Control Delay per Vehicle (sec.)
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 oversaturation, poor progression, or very long cycle lengths.	Greater than 80.0

Sources: Transportation Research Board, *2000 Highway Capacity Manual. Traffic Level of Service Analysis Guidelines*, Santa Clara County Transportation Authority Congestion Management Program, June 2003.

Jose Department of Public Works for review and approval. The specific offsetting improvements proposed can be finalized during the subsequent planning permit stages and can be described in the Final EIR.

### **CMP Signalized Intersections**

Since TRAFFIX is the designated level of service methodology for the CMP and the City of San Jose, the CMP study intersections are not analyzed separately, but rather are among the signalized intersections analyzed using TRAFFIX. The only difference between the City' and CMP analyses is that project impacts are determined on the basis of different level of service standards – the CMP level of service standard for signalized intersections is LOS E or better.

## Report Organization

The remainder of this report is divided into seven chapters. Chapter 2 describes existing conditions in terms of the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 describes the method used to estimate project traffic and the resulting traffic conditions expected under existing plus project conditions. Chapter 4 presents the intersection levels of service under background conditions with the addition of traffic from approved development projects. Chapter 5 presents traffic conditions and potential project impacts and recommended mitigation measures under background plus project conditions. Chapter 6 presents the traffic conditions in the study area under cumulative conditions with the addition of traffic from development projects that are not yet approved. Chapter 7 presents the analysis of other transportation related issues, including site access and on-site circulation, and parking. Chapter 8 presents the conclusions of the traffic impact analysis.

## 2. Existing Conditions

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This chapter describes the existing conditions for all of the major transportation facilities in the vicinity of the site, including the roadway network, transit service, and bicycle and pedestrian facilities. Also included are the existing levels of service of the key intersections and freeway segments in the study area.

### Existing Roadway Network

Regional access to the project site is provided via I-880 and I-280. These facilities are described below.

**I-880** is a six-lane freeway in the vicinity of the site. It extends north to Oakland and south to I-280 in San Jose, at which point it makes a transition into SR 17 to Santa Cruz. Access to the site is provided via its interchange with Stevens Creek Boulevard.

**I-280** is an eight-lane freeway in the vicinity of the site. It extends northwest to San Francisco and east to King Road in San Jose, at which point it makes a transition into I-680 to Oakland. North of I-880, I-280 has high occupancy vehicle (HOV) lanes in both directions. Access to and from northbound I-280 to the site is provided via its interchange with Winchester Boulevard.

Local access to the site is provided by Stevens Creek Boulevard, Winchester Boulevard, Tisch Way, Monroe Street, Clover Avenue, and Hemlock Avenue. These roadways are described below.

**Stevens Creek Boulevard** is a divided six-lane east-west roadway in the vicinity of the project site. It extends from Cupertino eastward to I-880, at which point it makes a transition into San Carlos Street to Downtown San Jose. Access to the site from Stevens Creek Boulevard is provided via its intersections with Monroe Street and Clover Avenue.

**Winchester Boulevard** is a divided six-lane north-south roadway that runs from Los Gatos to Lincoln Street in Santa Clara. Winchester Boulevard provides access to the project site via its intersections with Stevens Creek Boulevard and Tisch Way.

**Tisch Way** is a two-lane east-west roadway that extends eastward from Winchester Boulevard. Access to the project site from Tisch Way is provided via its intersection with Monroe Street.

**Monroe Street** is a three-lane north-south roadway between Stevens Creek Boulevard and Hemlock Avenue and transitions to a two-lane roadway south of Hemlock Avenue to Tisch Way. Access to the project site from Monroe Street is provided via its intersection with Hemlock Avenue.

**Clover Avenue** is a two-lane north-south roadway that runs between Stevens Creek Boulevard and Hemlock Avenue. Access to the project site from Clover Avenue is provided via its intersection with Hemlock Avenue.

**Hemlock Avenue** is a two-lane east-west roadway that extends westward from Monroe Street. Hemlock Avenue provides direct access to the project site via one full-access driveway.

## Existing Bicycle and Pedestrian Facilities

**Class II Bikeway (Bike Lane).** Class II bikeways are striped bike lanes on roadways that are marked by signage and pavement markings. Within the vicinity of the project site, striped bike lanes are present on the following roadway segments.

- Winchester Boulevard, between Moorpark Avenue and Stevens Creek Boulevard
- Monroe Street, between Stevens Creek Boulevard and Forest Avenue
- Stevens Creek Boulevard, between Monroe Street and Di Salvo Avenue
- Moorpark Avenue, between Thorton Way and San Tomas Expressway

Although none of the residential streets near the project site (i.e., Hemlock Avenue and Clover Avenue) provide bike lanes or are designated as bike routes, due to their low traffic volumes, many of them are conducive to bicycle usage. The existing bicycle facilities are shown in Figure 3.

Pedestrian facilities in the project area consist primarily of sidewalks along all surrounding streets. Sidewalks are found along virtually all previously described local roadways in the study area and along the local residential streets and collectors near the site. At the Monroe Street and Tisch Way intersection, there is a pedestrian footbridge over I-280 connecting Monroe Street/Tisch Way and Moorpark Avenue. Crosswalks across Stevens Creek Boulevard are provided near the project site at Monroe Street, the Valley Fair entrance, and at Santana Row. The Valley Fair entrance intersection with Stevens Creek Boulevard will be relocated to align with Baywood Avenue as part of the Valley Fair Mall expansion project. The new intersection will provide a controlled crossing point between the project site and amenities provided at Valley Fair Mall. Overall, the existing network of sidewalks and crosswalks provides good connectivity and provides pedestrians with safe routes to transit services and other points of interest in the area.

## Existing Transit Services

Existing transit service to the study area is provided by the VTA (see Table 2). The local bus routes near the project site are shown on Figure 4.

The nearest bus stop location is located at the Stevens Creek Boulevard and Santana Row intersection, approximately 1,000 to 1,400 feet northwest of the project site and is served by Express Route 323. Other bus stops approximately ½ mile from the project site include those at the intersections of Stevens Creek Boulevard and Winchester Boulevard, Olin Avenue and Winchester Boulevard, and Olsen Drive and Winchester Boulevard. The bus stops on Stevens Creek Boulevard are served by Routes 23 and 323, while the bus stops on Winchester Boulevard are served by Routes 23 and 60. The Valley Fair Transit Center is located within ¾ of a mile of the project site adjacent to Westfield Valley Fair, along Forest Avenue. The Valley Fair Transit Center is served by two bus routes, Route 23 and Route 60.

Limited-stop express route 323 operates along Stevens Creek Boulevard between Downtown San Jose and De Anza College. Route 23 provides service between DeAnza College and the Alum Rock Transit Center via Stevens Creek Boulevard, with 10-15-minute headways during commute hours. Route 60



**Figure 3**  
**Existing Bicycle Facilities**

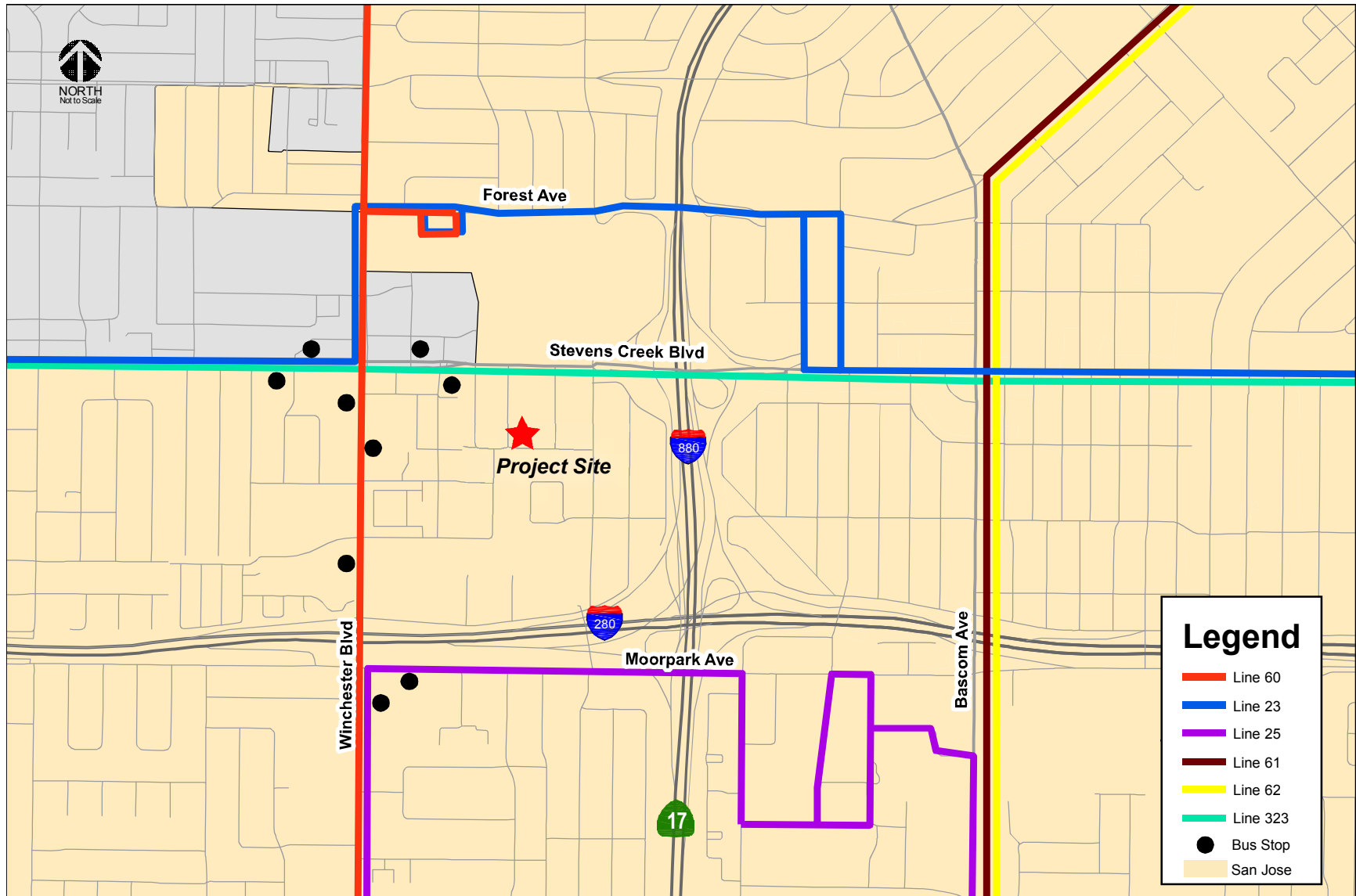


Figure 4  
Existing Transit Services

**Table 2**  
**Existing Transit Services**

Transit Service	Route Description	Nearest Stop	Headway <sup>1</sup>
VTA Local Route 23	De Anza College to Alum Rock Transit Center via Stevens Creek Blvd	Valley Fair Transit Center	10-15 mins
VTA Local Route 60	Winchester Transit Center to Great America	Valley Fair Transit Center	15-20 mins
VTA Express Route 323	Downtown San Jose to De Anza College	Stvens Creek Blvd & Santana Row Intersection	12-16 mins

<sup>1</sup>Headway during peak commute periods in the project area.

provides service between the Winchester Transit Center and Great America via Winchester Boulevard, with 15-20-minute headways during commute hours.

Routes 23 and 323 connect to other services such as Caltrain, VTA LRT, and ACE in Downtown San Jose.

## Existing Intersection Lane Configurations

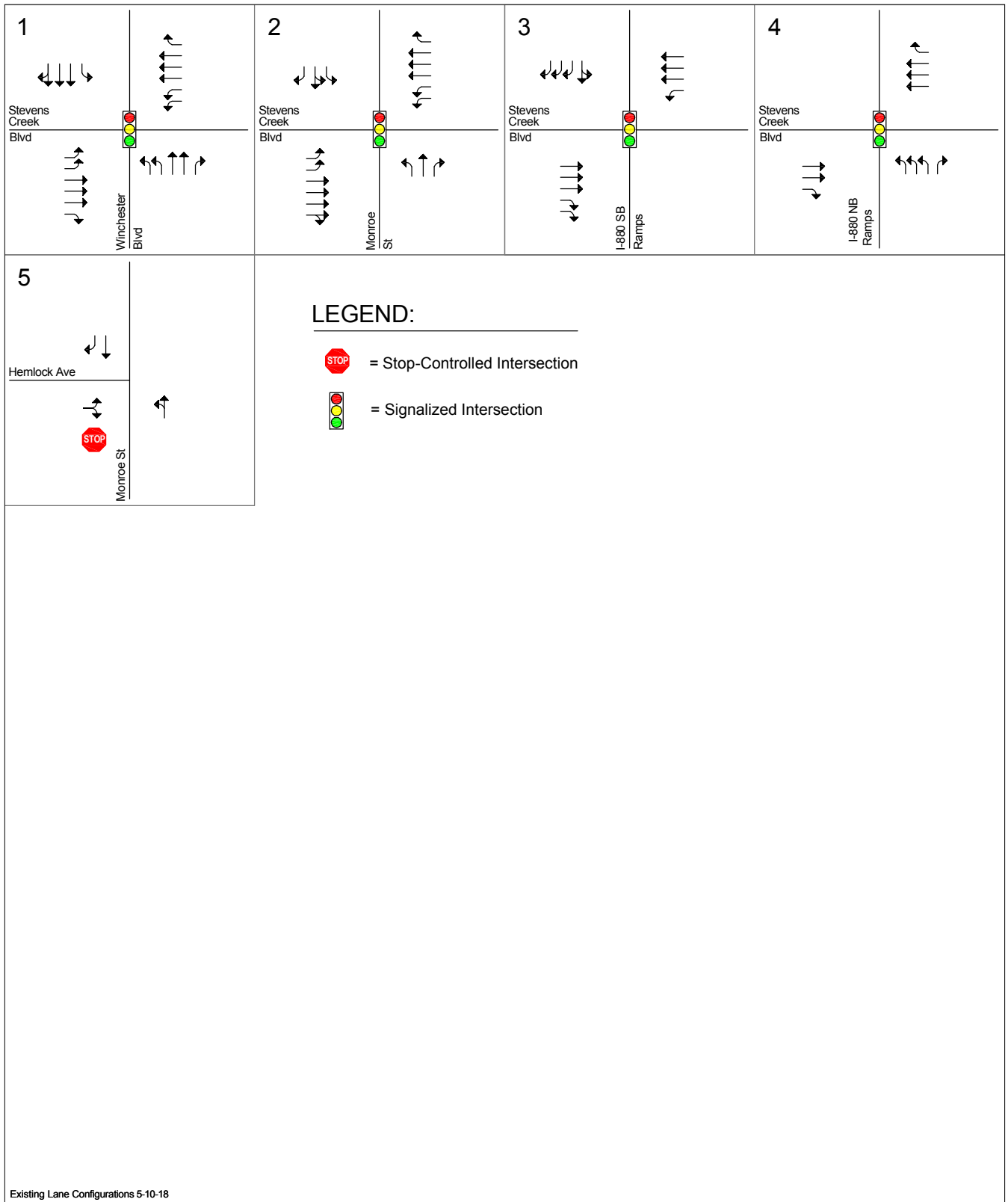
The existing lane configurations at the study intersections were determined by observations in the field and are shown on Figure 5.

