Appendix G:
Transportation Analysis

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HEXAGON TRANSPORTATION CONSULTANTS, INC.

Gateway Station Mixed-Use Development

Transportation Analysis

Prepared for:

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Executive Summary

This report presents the results of the transportation analysis (TA) for the proposed Gateway Station Mixed-Use Development at 1410 South Bascom Avenue in San Jose, California. The triangular shaped project site is located between Bascom Avenue and Southwest Expressway. The project site is located within a designated Urban Village (South Bascom Avenue) per the Envision San Jose 2040 General Plan.

On May 8, 2018, the City of San Jose adopted the South Bascom Urban Village Plan. The South Bascom Urban Village Plan provides a vision for the transformation of South Bascom Avenue into a more urban and walkable corridor. The adopted UV Plan will be the City's official Planning policy document for the corridor, providing goals, policies, actions, and urban design guidelines to guide private and public investment to achieve this vision.

Per the request of the City of San Jose, this transportation analysis evaluates the maximum allowable development on the project site that includes up to 600 residential units and 300,000 s.f. of office space. However, the project as proposed would consist of a 590 residential unit building and a building containing 200,300 s.f. of office space. There currently are commercial buildings totaling 76,894 square feet on the project site. Access to the site is proposed to be provided via one new signalized access point at the Palmar Avenue intersection with Bascom Avenue as well as three right-turn only driveways along Bascom Avenue. The Bascom Streetscape improvements, as identified in the South Bascom Avenue Urban Village Plan, along the project frontage will be constructed by the project if the City has an approved implementation of a road diet at the project implementation stage.

Transportation Analysis Scope

The transportation analysis of the project was evaluated following the standards and methodologies set forth in the City of San Jose's Transportation Analysis Policy (Council Policy 5-1), The City of San Jose *Transportation Analysis Handbook 2018*, the Santa Clara Valley Transportation Authority (VTA) Congestion Management Program's *Transportation Impact Guidelines* (October 2014), and by the California Environmental Quality Act (CEQA). Based on the City of San Jose's Transportation Policy and *Transportation Analysis Handbook 2018*, the TA report for the project consists of a CEQA vehicle-miles-traveled (VMT) analysis and a supplemental Local Transportation Analysis (LTA).

CEQA Transportation Analysis Scope

The CEQA transportation analysis for the project consists a project-level VMT impact analysis using the City's VMT tool and a cumulative impact analysis that demonstrates the project's consistency with the Envision San Jose 2040 General Plan.

Local Transportation Analysis Scope

The LTA includes the evaluation of weekday AM and PM peak hour operations at a limited number of intersections for the purpose of identifying operational issues (queuing, signal operations, and potential multi-modal issues) at intersections in the general vicinity of the project site. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

CEQA VMT Analysis

CEQA Transportation Analysis Exemption Criteria

The City of San Jose *Transportation Analysis Handbook* identifies screening criteria that determines whether a CEQA transportation analysis would be required for development projects. The criteria are based on the type of project, characteristics, and/or location. If a project meets the City's screening criteria, the project is expected to result in less-than-significant VMT impacts and a detailed CEQA VMT analysis is not required.

The project site is located within a planned Growth Area (Bascom Avenue Urban Village) with low VMT per employee as identified by the City of San Jose Traffic Model. However, the proposed office component of the project will not meet all of the applicable VMT screening criteria. In addition, the project site is not located in an area with low VMT per capita and thus the proposed residential units do not meet the City's screening criteria. Therefore, a CEQA-level transportation analysis that evaluates the project's effects on VMT is required.

Project-Level VMT Impact Analysis

The results of the VMT evaluation, using the City's VMT Evaluation Tool, indicate that the proposed project is projected to generate VMT per capita (9.59) and VMT per employee (11.1) that are below the established thresholds. Therefore, the proposed project would not result in an impact on the transportation system based on the City's VMT impact criteria.

Cumulative (GP Consistency) Evaluation

Projects must demonstrate consistency with the *Envision San José 2040 General Plan* to address cumulative impacts. Consistency with the City's General Plan is based on the project's density, design, and conformance to the General Plan goals and policies. If a project is determined to be inconsistent with the General Plan, a cumulative impact analysis is required per the City's *Transportation Analysis Handbook*.

The project is located within the South Bascom Avenue Urban Village. On May 8, 2018, the City of San Jose adopted the South Bascom Urban Village Plan. The South Bascom Urban Village Plan provides a vision for the transformation of South Bascom Avenue into a more urban and walkable corridor. The adopted UV Plan will be the City's official Planning policy document for the corridor, providing goals, policies, actions, and urban design guidelines to guide private and public investment to achieve this vision. Urban villages were developed as one of the major strategies of the *Envision San José 2040 General Plan*. Urban villages are defined as walkable, bicycle-friendly, transit-oriented, mixed use settings that provide both housing and jobs, thus supporting the policies and goals of the General Plan. The project is consistent with the General Plan and South Bascom Urban Village goals and policies for the following reasons:

- The proposed residential and office land uses for the project site are consistent with the Urban Village land use designation and Transit Oriented Development (TOD) Character per the South Bascom Urban Village plan.
- The project is composed of a mix of land uses (employment and residential) that complement one another and will promote a reduction in auto trips.
- A public park/plaza is proposed on-site and will provide a dedicated non-auto pathway to transit services.
- The project frontage along Bascom Avenue will be designed to accommodate the planned Bascom Avenue Streetscape improvements including protected bicycle lanes, wider sidewalks, and other pedestrian safety features.
- The Bascom Streetscape improvements, as identified in the South Bascom Avenue Urban Village Plan, along the project frontage will be constructed by the project if the City has an approved implementation of a road diet at the project implementation stage.
- The proposed pedestrian improvements for the project site are consistent with the Transit-Oriented Development (TOD) Gateway Character Area described in the South Bascom Urban Village plan.
- The project site is adjacent to a bus stop and bicycle lanes on Bascom Avenue.
- The project site is adjacent to the Bascom LRT Station.
- The project would increase the employment density in the project area.

Therefore, based on the project description, the proposed project would be consistent with the *Urban Village Planning Concepts* and the *Envision San José 2040 General Plan*. Thus, the project would be considered as part of the cumulative solution to meet the General Plan's long-range transportation goals and would result in a less-than-significant cumulative impact.

Local Transportation Analysis

The intersection operations analysis is intended to quantify the operations of intersections and to identify potential negative effects due to the addition of project traffic. However, a potential adverse effect on a study intersection operation is not considered a CEQA impact metric.

The LTA includes the analysis of AM and PM peak-hour traffic conditions for 15 signalized intersections, following the standards and methodology set forth by the City of San Jose and the City of Campbell.

Trip Generation

After applying the ITE trip rates, appropriate trip reductions, and existing site trip credits, it is estimated that the project would generate a net additional 1,930 daily vehicle trips, with 414 trips (269 inbound and 145 outbound) occurring during the AM peak hour and 420 trips (138 inbound and 282 outbound) occurring during the PM peak hour.

Future Intersection Operation Conditions

The intersection operations analysis shows that the project would not have an adverse effect on intersection operations at any of the study intersections based on applicable municipal standards. Similarly, the combination of trips generated by the proposed project and other pending projects in the vicinity would not result in an adverse effect on intersection operations under cumulative plus project conditions.

Freeway Segment Analysis

The results of the freeway segment analysis show that the proposed project would not result in significant increases in traffic volumes (one percent or more of freeway segment capacities) on any of the study freeway segments currently operating at LOS F, and none of the study freeway segments currently operating at LOS E or better would degrade to LOS F as a result of the project.

Site Access and On-Site Circulation

Site access was evaluated to determine the adequacy of the site's access points with regard to the following: traffic volume, delays, vehicle queues, geometric design, and corner sight distance. On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards and transportation planning principles.

Other Local Transportation Issues

The following are the findings and recommendations made based on the analysis of the proposed site access, on-site circulation, and proposed on-site parking.

Project Driveway Design

Recommendation: Signage should be placed along the drive aisle that runs along the north side of the residential building to restrict vehicular access east of the parking garage entrance. Similarly, removable bollards and signage should be placed along the pedestrian pathway that runs at the rear of the office building.

Recommendation: The northern and southern site access driveways along Bascom Avenue that will provide access to loading areas must be designed to the satisfaction of City of San Jose design guidelines, including the minimum 26-foot width requirement.

Recommendation: The design of the driveways may require implementation of egress control within the parking garages, signage, relocation, and/or resizing. Safety improvements such as bicycle signal detection and/or bike boxes also will be required at the Pamlar Avenue driveway.

Recommendation: The project access points should be free and clear of any obstructions to provide adequate sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and bicyclists traveling within the cycle track. Any landscaping and signage at the project access points should be located in such a way to ensure an unobstructed view for drivers exiting the site.

Recommendation: Appropriate visible and/or audible warning signals should be provided at the project driveways to alert pedestrians and bicyclists of vehicles exiting the driveway.

Recommendation: The site plans indicate that the total width of the office parking garage driveway will be 40 feet wide with one 12-foot inbound lane and two 12-foot outbound lanes separated by two 2 foot raised medians. The City has requested that removal of the raised median islands and a reduction in width of the outbound lanes be considered to reduce the total width of the office parking garage driveway to 36 feet.

Project Driveway Operations

Recommendation: The southbound left-turn lane at the Bascom Avenue and Pamlar Avenue signal should provide a minimum of 100 feet of queue storage capacity to serve the projected maximum vehicle queue length.

Recommendation: The westbound left-turn lane and right-turn lane (office parking garage exit) should provide a minimum of 200 feet and 125 feet of queue storage capacity, respectively, to serve the projected maximum vehicle queue lengths.

Recommendation: The northbound left-turn lane at the Bascom Avenue and Pamlar Avenue signal should provide a minimum of 200 feet of queue storage capacity to serve the projected maximum vehicle queue length.

On-Site Circulation

***Recommendation*:** The project should adhere to City of San Jose design guidelines and standards and work with City staff to ensure that the design of all driveways, drive aisles, and parking stalls within each of the parking garages is to the satisfaction of the City.

***Recommendation*:** It is recommended that physical devices be installed at every turn within the parking garages in an effort to aid circulation and reduce vehicular conflict at the garage's constraint points. Such devices could include speed humps/bumps to slow down traffic, convex mirrors to assist drivers with blind turns while turning around corners, and signage.

***Recommendation*:** Since pedestrian circulation within the parking garage would occur within the drive aisles, it is recommended that measures be implemented to reduce travel speeds within the parking garage to speeds that are safe for both vehicles and pedestrians. Some of the measures could include signage, speed humps/bumps, appropriate lighting, auditory warnings, and mirrors.

Pedestrian, Bicycle, and Transit Analysis

All new development projects in San Jose should encourage multi-modal travel, consistent with the goals of the City's General Plan. It is the goal of the General Plan that all development projects accommodate and encourage the use of non-automobile transportation modes to achieve San Jose's mobility goals and reduce vehicle trip generation and vehicle miles traveled. In addition, the adopted City Bike Master Plan establishes goals, policies and actions to make bicycling a daily part of life in San Jose. The Master Plan includes designated bike lanes along all City streets, as well as on designated bike corridors. In order to further the goals of the City, pedestrian and bicycle facilities should be encouraged with new development projects.

The City's General Plan identifies both walk and bicycle commute mode split targets of 15 percent or more by the year 2040. This level of pedestrian and bicycle mode share is a reasonable goal for the project, particularly if Caltrain, LRT, and bus services (including BRT) are utilized in combination with bicycle commuting.

Pedestrian Facilities

Pedestrian facilities in the study area consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections.

Pedestrian generators in the project area include commercial areas to the north and south of the project site. In addition, the Bascom LRT Station is located along the western boundary of the project site along Southwest Expressway. Although continuous sidewalks are available connecting the project site to the commercial areas, the intersection of Bascom Avenue/Stokes Street includes non-ADA compatible ramps at all four corners of the intersection. To the south of the project site, pedestrians may access bus stops and commercial areas along Bascom Avenue and Hamilton Avenue via the existing sidewalks. However, there currently are no pedestrian railroad crossing gates along sidewalks at the railroad/LRT crossing of Bascom Avenue located at the southern end of the project site.

The proposed project site is located within the South Bascom Urban Village Boundary and fronts Bascom Avenue. Sites within an Urban Village must incorporate additional urban design and architectural elements that will facilitate pedestrian orientated design and activate the pedestrian public right-of-way. Policy CS-4.4 of the South Bascom Avenue Urban Village Plan identifies a minimum 20-foot sidewalk width along Bascom Avenue. Thus, the project should provide a minimum 20-foot sidewalk width along its Bascom frontage to meet Policy CS-4.4. Direct access to the Bascom Avenue sidewalk from the proposed residential building and office building would be provided via the front lobbies of each building and outdoor park/plaza.

The proposed new signalized intersection at Pamlar Avenue, proposed outdoor park/plaza, and wider sidewalks would enhance existing pedestrian facilities along Bascom Avenue and connection to transit facilities encouraging walking rather than driving to access nearby pedestrian destinations.

Bicycle Facilities

There are several bike facilities in the immediate vicinity of the project site. As previously described, the City's General Plan identifies the bicycle commute mode split target as 15 percent or more by the year 2040. This calculates to approximately 72 and 77 new bicycle trips during the AM and PM peak hours, respectively. This level of bicycle mode share is a reasonable goal for the project.

The bikeways within the vicinity of the project site, including those along Bascom Avenue, would remain unchanged under project conditions. However, the existing bike lanes that run along Bascom Avenue are located between traffic traveling at high-speeds and intermittent on-street parking. Policy CS-3.1 of the South Bascom Avenue Urban Village Plan identifies the implementation of a protected cycle track along with enhanced sidewalks along south Bascom Avenue as a critical piece to the multi-modal transportation network within the Urban Village. The project's Bascom Avenue frontage will provide for the implementation of the planned cycle track along with wider sidewalks that will encourage the use of a bicycle as part of trip making and be consistent with the South Bascom Urban Village Plan goals and strategies. The Bascom Streetscape improvements, as identified in the South Bascom Avenue Urban Village Plan, along the project frontage will be constructed by the project if the City has an approved implementation of a road diet at the project implementation stage. All proposed on-site bicycle parking would be accessible via the building garage entrances as well as the park/plaza.

Transit Services

The project site is directly served by existing VTA transit services. There are bus stops located along the project frontage on northbound Bascom Avenue, just south of Palmar Avenue, as well as southbound Bascom Avenue near Stokes Street. The existing bus stop along the project frontage on Bascom Avenue that is served by Routes 61 and 62 will be relocated to the north side of the new Palmar Avenue signal. The new transit trips generated by the project are not expected to create demand in excess of the transit service that is currently provided in the project area. Future improvement of VTA's transit system are planned as part of its new transit operations plan, the Next Network, that will better connect VTA transit with the Milpitas and Berryessa BART station and increase overall system ridership. The future transit operations plan includes the following:

- Increases to service levels in high-ridership areas and decreases service levels in low-ridership areas.
- Increases frequencies on many routes (including Route 61 that serves the project site).
- Expands the number of Rapid Routes.
- Increases the number of residents and jobs with access to frequent service by 150,000 and 160,000 respectively.
- Extends service later in the evening on many routes and adds more service on weekends

The project site also is located adjacent to the Mountain View-Winchester LRT line which stops at the Bascom LRT Station located along Southwest Expressway. However, access to the Bascom LRT Station from areas along and west of Bascom Avenue is currently limited due to the lack of developed access points to the station from the west side of the LRT tracks and uncontrolled crossing points along Bascom Avenue. Stokes Street provides the nearest controlled crossing point of Bascom Avenue from areas on the west side of Bascom Avenue. Policy CS-2.2 of the South Bascom Avenue Urban Village Plan identifies the improvement of multi-modal access to the Bascom LRT station. The proposed project will include the construction of a new signalized intersection at Palmar Avenue and Bascom Avenue that will provide for a controlled crossing point of Bascom Avenue. In addition, the proposed park/plaza that will bisect the project site will provide a non-auto connection between Bascom Avenue and access points along the project's eastern perimeter to the LRT station platforms. The proposed enhancements to pedestrian routes via the controlled crossing point at the new Pamlar Avenue traffic signal, improvements to sidewalks and the pedestrian environment along the project's Bascom Avenue frontage, pedestrian pathway that will run along the perimeter of the site, and park/plaza within the project site will provide safe and more direct routes to and from the LRT station that will encourage increased usage of transit and be consistent with the South Bascom Urban Village Plan strategies and policies.

Truck Access and Circulation

***Recommendation*:** Since the drive aisle that will provide access to the residential loading area also will be used by residents to access the parking garage entrance located adjacent to the loading area it is recommended that the ingress and egress for the residential loading area be restricted during the morning and evening peak commute hours to minimize the conflict of trucks and vehicles.

***Recommendation*:** The location of trash enclosures for the office building are not shown on the site plan. It is recommended that a trash room be located adjacent to the loading area for the office building so that garbage pick-up can occur off-street, similar to that proposed for the residential building.

Parking Supply

The project is proposing to provide a total of 600 parking spaces within the office parking garage and 643 parking spaces within the residential garage, which is more than the number of parking spaces required by the City for each land use.

1. Introduction

This report presents the results of the transportation analysis (TA) for the proposed Gateway Station Mixed-Use Development at 1410 South Bascom Avenue in San Jose, California. The triangular shaped project site is located between Bascom Avenue and Southwest Expressway. The project site location and surrounding study area are shown in Figure 1.

The project site is located within a designated Urban Village (South Bascom Avenue) per the Envision San Jose 2040 General Plan. On May 8, 2018, the City of San Jose adopted the South Bascom Urban Village Plan as shown in Figure 2. The South Bascom Urban Village Plan provides a vision for the transformation of South Bascom Avenue into a more urban and walkable corridor. The adopted UV Plan will be the City's official Planning policy document for the corridor, providing goals, policies, actions, and urban design guidelines to guide private and public investment to achieve this vision. In addition, the project must incorporate the Bascom Streetscape improvements along the project frontage as identified in the South Bascom Avenue Urban Village Plan.

Per the request of the City of San Jose, this transportation analysis evaluates the maximum allowable development on the project site that includes up to 600 residential units and 300,000 s.f. of office space. However, the project as proposed would consist of a 590 residential unit building and a building containing 200,300 s.f. of office space. The proposed project site plan is shown in Figure 3. There currently are commercial buildings totaling 76,894 square feet on the project site. Access to the site is proposed to be provided via one new signalized access point at the Palmar Avenue intersection with Bascom Avenue as well as three right-turn only driveways along Bascom Avenue.

The transportation analysis of the project was evaluated following the standards and methodologies set forth in the City of San Jose's Transportation Analysis Policy (Council Policy 5-1), The City of San Jose *Transportation Analysis Handbook 2018*, City of Campbell's traffic impact analysis guidelines, the Santa Clara Valley Transportation Authority (VTA) Congestion Management Program's *Transportation Impact Guidelines* (October 2014), and the California Environmental Quality Act (CEQA). Per the City of San Jose's Transportation Analysis Policy and *Transportation Analysis Handbook 2018*, the TA report for the project consists of a CEQA Vehicle-Miles Traveled (VMT) analysis and a supplemental Local Transportation Analysis (LTA).

Transportation Policies

Historically, transportation analysis has utilized delay and congestion on the roadway system as the primary metric for the identification of traffic impacts and potential roadway improvements to relieve traffic congestion that may result due to proposed/planned growth. However, the State of California has recognized the limitations of measuring and mitigating only vehicle delay at intersections and in 2013

Figure 1
Site Location

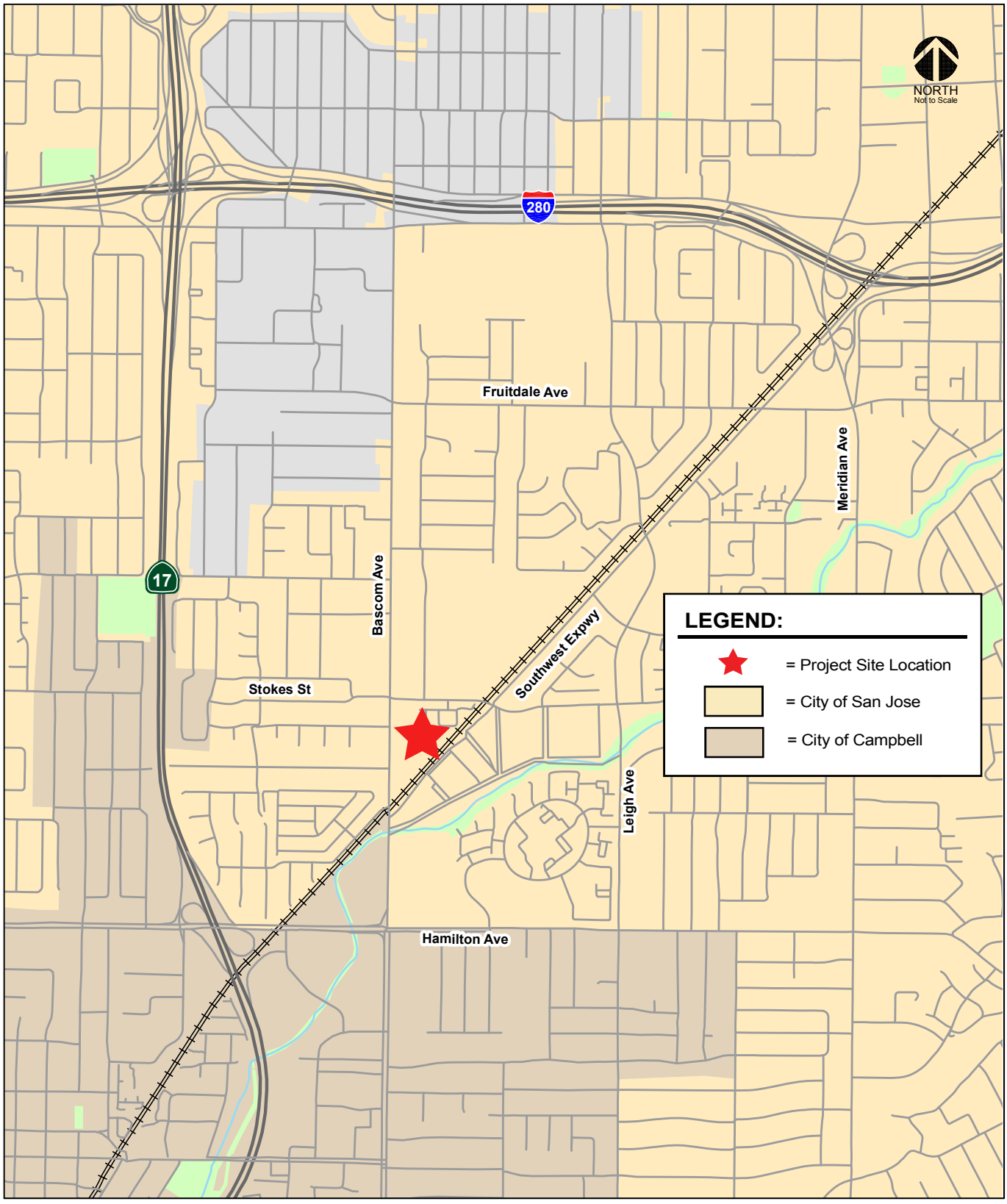


Figure 2
South Bascom Avenue Urban Village Boundary

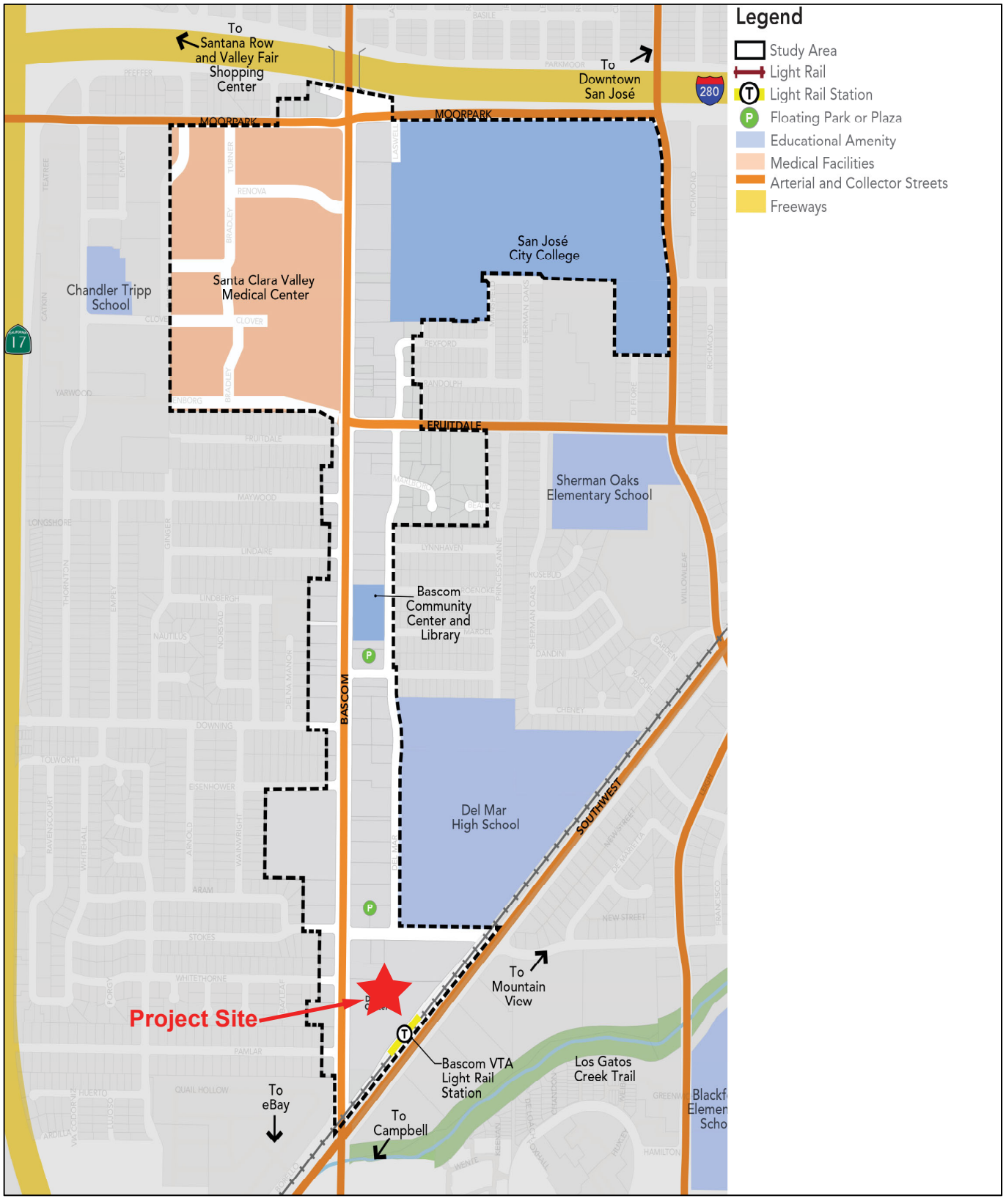
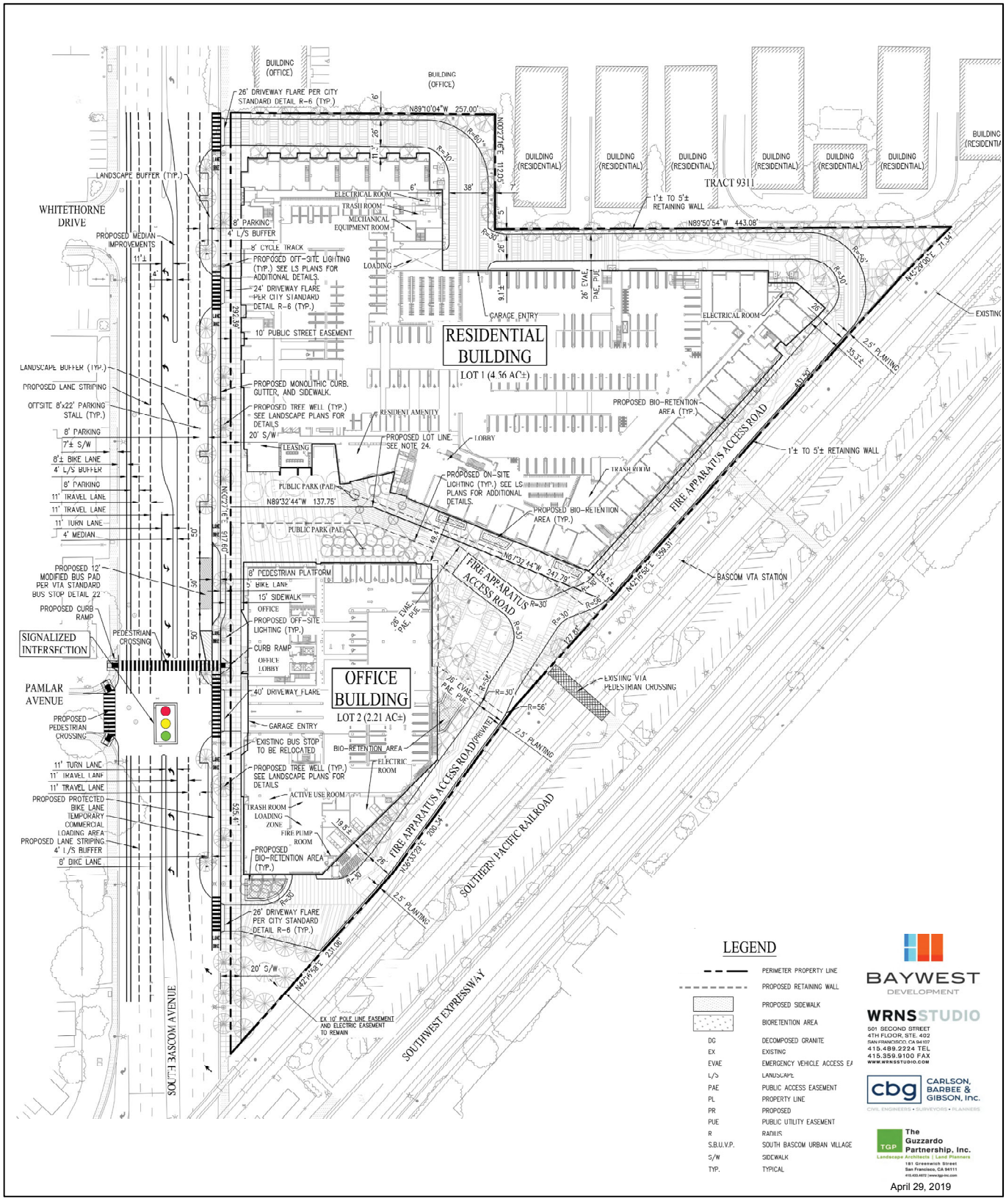


Figure 3
Proposed Site Plan



passed Senate Bill (SB) 743, which requires jurisdictions to stop using congestion and delay metrics, such as Level of Service (LOS), as the measurement for CEQA transportation analysis. With the adoption of SB 743 legislation, public agencies will soon be required to base the determination of transportation impacts on VMT rather than level of service.

