HEXAGON TRANSPORTATION CONSULTANTS, INC.

# City of San Jose 2017 General Plan Amendments

## Long-Range Traffic Impact Analysis

***Prepared for:***

**City of San Jose**

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# 1. Introduction

This report presents the results of the long-range traffic impact analysis completed for the proposed City of San Jose 2017 General Plan Amendments (project). The project consists of amending the current adopted land use designations of the Envision San Jose 2040 General Plan for 10 parcels within the City of San Jose (see Figure 1). The purpose of the General Plan Amendments (GPAs) traffic analysis is to assess the long-range impacts of the amendments on the citywide transportation system. The potential traffic impacts of the project were evaluated in accordance with the guidelines set forth by the City of San Jose for GPA traffic analysis.

The GPA traffic analysis guidelines provide a trip threshold for General Plan land use amendments that require a site-specific GPA analysis. A proposed land use amendment that would result in an increase of more than 250 peak-hour trips to be generated by the subject site due to proposed increases in households or employment would be required to prepare a site-specific GPA traffic analysis. The proposed land use amendments on seven of the project's 10 amendment sites would result in a net increase of less than 250 peak-hour trips. Site-specific GPA traffic analysis is required for the remaining three sites, listed below, at which the proposed land use amendment will result in a net increase of more than 250 peak-hour trips.

- GP17-003 (Branham Light Rail Park & Ride)
- GP17-004 (Cottle Light Rail Park & Ride)
- GP17-007 (350-370 Trimble Road)

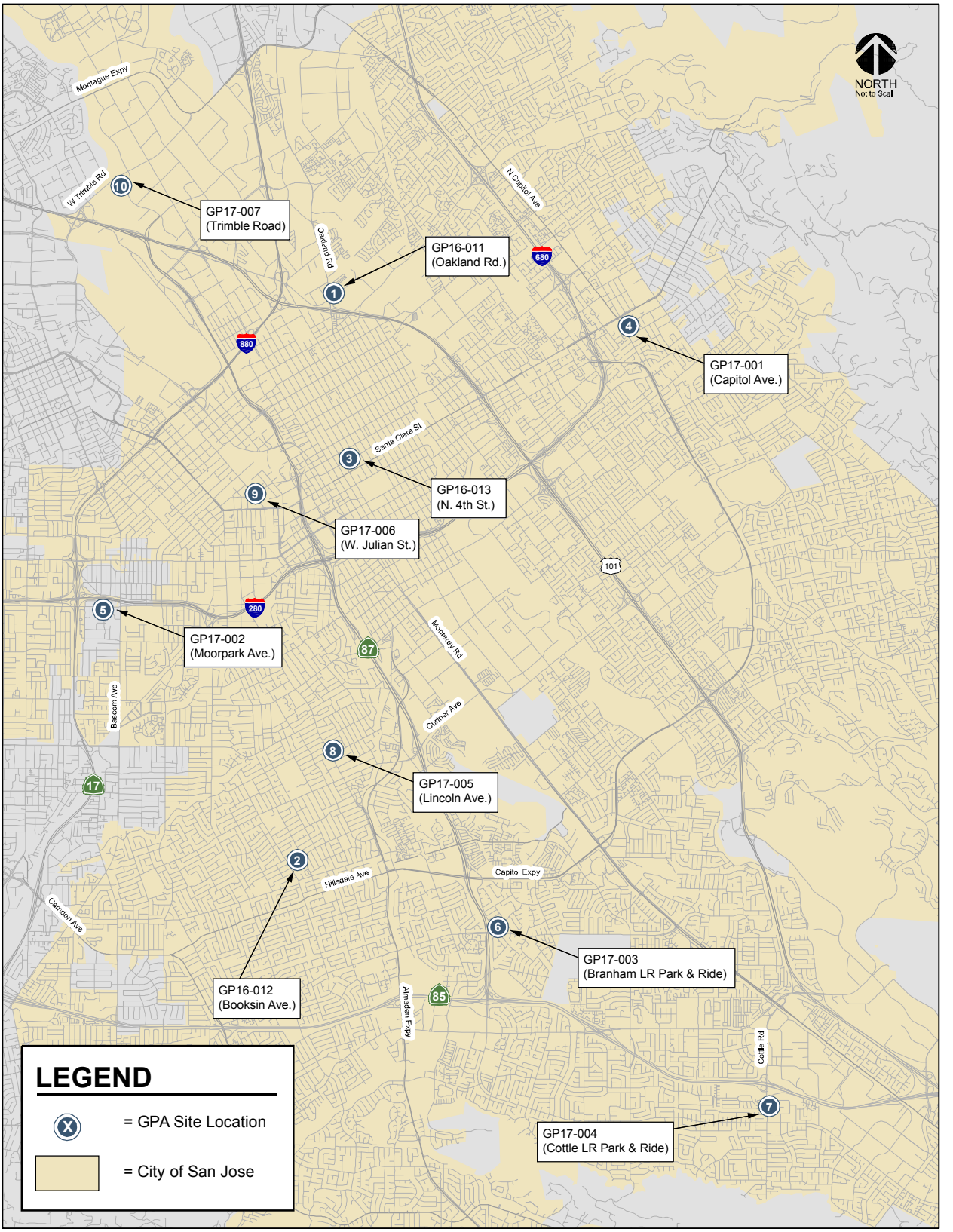
This study includes an evaluation of the cumulative impacts of all 10 sites as well as the required site-specific GPA traffic analysis for the three sites. Individual development projects also will be required to complete a near term traffic analysis in conjunction with any future development permit applications consistent with the Envision San Jose 2040 General Plan (GP).

## Envision San Jose 2040 General Plan

The current City of San Jose GP, *Envision San Jose 2040,* was adopted in 2011 and was based on planned land uses within the City projected to the Year 2035. In October 2016, Hexagon Transportation Consultants prepared a Traffic Impact Analysis for the City, General Plan *Four-Year Review: Transportation Impact Analysis (TIA)* that evaluated the effects of minor adjustments to the adopted 2040 General Plan planned growth that resulted in the reduction in the total planned employment within the City. The GP Four-Year Review traffic analysis included:

- Update of the City's projected land uses between 2008 and 2015 to reflect the actual development that has occurred in the period since the adoption of the GP and its base year of 2008.
- Projection of regional growth to the Year 2040 rather than the Year 2035 used in the Envision San Jose 2040 GP EIR. However, the projection to Year 2040 did not include any change to the land uses within the City of San Jose as adopted in the GP

**Figure 1**
**Proposed GPA Site Locations**



- Update of the citywide transportation system to reflect the City's current (2015) street and transit network as well as adjustments to the planned street and transit improvements that are expected to be constructed by 2040.
- Transportation impact analysis of the proposed GP Four-Year Review land use adjustments
- Update the horizon year of the planned land uses from Year 2035 to Year 2040

The proposed planned growth of the General Plan Four-Year Review were ultimately adopted. Thus, the General Plan Four-Year Review traffic analysis provides a comprehensive evaluation of the effects of planned land use as identified in the current GP on the citywide transportation system and is used as the baseline from which impacts due to land use amendments such as the proposed project are evaluated.

## Scope of Study

The project consists of land use changes to the current GP land uses. The project does not propose any changes to the citywide transportation system. The GPA long-range analysis focuses on the potential changes on the citywide transportation system in the horizon year of the General Plan (2040) when the General Plan capacities for housing and jobs are fully developed. The analysis includes evaluation of increased vehicle miles traveled, increased traffic volume on specified roadway segments, impacts to travel speeds on transit priority corridors, impacts to pedestrian, bicycle, and transit facilities, and impacts to roadways in adjacent jurisdictions. Impacts are evaluated based on the same Measures of Effectiveness (MOEs) and significance criteria utilized in the Envision San Jose 2040 GP TIA. Traffic conditions were evaluated for the following traffic scenarios using the City of San Jose's Traffic Demand Forecasting (TDF) model:

- **Projected Year 2015 Conditions:** The Projected Year 2015 Conditions represent a projection of transportation conditions in 2015 using the City's GP TDF model. The roadway network also reflects the Year 2015 roadway network and transportation system.
- **Current 2040 General Plan Conditions:** Future traffic due to the current GP land uses (i.e., including the adopted GP Four-Year Review Land Use adjustments) is added to regional growth that can be reasonably expected to occur by 2040. Current 2040 GP conditions includes the citywide roadway network to reflect the current roadway network as well as all transportation system improvements as identified in the current GP.
- **Proposed 2040 General Plan Amendment Conditions:** Current 2040 General Plan conditions with the proposed land use amendments. Transportation conditions for the Proposed 2040 GP Amendment Conditions were evaluated relative to the Current 2040 GP Conditions to determine any long-range traffic impacts.

## Report Organization

The remainder of this report is divided into seven chapters. Chapter 2 presents a detailed description of each of the proposed GPA sites included in the analysis. Chapter 3 describes analysis methodology, including the City's TDF model, and the measures of effectiveness (MOEs) and significance thresholds used in the analysis. Chapter 4 presents the results of the cumulative analysis based on the TDF modeling and citywide MOEs. Chapters 5 to 7 present the site-specific analysis for the three GPA sites that resulted in an increase of 250 trips or greater. Chapter 8 presents the conclusions of the long-range cumulative and site-specific GPA analysis.

# 2. General Plan Amendment Site Descriptions

The proposed project consists of amending land uses currently adopted in the Envision San Jose 2040 General Plan on 10 sites. The amendment sites and proposed GPA alternatives are described in more detail below along with peak-hour trip generation estimates for each of the proposed sites.

## Amendment Sites

The project includes 10 proposed GPA sites: GP16-011, GP16-012, GP16-013, GP17-001, GP17-002, GP17-003, GP17-004, GP17-005, GP17-006, and GP17-007. Each of the proposed GPAs would result in changes to the number of households and jobs on each site when compared to the Envision San Jose 2040 General Plan assumptions for each site. However, the total number of jobs and households citywide would not change as a result of these GPAs. The TDF model is used to rebalance the number of jobs and households citywide in order to maintain the General Plan Goal of 751,450 jobs and 429,350 households.

Table 1 summarizes the current 2040 GP and proposed land uses and density for each site. The changes in households and jobs for each site and the resulting increases in peak-hour trips are summarized in Table 2. The peak-hour trips for each site were estimated using the City of San Jose's travel demand forecasting (TDF) model. The TDF modeling is described in Chapter 3.

Proposed land use changes for each of the GPA sites are described below.

- **Site 1 - GP16-011 (Oakland Rd.):** The 1.54-acre site is located on the northeast quadrant of the Oakland Road/Commercial Street intersection in the East Gish growth area. Figure 2 shows the location of the site. The adopted General Plan land use designation for the site is *Heavy Industrial*, and the proposed amendment involves changing the adopted land use to *Combined Industrial Commercial*. The proposed amendment would result in 105 additional jobs on the site. Based on the TDF modeling results, peak-hour trips generated by GP16-011 would not exceed the 250-trip threshold and a site-specific GPA traffic analysis would not be required.

- **Site 2 - GP16-012 (Booksin Ave.):** The 1.65-acre site is located on the east side of Booksin Avenue between Foxworthy Avenue and Koch Lane. Figure 3 shows the location of the site. The adopted General Plan land use designation for the site is *Public/Quasi-Public*, and the proposed amendment involves changing the adopted land use to *Residential Neighborhood*. The proposed amendment would result in 8 additional households and 21 fewer jobs on the site. The small change of households and decrease in jobs would not substantially increase vehicle traffic on local streets in the vicinity of the site. Therefore, the land use amendment would not be required to prepare a site-specific GPA traffic analysis.

- **Site 3 - GP16-013 (N. 4th St.):** The 0.91-acre site is located on the northeast quadrant of the North Fourth Street/Saint John Street intersection adjacent to the Downtown growth area. Figure 4 shows the location of the site. The adopted General Plan land use designations for the site are *Residential Neighborhood* and *Transit Residential*, and the proposed amendment involves changing the adopted

land use to *Downtown*. The proposed amendment would result in 337 additional households and 22 additional jobs on the site. The increase in households and jobs proposed on the site is within the total number of planned residential units in the Downtown growth area. Therefore, the proposed amendment would not result in an increase in residential units or jobs and subsequent vehicle trips in the Downtown growth area previously analyzed in the Envision San Jose 2040 General Plan EIR and would not require a site-specific GPA traffic analysis.

- **Site 4 - GP17-001 (Capitol Ave.):** The 0.35-acre site is located on the southeast quadrant of the Capitol Avenue/Rose Avenue intersection. Figure 5 shows the location of the site. The adopted General Plan land use designation for the site is *Neighborhood/Community Commercial*, and the proposed amendment involves changing the adopted land use to *Residential Neighborhood*. The proposed amendment would result in 2 additional households and 38 fewer jobs on the site. The small change of households and jobs would not substantially increase vehicle traffic on local streets in the vicinity of the site and would not be required to prepare a site-specific GPA traffic analysis.

- **Site 5 - GP17-002 (Moorpark Ave.):** The 1.07-acre site is located near the Central Way/Moorpark Avenue intersection. Figure 6 shows the location of the site. The adopted General Plan land use designation for the site is *Residential Neighborhood*, and the proposed amendment involves changing the adopted land use to *Mixed-Use Neighborhood*. The proposed amendment would result in 8 additional households and 10 additional jobs on the site. The small change of households and jobs would not substantially increase vehicle traffic on local streets in the vicinity of the site and would not be required to prepare a site-specific GPA traffic analysis.