## Existing Traffic Volumes

Existing peak hour traffic volumes at all study intersections were obtained from the City of San Jose, the 2016 CMP Annual Monitoring Report, previously completed traffic studies, and supplemented with new manual turning-movement counts conducted in April 2018. Traffic volumes along Stevens Creek Boulevard are currently affected by the expansion of Valley Fair Mall that is currently under way. For this reason, 2015 counts were utilized in the analyses for one of the study intersections (Monroe Street and Stevens Creek Boulevard). The existing peak-hour intersection volumes are shown on Figure 6. Intersection turning-movement counts conducted for this analysis are presented in Appendix A. Peak hour intersection turning movement volumes for all intersections and study scenarios are tabulated in Appendix C.

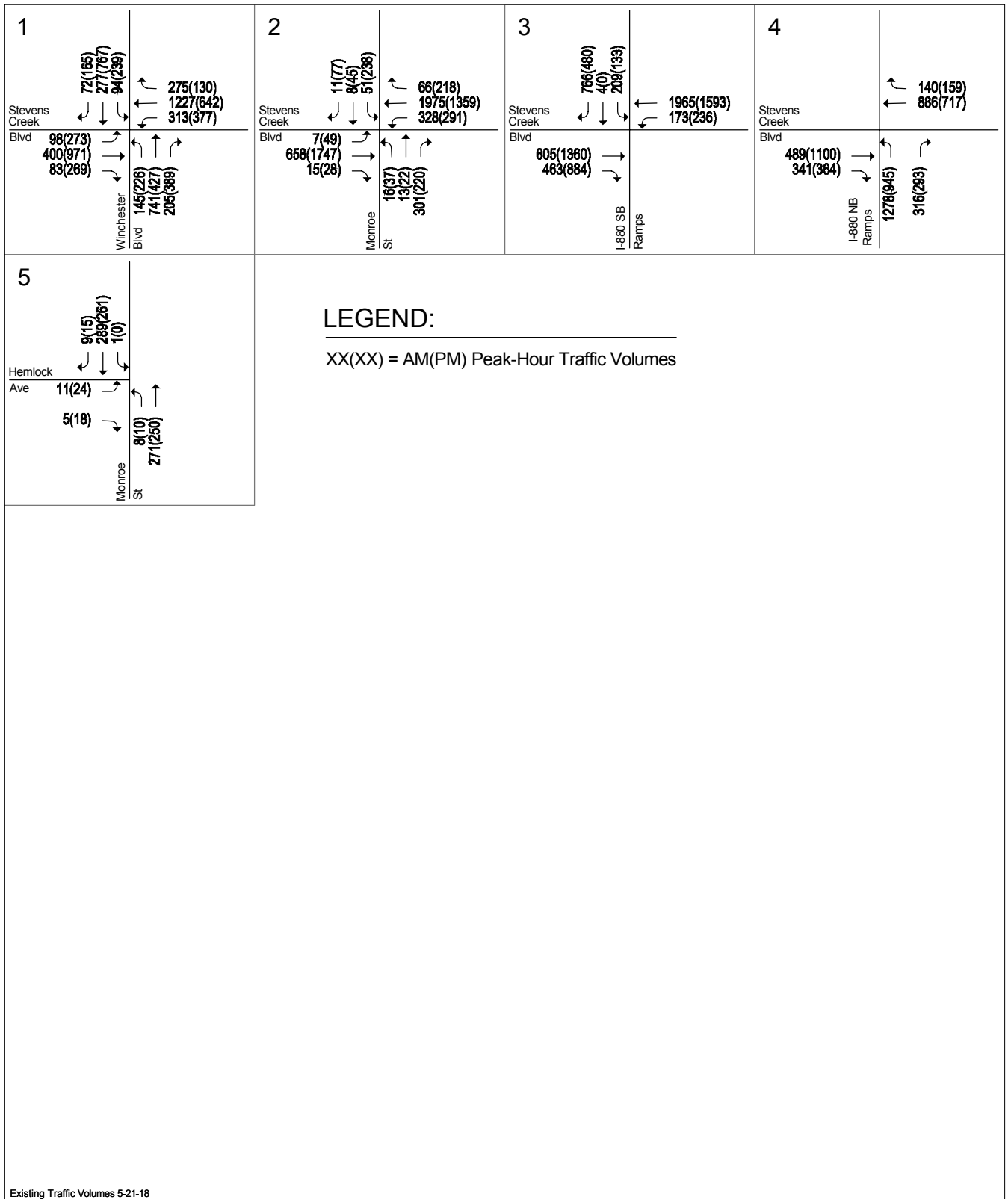
## Existing Intersection Level of Service Analysis

The results of the intersection level of service analysis under existing conditions are summarized in Table 3. The results show that, measured against the City of San Jose and CMP level of service standards, all of the study intersections currently operate at acceptable levels during both of the AM and PM peak hours. The level of service calculation sheets are included in Appendix D.



**Figure 5**  
**Existing Lane Configurations**





**Figure 6**  
**Existing Traffic Volumes**

**Table 3**  
**Existing Intersection Levels of Service**

Int. #	Intersection	LOS Standard <sup>1</sup>	Peak Hour	Count Date	Avg. Delay	LOS
1	Winchester Boulevard and Stevens Creek Boulevard * (Protected)	D	AM PM	10/11/16 10/20/16	33.3 47.0	C D
2	Monroe Street and Stevens Creek Boulevard (Protected)	D	AM PM	10/21/15 10/21/15	29.7 34.6	C C
3	I-880 SB Ramps and Stevens Creek Boulevard *	D	AM PM	10/11/16 11/10/16	23.8 22.5	C C
4	I-880 NB Ramps and Stevens Creek Boulevard	D	AM PM	04/24/18 04/24/18	19.7 21.1	B C

\* Denotes CMP Intersection  
<sup>1</sup>LOS standard shown in the table is based on the City of San Jose's level of service policy. The LOS standard for CMP intersections is LOS E.

## Observed Existing Traffic Conditions

Traffic conditions in the field were observed in order to identify existing operational deficiencies and to confirm the accuracy of calculated levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to intersection level of service, and (2) to identify any locations where the level of service calculation does not accurately reflect level of service in the field.

Field observations revealed the following operational problems that may not be reflected in level of service calculations:

In general, Stevens Creek Boulevard experiences heavy congestion during the weekday PM peak hour in both directions of travel between Winchester Boulevard and I-880. The congestion is made worse by the close spacing of several signalized intersections along the roadway. At its intersections with I-880 and Monroe Street, vehicles do not clear at nearly every approach during the PM peak hour. Left-turn queues in the westbound direction regularly extend out of the provided turn-pockets at its intersections with Winchester Boulevard and Santana Row during the PM peak hour. Vehicles making the westbound left-turn movement at Santana Row do not clear within the allotted green time. Left-turn pockets in the eastbound direction are adequate with no vehicles spilling out of the provided storage.

The right lane on eastbound Stevens Creek Boulevard is sometimes congested from I-880 to Santana Row with vehicles accessing the southbound I-880 or I-280 on-ramps. Consequently, some vehicles aggressively enter the right lane at the last minute to avoid the long wait.

All other study intersections operate without any major operational problems.

### 3.

## Existing Plus Project Conditions

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This chapter describes existing traffic conditions with the addition of the traffic that would be generated by the proposed project. Existing plus project traffic conditions could potentially exist if the project was constructed and occupied prior to the other approved projects in the area. It is unlikely that this traffic condition would occur, since other approved projects expected to add traffic to the study area would likely be built and occupied during the time the project is going through the development review and construction process. This scenario describes a less congested traffic condition, since it ignores any potential traffic from prior approvals. Existing plus project conditions also does not include any planned and funded roadway improvements that have not been constructed. Projected traffic volumes based on the trip generation estimates and assignment of project trips were developed using the same methods discussed and presented in Chapter 5.

### Existing Plus Project Transportation Network

It is assumed in this analysis that the transportation network under existing plus project conditions would be the same as the existing transportation network.

### Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described below.

#### *Trip Generation*

Based on the ITE trip generation rates and credit for existing uses on the project site, it is estimated that the proposed project would generate an additional 322 daily trips, with 32 trips (18 inbound and 14 outbound) occurring during the AM peak hour and 35 trips (13 inbound and 22 outbound) occurring during the PM peak hour. The trip generation estimates for proposed project are presented in Table 6 in Chapter 5.

### ***Trip Distribution and Assignment***

The trip distribution pattern for the proposed project was estimated based on traffic patterns on the surrounding roadway system and on the locations of complementary land uses. Project trip distribution and assignment are discussed in detail in Chapter 5. A tabular summary of project traffic at each study intersection is contained in Appendix C.

### **Existing Plus Project Traffic Volumes**

Project trips, as represented in the project trip assignment discussed above, were added to existing traffic volumes to obtain existing plus project traffic volumes. The existing plus project traffic volumes are shown on Figure 7. Traffic volumes for all components of traffic are tabulated in Appendix C.

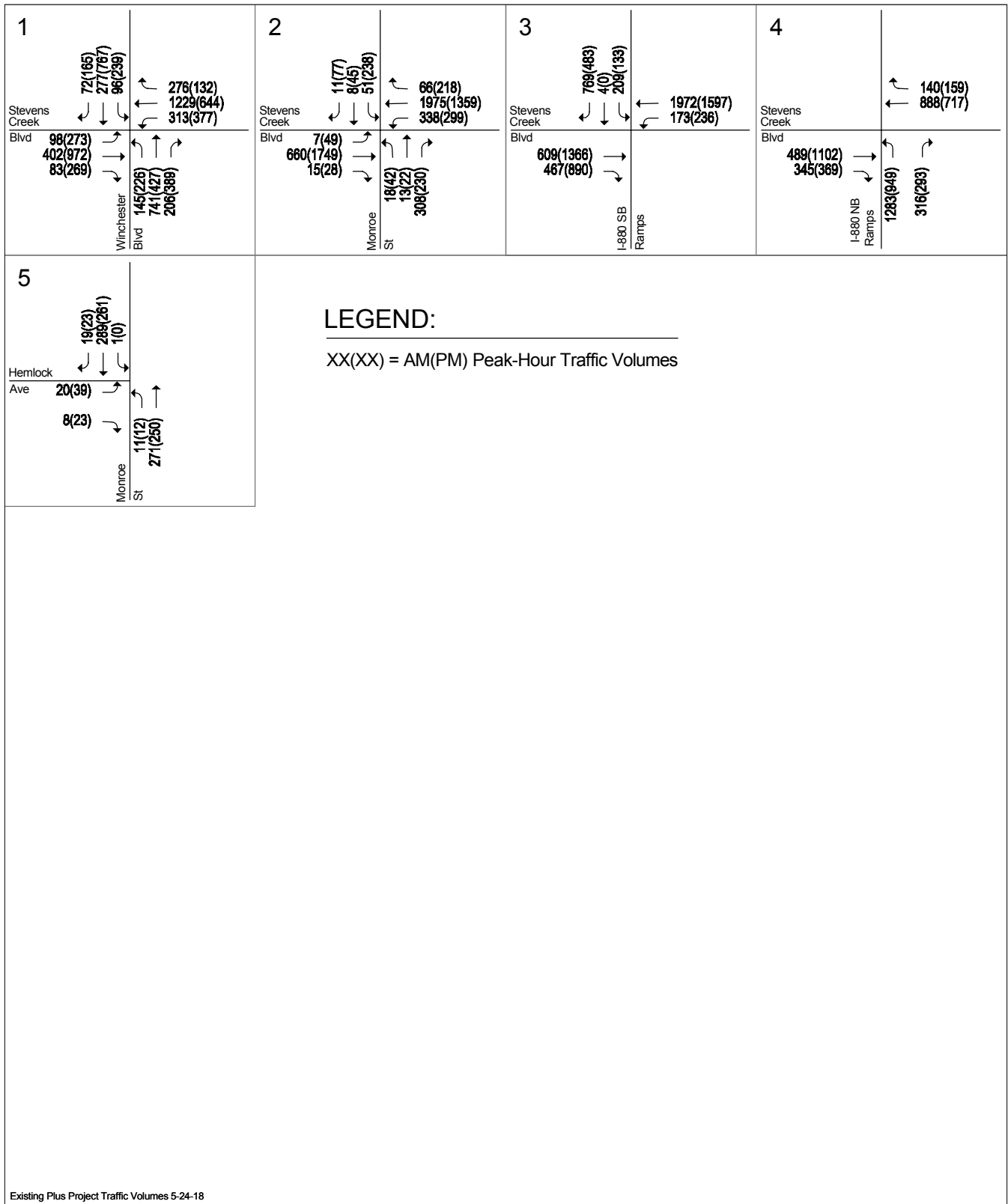
### **Existing Plus Project Intersection Level of Service Analysis**

The results of the intersection level of service analysis under existing plus project conditions are summarized in Table 4. The results show that, measured against the City of San Jose and CMP level of service standards, all of the study intersections are projected to operate at acceptable levels of service during both the AM and PM peak hours of traffic. The level of service calculation sheets are included in Appendix D.