In adherence to SB 743, the City of San Jose has adopted a new Transportation Analysis Policy, Council Policy 5-1. The policy replaces its predecessor (Policy 5-3) and establishes the thresholds for transportation impacts under the CEQA based on VMT instead of LOS. The intent of this change is to shift the focus of transportation analysis under CEQA from vehicle delay and roadway auto capacity to a reduction in vehicle emissions, and the creation of robust multimodal networks that support integrated land uses. The new transportation policy aligns with the currently adopted General Plan which seeks to focus new development growth within Planned Growth Areas, bringing together office, residential, and supporting service land uses to internalize trips and reduce VMT. All new development projects are required to analyze transportation impacts using the VMT metric and conform to Council Policy 5-1.

The Circulation Element of the *Envision San José 2040 General Plan* includes a set of balanced, long-range, multi-modal transportation goals and policies that provide for a transportation network that is safe, efficient and sustainable (minimizes environmental, financial, and neighborhood impacts). These transportation goals and policies are intended to improve multi-modal accessibility to all land uses and create a city where people are less reliant on driving to meet their daily needs. The Envision San Jose 2040 General Plan contains the following policies to encourage the use of non-automobile transportation modes to minimize vehicle trip generation and reduce VMT:

- Consider impacts on overall mobility and all travel modes when evaluating transportation impacts of new developments or infrastructure projects (TR-1.2);

- Through the entitlement process for new development, projects shall be required to fund or construct needed transportation improvements for all transportation modes, giving first consideration to improvement of biking, walking and transit facilities and services that encourage reduced vehicle travel demand (TR-1.4);

- Require new development where feasible to provide on-site facilities such as bicycle storage and showers, provide connections to existing and planned facilities, dedicate land to expand existing facilities or provide new facilities such as sidewalks and/or bicycle lanes/paths, or share in the cost of improvements (TR-2.8);

- As part of the development review process, require that new development along existing and planned transit facilities consist of land use and development types and intensities that contribute towards transit ridership. In addition, require that new development is designed to accommodate and to provide direct access to transit facilities (TR-3.3);

- Discourage, as part of the entitlement process, the provision of parking spaces significantly above the number of spaces required by code for a given use (TR-8.4);

- Allow reduced parking requirements for mixed-use developments and for developments providing shared parking or a comprehensive transportation demand management (TDM) program, or developments located near major transit hubs or within Villages and Corridors and other growth areas (TR-8.6);

- Encourage private property owners to share their underutilized parking supplies with the general public and/or other adjacent private developments (TR-8.7);

- Within new development, create and maintain a pedestrian-friendly environment by connecting the internal components with safe, convenient, accessible, and pleasant pedestrian facilities and by requiring pedestrian connections between building entrances, other site features, and adjacent public streets (CD-3.3);

- Create a pedestrian-friendly environment by connecting new residential development with safe, convenient, accessible, and pleasant pedestrian facilities. Provide such connections between new development, its adjoining neighborhood, transit access points, schools, parks, and nearby commercial areas (LU-9.1);

- Encourage all developers to install and maintain trails when new development occurs adjacent to a designated trail location. Use the City's Parkland Dedication Ordinance and Park Impact Ordinance to have residential developers build trails when new residential development occurs adjacent to a designated trail location, consistent with other parkland priorities. Encourage developers or property owners to enter into formal agreements with the City to maintain trails adjacent to their properties (PR-8.5).

CEQA Transportation Analysis Scope

The CEQA transportation analysis for the project includes a project-level VMT impact analysis using the City's VMT tool and a cumulative analysis that demonstrates the project's consistency with the Envision San Jose 2040 General Plan.

VMT Analysis

The City of San Jose's Transportation Analysis Policy establishes procedures for determining project impacts on VMT based on project description, characteristics, and/or location. The City of San Jose defines VMT as the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT is calculated for residential, office, and industrial projects using the Origin-Destination VMT method, which measures the full distance of personal motorized vehicle-trips with one end within the project. A project's VMT is compared to established thresholds of significance based on the project location and type of development. When assessing a residential project, the project's VMT is divided by the number of residents expected to occupy the project to determine the VMT per capita. When assessing an office or industrial project, the project's VMT is divided by the number of employees.

Typically, development projects that are farther from other, complementary land uses (such as a business park far from housing) and in areas without transit or active transportation infrastructure (bike lanes, sidewalks, etc.) generate more driving than development near complementary land uses with more robust transportation options. Therefore, developments located in a central business district with high density and diversity of complementary land uses and frequent transit services are expected to internalize trips and generate shorter and fewer vehicle trips than developments located in a suburban area with low density of residential developments and no transit serve in the project vicinity.

VMT Sketch Tool

To determine whether a project would result in CEQA transportation impacts related to VMT, the City has developed the San Jose VMT Evaluation Tool (sketch tool) to streamline the analysis for development projects. For non-residential or non-office projects, very large projects, or projects that can potentially shift travel patterns, the City's Travel Demand Model can be used to determine project VMT.

Based on the assessor's parcel number (APN) of a project, the sketch tool identifies the existing average VMT per capita and VMT per employee for the project area. Based on the project location, type of development, project description, and proposed trip reduction measures, the sketch tool calculates the project VMT. Projects located in areas where the existing VMT is above the established threshold are referred to as being in "high-VMT areas". Projects in high-VMT areas are required to include a set of VMT reduction measures that would reduce the project VMT to the extent possible.

The thresholds of significance for development projects, as established in the Transportation Analysis Policy, are based on the existing citywide average VMT level for residential uses and the existing regional average VMT level for employment uses. Figures 4 and 5 show the current VMT levels estimated by the City's travel demand mode. Areas are color-coded based on the level of existing VMT:

- Green-filled areas are parcels with existing VMT less than the City's residential and employee thresholds of 10.12 VMT per capita and 12.21 per employee. The thresholds are calculated by subtracting 15 percent from the citywide average of 11.91 VMT per capita and regional average of 14.37 per employee.
- Yellow-filled areas are parcels with existing VMT between the residential and employee thresholds and the city-wide average of 11.91 VMT per capita and regional average of 14.37 VMT per employee.
- Orange-filled areas are parcels with existing VMT greater than the residential and employee thresholds. However, a project's VMT impact may be mitigated by implementing VMT-reducing measures.
- Red-filled areas are parcels with existing VMT greater than the residential and employee threshold. Implementing VMT-reducing measures will not be sufficient to reduce a project's VMT to less than the threshold of significance.

Average per-capita and per-employee VMT for all the existing developments within ½ mile buffer of each parcel in the City serves as the baseline from which a project is evaluated. The VMT in the proposed project site vicinity is presented in further detail in Chapter 3.

Screening for VMT Analysis

The City's VMT methodology includes screening criteria that are used to identify types, characteristics, and/or locations of projects that would not exceed the CEQA thresholds of significance. If a project or a component of a mixed-use project meets the screening criteria, it is then presumed that the project or the component would result in a less-than-significant VMT impact and a VMT analysis is not required. The type of development projects that may meet screening criteria include the following:

(1) small infill projects
(2) local-serving retail
(3) local-serving public facilities
(4) projects located in *Planned Growth Areas* with low VMT and *High-Quality Transit*
(5) deed-restricted affordable housing located in *Planned Growth Areas* with *High-Quality Transit*

Table 1 summarizes the screening criteria for each type of development project as identified in the City of San Jose *Transportation Analysis Handbook*. Figures 6 and 7 identify areas within the City that currently have low VMT levels estimated by the City for residents and workers, respectively, for which transit supportive development would be screened out of the evaluation of VMT.

Figure 4
VMT per Capita Heat Map in San Jose

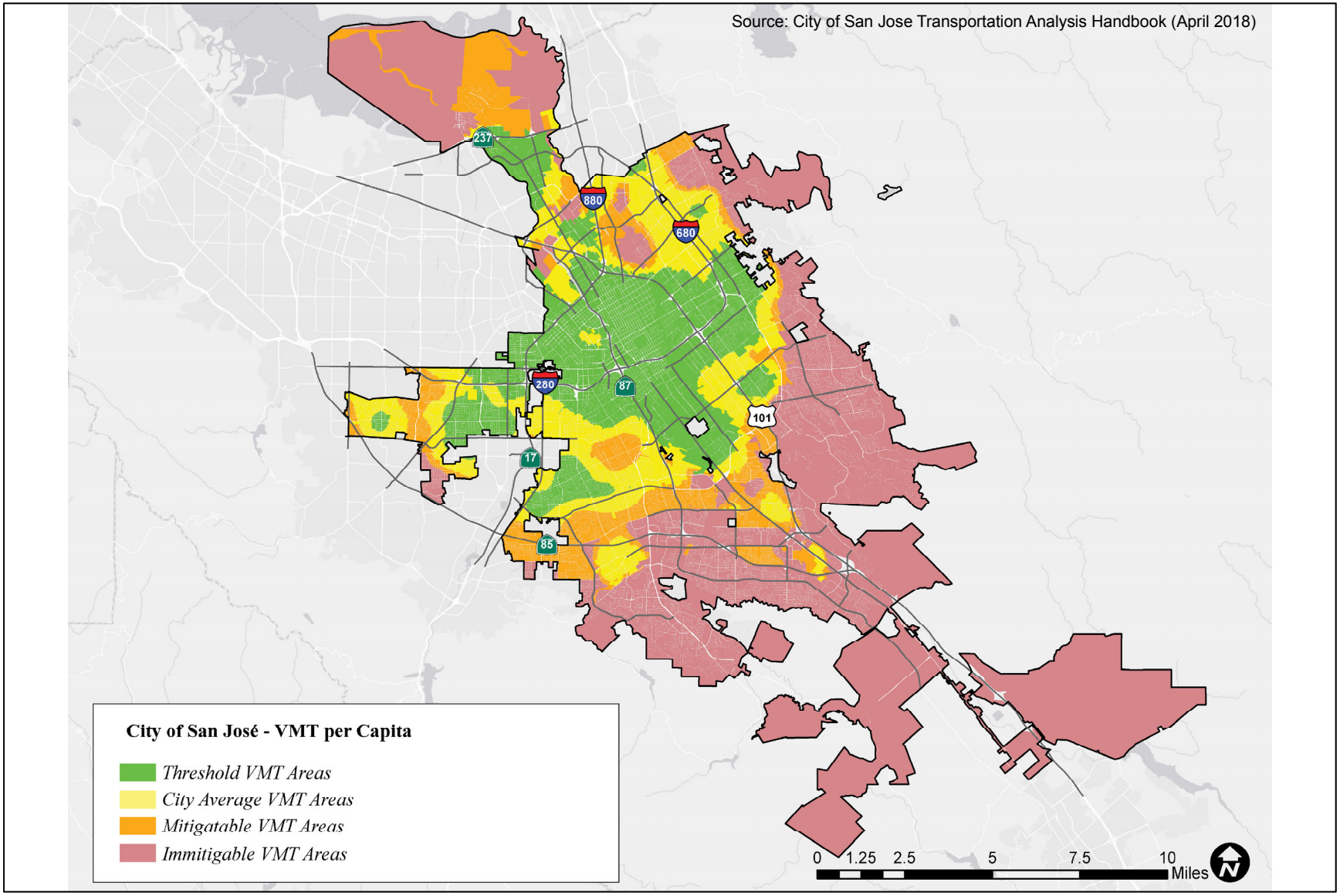


Figure 5
VMT per Job Heat Map in San Jose

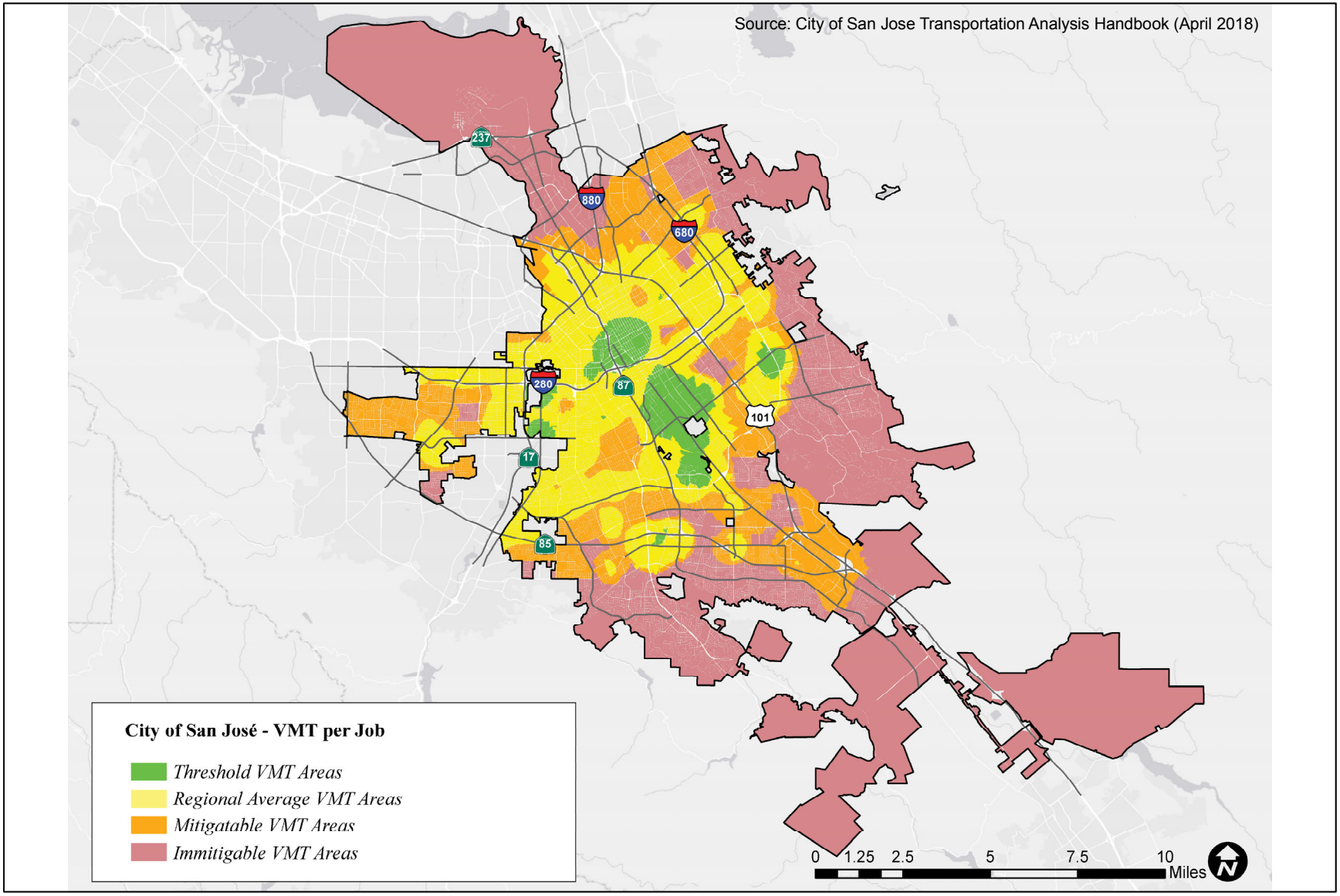


Figure 6
Low VMT per Capita Areas in San Jose

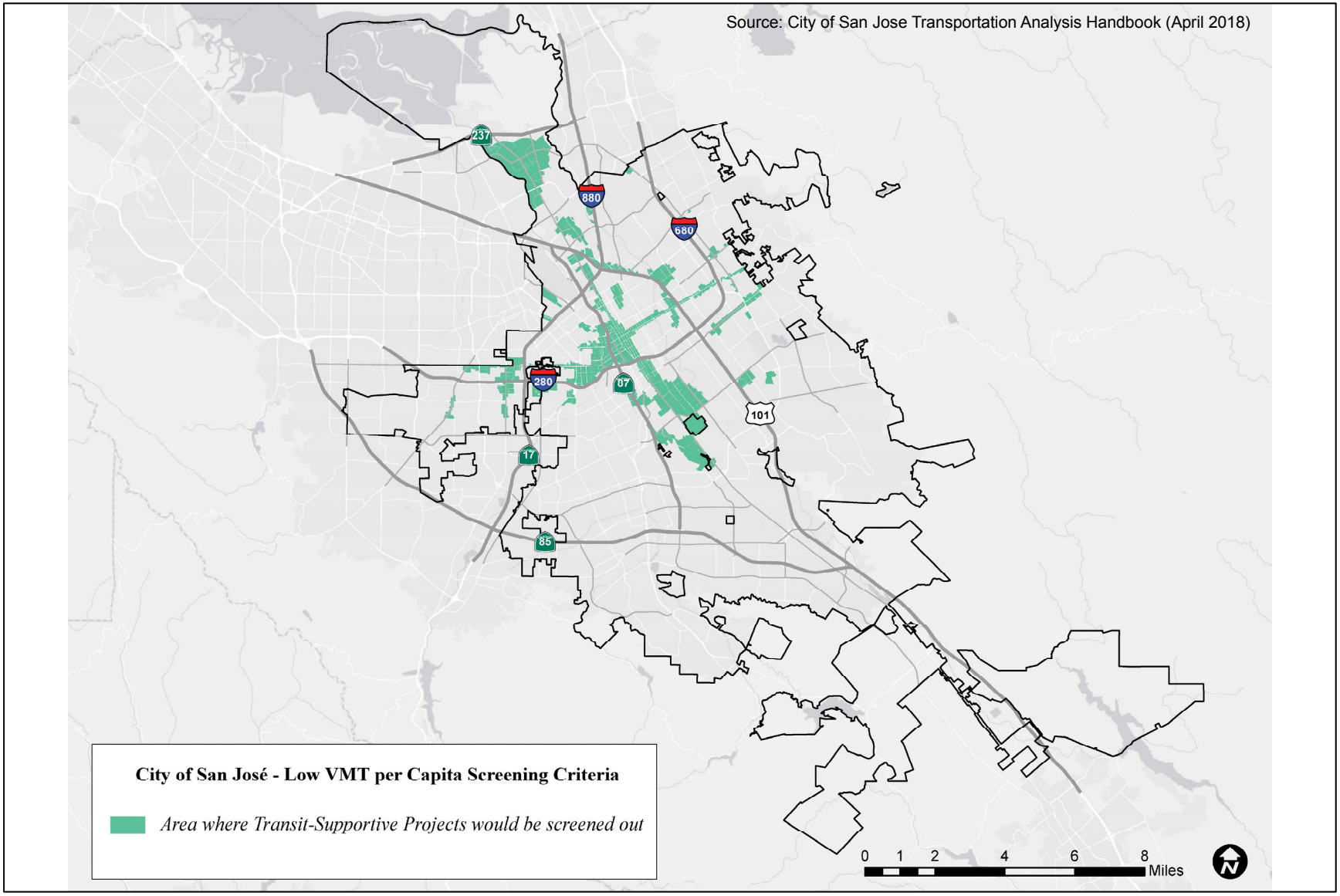


Figure 7
Low VMT per Job Areas in San Jose

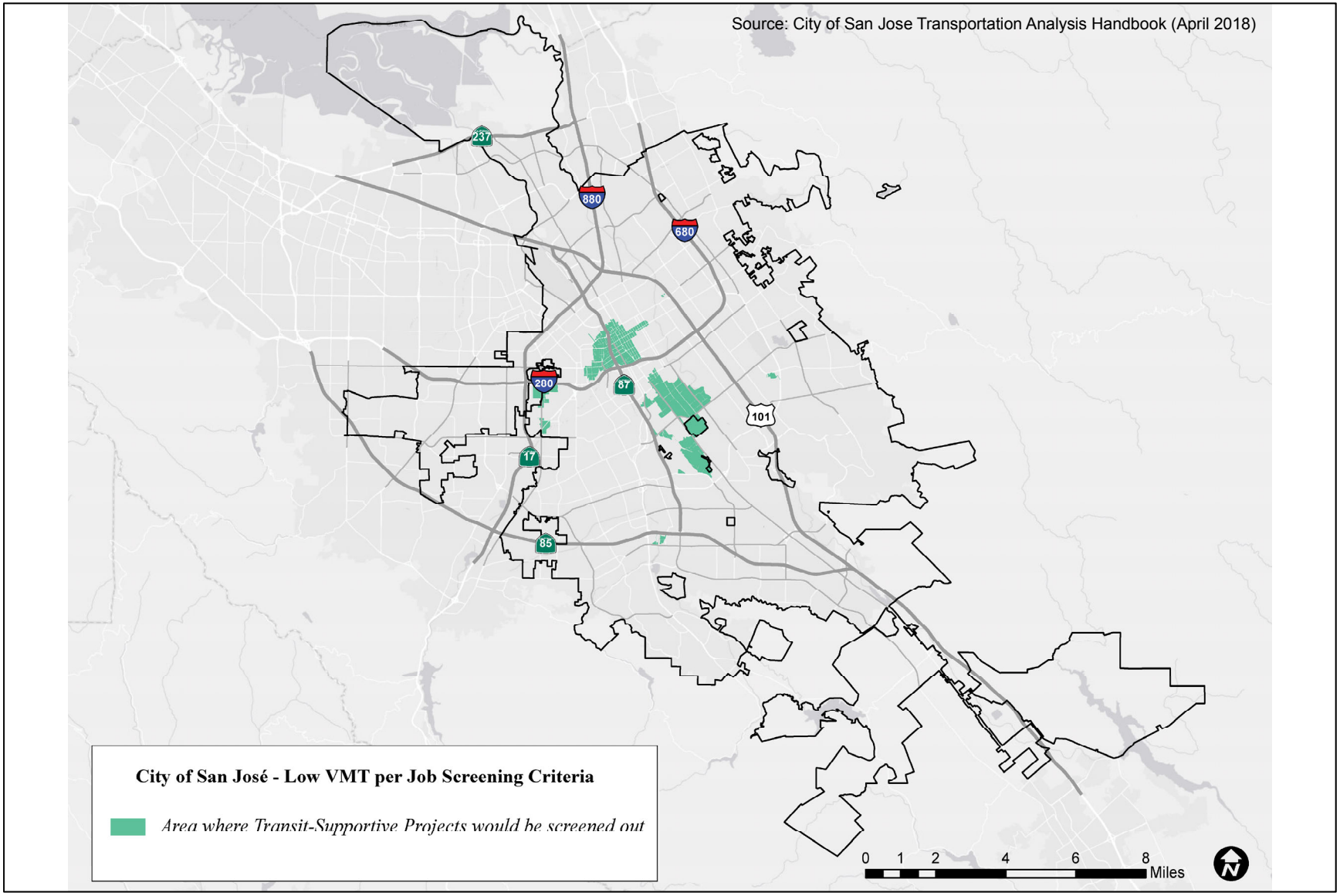


Table 1
CEQA VMT Analysis Screening Criteria for Development Projects

Type	Screening Criteria
Small Infill Projects	• Single-family detached housing of 15 units or less; OR • Single-family attached or multi-family housing of 25 units or less; OR • Office of 10,000 square feet of gross floor area or less; OR • Industrial of 30,000 square feet of gross floor area or less
Local-Serving Retail	• 100,000 square feet of total gross floor area or less without drive-through operations
Local-Serving Public Facilities	• Local-serving public facilities
Residential/Office Projects or Components	• **Planned Growth Areas:** Located within a Planned Growth Area as defined in the Envision San José 2040 General Plan; AND • **High-Quality Transit:** Located within ½ a mile of an existing major transit stop or an existing stop along a high-quality transit corridor; AND • **Low VMT:** Located in an area in which the per capita VMT is less than or equal to the CEQA significance threshold for the land use; AND • **Transit-Supporting Project Density**: o Minimum Gross Floor Area Ratio (FAR) of 0.75 for office projects or components; o Minimum of 35 units per acre for residential projects or components; o If located in a Planned Growth Area that has a maximum density below 0.75 FAR or 35 units per acre, the maximum density allowed in the Planned Growth Area must be met; AND • **Parking:** o No more than the minimum number of parking spaces required; o If located in Urban Villages or Downtown, the number of parking spaces must be adjusted to the lowest amount allowed; however, if the parking is shared, publicly available, and/or "unbundled", the number of parking spaces can be up to the zoned minimum; AND • **Active Transportation**: Not negatively impact transit, bike or pedestrian infrastructure.
Restricted Affordable Residential Projects or Components	• **Affordability:** 100% restricted affordable units, excluding unrestricted manager units; affordability must extend for a minimum of 55 years for rental homes or 45 years for for-sale homes; AND • **Planned Growth Areas:** Located within a Planned Growth Area as defined in the Envision San José 2040 General Plan; AND • **High Quality Transit:** Located within ½ a mile of an existing major transit stop or an existing stop along a high quality transit corridor; AND • **Transit-Supportive Project Density**: o Minimum of 35 units per acre for residential projects or components; o If located in a Planned Growth Area that has a maximum density below 35 units per acre, the maximum density allowed in the Planned Growth Area must be met; AND • **Transportation Demand Management (TDM):** If located in an area in which the per capita VMT is higher than the CEQA significance threshold, a robust TDM plan must be included; AND • **Parking:** o No more than the minimum number of parking spaces required; o If located in Urban Villages or Downtown, the number of parking spaces must be adjusted to the lowest amount allowed; however, if the parking is shared, publicly available, and/or "unbundled", the number of parking spaces can be up to the zoned minimum; AND • **Active Transportation:** Not negatively impact transit, bike or pedestrian infrastructure.

Source: City of San José Transportation Analysis Handbook, April 2018.

The project site is located within a planned Growth Area (Bascom Avenue Urban Village) with low VMT per employee as identified by the City of San Jose Traffic Model. However, the proposed office component of the project will not meet all of the applicable VMT screening criteria. In addition, the project site is not located in an area with low VMT per capita and thus the proposed residential units do not meet the City's screening criteria. Therefore, a CEQA-level transportation analysis that evaluates the project's effects on VMT is required.

Local Transportation Analysis Scope

A local transportation analysis (LTA) supplements the CEQA VMT analysis and identifies transportation operational issues that may arise due to a development project. The LTA includes an evaluation of the effects of the project on transportation, access, circulation, and related safety elements in the proximate area of the project.

Intersection Operations Analysis

The evaluation of a project's impact on level of service at intersections under the jurisdiction of the City of San Jose is no longer required. Per Senate Bill (SB) 743 and the updated CEQA Guidelines. (Section 15064.3) Nov 2017, beginning July 1, 2020 the use of intersection level of service as a metric for determining impacts of development growth on the transportation system will no longer be permitted. Therefore, the identification of level of service impacts in adjacent jurisdictions due to the development within San Jose, would not be consistent with the updated CEQA guidelines nor current City of San Jose transportation Policy.

However, since the VTA's Congestion Management Program (CMP) and City of Campbell have yet to adopt and implement guidelines and standards for the evaluation of transportation impacts using VMT, the effects of the proposed project traffic on CMP-designated intersections and freeway segments as well as intersections within the City of Campbell in the vicinity of the project area were evaluated following the current peak-hour LOS standards and methodologies as outlined in the *VTA Transportation Impact Analysis Guidelines* and City of Campbell traffic analysis guidelines. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

The LTA includes the evaluation of weekday AM and PM peak hour operations at a limited number of intersections for the purpose of identifying operational issues (queueing, signal operations, and potential multi-modal issues) at intersections in the general vicinity of the project site.

Traffic conditions at the study intersections were analyzed for both the weekday AM and PM peak hours of adjacent street traffic. The AM peak hour typically occurs between 7:00 AM and 9:00 AM and the PM peak hour typically occurs between 4:00 PM and 6:00 PM on a regular weekday. These are the peak commute hours during which most weekday traffic congestion occurs on the roadways in the study area. Intersection operations conditions were evaluated for the following scenarios:

- ***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, and supplemented with new manual turning-movement counts collected in November 2017.
- ***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 approved project traffic was provided by the City of San Jose in the form of the Approved Trips Inventory (ATI). Trips associated with approved projects in Campbell were estimated based on a list of approved projects provided by City of Campbell staff.

- ***Background Plus Project Conditions***. Background plus project conditions reflect projected traffic volumes on the planned roadway network with completion of the project and approved developments. Background traffic volumes with the project were estimated by adding to background traffic volumes the additional traffic generated by the project
- ***Cumulative Conditions***. Cumulative traffic volumes reflect projected traffic volumes on the planned roadway network with completion of the pending developments in the area as well as the proposed project and approved developments. A list of pending projects in the vicinity was provided by the Cities of San Jose and Campbell.

The LTA also includes a vehicle queuing analysis, an evaluation of potential project impacts on bicycle, pedestrian, and transit facilities, and a review of site access, on-site circulation, and parking demand.

Report Organization

The remainder of this report is divided into four chapters. Chapter 2 describes existing transportation system including the existing roadway network, transit service, bicycle and pedestrian facilities. Chapter 3 describes the CEQA transportation analysis, including VMT analysis methodology, baseline and potential project VMT impacts, mitigation measures to reduce the VMT impact, and potential cumulative transportation impacts. Chapter 4 describes the LTA including the method by which project traffic is estimated, intersection operations analysis methodology, any adverse intersection traffic effects caused by the project, intersection vehicle queuing analysis, site access and on-site circulation review, effects on bicycle, pedestrian, and transit facilities, and parking. Chapter 5 presents the conclusions of the transportation analysis.

2. Existing Transportation Setting

This chapter describes the existing conditions of the transportation system within the study area of the project. It describes transportation facilities in the vicinity of the project site, including the roadway network, transit services, and pedestrian and bicycle facilities.

Existing Roadway Network

Regional access to the study area is provided by I-880, SR 17 and I-280. Local access to the study area is provided via Bascom Avenue, Southwest Expressway, Hamilton Avenue, and Stokes Street. These facilities are described below.

I-880 extends from I-80 in Oakland to I-280 in San Jose. It is generally a north-south oriented six-lane to eight-lane freeway in the project area. I-880 becomes SR-17 at its junction with I-280. Site access to and from I-880 is provided via SR 17 at the Hamilton Avenue Interchange.