- **Site 6 - GP17-003 (Branham Light Rail Park & Ride):** The 3.14-acre site is located at the northwest quadrant of the Narvaez Avenue/Branham Lane intersection. Figure 7 shows the location of the site. The adopted General Plan land use designation for the site is *Mixed-Use Neighborhood*, and the proposed amendment involves changing the adopted land use to *Transit Residential*. The proposed amendment would result in 424 additional households on the site. The increase in households will result in an increase of greater than 250 peak hour trips to the site. *Therefore, the preparation of a site-specific GPA traffic analysis for the proposed land use amendment on the site is required.*

- **Site 7 - GP17-004 (Cottle Light Rail Park & Ride):** The 4.48-acre site is bound by Cottle Road, SR 85 and the SR 85 southbound on-ramp. Figure 8 shows the location of the site. The adopted General Plan land use designations for the site are *Neighborhood/Community Commercial* and *Public/Quasi-Public*, and the proposed amendment involves changing the adopted land use to *Transit Residential.* The proposed amendment would result in 589 additional households and 88 fewer jobs on the site. The increase in households will result in an increase of greater than 250 peak hour trips to the site. *Therefore, the preparation of a site-specific GPA traffic analysis for the proposed land use amendment on the site is required.*

- **Site 8 - GP17-005 (Lincoln Av):** The 0.28-acre site is located on west side of Lincoln Avenue near its intersection with Lincoln Court. Figure 9 shows the location of the site. The adopted General Plan land use designation for the site is *Neighborhood/Community Commercial*, and the proposed amendment involves changing the adopted land use to *Urban Residential*. The proposed amendment would result in 17 additional households and five additional jobs on the site. The small increases of households and jobs would not substantially increase vehicle traffic on local streets in the vicinity of the site. Therefore, the land use amendment would not be required to prepare a site-specific GPA traffic analysis.

- **Site 9 - GP17-006 (W. Julian St):** The 1.22-acre site is located on northwest quadrant of the Stockton Avenue/Julian Street intersection inside the Diridon Station Urban Village. Figure 10 shows the location of the site. The adopted General Plan land use designation for the site is *Mixed-Use Commercial*, and the proposed amendment involves changing the adopted land use to *Urban Village*. The proposed amendment would result in 122 additional households and 89 additional jobs on the site. Based on the TDF modeling results, peak-hour trips generated by GP17-006 would not exceed the 250-trip threshold and a site-specific GPA traffic analysis would not be required.

- **Site 10 - GP17-007 (350-370 Trimble Road):** The 19.40-acre site is located on west side of Orchard Parkway between Trimble Road and Component Drive inside the North San Jose growth area. Figure 11 shows the location of the site. The adopted General Plan land use designation for the site is *Industrial Park*, and the proposed amendment involves changing the adopted land use to *Combined Industrial/Commercial*. The proposed amendment would result in 669 fewer jobs on the site. However, the introduction of retail land uses on the site will result in an increase in trips greater than 250 peak hour trips generated by the site, particularly during the PM peak hour. *Therefore, the preparation of a site-specific GPA traffic analysis for the proposed land use amendment on the site is required.*

## Table 1
## Existing General Plan and Proposed GPA Land Uses

| Site Number | Project Name | Location | APN | Size (ac.) | Existing General Plan | | Proposed General Plan Amendment | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Land Use | Density | Land Use | Density |
| 1 | GP16-011 (Oakland Rd.) | 1202 Oakland Road | 241-11-014, 020, 021, 022 | 1.54 | Heavy Industrial | FAR up to 1.5 | Combined Industrial/Commercial | FAR up to 12.0 |
| 2 | GP16-012 (Booksin Ave.) | 2720 Booksin Avenue | 446-33-040 | 1.65 | Public/Quasi-Public | FAR N/A | Residential Neighborhood | 8 DU/AC; FAR up to 0.7 |
| 3 | GP16-013 (N. 4th St.) | 120 N. 4th Street | 467-20-019, 020, 021, 022, 040 | 0.91 | Residential Neighborhood<br>Transit Residential | 8 DU/AC; FAR up to 0.7<br>50-250 DU/AC; FAR 2.0 to 12.0 | Downtown | 50-800 DU/AC; FAR 2.0 to 12.0 |
| 4 | GP17-001 (Capitol Ave.) | 100 S. Capitol Avenue | 484-23-039 | 0.35 | Neighborhood/Community Commercial | FAR up to 3.5 | Residential Neighborhood | 8 DU/AC; FAR up to 0.7 |
| 5 | GP17-002 (Moorpark Ave.) | 2323 Moorpark Avenue | 282-01-014, 015, 016, 020, 021, 022 | 1.07 | Residential Neighborhood | 8 DU/AC; FAR up to 0.7 | Mixed-Use Neighborhood | up to 30 DU/AC; FAR 0.25 to 2.0 |
| 6 | GP17-003 (Branham LR Park & Ride) | 4746 Narvaez Road | 462-02-022, 024, 026, 027, 028, 021, 023, 025 | 3.14 | Mixed-Use Neighborhood | up to 30 DU/AC; FAR 0.25 to 2.0 | Transit Residential | 50-250 DU/AC; FAR 2.0 to 12.0 |
| 7 | GP17-004 (Cottle LR Park & Ride) | 272 International Circle | 706-05-038 | 4.48 | Neighborhood/Community Commercial<br>Public/Quasi-Public | FAR up to 3.5<br>FAR N/A | Transit Residential | 50-250 DU/AC; FAR 2.0 to 12.0 |
| 8 | GP17-005 (Lincoln Ave.) | 2119 Lincoln Avenue | 439-08-059 | 0.28 | Neighborhood/Community Commercial | FAR up to 3.5 | Urban Residential | 30-95 DU/AC; FAR 1.0 to 4.0 |
| 9 | GP17-006 (W. Julian St.) | 715 W. Julian Street | 261-01-030, 094 | 1.22 | Mixed-Use Commercial | up to 50 DU/AC<br>FAR 0.5 to 4.5 | Urban Village | up to 250 DU/AC; FAR up 10.0 |
| 10 | GP17-007 (Trimble Road) | 370 W. Trimble Road | 101-02-013, 014 | 19.40 | Industrial Park | FAR up to 10.0 | Combined Industrial/Commercial | FAR up to 12.0 |

Notes: FAR = floor-to-area ratio; DU = dwelling units; AC = acre; APN = assessor's parcel number; N/A = not applicable
Source: City of San Jose Planning Department (June 2017)

**Table 2**
**Changes in Households, Jobs, and Peak-Hour Trips Due to GPAs**

| Site Number | Site Name | Existing General Plan | | General Plan Amendment | | Net Land Use Change | | Net Peak-Hour Trip Change | |
|---|---|---|---|---|---|---|---|---|---|
| | | TOTHH | TEMP | TOTHH | TEMP | TOTHH | TEMP | AM | PM |
| 1 | GP16-011(Oakland Rd.) | 0 | 20 | 0 | 125 | 0 | 105 | 57 | 90 |
| 2 | GP16-012(Booksin Ave.) | 0 | 21 | 8 | 0 | 8 | -21 | -9 | -18 |
| 3 | GP16-013(N. 4th St.) | 49 | 10 | 386 | 32 | 337 | 22 | 88 | 117 |
| 4 | GP17-001(Capitol Ave.) | 0 | 38 | 2 | 0 | 2 | -38 | -24 | -37 |
| 5 | GP17-002(Moorpark Ave.) | 8 | 0 | 16 | 10 | 8 | 10 | 11 | 17 |
| 6 | GP17-003(Branham LR Park & Ride) | 47 | 30 | 471 | 30 | 424 | 0 | **293** | **333** |
| 7 | GP17-004(Cottle LR Park & Ride) | 0 | 126 | 589 | 38 | 589 | -88 | **325** | **343** |
| 8 | GP17-005(Lincoln Ave.) | 0 | 10 | 17 | 15 | 17 | 5 | 13 | 17 |
| 9 | GP17-006(W. Julian St.) | 30 | 88 | 152 | 177 | 122 | 89 | 92 | 116 |
| 10 | GP17-007(Trimble Road) | 0 | 2,253 | 0 | 1,584 | 0 | -669 | 191 | **467** |

Notes: TOTHH = total number of households; TEMP = total number of jobs.
**Outlined** indicates GPA that results in an increase in peak hour trips greater than 250 trips and requires site-specific GPA traffic analysis.
Source: City of San Jose Planning Department, June 2017 & City of San Jose TDF model runs July 2017.