**Table 4**  
**Existing Plus Project Intersection Levels of Service**

Int. #	Intersection	LOS Standard <sup>1</sup>	Peak Hour	Count Date	Existing		Existing Plus Project			
					Avg. Delay	LOS	Avg. Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
1	Winchester Boulevard and Stevens Creek Boulevard * (Protected)	D	AM	10/11/16	33.3	C	33.4	C	0.1	0.002
			PM	10/20/16	47.0	D	47.0	D	0.0	0.000
2	Monroe Street and Stevens Creek Boulevard (Protected)	D	AM	10/21/15	29.7	C	30.1	C	0.4	0.004
			PM	10/21/15	34.6	C	35.2	D	0.6	0.009
3	I-880 SB Ramps and Stevens Creek Boulevard *	D	AM	10/11/16	23.8	C	23.8	C	0.0	0.002
			PM	11/10/16	22.5	C	22.6	C	0.0	0.003
4	I-880 NB Ramps and Stevens Creek Boulevard	D	AM	04/24/18	19.7	B	19.7	B	0.0	0.002
			PM	04/24/18	21.1	C	21.1	C	0.0	0.001

\* Denotes CMP Intersection  
<sup>1</sup>LOS standard shown in the table is based on the City of San Jose's level of service policy. The LOS standard for CMP intersections is LOS E.



Existing Plus Project Traffic Volumes 5-24-18

**Figure 7**  
Existing Plus Project Traffic Volumes

## 4. Background Conditions

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This chapter presents background traffic conditions, which are defined as conditions just prior to completion of the proposed project. It describes the planned transportation system, the procedure used to determine background traffic volumes, and the resulting traffic conditions. The background scenario predicts a realistic traffic condition that would occur as approved development gets built and occupied.

### Background Transportation Network

It is assumed in this analysis that the transportation network under background conditions would be the same as the existing transportation network with the exception of the following improvements:

**Winchester Boulevard and Stevens Creek Boulevard** – The planned improvement consists of addition of a second southbound left-turn lane at the intersection. The second southbound left-turn lane is to be completed with the approved expansion of the Valley Fair Shopping Center. The traffic associated with the Valley Fair expansion is included within the background volumes described below. It should be noted that the intersection of Winchester Boulevard and Stevens Creek Boulevard has been identified as a Protected Intersection. The LOS policy specifies that Protected Intersections consist of locations that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect upon other transportation facilities (such as pedestrian, bicycle, and transit systems). The policy acknowledges that exceptions to the City's LOS policy of maintaining a Level of Service D at local intersections will be made for certain Protected Intersections that have been built to their planned maximum capacity.

### Background Traffic Volumes

Background peak hour traffic volumes were estimated by adding to existing volumes the estimated traffic from approved but not yet constructed developments. The added traffic from approved but not yet constructed developments was obtained from the City of San Jose's Approved Trips Inventory (ATI) database included in Appendix B. The background traffic scenario predicts a realistic traffic condition that would occur as approved development is built. The following adjustments were made to the volumes under background conditions.

- The approved trips associated with the Valley Fair expansion were updated to reflect the latest project description and planned changes to site access.

- The approved trips associated with Santana Row Lot 11 project were also included under background conditions because most of the counts utilized in the analysis were collected prior to the completion of the project in 2017.

Background traffic volumes are shown Figure 8. The approved trips and traffic volumes for all components of traffic are tabulated in Appendix C.

## Background Intersection Level of Service Analysis

The results of the intersection level of service analysis under background conditions summarized in Table 5.

### *City of San Jose Intersection Analysis*

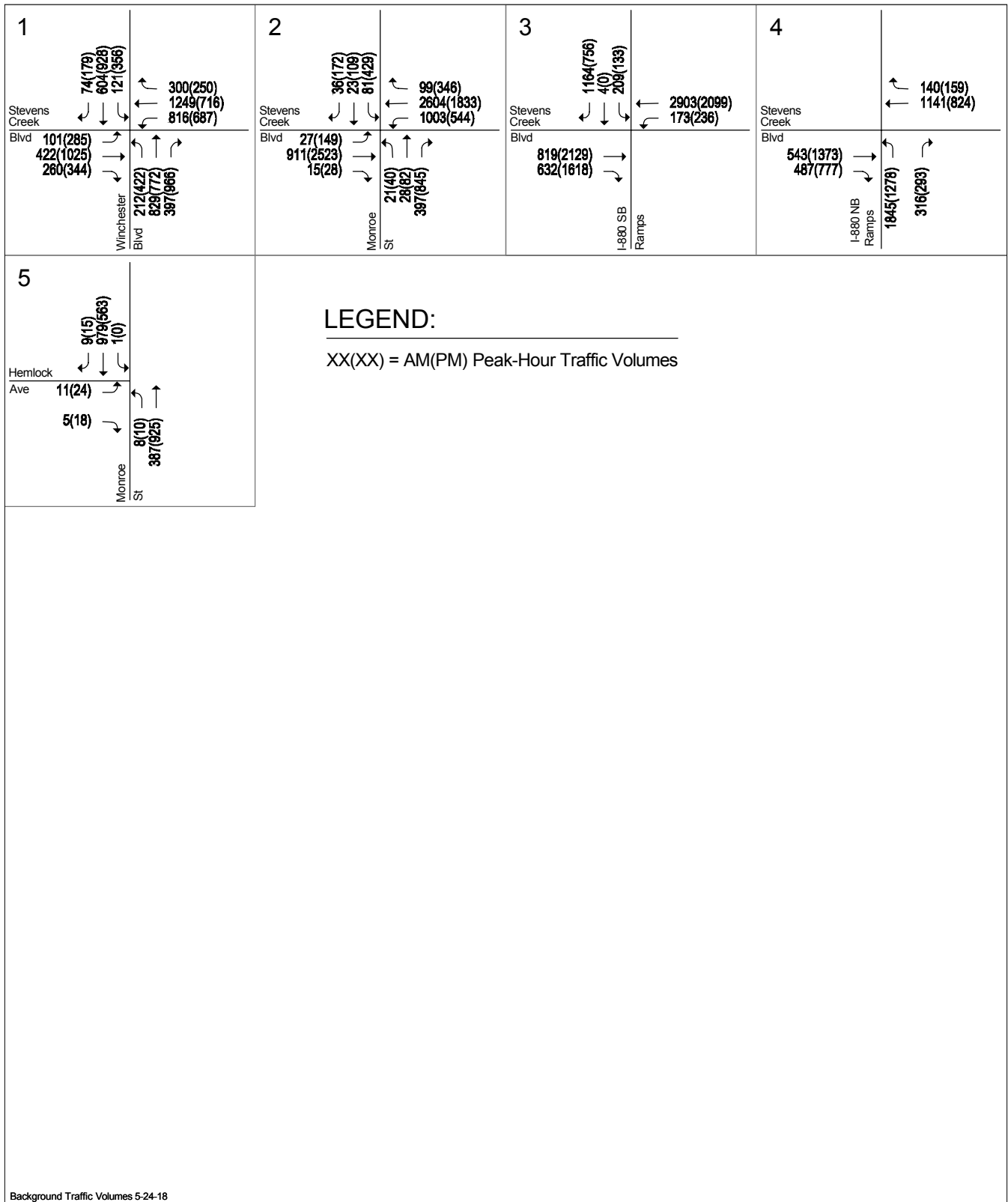
The results show that, measured against the City of San Jose level of service standard, the following two intersections are projected to operate at an unacceptable LOS F during the PM peak hour under background conditions.

1. Winchester Boulevard and Stevens Creek Boulevard \* (CMP) (Protected)
2. Monroe Street and Stevens Creek Boulevard (Protected)

### *CMP Intersection Analysis*

The results show that, measured against the CMP level of service standard, the intersection of Winchester Boulevard and Stevens Creek Boulevard is projected to operate at an unacceptable LOS F during the PM peak hour under background conditions.

All other study intersections are projected to operate at acceptable levels during both the AM and PM peak hours of traffic when measured against the City of San Jose and CMP level of service standards. The intersection level of service calculation sheets are included in Appendix D.



**Figure 8**  
**Background Traffic Volumes**



**Table 5**  
**Background Intersection Levels of Service**

Int. #	Intersection	LOS Standard <sup>1</sup>	Peak Hour	Existing		Background	
				Avg. Delay	LOS	Avg. Delay	LOS
1	Winchester Boulevard and Stevens Creek Boulevard * (Protected)	D	AM PM	33.3 47.0	C D	34.8 <b>89.3</b>	C <b>F</b>
2	Monroe Street and Stevens Creek Boulevard (Protected)	D	AM PM	29.7 34.6	C C	38.8 <b>128.6</b>	D <b>F</b>
3	I-880 SB Ramps and Stevens Creek Boulevard *	D	AM PM	23.8 22.5	C C	28.3 25.5	C C
4	I-880 NB Ramps and Stevens Creek Boulevard	D	AM PM	19.7 21.1	B C	21.2 21.9	C C

\* Denotes CMP Intersection  
 Bold indicates unacceptable level of service.  
<sup>1</sup>LOS standard shown in the table is based on the City of San Jose's level of service policy. The LOS standard for CMP intersections is LOS E.

## 5. Background Plus Project Conditions

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This chapter describes near-term traffic conditions that most likely would occur when the project is complete. It includes a description of the significance criteria used to establish what constitutes a project impact, a description of the transportation system under background plus project conditions, the method by which project traffic is estimated, and any impacts caused by the project. Background plus project conditions were evaluated relative to background conditions in order to determine potential project impacts. This traffic scenario represents a more congested traffic condition than the existing plus project scenario, since it includes traffic generated by approved projects in the area.

### Project Description

The proposed development would consist of the replacement of a 3,000-s.f. medical office building and a single-family home on the project site with 48 residential units and 19,130 s.f. of office space. Access to the on-site parking garage will be provided via one full access driveway along Hemlock Avenue.

### Background Plus Project Conditions Transportation Network

It is assumed in this analysis that the transportation network under background plus project conditions would be the same as described under background conditions.

### Significant Impact Criteria

Significance criteria are used to establish what constitutes an impact. Impacts on intersections are based on the significance criteria and thresholds of the jurisdiction in which the intersection is located.

#### *City of San Jose Definition of Significant Intersection Impacts*

The project is said to create a significant adverse impact on traffic conditions at a signalized intersection in the City of San Jose if for either peak hour:

1. The level of service at the intersection degrades from an acceptable LOS D or better under background conditions to an unacceptable LOS E or F under background plus project conditions, or

2. The level of service at the intersection is an unacceptable LOS E or F under background conditions and the addition of project trips causes both the critical-movement delay at the intersection to increase by four (4) or more seconds *and* the volume-to-capacity ratio (V/C) to increase by one percent (.01) or more.
3. The level of service at a designated Protected Intersection is an unacceptable LOS E or F under background conditions and the addition of project trips causes both the critical-movement delay at the intersection to increase by two (2) or more seconds *and* the volume-to-capacity ratio (V/C) to increase by one-half percent (.005) or more.

An exception to criteria 2 applies when the addition of project traffic reduces the amount of average stopped delay for critical movements (i.e., the change in average stopped delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by .01 or more.

A significant impact by City of San Jose standards is said to be satisfactorily mitigated when measures are implemented that would restore intersection level of service to background conditions or better at non-protected intersections.

### ***Conformance to the CMP Standard***

Based on CMP criteria, a project would fail to meet the CMP or County Expressway intersection standard if the additional project traffic caused one of the following during either peak hour:

1. The level of service at the intersection degrades from an acceptable LOS E or better under background conditions to an unacceptable LOS F under project conditions, or
2. The level of service at the intersection is an unacceptable LOS F under background conditions and the addition of project trips causes both the critical-movement delay at the intersection to increase by four (4) or more seconds *and* the volume-to-capacity ratio (V/C) to increase by one percent (.01) or more.

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 .01 or more.

A significant impact by CMP standards is said to be satisfactorily mitigated when measures are implemented that would restore intersection level of service to background conditions or better.

## **Project Trip Estimates**

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described below.

### ***Trip Generation***

Through empirical research, data have been collected that correlate to common land uses their propensity for producing traffic. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a

new development. Project trip estimates are based on trip generation rates obtained from the Institute of Transportation Engineers' (ITE's) *Trip Generation*, Tenth Edition, 2017.

### **Proposed Project Trip Generation**

The trip estimates for each of the proposed land use components of the proposed project were reduced to account for internalization, or trips made between each of the proposed land uses. The reductions are based on the assumption that vehicle trips to each of the proposed land uses of the site would be reduced due to internalization of trips. Reductions were applied for the internalization, or trips made between residential and employment, as recommended by the VTA's *Transportation Impact Analysis Guidelines*, October 2014.

Based on the ITE trip generation rates and applicable reductions, it is estimated that the proposed project would generate 435 daily trips, with 39 trips (23 inbound and 16 outbound) occurring during the AM peak hour and 41 trips (16 inbound and 25 outbound) occurring during the PM peak hour

### **Existing Trip Generation**

Trips associated with the existing uses on the project site are subtracted from the estimated trips to be generated by the proposed project. There is currently a 3,000-s.f. medical office building and a single-family home on-site that will be replaced by the proposed project. Based on ITE trip generation rates and driveway counts, the existing uses generate 113 daily vehicle trips, with 7 trips (5 inbound and 2 outbound) occurring during the AM peak hour and 6 trips (3 inbound and 3 outbound) occurring during the PM peak hour.

### **Net Project Trip Generation**

Based on the ITE trip generation rates and credit for existing use on the project site, it is estimated that the proposed project would generate a net additional 322 daily trips, with 32 trips (18 inbound and 14 outbound) occurring during the AM peak hour and 35 trips (13 inbound and 22 outbound) occurring during the PM peak hour. The trip generation estimates for proposed project are presented in Table 6.

### ***Trip Distribution and Assignment***

The trip distribution pattern for the proposed project was estimated based on traffic patterns on the surrounding roadway system and on the locations of complementary land uses. The project trip distribution pattern is shown graphically on Figure 9.

The peak-hour trips associated with the proposed project were added to the transportation network in accordance with the distribution pattern discussed above. Figure 10 shows the assignment of net project traffic on the local transportation network.

## **Background Plus Project Traffic Volumes**

The project trips were added to background traffic volumes to obtain background plus project traffic volumes. The background plus project traffic volumes at the study intersections are shown graphically on Figure 11. Traffic volumes for all components of traffic are tabulated in Appendix C.