SR-17 is primarily a four-lane to eight-lane freeway that is aligned in a north-south orientation within the project vicinity. SR-17 begins at its interchange with I-280, where I-880 ends, and extends southward, terminating at its junction with SR-1 in Santa Cruz. Site access to and from SR-17 is provided via its interchange with Hamilton Avenue.

I-*280* extends from US 101 in San Jose to I-80 in San Francisco. It is generally an east-west oriented eight-lane freeway in the vicinity of the project site. The section of I-280 in the project vicinity has six mixed-flow lanes and two high-occupancy-vehicle (HOV) lanes. Site access to and from I-280 is provided via its interchange with SR-17, freeway ramps at Southwest Expressway for southbound I-280, and Moorpark Avenue and Winchester Boulevard for northbound I-280.

Bascom Avenue is a north-south six-lane arterial, designated as a Main Street in the General Plan, that extends from Stevens Creek Boulevard southward and ultimately becomes Los Gatos Boulevard south of SR-85. The City of San Jose identifies Main Streets as roadways serving major commercial and residential corridors, with primary routes for public transit services. Land uses located along Bascom Avenue are generally commercial, with parking provided on both sides of the street in most areas, except the segment between Fruitdale Avenue and Southwest Expressway, where limited on-street parking is provided. Between Renova Drive and Pamlar Avenue, Bascom Avenue has a two-way left-turn lane with a raised median island and left-turn pockets at signalized intersections. Bascom Avenue has a posted speed limit of 35 mph within the study area. Sidewalks are located on both sides of the

street in the study area. Direct project site access is proposed to be provided along Bascom Avenue by a new full access signalized intersection at Pamlar Avenue and three right-turn only driveways.

Hamilton Avenue is a six-lane east-west roadway between Marathon Drive and Leigh Avenue. West of Marathon Drive, Hamilton Avenue narrows to a four-lane roadway and extends west to Campbell Avenue. Land uses located along Hamilton Avenue consist of mostly residential units with some office and retail space. East of Leigh Avenue, Hamilton Avenue narrows to a four-lane roadway and extends west to Meridian Avenue. Hamilton Avenue has a posted speed limit of 35 mph with bike lanes west of SR 17 and no on-street parking allowed. Hamilton Avenue provides access to the project site via Bascom Avenue.

Southwest Expressway is a north-south roadway that extends from Bascom Avenue to I-280. It has four lanes between I-280 and Stokes Street and narrows to two lanes with a two-way left-turn lane between Stokes Street and Bascom Avenue. Southwest Expressway has a posted speed limit of 40 mph with bike lanes almost on its entire length and on-street parking only on the east side of the roadway. Access to and from the project site is provided via Stokes Street and Bascom Avenue.

Stokes Street is an east-west two-lane local connector street surrounded by a mix of commercial and residential land uses in the study area. East of Bascom Avenue, Stokes Street is a local connector street which ultimately becomes St. Elizabeth Drive and has a posted speed limit of 30 mph. West of Bascom Avenue, Stokes Street is a local street and has a posted speed limit of 25 mph. Sidewalks are located on both sides of Stokes Street. Access to and from the project site is provided via Bascom Avenue.

Existing Pedestrian, Bicycle and Transit Facilities

San Jose desires to provide a safe, efficient, fiscally, economically, and environmentally-sensitive transportation system that balances the need of bicyclists, pedestrians, and public transit riders with those of automobiles and trucks. The existing bicycle, pedestrian, and transit facilities in the study area are described below.

Existing Pedestrian Facilities

Pedestrian facilities consist mostly of sidewalks along the streets in the study area. Sidewalks are provided along the project frontages on Bascom Avenue and Stokes Street. Crosswalks with pedestrian signal heads and push buttons are located at the Bascom Avenue and Stokes Street signalized intersection near the project site. However, ramps at all four corners of the Bascom Avenue and Stokes Street intersection are non-ADA compliant. At the Downing Avenue cul-de-sac, there is a pedestrian footbridge over SR17 connecting Downing Avenue and Westfield Avenue. Overall, the existing network of sidewalks and crosswalks provides good connectivity and provides pedestrians with safe routes to transit services, specifically the Bascom LRT station along Southwest Expressway, and other points of interest in the area.

Existing Bicycle Facilities

Class I Bikeway (Bike Path). Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path. The Los Gatos Creek Trail is located in the project area and is a continuous multi-purpose pathway for pedestrians and bicycles that is separated from motor vehicles. It begins at Vasona Lake County Park in the south and continues to West San Carlos Street in the north. A connection to the northern segment of the Los Gatos Creek Trail system is located on Bascom Avenue approximately 500 feet south of the project site.

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.

- Bascom Avenue, south of Fruitdale Avenue
- Southwest Expressway between Fruitdale Avenue and Bascom Avenue
- Hamilton Avenue, west of SR 17

Class III Bikeway (Bike Route). Class III bikeways are bike routes and only have signs to help guide bicyclists on recommended routes to certain locations. In the vicinity of the project site, the following roadway segments are designated as bike routes.

- Downing Ave, along its entire length
- Thorton Way, along its entire length
- Stokes Street, along its entire length

The existing bicycle facilities in the vicinity of the project site are shown in Figure 8.

Existing Transit Services

Existing transit services in the study area are provided by the Santa Clara Valley Transportation Authority (VTA). These transit services are described below and shown on Figure 9.

VTA Bus Service

The VTA bus lines that operate within the study area are listed in Table 2, including their terminus points, closest scheduled stop, and commute hour headways. Local routes 61 and 62 stop along the project's frontage at the Bascom Avenue/Pamlar Avenue intersection.

VTA Light Rail Transit (LRT) Service

The VTA currently operates the 42.2-mile VTA light rail line system extending from south San Jose through downtown to the northern areas of San Jose, Santa Clara, Milpitas, Mountain View and Sunnyvale. The Mountain View-Winchester LRT line (Route 902) stops at the Bascom Station located along Southwest Expressway adjacent to the project site.

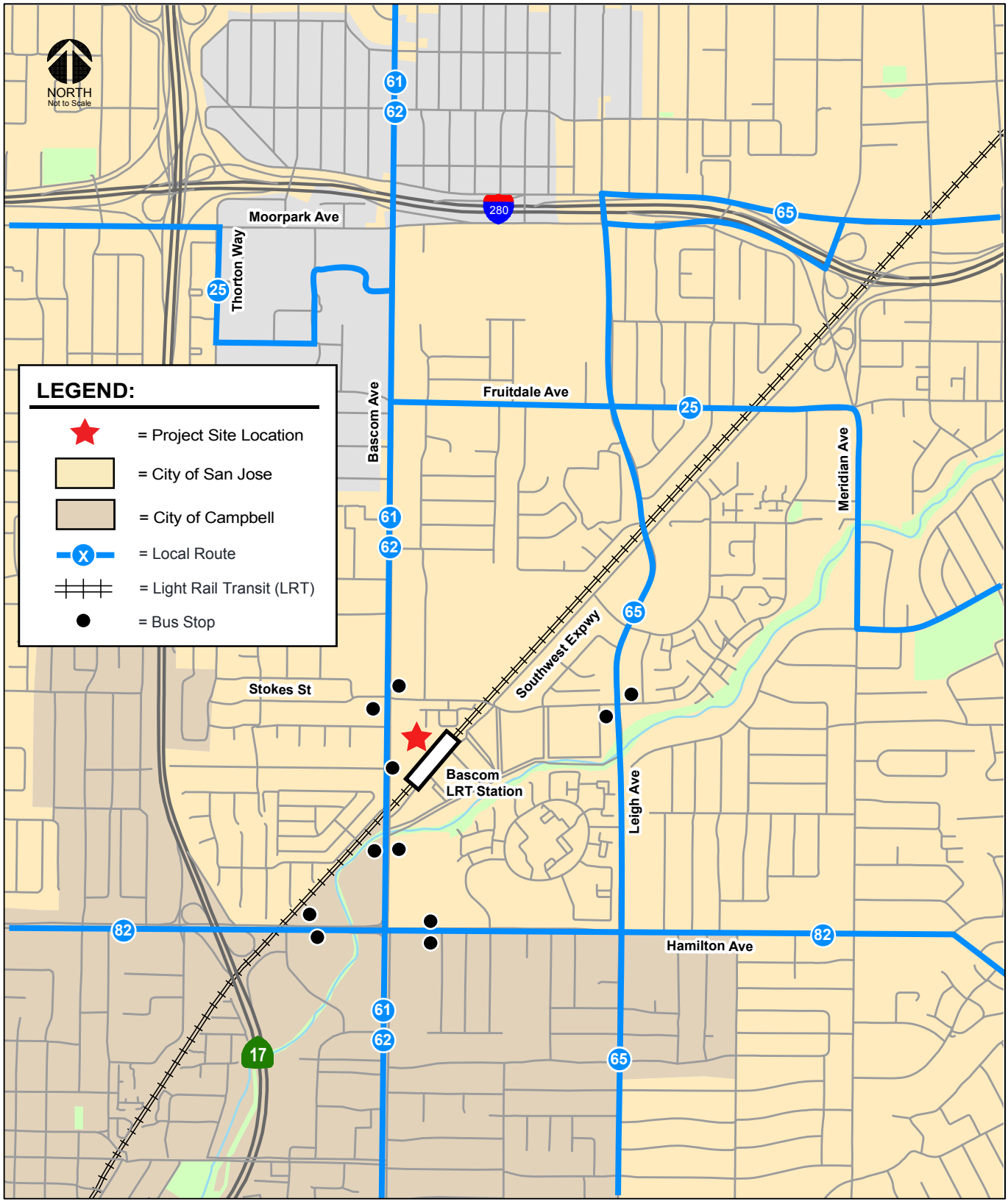
Table 2
VTA Transit Services

Route	Route Description	Closest Stop	Weekday Hours of Operation	Headway[1]
VTA Bus Route				
Local Route 25	De Anza College to Alum Rock Transit Center	Bascom Avenue and Fruitdale Avenue Intersection	5:00am - 12:30am	8 - 15 min
Local Route 61	Good Samaritan Hospital to Sierra Road & Piedmont Road via Bascom Avenue	Project Frontage on Bascom Avenue	6:00am - 9:30pm	30 min
Local Route 62	Good Samaritan Hospital to Sierra Road & Piedmont Road via Union Avenue	Project Frontage on Bascom Avenue	5:30am - 11:00pm	30 min
Local Route 65	Kooser and Blossom Hill Roads to 13th and Hedding Streets	Leigh Avenue and Stokes Street	6:00am - 8:30pm	40 - 50 min
VTA LRT Route				
Route 902	Mountain View to Winchester	Bascom LRT Station on Southwest Expressway (Adjacent to Project Site)	5:00am - 1:00am	15 min

Notes:
[1] Approximate headways during commute periods.

Figure 8
Existing Bicycle Facilities

Figure 9
Existing Transit Services



3. CEQA Transportation Analysis

This chapter describes the CEQA transportation analysis, including the VMT analysis methodology and significance criteria, potential project impacts on VMT, mitigation measures recommended to reduce significant impacts, and an evaluation of consistency with the City of San Jose's General Plan.

VMT Analysis Methodology

Per Council Policy 5-1, the effects of the proposed project on VMT was evaluated using the methodology outlined in the City's *Transportation Analysis Handbook*. VMT is the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT measures the full distance of personal motorized vehicle-trips with one end within the project. Because the proposed project is relatively small and would not significantly alter existing traffic patterns, the City's VMT evaluation tool (sketch tool) is used to estimate the project VMT and determine whether the project would result in a significant VMT impact. Figures 10 and 11 show the current VMT levels estimated by the City for residents and workers in the immediate project area, respectively.

The sketch tool evaluates a list of selected VMT reduction measures that can be applied to a project to reduce the project VMT. There are four strategy tiers whose effects on VMT can be calculated with the sketch tool:

1. Project characteristics (e.g. density, diversity of uses, design, and affordability of housing) that encourage walking, biking and transit uses.
2. Multimodal network improvements that increase accessibility for transit users, bicyclists, and pedestrians,
3. Parking measures that discourage personal motorized vehicle-trips, and
4. Transportation demand management (TDM) measures that provide incentives and services to encourage alternatives to personal motorized vehicle-trips.

The first three strategies – land use characteristics, multimodal network improvements, and parking – are physical design strategies that can be incorporated into the project design. TDM includes programmatic measures that aim to reduce VMT by decreasing personal motorized vehicle mode share and by encouraging more walking, biking, and riding transit. TDM measures should be enforced through annual trip monitoring to assess the project's status in meeting the VMT reduction goals.

Figure 10
VMT per Capita Heat Map in Project Area

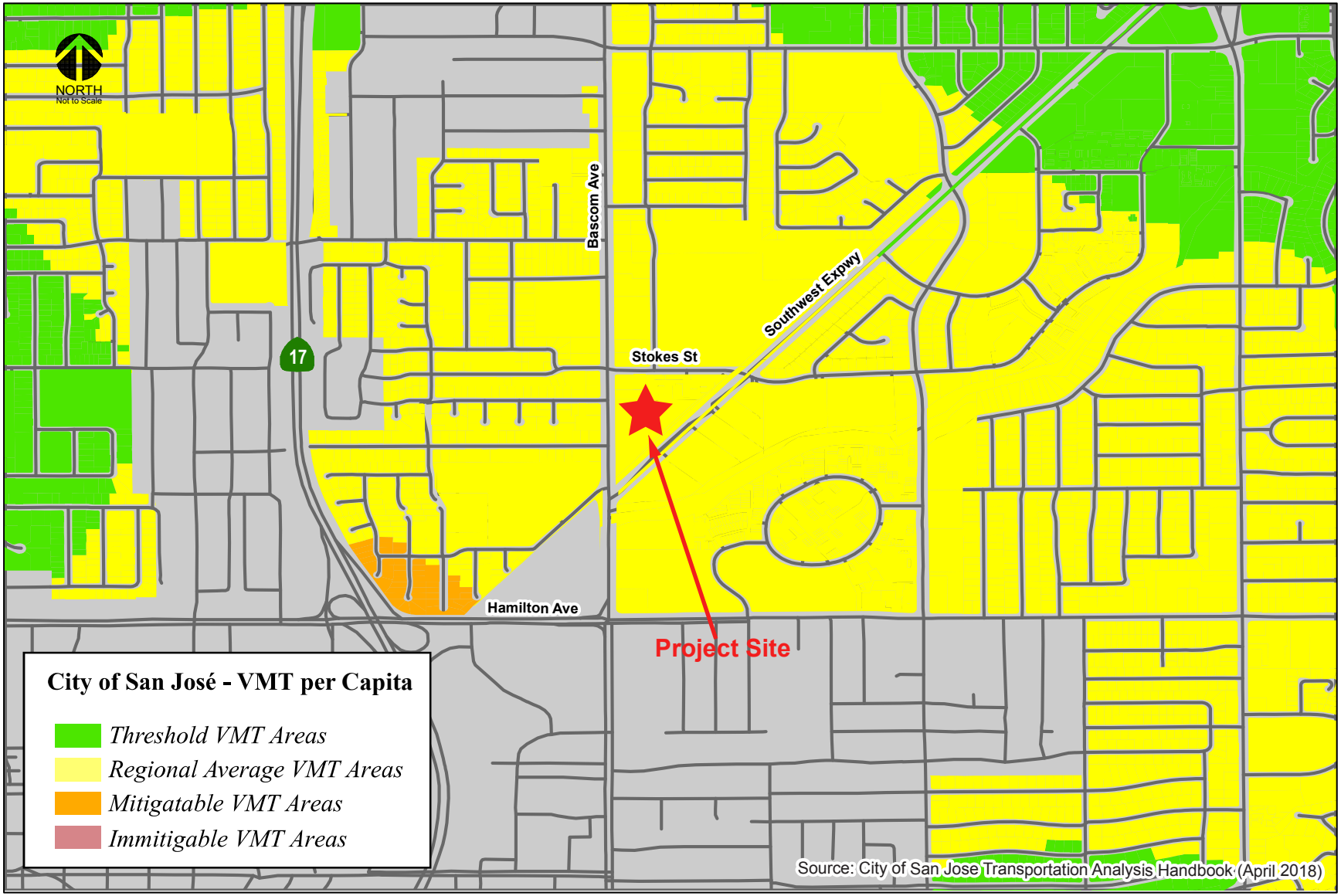
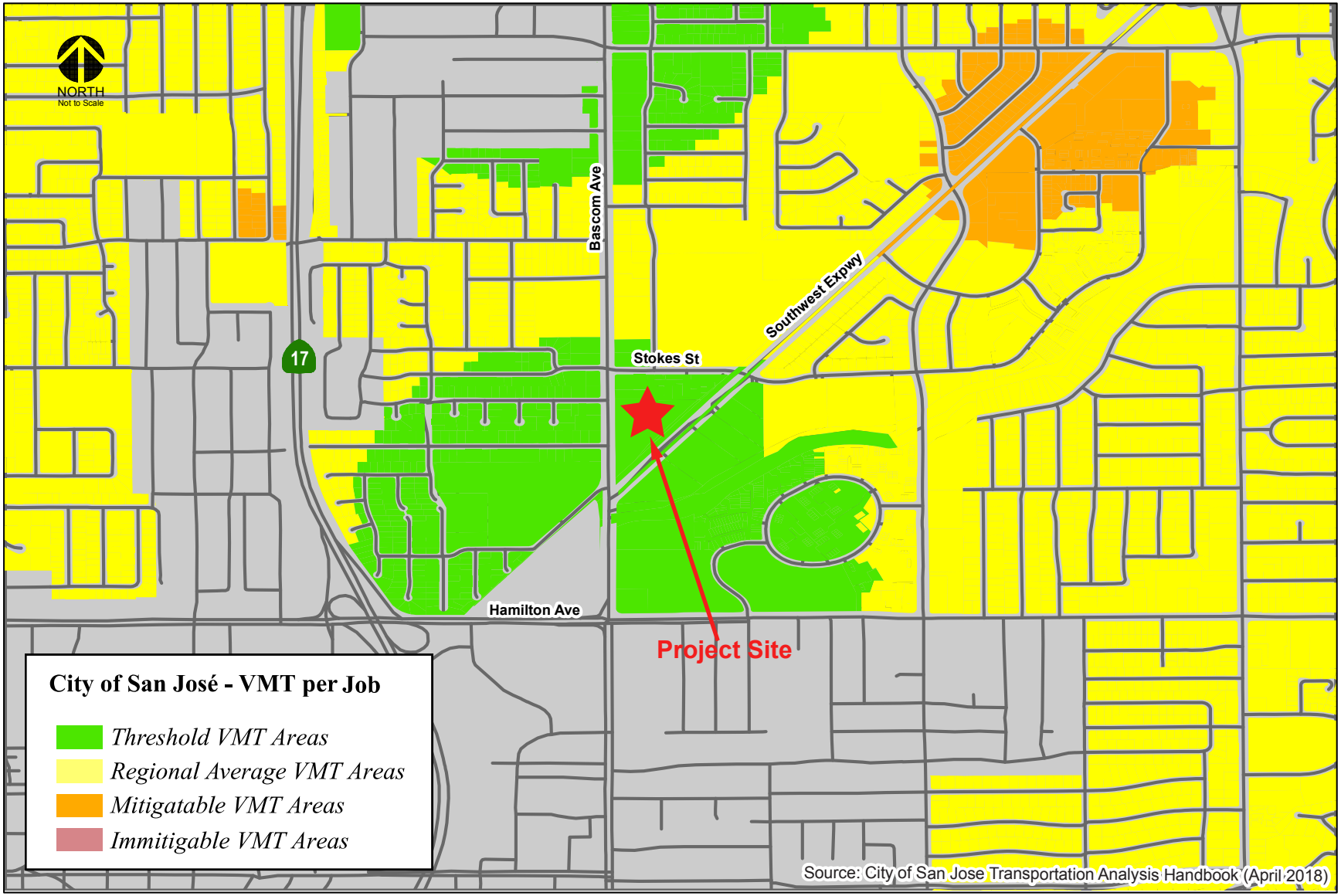


Figure 11
VMT per Job Heat Map in Project Area



Thresholds of Significance

If a project is found to have a significant impact on VMT, the impact must be reduced by modifying the project to reduce its VMT to an acceptable level (below the established thresholds of significance applicable to the project) and/or mitigating the impact through multimodal transportation improvements or establishing a Trip Cap.

Table 3 shows the VMT thresholds of significance for development projects, as established in the Transportation Analysis Policy. The two criteria applicable for the proposed project are described below.

1. Projects that include general employment uses (office) are said to create a significant adverse impact when the estimated project-generated VMT exceeds the existing regional average VMT per employee minus 15 percent. Currently, the reported regional average is 14.37 VMT per employee. This equates to a significant impact threshold of 12.21 VMT per employee.

2. Projects that include residential uses are said to create a significant adverse impact when the estimated project-generated VMT exceeds the existing citywide average VMT per capita minus 15 percent or existing regional average VMT per capita minus 15 percent, whichever is lower. Currently, the reported citywide average is 11.94 VMT per capita, which is less than the regional average. This equates to a significant impact threshold of 10.12 VMT per capita.

Projects that trigger a VMT impact can assess a variety of the four strategies described above to reduce impacts. A significant impact is said to be satisfactorily mitigated when the strategies and VMT reductions implemented render the VMT impact less than significant.

CEQA Transportation Analysis Exemption Criteria

The City of San Jose *Transportation Analysis Handbook* identifies screening criteria that determines whether a CEQA transportation analysis would be required for development projects. The criteria are based on the type of project, characteristics, and/or location. If a project meets the City's screening criteria, the project is expected to result in less-than-significant VMT impacts and a detailed CEQA VMT analysis is not required.

Evaluation of Screening Criteria

The project site is located within a planned Growth Area (Bascom Avenue Urban Village) with low VMT per employee as identified by the City of San Jose Traffic Model (see Figure 12). However, the proposed office component of the project will not meet all of the applicable VMT screening criteria. In addition, the project site is not located in an area with low VMT per capita and thus the proposed residential units do not meet the City's screening criteria. Therefore, a CEQA-level transportation analysis that evaluates the project's effects on VMT is required.

VMT of Existing Land Uses

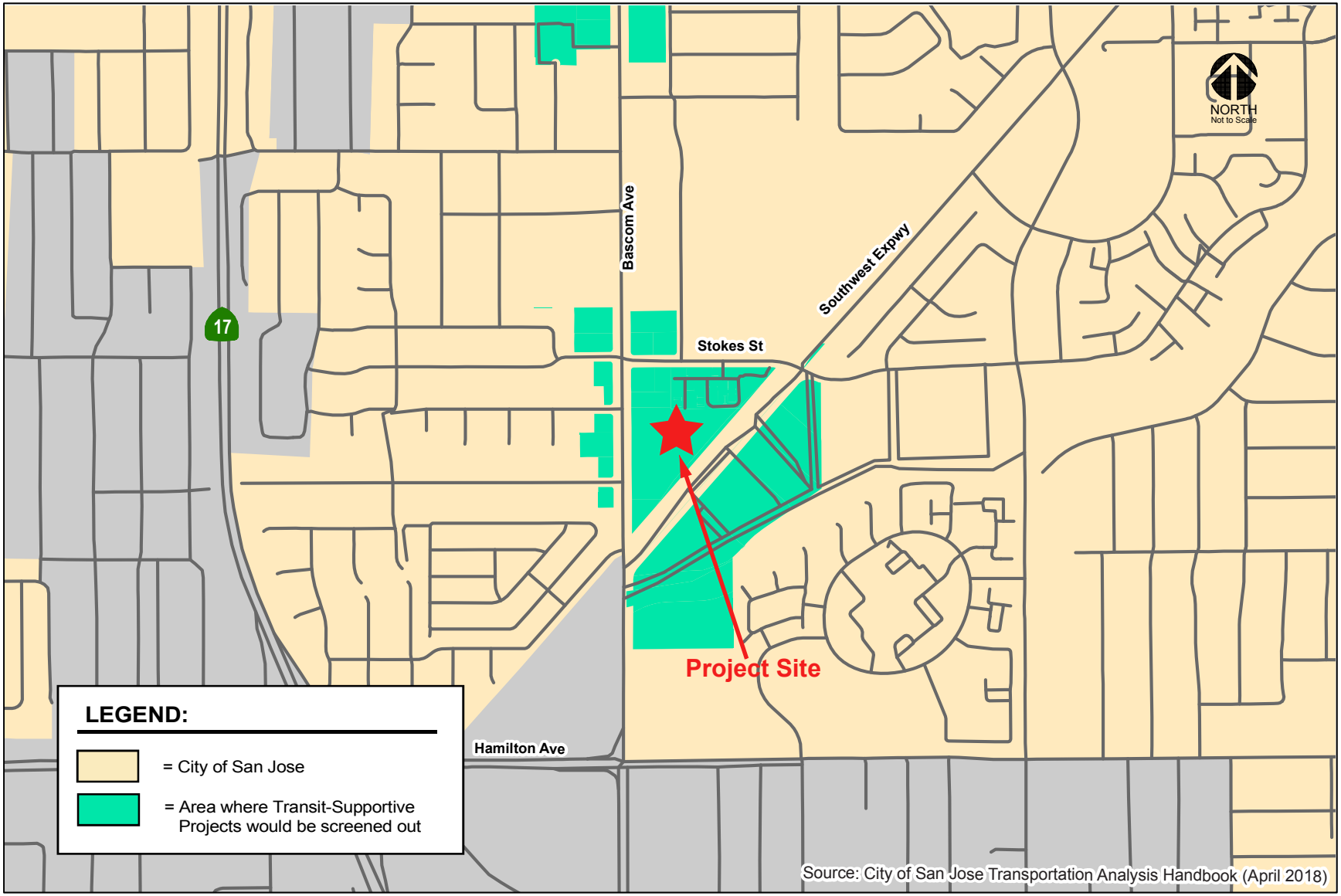
The results of the VMT analysis using the sketch tool indicate that the existing VMT for residential uses in the project vicinity is 11.03 per capita and employment uses is 11.88 per employee. As shown in Table 3, the current citywide average VMT for residential uses is 11.91 per capita and the regional average VMT for employment uses is 14.37 per employee. Therefore, the VMT levels of existing uses in the project vicinity are currently less than the average VMT levels. Appendix A presents the sketch tool summary report for the project.

Table 3
CEQA VMT Analysis Significant Impact Criteria for Development Projects

Type	Significance Criteria	Current Level	Threshold
Residential Uses	Project VMT per capita exceeds existing citywide average VMT per capita minus 15 percent OR existing regional average VMT per capita minus 15 percent, whichever is lower.	11.91 VMT per capita (Citywide Average)	10.12 VMT per capita
General Employment Uses	Project VMT per employee exceeds existing regional average VMT per employee minus 15 percent	14.37 VMT per employee (Regional Average)	12.21 VMT per employee
Industrial Employment Uses	Project VMT per employee exceeds existing regional average VMT per employee	14.37 VMT per employee (Regional Average)	14.37 VMT per employee
Retail/ Hotel/ School Uses	Net increase in existing regional total VMT	Regional Total VMT	Net Increase
Public/Quasi-Public Uses	In accordance with the most appropriate type(s) as determined by Public Works Director	Appropriate levels listed above	Appropriate thresholds listed above
Mixed Uses	Evaluate each land use component of a mixed-use project independently, and apply the threshold of significance for each land use type included	Appropriate levels listed above	Appropriate thresholds listed above
Change of Use or Additions to Existing Development	Evaluate the full site with the change of use or additions to existing development, and apply the threshold of significance for each project type included	Appropriate levels listed above	Appropriate thresholds listed above
Area Plans	Evaluate each land use component of the area plan independently, and apply the threshold of significance for each land use type included	Appropriate levels listed above	Appropriate thresholds listed above

Source: City of San José Transportation Analysis Handbook, April 2018.

Figure 12
Low VMT per Job Areas



Project-Level VMT Impact Analysis

The City's Transportation Policy identifies an impact threshold of 15% below the citywide average per-capita VMT of 11.91 and regional average per employee VMT of 14.37. Thus, the proposed project would result in a significant impact if it results in VMT that exceeds per capita VMT of 10.12 and per employee VMT of 12.21.

The results of the VMT evaluation, using the City's VMT Evaluation Tool, indicate that the proposed project is projected to generate VMT per capita (9.59) and VMT per employee (11.1) that are below the established thresholds. Therefore, the proposed project would not result in an impact on the transportation system based on the City's VMT impact criteria.

The reduction in per-capita VMT and per-employee VMT could be indicative of the addition of residents and jobs in close proximity to one another and in an area with extensive opportunities for the use of transit, bicycles, and other non-auto modes of travel. In addition, the project site is adjacent to the Bascom LRT Station and supported by bicycle and pedestrian facilities in its immediate proximity. Therefore, a larger percentage of the residents and employees who live and work within the project site would likely use transit more regularly than the average transit usage for these land uses in Santa Clara County. The increase in transit usage will result in less and a reduction of length of those trips that are added to the roadway system due to the proposed project. Figure 13 shows the VMT evaluation summary generated by the City of San Jose's VMT Evaluation Tool.

Cumulative (GP Consistency) Evaluation

Projects must demonstrate consistency with the *Envision San José 2040 General Plan* to address cumulative impacts. Consistency with the City's General Plan is based on the project's density, design, and conformance to the General Plan goals and policies. If a project is determined to be inconsistent with the General Plan, a cumulative impact analysis is required as part of the City's *Transportation Analysis Handbook*.

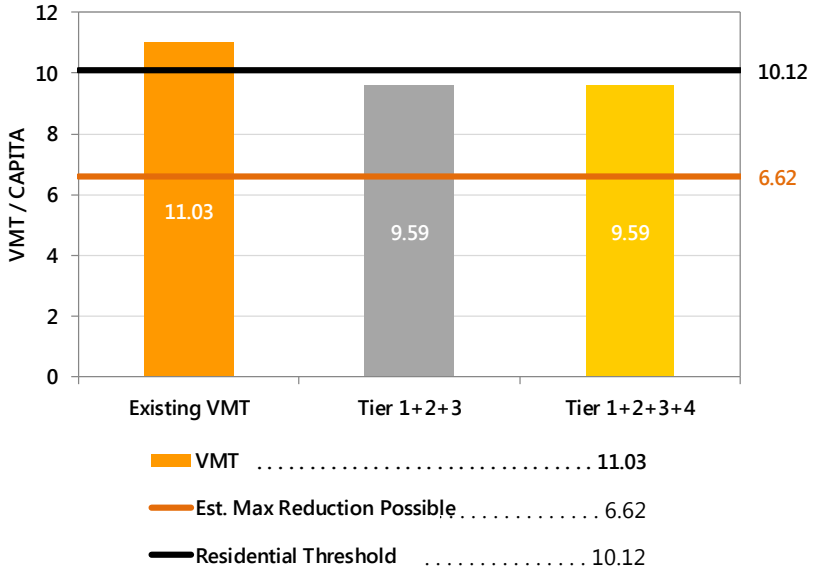
The project is located within the South Bascom Avenue Urban Village. On May 8, 2018, the City of San Jose adopted the South Bascom Urban Village Plan. The South Bascom Urban Village Plan provides a vision for the transformation of South Bascom Avenue into a more urban and walkable corridor. The adopted UV Plan will be the City's official Planning policy document for the corridor, providing goals, policies, actions, and urban design guidelines to guide private and public investment to achieve this vision. The South Bascom Urban Village Plan identifies the following goals and policies to improve traffic flow, alternative transportation options, and reduce neighborhood cut-through traffic.