**Figure 2**
**Location of GPA Site 1: GP16-011**

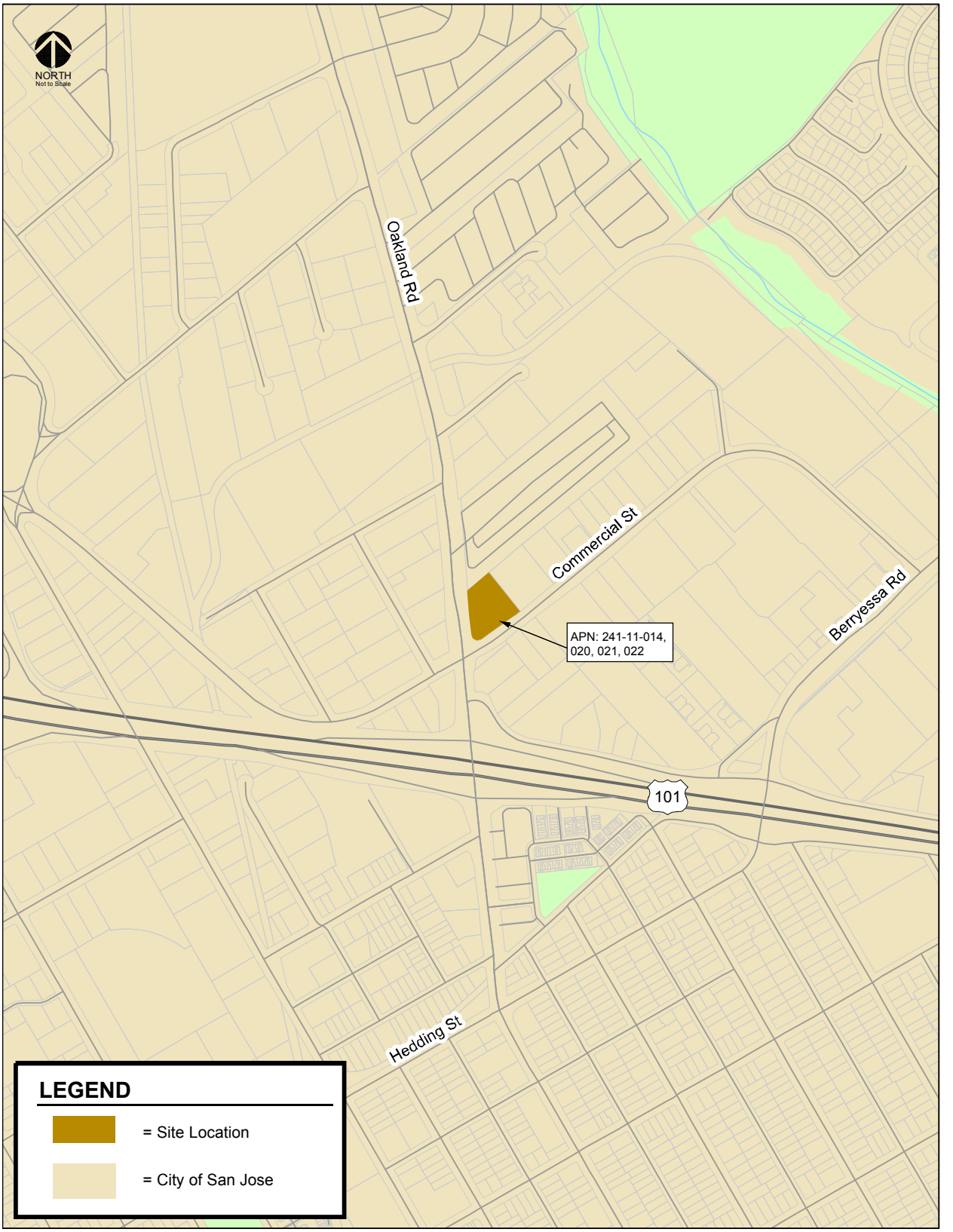


**Figure 3**
**Location of GPA Site 2: GP16-012**

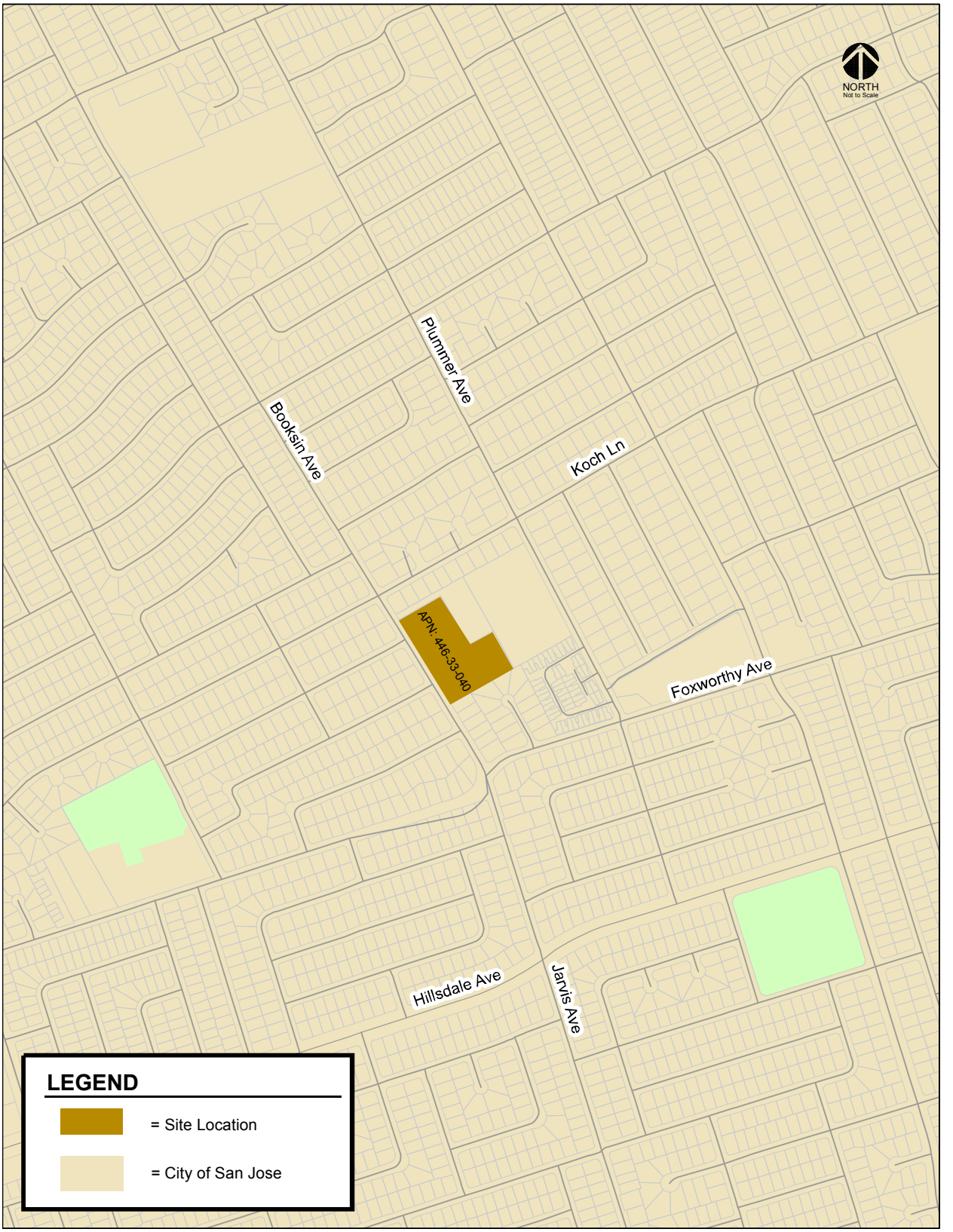


**Figure 4**
**Location of GPA Site 3: GP16-013**

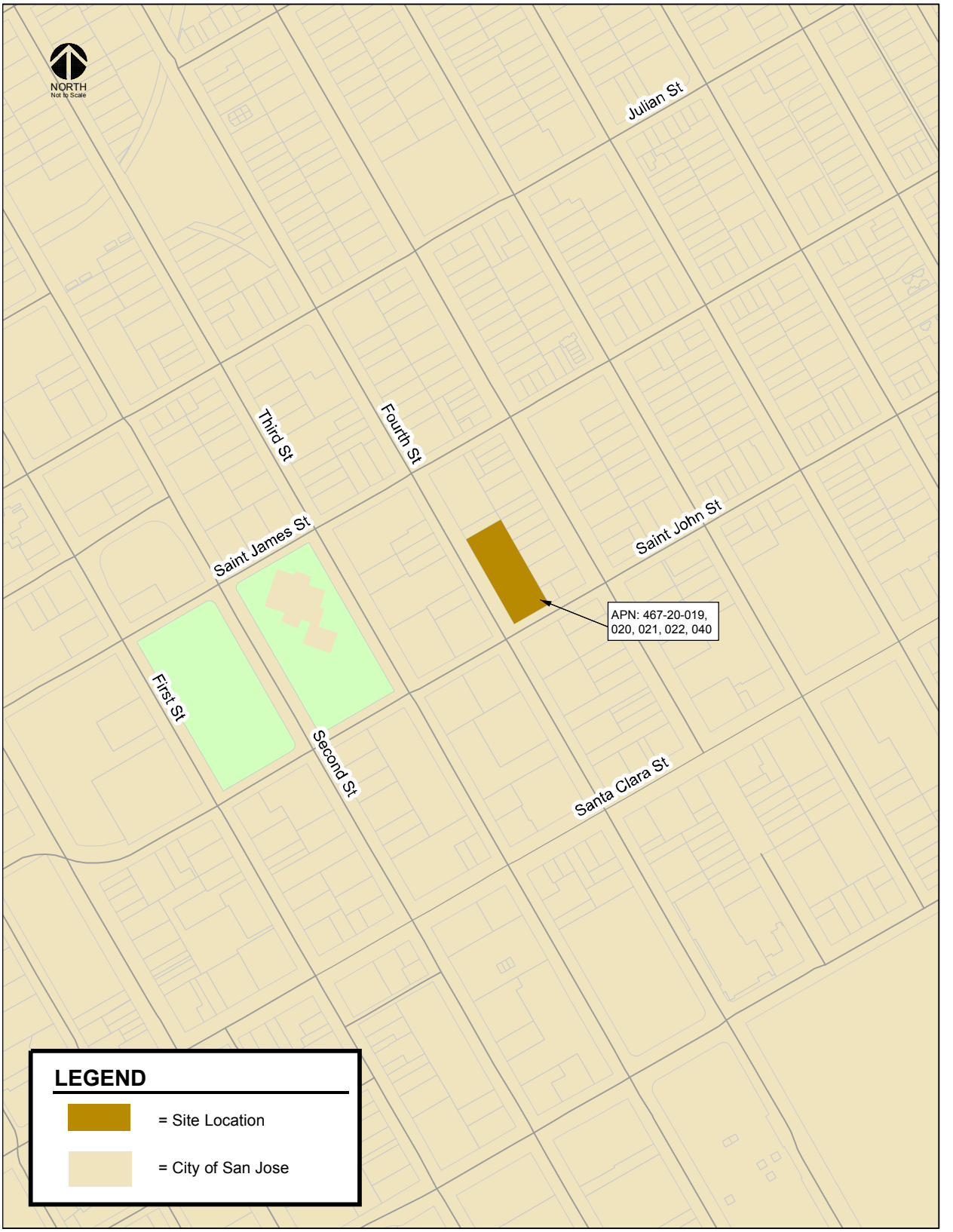


**Figure 5**
**Location of GPA Site 4: GP17-001**

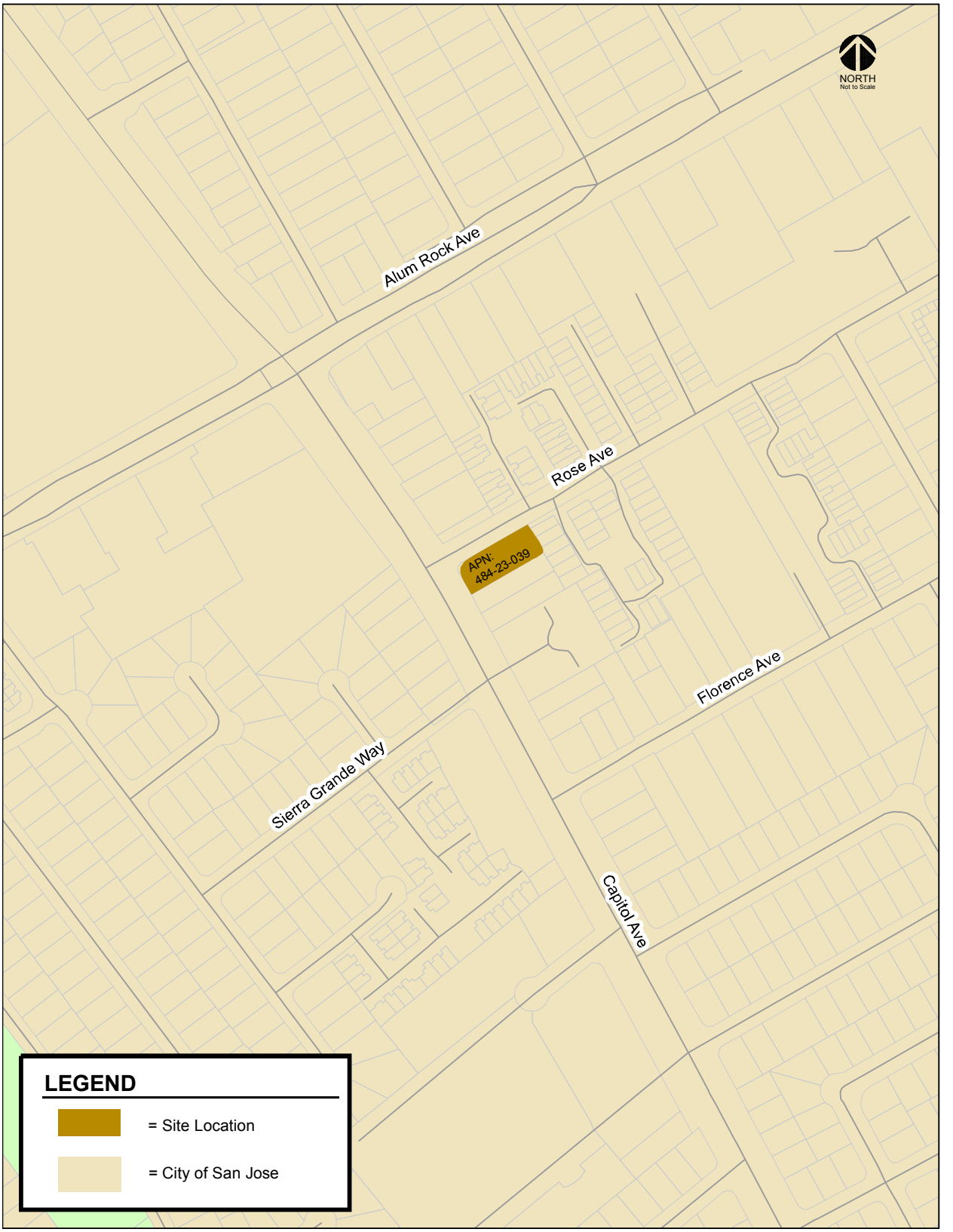


**Figure 6**
**Location of GPA Site 5: GP17-002**

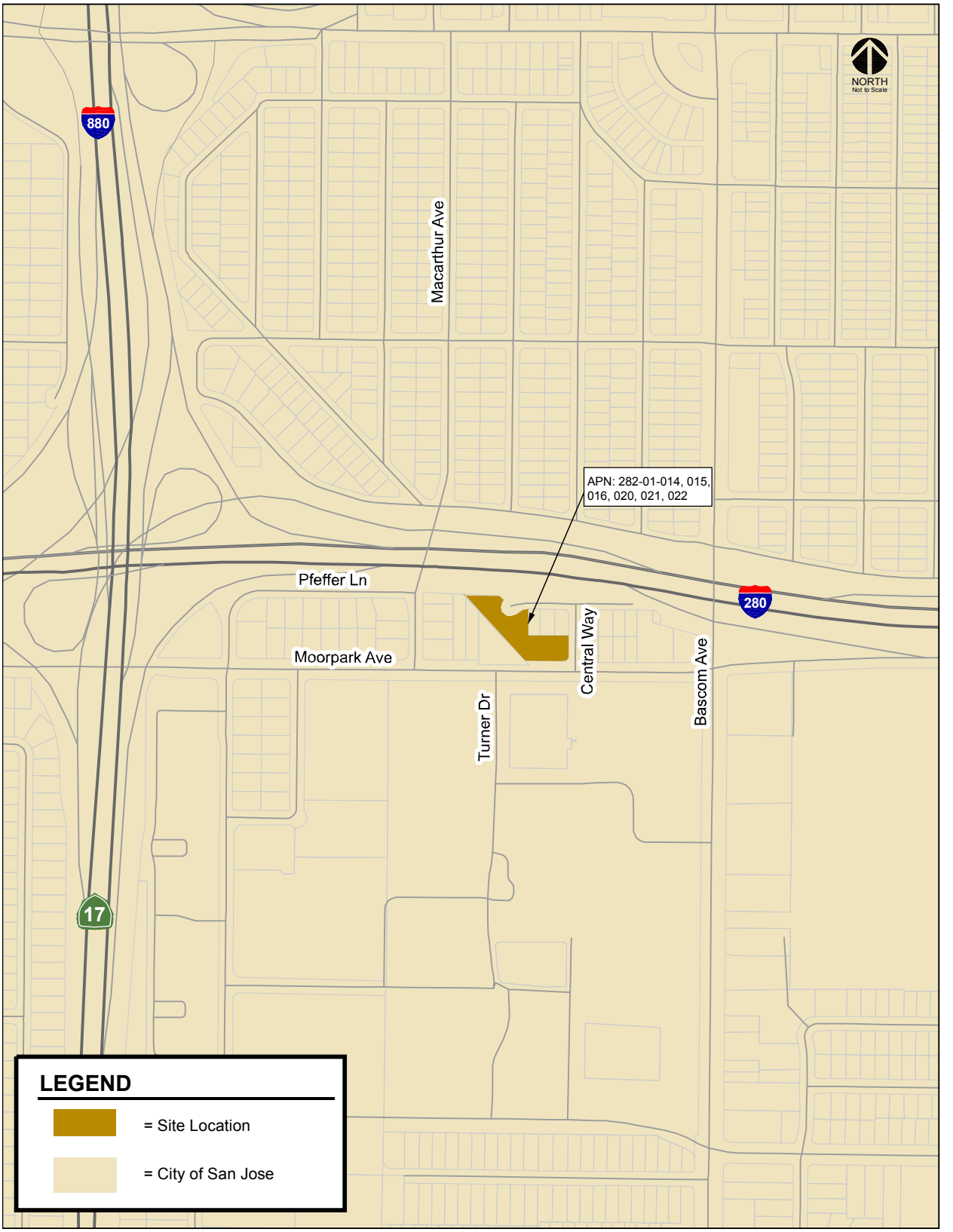


**Figure 7**
**Location of GPA Site 6: GP17-003**

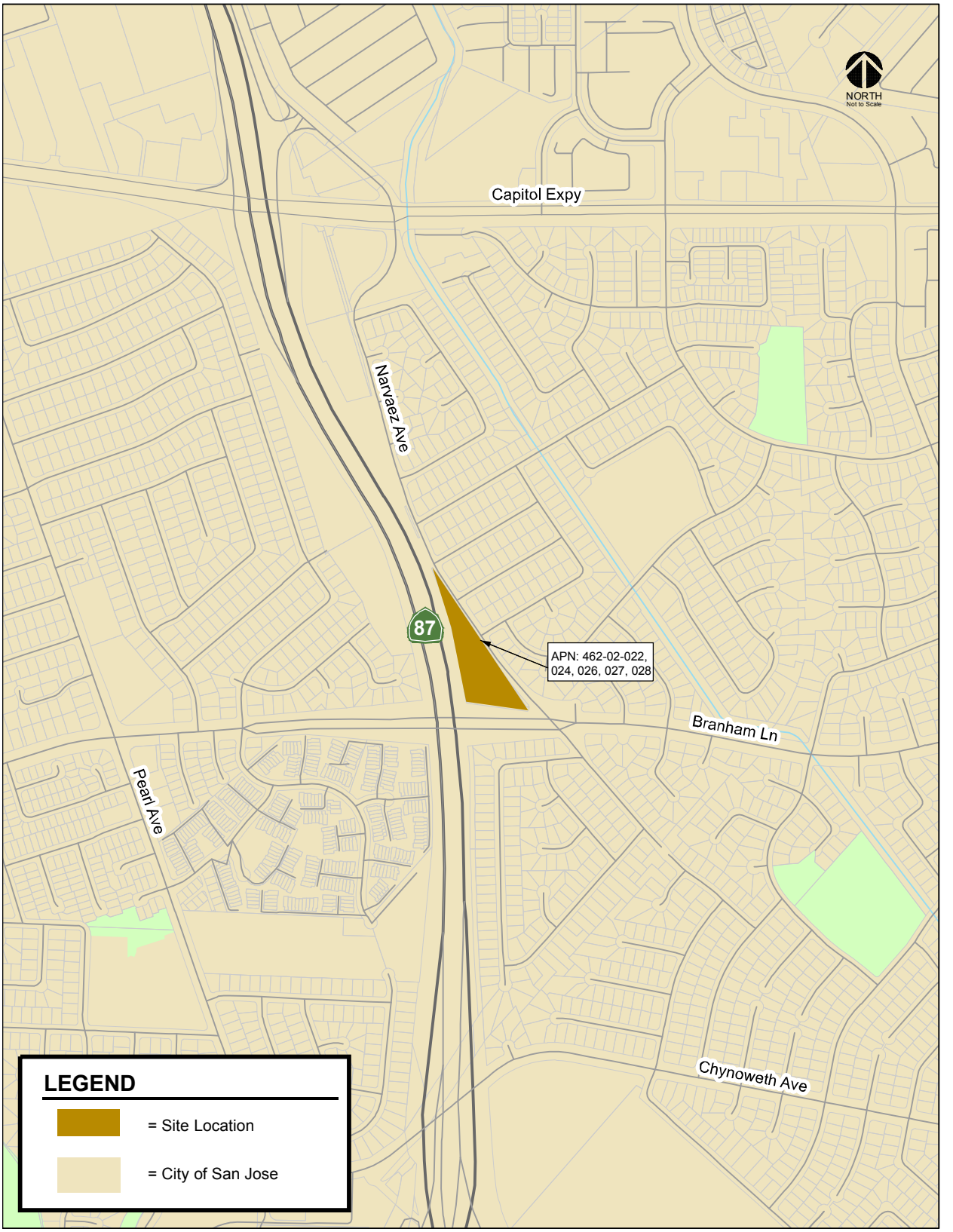


**Figure 8**
**Location of GPA Site 7: GP17-004**

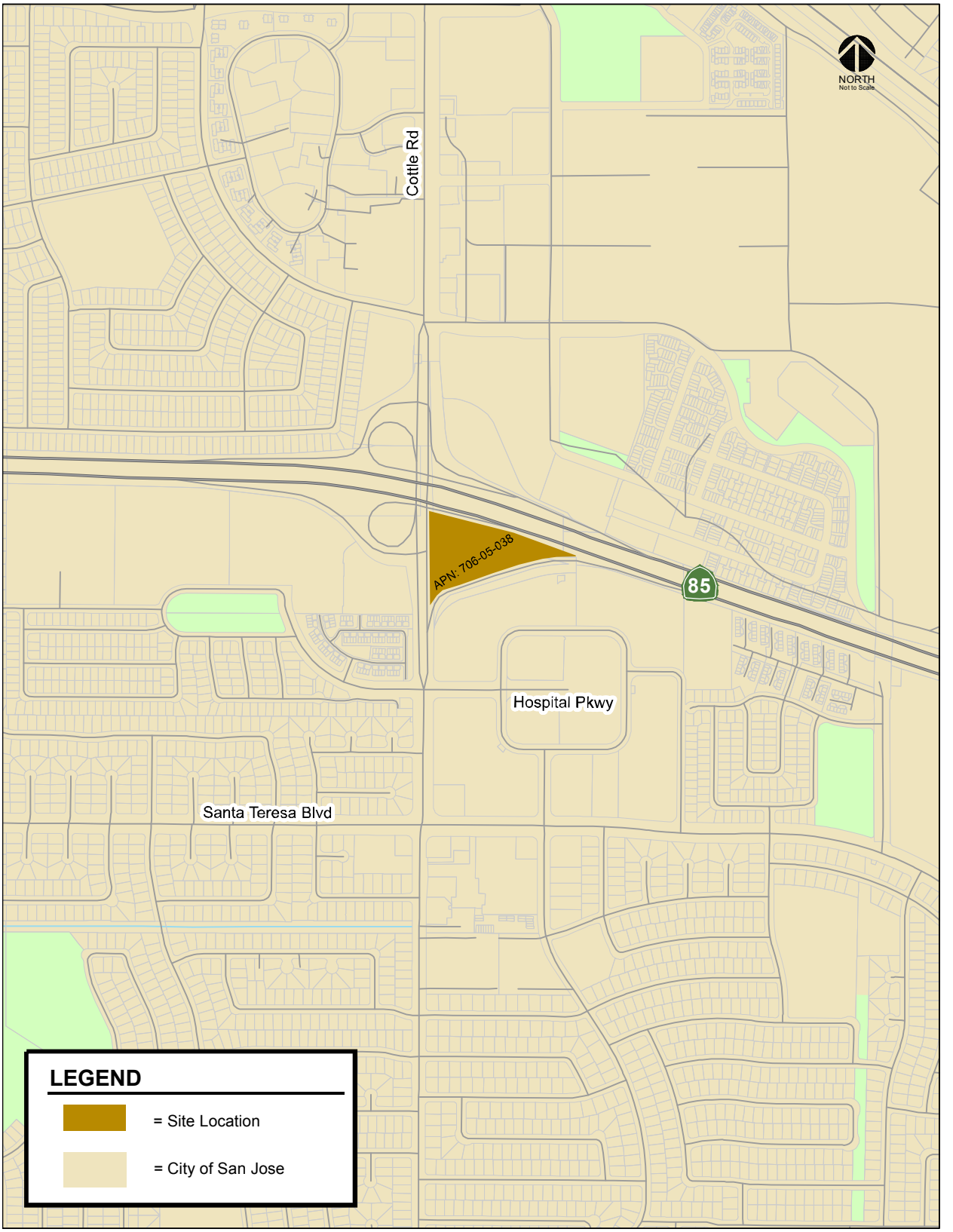


**Figure 9**
**Location of GPA Site 8: GP17-005**

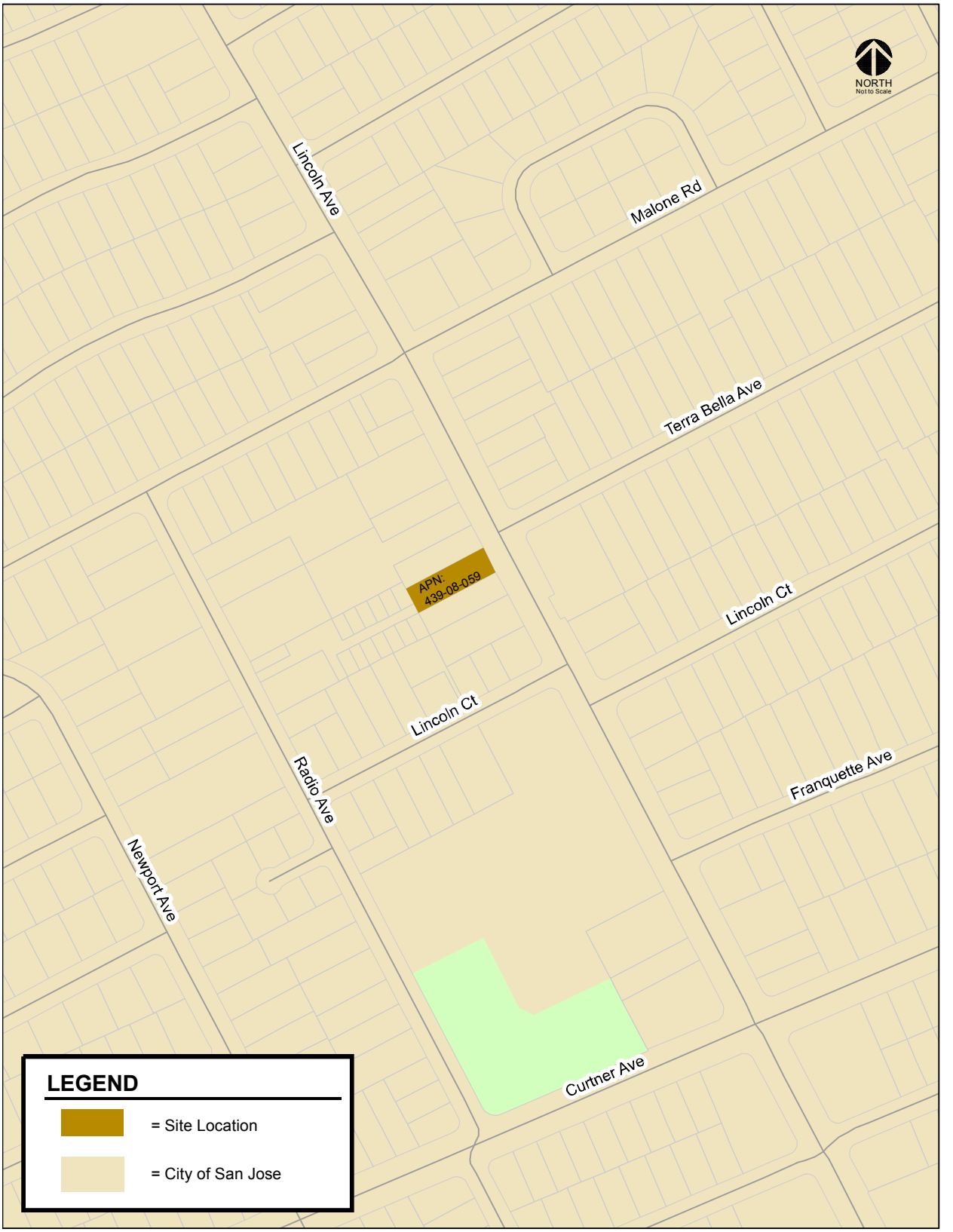


**Figure 10**
**Location of GPA Site 9: GP17-006**

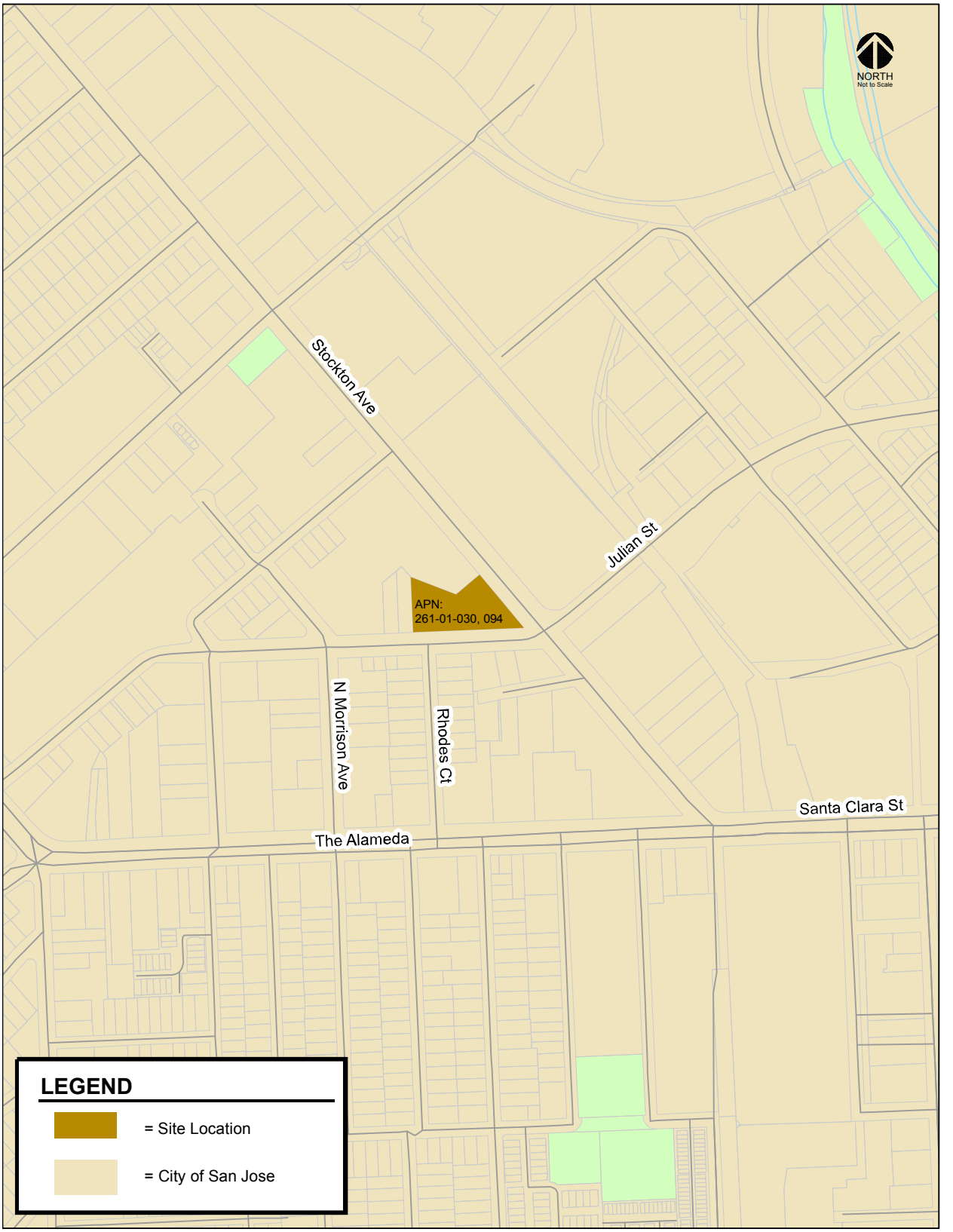
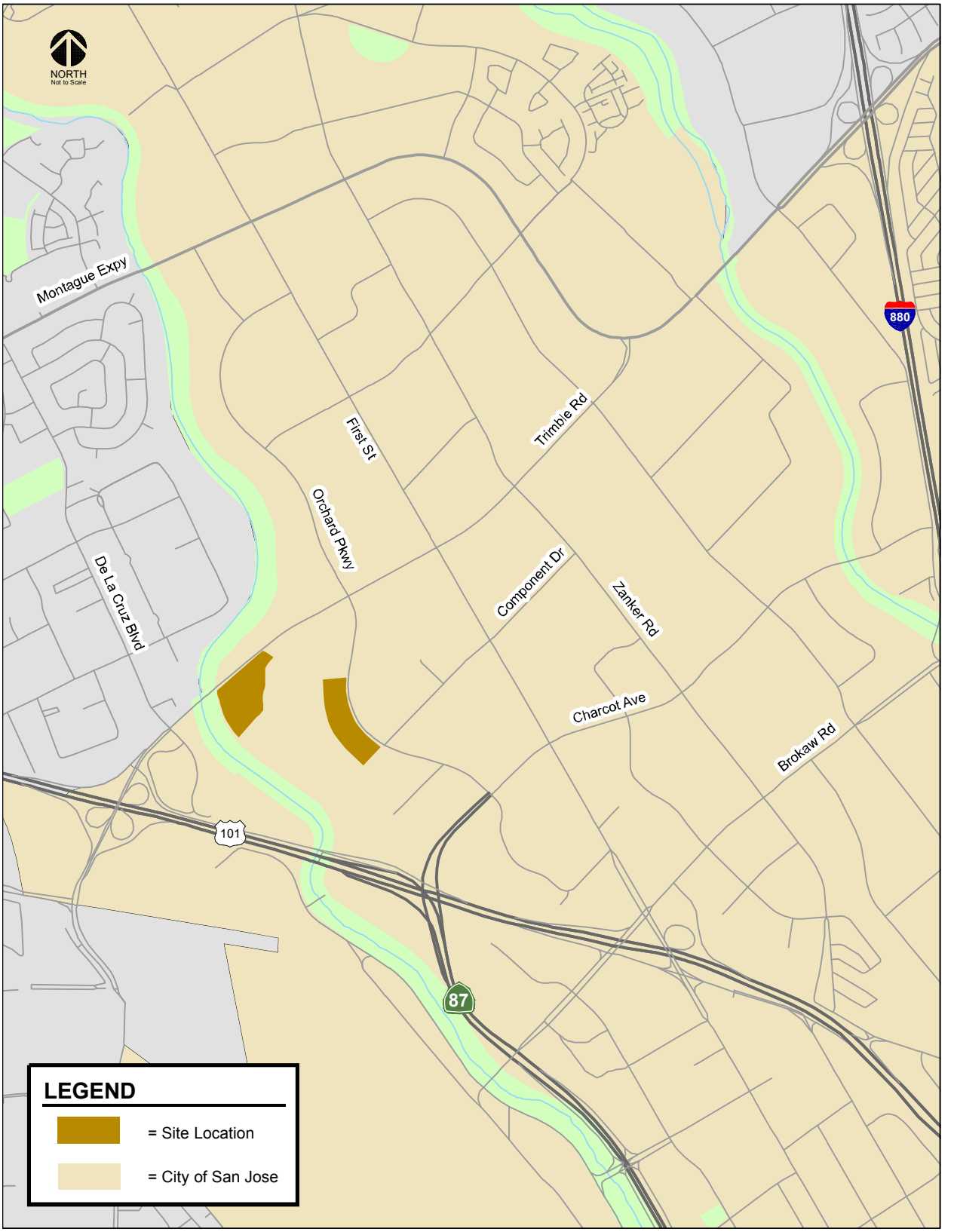


**Figure 11**
**Location of GPA Site 10: GP17-007**



# 3.
# Analysis Methodology and Impact Criteria

This chapter describes the travel demand forecasting modeling methodology used for the analysis and the methods used to determine the traffic conditions for the study scenarios described in the previous chapter. It includes descriptions of the measures of effectiveness (MOE) and the applicable impact criteria for GP traffic analysis

## Travel Demand Forecasting Model

The citywide travel demand forecasting (TDF) model was prepared as part of the Envision San Jose 2040 GP. The TDF model was developed to provide improved citywide travel demand forecasting as part of continued planning efforts to address transportation infrastructure needs and to assist in the update of the City's General Plan. The model was developed from the VTA countywide travel demand model, which is based on Metropolitan Transportation Commission (MTC's) BAYCAST trip-based regional model. The VTA model contains all cities and counties within the model's extents roughly bounded by southern Monterey County, eastern San Joaquin County, northern Sonoma County, and the Pacific Ocean. The San Jose model is a sub-area model of the VTA model – it maintains the general inputs (roadway network, land use, trip generation rates, etc.), structure, and process as the VTA model, but with refinement within the City of San Jose. This allows regional travel patterns and behavior to be accounted for in the focused area of San Jose, which will become more important with the recent legislative requirements associated with greenhouse gas quantification and impacts.

The VTA and San Jose models both include four elements traditionally associated with models of this kind. These elements include trip generation, trip distribution, mode choice, and traffic assignment.

- **Trip Generation.** Trip generation involves estimating the number of trips that would occur with the proposed General Plan land uses. The City's TDF model includes trip generation formulas that are based on the MTC regional travel demand model. Trip generation is estimated based on the type and amount of specific land uses within each travel analysis zone (TAZ). The TDF model produces trip estimates in person trips (as opposed to vehicle trips, which are typically used in near-term traffic analyses).
- **Trip Distribution.** Trip distribution is the second element of the model. Trip distribution involves distributing the trips to various internal destinations and external gateways. The model pairs trip origins and trip destinations (starting and ending points) for each person trip based on the type of trip (e.g., home-to-work, home-to-school, etc.) and the distance a person is willing to travel for that purpose. The distance a person is willing to travel is determined by a gravity model, which is analogous to Newton's law of gravity. In a gravity model, estimates are made about how many trips occur between two locations where the interaction between those two locations diminishes with increasing distance, time, and cost between them.
- **Mode Choice.** Mode choice is the third element of the model. Mode choice, as assigned by the model, determines which mode of transport a person will choose for each trip, based on the availability of a vehicle, the trip distance, and the trip purpose.

- **Traffic Assignment.** Traffic assignment is the fourth and final element of the model. Traffic assignment involves determining which route to take to travel between the trip origin and destination. The model assigns the trips to the roadway network to minimize travel time between the start and end points.

Subsequent trip distribution, assignment, and mode choice iterations are completed by the model to account for roadway congestion. These iterations continue under equilibrium traffic conditions until the optimal trip assignment is reached.