**Table 6  
Project Trip Generation Estimates**

Land Use	ITE Land Use Code	Size	Daily		AM Peak Hour						PM Peak Hour					
			Rate	Trip	Pk-Hr Rate	Split		Trip			Pk-Hr Rate	Split		Trip		
						In	Out	In	Out	Total		In	Out	Total		
<b>Proposed Land Uses</b>																
Apartment	#221 - Multifamily Housing (Mid-Rise)	48 Dwelling Units	5.44	261	0.36	26%	74%	4	13	17	0.44	61%	39%	13	8	21
	<i>3% Housing &amp; Employment Mixed-Use Reduction<sup>1</sup></i>			-6				0	0	0				-1	0	-1
Commercial	#710 - General Office Building	19,130 Square Feet	9.74	186	1.16	86%	14%	19	3	22	1.15	16%	84%	4	18	22
	<i>3% Housing &amp; Employment Mixed-Use Reduction<sup>1</sup></i>			-6				0	0	0				0	-1	-1
<b>Total Proposed Project Trips</b>				<b>435</b>				<b>23</b>	<b>16</b>	<b>39</b>				<b>16</b>	<b>25</b>	<b>41</b>
<b>Existing Land Uses</b>																
Residential <sup>2</sup>	#210 - Single Family Detached Housing	1 Dwelling Unit	9.44	9	0.74	25%	75%	0	1	1	0.99	63%	37%	1	0	1
Dental Office <sup>3</sup>	#720 - Medical-Dental Office Building	3,000 Square Feet	34.80	104	2.00	83%	17%	5	1	6	1.67	40%	60%	2	3	5
<b>Total Existing Project Trips</b>				<b>113</b>				<b>5</b>	<b>2</b>	<b>7</b>				<b>3</b>	<b>3</b>	<b>6</b>
<b>Net Project Trips (Proposed - Existing)</b>				<b>322</b>				<b>18</b>	<b>14</b>	<b>32</b>				<b>13</b>	<b>22</b>	<b>35</b>
Source: ITE Trip Generation Manual, 10 <sup>th</sup> Edition 2017 (Average Rates)																
Notes:																
<sup>1</sup> As prescribed by the VTA Transportation Impact Analysis Guidelines (October 2014), the maximum trip reduction for a mixed-use development project with housing and employment components is equal to 3% off the smaller trip generator.																
<sup>2</sup> The trips for the single-family home on site were estimated using ITE rates.																
<sup>3</sup> Peak-hour trips for the existing medical office were obtained from driveway counts conducted on May 16, 2018. Daily trips were estimated using ITE rate.																

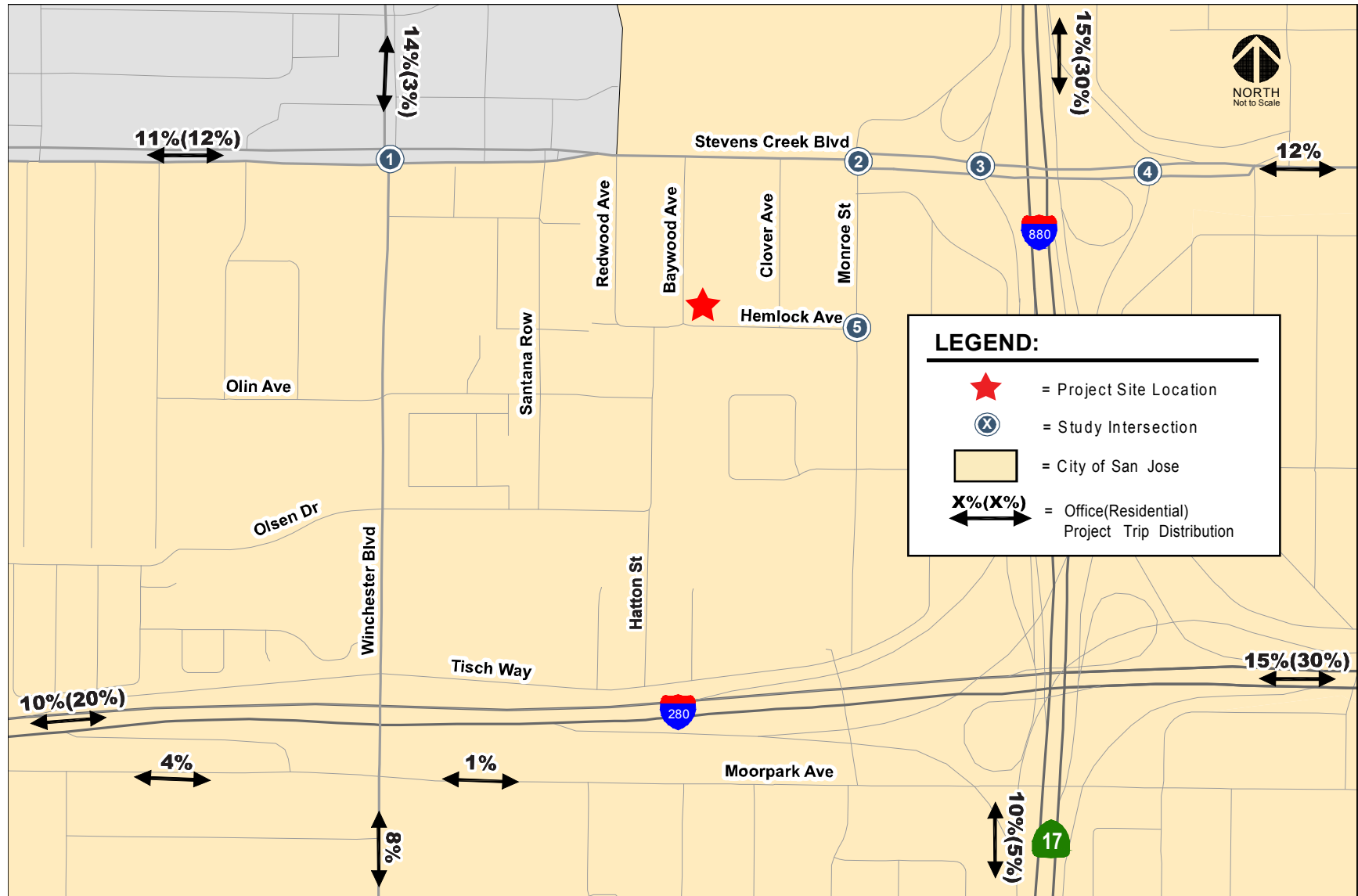
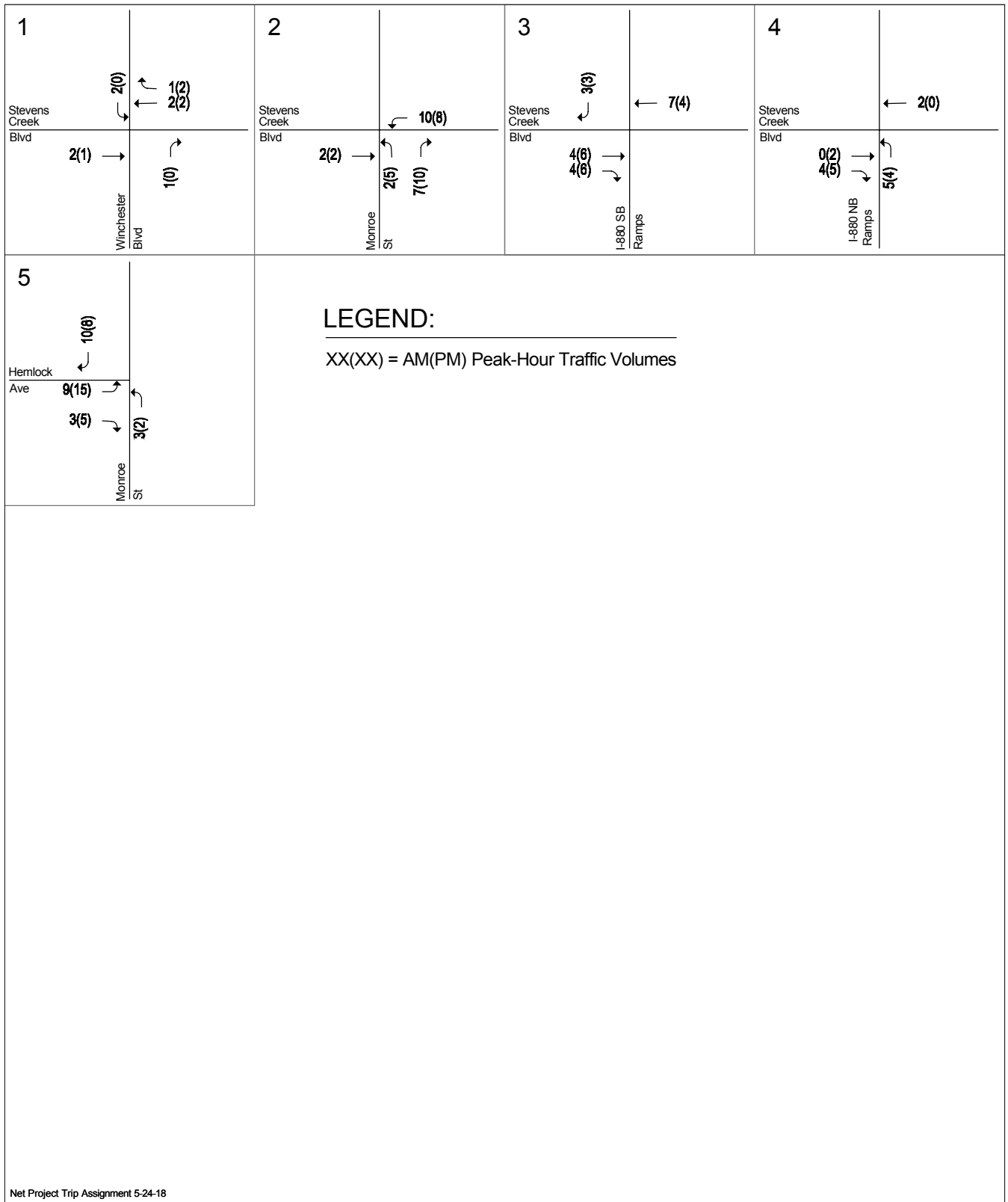
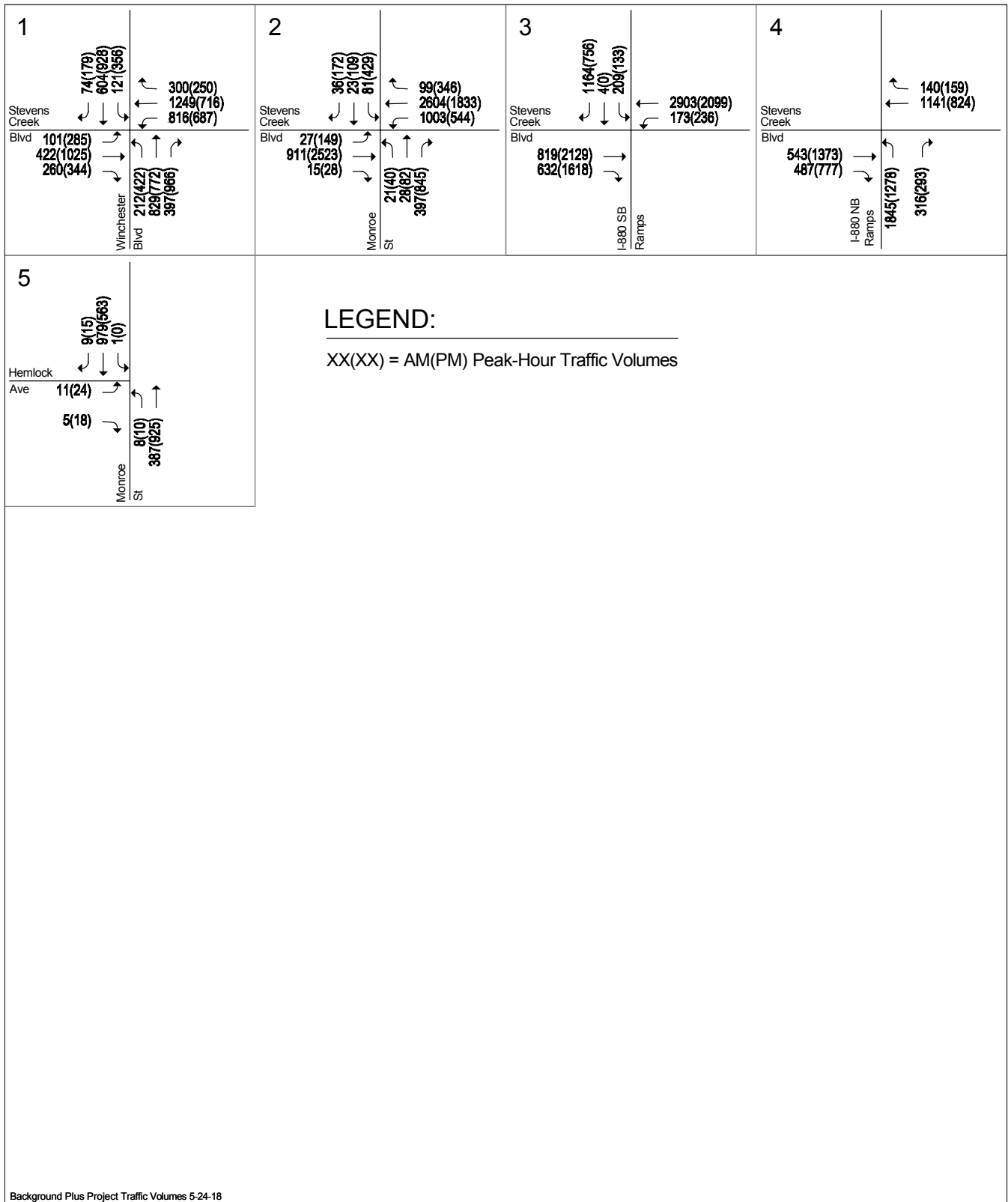


Figure 9  
Project Trip Distribution



Net Project Trip Assignment 5-24-18

**Figure 10**  
**Net Project Trip Assignment**



Background Plus Project Traffic Volumes 5-24-18

**Figure 11**  
**Background Plus Project Traffic Volumes**



## Background Plus Project Intersection Level of Service Analysis

The results of the intersection level of service analysis under background plus project conditions are summarized in Table 7.