- Policy LU-2.1: Encourage mixed-use residential projects to be built at densities of 70 dwelling units to the acre or greater. Projects that are primarily commercial or have a strong commercial focus can include a residential component that is less dense.
- Goal LU-3: Ensure that new development and area improvements increase access to public space and to alternate modes of transportation.
- Policy LU-3.1: Strongly encourage mixed-uses and intensities that support transit ridership, walking, and biking.
- Policy LU-3.2: Incorporate publicly-accessible space in larger developments, especially mixed-use residential projects. Spaces could include publicly accessible plazas that are privately-owned and maintained.

Figure 13
VMT Analysis Summary

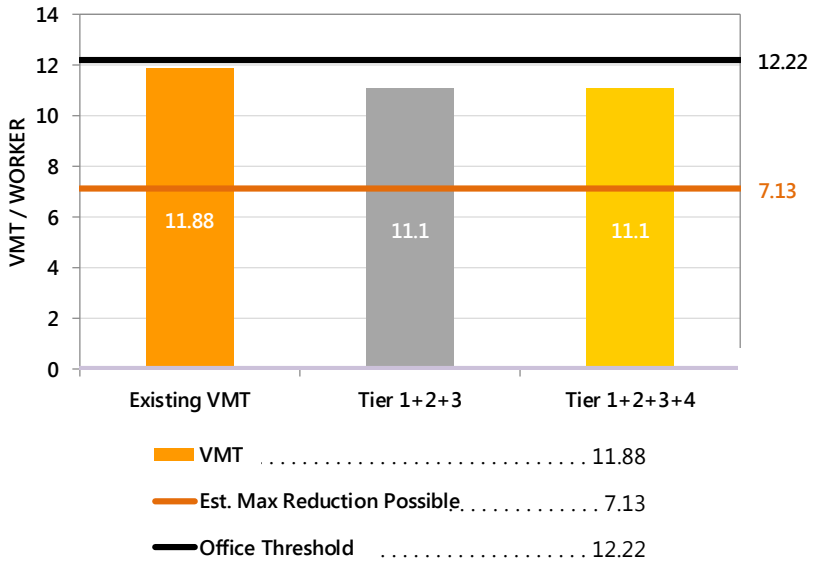
RESIDENTIAL ONLY

The tool estimates that the project would generate per capita VMT below the City's threshold. There are selected strategies that require coordination with the City of San Jose to implement.



EMPLOYMENT ONLY

The tool estimates that the project would generate per non-industrial worker VMT below the City's threshold. There are selected strategies that require coordination with the City of San Jose to implement.



- Policy P-2.1: Integrate publicly-accessible, but privately-owned pocket parks and plazas into new development that are attractive, vibrant, and provide ideal gathering spaces for the community
- Policy CS-1.2: Encourage street design standards that balance mobility for all transportation modes.
- Policy CS-1.3: Utilize colored bicycle facilities (i.e. bike lanes) at conflict areas such as intersections, where appropriate, per the City's Complete Streets Guidelines.
- Policy CS-2.1: Support right-of-way design and pedestrian amenities that make it easier to access transit services and encourage transit use as a viable alternative to driving.
- Policy CS-2.2: Improve multi-modal access to the Bascom VTA Light Rail Station
- Policy CS-3.1: Develop a beautifully landscaped, protected cycle track along South Bascom Avenue as a centerpiece of the Urban Village streetscape. Expand the bicycle network with east-west connections on Moorpark and Parkmoor Avenues, and along Aram Avenue/Romero Street/Stokes Streets.
- Policy CS-4.3: Improve the streetscape environment with crosswalks, mid-block pedestrian refuges, ADA accessible sidewalks, and amenities that enrich the pedestrian experience such as landscape planters, shade trees, improved lighting, and benches.
- Policy CS-4.4: Provide 20-foot minimum sidewalk width along South Bascom Avenue in all future development projects. Where the sidewalk in front of a development project falls short, the project must make up the difference so that the entire 20 feet is publicly accessible and functions as a sidewalk.

The project is consistent with the General Plan and South Bascom Urban Village goals and policies for the following reasons:

- The proposed residential and office land uses for the project site are consistent with the Urban Village land use designation and Transit Oriented Development (TOD) Character per the South Bascom Urban Village plan.
- The project is composed of a mix of land uses (employment and residential) that compliment one another and will promote a reduction in auto trips.
- A public park/plaza is proposed on-site and will provide a dedicated non-auto pathway to transit services.
- The project frontage along Bascom Avenue will be designed to accommodate the planned Bascom Avenue Complete Street improvements including protected bicycle lanes, wider sidewalks, and other pedestrian safety features.
- The proposed pedestrian improvements for the project site are consistent with the Transit-Oriented Development (TOD) Gateway Character Area described in the South Bascom Urban Village plan.
- The project site is adjacent to a bus stop and bicycle lanes on Bascom Avenue.
- The project site is adjacent to the Bascom LRT Station.
- The project would increase the employment density in the project area.

Therefore, based on the project description, the proposed project would be consistent with the *Urban Village Planning Concepts* and the *Envision San José 2040 General Plan*. Thus, the project would be considered as part of the cumulative solution to meet the General Plan's long-range transportation goals and would result in a less-than-significant cumulative impact.

4. Local Transportation Analysis

This chapter describes the local transportation analysis including the method by which project traffic is estimated, intersection operations analysis for existing, background, background plus project, and cumulative scenarios, any adverse effects on study intersections caused by the project, intersection vehicle queuing analysis, freeway segment and ramp analysis, site access and on-site circulation review, effects on bicycle, pedestrian, and transit facilities, and parking.

Project Trip Description

The triangular shaped project site is located between Bascom Avenue and Southwest Expressway. Per the request of the City of San Jose, this transportation analysis evaluates the maximum allowable development on the project site that includes up to 600 residential units and 300,000 s.f. of office space. However, the project as proposed would consist of a 590 residential unit building and a building containing 200,300 s.f. of office space. There currently are commercial buildings totaling 76,894 square feet on the project site. Access to the site is proposed to be provided via one new signalized access point at the Palmar Avenue intersection with Bascom Avenue as well as three right-turn only driveways along Bascom Avenue.

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, the directions to and from which the project trips would travel are estimated. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described below.

Trip Generation

Proposed Project Trips

Through empirical research, data have been collected that indicate the amount of traffic that can be expected to be generated by common land uses. Project trip generation was estimated by applying to the size and uses of the development the appropriate trip generation rates. The average trip generation rates for General Office Building (Land Use 710) and Multi-Family Housing (Land Use 221) as published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition* (2017) were applied to the project.

Trip Reductions

The trip estimates for each of the proposed land use components of the 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. As prescribed by the VTA *Transportation Impact Analysis Guidelines* (October 2014), a trip reduction of 3 percent (%) to account for the internalization between residential and employment land uses was applied to the estimated trips for the project. The 3% reduction is based on the smaller trip generator and is applied to both land uses.

In accordance with San Jose's *Transportation Analysis Handbook* (April 2018, Section 4.8, "Intersection Operations Analysis"), the project is eligible for adjustments and reductions from the baseline trip generation described above. Based on the 2018 San Jose guidelines, the project qualifies for a location-based adjustment. The location-based adjustment reflects the project's vehicle mode share based on the place type in which the project is located per the San Jose Travel Demand Model. The project's place type was obtained from the *San Jose VMT Evaluation Tool.* Based on the Tool, the project site is located within a designated urban low-transit area. Therefore, the baseline project trips were adjusted to reflect an urban low-transit mode share. Urban low-transit is characterized as an area with good accessibility, low vacancy, and middle-aged housing stock. Office developments within urban low-transit areas have a vehicle mode share of 91 percent, while residential uses within this area have a vehicle mode share of 87 percent. Thus, a 9 percent reduction was applied to office trips and a 13 percent reduction was applied to residential trips generated by the proposed project.

The project is proposing to make a direct connection to the Bascom LRT Station providing potential transit users of the project a shorter path of travel to and from the station. The project will also install a new traffic signal with crosswalks at the intersection of Pamlar Avenue and Bascom Avenue. The new signal will provide a new controlled crossing of Bascom Avenue between Stokes Street and Hamilton Avenue and provide a shorter route between areas on the west of and along Bascom Avenue and the Bascom LRT Station. Based on the San Jose VMT Evaluation Tool, implementation of these strategies would reduce per-capita VMT by 13 percent and per-employee VMT by 7 percent. It is assumed that every percent reduction in VMT is equivalent to one percent reduction in peak hour vehicle trips. Thus, the project trip estimates were reduced accordingly.

Based on the ITE rates with trip adjustments and reductions, the proposed development would generate a total of 4,802 daily vehicle trips, with 447 trips (290 inbound and 157 outbound) occurring during the AM peak hour and 479 trips (162 inbound and 317 outbound) occurring during the PM peak hour.

Existing Site Trips

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 76,894 s.f. of retail buildings on-site that will be replaced by the proposed project. Peak-hour trips generated by the existing uses on site were obtained from new driveway counts completed in November 2017.

A retail pass-by trip reduction of 34 percent (per the ITE *Trip Generation Manual*) also was applied to the peak hour trip generation estimates for the existing retail space. Pass-by-trips are trips that would already be on the adjacent roadways (and are already counted in the existing traffic) but would turn into the site while passing by. Justification for applying the pass-by-trip reduction is founded on the observation that such retail traffic is not actually generated by the retail development but is already part of the ambient traffic levels.

Based on driveway counts and pass-by reductions, the existing retail space currently generates 2,903 daily vehicle trips, with 33 trips (21 inbound and 12 outbound) occurring during the AM peak hour and 59 trips (24 inbound and 35 outbound) occurring during the PM peak hour.

Net Project Trips

After applying the ITE trip rates, appropriate trip reductions, and existing site trip credits, the project would generate a net additional 1,930 daily vehicle trips, with 414 trips (269 inbound and 145 outbound) occurring during the AM peak hour and 420 trips (138 inbound and 282 outbound) occurring during the PM peak hour (see Table 4).

Trip Distribution and Trip Assignment

The trip distribution pattern for the project trips was developed based on existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The peak-hour vehicle trips generated by the project were assigned to the roadway network in accordance with the trip distribution pattern, with an emphasis on freeway access and project driveway location. Figure 14 shows the trip distribution pattern, and Figure 15 shows the net trip assignment of project traffic on the local transportation network. Note that the trip distribution and assignment for the existing retail and proposed office and residential uses differ. Therefore, there may be negative trips at some intersections due to the removal of existing retail trips and addition of proposed project trips.

Intersection Operations Methodology

This section presents the methods used to evaluate traffic operations at the study intersections. It includes descriptions of the data requirements, the analysis methodologies, the applicable level of service standards, and the criteria defining adverse effects at the study intersections.

The intersection operations analysis is intended to quantify the operations of intersections and to identify potential negative effects due to the addition of project traffic. However, a potential adverse effect on a study intersection is not considered a CEQA impact metric.

Study Intersections

The study includes an analysis of AM and PM peak-hour traffic conditions for 15 intersections within the Cities of San Jose and Campbell. Intersections were selected for study if the project is expected to add 10 vehicle trips per hour per lane to a signalized intersection that meets one of the following criteria as outlined in the *Transportation Analysis Handbook.*

- Within a ½-mile buffer from the project's property line;
- Outside a ½-mile buffer but within a one-mile buffer from the project AND currently operating at D or worse;
- Designated Congestion Management Program (CMP) facility outside of the City's Infill Opportunity Zones;
- Outside the City limits with the potential to be affected by the project, per the transportation standards of the corresponding external jurisdiction;
- With the potential to be affected by the project, per engineering judgement of Public Works.

The ½ a mile and 1-mile radii from the project site are shown in Figure 16. Based on the above criteria, the following study intersections were selected and are shown in Figure 14.

Table 4
Project Trip Generation Estimates

Land Use	ITE Land Use	Location	% of Vehicle Mode Share	VMT[5] Existing	VMT[5] Project	% Reduction	Size		Daily Rate	Daily Trip	AM Peak Hour Pk-Hr Rate	AM Peak Hour Split In	AM Peak Hour Split Out	AM Peak Hour Trip In	AM Peak Hour Trip Out	AM Peak Hour Trip Total	PM Peak Hour Pk-Hr Rate	PM Peak Hour Split In	PM Peak Hour Split Out	PM Peak Hour Trip In	PM Peak Hour Trip Out	PM Peak Hour Trip Total
Proposed Land Use																						
Residential	*221 - Multi-Family Housing (Mid-Rise)*						600	dwelling units	5.44	3,264	0.36	26%	74%	56	160	216	0.44	61%	39%	161	103	264
3% housing and employment mixed-use reduction[1]						*3%*				*-88*				*-2*	*-5*	*-7*				*-5*	*-3*	*-8*
location based reduction[4]		*Urban Low-Transit*	*87%*			*13%*				*-413*				*-7*	*-20*	*-27*				*-20*	*-13*	*-33*
VMT reduction[5]				*11.03*	*9.59*	*13%*				*-359*				*-6*	*-18*	*-24*				*-18*	*-11*	*-29*
Office	710 - General Office Building						300,000	square feet	9.74	2,922	1.16	86%	14%	299	49	348	1.15	16%	84%	55	290	345
3% housing and employment mixed-use reduction[1]						*3%*				*-88*				*-5*	*-2*	*-7*				*-3*	*-5*	*-8*
location based reduction[4]		*Urban Low-Transit*	*91%*			*9%*				*-255*				*-26*	*-4*	*-30*				*-5*	*-26*	*-31*
VMT reduction[5]				*11.88*	*11.10*	*7%*				*-181*				*-19*	*-3*	*-22*				*-3*	*-18*	*-21*
Project Trips After Reductions										**4,802**				**290**	**157**	**447**				**162**	**317**	**479**
Existing Land Use																						
Retail[2]	*820 - Shopping Center*						76,894	square feet	37.75	2,903	0.43	64%	36%	21	12	33	1.17	41%	59%	37	53	90
34% PM passby reduction[3]						34%				-31				0	0	0				-13	-18	-31
Project Trips After Reductions										**2872**				**21**	**12**	**33**				**24**	**35**	**59**
Net Project Trips (Proposed - Existing Land Uses)										***1,930***				***269***	***145***	***414***				***138***	***282***	***420***

Notes:
Source: ITE Trip Generation, 10th Edition (2017).
[1]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.
[2]Peak-hour trips for the existing shopping center were obtained from driveway counts conducted on November 14, 2017. Daily trips were estimated using ITE rate.
[3]An PM average retail pass-by reduction of 34% was applied based on ITE Trip Generation Handbook, 3rd Edition.
[4]The project site is located within an urban low-transit area based on the City of San Jose VMT Evaluation Tool (March 14, 2018). The location-based vehicle mode shares are obtained from Table 6 of the City of San Jose Transportation Analysis Handbook (April 2018). The trip reductions are based on the percent of mode share for all of the other modes of travel beside vehicle.
[5]VMT per capita for residential use and VMT per non-industrial worker for office use. Existing and project VMTs were estimated using the City of San Jose Evaluation Tool (March 14, 2018). It is assumed that every percent reduction in VMT per capita or per non-industrial worker is equivalent to one percent reduction in peak-hour vehicle trips.

Figure 14
Project Trip Distribution

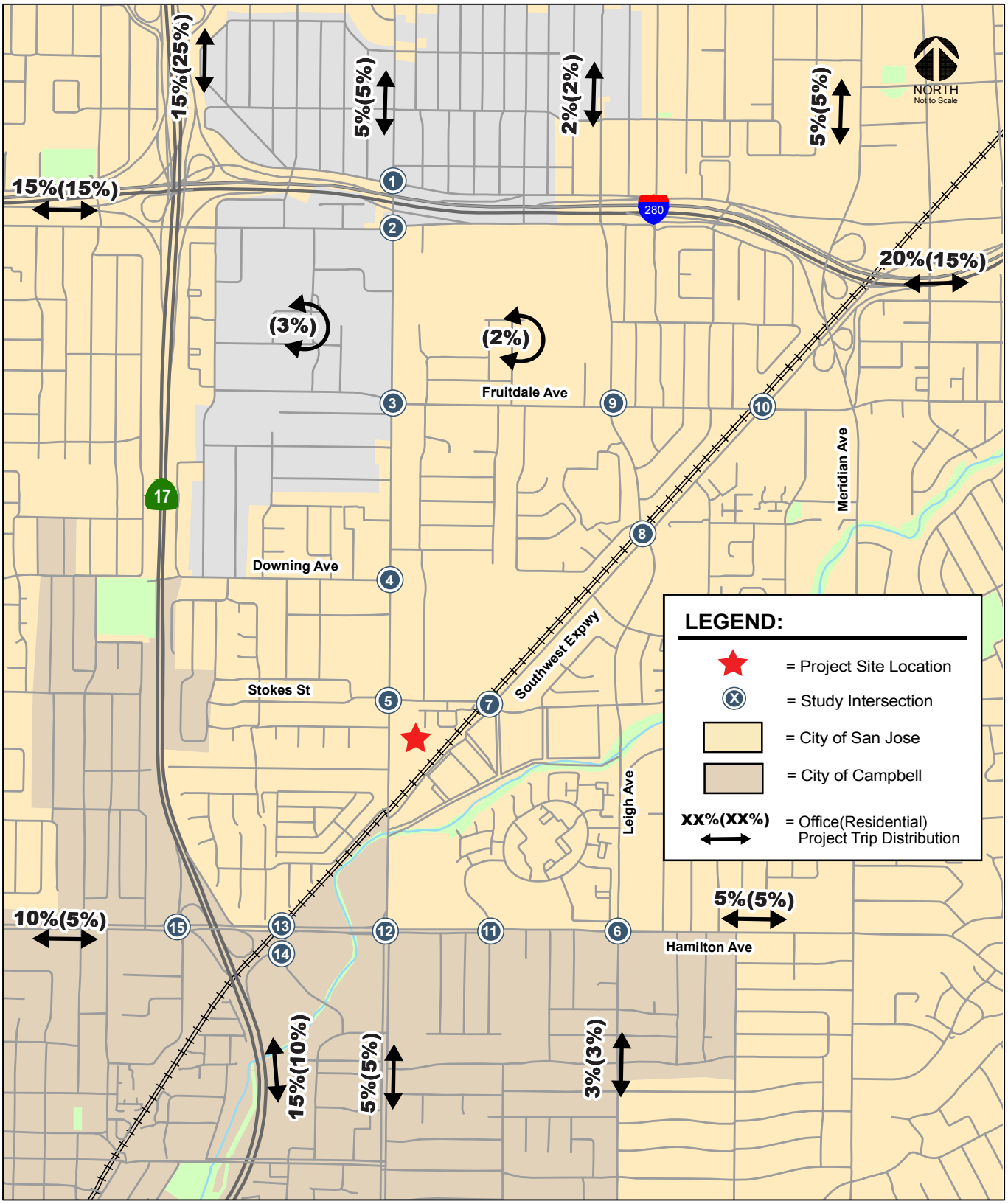
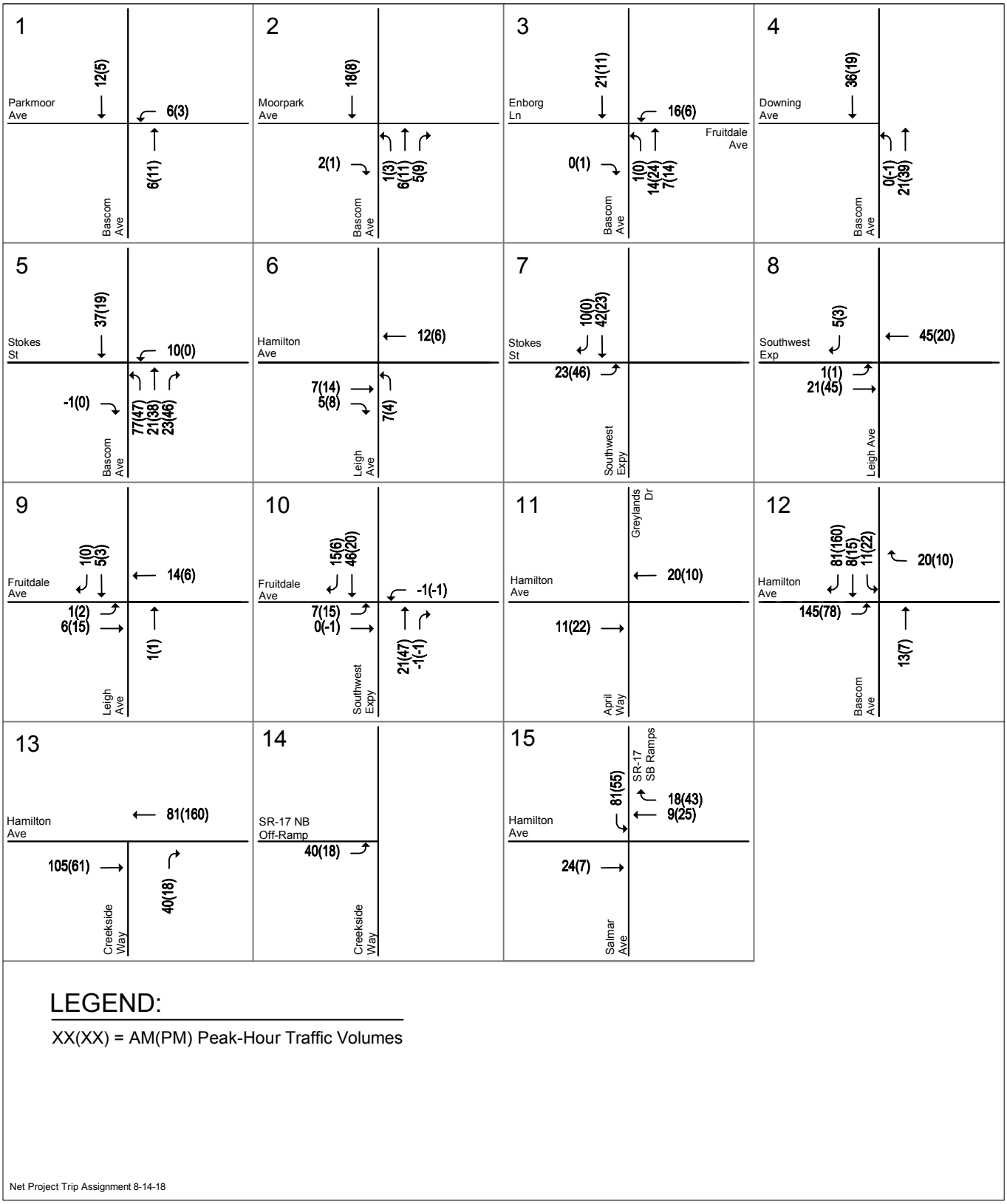


Figure 15
Net Project Trip Assignment

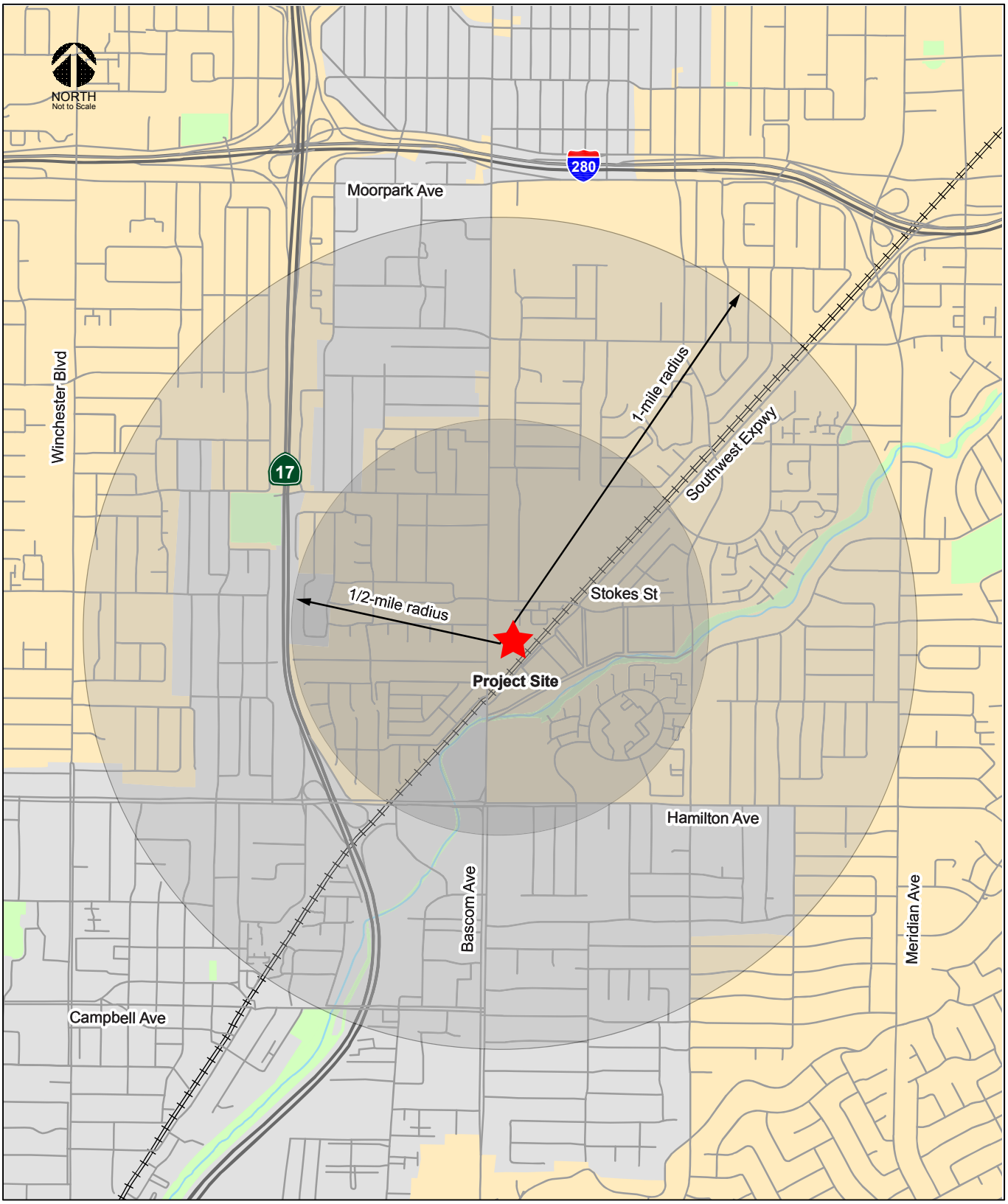


LEGEND:

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Net Project Trip Assignment 8-14-18

Figure 16
½-Mile and 1-Mile Radii from Project Site



City of San Jose Signalized Study Intersections:

1. Bascom Avenue and Parkmoor Avenue
2. Bascom Avenue and Moorpark Avenue*
3. Bascom Avenue and Fruitdale Avenue/Enborg Lane*
4. Bascom Avenue and Downing Avenue
5. Bascom Avenue and Stokes Street* (IOZ)
6. Leigh Avenue and Hamilton Avenue
7. Southwest Expressway and Stokes Street
8. Leigh Avenue and Southwest Expressway
9. Leigh Avenue and Fruitdale Avenue
10. Southwest Expressway and Fruitdale Avenue
11.

City of Campbell Study Signalized Intersections:

11. Greylands Drive/April Way and Hamilton Avenue
12. Bascom Avenue and Hamilton Avenue*
13. Creekside Way and Hamilton Avenue*
14. Creekside Way and SR 17 NB Off-Ramp
15. SR 17 SB Ramps/Salmar Avenue and Hamilton Avenue*

* Denotes CMP Intersection

Data Requirements

The data required for the analysis were obtained from new traffic counts, the Cities of San Jose and Campbell, the VTA Congestion Management Program (CMP), and field observations. The following data were collected from these sources:

- existing traffic volumes
- existing lane configurations
- signal timing and phasing
- approved and pending project trips

Lane Configurations

The existing lane configurations at the study intersections were determined by observations in the field and are shown on Figure 17. It is assumed in this analysis that the transportation network under background conditions would be the same as the existing transportation network. Under background plus project and cumulative conditions, the project is proposing to install a signal at the Bascom Avenue and Pamlar Avenue intersection.

Traffic Volumes

Existing Conditions

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 transportation analyses and supplemented with new manual turning-movement counts collected in November 2017. The existing peak-hour intersection volumes are shown on Figure 18. Intersection turning-movement counts conducted for this analysis are presented in Appendix B. Peak hour intersection turning movement volumes for all intersections and study scenarios are tabulated in Appendix D.