## Transportation Network and Traffic Analysis Zones (TAZs)

The fundamental structure of the model includes a computer readable representation of the roadway system (highway network) that defines roadway segments (links) identified by end points (nodes). Each roadway link is further represented by key characteristics (link attributes) that describe the length, travel speeds, and vehicular capacity of the roadway segment. Small geographic areas (TAZs) are used to quantify the planned land use activity throughout the City's planning area. The boundaries of these small geographic areas are typically defined by the modeled roadway system, as well as natural and man-made barriers that have an effect on traffic access to the modeled network. Transit systems are represented in the model by transit networks that are also identifiable by links and nodes. Unlike the roadway network, the key link attributes of a transit link are operating speed and headways – elapsed time between successive transit services. Transit stops and "dwelling times" (the time allowed for passengers embarking and disembarking transit vehicles) are described as transit node attributes. Transit networks are further grouped by type of transit (rail versus bus) and operator (VTA bus versus AC Transit bus). Transit accessibility for each TAZ is evaluated by proximity to transit stops or stations, and the connectivity of transit lines to destinations.

The socioeconomic data for each TAZ in the model includes information about the number of households (stratified by household income and structure type), population, average income, population age distribution, and employment (stratified by groupings of Standard Industrial Codes). The worker per household ratios and auto ownership within a TAZ are calculated based on these factors and the types and densities of residences. The model projects trip generation rates and the traffic attributable to residents and resident workers, categorized by trip purposes, using set trip generation formulas that are based on the MTC regional travel demand model. The land use data and roadway network used for the GP base year reflect land use development and roadway projects completed as of approximately mid-2015.

## Traffic Assignment

Travel times within and between TAZs (intra-zonal, inter-zonal and terminal times) are developed from the network being modeled. Travel times within zones (intra-zonal travel times) are derived for each zone based on half its average travel time to the nearest three adjacent zones. Time to walk to and from the trip maker's car (terminal times) are also added. The projected daily trips are distributed using a standard gravity model and friction factors calibrated for the modeling region, which presently consists of 13 counties.

The City of San Jose TDF model is capable of estimating up to 7 modes of transportation:

- auto drive alone
- auto carpool with two persons
- auto carpool with three+ persons
- rail transit
- bus transit
- bicycle
- walk

Before the traffic is assigned to the roadway networks, time-of-day factors and directionality factors are applied to automobile trips occurring during the:

- AM peak hour
- AM 4-hour peak
- PM peak hour
- PM 4-hour peak
- mid-day 6-hour
- mid-night 10-hour periods

The assignment of the trip tables to the roadway network uses a route selection procedure based on minimum travel time paths (as opposed to minimum travel distance paths) between TAZs and is done using a capacity-constrained user equilibrium-seeking process. This capacity constrained traffic assignment process enables the model to reflect diversion of traffic around congested areas of the overall street system. High Occupancy Vehicle (HOV) lanes on freeways, expressways, and on-ramps are specifically dealt with in the model network, with access restricted to auto-shared-ride mode trips only, similar to real world operations of roadway facilities with HOV lanes.

### Transit Mode Share

Transit use is modeled for peak and non-peak periods based on computed transit levels of services (speeds and wait times). Based on the conditions that influence transit speeds and wait times (such as traffic congestion), transit use numbers are modified to reflect the likelihood of transit use, based on the constraints to the system. This feedback loop is a modern enhancement in the model to address the dynamics of transit ridership related to the expansion or contraction of roadway capacities.