### *City of San Jose Intersection Analysis*

The results show that, measured against the City of San Jose level service standard, the following two intersections are projected to operate at an unacceptable LOS F during the PM peak hour under background plus project conditions.

1. Winchester Boulevard and Stevens Creek Boulevard (CMP) (Protected)
2. Monroe Street and Stevens Creek Boulevard (Protected) (**Impact**)

Based on City of San Jose significance criteria, only the protected intersection of Monroe Street and Stevens Creek Boulevard would be significantly impacted by the project during the PM peak hour. The impacts and proposed improvements to mitigate the impacts are described below.

### *CMP Intersection Analysis*

The results show that, measured against the CMP level of service standard, the intersection of Winchester Boulevard and Stevens Creek Boulevard is projected to operate at an unacceptable LOS F during the PM peak hour under background plus project conditions. Based on CMP significance criteria, this intersection would not be significantly impacted by the project.

All other study intersections are projected to operate at acceptable levels during both the AM and PM peak hours of traffic when measured against the City of San Jose and CMP level of service standards. The intersection level of service calculation sheets are included in Appendix D.

## Project Impacts and Mitigation Measures

This section discusses the project impacts identified under background plus project conditions. Included are descriptions of project impacts to intersections and proposed mitigation measures.

### *(2) Monroe Street and Stevens Creek Boulevard (Protected Intersection)*

**Impact:** This intersection would operate at LOS F during the PM peak hour under background conditions and the added trips as a result of the project would cause the intersection's critical-movement delay to increase by two or more seconds and the demand-to-capacity ratio (V/C) to increase by 0.005 or more during the PM peak hours. Based on City of San Jose level of service impact criteria for protected intersections, this constitutes a significant impact.

**Mitigation Measure.** The intersection of Monroe Street and Stevens Creek Boulevard has been identified as a City of San Jose Protected Intersection. Thus, in lieu of physical mitigations at the Monroe Street/Stevens Creek Boulevard intersection, the project will construct offsetting improvements to other parts of the citywide transportation system to improve system-wide roadway capacity or to enhance non-auto travel modes in furtherance of the General Plan goals and policies. Ideally, offsetting improvements should be implemented in the neighborhoods surrounding the project site and/or in the neighborhoods surrounding the protected intersection. The Protected Intersection Policy has established a fee to fund the identified alternative transportation improvements. The fee as of July 1,

**Table 7**  
**Background Plus Project Levels of Service**

Int. #	Intersection	LOS Standard <sup>1</sup>	Peak Hour	Background		Background Plus Project			
				Avg. Delay	LOS	Avg. Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
1	Winchester Boulevard and Stevens Creek Boulevard * (Protected)	D	AM	34.8	C	34.8	C	0.1	0.001
			PM	<b>89.3</b>	<b>F</b>	<b>89.3</b>	<b>F</b>	<b>0.0</b>	<b>0.000</b>
2	Monroe Street and Stevens Creek Boulevard (Protected)	D	AM	38.8	D	39.4	D	0.6	0.004
			PM	<b>128.6</b>	<b>F</b>	<b>131.3</b>	<b>F</b>	<b>4.1</b>	<b>0.009</b>
3	I-880 SB Ramps and Stevens Creek Boulevard *	D	AM	28.3	C	28.4	C	0.1	0.002
			PM	25.5	C	25.6	C	0.2	0.003
4	I-880 NB Ramps and Stevens Creek Boulevard	D	AM	21.2	C	21.2	C	0.0	0.002
			PM	21.9	C	21.9	C	0.0	0.001

\* Denotes CMP Intersection  
 Bold indicates unacceptable level of service.  
 Bold and boxed indicate significant impact.  
<sup>1</sup>LOS standard shown in the table is based on the City of San Jose's level of service policy. The LOS standard for CMP intersections is LOS E.

2017 is equal to approximately \$3,021 per net peak hour project trip for impacts to a single protected intersection. The fee automatically adjusts annually on July 1<sup>st</sup> based on a 3.5 percent annual cost escalation. For the purpose of determining the Protected Intersection LOS impact fee, net peak hour project trips are defined as the total number of peak-hour trips generated by the project during the highest peak-hour period after all appropriate trip credits have been applied. The value of the improvements should be equal to the established fees. The Protected Intersection policy is described in more detail below.

### City of San Jose Protected Intersection Policy

The intersection of Monroe Street and Stevens Creek Boulevard would be significantly impacted by the project and has been identified as a City of San Jose Protected Intersection.

Protected Intersections consist of locations (there are a total of 30) that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect on other transportation facilities (such as pedestrian, bicycle, transit systems, etc.). Protected Intersections are, therefore, not required to maintain a Level of Service D, which is the City of San Jose standard. The deficiencies at all 30 Protected Intersections in the City of San Jose have been disclosed and overridden in previous EIRs.

If a development project has significant traffic impacts at a designated Protected Intersection, the project may be approved if offsetting Transportation System Improvements are provided. The offsetting improvements are intended to provide other transportation benefits for the community adjacent to the traffic impact. The improvements may include enhancements to pedestrian, bicycle, and transit facilities, as well as neighborhood traffic calming measures and other roadway improvements.

The City will preliminarily identify a list of specific offsetting improvements. Priority is given to improvements identified in previously adopted plans such as area-wide specific or master plans, redevelopment plans, or plans prepared through the Strong Neighborhoods Initiative. Community outreach should occur in conjunction with the project review and approval process. Once the specific improvements have been identified, the developer must submit improvement plans to the City of San Jose Department of Public Works for review and approval. The specific offsetting improvements proposed can be finalized during the subsequent planning permit stages and can be described in the Final EIR.

## Freeway Segment Capacity Evaluation

Per CMP technical guidelines, freeway segment level of service analysis shall be conducted on all segments to which the project is projected to add one percent or more to the segment capacity. Since the project is not projected to add one percent to any freeway segments in the area, freeway analysis for the CMP was not required. The percentage of traffic projected to be added by the project to freeway segments in the project area is summarized in Table 8.

**Table 8  
Freeway Segment Capacity**

#	Freeway Segment	Direction	Peak Hour	Existing Plus Project						Project Trip			
				Mixed-Flow Lane			HOV Lane			Mixed-Flow Lane		HOV Lane	
				Avg. Speed <sup>1</sup>	# of Lanes <sup>1</sup>	Capacity (vph)	Avg. Speed <sup>1</sup>	# of Lanes <sup>1</sup>	Capacity (vph)	Volume	% of Capacity	Volume	% of Capacity
1	SR 17 from Hamilton Avenue to I-280	NB	AM	34	3	6,900	--	--	--	2	0.03	--	--
		NB	PM	66	3	6,900	--	--	--	1	0.01	--	--
2	I-880 from I-280 to Stevens Creek Boulevard	NB	AM	15	3	6,900	--	--	--	0	0.00	--	--
		NB	PM	67	3	6,900	--	--	--	0	0.00	--	--
3	I-880 from Stevens Creek Boulevard to North Bascom Avenue	NB	AM	10	3	6,900	--	--	--	4	0.06	--	--
		NB	PM	22	3	6,900	--	--	--	5	0.07	--	--
4	I-280 from Saratoga Avenue to Winchester Boulevard	EB	AM	63	3	6,900	67	1	1,650	2	0.03	0	0.00
		EB	PM	15	3	6,900	40	1	1,650	1	0.01	1	0.06
5	I-280 from Winchester Boulevard to I-880	EB	AM	66	3	6,900	67	1	1,650	0	0.00	0	0.00
		EB	PM	14	3	6,900	30	1	1,650	0	0.00	0	0.00
6	I-280 from I-880 to Meridian Avenue	EB	AM	66	3	6,900	67	1	1,650	3	0.04	1	0.06
		EB	PM	13	3	6,900	30	1	1,650	3	0.04	2	0.12
7	I-280 from Meridian Avenue to I-880	WB	AM	10	3	6,900	13	1	1,650	2	0.03	1	0.06
		WB	PM	66	3	6,900	70	1	1,650	3	0.04	0	0.00
8	I-280 from I-880 to Winchester Boulevard	WB	AM	12	3	6,900	15	1	1,650	0	0.00	0	0.00
		WB	PM	51	3	6,900	70	1	1,650	0	0.00	0	0.00
9	I-280 from Winchester Boulevard to Saratoga Avenue	WB	AM	17	3	6,900	20	1	1,650	2	0.03	1	0.06
		WB	PM	55	3	6,900	70	1	1,650	3	0.04	0	0.00
10	I-880 from North Bascom Avenue to Stevens Creek Boulevard	SB	AM	28	3	6,900	--	--	--	3	0.04	--	--
		SB	PM	48	3	6,900	--	--	--	3	0.04	--	--
11	I-880 from Stevens Creek Boulevard to I-280	SB	AM	66	3	6,900	--	--	--	0	0.00	--	--
		SB	PM	66	3	6,900	--	--	--	0	0.00	--	--
12	SR 17 from I-280 to Hamilton Avenue	SB	AM	64	3	6,900	--	--	--	1	0.01	--	--
		SB	PM	35	3	6,900	--	--	--	2	0.03	--	--

<sup>1</sup>Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 2016.

## 6. Cumulative Conditions

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This chapter presents a summary of the traffic conditions that would occur under cumulative conditions. Cumulative development typically includes projects that are in the pipeline (pending projects) but are not yet approved. It includes descriptions of nearby pending developments and the procedure used to estimate traffic volumes associated with them. Cumulative conditions reflect traffic conditions that would occur at the time that the proposed project is completed. The analysis of cumulative conditions is required by the CMP and in conformance with the California Environmental Quality Act CEQA.

### Significant Impact Criteria

A significant cumulative traffic impact at an intersection is identified by comparing cumulative with project traffic conditions against background traffic conditions.

#### *City of San Jose Definition of Significant Intersection Impacts*

The cumulative projects collectively would create a significant adverse impact on traffic conditions at a signalized intersection in the City of San Jose if during either the AM or PM peak hour:

1. The level of service at the intersection degrades from an acceptable LOS D or better under background conditions to an unacceptable LOS E or F under cumulative conditions, or
2. The level of service at the intersection is an unacceptable LOS E or F under background conditions and the addition of cumulative project trips causes both the critical-movement delay at the intersection to increase by four (4) or more seconds and the volume-to-capacity ratio (V/C) to increase by 0.01 or more.
3. The level of service at a designated Protected Intersection is an unacceptable LOS E or F under background conditions and the addition of project trips causes both the critical-movement delay at the intersection to increase by two (2) or more seconds and the volume-to-capacity ratio (V/C) to increase by one-half percent (.005) or more.

An exception to criteria 2 applies when the addition of project traffic reduces the amount of average stopped delay for critical movements (i.e., the change in average stopped delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by .01 or more.

A significant impact by City of San Jose standards is said to be satisfactorily mitigated when measures are implemented that would restore intersection level of service to background conditions or better at non-protected intersections.

### ***Project Contribution to Cumulative Impacts***

A single project's contribution to a cumulative intersection impact is deemed considerable in the City of San Jose if the proportion of project traffic represents 25 percent or more of the increase in total volume from background traffic conditions to cumulative traffic conditions.

## **Cumulative Transportation Network**

The intersection lane configurations under cumulative conditions were assumed to be the same as described under background conditions.

## **Cumulative Traffic Volumes**

Traffic volumes under cumulative conditions were estimated by adding the trips from approved developments, estimated project trips, and trips from proposed but not yet approved (pending) development projects. Cumulative conditions include trips generated by the following pending development projects in the immediate area of the proposed project:

- 375 South Baywood Avenue Hotel Development (San Jose) – 105 rooms
- 335 South Winchester Boulevard Mixed-Use Development (San Jose) – 95,829 s.f. of commercial space and 13,157 s.f. of retail space
- Agrihood Residential Development (Santa Clara) – 165 affordable senior housing units, 36 townhome units, 160 apartment units, and 1,650-s.f. community café.

Figure 12 shows cumulative traffic volumes. Appendix C lists each of the components used to tabulate cumulative traffic volume at each intersection.