Figure 17
Existing Lane Configurations

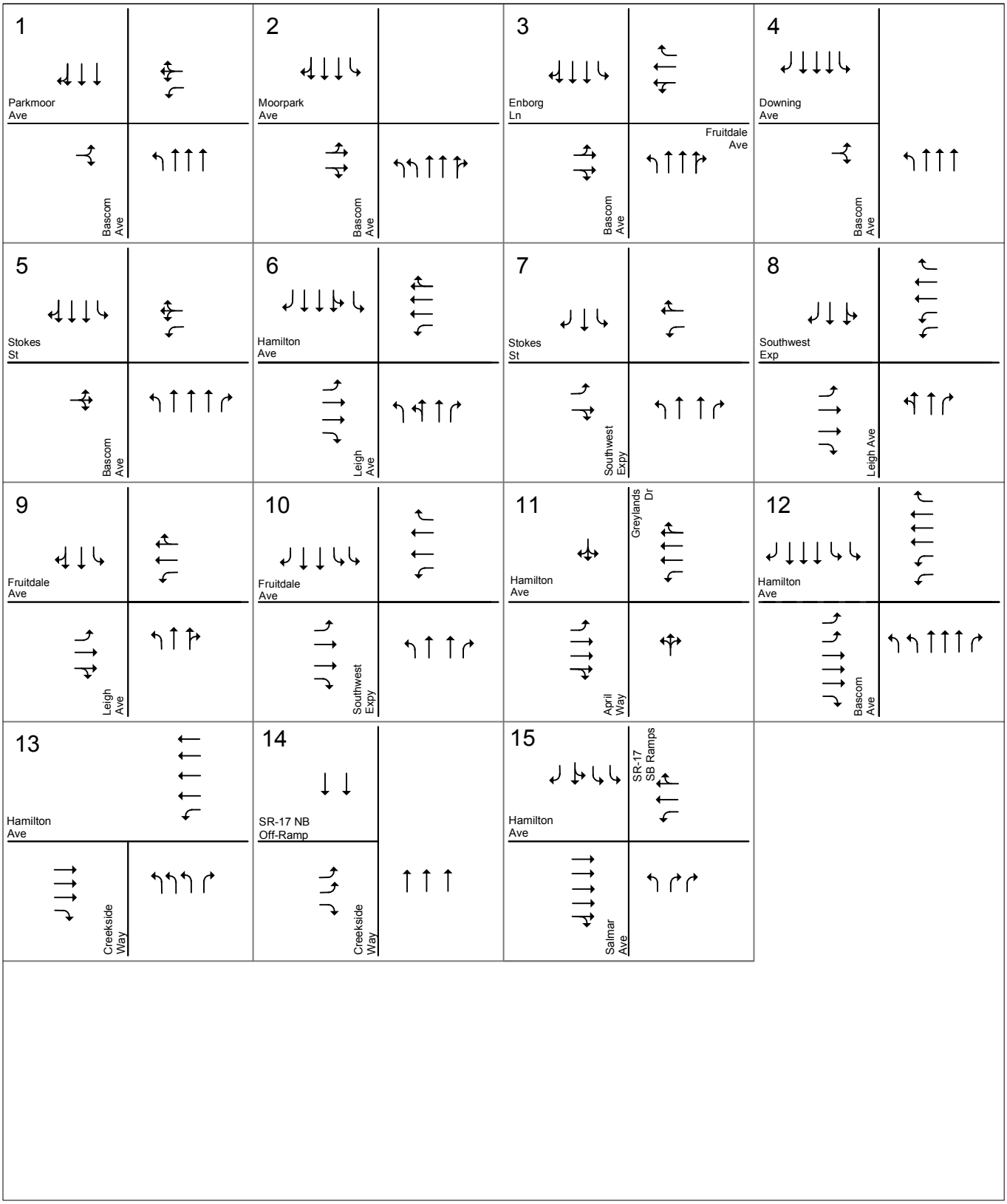
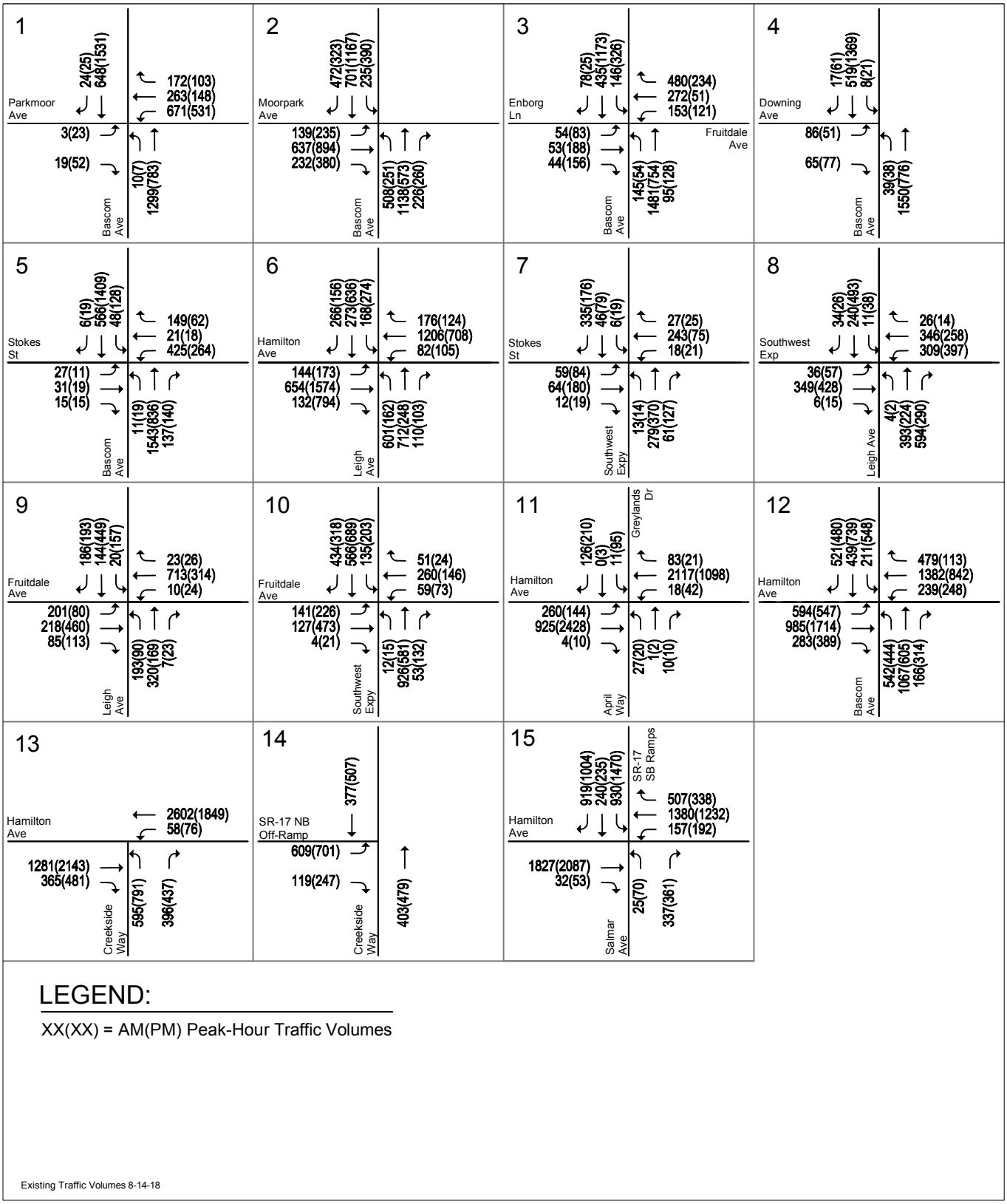


Figure 18
Existing Traffic Volumes



Future Conditions

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. Trips associated with approved projects in Campbell were estimated based on a list of approved projects provided by City of Campbell staff. The background traffic scenario predicts a realistic traffic condition that would occur as approved development is built.

Note that the purpose of the cumulative analysis is to allow decision makers to better understand the potential impacts which could result from approval of past, present and *reasonably foreseeable future projects,* in conjunction with the proposed project. The CEQA Guidelines advise that the cumulative analysis should include either a list of past, present, and probable future projects or a summary of projections from an adopted general plan or similar document. The analysis must then determine whether the project's contribution to any cumulatively significant impact is cumulatively considerable, as defined by CEQA Guideline Section 15065(a)(3).

The evaluation of cumulative conditions within this study was completed using a list of identified pending projects. Pending project trips and/or pending project information was obtained from the Cities of San Jose and Campbell. Notable pending development projects in the immediate area of the proposed project include a residential development located at 2050 Southwest Expressway and an assisted-living facility located 1015 Bascom Avenue. Traffic volumes under cumulative conditions were estimated by adding to the background traffic volumes the trips from the proposed, but not yet approved (pending), development projects. Table 5 presents the approved and pending projects that were included in the background and cumulative analysis in addition to the City of San Jose ATI.

The list of pending projects includes a proposed In-n-Out fast food restaurant along Hamilton Avenue in the City of Campbell. The traffic study that has been prepared for the In-n-Out also included an evaluation of cumulative conditions. Cumulative condition traffic volumes for the In-n-Out study were developed using an annual growth factor obtained from Year 2040 traffic forecasts using the VTA's Travel Demand Forecasting model. The growth factor was applied to the existing traffic volumes to project volumes for a period of 20-25 years.

As described above, the use of a list of pending projects used in this cumulative evaluation as well as the growth factor method used in the In-n-Out study are adequate means of estimating future traffic volumes for use in the evaluation of cumulative conditions. However, the methods used in each study do result in differing cumulative conditions traffic volumes due to the length of time that is being projected. The cumulative analysis within this report reflects projected traffic conditions for a period of approximately 5-10 years where as the In-n-Out cumulative analysis reflects 20 years of projected traffic growth.

Furthermore, with the adoption of SB 743 legislation, beginning July 1, 2020, the use of intersection level of service as a metric for determining impacts of development growth on the transportation system will no longer be permitted. Development of the proposed project and the additional traffic that will be generated by the project will occur over a 5-10 year period, well after July 1, 2020 when all jurisdictions will be required to conform to the new CEQA VMT metric. Therefore, the effects of the proposed project on future intersection level of service conditions would not be consistent with the updated CEQA guidelines.

It also is important to note that the proposed project is located within a designated Urban Village (South Bascom Avenue) per the Envision San Jose 2040 General Plan. According to the Envision San Jose

Table 5
City of Campbell Approved and Pending Projects

#	Project Name	Location	Project Description
Approved Projects			
1	95 E. Hamilton Avenue (5,800 sq. ft. office building)	95 E. Hamilton Ave	5,800 s.f. office building
2	Creekside Center (Office use is under construction; Hotel use is already occupied)	675/705 Creekside Way	172,000 s.f. of office space
3	Carden Day School	1980 Hamilton Ave	4,000 s.f. classroom building allowing an increase in student capacity for a private school from 120 to 150 children
4	St. Anton's	300 Railway Avenue	126 apartment units and 39 condo/townhouse units
5	Dillon Avenue Homes Phase 2	Dillon Ave	59 high-density residential units
6	771 West Hamilton Avenue Starbucks	771 West Hamilton Ave	1,900 s.f. drive-through café
7	2135-2145 South Winchester Boulevard (retail building currently vacant)	2145 South Winchester Blvd	5,400 s.f. retail buildings
8	2295 South Winchester Boulevard Mixed Use (currently under construction)	2295 South Winchester Blvd	16 condo units and 3,200 s.f. of retail space
9	Pruneyard Expansion	1875/1901 S. Bascom Avenue	100,000 s.f. office building and 24,000 s..f of retail space
10	Opa Expansion	276 E Campbell Ave	10,819 s.f. of commercial and office
Pending Projects			
11	Cresleigh Homes	540, 558, and 566 E. Campbell Ave	8,292 s.f. commercial and 59 condo units
12	Orchard Supply Hardware	1760 S. Bascom Ave	32,000 sf of hardware supply store + 5,000 sq of garden center
13	In-N-Out Burger	499 E. Hamilton Ave	3,812 square-feet, 84 indoor seats and 40 outdoor seats
14	1700 Dell Avenue	1700 Dell Ave	2,850,000 s.f. office, 350,000 s.f. R&D, 72,000 s.f. retail and 300 residential units

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, and development densities that support transit use, bicycling, and walking. The proposed project is consistent with the Urban Village strategy and is anticipated to result in a reduction in use of single-occupant autos, internalization of trips, and reduce VMT due to its mix of office, residential, and service land uses, proximity to major transit, and planned multi-modal improvements along its Bascom Avenue frontage.

Background traffic volumes are shown in Figure 19. Project trips were added to background traffic volumes to obtain background plus project traffic volumes (see Figure 20). Cumulative plus project peak-hour traffic volumes were estimated by adding to cumulative traffic volumes the additional traffic generated by the project. The cumulative plus project traffic volumes at study intersections are shown in Figure 21.

The approved and pending project information are included in Appendix C. The approved trips, proposed project trips, pending project trips, and traffic volumes for all components of traffic are tabulated in Appendix D.

Level of Service Standards and Analysis Methodologies

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.

All study intersections in both the City of San Jose and Campbell were evaluated based on the *2000 Highway Capacity Manual* (HCM) level of service methodology using the TRAFFIX software. This method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. TRAFFIX is also the CMP-designated intersection level of service methodology, thus, the City of San Jose employs the CMP default values for the analysis parameters. The correlation between average control delay and level of service at signalized intersections is shown in Table 6.

Signalized study intersections are subject to the local municipalities' level of service standards. The City of San Jose has established LOS D as the minimum acceptable intersection operations standard for all signalized intersections unless superseded by an Area Development Policy. The City of Campbell level of service standard for signalized intersections is LOS D or better at City-controlled intersections and LOS E or better at expressways and designated CMP intersections.

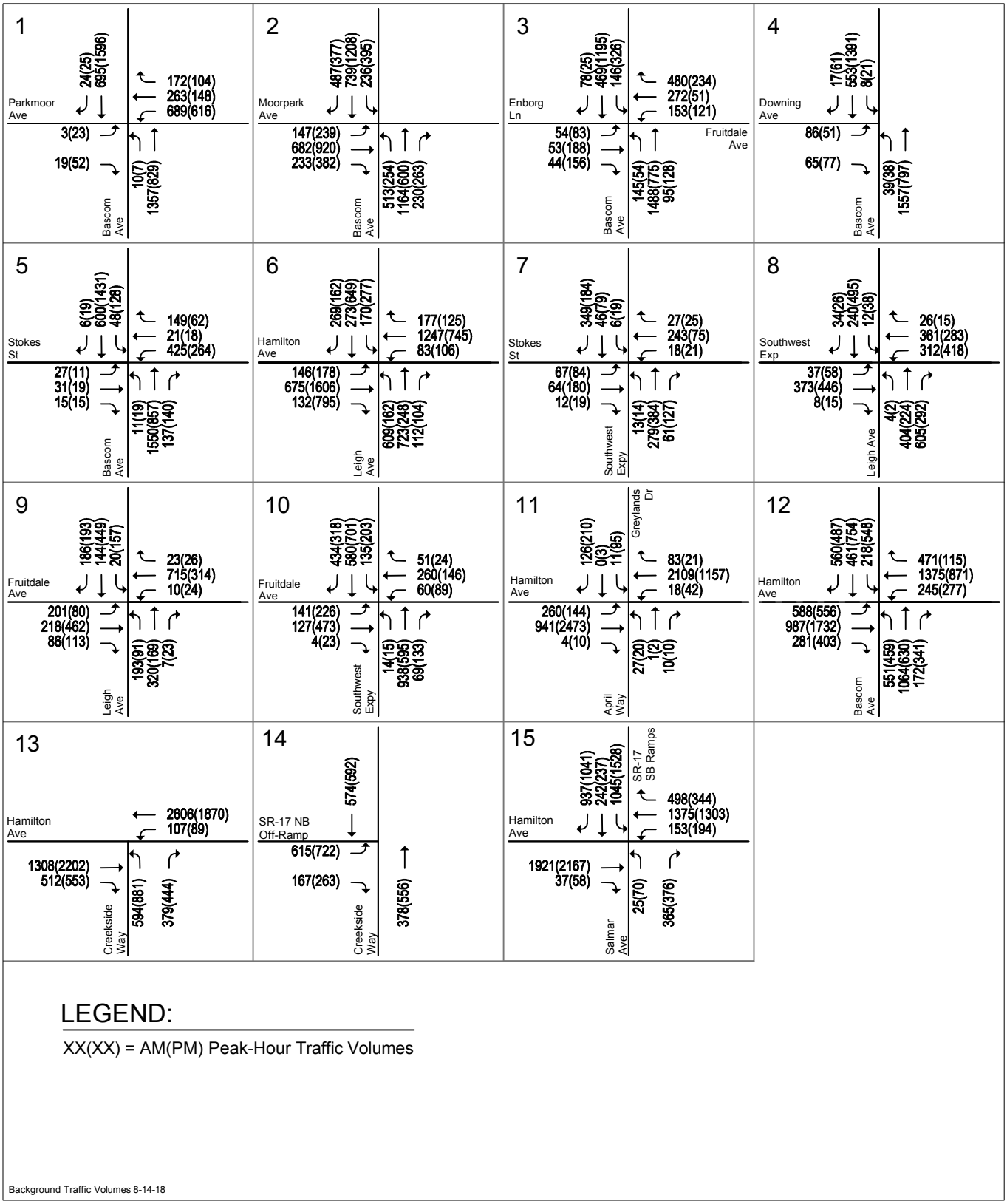
City of San Jose Definition of Adverse Intersection Operations Effects

According to the City of San Jose's *Transportation Analysis Handbook 2018*, an adverse effect on intersection operations occurs if for either peak hour:

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

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

Figure 19
Background Traffic Volumes



LEGEND:

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Background Traffic Volumes 8-14-18

Figure 20
Background Plus Project Traffic Volumes

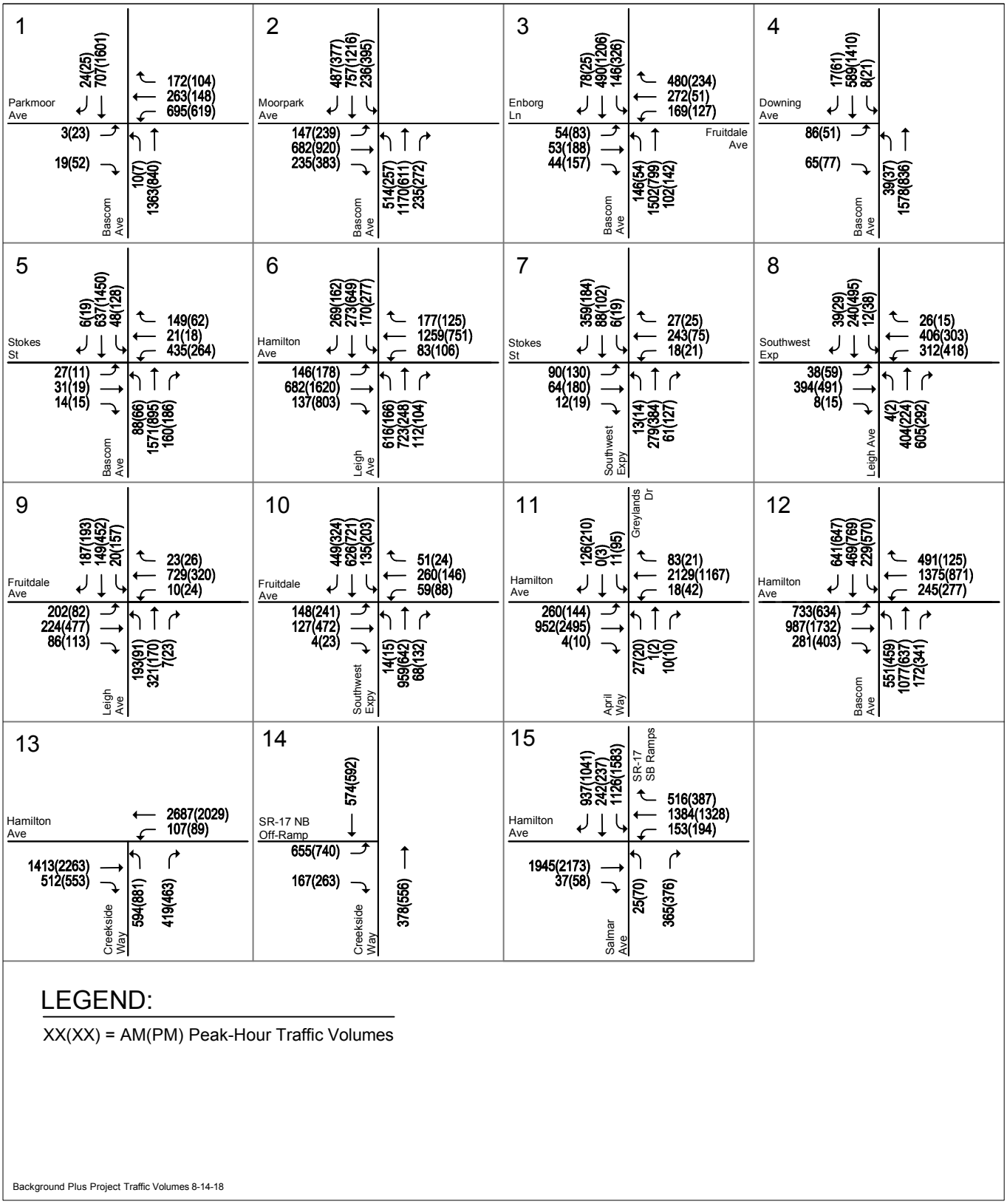


Figure 21
Cumulative Plus Project Traffic Volumes

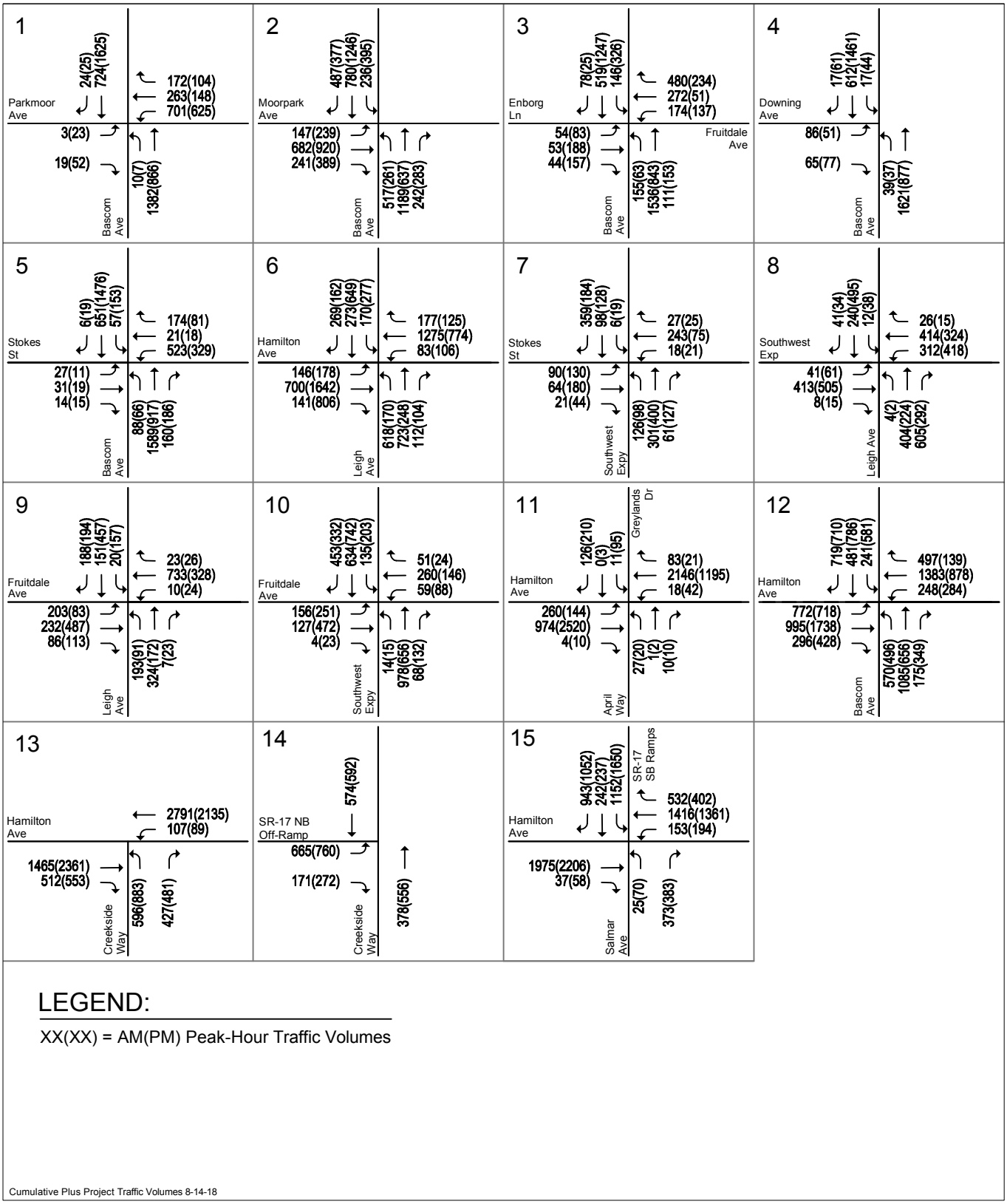


Table 6
Signalized Intersection Level of Service Definitions Based on Control Delay

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.

The exception to this threshold is when the addition of project traffic reduces the amount of average control delay for critical movements, i.e., the change in average control delay for critical movements are negative. In this case, the threshold is when the project increases the critical v/c value by 0.01 or more.

City of Campbell Definition of Adverse Intersection Operations Effects

The City of Campbell has not adopted CEQA thresholds based on VMT and still uses intersection level of service to evaluate a project's transportation impacts. Therefore, for the purpose of this study, the effects of project traffic at intersections located in Campbell were evaluated based on the City of Campbell level of service standards.

The project is said to create an adverse effect on traffic conditions at non-CMP signalized intersections in the City of Campbell if for either peak hour:

1. For intersections with an established LOS D standard, the addition of project-generated traffic causes operation of the intersection to deteriorate from an acceptable level of service (LOS D or better) to an unacceptable level of service (LOS E or F) or

2. For intersections with an established LOS E standard, the addition of project-generated traffic causes operation of the intersection to deteriorate from an acceptable level of service (LOS E or better) to an unacceptable level of service (LOS F).

Conformance to the CMP Intersection Level of Service 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.

Negative effects at signalized intersections can be addressed by any of the following three approaches:

- Reduce project vehicle-trips to eliminate the adverse effects and restore the intersection operations to background conditions.
- Construct improvements to the subject intersection or other roadway segments of the citywide transportation system to increase overall capacity;
- Implement a trip cap, the maximum number of daily vehicle-trips allowed to be generated by a Project, at a level that is attainable through proven means to reduce the adverse operations effects and restore the intersection operations to background conditions.

Intersection Operations Analysis Results

The intersection level of service analysis is summarized in Table 7.

Existing Intersection Operation Conditions

Intersection levels of service were evaluated against applicable municipal and CMP operations standards. The results of the level of service analysis show that the study intersection of Bascom Avenue and Moorpark Avenue currently operates at an unacceptable LOS E during the PM peak hour when compared to the City of San Jose intersection operations standard of LOS D.

All other study intersections currently operate at acceptable levels during both the AM and PM peak hours of traffic when measured against the applicable municipal and CMP operations standards. The level of service calculation sheets are included in Appendix C.

Table 7
Intersection Levels of Service

Int. #	Intersection	Location	LOS Standard	Peak Hour	Count Date	Existing Avg. Delay	Existing LOS	Background Avg. Delay	Background LOS	Background Plus Project Avg. Delay	Background Plus Project LOS	Background Plus Project Incr. In Crit. Delay	Background Plus Project Incr. In Crit. V/C	Cumulative Avg. Delay	Cumulative LOS	Cumulative Plus Project Avg. Delay	Cumulative Plus Project LOS	Cumulative Plus Project Incr. In Crit. Delay	Cumulative Plus Project Incr. In Crit. V/C
1	Bascom Avenue and Parkmoor Avenue	San Jose	D	AM	11/14/17	42.1	D	42.5	D	42.7	D	0.1	0.003	42.7	D	42.8	D	0.4	0.008
				PM	11/14/17	36.4	D	37.6	D	37.7	D	0.1	0.002	37.7	D	37.7	D	0.3	0.008
2	Bascom Avenue and Moorpark Avenue *	San Jose	D	AM	11/07/17	45.7	D	49.3	D	49.4	D	0.2	0.003	49.6	D	49.6	D	0.9	0.009
				PM	10/06/16	**66.5**	**E**	**69.1**	**E**	**69.1**	**E**	**-0.1**	**0.004**	**69.4**	**E**	**69.5**	**E**	**0.5**	**0.013**
3	Bascom Avenue and Fruitdale Avenue *	San Jose	D	AM	11/07/17	40.3	D	40.3	D	40.3	D	0.1	0.004	40.4	D	40.5	D	0.2	0.012
				PM	10/06/16	45.2	D	45.1	D	45.7	D	0.4	0.009	45.8	D	46.3	D	1.4	0.032
4	Bascom Avenue and Downing Avenue	San Jose	D	AM	11/07/17	16.3	B	16.2	B	16.0	B	-0.1	0.004	16.1	B	15.9	B	0.0	0.018
				PM	11/07/17	16.3	B	16.1	B	15.8	B	-0.3	0.002	16.0	B	15.7	B	-0.7	0.012
5	Bascom Avenue and Stokes Street *	San Jose	None	AM	10/11/16	34.1	C	34.0	C	34.4	C	0.2	0.007	36.3	D	36.8	D	2.8	0.060
	(Located within an IOZ)			PM	10/11/16	28.9	C	28.7	C	29.8	C	2.7	0.034	32.0	C	32.9	C	5.3	0.071
6	Leigh Avenue and Hamilton Avenue	San Jose	D	AM	03/09/17	50.8	D	51.0	D	51.0	D	0.1	0.004	51.0	D	51.0	D	0.2	0.008
				PM	03/09/17	42.8	D	43.0	D	43.0	D	0.1	0.005	43.0	D	43.0	D	0.2	0.012
7	Southwest Expressway and Stokes Street	San Jose	D	AM	11/14/17	35.8	D	36.0	D	36.7	D	1.6	0.021	39.4	D	40.1	D	8.0	0.091
				PM	11/14/17	28.7	C	30.2	C	31.5	C	5.2	0.009	31.6	C	32.0	C	5.4	0.069
8	Southwest Expressway and Leigh Avenue	San Jose	D	AM	11/14/17	31.9	C	32.3	C	32.8	C	0.4	0.006	32.6	C	33.1	C	0.8	0.011
				PM	11/14/17	28.7	C	29.0	C	29.2	C	0.1	0.013	29.1	C	29.3	C	0.1	0.017
9	Leigh Avenue and Fruitdale Avenue	San Jose	D	AM	11/14/17	39.3	D	39.2	D	39.3	D	0.1	0.007	39.2	D	39.2	D	0.1	0.009
				PM	11/14/17	33.3	C	33.3	C	33.3	C	0.0	0.006	33.3	C	33.3	C	0.0	0.011
10	Southwest Expressway and Fruitdale Avenue	San Jose	D	AM	03/09/17	26.6	C	27.0	C	26.4	C	2.2	-0.024	27.1	C	27.1	C	0.2	0.021
				PM	03/09/17	30.8	C	31.3	C	31.3	C	0.2	0.014	31.3	C	31.3	C	0.3	0.027
11	Greylands Drive and Hamilton Avenue	Campbell	D	AM	11/14/17	18.0	B	17.9	B	17.9	B	0.0	0.004	17.8	B	17.8	B	0.0	0.004
				PM	11/14/17	18.9	B	18.8	B	18.8	B	0.0	0.004	18.8	B	18.8	B	0.0	0.004
12	Bascom Avenue and Hamilton Avenue *	Campbell	E	AM	03/09/17	50.3	D	50.9	D	53.2	D	2.7	0.050	52.8	D	55.8	E	4.4	0.050
				PM	01/02/17	51.4	D	52.2	D	52.8	D	-4.8	0.032	53.0	D	54.0	D	-3.9	0.046
13	Creekside Way and Hamilton Avenue *	Campbell	E	AM	03/09/17	23.4	C	22.9	C	24.5	C	0.9	0.025	23.3	C	24.6	C	1.6	0.036
				PM	12/01/16	25.1	C	25.5	C	26.0	C	0.8	0.021	26.0	C	26.6	C	0.9	0.022
14	Creekside Way and SR 17 NB Off-Ramp	Campbell	E	AM	11/14/17	11.6	B	11.5	B	11.6	B	0.0	0.014	11.5	B	11.6	B	0.0	0.014
				PM	11/14/17	14.7	B	15.0	B	15.1	B	0.0	0.006	15.0	B	15.1	B	0.0	0.006
15	SR 17 SB Ramps/Salmar Avenue and Hamilton Avenue *	Campbell	E	AM	03/09/17	36.5	D	38.8	D	41.8	D	4.6	0.026	40.6	D	44.3	D	5.9	0.026
				PM	12/13/16	53.5	D	56.1	E	58.1	E	3.9	0.032	58.9	E	61.9	E	5.7	0.032

* Denotes CMP Intersection
Bold indicates unacceptable level of service.