In addition to providing projected peak hour and peak period volumes and ratios comparing projected traffic volume to available roadway capacity (V/C ratios) on each roadway segment, the model provides information on vehicle-miles and vehicle-hours of travel by facility type (freeway, expressways, arterial streets, etc.). These informational reports can be used to compare projected conditions under the adopted GP with the impacts of proposed land use amendments. The City's TDF model is intended for use as a "macro analysis tool" to project probable future conditions. Therefore, the TDF model is best used when comparing alternative future scenarios, and is not designed to answer "micro analysis level" operational questions typically address in detailed traffic impact analyses (TIAs).

## General Plan Transportation Network

The GP TDF model includes all major transportation infrastructure identified in the Envision San Jose 2040 *Land Use/Transportation Diagram*, including planned infrastructure that is not yet built and/or funded.

## Measures of Effectiveness

This analysis addresses the long-range impacts of the proposed GP land use adjustments on the citywide transportation system through the use of measures of effectiveness (MOEs) developed for the Envision San Jose 2040 GP. The results of the analysis for the proposed land use adjustments are compared to the current GP to determine if the proposed adjustments would result in any new or substantially more severe transportation impacts. The long-range analysis includes analysis of the following MOEs:

- **Vehicle Miles Traveled (VMT) per Service Population.** VMT per service population is a measure of the daily vehicle miles traveled divided by the number of residents and employees within the City of San Jose. VMT per service population (residents + employees) is used for the analysis as opposed to VMT per capita (residents only), since per service population more accurately captures the effects of land use on VMT. The City not only has residents that travel to and from jobs, but also attracts regional employees. VMT is calculated based on the number of vehicles multiplied by the distance traveled by each vehicle in miles.

- **Journey-to-Work Mode Share (Drive Alone %).** Mode share is the distribution of all daily work trips by travel mode, including the following categories: drive alone, carpool with two persons, carpool with three persons or more, transit (rail and bus), bike, and walk trips.
- **Average Travel Speeds within the City's Transit Priority Corridors.** Average travel speed for all vehicles (transit and non-transit vehicles) in the City's 14 transit corridors is calculated for the AM peak hour based on the segment distance dividing the vehicle travel time. A transit corridor is a segment of roadway identified as a Grand Boulevard in the Envision San Jose 2040 GP Land Use/Transportation Diagram. Grand Boulevards serve as major transportation corridors and, in most cases, are primary routes for Valley Transportation Authority (VTA) light-rail transit (LRT), bus rapid transit (BRT), local buses, and other public transit vehicles. Although transit services are found on other street types throughout the City, transit has the utmost priority on Grand Boulevards.
- **Adjacent Jurisdictions.** Roadway conditions on major streets within adjacent jurisdictions are evaluated for the AM 4-hour peak period based on the volume-to-capacity (V/C) ratios of the street segments and the City of San Jose's contributions to the total traffic of the street segments. V/C is a performance measure and represents the level of saturation (proportion of roadway capacity that is being used). A lower ratio indicates a roadway's capacity is not fully utilized while a larger ratio, or ratio greater than 1.00, represents a roadway's capacity is fully utilized or over saturated. Freeway facilities operated by Caltrans and expressways operated by the Santa Clara County are also considered as adjacent jurisdictions.

## Significance Impact Criteria

The City of San Jose adopted policies and goals in Envision San Jose 2040 to reduce the drive alone mode share to no more than 40 percent of all daily commute trips, and to reduce the VMT per service population by 40 percent from existing (year 2008) conditions. To meet these goals by the GP horizon year and to satisfy CEQA requirements, the City developed a set of MOEs and associated significance thresholds to evaluate long-range transportation impacts resulting from land use adjustments. Table 3 summarizes the significance thresholds associated with vehicular modes of transportation that were adopted as part of Envision San Jose 2040 for the evaluation of long-range traffic impacts resulting from proposed land use adjustments and used in this analysis.