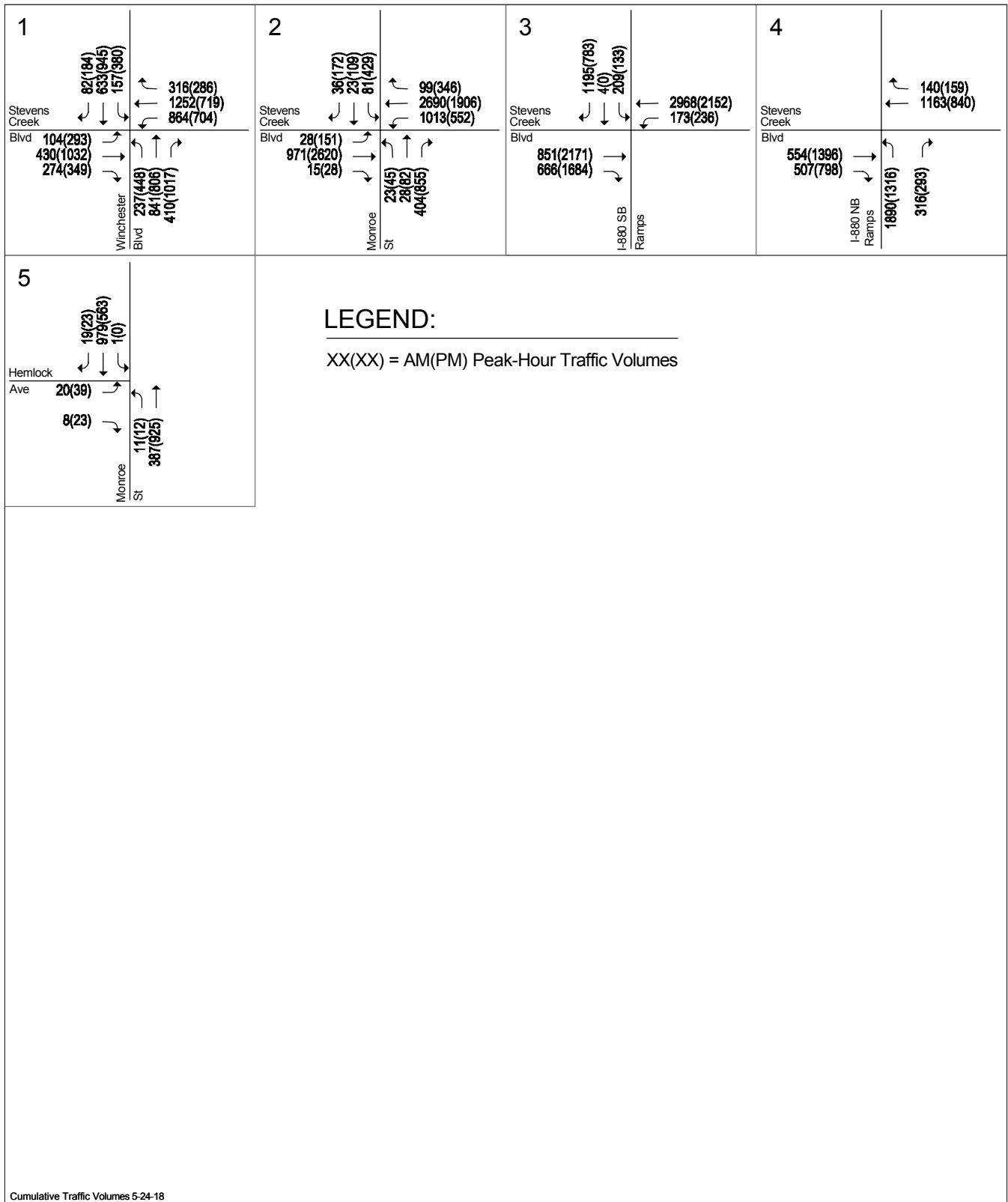
## **Cumulative Intersection Level of Service Analysis**

The intersection level of service results under cumulative conditions are summarized in Table 9. The results show that, measured against the City of San Jose level of service impact criteria, the estimated cumulative project trips collectively would create a significant adverse traffic impact at the following two intersections located in the City of San Jose during the PM peak hour:

1. Winchester Boulevard and Stevens Creek Boulevard (CMP) (Protected)
2. Monroe Street and Stevens Creek Boulevard (Protected)

The addition of cumulative project trips at the remaining City of San Jose study intersections would not create a significant adverse traffic impact when measured against the City of San Jose level of service standard. The intersection level of service calculation sheets are included in Appendix D.

The project's contribution in total volume from background traffic conditions to cumulative traffic conditions would be less than 25 percent at each of the intersections identified to be impacted by the total cumulative project trips. Therefore, the proposed project traffic will not result in a significant impact under cumulative conditions.



**Figure 12**  
**Cumulative Traffic Volumes**

**Table 9**  
**Cumulative Conditions Intersection Levels of Service**

Int. #	Intersection	LOS Standard <sup>1</sup>	Peak Hour	Background		Cumulative				
				Avg. Delay	LOS	Avg. Delay	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C	% of Volume Increase
1	Winchester Boulevard and Stevens Creek Boulevard * (Protected)	D	AM	34.8	C	35.7	D	4.0	0.027	
			PM	<b>89.3</b>	<b>F</b>	<b>98.3</b>	<b>F</b>	<b>19.6</b>	<b>0.049</b>	<b>2%</b>
2	Monroe Street and Stevens Creek Boulevard (Protected)	D	AM	38.8	D	40.2	D	1.9	0.021	
			PM	<b>128.6</b>	<b>F</b>	<b>135.2</b>	<b>F</b>	<b>9.7</b>	<b>0.023</b>	<b>13%</b>
3	I-880 SB Ramps and Stevens Creek Boulevard *	D	AM	28.3	C	29.0	C	0.9	0.020	
			PM	25.5	C	26.6	C	2.6	0.029	
4	I-880 NB Ramps and Stevens Creek Boulevard	D	AM	21.2	C	21.4	C	0.2	0.014	
			PM	21.9	C	22.2	C	0.4	0.015	

\* Denotes CMP Intersection  
 Bold indicates unacceptable level of service.  
<sup>1</sup>LOS standard shown in the table is based on the City of San Jose's level of service policy. The LOS standard for CMP intersections is LOS E.



## 7. Other Transportation Issues

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This chapter presents an analysis of other transportation issues associated with the project site, including:

- Potential impacts to transit, bicycle, and pedestrian facilities
- Site access and traffic operations under background plus project conditions

These other transportation issues were evaluated to determine if any deficiencies would exist under project conditions that may not be specifically linked to environmental impact reporting. These may not be considered environmental issues, and may not be evaluated in an environmental assessment, but have been included in the traffic study to meet the requirements of the local jurisdiction. Unlike the level of service impact methodology, which is adopted by the City Council, the analyses in this chapter are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community.

### Site Access

A review of the project site plan was performed to determine if adequate site access and on-site circulation are provided and to identify any access or circulation issues that should be improved. This review is based on the site plan prepared by Carpira Design Group presented on Figure 2 and in accordance with generally accepted traffic engineering standards.

A two-level below-grade parking garage will provide 67 on-site parking spaces with one access point located along Hemlock Avenue along the southern perimeter of the project boundary. The site plan indicates that the garage access point will provide one inbound lane and one outbound lane.

The driveway on Hemlock Avenue is shown to be 26 feet wide. According to the City of San Jose municipal code, on-site drive aisles that serve two-way drive aisles should be 26 feet wide and driveway widths should match the 26 feet wide drive aisles. Project trips at the project access point along Hemlock Avenue are shown in Figure 13.

Adequate sight distance (sight distance triangles) in accordance with Caltrans standards should be provided at the project garage entrance. Sight distance triangles should be measured approximately 10 feet back from the traveled way. In addition, appropriate visible and/or audible warning signals should

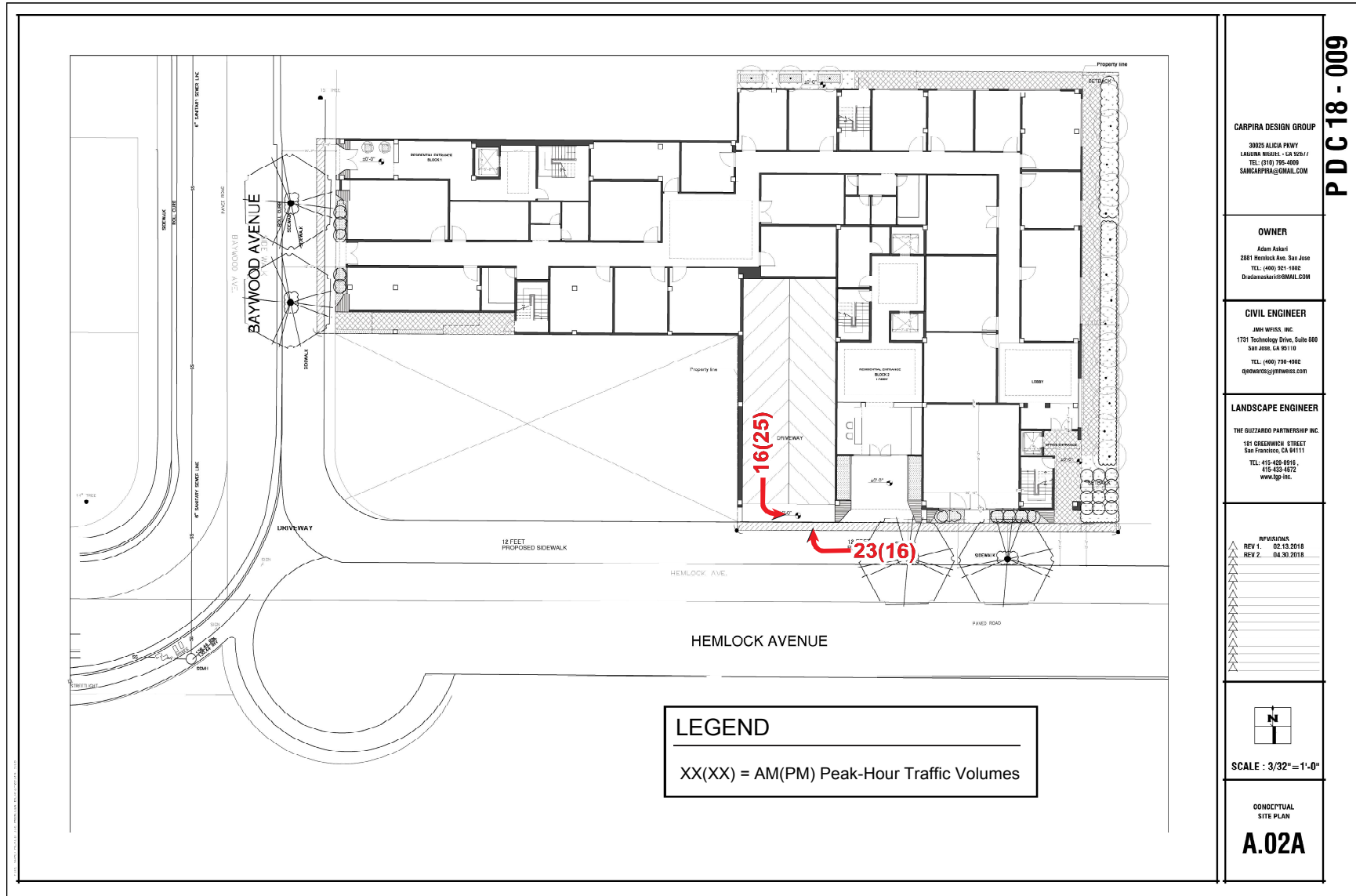


Figure 13  
Traffic Volumes at Project Access

be provided at each of the project garage entrance to alert pedestrians and bicyclists of vehicles exiting the garage. Since the project garage entrance will be located at the western terminus of Hemlock Avenue, inbound and outbound project traffic will have minimal conflict with traffic on Hemlock Avenue.

### **On-Site Circulation**

On-site vehicular circulation was reviewed for the project in accordance with generally accepted traffic engineering standards. Access to each level of parking will be provided via ramps located near the Hemlock Avenue entrance. When entering the first parking level, drivers will have the option of turning left down a drive aisle or proceed around a rectangular drive aisle to a ramp down to the second level.

The City's standard width for two-way drive aisles is 26 feet wide where 90-degree parking is provided. This allows sufficient room for vehicles to back out of parking spaces. As shown on the site plan, the drive aisles within each of the parking levels measure 26 feet wide, which meet the City's standard width.

There is one proposed dead-end aisle near Hemlock Avenue on 2<sup>nd</sup> parking level. Dead end aisles are undesirable because drivers can enter the aisle, and upon discovering that there is no available parking, must back out or conduct three-point turns. In areas where parking spaces are designated for specific individuals, dead end aisles are less problematic. All locations where dead-end aisles are provided should be dedicated for employee use or assigned residential parking.

### **Truck Access**

The site plan does not indicate an on-site loading/delivery area. The plans also do not indicate location of trash enclosures.

Overall, the site plan exhibits adequate site access for motor vehicles and large trucks. The City ultimately will determine the adequacy of the proposed driveways and internal on-site circulation design. The location of loading areas whether on-site or on-street will need to be identified and approved by the City.

## **Intersection Operations Analysis**

The operations analysis is based on vehicle queuing for high demand turning movements at intersections. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-\lambda}}{n!}$$

Where:

P (x=n) = probability of "n" vehicles in queue per lane

n = number of vehicles in the queue per lane

$\lambda$  = average number of vehicles in the queue per lane (vehicles per hour per lane/signal cycles per hour)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95<sup>th</sup> percentile maximum number of queued vehicles per cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future left-turn storage requirements at intersections. The 95<sup>th</sup> percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles.

Likewise, a queue length larger than the 95<sup>th</sup> percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during the peak hour for a signal with a 60-second cycle length). Therefore, left-turn storage pocket designs based on the 95<sup>th</sup> percentile queue length would ensure that storage space would be exceeded only 5 percent of the time. The 95<sup>th</sup> percentile queue length is also known as the “design queue length”. The vehicle queue estimates and a tabulated summary of the findings are provided in Table 10. The vehicular queuing analysis (Poisson probability calculations) is included in Appendix E.

### ***Monroe Street and Stevens Creek Boulevard***

#### **Westbound Left-Turn**

The queuing analysis indicates that the maximum vehicle queue for the westbound left-turn pockets at the Monroe Street and Stevens Creek Boulevard intersection is projected to exceed the existing vehicle storage capacity under background and project conditions during the AM and PM peak hours.

The westbound left-turn pockets currently provide approximately 325 feet of vehicle storage per lane, which can accommodate about 13 vehicles per lane. The estimated 95<sup>th</sup> percentile vehicle queue for the westbound left-turn movement is projected to be approximately 25 and 16 vehicles per lane during the AM and PM peak hours, respectively, under background conditions. The addition of project traffic at the location would not cause the projected vehicle queues to increase beyond what is projected under background conditions. Therefore, the addition of project traffic would not result in the need to improve the intersection turn-pockets.

#### **Northbound Left-Turn**

The queuing analysis indicates that the maximum vehicle queue for the northbound left-turn pocket at the Monroe Street and Stevens Creek Boulevard intersection currently exceed the existing vehicle storage capacity and will continue to do so under background and background plus project conditions during PM peak hour.

The northbound left-turn pocket currently provides approximately 50 feet of vehicle storage, which can accommodate about two vehicles per lane. The estimated 95<sup>th</sup> percentile vehicle queue for the northbound left-turn movement is projected to be approximately four vehicles during the PM peak hour under background conditions. The addition of project traffic at the location would not cause the projected vehicle queues to increase beyond what is projected under background conditions. Therefore, the addition of project traffic would not result in the need to improve the intersection turn-pockets.

## **Signal Warrant Analysis**

The need for signalization of an unsignalized intersection 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. Intersections that meet the peak hour warrant are subject to further analysis before determining that a traffic signal is necessary. Additional analysis may include unsignalized level of service analysis and/or operational analysis such as evaluating vehicle queuing and delay. Other options such as traffic control devices, signage, or geometric changes may be preferable based on existing field conditions. The traffic signal warrant calculations are included in Appendix F.