Observed Existing Traffic Conditions

Traffic conditions were observed in the field at each study intersection 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 level of service, and (2) to identify any locations where the level of service analysis does not accurately reflect actual existing traffic conditions.

AM Peak Hour

Due to the large northbound queues, southbound left-turning vehicles were regularly observed queuing within the two-way center left-turn lanes at multiple locations along Bascom Avenue as drivers waited to turn left into the various office/retail developments along the east side of Bascom Avenue. Typical left-turn queues during the AM peak hour were observed to extend two to five vehicles in length. Once the large northbound platoons passed, however, all the vehicles were able to immediately turn as large gaps of greater than 30 seconds were regularly observed. These queues had no negative effects on general roadway or intersection operations.

Lengthy northbound queues at the Moorpark Avenue, Renova Drive, and Fruitdale Avenue intersections along Bascom Avenue, regularly extended between 300 and 400 feet for the through and left-turn movements. These queues were all able to clear within one signal cycle at each intersection due to the long cycle lengths.

Eastbound traffic on Hamilton Avenue bound for the metered northbound SR 17 on-ramp choosing to stay on the curb lanes created an unbalanced lane utilization past the southbound SR 17/Hamilton Avenue intersection. This queue frequently did not clear within a cycle.

Future Intersection Operation Conditions

The intersection operations analysis shows that all but one of the signalized study intersections located in the City of San Jose would operate at acceptable levels of service under all future study scenarios during the AM and PM peak hours (see Table 7).

The Bascom Avenue/Moorpark Avenue intersection is projected to operate at LOS E during the PM peak hour under all future scenarios. However, the addition of project trips would not result in an increase in the intersection critical volume-to-capacity ratio of 0.01 or more. Thus, the project would not have an adverse effect on intersection operations at this location based on City of San Jose standards. Similarly, the combination of trips generated by the proposed project and other pending projects in the vicinity would not result in an adverse effect on intersection operations under cumulative plus project conditions.

All five study intersection located in Campbell are projected to continue to operate at an acceptable level during both peak hours under all future scenarios. Therefore, the project is not expected to have an adverse effect at intersections in the City of Campbell.

The intersection level of service calculation sheets are included in Appendix C.

Analysis of Freeway Segments

The VTA's Congestion Management Program (CMP) has yet to adopt and implement guidelines and standards for the evaluation of the CMP roadway system using VMT. Therefore, the effects of the proposed project traffic at CMP-designated freeway segments in the vicinity of the project area following the current peak-hour LOS standards and methodologies as outlined in the *VTA Transportation Impact*

Analysis Guidelines, was completed to evaluate the potential effects of project traffic on the following freeway segments:

Study Freeway Segments

1. Eastbound I-280, from Lawrence Expressway to Saratoga Avenue
2. Eastbound I-280, from Saratoga Avenue to Winchester Boulevard
3. Eastbound I-280, from Winchester Boulevard to I-880
4. Eastbound I-280, from I-880 to Meridian Avenue
5. Eastbound I-280, from Meridian Avenue to Bird Avenue
6. Eastbound I-280, from Bird Avenue to SR 87
7. Northbound SR 17, from SR 85 to San Tomas Expressway/Camden Avenue
8. Northbound SR 17, from San Tomas Expressway/Camden Avenue to Hamilton Avenue
9. Northbound SR 17, from Hamilton Avenue to I-280
10. Northbound I-880, from I-280 to Stevens Creek Boulevard
11. Northbound I-880, from Stevens Creek Boulevard to North Bascom Avenue
12. Northbound I-880, from North Bascom Avenue to The Alameda
13. Southbound I-880, from The Alameda to North Bascom Avenue
14. Southbound I-880, from North Bascom Avenue to Stevens Creek Boulevard
15. Southbound I-880, from Stevens Creek Boulevard to I-280
16. Southbound SR 17, from I-280 to Hamilton Avenue
17. Southbound SR 17, from Hamilton Avenue to San Tomas Expressway/Camden Avenue
18. Southbound SR 17, from San Tomas Expressway/Camden Avenue to SR 85
19. Westbound I-280, from SR 87 to Bird Avenue
20. Westbound I-280, from Bird Avenue to Meridian Avenue
21. Westbound I-280, from Meridian Avenue to I-880
22. Westbound I-280, from I-880 to Winchester Boulevard
23. Westbound I-280, from Winchester Boulevard to Saratoga Avenue
24. Westbound I-280, from Saratoga Avenue to Lawrence Expressway

Freeway Segment Analysis Methodology

As prescribed in the CMP technical guidelines, the level of service for freeway segments is estimated based on vehicle density. Density is calculated by the following formula:

D = V / (N*S)
Where:
D= density, in vehicles per mile per lane (vpmpl)
V= peak hour volume, in vehicles per hour (vph)
N= number of travel lanes
S= average travel speed, in miles per hour (mph)

The vehicle density on a segment is correlated to level of service as shown in Table 8. The CMP specifies that a capacity of 2,300 vehicles per hour per lane (vphpl) be used for mixed-flow lane segments that are three lanes or wider in one direction, and a capacity of 2,200 vphpl be used for mixed-flow lane segments that are two lanes wide in one direction. A capacity of 1,650 vphpl was used for high occupancy vehicle (HOV) lanes. The CMP defines an acceptable level of service for freeway segments as LOS E or better.

Table 8
Freeway Level of Service Definitions Based on Density

Level of Service	Description	Density (vehicles/mile/lane)
A	Average operating speeds at the free-flow speed generally prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	0-11
B	Speeds at the free-flow speed are generally maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.	>11-18
C	Speeds at or near the free-flow speed of the freeway prevail. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more vigilance on the part of the driver.	>18-26
D	Speeds begin to decline slightly with increased flows at this level. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels.	>26-46
E	At this level, the freeway operates at or near capacity. Operations in this level are volatile, because there are virtually no usable gaps in the traffic stream, leaving little room to maneuver within the traffic stream.	>46-58
F	Vehicular flow breakdowns occur. Large queues form behind breakdown points.	>58

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

Freeway Segment Analysis

Existing Conditions

Existing traffic volumes for the subject freeway segments were obtained from the 2016 CMP Annual Monitoring Report. The results of the freeway segment analysis under existing conditions are summarized in Table 9. The results show that the mixed-flow lanes on the following 17 directional study freeway segments plus seven directional HOV lane segment analyzed currently operate at an unacceptable LOS F during at least one peak-hour of traffic:

Mixed-Flow Freeway Segment Unacceptable LOS F

1. I-280, Eastbound from Lawrence Expressway to Saratoga Avenue (PM Peak Hour)
2. I-280, Eastbound from Saratoga Avenue to Winchester Boulevard (PM Peak Hour)
3. I-280, Eastbound from Winchester Boulevard to I-880 (PM Peak Hour)
4. I-280, Eastbound from I-880 to Meridian Avenue (PM Peak Hour)
5. I-280, Eastbound from Meridian Avenue to Bird Avenue (PM Peak Hour)
6. I-280, Eastbound from Bird Avenue to SR 87 (PM Peak Hour)
9. SR 17, Northbound from Hamilton Avenue to I-280 (AM Peak Hour)
10. I-880, Northbound from I-280 to Stevens Creek Boulevard (AM Peak Hour)
11. I-880, Northbound from Stevens Creek Boulevard to North Bascom Avenue (AM & PM Peak Hours)
12. I-880, Northbound from North Bascom Avenue to The Alameda (AM & PM Peak Hours)
14. I-880, Southbound from North Bascom Avenue to Stevens Creek Boulevard (AM Peak Hour)
19. I-280, Westbound from SR 87 to Bird Avenue (AM & PM Peak Hours)
20. I-280, Westbound from Bird Avenue to Meridian Avenue (AM Peak Hour)
21. I-280, Westbound from Meridian Avenue to I-880 (AM Peak Hour)
22. I-280, Westbound from I-880 to Winchester Boulevard (AM Peak Hour)
23. I-280, Westbound from Winchester Boulevard to Saratoga Avenue (AM Peak Hour)
24. I-280, Westbound from Saratoga Avenue to Lawrence Expressway (AM Peak Hour)

HOV Freeway Segment Unacceptable LOS F

2. I-280, Eastbound from Saratoga Avenue to Winchester Boulevard (PM Peak Hour)
3. I-280, Eastbound from Winchester Boulevard to I-880 (PM Peak Hour)
4. I-280, Eastbound from I-880 to Meridian Avenue (PM Peak Hour)
21. I-280, Westbound from Meridian Avenue to I-880 (AM Peak Hour)
22. I-280, Westbound from I-880 to Winchester Boulevard (AM Peak Hour)
23. I-280, Westbound from Winchester Boulevard to Saratoga Avenue (AM Peak Hour)
24. I-280, Westbound from Saratoga Avenue to Lawrence Expressway (AM Peak Hour)

All other freeway segments analyzed operate at LOS E or better conditions during the AM and PM peak hours.

Project Conditions

The results show that the proposed project would not result in significant increases in traffic volumes (one percent or more of freeway segment capacities) on any of the study freeway segments currently operating at LOS F, and none of the study freeway segments currently operating at LOS E or better would degrade to LOS F as a result of the project (see Table 10).

Table 9
Existing Freeway Levels of Service

#	Freeway	Segment	Direction	Peak Hour	Mixed-Flow Lane Avg. Speed[1]	Mixed-Flow Lane # of Lanes[1]	Mixed-Flow Lane Volume[1]	Mixed-Flow Lane Density[1]	Mixed-Flow Lane LOS[1]	HOV Lane Avg. Speed[1]	HOV Lane # of Lanes[1]	HOV Lane Volume[1]	HOV Lane Density[1]	HOV Lane LOS[1]
1	I-280	from Lawrence Expressway to Saratoga Avenue	EB	AM	59	3	6,550	37	D	67	1	940	14	B
			EB	PM	23	3	5,320	**77**	**F**	40	1	2,080	52	E
2	I-280	from Saratoga Avenue to Winchester Boulevard	EB	AM	63	3	6,430	34	D	67	1	880	13	B
			EB	PM	15	3	4,320	**96**	**F**	40	1	2,520	**63**	**F**
3	I-280	from Winchester Boulevard to I-880	EB	AM	66	3	4,360	22	C	67	1	1,080	16	B
			EB	PM	14	3	4,250	**101**	**F**	30	1	2,010	**67**	**F**
4	I-280	from I-880 to Meridian Avenue	EB	AM	66	3	4,560	23	C	67	1	810	12	B
			EB	PM	13	3	3,980	**102**	**F**	30	1	2,430	**81**	**F**
5	I-280	from Meridian Avenue to Bird Avenue	EB	AM	47	4	8,650	46	D	--	--	--	--	--
			EB	PM	13	4	5,410	**104**	**F**	--	--	--	--	--
6	I-280	from Bird Avenue to SR 87	EB	AM	66	4	5,550	21	C	--	--	--	--	--
			EB	PM	22	4	6,960	**79**	**F**	--	--	--	--	--
7	SR 17	from SR 85 to San Tomas Expressway/Camden	NB	AM	66	3	4,760	24	C	--	--	--	--	--
			NB	PM	66	3	3,770	19	C	--	--	--	--	--
8	SR 17	from San Tomas Expressway/Camden Avenue to	NB	AM	40	3	6,240	52	E	--	--	--	--	--
			NB	PM	67	3	3,600	18	B	--	--	--	--	--
9	SR 17	from Hamilton Avenue to I-280	NB	AM	34	3	6,020	**59**	**F**	--	--	--	--	--
			NB	PM	66	3	5,150	26	C	--	--	--	--	--
10	I-880	from I-280 to Stevens Creek Boulevard	NB	AM	15	3	4,410	**98**	**F**	--	--	--	--	--
			NB	PM	67	3	2,220	11	A	--	--	--	--	--
11	I-880	from Stevens Creek Boulevard to North Bascom	NB	AM	10	3	3,480	**116**	**F**	--	--	--	--	--
			NB	PM	22	3	5,150	**78**	**F**	--	--	--	--	--
12	I-880	from North Bascom Avenue to The Alameda	NB	AM	27	3	5,510	**68**	**F**	--	--	--	--	--
			NB	PM	14	3	4,250	**101**	**F**	--	--	--	--	--
13	I-880	from The Alameda to North Bascom Avenue	SB	AM	65	3	5,850	30	D	--	--	--	--	--
			SB	PM	36	3	6,050	56	E	--	--	--	--	--
14	I-880	from North Bascom Avenue to Stevens Creek	SB	AM	28	3	5,630	**67**	**F**	--	--	--	--	--
			SB	PM	48	3	6,480	45	D	--	--	--	--	--
15	I-880	from Stevens Creek Boulevard to I-280	SB	AM	66	3	4,760	24	C	--	--	--	--	--
			SB	PM	66	3	5,150	26	C	--	--	--	--	--
16	SR 17	from I-280 to Hamilton Avenue	SB	AM	64	3	6,150	32	D	--	--	--	--	--
			SB	PM	35	3	6,090	58	E	--	--	--	--	--
17	SR 17	from Hamilton Avenue to San Tomas	SB	AM	66	3	4,490	23	C	--	--	--	--	--
			SB	PM	65	3	6,860	35	D	--	--	--	--	--
18	SR 17	from San Tomas Expressway/Camden Avenue to	SB	AM	66	3	3,770	19	C	--	--	--	--	--
			SB	PM	66	3	4,950	25	C	--	--	--	--	--
19	I-280	from SR 87 to Bird Avenue	WB	AM	13	4	5,310	**102**	**F**	--	--	--	--	--
			WB	PM	19	4	6,390	**84**	**F**	--	--	--	--	--
20	I-280	from Bird Avenue to Meridian Avenue	WB	AM	13	4	5,310	**102**	**F**	--	--	--	--	--
			WB	PM	57	4	8,900	39	D	--	--	--	--	--
21	I-280	from Meridian Avenue to I-880	WB	AM	10	3	3,880	**129**	**F**	13	1	1,340	**103**	**F**
			WB	PM	66	3	4,720	24	C	70	1	700	10	A
22	I-280	from I-880 to Winchester Boulevard	WB	AM	12	3	3,860	**107**	**F**	15	1	1,430	**95**	**F**
			WB	PM	51	3	6,580	43	D	70	1	1,400	20	C
23	I-280	from Winchester Boulevard to Saratoga Avenue	WB	AM	17	3	4,590	**90**	**F**	20	1	1,640	**82**	**F**
			WB	PM	55	3	6,600	40	D	70	1	1,120	16	B
24	I-280	from Saratoga Avenue to Lawrence Expressway	WB	AM	22	3	5,150	**78**	**F**	26	1	1,820	**70**	**F**
			WB	PM	66	3	5,310	27	D	70	1	1,050	15	B

[1] Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 2016.
Bold indicates unacceptable LOS.

Table 10
Freeway Segment Levels of Service under Project Conditions

					Existing Plus Project												Project Trip				
					Mixed-Flow Lane						HOV Lane							Mixed-Flow Lane		HOV Lane	
#	Freeway	Segment	Direction	Peak Hour	Avg. Speed[1]	# of Lanes[1]	Capacity (vph)	Volume	Density	LOS	Avg. Speed[1]	# of Lanes[1]	Capacity (vph)	Volume	Density	LOS	Total Volume	Volume	% of Capacity	Volume	% of Capacity
1	I-280	from Lawrence Expressway to Saratoga Avenue	EB	AM	59	3	6,900	6,588	37	D	67	1	1,650	946	14	B	44	38	0.55	6	0.36
			EB	PM	23	3	6,900	5,337	**77**	**F**	40	1	1,650	2,087	52	E	24	17	0.25	7	0.42
2	I-280	from Saratoga Avenue to Winchester Boulevard	EB	AM	63	3	6,900	6,469	34	D	67	1	1,650	885	13	B	44	39	0.57	5	0.30
			EB	PM	15	3	6,900	4,335	**96**	**F**	40	1	1,650	2,529	**63**	**F**	24	15	0.22	9	0.55
3	I-280	from Winchester Boulevard to I-880	EB	AM	66	3	6,900	4,391	22	C	67	1	1,650	1,088	16	B	39	31	0.45	8	0.48
			EB	PM	14	3	6,900	4,265	**102**	**F**	30	1	1,650	2,017	**67**	**F**	22	15	0.22	7	0.42
4	I-280	from I-880 to Meridian Avenue	EB	AM	66	3	6,900	4,563	23	C	67	1	1,650	811	12	B	4	3	0.04	1	0.06
			EB	PM	13	3	6,900	3,981	**102**	**F**	30	1	1,650	2,431	**81**	**F**	2	1	0.01	1	0.06
5	I-280	from Meridian Avenue to Bird Avenue	EB	AM	47	4	9,200	8,676	46	D	--	--	--	--	--	--	26	26	0.28	--	--
			EB	PM	13	4	9,200	5,470	**105**	**F**	--	--	--	--	--	--	60	60	0.65	--	--
6	I-280	from Bird Avenue to SR 87	EB	AM	66	4	9,200	5,576	21	C	--	--	--	--	--	--	26	26	0.28	--	--
			EB	PM	22	4	9,200	7,020	**80**	**F**	--	--	--	--	--	--	60	60	0.65	--	--
7	SR 17	from SR 85 to San Tomas Expressway/Camden Avenue	NB	AM	66	3	6,900	4,801	24	C	--	--	--	--	--	--	41	41	0.59	--	--
			NB	PM	66	3	6,900	3,788	19	C	--	--	--	--	--	--	18	18	0.26	--	--
8	SR 17	from San Tomas Expressway/Camden Avenue to Hamilton Avenue	NB	AM	40	3	6,900	6,281	52	E	--	--	--	--	--	--	41	41	0.59	--	--
			NB	PM	67	3	6,900	3,618	18	B	--	--	--	--	--	--	18	18	0.26	--	--
9	SR 17	from Hamilton Avenue to I-280	NB	AM	34	3	6,900	6,074	**60**	**F**	--	--	--	--	--	--	54	54	0.78	--	--
			NB	PM	66	3	6,900	5,243	26	C	--	--	--	--	--	--	93	93	1.35	--	--
10	I-880	from I-280 to Stevens Creek Boulevard	NB	AM	15	3	6,900	4,445	**99**	**F**	--	--	--	--	--	--	35	35	0.51	--	--
			NB	PM	67	3	6,900	2,275	11	A	--	--	--	--	--	--	55	55	0.80	--	--
11	I-880	from Stevens Creek Boulevard to North Bascom Avenue	NB	AM	10	3	6,900	3,515	**117**	**F**	--	--	--	--	--	--	35	35	0.51	--	--
			NB	PM	22	3	6,900	5,205	**79**	**F**	--	--	--	--	--	--	55	55	0.80	--	--
12	I-880	from North Bascom Avenue to The Alameda	NB	AM	27	3	6,900	5,545	**68**	**F**	--	--	--	--	--	--	35	35	0.51	--	--
			NB	PM	14	3	6,900	4,305	**103**	**F**	--	--	--	--	--	--	55	55	0.80	--	--
13	I-880	from The Alameda to North Bascom Avenue	SB	AM	65	3	6,900	5,898	30	D	--	--	--	--	--	--	48	48	0.70	--	--
			SB	PM	36	3	6,900	6,086	56	E	--	--	--	--	--	--	36	36	0.52	--	--
14	I-880	from North Bascom Avenue to Stevens Creek Boulevard	SB	AM	28	3	6,900	5,678	**68**	**F**	--	--	--	--	--	--	48	48	0.70	--	--
			SB	PM	48	3	6,900	6,516	45	D	--	--	--	--	--	--	36	36	0.52	--	--
15	I-880	from Stevens Creek Boulevard to I-280	SB	AM	66	3	6,900	4,808	24	C	--	--	--	--	--	--	48	48	0.70	--	--
			SB	PM	66	3	6,900	5,186	26	C	--	--	--	--	--	--	36	36	0.52	--	--
16	SR 17	from I-280 to Hamilton Avenue	SB	AM	64	3	6,900	6,232	32	D	--	--	--	--	--	--	82	82	1.19	--	--
			SB	PM	35	3	6,900	6,146	**59**	**F**	--	--	--	--	--	--	56	56	0.81	--	--
17	SR 17	from Hamilton Avenue to San Tomas Expressway/Camden Avenue	SB	AM	66	3	6,900	4,508	23	C	--	--	--	--	--	--	18	18	0.26	--	--
			SB	PM	65	3	6,900	6,904	35	D	--	--	--	--	--	--	44	44	0.64	--	--
18	SR 17	from San Tomas Expressway/Camden Avenue to SR 85	SB	AM	66	3	6,900	3,788	19	C	--	--	--	--	--	--	18	18	0.26	--	--
			SB	PM	66	3	6,900	4,994	25	C	--	--	--	--	--	--	44	44	0.64	--	--
19	I-280	from SR 87 to Bird Avenue	WB	AM	13	4	9,200	5,366	**103**	**F**	--	--	--	--	--	--	56	56	0.61	--	--
			WB	PM	19	4	9,200	6,417	**84**	**F**	--	--	--	--	--	--	27	27	0.29	--	--
20	I-280	from Bird Avenue to Meridian Avenue	WB	AM	13	4	9,200	5,366	**103**	**F**	--	--	--	--	--	--	56	56	0.61	--	--
			WB	PM	57	4	9,200	8,927	39	D	--	--	--	--	--	--	27	27	0.29	--	--
21	I-280	from Meridian Avenue to I-880	WB	AM	10	3	6,900	3,881	**129**	**F**	13	1	1,650	1,341	**103**	**F**	2	1	0.01	1	0.06
			WB	PM	66	3	6,900	4,724	24	C	70	1	1,650	701	10	A	5	4	0.06	1	0.06
22	I-280	from I-880 to Winchester Boulevard	WB	AM	12	3	6,900	3,875	**108**	**F**	15	1	1,650	1,436	**96**	**F**	21	15	0.22	6	0.36
			WB	PM	51	3	6,900	6,615	43	D	70	1	1,650	1,408	20	C	43	35	0.51	8	0.48
23	I-280	from Winchester Boulevard to Saratoga Avenue	WB	AM	17	3	6,900	4,608	**90**	**F**	20	1	1,650	1,646	**82**	**F**	24	18	0.26	6	0.36
			WB	PM	55	3	6,900	6,641	40	D	70	1	1,650	1,127	16	B	48	41	0.59	7	0.42
24	I-280	from Saratoga Avenue to Lawrence Expressway	WB	AM	22	3	6,900	5,168	**78**	**F**	26	1	1,650	1,826	**70**	**F**	24	18	0.26	6	0.36
			WB	PM	66	3	6,900	5,350	27	D	70	1	1,650	1,058	15	B	48	40	0.58	8	0.48

[1] Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 2016.
Bold indicates unacceptable LOS.
Boxed indicates significant impact.

Site Access and On-Site Circulation

The site access and circulation evaluation is based on the April 29, 2019 site plan prepared by WRNS Studio (see Figure 2). Site access was evaluated to determine the adequacy of the site's access points with regard to the following: traffic volume, delays, vehicle queues, geometric design, and corner sight distance. On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards and transportation planning principles.

Bascom Avenue Complete Street Improvements

South Bascom Avenue is a wide corridor. Based on a preliminary traffic analysis conducted by the City (projecting roadway capacity through 2040) a "road diet"— or reduction in vehicular travel or parking lanes — is feasible along specific segments of South Bascom Avenue to allocate roadway space for other modes of travel. The City of San Jose's South Bascom Urban Village Plan and a study currently being completed by the Santa Clara Valley Transportation Authority (VTA) identify the planned improvement of Bascom Avenue along the project frontage to a Complete Street. The project site access points and frontage design provide for the implementation of the planned Complete Street improvement of Bascom Avenue. At the time of project implementation plan approval, if the City has approved implementation of a road diet, the project will be required to construct their frontage improvements based on the adopted road diet plan.

VTA Bascom Avenue Corridor Complete Street Improvement Study

In 2016, the VTA in partnership with its member agencies initiated a study to transform 5.9 miles of Bascom Avenue from I-880 to SR-85 into a high-quality multimodal street that prioritizes bicycle, pedestrian and transit travel while still serving motorists. The study will identify Complete Streets transportation improvements and develop an implementation plan for the corridor that will promote mobility and connectivity, enhance safety and security, and address pedestrian and bicycle issues.

South Bascom Urban Village Plan Streetscape Design Guidelines

The City of San Jose's South Bascom Urban Village Plan establishes Streetscape Design Guidelines for Bascom Avenue that are intended to allow for the implementation of complete street concepts and design standards. The design guidelines provide for a road diet along Bascom Avenue to improve conditions for pedestrians and bicyclists by implementing wider sidewalks, landscaped medians, landscaping, and a separated bike lane along the extent of South Bascom Avenue. The South Bascom Avenue Streetscape Plan identifies the following for the segment of Bascom Avenue that runs along the project's frontage:

- Remove one travel lane in each direction and reduce the width of existing travel lanes to 11 feet to accommodate 8-foot protected bike lanes and two 8-foot parking lanes.
- Install a 4-foot landscape buffer as protection between the separated bike lane and parking lanes.
- Intersperse landscape plantings with street trees into parking lanes where possible.
- Maintain the median turn lane and incorporate a center median with pedestrian refuges at key intersections.
- Plant columnar-shaped shade trees along existing sidewalks where possible.
- As new private development occurs, gradually acquire right-of-way to widen sidewalks, providing space for a range of amenities such as seating and outdoor dining.

Project Driveway Design

Separate site plans for the office and residential buildings of the site are shown in Figures 22 and 23, respectively. The residential and office buildings of the project site will be bisected by a public pedestrian paseo that will run between Bascom Avenue and the Bascom LRT Station. Therefore, the residential and office buildings served by separate access points with no vehicular connection provided between each building.

Vehicular access to the office building will be provided via one new full-access signalized driveway along Bascom Avenue at Pamlar Avenue. The driveway will provide direct access to the office parking garage and form the fourth leg of the new traffic signal. A second right-in/right-out only driveway located at the southern project site boundary will provide access to a loading area. However, access to parking will not be provided from the southern driveway.

Vehicular access to the residential component of the project would be provided via two right-in/right-out driveways along Bascom Avenue. The southernmost driveway will provide direct access to the residential parking garage for both visitors and residents. The northern driveway will provide access to the parking garage, for residents only, as well as a loading area via a drive aisle that runs along the project's northern boundary.

A pedestrian pathway, that will run along the perimeter of the project site, will connect the northern residential drive aisle and southern office driveway project. Removable bollards are proposed to be installed along the north drive aisle to restrict access to emergency vehicles only.

The site plans indicate that the total width of the office parking garage driveway will be 40 feet wide with one 12-foot inbound lane and two 12-foot outbound lanes separated by two 2 foot raised medians. The City has requested that removal of the raised median islands and a reduction in width of the outbound lanes be considered to reduce the total width of the office parking garage driveway to 36 feet. The southern driveway serving the residential parking garage will provide one inbound and one outbound lane with a total width of 26 feet. The project driveway widths that provide direct access from Bascom Avenue to office portion of the site would satisfy the City's driveway width requirement.

In addition to providing a 20-foot sidewalk along the project frontage, the site driveways design must ensure the safe travel of pedestrians and bicyclists along Bascom Avenue. Appropriate visible and/or audible warning signals should be provided at the project driveways to alert pedestrians and bicyclists of vehicles exiting the driveway. In addition, the design of the driveways must incorporate the planned Bascom Avenue Streetscape improvements and may require implementation of egress control within the parking garages, signage, relocation, and resizing. Safety improvements such as bicycle signal detection and/or bike boxes also will be required at the Pamlar Avenue driveway.

Recommendation: Signage should be placed along the drive aisle that runs along the north side of the residential building to restrict vehicular access east of the parking garage entrance. Similarly, removable bollards and signage should be placed along the pedestrian pathway that runs at the rear of the office building.

Recommendation: The design of the driveways must incorporate the planned Bascom Avenue Streetscape Plan improvements and may require implementation of egress control within the parking garages, signage, relocation, and resizing. Safety improvements such as bicycle signal detection and/or bike boxes also will be required at the Pamlar Avenue driveway.

Recommendation: The City has requested that removal of the raised median islands and a reduction in width of the outbound lanes be considered to reduce the total width of the office parking garage driveway to 36 feet.