In addition to the MOEs described above, the effects of the proposed land use adjustments on transit, bicycle, and pedestrian facilities were evaluated. A significant long-range transportation impact would occur if the adjustments would:

- Disrupt existing, or interfere with planned transit services or facilities;
- Disrupt existing, or interfere with planned bicycle facilities;
- Conflict or create inconsistencies with adopted bicycle plans, guidelines, policies, or standards;
- Not provide secure and safe bicycle parking in adequate proportion to anticipated demand;
- Disrupt existing, or interfere with planned pedestrian facilities;
- Not provide accessible pedestrian facilities that meet current ADA best practices; or
- Create inconsistencies with adopted pedestrian plans, guidelines, policies, or standards.

**Table 3**
**MOE Significance Thresholds**

| MOE | Citywide Threshold |
|---|---|
| VMT/Service Population | Any increase over current 2040 General Plan conditions |
| Mode Share (Drive Alone %) | Any increase in journey-to-work drive alone mode share over current 2040 General Plan conditions |
| Transit Corridor Travel Speeds | Decrease in average travel speed on a transit corridor below current 2040 General Plan conditions in the AM peak one-hour period when:<br>1. The average speed drops below 15 mph or decreases by 25% or more, or<br>2. The average speed drops by one mph or more for a transit corridor with average speed below 15 mph under current 2040 General Plan conditions. |
| Adjacent Jurisdiction | When 25% or more of total deficient lane miles on streets in an adjacent jurisdiction are attributable to the City of San Jose during the AM peak-4-hour period.<br>1. Total deficient lane miles are total lane miles of street segments with V/C ratios of 1.0 or greater.<br>2. A deficient roadway segment is attributed to San Jose when trips from the City are 10% or more on the deficient segment. |

Source: Envision San Jose 2040 General Plan TIA, October 2010.

# 4. Cumulative General Plan Long-Range Analysis

The long-range cumulative traffic impacts resulting from the 10 proposed 2017 GPAs were determined based on the MOEs significance thresholds for vehicle modes of travel and the impact criteria for transit, bicycle and pedestrian described in Chapter 3. The results of the GPA long-range analysis are described below.

## Vehicle Miles Traveled Per Service Population

The San Jose TDF model was used to calculate daily vehicle miles traveled (VMT) per service population, where service population is defined as the number of residents plus the number of employees citywide. This approach focuses on the VMT generated by new population and employment growth. VMT is calculated as the number of vehicle trips multiplied by the length of the trips in miles.

Since the City of San Jose not only has residents that travel to and from jobs within the City, but also attracts regional employees, the daily VMT includes some trips traveling outside of the City limits but with origins or destinations within San Jose. For this reason, the following trip types were included in the VMT calculation:

- Internal-Internal – All daily trips are made entirely within the San Jose City limits.
- One-half of Internal-External – One-half of the daily trips with an origin located within the San Jose City limits and a destination located outside of San Jose.
- One-half of External-Internal – One-half of the daily trips with an origin located outside the San Jose City limits and a destination located within San Jose.

Trips that travel through San Jose to and from other locations (External-External) are not included in the calculation of VMT. Any increase in VMT per service population over the current General Plan due to the proposed land use amendments is considered a significant impact.

As shown in Table 4, the daily VMT would increase slightly due to the proposed land use amendments when compared to the current General Plan. However, the VMT per service population would not change. when compared to the current General Plan. The small increase in daily VMT is due to the shifting of land use/growth within different parts of the City. However, the increase in daily VMT is too small to have a measurable effect on the citywide VMT per service population. Therefore, cumulatively, the 2017 GPAs would result in a less than significant impact on citywide daily VMT per service population.

**Findings:** Compared to the current General Plan, the proposed land use adjustments would not result in an increase in vehicle miles per service population. Therefore, cumulatively, the 2017 GPAs would result in a less than significant impact on citywide daily VMT per service population. It is important to note that the VMT per service population is based on raw model output and does not reflect the implementation of adopted GP policies and goals that would further reduce VMT by increased use of non-auto modes of travel.

**Table 4**
**Daily Vehicle Miles Traveled Per Service Population**

| | Base Year (2015) | Existing General Plan | Existing General Plan Plus GPA's |
|---|---|---|---|
| Citywide Daily VMT | 20,588,249 | 31,251,446 | 31,290,755 |
| Citywide Service Population | 1,385,030 | 2,065,461 | 2,065,461 |
| Daily VMT Per Service Population | 14.9 | 15.1 | 15.1 |
| ***Increase in VMT/Service Population over General Plan*** | ***-*** | ***-*** | ***0.0*** |
| **Significant Impact?** | | | **No** |

Note:
Service Population = Residents + Jobs

## Journey-to-Work Mode Share

The San Jose TDF model was used to calculate citywide journey-to-work mode share percentages. Mode share is the distribution of all daily work trips by travel mode, including drive alone, carpool with two persons, carpool with three persons or more, transit (rail and bus), bike, and walk trips. Although work trips may occur at any time of the day, a majority of work trips occur during typical peak commute periods (6:00 – 10:00 AM and 3:00 – 7:00 PM). Any increase in the journey-to-work drive alone mode share percentage over the current General Plan due to the proposed land use amendments is considered a significant impact.

Table 5 summarizes the citywide journey-to-work mode share analysis results. Compared to the Envision current General Plan, the percentage of drive alone trips would decrease slightly and the percentage of transit trips would increase slightly as a result of the GPAs. Therefore, cumulatively, the 2017 GPAs would result in a less than significant impact on citywide journey-to-work drive alone mode share.

**Findings:** The proposed land use adjustments will not result in an increase of drive alone trips when compared to the current General Plan. Therefore, cumulatively, the 2017 GPAs would result in a less than significant impact on citywide journey-to-work mode share.

## Average Vehicle Speeds in Transit Priority Corridors

The San Jose GP TDF model was used to calculate the average vehicle travel speeds during the AM peak hour for the City's 14 transit corridors that were evaluated in the Envision San Jose 2040 GP TIA. A transit corridor is a segment of roadway identified as a Grand Boulevard in the Envision San Jose 2040 GP Land Use/Transportation Diagram. Grand Boulevards serve as major transportation corridors and, in most cases, are primary routes for VTA's LRT, BRT, local buses, and other public transit vehicles. The travel speeds are calculated by dividing the segment distance by the vehicle travel time. Land use amendments that result in a decrease in average travel speed on a transit corridor in the AM peak one-hour period when the average speed drops below 15 mph or decreases by 25% or more, or the average speed drops by one mph or more for a transit corridor with average speed below 15 mph when compared to the current General Plan is considered a significant impact.

Table 6 presents the average vehicle speeds on the City's 14 transit priority corridors (i.e., Grand Boulevard segments) during the AM peak hour of traffic. When compared to current GP conditions, the average travel speed on six of the 14 transit corridors are projected to decrease slightly, 3% or less decrease in speed, as a result of the proposed GPAs. The decrease in travel speed would be no more

**Table 5**
**Journey-to-Work Mode Share Percentages**

| Mode | Base Year (2015) | | Existing General Plan | | Existing General Plan Plus GPA's | |
|---|---|---|---|---|---|---|
| | Trips | % | Trips | % | Trips | % |
| Drive Alone | 724,530 | 78.3% | 1,061,730 | 72.5% | 1,062,180 | 72.4% |
| Carpool 2 | 112,030 | 12.1% | 178,190 | 12.2% | 178,670 | 12.2% |
| Carpool 3+ | 42,310 | 4.6% | 79,220 | 5.4% | 79,660 | 5.4% |
| Transit | 26,820 | 2.9% | 99,570 | 6.8% | 100,580 | 6.9% |
| Bicycle | 7,060 | 0.8% | 19,610 | 1.3% | 19,770 | 1.3% |
| Walk | 12,130 | 1.3% | 26,260 | 1.8% | 26,470 | 1.8% |
| **Increase in Drive Alone Percentage over General Plan Conditions** | | | | | | -0.1% |
| **Significant Impact?** | | | | | | **No** |

than one mph and less than 25% on each of the six transit corridors.

**Findings:** The proposed land use adjustments will not result in a decrease in travel speeds of greater than one mph or 25 percent on any of the 14 transit priority corridors when compared to current GP conditions. Therefore, cumulatively, the 2017 GPAs would result in a less than significant impact on the AM peak-hour average vehicle speeds on the transit priority corridors.

## Adjacent Jurisdictions

The San Jose GP TDF model was used to calculate the number of lane miles of street segments with V/C ratios of 1.0 or greater during the peak 4-hour AM period within adjacent jurisdictions. The effect of the proposed land use adjustments is evaluated based on the percentage of traffic that would be added to the deficient roadways. A deficient roadway segment in an adjacent jurisdiction is attributed to San Jose when trips originating from residents and jobs within San Jose equal 10 percent or more on the deficient segment. An impact to an adjacent jurisdiction is considered significant when 25% or more of total deficient lane miles are attributable to the City of San Jose. The 25% threshold represents what would be a noticeable change in traffic.

Table 7 summarizes the City of San Jose's traffic impacts on the roadway segments within adjacent jurisdictions. City of San Jose traffic would significantly impact roadway segments within the same 14 adjacent jurisdictions under both existing GP and proposed GPAs conditions.

**Findings:** The current GP land uses and proposed GPA land use adjustments were shown to impact roadway segments within the same 14 adjacent jurisdictions. Therefore, the proposed GPA land use adjustments would not result in further impact on roadways in adjacent jurisdictions than that identified for the current GP land uses in the adopted Envision San Jose 2040 GP EIR.

**Table 6**
**AM Peak-Hour Vehicle Speeds (mph) in Transit Priority Corridors**

| Transit Priority Corridor | Base Year (2015) | Existing General Plan | Existing General Plan Plus GPA's | % Change (Existing General Plan Plus GPA's - Existing GP) | Absolute Change (Existing General Plan Plus GPA's - Existing GP) |
|---|---|---|---|---|---|
| 2nd St<br>from San Carlos St to St. James St | 11.4 | 11.4 | 11.4 | 0% | 0.0 |
| Alum Rock Av<br>from Capitol Av to US 101 | 21.2 | 15.3 | 15.1 | -2% | -0.3 |
| Camden Av<br>from SR 17 to Meridian Av | 22.2 | 14.6 | 15.2 | 4% | 0.6 |
| Capitol Av<br>from S. Milpitas Bl to Capitol Expwy | 23.9 | 20.8 | 20.5 | -1% | -0.2 |
| Capitol Expwy<br>from Capitol Av to Meridian Av | 25.8 | 24.5 | 25.0 | 2% | 0.5 |
| E. Santa Clara St<br>from US 101 to Delmas Av | 20.3 | 16.9 | 16.7 | -1% | -0.2 |
| Meridian Av<br>from Park Av to Blossom Hill Rd | 22.7 | 19.1 | 18.7 | -3% | -0.5 |
| Monterey Rd<br>from Keyes St to Metcalf Rd | 24.2 | 17.2 | 17.3 | 1% | 0.1 |
| N. 1st St<br>from SR 237 to Keyes St | 19.8 | 12.7 | 13.4 | 5% | 0.7 |
| San Carlos St<br>from Bascom Av to SR 87 | 22.1 | 21.0 | 20.7 | -2% | -0.3 |
| Stevens Creek Bl<br>from Bascom Av to Tantau Av | 21.3 | 17.2 | 17.2 | 0% | 0.0 |
| Tasman Dr<br>from Lick Mill Bl to McCarthy Bl | 24.0 | 13.5 | 13.5 | 0% | 0.0 |
| The Alameda<br>from Alameda Wy to Delmas Av | 19.7 | 14.1 | 13.7 | -3% | -0.5 |
| W. San Carlos St<br>from SR 87 to 2nd St | 19.3 | 18.3 | 18.2 | 0% | 0.0 |

Notes:

Outlined indicates significant impacts.

# Impacts on Transit, Bicycle, and Pedestrian Circulation

## Transit Services or Facilities

Planned transit services and facilities include additional rail service via the future Bay Area Rapid Transit (BART) extension, LRT extensions, new BRT services, and the proposed California High Speed Rail project. The proposed GPAs land use adjustments would not result in a change to the existing and planned roadway network that would result in an adverse effect on existing or planned transit facilities. Therefore, the proposed 2017 GPAs land use adjustments would not substantially disrupt existing, or interfere with planned transit services or facilities.

## Bicycle Facilities

The adopted Envision San Jose 2040 GP supports the goals outlined in the City's Bike Plan 2020 and contains policies to encourage bicycle trips (Policies TR-1.1, TR-1.2,TR-1.4 through TR-1.9, TR 2.1 through TR 2.11, TR-7.1, TN-1.1 through TN-1.5, TN-2.1 through TN-2.7, and TN-3.1 through 3.6; Implementing Actions TR-1.12 thorugh TR-1.15, TR-2.12 through TR-2.21, TR-7.2, TR-7.3, TN-1.6, TN-2.8 through 2.10, and TN-3.7; Performance Measures TN-2.11, TN-2.12). The proposed GPA land use adjustments would not result in a change to the existing and planned roadway network that would affect existing or planned bicycle facilities. Therefore, the proposed 2017 GPA land use adjustments would not substantially disrupt existing, or interfere with planned bicycle facilities; conflict or create inconsistencies

**Table 7**
**AM 4-Hour Traffic Impacts in Adjacent Jurisdictions**

| City | Base Year (2015) | | | Existing General Plan | | | Existing General Plan Plus GPA's | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose |
| Campbell | 0.14 | 0.14 | 100% | 0.86 | 0.86 | 100% | 0.86 | 0.86 | 100% |
| Cupertino | 3.76 | 2.96 | 79% | 1.01 | 0.79 | 78% | 1.01 | 0.79 | 78% |
| Gilroy | 0.00 | 0.00 | 0% | 1.13 | 1.13 | 100% | 1.13 | 1.13 | 100% |
| Los Altos | 1.21 | 0.25 | 21% | 1.63 | 0.25 | 15% | 1.24 | 0.25 | 20% |
| Los Altos Hills | 0.65 | 0.00 | 0% | 1.71 | 0.93 | 54% | 1.71 | 0.93 | 54% |
| Los Gatos | 0.70 | 0.70 | 100% | 1.02 | 1.02 | 100% | 0.82 | 0.82 | 100% |
| Milpitas | 1.08 | 0.87 | 81% | 10.56 | 10.56 | 100% | 10.80 | 10.80 | 100% |
| Monte Sereno | 0.00 | 0.00 | 0% | 0.00 | 0.00 | 0% | 0.00 | 0.00 | 0% |
| Morgan Hill | 0.46 | 0.46 | 100% | 0.56 | 0.56 | 100% | 0.24 | 0.24 | 100% |
| Mountain View | 1.69 | 1.51 | 89% | 1.91 | 1.63 | 85% | 1.96 | 1.67 | 85% |
| Palo Alto | 0.64 | 0.16 | 25% | 2.81 | 0.16 | 6% | 2.81 | 0.16 | 6% |
| Santa Clara | 0.04 | 0.04 | 100% | 1.06 | 0.99 | 93% | 1.06 | 0.99 | 93% |
| Saratoga | 1.86 | 1.57 | 85% | 3.22 | 3.22 | 100% | 3.22 | 3.22 | 100% |
| Sunnyvale | 0.95 | 0.46 | 49% | 1.01 | 1.01 | 100% | 1.01 | 1.01 | 100% |
| Caltrans Facilities | 5,311.43 | 4,131.84 | 78% | 5,234.15 | 4,402.09 | 84% | 5,235.68 | 4,401.87 | 84% |
| Santa Clara County Expressways | 2.75 | 2.75 | 100% | 13.03 | 12.83 | 98% | 11.84 | 11.64 | 98% |

Notes:
1. Total deficient lane miles are total lane miles of street segments with V/C ratios of 1.0 or greater.
2. A deficient roadway segment is attributed to San Jose when trips from the City are 10% or more on the deficient segment.