**Table 10**  
**Vehicle Queue and Left-turn Storage Capacity**

Measurement	Monroe Street and Stevens Creek Boulevard			
	WBL AM	WBL PM	NBL AM	NBL PM
<b>Existing Conditions</b>				
Cycle Length (sec)	126	140	126	140
Lanes	2	2	1	1
Volume (vph)	328	291	16	37
Volume (vphpl )	164	146	16	37
95th % . Queue (veh./ln.)	10	10	2	4
95th % . Queue (ft./ln)	250	250	50	100
Storage (ft./ ln.)	325	325	50	50
Adequate (Y/N)	YES	YES	YES	<b>NO</b>
<b>Background Conditions</b>				
Cycle Length (sec)	126	140	126	140
Lanes	2	2	1	1
Volume (vph)	1003	544	21	40
Volume (vphpl )	502	272	21	40
95th % . Queue (veh./ln.)	25	16	2	4
95th % . Queue (ft./ln)	625	400	50	100
Storage (ft./ ln.)	325	325	50	50
Adequate (Y/N)	<b>NO</b>	<b>NO</b>	YES	<b>NO</b>
<b>Background Plus Project Conditions</b>				
Cycle Length (sec)	126	140	126	140
Lanes	2	2	1	1
Volume (vph)	1013	552	23	45
Volume (vphpl )	507	276	23	45
95th % . Queue (veh./ln.)	25	16	2	4
95th % . Queue (ft./ln)	625	400	50	100
Storage (ft./ ln.)	325	325	50	50
Adequate (Y/N)	<b>NO</b>	<b>NO</b>	YES	<b>NO</b>
<sup>2</sup> Assumes 25 feet per vehicle queued				

Peak-hour traffic signal warrant checks indicate that the projected traffic volumes at the Monroe Street and Hemlock Avenue intersection would fall below the thresholds that warrant signalization.

## Transit Services

The project site is not directly served by any transit services other than the limited-stop 323 VTA bus line that has a stop at the intersection of Santana Row and Stevens Creek Boulevard approximately

1,000 to 1,400 feet northwest of the project site. Local bus line 60 operates along Winchester Boulevard. Bus stops for this line in the northbound and southbound directions are located near the Winchester Boulevard/Olin Avenue and Winchester Boulevard/Stevens Creek Boulevard intersections, respectively. It can be assumed that some guests/employees of the proposed hotel would utilize the existing transit service. Applying an estimated three percent transit mode share, which is probably the highest that could be expected for the project, equates to approximately two new transit riders during the peak hours. Assuming the existing transit service would remain unchanged with line 60 providing service with 15-20-minute headways during the peak commute periods at bus stops along Winchester Boulevard, the estimated number of new transit riders using the bus stops located near the project site would equate to no more than one new rider per bus during the peak hours. VTA operations reports indicate that the 60 bus line as well as several other bus lines in the project area serve less than ideal ridership. Therefore, the new riders due to the proposed project could be accommodated by the current available capacity of the bus service in the study area and improvement of the existing transit service would not be necessary with the project.

## Bicycle and Pedestrian Facilities

Currently, there is no existing bike link between the project site and other existing bike facilities in the area. The San Jose Bike Plan 2020 and Envision 2040 General Plan, as described below, identify planned improvements to the bicycle network within the City and provide policies and goals that are intended to promote and encourage the use of multi-modal travel options and reduce the identified project impacts to the roadway system. The planned improvements to the bicycle network will provide the project site with improved connections to surrounding pedestrian/bike and transit facilities and a balanced transportation system as outlined in the Envision 2040 General Plan goals and policies.

Pedestrian traffic primarily would consist of residents and employees of the proposed development walking to and from surrounding retail establishments, as well as bus stops on Stevens Creek Boulevard and Winchester Boulevard. Crosswalks with pedestrian signal heads are located at all signalized intersections in the study area. All of the roadways in the vicinity of the project site have sidewalks on both sides of the street.

### *Public Transit/Pedestrian/Bike Improvements*

The proposed project site is located within the Valley Fair/Santana Row Urban Village boundary. Sites within an Urban Village must incorporate additional urban design and architectural elements that will facilitate a building with pedestrian orientated design and activate the pedestrian public right-of-way.

The Envision 2040 General Plan identifies goals and policies that are dedicated to the enhancement of the transportation infrastructure, including public transit and pedestrian/bike facilities. The Transportation Policies contained in the General Plan create incentives for non-auto modes of travel while reducing the use of single-occupant automobile travel as generally described below:

- Through the entitlement process for new development, fund needed transportation improvements for all transportation modes, giving first consideration to improvement of bicycling walking, and transit facilities.
- Give priority to the funding of multimodal projects to provide the most benefit to all users of the transportation system.
- Encourage the use of non-automobile travel modes to reduce vehicle miles traveled (VMT)
- Consider the impact on the overall transportation system when evaluating the impacts of new developments.
- Increase substantially the proportion of travel modes other than single-occupant vehicles.

The planned improvements discussed below are intended to reduce single-occupant vehicle travel by providing the project site with viable connections to surrounding pedestrian/bike and transit facilities and provide for a balanced transportation system as outlined in the Envision 2040 General Plan goals and policies. However, the full implementation of the improvements are beyond the means of the proposed project given that they may require right-of-way from adjacent properties. The project could be required to make a fair-share contribution towards the cost of the improvements since the identified improvements would be of benefit to the project.

### **Bicycle and Pedestrian Facility Improvements**

The Envision 2040 General Plan identifies the following goals in regard to bicycling and pedestrians:

- Provide a continuous pedestrian and bicycle system to enhance connectivity throughout the City by completing missing segments.
- Build pedestrian and bicycle improvements at the same time as improvements for vehicular circulation.
- Give priority to pedestrian improvement projects that improve pedestrian safety, improve pedestrian access to and within the Urban Villages and other growth areas.

The San Jose Bike Plan 2020 indicates that a variety of bicycle facilities are planned in the study area, some of which would benefit the project and adhere to the goals of the Envision 2040 General Plan. Of the planned facilities, the following are relevant to the project.

Class II bike lanes are planned for:

- Moorpark Avenue, between Thorton Way and College Drive
- Winchester Boulevard, between Moorpark Avenue and Payne Avenue
- Tisch Way, between Winchester Boulevard and Monroe Street

### **Transit Facility Improvements**

The Envision 2040 General Plan identifies the following goals in regard to public transit:

- Pursue development of BRT, bus, shuttle, and fixed guideway services on designated streets and connections to major destinations.
- Ensure that roadways designated as Grand Boulevards adequately accommodate transit vehicle circulation and transit stops. Prioritize bus mobility along Stevens Creek Boulevard.

Stevens Creek Boulevard has been designated as a Grand Boulevard within the Envision 2040 General Plan. Grand Boulevards are intended to serve as major transportation corridors with priority given to public transit. There is a BRT line planned for the West San Carlos Street/Stevens Creek Boulevard corridor. The BRT will run on Stevens Creek Boulevard. Two BRT infrastructure solutions have been proposed: a single reversible transit-only lane between Winchester and MacArthur; and a dual-lane, transit-only overhead viaduct between Henry and MacArthur. The former option would include a center passing lane through the station loading areas, while the latter would include an aerial station.

The Stevens Creek Boulevard corridor serves as the primary access point to major retail/commercial destinations along Stevens Creek Boulevard and access to the area from the regional freeways of I-280 and I-880 is limited to their interchanges with Stevens Creek Boulevard. The proposed center lane BRT will require the removal of one travel lane in each direction of travel along a segment of Stevens Creek Boulevard between Winchester Boulevard and I-880 that is already congested. The removal of vehicular capacity along the primary travel corridor will result in a significant increase in congestion on

the segment. Therefore, it is recommended that future BRT service along Stevens Creek Boulevard between Winchester Boulevard and I-880 be accommodated within the existing travel lanes.

The West San Carlos Street/Stevens Creek Boulevard BRT is in only the preliminary stages of its environmental review and there is no identified schedule for its completion.

## Parking

### *Vehicle Parking*

The City's parking requirements for multiple-dwelling residential uses (Section 20.90.060 Table 20-210) are as follows: 1.25 parking spaces for one-bedroom units and 1.7 parking spaces for two-bedroom units. The project proposes 25 one-bedroom units and 23 two-bedroom units. Based on the City parking code requirements, the project would need to provide 71 off-street parking spaces for the residential use.

The 19,130 square foot commercial (office) uses located on the first- and second-floor levels of the project will be required to provide one off-street parking space per 250 square feet of floor area per the City's Zoning Regulations (Section 20.90.060 Table 20-190). Based on these standard parking requirements and a floor area ratio (F.A.R.) of 0.85, the project is required to provide 65 off-street parking spaces for the proposed commercial use.

Based on the City's parking requirements, the project is required to provide a total of 136 off-street parking spaces. The project is proposing a total of 67 parking spaces, which represents a reduction of 69 parking spaces, or 50 percent of the total required parking spaces, per the City's parking code. The project is located in the Valley Fair/Santana Row Urban Village. The Urban Village Overlay automatically allows for a 20 percent reduction in parking. In accordance with Sections 20.70.330 and 20.90.220 of the San Jose Code of Ordinances, which allows up to a 50 percent parking reduction, the additional 30 percent parking reduction is allowed with the implementation and maintenance of a TDM Plan. A separate TDM plan for the proposed project, dated April 20, 2018, has already been prepared by Hexagon.

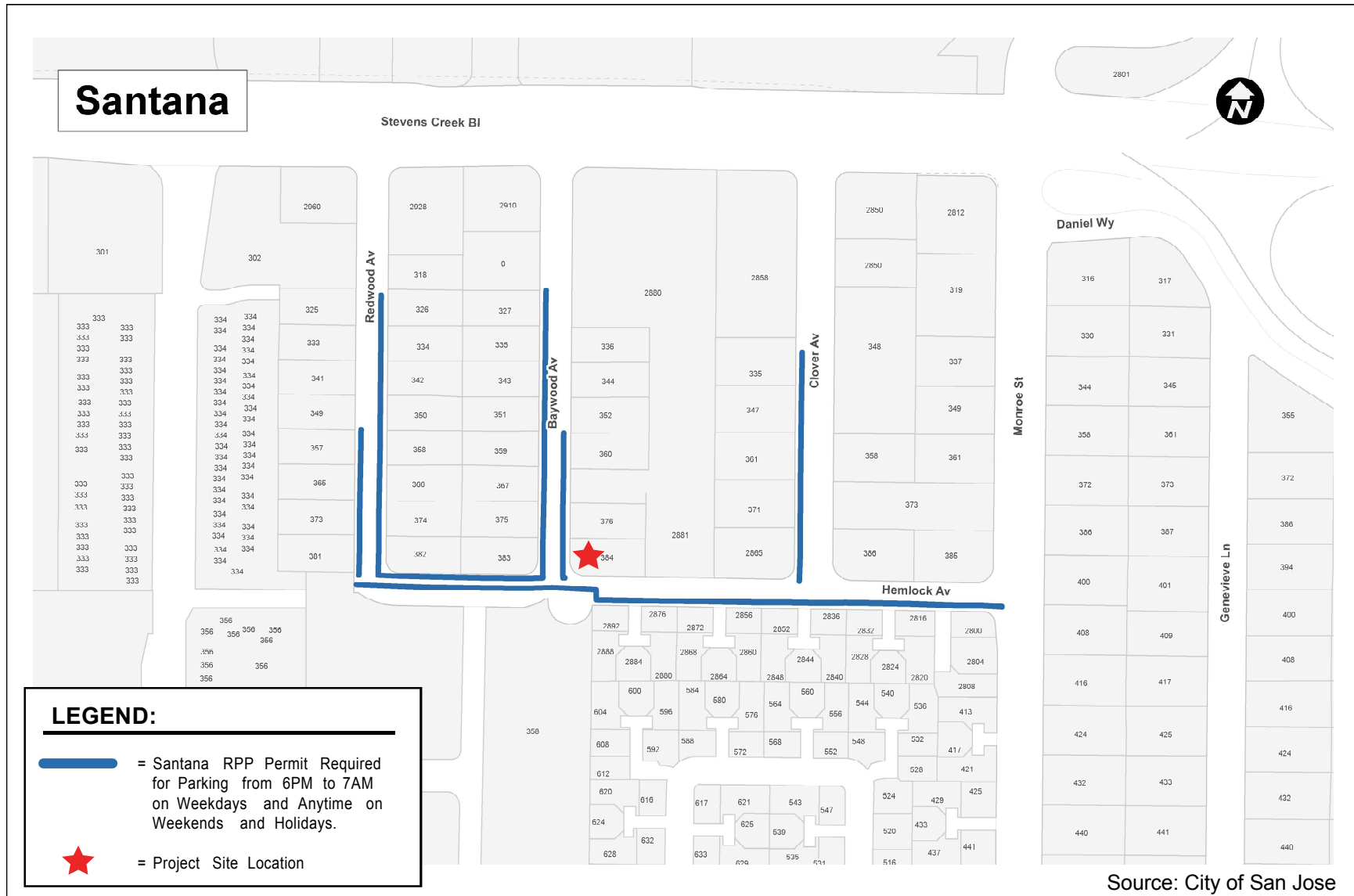
### Santana Residential Parking Program (RPP)

The project site is located within the Santana Residential Parking Program (RPP) zone, where a permit is required to use on-street parking from 6PM to 7AM on weekdays and anytime on weekends and holidays. In order to obtain a parking permit, the applicant must live in or own a residential property or operate a business in a parking permit zone. Generally, this means that the residence or business must be located on the same side of the street and block face where permit parking signs are posted. The locations of on-street parking, where a RRP permit is required, are shown on Figure 14.

### *Bicycle Parking*

The City of San Jose requires one bicycle parking space for every four apartment units and one bicycle parking space for every 4,000 square feet of commercial (office) floor area. Based on these requirements and a floor area ratio (F.A.R.) of 0.85 for the office use, the project must provide 12 bicycle parking spaces for the residential use and 5 bicycle parking spaces for the commercial use. The proposed project includes bike racks and a designated area with 17 bicycle parking spaces. Therefore, the project would comply with Subsection 20.90.220.A.1.b.