Figure 22
Office Building Site Plan and Circulation (with Gross Project Trips)

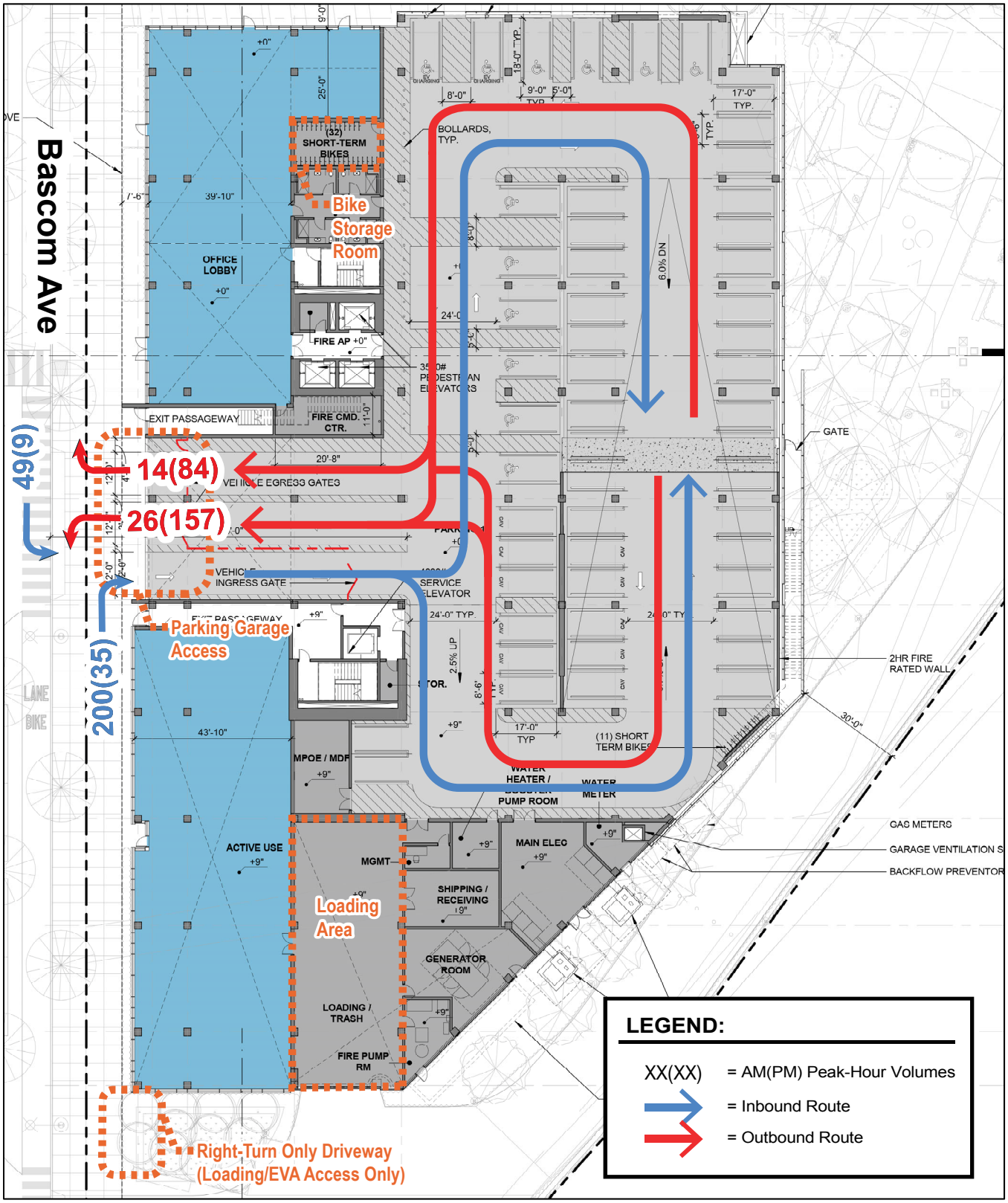
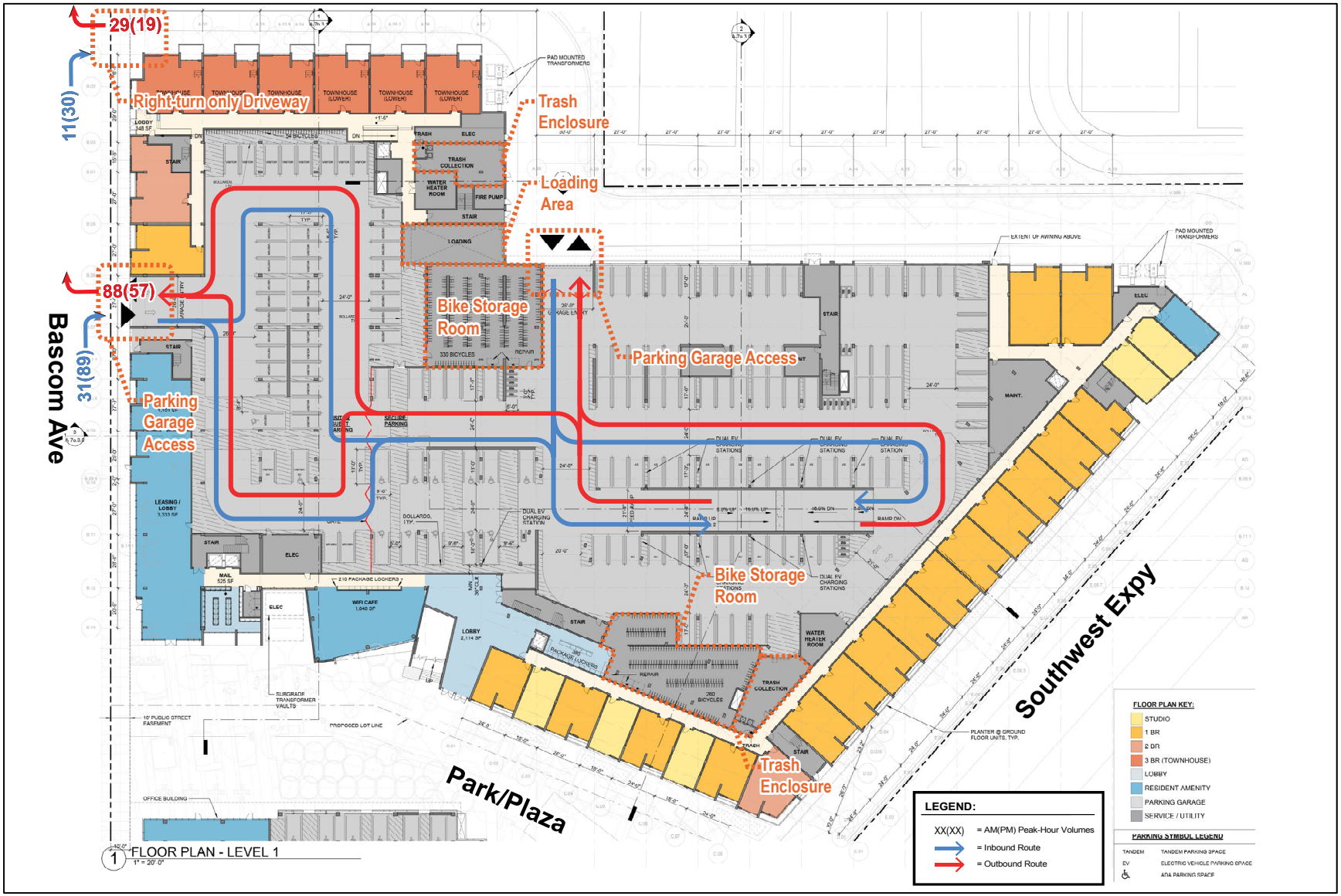


Figure 23
Residential Building Site Plan and Circulation (with Gross Project Trips)



Sight Distance

The project frontage along Bascom Avenue will change significantly with implementation of the various planned Bascom Avenue Streetscape Plan improvements that are planned to include a 20-foot wide sidewalk, protected bike lanes, and landscaped parking lanes. The improvements will likely result in an increase in pedestrian and bicycle travel along Bascom Avenue. Therefore, it will be imperative that each of the project access points be designed to ensure the safety of pedestrians and bicyclists traveling along the project frontage on Bascom Avenue. The site access points should be designed so as to not inhibit the prioritization of bicycle, pedestrian and transit travel along Bascom Avenue. The project access points should be free and clear of any obstructions to provide adequate sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and bicyclists traveling within the cycle track. Any landscaping and signage at the project access points should be located in such a way to ensure an unobstructed view for drivers exiting the site.

Adequate sight distance (sight distance triangles) should be provided at the project driveways in accordance with the *American Association of State Highway Transportation Officials* (AASHTO) standards. Sight distance triangles should be measured approximately 10 feet back from the traveled way. Providing the appropriate sight distance reduces the likelihood of a collision at a driveway or intersection and provides drivers with the ability to exit a driveway and locate sufficient gaps in traffic. The minimum acceptable sight distance is often considered the AASHTO stopping sight distance. Sight distance requirements vary depending on the roadway speeds. Bascom Avenue has a posted speed limit of 35 miles per hour (mph). The AASHTO stopping sight distance for a facility with a posted speed limit of 35 mph is 250 feet.

The two project driveways serving the residential garage as well as the southern project driveway that will serve the office building loading area are proposed to be right-in/right-out only due to the planned raised median along Bascom Avenue. Thus, northbound traffic flow along Bascom Avenue will be the only conflicting traffic at these project driveways. Per sight distance requirements, a driver exiting the proposed driveways must be able to see 250 feet to the south along Bascom Avenue to stop and avoid a collision. Based on the project site plan and observations in the field, vehicles exiting the residential project driveways will be able to see approaching traffic on northbound Bascom Avenue at least as far to the south as the LRT crossing of Bascom Avenue, which is approximately ¼ mile away under the current configuration of Bascom Avenue. However, this sight distance will likely be significantly reduced with the implementation of the planned cycle track and landscaped parking lanes on northbound Bascom Avenue.

Recommendation: The project access points should be free and clear of any obstructions to provide adequate sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and bicyclists traveling within the cycle track. Any landscaping and signage at the project access points should be located in such a way to ensure an unobstructed view for drivers exiting the site.

Recommendation: Appropriate visible and/or audible warning signals should be provided at the project driveways to alert pedestrians and bicyclists of vehicles exiting the driveway.

Project Driveway Operations

A raised median with limited breaks is planned along Bascom Avenue along the project's frontage. Left-turn access to and from Bascom Avenue and the project site would be provided at only the new Pamlar Avenue intersection. Full access to the office building parking garage will be provided by the new Pamlar Avenue signal. The project driveways serving the residential parking garage and office loading area would provide limited access, allowing only inbound and outbound right turns to and from Bascom Avenue. Consequently, outbound vehicles from the residential building seeking to travel south on

Bascom Avenue would be required to travel north to make a U-turn at Stokes Street, while inbound vehicles approaching the from north would be required to make a U-turn at the new signalized Pamlar Avenue intersection to access the residential parking garage. Based on the project trip distribution, it is estimated that 77 vehicles during the AM peak hour and 50 vehicles during the PM peak hour would make a U-turn at Stokes Street, while 7 vehicles during the AM peak hour and 20 vehicles during the PM peak hour would make a U-turn at Pamlar Avenue. The estimated gross project trips at each of the project driveways are shown in Figures 22 and 23.

Pamlar Avenue Site Access Intersection Analyses

Traffic operations analyses at the proposed new signalized project access intersection at Bascom Avenue and Pamlar Avenue were completed. The access point was evaluated for its adequacy to serve the estimated project traffic based on signal warrant checks, level of service analysis, and queuing analysis. Table 11 summarizes the results of the Bascom Avenue and Pamlar Avenue site access intersection analysis.

Table 11
Bascom Avenue and Pamlar Avenue Site Access Operations Analysis Under Background Plus Project Conditions

Intersection	LOS Standard	Peak Hour	Warrant Met?	Avg. Delay	LOS	Queue Length (ft) NBL	SBL	WBL	WBR	EB
Bascom Avenue and Pamlar Avenue	D	AM	No	11.8	B	150	100	50	50	100
(Signalized under Project Condtions)		PM	**Yes**	16.2	B	200	50	200	125	75

Signal Warrants

The need for signalization of the Bascom Avenue and Pamlar Avenue site access intersection was assessed based on the Peak-Hour Traffic Signal Warrant (Warrant #3 – Part B) described in the *California Manual on Uniform Traffic Control Devices* (MUTCD), 2014 Edition. This method makes no evaluation of intersection level of service, but simply provides an indication of whether 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 peak-hour traffic signal warrant analysis shows that traffic volumes at the proposed Bascom Avenue and Pamlar Avenue site access intersection are projected to meet the levels that warrant signalization of the intersection.

Level of Service Analysis

The level of service analysis assumes that the Bascom Avenue and Pamlar Avenue signal will provide protected northbound/southbound left-turn movements and permitted eastbound/westbound approach movements. The level of service analysis indicates that the Bascom Avenue and Pamlar Avenue intersection is projected to operate at LOS B conditions during the AM and PM peak hours under project conditions.

Queuing Analysis

The analysis of intersection operations was supplemented with a vehicle queuing analysis. 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
λ = average # of vehicles in the queue per lane (vehicles per hr per lane/signal cycles per hr)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles for a particular left-turn 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 left-turn movement. This analysis thus provides a basis for estimating future turn pocket storage requirements at intersections.

For signalized intersections, the 95th 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. Or, a queue length larger than the 95th 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). Thus, turn pocket storage designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time for a signalized movement.

The queuing analysis indicates that the maximum vehicle queue for the southbound left-turn pocket at the Bascom Avenue and Pamlar Avenue signal is projected to be no more than four vehicles.

Recommendation: The southbound left-turn lane at the Bascom Avenue and Pamlar Avenue signal should provide a minimum of 100 feet of queue storage capacity to serve the projected maximum vehicle queue length.

The queuing analysis also indicates that the maximum vehicle queues for the westbound left-turn lane and right-turn lane (office parking garage exit) at the Bascom Avenue and Pamlar Avenue signal are projected to be approximately 200 and 125 feet, respectively.

Recommendation: The westbound left-turn lane and right-turn lane (office parking garage exit) should provide a minimum of 200 feet and 125 feet of queue storage capacity, respectively, to serve the projected maximum vehicle queue lengths.

The queuing analysis indicates that the maximum vehicle queue for the northbound left-turn pocket at the Bascom Avenue and Pamlar Avenue signal is projected to be approximately 200 feet.

Recommendation: The northbound left-turn lane at the Bascom Avenue and Pamlar Avenue signal should provide a minimum of 200 feet of queue storage capacity to serve the projected maximum vehicle queue length.

Operational issues are not expected to occur at the uncontrolled project driveways on Bascom Avenue since turn movements will be limited to right-turns only.

On-Site Circulation

On-site vehicular circulation was reviewed in accordance with the City of San Jose Zoning Code and generally accepted traffic engineering standards.

Residential Parking Garage Circulation

The residential parking garage will provide 643 90-degree parking stalls within three levels of parking, the first at street level as well as one below grade and one on the second level. Residential parking, unlike visitor parking, is proposed to be restricted via a security gate on the street level of the garage, located within the parking garage and away from the garage entrance. The first level of parking (street level) would include 43 guest parking spaces and 54 bicycle parking spaces all within the drive aisle immediately adjacent to the parking garage entrance. An additional 106 parking spaces (including 12 handicap spaces) designated for residents also would be located within the first parking level but would be separated from the visitor parking spaces and would be accessed via an automated gate. The gate would enclose the area that includes all tenant parking spaces, access ramp to the 2nd and basement levels of the parking garage, and two bicycle storage rooms providing space for 590 bicycles. A total of 143 parking spaces (including 6 tandem spaces) are proposed for tenants within the second garage level. An additional 351 parking spaces (including 50 tandem spaces) are proposed for tenants within the basement level.

The proposed second-floor level circulation is shown on Figure 24. The site plans show two-way drive aisles within each of the parking garage levels to be 24 feet wide. The City's standard minimum width for two-way drive aisles with 90-degree parking on both sides of the drive aisle is 26 feet wide. This allows sufficient space for two-way circulation, in particular for larger vehicles, and for vehicles to easily maneuver in and out of the parking spaces. The proposed drive aisle widths are less than the City's minimum requirements. The proposed drive aisle width of 24 feet throughout the garage would require larger passenger vehicles to conduct multi-point turning maneuvers to get in and out of the parking stalls. However, it should be noted that large vehicles, such as emergency vehicle and trash trucks, would not access the parking garage, making the reduced drive aisle and parking stall dimension less problematic. Ultimately, City staff will determine the adequacy of the proposed drive aisle width and internal circulation design.

Typical engineering standards require garage ramps to have no greater than a 20 percent grade, and slopes over 10% require transition slopes so that vehicles do not "bottom out". The project site plan indicates the slope of the ramp within the parking garage to be 16% mid-ramp, with 8% slopes at both ends of the ramp. Therefore, the proposed ramp design is adequate, based on typical engineering standards.

Overall, circulation within the parking garage would be adequate. Residential parking areas, which is typically have low activity during most of the day, would be separated from visitor parking. Parking spaces for the visitors would all be located adjacent to the Bascom Avenue parking garage entrance, making it easily accessible. No larger vehicles, such as emergency vehicles and garbage trucks, would access the parking garage.

There are several dead-end aisles on the second and basement levels of the parking garage. Dead end aisles are undesirable because drivers may enter the aisle, and upon discovering that there is no available parking, must back out or conduct three-point turns. Given that the location of the dead-end aisles will be within restricted resident parking areas and parking spaces would be assigned, there would be no need for residents to circulate the garage in search of available parking, making the dead-end drive aisles less problematic.

Figure 24
Residential Building Second-Level Floor Plan and Circulation

Vehicles circulating the garage would be required to make various 90-degree right turns. Some drivers with larger vehicles may have difficulty navigating the sharp right turns and reduced drive aisle widths, resulting in vehicles encroaching upon the opposing lane to complete the turn. Thus, it is recommended that physical devices be installed at every turn within the parking garage in an effort to aid circulation and reduce vehicular conflict at the garage's constraint points. Such devices could include speed humps/bumps to slow down traffic, convex mirrors to assist drivers with blind turns while turning around corners, and signage.

Office Parking Garage Circulation

The office parking garage will provide 600 90-degree parking stalls within six levels of parking that include two below-grade levels and four above-grade levels. The proposed second-floor level circulation is shown on Figure 25.

The site plans show two-way drive aisles within each of the parking garage levels to be 24 feet wide. The City's standard minimum width for two-way drive aisles with 90-degree parking on both sides of the drive aisle is 26 feet wide. This allows sufficient space for two-way circulation, in particular for larger vehicles, and for vehicles to easily maneuver in and out of the parking spaces. The proposed drive aisle widths are less than the City's minimum requirements. The proposed drive aisle width of 24 feet throughout the garage would require larger passenger vehicles to conduct multi-point turning maneuvers to get in and out of the parking stalls. However, it should be noted that large vehicles, such as emergency vehicle and trash trucks, would not access the parking garage, making the reduced drive aisle and parking stall dimension less problematic. Ultimately, City staff will determine the adequacy of the proposed drive aisle width and internal circulation design.

Recommendation: The project should adhere to City of San Jose design guidelines and standards and work with City staff to ensure that the design of all driveways, drive aisles, and parking stalls within each of the parking garages is to the satisfaction of the City.

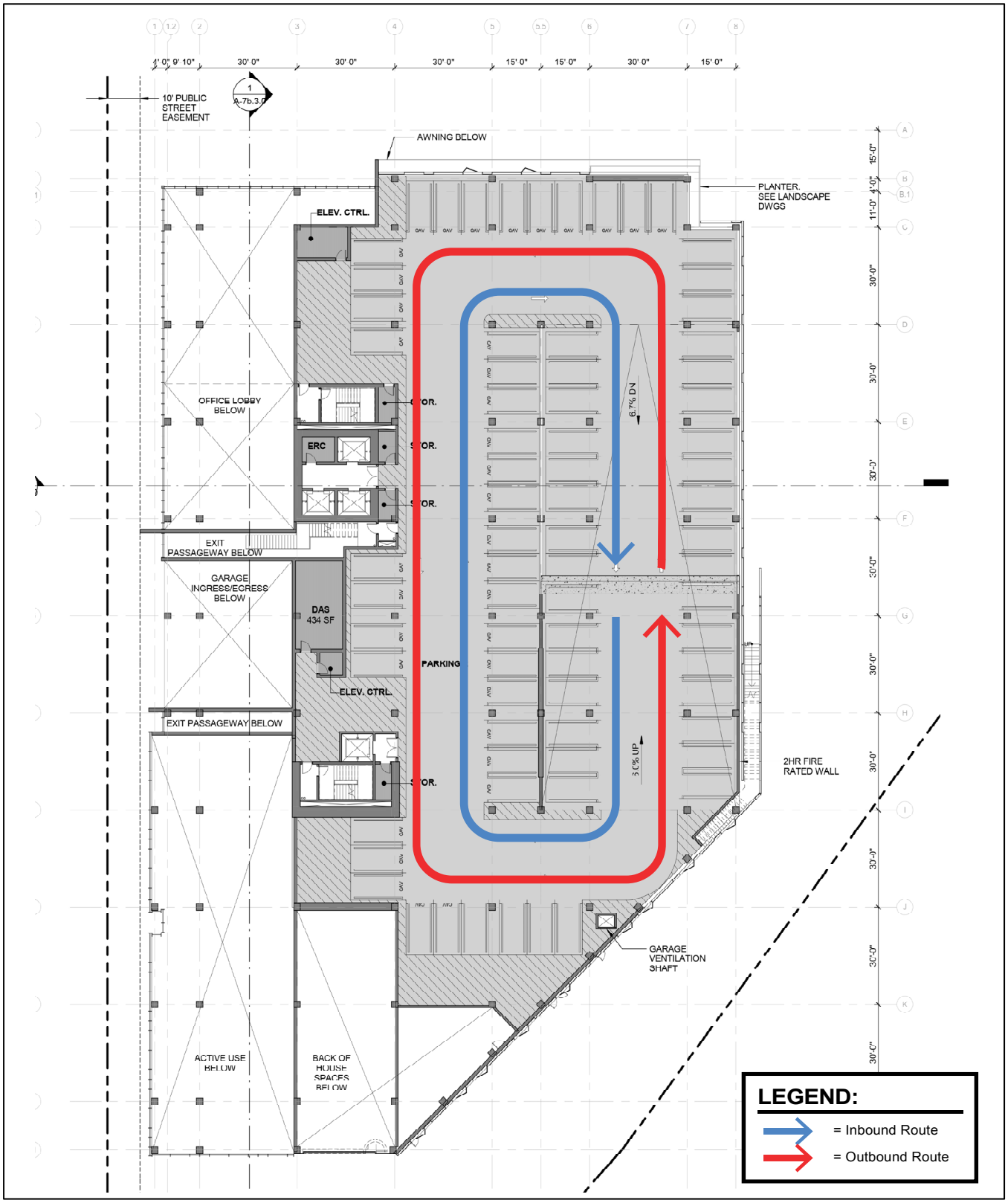
Recommendation: It is recommended that physical devices be installed at every turn within the parking garages in an effort to aid circulation and reduce vehicular conflict at the garage's constraint points. Such devices could include speed humps/bumps to slow down traffic, convex mirrors to assist drivers with blind turns while turning around corners, and signage.

Bike and Pedestrian On-Site Circulation

The site layout will provide for the continuous circulation of pedestrians and bicyclists around and through the project site. A pedestrian only pathway with landscaping will run along the perimeter of the entire site. In addition, a park/plaza will bisect the residential and office buildings providing a connection between Bascom Avenue and the Bascom Avenue LRT Station. The provided pathways and park/plaza appear to be a minimum of 30-feet in width which will be wide enough to accommodate the free flow of pedestrians. The development of the project will result in a significant improvement of the pedestrian environment along its frontage with implementation of wider sidewalks that are separated from parking areas and redesigned and relocated driveways with limited access. The project proposes to widen the existing 8-foot wide sidewalk located along the project frontage on Bascom Avenue. Direct access to the Bascom Avenue sidewalk will be provided via several building entrances and the park/plaza.

Pedestrian circulation within the parking garages would generally be adequate, with pedestrians having to walk within the drive aisles. Each of the parking garages also include a few areas with elevators and stairs so that pedestrians would have convenient access to them from any part of the garage.

Figure 25
Office Building Second-Level Floor Plan and Circulation



Bicycle parking and storage would be located in several areas of the residential building near entrances. The location of bicycle parking and storage would allow bicyclists to enter/leave the building using the parking garage and building entrances and connect to the bike lanes on Bascom Avenue and the LRT station. The location of bicycle parking within the office building is not shown on the provided plans. Bicycle parking within the office building should be provided similar to that of the residential building. The convenient location of the on-site bike parking would help create a pedestrian- and bicycle-friendly environment and encourage bicycling by residents and employees.

Recommendation: Since pedestrian circulation within the parking garage would occur within the drive aisles, it is recommended that measures be implemented to reduce travel speeds within the parking garage to speeds that are safe for both vehicles and pedestrians. Some of the measures could include signage, speed humps/bumps, appropriate lighting, auditory warnings, and mirrors.

Truck Access and Circulation

Larger vehicles, such as delivery trucks, garbage trucks, and emergency vehicles will not have access to the parking garages. According to the City of San Jose Zoning Regulations, the project is not required to provide off-street loading spaces for the residential nor the office uses. However, the project is proposing two separate off-street designated loading areas located on the southside of the office building and northside of the residential building.

Access to the off-street loading space for the office would be provided via a driveway on Bascom Avenue at the southern end of the project frontage. Trucks would enter the site at the driveway and proceed just past the loading area then back into the loading spaces and exit forward.

Access to the residential loading area will be provided via a driveway on Bascom Avenue at the northern end of the project frontage. Trucks would enter the site at the driveway and proceed down a drive aisle just past the loading area then back into the loading spaces. Exit from the loading area will require that trucks utilize the entire width of the drive aisle, including the inbound travel lane.

Recommendation: Since the drive aisle that will provide access to the residential loading area also will be used by residents to access the parking garage entrance located adjacent to the loading area it is recommended that the ingress and egress for the residential loading area be restricted during the morning and evening peak commute hours to minimize the conflict of trucks and vehicles.

Garbage Collection

The site plan for the residential building shows a trash room to be located on street level adjacent to the loading area. Thus, garbage trucks will enter and exit the site in the same manner as described above for trucks utilizing the loading area. The trash bins would likely be placed within the drive aisle on designated garbage collection days. The trash bins should be removed from the drive aisle immediately after garbage pickup as to not inhibit access to the residential parking garage during the morning and evening peak commute hours as well as the loading area.

Recommendation: The location of trash enclosures for the office building are not shown on the site plan. It is recommended that a trash room be located adjacent to the loading area for the office building so that garbage pick-up can occur off-street, similar to that proposed for the residential building.

Emergency Vehicle Access

Emergency vehicles access (EVA) would be provided via the two project driveways on Bascom Avenue that provide access to the two designated loading areas described above. Emergency vehicles could

enter the site via one of the two driveways and utilize the pedestrian pathway that runs along the project site perimeter to access a specific part of the proposed buildings. The City of San Jose Fire Code requires driveways to provide at least 20 feet for fire access. The project driveways are proposed to be at least 26-feet wide, and therefore would comply with the City's fire code. Removable bollards are proposed to be located along the drive aisle/pathway, east of the parking garage entrance, that runs along the north side of the residential building to prevent the use of pathway by non-emergency vehicles. Similar removal bollards should be placed just north of the office loading areas. Smaller emergency vehicles would also be able to access the parking garage but would be subject to the parking structure's maximum height clearance.

Construction Activities

Typical activities related to the construction of any development could include lane narrowing and/or lane closures, sidewalk and pedestrian crosswalk closures, and bike lane closures. In the event of any type of closure, clear signage (e.g., closure and detour signs) must be provided to ensure vehicles, pedestrians and bicyclists are able to adequately reach their intended destinations safely. The project would be required to submit a construction management plan for City approval that addresses schedule, closures/detours, staging, parking, and truck routes.

Current pedestrian volumes along Bascom Avenue are relatively low. Therefore, any necessary sidewalk closures/pedestrian detours would have very little effect on the overall pedestrian circulation in the area. Similarly, bicycle volumes along Bascom Avenue are relatively low, therefore effects on bicycle facilities during construction are expected to minimal.

Parking Supply

The City of San Jose Zoning Code (Section 20.90.060) states that office uses are required to provide 1.0 parking space per 250 square feet of floor area. The required parking spaces for multi-family residential units is dependent on the living unit size. The project as proposed would construct 200,300 s.f. gross square feet of office space and 590 multi-family residential units. According to the City's Zoning Code, "Floor area" is defined as 85 percent of the "total gross floor area" of the building. Based on the City's parking requirements and the current project description, the project would be required to provide 681 parking spaces for the office space and 789 parking spaces for the residential units.

A 20 percent reduction in required off-street vehicle parking spaces is allowed with a development permit or a development exception if no development permit is required for developments that meet the following conditions (Section 20.90.220.A.1):

1. The structure or use is located within two thousand feet of a proposed or an existing rail station or bus rapid transit station, or an area designated as a neighborhood business district, or as an urban village, or as an area subject to an area development policy in the city's general plan or the use is listed in Section 20.90.220.G; and

2. The structure or use provides bicycle parking spaces in conformance with the City's Zoning Code requirements.

The project site is within the South Bascom Urban Village and is adjacent to the Bascom LRT Station. Therefore, the vehicle parking requirement would be reduced to 545 parking spaces for the office space and 631 parking spaces for the residential units. The vehicle parking requirement is shown in Table 12.

Table 12
Vehicle Parking Requirements

Proposed Project		City of San Jose Parking Code[1]			Required Parking	
Land Use	Size	Land Use	Parking Ratio		General	Urban Village[2]
Residential	146 units	Multiple dwelling residential	1.25	spaces per studio unit	183	146
Residential	331 units	Multiple dwelling residential	1.25	spaces per one-bedroom unit	414	331
Residential	113 units	Multiple dwelling residential	1.70	spaces per two-bedroom unit	192	154
			Total Required Residential Parking		**789**	**631**
Office	200,300 s.f.	Offices, business and admin	1.00	space per 250 s.f. of floor area[3]	681	545
				Total Required Parking	**1,470**	**1,176**
				Proposed Residential Parking		**643**
				Proposed Office Parking		**600**
				Total Proposed Parking		**1,243**
				Parking Surplus		**67**

Notes:
[1]City of San Jose Zoning Ordinance: Parking Spaces Required by Land Use
[2]Includes 20% allowable reduction of parking requirement in an Urban Village.
[3]According to the City's Zoning Code, "Floor area" is defined as 85 percent of the "total gross floor area" of the building.

The project is proposing to provide a total of 600 parking spaces within the office parking garage and 643 parking spaces within the residential garage, which is more than the number of parking spaces required by the City for each land use.