Outlined indicates significant impacts.

with adopted bicycle plans, guidelines, policies, or standards; and provide insecure and unsafe bicycle parking in adequate proportion to anticipated demand.

## Pedestrian Facilities

The adopted Envision San Jose 2040 GP contains goals and policies (Policies TR-1.1, TR-1.2,TR-1.4 through TR-1.9, TR-2.1 through TR-2.11, TR-7.1, TN-1.1 through TN-1.5, TN-2.1 through TN-2.7, and TN-3.1 through 3.6; Implementing Actions TR-1.12 through TR-1.15, TR-2.12 through TR-2.21, TR-7.2, TR-7.3, TN-1.6, TN-2.8 through 2.10, and TN-3.7; Performance Measures TN-2.11, TN-2.12) to improve pedestrian walking environment, increase pedestrian safety, and create a land use context to support non-motorized travel. The proposed GPAs land use adjustments would not result in a change to the existing and planned roadway network that would affect existing or planned pedestrian facilities. Therefore, the proposed 2017 GPAs land use adjustments would not substantially disrupt existing, or interfere with planned pedestrian facilities; create inconsistencies with adopted pedestrian plans, guidelines, policies, or standards; and provide accessible pedestrian facilities that would not meet current ADA best practice.

# 5. Branham Light Rail Park and Ride (Site-Specific GPA Traffic Analysis)

This report presents the results of the long-range site-specific traffic impact analysis for the proposed Branham Light Rail Park and Ride General Plan Amendment (GP17-003). The purpose of the General Plan Amendment (GPA) traffic analysis is to assess the long-range impacts of the proposed amendment on the citywide transportation system. The potential traffic impacts of the project were evaluated in accordance with the guidelines and thresholds set forth by the Envision San Jose 2040 General Plan. In addition, a near term traffic analysis in conjunction with any future development permit applications consistent with the Envision San Jose 2040 General Plan will be required once a specific development proposal for the site is identified.

## General Plan Amendment Site Description

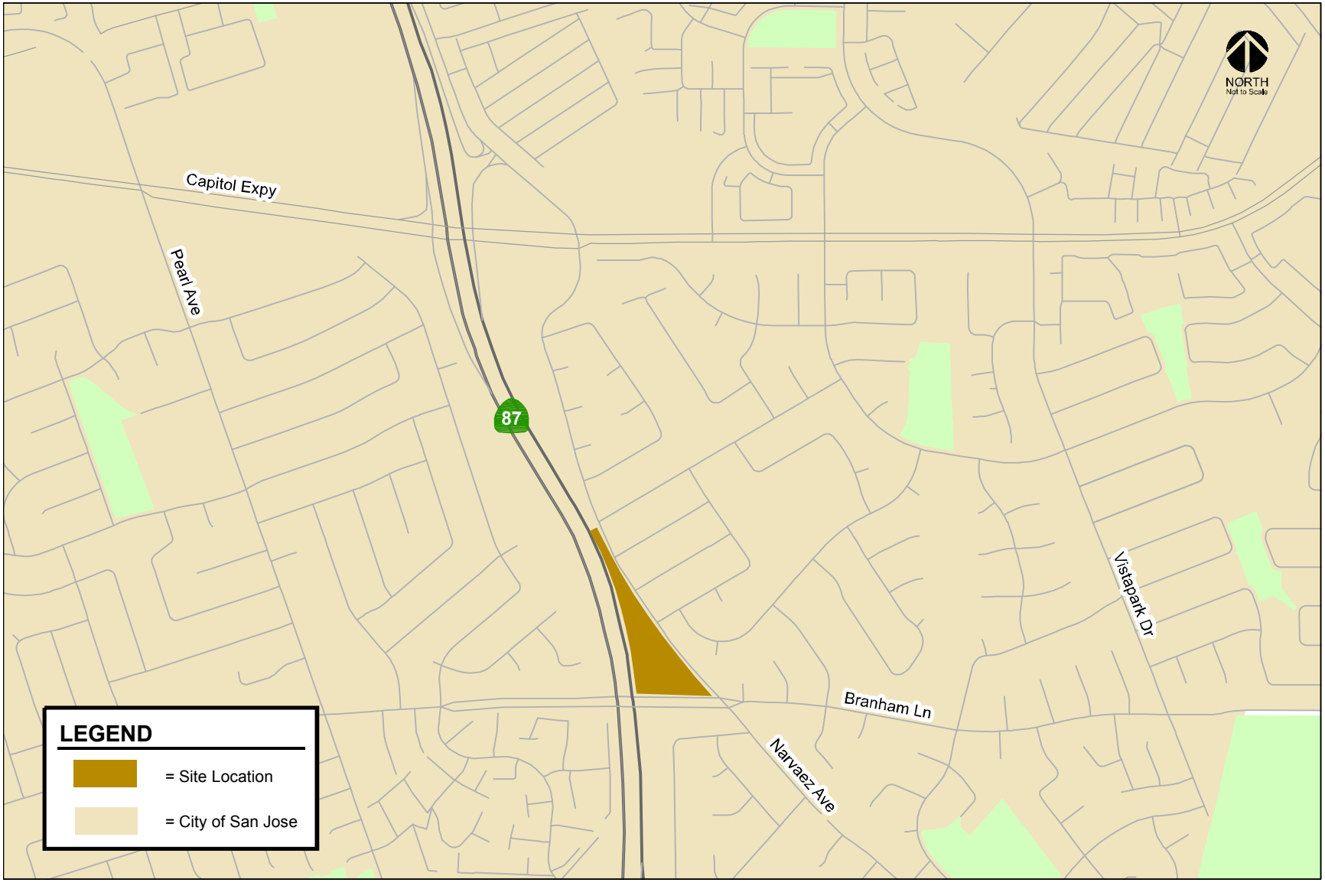
The project consists of amending the adopted land use designation of the Envision San Jose 2040 General Plan for the approximately 3.14-acre site located at the northwest quadrant of the Narvaez Avenue/Branham Lane intersection. The GPA site location is presented on Figure 12. The adopted General Plan land use designation for the site is *Mixed-Use Neighborhood*, and the proposed amendment involves changing the adopted land use to *Transit Residential.* The site is currently occupied by the VTA Light Rail Park and Ride parking lot. The proposed land use change for development of the site would complement the immediate and surrounding land uses.

The GPA traffic analysis guidelines provide a trip threshold for General Plan land use amendments that require a site-specific GPA analysis. A proposed land use amendment that would result in an increase of more than 250 peak-hour trips to be generated by the subject site due to proposed increases in households or employment would be required to prepare a site-specific GPA traffic analysis. The proposed amendment would result in 424 additional households on the site. The increase in households will result in an additional 293 AM and 333 PM peak hour trips at the GPA site when compared to the current GP. Therefore, a site-specific GPA traffic analysis is required for the proposed land use amendment. The GPA does not propose any changes to the city's major transportation system and the transportation policies that were adopted in the Envision San Jose 2040 General Plan.

## Scope of the Study

The analysis includes the evaluation of the potential for the proposed land use amendment to result in increased vehicle miles traveled, increased traffic volume on specified roadway segments, impacts to travel speeds on transit priority corridors, impacts to roadways in adjacent jurisdictions, and impacts to pedestrian, bicycle, and transit facilities. Impacts are evaluated based on the same measures of effectiveness (MOEs) and significance criteria utilized in the Envision San Jose 2040 GP TIA and described in Chapter 3 of this report. Traffic conditions were evaluated for the following traffic scenarios using the City of San Jose's Traffic Demand Forecasting (TDF) model:

**Figure 12**
**Branham Light Rail park & Ride GPA Site Locations**



- **Projected Year 2015 Conditions:** The Projected Year 2015 Conditions represent a projection of transportation conditions in 2015 using the City's GP TDF model. The roadway network also reflects the Year 2015 roadway network and transportation system.
- **Current 2040 General Plan Conditions:** Future traffic due to the current GP land uses (i.e., including the adopted Four-Year GP Review Land Use adjustments) is added to regional growth that can be reasonably expected to occur by 2040. Current 2040 GP conditions includes the citywide roadway network to reflect the current roadway network as well as all transportation system improvements as identified in the current GP.
- **Proposed 2040 General Plan Amendment Conditions:** Current 2040 General Plan conditions with the proposed land use amendment. Transportation conditions for the Proposed 2040 GP Amendment Conditions were evaluated relative to the Current 2040 GP Conditions to determine any long-range traffic impacts.

## Existing Conditions

This section describes the existing conditions for all of the major transportation facilities in the vicinity of the site, including the roadway network, transit service, and bicycle and pedestrian facilities.

### Existing Roadway Network

Regional access to the project site is provided via SR 85 and SR 87. Local access to the site is provided by Capitol Expressway, Branham Lane, and Narvaez Avenue. These facilities are described below.

**SR 85** is a predominantly north-south freeway that is oriented in an east-west direction in the vicinity of the project. It extends from Mountain View to US 101 in south San Jose. SR 85 is a six-lane freeway with four mixed-flow lanes and two HOV lanes. It connects to I-280, SR 17, SR 87, and US 101. Access to the site is provided via its interchange with SR 87.

**SR 87** is a six-lane freeway that is aligned in a north-south orientation. SR 87 begins at its interchange with SR 85 and extends northward to US 101. Access to the project site is provided by ramps at Capitol Expressway and Narvaez Avenue.

**Capitol Expressway** is a six-lane major arterial that is aligned in an east-west orientation. Capitol Expressway begins at its interchange with I-680 in east San Jose, where it changes designation from San Antonio Street, and extends to the south and west where it changes designation to Hillsdale Avenue at Almaden Expressway. Access to the site is provided via Narvaez Avenue.

**Branham Lane** is generally a four-lane collector that begins east of Monterey Road and extends westward to SR 85 where it terminates. Branham Lane runs along the southern boundary of the project site and narrows to two lanes between Snell Avenue and Vista Park Drive. Access to the site is provided via Narvaez Avenue.

**Narvaez Avenue** is a two-lane collector that begins north of Hillsdale Avenue and extends southward beyond Branham Lane where it terminates at Massachusetts Drive. Narvaez Avenue provides direct access to the project site.

## Existing Bicycle and Pedestrian Facilities

There are several bike lanes and a bike routes in the vicinity of the project site. Bicycle facilities are divided into three classes of relative significance. Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path. Class II bikeways are striped bike lanes on roadways that are marked by signage and pavement markings. Class III bikeways are bike routes and only have signs to help guide bicyclists on recommended routes to certain locations. Class II striped bike lanes are provided on the following roadways:

- Branham Lane – Along its entire length
- Pearl Avenue – Between Branham Lane and Capitol Expressway
- Vista Park Drive – Between Branham Lane and Capitol Expressway
- Capitol Expressway – West of SR 87
- Narvaez Avenue – Between Branham Lane and Hillsdale Avenue

Adjacent to SR 87 is a City of San Jose and Santa Clara County Class I bicycle facility (off-street bike path) that runs between Willow Street and the SR87/SR 85 interchange. Between the Hillsdale Avenue and the Branham Lane Park and Ride lot, the path utilizes the bicycle lane on Narvaez Avenue. This path accesses the Branham Lane Light Rail station and the Ohlone-Chynoweth Light Rail station to the south. Bike lockers and bike racks are provided at the Branham LRT station. The bike path is also available for use by pedestrians. The existing bicycles facilities are shown in Figure 13.

In addition, The City of San Jose bicycle master plan*, San Jose Bike Plan 2020*, provides policies and improvements to bicycle facilities to improve the use of bicycles in the City. It includes an inventory of existing bicycle facilities and identifies locations for enhancement of existing facilities by expansion and or establishing potential connections.

Pedestrian facilities in the project area consist primarily of sidewalks along the streets in most residential and commercial areas, as well as the aforementioned bike/pedestrian path. Sidewalks are found along virtually all previously described local roadways in the study area, with a few exceptions, and along the local residential streets and collectors near the site. Within the study area, there are no sidewalks along the following roadways:

- The west side of Narvaez Avenue along its entire extent.
- The south side of Capitol Expressway between Snell Avenue and Monterey Highway

## Existing Transit Services

Existing transit services to the study area are provided by the VTA. The VTA transit services are described below and shown on Figure 14.

### VTA Bus Services

**Local Route 37** runs from West Valley College to Capitol Light Rail Station and operates from 6:30 AM to 10:00 PM with 30-minute headways during the weekday commute periods. The bus stop closest to the project site is located at the Capitol Light Rail Station.