**Figure 14**  
**Santana Residential Parking Program Permit-Required Locations**

## **Transportation Demand Management**

The project will establish single-occupant auto trip reduction measures, via a travel demand management (TDM) program, that result in the reduction of vehicular trips to the project site and reduce the on-site parking shortage discussed above. The TDM program should encourage multimodal travel and use of the extensive bus service and pedestrian/bicycle facilities in the immediate project area to the maximum extent possible. The applicant/property owner should manage the TDM program to ensure tenant employee participation. An effective TDM program that includes several of the measures identified below can easily achieve a 25-50% percent reduction in vehicle trips that result in a reduction of the project's parking demand. However, the analysis contained in this report does not include reductions based on TDM measures. Therefore, the estimates of trips to be generated by the proposed project as presented and evaluated within this study may represent an over-estimation of traffic and impacts associated with the proposed project. Implementation of a TDM Program has the potential to greatly reduce project generated traffic and the identified parking issues.

The project will be required to submit and have approved by the City its TDM program. The project TDM program may include, but would not be limited to, the following, or alternative equivalent, elements to reduce vehicle trips:

- *Eco Pass or Clipper Card* for all employees, providing free rides on Santa Clara County's local transit agency, the Santa Clara Valley Transportation Authority (VTA)
- *25% Transit Subsidy* for transit agencies other than the VTA, including Caltrain, ACE, Capitol Corridor, BART, MUNI, and other
- *Monthly Vanpool Subsidy*
- *Commuter Tax Benefits* through WageWorks offering pre-tax deduction per month for transit and pre-tax deduction per month for parking
- *Free "Last Mile" Shuttles* to local train systems (e.g. Caltrain, Amtrak, ACE)
- *Free WiFi Commuter Buses* direct from areas like San Francisco and the TriValley area
- *Internal Carpool Matching Program* utilizing zip code matching
- *Regional Carpool Matching Program* through 511
- *Personalized Commute Assistance* offered by a Commute Coordinator
- *Preferred parking for Carpools and Vanpools* located near entrances to every building
- *Bicycle Lockers and/or Bicycle Racks* near entrances to every building
- *Showers* for cyclists and pedestrians, offering clean towel service, complimentary toiletries, hair dryers, and ironing boards
- *Intranet Site* featuring transit, bike, ridesharing and telework information
- *New Hire Orientation* presentations focusing on commute alternatives from Day 1
- *Centrally-Located Kiosks* with transit schedules, bike and transit maps, and other commute alternative information
- *Periodic Events* which connect employees with local transit agencies and transportation organizations (e.g. Spare the Air Fair, Bike to Work Day)
- *Onsite amenities* which allow employees to complete errands without a car, such as bicycle repair, dry cleaning, oil changes, carwash, haircuts, dental services, cafeteria, coffee bars, fitness center, massage services, mail and shipping services, convenience store, ATM, gift store.

## **Effects on Surrounding Residential Streets**

As proposed, direct access to the project site would be provided via one access point along Hemlock Avenue. It is anticipated that the majority of the project traffic would utilize the intersection of Hemlock

Avenue with Monroe Street to access the project site from surrounding roadways. Thus, the project will result in an increase in traffic volumes along Hemlock Avenue, west of Monroe Street. Therefore, an evaluation of the effects of project traffic along Hemlock Avenue was completed.

Unlike the intersection level of service analysis methodology, which has established impact thresholds, the analyses contained in this section are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community. Several studies have been made regarding the indirect impacts of traffic on residential neighborhoods. The variables affecting these impacts include traffic volumes, type, or makeup, of traffic (i.e. passenger cars, trucks, motorcycles, emergency vehicles, etc.), traffic speed, perception of through traffic as a percentage of total traffic, adequacy of street alignment (i.e., horizontal and vertical curvature), accident experience, on-street parking, residential dwelling setbacks from the street, pedestrian traffic, and street pavement conditions (which would add to traffic noise as the pavement deteriorates). Other factors that may be a contributor to neighborhood nuisance levels include socio-economic status of the neighborhood, and expectations of the residents regarding traffic volumes; however, these are beyond the purview of CEQA and are provided here for informational purposes only.

### ***Existing Roadway Characteristics***

Hemlock Avenue is a two-lane roadway that runs between Monroe Street and its terminus just east of Baywood Avenue. The roadway is lined by residential as well as commercial/office land uses. Parking is prohibited along the north side of the street at all times and along the south side between 6:00 PM – 7:00 AM Monday through Friday and anytime Saturday and Sunday except by permit. Hemlock Avenue provides access to not only the residential units that line the street but also provides a connection between to major roadways (Steven Creek Boulevard and Monroe Street). Therefore, cut-through or commercial traffic is present.

### ***Estimated Project Traffic***

The effects of project traffic on Hemlock Avenue was evaluated based on field observations, the collection of traffic volume and speed data collected in January 2016, and projections of the additional project generated traffic. Table 11 presents a summary of existing and projected traffic volumes and speeds along each of the studied streets.

**Table 11**  
**Average Daily Traffic Volumes and Speed along Hemlock Avenue**

Segment Name	Date	Average Daily Traffic (ADT)			85 <sup>th</sup> Percentile Speed
		Existing	Net Project Trips	Existing Plus Project	
Hemlock Avenue, West of Monroe Street	01/21/16	938	322	1,260	24

Hemlock Avenue could be classified as a residential street given that it serves residential land uses and is narrow. General guidelines regarding threshold volumes pertaining to residential streets have been recommended within several studies and reference material including the Highway Capacity Manual (HCM). There is variation in these accepted threshold volumes, but in general, residential streets have the primary function of providing access to immediately adjacent land, with the secondary function of traffic movement. One lane of traffic in each direction is the standard for residential streets.

A residential (or local) street is defined by the City of San Jose as being less than 60 feet wide and average daily traffic (ADT) volumes typically ranging from 50 to 2,000 vehicles.

The 24-hour tube counts indicate that the existing traffic volumes along Hemlock Avenue are approximately 940 daily vehicles. It is projected that the project would result in the addition of 322 daily trips to Hemlock Avenue. Although the projected average daily trips are within an acceptable range for this type of street, the added project trips constitute a measurable increase from the existing volumes. However, it is important to note that the proposed project is similar to surrounding land uses along Hemlock Avenue. In addition, the proposed project traffic is not considered cut-through traffic given that Hemlock Avenue serves as primary access road to the project site.

Speed surveys also were conducted along Hemlock Avenue. The posted speed limit along Hemlock Avenue is 25-mph. Based on the collected data, the 85<sup>th</sup> percentile speed along Hemlock Avenue is within the 25-mph posted speed limit. Therefore, it can be concluded that there is not an obvious speeding issue along Hemlock Avenue, and the posted speed limit is adequate.

## 8. Conclusions

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The potential impacts of the project were evaluated in accordance with the standards set forth by the City of San Jose and the Congestion Management Program (CMP) of Santa Clara County. The study included the analysis of AM and PM peak hour traffic conditions for four signalized intersections and one unsignalized intersection. Project impacts on other transportation facilities, such as bicycle facilities and transit service, were determined on the basis of engineering judgment.

### Background Plus Project Intersection Level of Service Analysis

The results show that one intersection, *Monroe Street and Stevens Creek Boulevard*, would be significantly impacted by the project, according to City of San Jose impact criteria. The impact and proposed improvements to mitigate the impact are described below.

#### ***(2) Monroe Street and Stevens Creek Boulevard (Protected Intersection)***

**Mitigation Measure.** The intersection of Monroe Street and Stevens Creek Boulevard has been identified as a City of San Jose Protected Intersection. Thus, in lieu of physical mitigations at the Monroe Street/Stevens Creek Boulevard intersection, the project will construct offsetting improvements to other parts of the citywide transportation system to improve system-wide roadway capacity or to enhance non-auto travel modes in furtherance of the General Plan goals and policies. Ideally, offsetting improvements should be implemented in the neighborhoods surrounding the project site and/or in the neighborhoods surrounding the protected intersection. The Protected Intersection Policy has established a fee to fund the identified alternative transportation improvements. The fee as of July 1, 2017 is equal to approximately \$3,021 per net peak hour project trip for impacts to a single protected intersection. The fee automatically adjusts annually on July 1<sup>st</sup> based on a 3.5 percent annual cost escalation. For the purpose of determining the Protected Intersection LOS impact fee, net peak hour project trips are defined as the total number of peak-hour trips generated by the project during the highest peak-hour period after all appropriate trip credits have been applied. The value of the improvements should be equal to the established fees. The Protected Intersection policy is described in more detail below.

#### **City of San Jose Protected Intersection Policy**

The intersection of Monroe Street and Stevens Creek Boulevard would be significantly impacted by the project and has been identified as a City of San Jose Protected Intersection.

Protected Intersections consist of locations (there are a total of 30) that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect on other transportation facilities (such as pedestrian, bicycle, transit systems, etc.). Protected Intersections are,

therefore, not required to maintain a Level of Service D, which is the City of San Jose standard. The deficiencies at all 30 Protected Intersections in the City of San Jose have been disclosed and overridden in previous EIRs.

If a development project has significant traffic impacts at a designated Protected Intersection, the project may be approved if offsetting Transportation System Improvements are provided. The offsetting improvements are intended to provide other transportation benefits for the community adjacent to the traffic impact. The improvements may include enhancements to pedestrian, bicycle, and transit facilities, as well as neighborhood traffic calming measures and other roadway improvements.

The City will preliminarily identify a list of specific offsetting improvements. Priority is given to improvements identified in previously adopted plans such as area-wide specific or master plans, redevelopment plans, or plans prepared through the Strong Neighborhoods Initiative. Community outreach should occur in conjunction with the project review and approval process. Once the specific improvements have been identified, the developer must submit improvement plans to the City of San Jose Department of Public Works for review and approval. The specific offsetting improvements proposed can be finalized during the subsequent planning permit stages and can be described in the Final EIR.

## Freeway Segment Capacity

Per CMP technical guidelines, freeway segment level of service analysis shall be conducted on all segments to which the project is projected to add one percent or more to the segment capacity. Since the project is not projected to add one percent to any freeway segments in the area, freeway analysis for the CMP was not required.

## Cumulative Intersection Level of Service Analysis

The results show that, measured against the City of San Jose level of service impact criteria, the project's contribution in total volume from background traffic conditions to cumulative traffic conditions would be less than 25 percent at all of the intersections identified to be impacted by the total cumulative project trips. Therefore, the proposed project traffic will not result in a significant impact under cumulative conditions.

## Other Transportation Issues

### *Site Access*

A two-level below-grade parking garage will provide 67 on-site parking spaces with one access point located along Hemlock Avenue along the southern perimeter of the project boundary. The driveway on Hemlock Avenue is shown to be 26 feet wide. According to the City of San Jose municipal code, on-site drive aisles that serve two-way drive aisles should be 26 feet wide and driveway widths should match the 26 feet wide drive aisles.

Adequate sight distance (sight distance triangles) in accordance with Caltrans standards should be provided at the project garage entrance. Sight distance triangles should be measured approximately 10 feet back from the traveled way. In addition, appropriate visible and/or audible warning signals should be provided at each of the project garage entrance to alert pedestrians and bicyclists of vehicles exiting the garage. Since the project garage entrance will be located at the western terminus of Hemlock Avenue, inbound and outbound project traffic will have minimal conflict with traffic on Hemlock Avenue.

### **Truck Access**

The site plan does not indicate an on-site loading/delivery area. The plans also do not indicate location of trash enclosures.

Overall, the site plan exhibits adequate site access for motor vehicles and large trucks. The City ultimately will determine the adequacy of the proposed driveways and internal on-site circulation design. The location of loading areas whether on-site or on-street will need to be identified and approved by the City.

### ***On-Site Circulation***

Access to each level of parking will be provided via ramps located near the Hemlock Avenue entrance. When entering the first parking level, drivers will have the option of turning left down a drive aisle or proceed around a rectangular drive aisle to a ramp down to the second level.

The City's standard width for two-way drive aisles is 26 feet wide where 90-degree parking is provided. This allows sufficient room for vehicles to back out of parking spaces. As shown on the site plan, the drive aisles within each of the parking levels measure 26 feet wide, which meet the City's standard width.

There is one proposed dead-end aisle near Hemlock Avenue on 2<sup>nd</sup> parking level. Dead end aisles are undesirable because drivers can enter the aisle, and upon discovering that there is no available parking, must back out or conduct three-point turns. In areas where parking spaces are designated for specific individuals, dead end aisles are less problematic. All locations where dead-end aisles are provided should be dedicated for employee use or assigned residential parking.

### ***Transit Services***

The project site is not directly served by any transit services other than the limited-stop 323 VTA bus line that has a stop at the intersection of Santana Row and Stevens Creek Boulevard approximately 1,000 to 1,400 feet northwest of the project site. Local bus line 60 operates along Winchester Boulevard. Bus stops for this line in the northbound and southbound directions are located near the Winchester Boulevard/Olin Avenue and Winchester Boulevard/Stevens Creek Boulevard intersections, respectively. It can be assumed that some guests/employees of the proposed hotel would utilize the existing transit service. Applying an estimated three percent transit mode share, which is probably the highest that could be expected for the project, equates to approximately two new transit riders during the peak hours. Assuming the existing transit service would remain unchanged with line 60 providing service with 15-20-minute headways during the peak commute periods at bus stops along Winchester Boulevard, the estimated number of new transit riders using the bus stops located near the project site would equate to no more than one new rider per bus during the peak hours. VTA operations reports indicate that the 60 bus line as well as several other bus lines in the project area serve less than ideal ridership. Therefore, the new riders due to the proposed project could be accommodated by the current available capacity of the bus service in the study area and improvement of the existing transit service would not be necessary with the project.

### ***Bicycle and Pedestrian Facilities***

Currently, there is no existing bike link between the project site and other existing bike facilities in the area. The San Jose Bike Plan 2020 and Envision 2040 General Plan, as described below, identify planned improvements to the bicycle network within the City and provide policies and goals that are intended to promote and encourage the use of multi-modal travel options and reduce the identified project impacts to the roadway system. The planned improvements to the bicycle network will provide

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Speed surveys also were conducted along Hemlock Avenue. The posted speed limit along Hemlock Avenue is 25-mph. Based on the collected data, the 85<sup>th</sup> percentile speed along Hemlock Avenue is within the 25-mph posted speed limit. Therefore, it can be concluded that there is not an obvious speeding issue along Hemlock Avenue, and the posted speed limit is adequate.

## ***Parking***

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