Per the 2016 California Building Code (CBC) Table 11B-208.2, two percent of the total provided parking must be designated ADA accessible spaces for projects with 501 to 1,000 parking spaces. Thus, 11 and 12 ADA accessible spaces are required within the residential and office garages, respectively. Of the required accessible parking spaces, two van accessible spaces are required. The plans show a total of 12 accessible spaces within each of the parking garages. Of the provided ADA accessible spaces in each garage, more than two are shown to be designated van accessible. Therefore, the proposed parking complies with ADA requirements.

Bicycle Parking

According to the City's Bicycle Parking Standards (Chapter 20.90, Table 20-210), the project is required to provide bicycle parking for the office building at a rate of 1 bicycle parking space per 4,000 square feet of office space and 1 bicycle parking space per four residential units. This equates to a total requirement of 190 bicycle parking spaces, of which 43 bicycle parking spaces would serve the office component and 148 bicycle parking spaces would serve the residential units. Of the required bicycle parking, City standards require that 80 percent be short-term bicycle spaces and 20 percent be secured long-term bicycle spaces. The City's definition of short-term and long-term bicycle parking is described below.

City of San Jose Long-Term and Short-Term Bicycle Parking

Long-term bicycle parking facilities are secure bicycle storage facilities for tenants of a building that fully enclose and protect bicycles and may include:

- A covered, access-controlled enclosure such as a fenced and gated area with short-term bicycle parking facilities,
- An access-controlled room with short-term bicycle parking facilities, and
- Individual bicycle lockers that securely enclose one bicycle per locker.

Short-term bicycle parking facilities are accessible and usable by visitors, guests, or business patrons and may include:

- Permanently anchored bicycle racks,
- Covered, lockable enclosures with permanently anchored racks for bicycles,
- Lockable bicycle rooms with permanently anchored racks, and
- Lockable, permanently anchored bicycle lockers.

The residential site plan shows 60 short-term (bike racks) bicycle parking spaces and a total of 530 long-term (within two separate bike storage rooms) bicycle parking spaces would be provided within the first parking garage level. The office site plan also shows 43 short-term (bike racks) bicycle parking spaces in the first floor of the parking garage. Therefore, the proposed bicycle parking and storage spaces would far exceed the required number of bicycle parking spaces per the City's requirement.

Motorcycle Parking

According to the City's Motorcycle Parking Standards (Chapter 20.90, Table 20-250), the project is required to provide 1 motorcycle parking space per 50 code-required vehicle spaces for the office component and 1 motorcycle parking space for every four residential units. Based the current project

description, the project is required to provide 159 motorcycle parking spaces (11 spaces for the office space and 148 spaces for the residential units).

The site plan shows that the project would provide 14 motorcycle parking spaces for the office space and 63 motorcycle parking spaces for the residential units. Therefore, the number of proposed motorcycle parking spaces for the office space would meet the City's requirement. However, the number of proposed motorcycle parking spaces for the residential units would not meet the City's requirement. Therefore, it is recommended that the project provide the additional 85 motorcycle parking spaces for the residential land use to meet the City's requirement.

Freeway Ramp Analysis

An analysis of metered freeway ramps providing access to the project site was performed to identify the effect of the addition of project traffic on the queues at study freeway on ramps. It should be noted that the evaluation of freeway ramps is not required based on the City's transportation impact analysis guidelines. Nor are there adopted methodologies and impact criteria for the analysis of freeway ramps.

Ramp meters were observed to be operating during only the peak period in the peak direction of commute traffic. Freeway on-ramps that are not metered are not evaluated since these ramps do not experience measurable queue lengths due to ramp metering. The following metered freeway on-ramp and the peak-period when its meter is active was studied:

- SR 17 Northbound Diagonal On-Ramp from Westbound Hamilton Avenue (meter on during AM peak hour and off during PM peak hour)

SR 17 Northbound Diagonal On-Ramp from Westbound Hamilton Avenue

The existing queue lengths and service rate of the meter at the SR 17 northbound on-ramp from westbound Hamilton Avenue were measured in the field during the AM peak hour (see Table 13). The ramp is not metered during the PM peak hour. Wait times (the time it took a vehicle at the end of the queue to proceed through the meter) at the metered ramp were derived from the collected data.

A ratio between the existing volumes using the freeway on-ramp and trips from approved developments and the proposed project was used to estimate the number of vehicles that would be added to the existing queue under background and project conditions, respectively. Based on this analysis, it is projected that the addition of project traffic to the SR 17 northbound on-ramp from westbound Hamilton Avenue would equate to an approximately 5% increase (54 peak hour trips) in volume during the AM peak hour and extend the wait times at the ramp by no more than 11 seconds.

The existing observed maximum queue length at this on-ramp was observed to extend along the entire length of the ramp and back onto Hamilton Avenue. An approximately 900-foot striped storage lane is provided along westbound Hamilton Avenue. The additional vehicles added to the projected ramp queue by the proposed project could be stored within the ramp storage lane on Hamilton Avenue. Although the addition of project traffic to this on-ramp may not result in the blocking of through traffic on westbound Hamilton Avenue, the project traffic is projected to increase the queue length at a metered on-ramp that was observed to be exceeding its current capacity. The proposed project should consider

Table 13
Freeway Ramp Analysis

Freeway Ramp	Peak Hour	# of Lanes	Meter Status	Existing[1] Volumes	Existing[1] Queue Length (total veh.)	Existing[1] Meter Rate (veh/s)	Existing[1] Wait Time[3] (min:sec)	Background[2] Approved Trips	Background[2] Volumes	Background[2] Queue Length (total veh.)	Background[2] Wait Time[3] (min:sec)	Background Plus Project[2] Project Trips	Background Plus Project[2] Volumes	Background Plus Project[2] % Increase	Background Plus Project[2] Queue Length (total veh.)	Background Plus Project[2] Wait Time[3] (min:sec)
SR 17 NB Diagonal On-Ramp from WB Hamilton Avenue	AM	2	On	1,153	56	3.5	03:16	21	1,174	58	03:23	54	1,228	4.6%	61	03:34

Notes:
[1] Existing queue length represents the total vehicles in the queue observed during the peak-hour period. Existing meter rate and wait times were measured at the ramps on August 29, 2018.
[2] Background and background plus project conditions queue lengths were estimated based on the ratio between the existing volumes on the ramp and the estimated approved and project trips added to the ramp, respectively.
[3] Future wait times were estimated based on the queue length and the measured meter service rates.

implementing measures that would reduce the amount of peak-hour traffic added to the roadway network, such as a Travel Demand Management (TDM) plan, to reduce the project's effect on this freeway on-ramp.

Pedestrian, Bicycle, and Transit Analysis

All new development projects in San Jose should encourage multi-modal travel, consistent with the goals of the City's General Plan. It is the goal of the General Plan that all development projects accommodate and encourage the use of non-automobile transportation modes to achieve San Jose's mobility goals and reduce vehicle trip generation and vehicle miles traveled. In addition, the adopted City Bike Master Plan establishes goals, policies and actions to make bicycling a daily part of life in San Jose. The Master Plan includes designated bike lanes along all City streets, as well as on designated bike corridors. In order to further the goals of the City, pedestrian and bicycle facilities should be encouraged with new development projects.

The City's General Plan identifies both walk and bicycle commute mode split targets of 15 percent or more by the year 2040. This level of pedestrian and bicycle mode share is a reasonable goal for the project, particularly if Caltrain, LRT, and bus services (including BRT) are utilized in combination with bicycle commuting.

Pedestrian Facilities

Pedestrian facilities in the study area consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections (see Chapter 2 for details).

Pedestrian generators in the project area include commercial areas to the north and south of the project site. In addition, the Bascom LRT Station is located along the western boundary of the project site along Southwest Expressway. Although continuous sidewalks are available connecting the project site to the commercial areas, the intersection of Bascom Avenue/Stokes Street includes non-ADA compatible ramps at all four corners of the intersection. To the south of the project site, pedestrians may access bus stops and commercial areas along Bascom Avenue and Hamilton Avenue via the existing sidewalks. However, there currently are no pedestrian railroad crossing gates along sidewalks at the railroad/LRT crossing of Bascom Avenue located at the southern end of the project site.

The proposed project site is located within the South Bascom Urban Village Boundary and fronts Bascom Avenue. Sites within an Urban Village must incorporate additional urban design and architectural elements that will facilitate pedestrian orientated design and activate the pedestrian public right-of-way. Policy CS-4.4 of the South Bascom Avenue Urban Village Plan identifies a minimum 20-foot sidewalk width along Bascom Avenue. Thus, the project should provide a minimum 20-foot sidewalk width along its Bascom frontage to meet Policy CS-4.4. Direct access to the Bascom Avenue sidewalk from the proposed residential building and office building would be provided via the front lobbies of each building and outdoor park/plaza.

The proposed new signalized intersection at Pamlar Avenue, proposed outdoor park/plaza, and wider sidewalks would enhance existing pedestrian facilities along Bascom Avenue and connection to transit facilities encouraging walking rather than driving to access nearby pedestrian destinations.

Bicycle Facilities

There are several bike facilities in the immediate vicinity of the project site (see Chapter 2 for details). As previously described, the City's General Plan identifies the bicycle commute mode split target as 15 percent or more by the year 2040. This calculates to approximately 72 and 77 new bicycle trips during

the AM and PM peak hours, respectively. This level of bicycle mode share is a reasonable goal for the project.

The bikeways within the vicinity of the project site, including those along Bascom Avenue, would remain unchanged under project conditions. However, the existing bike lanes that run along Bascom Avenue are located between traffic traveling at high-speeds and intermittent on-street parking. Policy CS-3.1 of the South Bascom Avenue Urban Village Plan identifies the implementation of a protected bike lanes along with enhanced sidewalks along south Bascom Avenue as a critical piece to the multi-modal transportation network within the Urban Village. The project's Bascom Avenue frontage will provide for the implementation of the planned protected bike lanes along with wider sidewalks that will encourage the use of a bicycle as part of trip making and be consistent with the South Bascom Urban Village Plan goals and strategies. All proposed on-site bicycle parking would be accessible via the building garage entrances as well as the park/plaza.

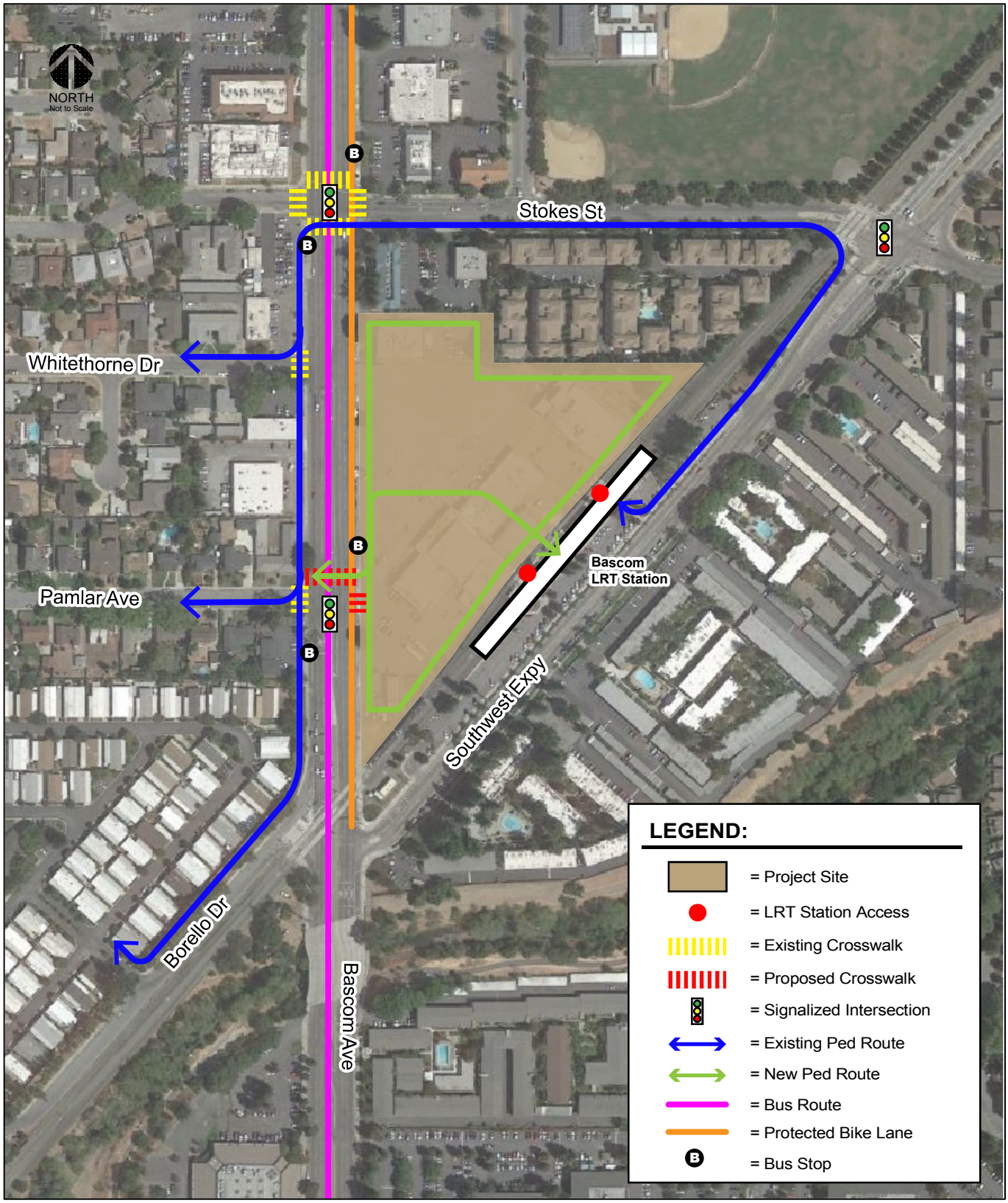
Transit Services

The project site is directly served by existing VTA transit services. There are bus stops located along the project frontage on northbound Bascom Avenue, just south of Palmar Avenue, as well as southbound Bascom Avenue near Stokes Street. The existing bus stop along the project frontage on Bascom Avenue that is served by Routes 61 and 62 will be relocated to the north side of the new Palmar Avenue signal. The new transit trips generated by the project are not expected to create demand in excess of the transit service that is currently provided in the project area. Future improvement of VTA's transit system are planned as part of its new transit operations plan, the Next Network, that will better connect VTA transit with the Milpitas and Berryessa BART station and increase overall system ridership. The future transit operations plan includes the following:

- Increases to service levels in high-ridership areas and decreases service levels in low-ridership areas.
- Increases frequencies on many routes (including Route 61 that serves the project site).
- Expands the number of Rapid Routes.
- Increases the number of residents and jobs with access to frequent service by 150,000 and 160,000 respectively.
- Extends service later in the evening on many routes and adds more service on weekends

The project site also is located adjacent to the Mountain View-Winchester LRT line which stops at the Bascom LRT Station located along Southwest Expressway. However, access to the Bascom LRT Station from areas along and west of Bascom Avenue is currently limited due to the lack of developed access points to the station from the west side of the LRT tracks and uncontrolled crossing points along Bascom Avenue. Stokes Street provides the nearest controlled crossing point of Bascom Avenue from areas on the west side of Bascom Avenue (see Figure 26). Policy CS-2.2 of the South Bascom Avenue Urban Village Plan identifies the improvement of multi-modal access to the Bascom LRT station. The proposed project will include the construction of a new signalized intersection at Palmar Avenue and Bascom Avenue that will provide for a controlled crossing point of Bascom Avenue. In addition, the proposed park/plaza that will bisect the project site will provide a non-auto connection between Bascom Avenue and access points along the project's eastern perimeter to the LRT station platforms. The proposed enhancements to pedestrian routes via the controlled crossing point at the new Pamlar Avenue traffic signal, improvements to sidewalks and the pedestrian environment along the project's Bascom Avenue frontage, pedestrian pathway that will run along the perimeter of the site, and park/plaza within the project site will provide safe and more direct routes to and from the LRT station that will encourage increased usage of transit and be consistent with the South Bascom Urban Village Plan strategies and policies.

Figure 26
Pedestrian Routes to Bascom LRT Station



8. Conclusions

The transportation analysis of the project was evaluated following the standards and methodologies set forth in the City of San Jose's *Transportation Analysis Handbook 2018*, the Santa Clara Valley Transportation Authority (VTA) Congestion Management Program's *Transportation Impact Guidelines* (October 2014), and by the California Environmental Quality Act (CEQA).

CEQA VMT Analysis

CEQA Transportation Analysis Exemption Criteria

The City of San Jose *Transportation Analysis Handbook* identifies screening criteria that determines whether a CEQA transportation analysis would be required for development projects. The criteria are based on the type of project, characteristics, and/or location. If a project meets the City's screening criteria, the project is expected to result in less-than-significant VMT impacts and a detailed CEQA VMT analysis is not required.

The project site is located within a planned Growth Area (Bascom Avenue Urban Village) with low VMT per employee as identified by the City of San Jose Traffic Model. However, the proposed office component of the project will not meet all of the applicable VMT screening criteria. In addition, the project site is not located in an area with low VMT per capita and thus the proposed residential units do not meet the City's screening criteria. Therefore, a CEQA-level transportation analysis that evaluates the project's effects on VMT was required.

Project-Level VMT Impact Analysis

The results of the VMT evaluation, using the City's VMT Evaluation Tool, indicate that the proposed project is projected to generate VMT per capita (9.59) and VMT per employee (11.1) that are below the established thresholds. Therefore, the proposed project would not result in an impact on the transportation system based on the City's VMT impact criteria.

Cumulative (GP Consistency) Evaluation

Projects must demonstrate consistency with the *Envision San José 2040 General Plan* to address cumulative impacts. Consistency with the City's General Plan is based on the project's density, design, and conformance to the General Plan goals and policies. If a project is determined to be inconsistent with the General Plan, a cumulative impact analysis is required per the City's *Transportation Analysis Handbook*.

The project is located within the South Bascom Avenue Urban Village. On May 8, 2018, the City of San Jose adopted the South Bascom Urban Village Plan. The South Bascom Urban Village Plan provides a vision for the transformation of South Bascom Avenue into a more urban and walkable corridor. The adopted UV Plan will be the City's official Planning policy document for the corridor, providing goals, policies, actions, and urban design guidelines to guide private and public investment to achieve this vision. Urban villages were developed as one of the major strategies of the *Envision San José 2040 General Plan*. Urban villages are defined as walkable, bicycle-friendly, transit-oriented, mixed use settings that provide both housing and jobs, thus supporting the policies and goals of the General Plan. The project is consistent with the General Plan and South Bascom Urban Village goals and policies for the following reasons:

- The proposed residential and office land uses for the project site are consistent with the Urban Village land use designation and Transit Oriented Development (TOD) Character per the South Bascom Urban Village plan.
- The project is composed of a mix of land uses (employment and residential) that complement one another and will promote a reduction in auto trips.
- A public park/plaza is proposed on-site and will provide a dedicated non-auto pathway to transit services.
- The project frontage along Bascom Avenue will be designed to accommodate the planned Bascom Avenue Complete Street improvements including protected bicycle lanes, wider sidewalks, and other pedestrian safety features.
- The proposed pedestrian improvements for the project site are consistent with the Transit-Oriented Development (TOD) Gateway Character Area described in the South Bascom Urban Village plan.
- The project site is adjacent to a bus stop and bicycle lanes on Bascom Avenue.
- The project site is adjacent to the Bascom LRT Station.
- The project would increase the employment density in the project area.

Therefore, based on the project description, the proposed project would be consistent with the *Urban Village Planning Concepts* and the *Envision San José 2040 General Plan*. Thus, the project would be considered as part of the cumulative solution to meet the General Plan's long-range transportation goals and would result in a less-than-significant cumulative impact.

Local Transportation Analysis

The intersection operations analysis is intended to quantify the operations of intersections and to identify potential negative effects due to the addition of project traffic. However, a potential adverse effect on a study intersection operation is not considered a CEQA impact metric.

The LTA includes the analysis of AM and PM peak-hour traffic conditions for 15 signalized intersections, following the standards and methodology set forth by the City of San Jose and the City of Campbell.

Trip Generation

After applying the ITE trip rates, appropriate trip reductions, and existing site trip credits, it is estimated that the project would generate a net additional 1,930 daily vehicle trips, with 414 trips (269 inbound and 145 outbound) occurring during the AM peak hour and 420 trips (138 inbound and 282 outbound) occurring during the PM peak hour.

Future Intersection Operation Conditions

The intersection operations analysis shows that the project would not have an adverse effect on intersection operations at any of the study intersections based on applicable municipal standards. Similarly, the combination of trips generated by the proposed project and other pending projects in the vicinity would not result in an adverse effect on intersection operations under cumulative plus project conditions.

Freeway Segment Analysis

The results of the freeway segment analysis show that the proposed project would not result in significant increases in traffic volumes (one percent or more of freeway segment capacities) on any of the study freeway segments currently operating at LOS F, and none of the study freeway segments currently operating at LOS E or better would degrade to LOS F as a result of the project.

Site Access and On-Site Circulation

Site access was evaluated to determine the adequacy of the site's access points with regard to the following: traffic volume, delays, vehicle queues, geometric design, and corner sight distance. On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards and transportation planning principles.

Other Local Transportation Issues

The following are the findings and recommendations made based on the analysis of the proposed site access, on-site circulation, and proposed on-site parking.

Project Driveway Design

Recommendation: Signage should be placed along the drive aisle that runs along the north side of the residential building to restrict vehicular access east of the parking garage entrance. Similarly, removable bollards and signage should be placed along the pedestrian pathway that runs at the rear of the office building.

Recommendation: The northern and southern site access driveways along Bascom Avenue that will provide access to loading areas must be designed to the satisfaction of City of San Jose design guidelines, including the minimum 26-foot width requirement.

Recommendation: The design of the driveways may require implementation of egress control within the parking garages, signage, relocation, and/or resizing. Safety improvements such as bicycle signal detection and/or bike boxes also will be required at the Pamlar Avenue driveway.

Recommendation: The project access points should be free and clear of any obstructions to provide adequate sight distance, thereby ensuring that exiting vehicles can see pedestrians on the sidewalk and bicyclists traveling within the cycle track. Any landscaping and signage at the project access points should be located in such a way to ensure an unobstructed view for drivers exiting the site.

Recommendation: Appropriate visible and/or audible warning signals should be provided at the project driveways to alert pedestrians and bicyclists of vehicles exiting the driveway.

Recommendation: The site plans indicate that the total width of the office parking garage driveway will be 40 feet wide with one 12-foot inbound lane and two 12-foot outbound lanes separated by two 2 foot raised medians. The City has requested that removal of the raised median islands and a reduction in width of the outbound lanes be considered to reduce the total width of the office parking garage driveway to 36 feet.

Project Driveway Operations

Recommendation: The southbound left-turn lane at the Bascom Avenue and Pamlar Avenue signal should provide a minimum of 100 feet of queue storage capacity to serve the projected maximum vehicle queue length.

Recommendation: The westbound left-turn lane and right-turn lane (office parking garage exit) should provide a minimum of 200 feet and 125 feet of queue storage capacity, respectively, to serve the projected maximum vehicle queue lengths.

Recommendation: The northbound left-turn lane at the Bascom Avenue and Pamlar Avenue signal should provide a minimum of 200 feet of queue storage capacity to serve the projected maximum vehicle queue length.

On-Site Circulation

***Recommendation*:** The project should adhere to City of San Jose design guidelines and standards and work with City staff to ensure that the design of all driveways, drive aisles, and parking stalls within each of the parking garages is to the satisfaction of the City.

***Recommendation*:** It is recommended that physical devices be installed at every turn within the parking garages in an effort to aid circulation and reduce vehicular conflict at the garage's constraint points. Such devices could include speed humps/bumps to slow down traffic, convex mirrors to assist drivers with blind turns while turning around corners, and signage.

***Recommendation*:** Since pedestrian circulation within the parking garage would occur within the drive aisles, it is recommended that measures be implemented to reduce travel speeds within the parking garage to speeds that are safe for both vehicles and pedestrians. Some of the measures could include signage, speed humps/bumps, appropriate lighting, auditory warnings, and mirrors.

Pedestrian, Bicycle, and Transit Analysis

All new development projects in San Jose should encourage multi-modal travel, consistent with the goals of the City's General Plan. It is the goal of the General Plan that all development projects accommodate and encourage the use of non-automobile transportation modes to achieve San Jose's mobility goals and reduce vehicle trip generation and vehicle miles traveled. In addition, the adopted City Bike Master Plan establishes goals, policies and actions to make bicycling a daily part of life in San Jose. The Master Plan includes designated bike lanes along all City streets, as well as on designated bike corridors. In order to further the goals of the City, pedestrian and bicycle facilities should be encouraged with new development projects.

The City's General Plan identifies both walk and bicycle commute mode split targets of 15 percent or more by the year 2040. This level of pedestrian and bicycle mode share is a reasonable goal for the project, particularly if Caltrain, LRT, and bus services (including BRT) are utilized in combination with bicycle commuting.

Pedestrian Facilities

Pedestrian facilities in the study area consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections.

Pedestrian generators in the project area include commercial areas to the north and south of the project site. In addition, the Bascom LRT Station is located along the western boundary of the project site along Southwest Expressway. Although continuous sidewalks are available connecting the project site to the commercial areas, the intersection of Bascom Avenue/Stokes Street includes non-ADA compatible ramps at all four corners of the intersection. To the south of the project site, pedestrians

may access bus stops and commercial areas along Bascom Avenue and Hamilton Avenue via the existing sidewalks. However, there currently are no pedestrian railroad crossing gates along sidewalks at the railroad/LRT crossing of Bascom Avenue located at the southern end of the project site.

The proposed project site is located within the South Bascom Urban Village Boundary and fronts Bascom Avenue. Sites within an Urban Village must incorporate additional urban design and architectural elements that will facilitate pedestrian orientated design and activate the pedestrian public right-of-way. Policy CS-4.4 of the South Bascom Avenue Urban Village Plan identifies a minimum 20-foot sidewalk width along Bascom Avenue. Thus, the project should provide a minimum 20-foot sidewalk width along its Bascom frontage to meet Policy CS-4.4. Direct access to the Bascom Avenue sidewalk from the proposed residential building and office building would be provided via the front lobbies of each building and outdoor park/plaza.

The proposed new signalized intersection at Pamlar Avenue, proposed outdoor park/plaza, and wider sidewalks would enhance existing pedestrian facilities along Bascom Avenue and connection to transit facilities encouraging walking rather than driving to access nearby pedestrian destinations.

Bicycle Facilities

There are several bike facilities in the immediate vicinity of the project site. As previously described, the City's General Plan identifies the bicycle commute mode split target as 15 percent or more by the year 2040. This calculates to approximately 72 and 77 new bicycle trips during the AM and PM peak hours, respectively. This level of bicycle mode share is a reasonable goal for the project.

The bikeways within the vicinity of the project site, including those along Bascom Avenue, would remain unchanged under project conditions. However, the existing bike lanes that run along Bascom Avenue are located between traffic traveling at high-speeds and intermittent on-street parking. Policy CS-3.1 of the South Bascom Avenue Urban Village Plan identifies the implementation of a protected cycle track along with enhanced sidewalks along south Bascom Avenue as a critical piece to the multi-modal transportation network within the Urban Village. The project's Bascom Avenue frontage will provide for the implementation of the planned cycle track along with wider sidewalks that will encourage the use of a bicycle as part of trip making and be consistent with the South Bascom Urban Village Plan goals and strategies. All proposed on-site bicycle parking would be accessible via the building garage entrances as well as the park/plaza.

Transit Services

The project site is directly served by existing VTA transit services. There are bus stops located along the project frontage on northbound Bascom Avenue, just south of Palmar Avenue, as well as southbound Bascom Avenue near Stokes Street. The existing bus stop along the project frontage on Bascom Avenue that is served by Routes 61 and 62 will be relocated to the north side of the new Palmar Avenue signal. The new transit trips generated by the project are not expected to create demand in excess of the transit service that is currently provided in the project area. Future improvement of VTA's transit system are planned as part of its new transit operations plan, the Next Network, that will better connect VTA transit with the Milpitas and Berryessa BART station and increase overall system ridership. The future transit operations plan includes the following:

- Increases to service levels in high-ridership areas and decreases service levels in low-ridership areas.
- Increases frequencies on many routes (including Route 61 that serves the project site).
- Expands the number of Rapid Routes.

- Increases the number of residents and jobs with access to frequent service by 150,000 and 160,000 respectively.
- Extends service later in the evening on many routes and adds more service on weekends

The project site also is located adjacent to the Mountain View-Winchester LRT line which stops at the Bascom LRT Station located along Southwest Expressway. However, access to the Bascom LRT Station from areas along and west of Bascom Avenue is currently limited due to the lack of developed access points to the station from the west side of the LRT tracks and uncontrolled crossing points along Bascom Avenue. Stokes Street provides the nearest controlled crossing point of Bascom Avenue from areas on the west side of Bascom Avenue. Policy CS-2.2 of the South Bascom Avenue Urban Village Plan identifies the improvement of multi-modal access to the Bascom LRT station. The proposed project will include the construction of a new signalized intersection at Palmar Avenue and Bascom Avenue that will provide for a controlled crossing point of Bascom Avenue. In addition, the proposed park/plaza that will bisect the project site will provide a non-auto connection between Bascom Avenue and access points along the project's eastern perimeter to the LRT station platforms. The proposed enhancements to pedestrian routes via the controlled crossing point at the new Pamlar Avenue traffic signal, improvements to sidewalks and the pedestrian environment along the project's Bascom Avenue frontage, pedestrian pathway that will run along the perimeter of the site, and park/plaza within the project site will provide safe and more direct routes to and from the LRT station that will encourage increased usage of transit and be consistent with the South Bascom Urban Village Plan strategies and policies.

Truck Access and Circulation

***Recommendation*:** Since the drive aisle that will provide access to the residential loading area also will be used by residents to access the parking garage entrance located adjacent to the loading area it is recommended that the ingress and egress for the residential loading area be restricted during the morning and evening peak commute hours to minimize the conflict of trucks and vehicles.

***Recommendation*:** The location of trash enclosures for the office building are not shown on the site plan. It is recommended that a trash room be located adjacent to the loading area for the office building so that garbage pick-up can occur off-street, similar to that proposed for the residential building.

Parking Supply

The project is proposing to provide a total of 600 parking spaces within the office parking garage and 643 parking spaces within the residential garage, which is more than the number of parking spaces required by the City for each land use.

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