**Local Route 70** runs from Capitol LRT Station to Great Mall/Main Transit Center and operates from 5:00 AM to 11:30 PM with 15-minute headways during the weekday commute periods. The bus stop closest to the project site is located at the Capitol Light Rail Station.

**Express Route 168** runs from Gilroy Transit Center to San Jose Diridon Transit Center and operates seven trips northbound in the AM and southbound in the PM with 30-minute headways during the weekday commute periods. However, there is no bus stop in the vicinity of the project site.

**Express Route 182** runs from Palo Alto to IBM/Bailey Avenue and operates one trip southbound in the AM and northbound in the PM. However, there is no bus stop in the vicinity of the project site.

### Light Rail Transit (LRT) Service

The project site encompasses the Branham LRT station Park and Ride lot and is located adjacent to the Branham LRT station. LRT service at the Branham LRT station is provided by the Alum Rock-Santa Teresa LRT line, which operates nearly 24 hours a day (4:00 AM to 2:00 AM) with 10-15-minute headways during peak commute and midday hours. The Alum Rock-Santa Teresa LRT line provides service from the Santa Teresa station in south San Jose, through downtown San Jose to north San Jose

**Figure 13**
**Existing Bicycle Facilities (Branham Light Rail Park & Ride)**

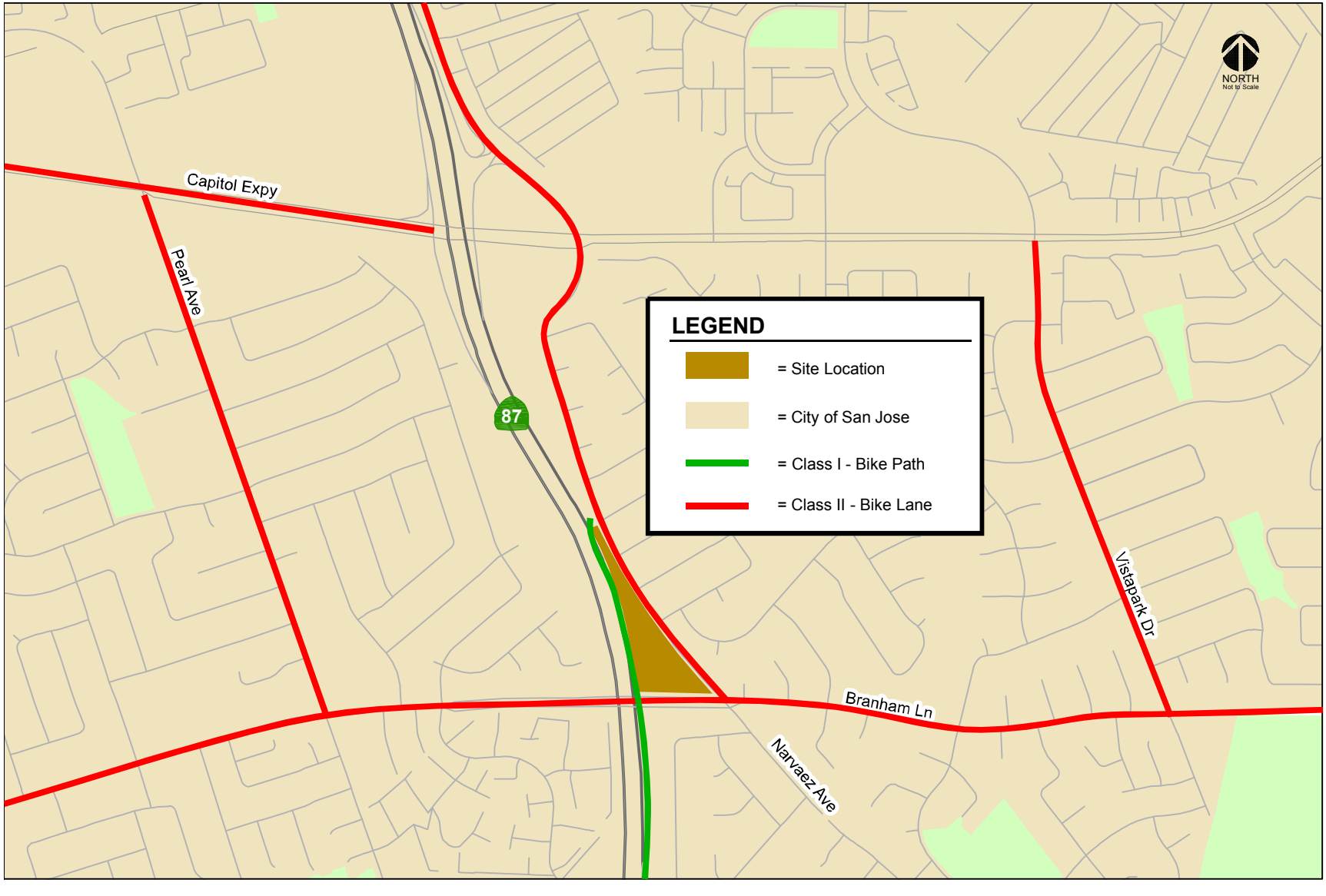


**Figure 14**
**Existing Transit Services (Branham Light Rail Park & Ride)**

where it curves east and operates along the Tasman Corridor, bends south and runs along the Capitol Corridor, and ultimately terminates in east San Jose just south of Alum Rock Avenue.

## General Plan Amendment Site-Specific Long-Range Analysis

The site-specific long-range traffic impacts resulting from the proposed GPA were determined based on the MOEs and associated significance thresholds described in Chapter 3. The results of the site-specific GPA long-range analysis are described below.

### Vehicle Miles Traveled Per Service Population

The San Jose TDF model was used to calculate daily vehicle miles traveled (VMT) per service population, where service population is defined as the number of residents plus the number of employees citywide. This approach focuses on the VMT generated by new population and employment growth. VMT is calculated as the number of vehicle trips multiplied by the length of the trips in miles. Any increase in VMT per service population over the current General Plan due to the proposed land use amendment is considered a significant impact.

As shown in Table 8, the daily VMT would decrease slightly and the VMT per service population would not change with the proposed land use amendment when compared to the current General Plan. Therefore, the proposed land use amendment would result in a *less than significant* impact on the citywide VMT.

**Table 8**
**Daily Vehicle Miles Traveled Per Service Population (Branham Light Rail Park & Ride)**

| | Base Year (2015) | Existing General Plan | Existing General Plan Plus GPA |
|---|---|---|---|
| Citywide Daily VMT | 20,588,249 | 31,251,446 | 31,251,396 |
| Citywide Service Population | 1,385,030 | 2,065,461 | 2,065,461 |
| Daily VMT Per Service Population | 14.9 | 15.1 | 15.1 |
| ***Increase in VMT/Service Population over General Plan Conditions*** | | | ***0.0*** |
| **Significant Impact?** | | | **No** |

Note:
Service Population = Residents + Jobs

### Journey-to-Work Mode Share

The San Jose TDF model was used to calculate journey-to-work citywide mode share percentages. Mode share is the distribution of all daily work trips by travel mode. The modes of travel included in the TDF model are drive alone, carpool with two persons, carpool with three persons or more, transit (rail and bus), bike, and walk trips. Although work trips may occur at any time of the day, a majority of work trips occur during typical peak commute periods (6:00 – 10:00 AM and 3:00 – 7:00 PM). Any increase in the journey-to-work drive alone mode share percentage over the current General Plan due to the proposed land use amendment is considered a significant impact.

Table 9 summarizes the citywide journey-to-work mode share analysis results. When compared to the current General Plan, the percentage of journey-to-work drive alone trips would not change as a result of the proposed land use amendment. Approximately 73% of the commuters would drive single occupancy

**Table 9**
**Journey-to-Work Mode Share (Branham Light Rail Park & Ride)**

| Mode | Base Year (2015) | | Existing General Plan | | Existing General Plan Plus GPA's | |
|---|---|---|---|---|---|---|
| | Trips | % | Trips | % | Trips | % |
| Drive Alone | 724,530 | 78.3% | 1,061,730 | 72.5% | 1,062,060 | 72.5% |
| Carpool 2 | 112,030 | 12.1% | 178,190 | 12.2% | 178,190 | 12.2% |
| Carpool 3+ | 42,310 | 4.6% | 79,220 | 5.4% | 79,370 | 5.4% |
| Transit | 26,820 | 2.9% | 99,570 | 6.8% | 99,860 | 6.8% |
| Bicycle | 7,060 | 0.8% | 19,610 | 1.3% | 19,590 | 1.3% |
| Walk | 12,130 | 1.3% | 26,260 | 1.8% | 26,250 | 1.8% |
| **Increase in Drive Alone Percentage over General Plan Conditions** | | | | | | 0.0% |
| **Significant Impact?** | | | | | | **No** |

vehicles to travel to and from work under the current General Plan and the current General Plan with the proposed land use amendment. Therefore, the proposed land use amendment would result in a *less than significant* impact on citywide journey-to-work drive alone mode share.

## Average Vehicle Speeds in Transit Priority Corridors

The San Jose TDF model was used to calculate the average vehicle travel speeds during the AM peak hour for the City's 14 transit corridors that were evaluated in the Envision San Jose 2040 General Plan TIA. The analysis of transit priority corridor speeds was completed to assist with the assessment of whether the proposed land use amendment would cause a significant change in travel speeds on the transit priority corridors compared to the current General Plan. A transit corridor is a roadway segment identified as a Grand Boulevard in the Envision San Jose 2040 General Plan Land Use/Transportation Diagram. Grand Boulevards serve as major transportation corridors and, in most cases, are primary routes for VTA's LRT, BRT, local buses, and other public transit vehicles. The travel speeds are calculated by dividing the segment distance by the vehicle travel time. A land use amendment that result in a decrease in average travel speed on a transit corridor in the AM peak one-hour period when the average speed drops below 15 mph or decreases by 25% or more, or the average speed drops by one mph or more for a transit corridor with average speed below 15 mph when compared to the current General Plan is considered a significant impact.

Table 10 presents the average vehicle speeds on the City's 14 transit priority corridors (i.e., Grand Boulevard segments) during the AM peak hour of traffic. When compared to the travel speeds under current General Plan conditions, the change in traffic resulting from the proposed land use amendment would have a minimal effect on the travel speeds in the transit corridors. The model estimates decrease in travel speeds of less than one mph and 3 percent on five corridors due to the proposed land use amendment. Travel speeds on the remaining corridors would improve slightly or remain unchanged when compared to the current GP. Therefore, the proposed land use amendment would result in a *less than significant* impact on the vehicle speeds in the transit priority corridors.

## Adjacent Jurisdictions

The San Jose General Plan TDF model was used to calculate the number of lane miles of street segments with V/C ratios of 1.0 or greater during the peak 4-hour AM period within adjacent jurisdictions.

**Table 10**
**AM Peak Hour Vehicle Speeds for San Jose Transit Priority Corridors (Branham LR PNR)**

| Transit Priority Corridor | Base Year (2015) | Existing General Plan | Existing General Plan Plus GPA's | % Change (Existing General Plan Plus GPA's - Existing GP) | Absolute Change (Existing General Plan Plus GPA's - Existing GP) |
|---|---|---|---|---|---|
| 2nd St<br>from San Carlos St to St. James St | 11.4 | 11.4 | 11.4 | 0% | 0.0 |
| Alum Rock Av<br>from Capitol Av to US 101 | 21.2 | 15.3 | 14.9 | -3% | -0.4 |
| Camden Av<br>from SR 17 to Meridian Av | 22.2 | 14.6 | 14.7 | 0% | 0.0 |
| Capitol Av<br>from S. Milpitas Bl to Capitol Expwy | 23.9 | 20.8 | 20.5 | -1% | -0.2 |
| Capitol Expwy<br>from Capitol Av to Meridian Av | 25.8 | 24.5 | 25.1 | 2% | 0.5 |
| E. Santa Clara St<br>from US 101 to Delmas Av | 20.3 | 16.9 | 16.7 | -1% | -0.2 |
| Meridian Av<br>from Park Av to Blossom Hill Rd | 22.7 | 19.1 | 19.3 | 1% | 0.1 |
| Monterey Rd<br>from Keyes St to Metcalf Rd | 24.2 | 17.2 | 17.2 | 0% | 0.1 |
| N. 1st St<br>from SR 237 to Keyes St | 19.8 | 12.7 | 13.5 | 6% | 0.8 |
| San Carlos St<br>from Bascom Av to SR 87 | 22.1 | 21.0 | 21.0 | 0% | 0.0 |
| Stevens Creek Bl<br>from Bascom Av to Tantau Av | 21.3 | 17.2 | 17.1 | -1% | -0.1 |
| Tasman Dr<br>from Lick Mill Bl to McCarthy Bl | 24.0 | 13.5 | 13.5 | 0% | 0.0 |
| The Alameda<br>from Alameda Wy to Delmas Av | 19.7 | 14.1 | 14.0 | -1% | -0.2 |
| W. San Carlos St<br>from SR 87 to 2nd St | 19.3 | 18.3 | 18.3 | 0% | 0.0 |

Notes:

Outlined indicates significant impacts.

The effect of the proposed land use adjustments is evaluated based on the percentage of traffic that would be added to the deficient roadways. A deficient roadway segment in an adjacent jurisdiction is attributed to San Jose when trips originating from residents and jobs within San Jose equal 10 percent or more on the deficient segment. An impact to an adjacent jurisdiction is considered significant when 25% or more of total deficient lane miles are attributable to the City of San Jose. The 25% threshold represents what would be a noticeable change in traffic.

Table 11 summarizes the City of San Jose's traffic impacts on the roadway segments within adjacent jurisdictions. City of San Jose traffic would significantly impact roadway segments in the same 13 adjacent jurisdictions under both the current General Plan and the current General Plan plus proposed land use amendment conditions. With the proposed land use amendment, the percentage of deficient lane miles attributable to the City would be the same at all but five roadway segments when compared to the current GP. The model estimates increase in traffic contribution of 2% or less in each of the five jurisdictions. Additionally, San Jose traffic contribution to Los Altos roadway segments would increase from 15% to 20%, however the impacts are not significant under both the current General Plan and the current General Plan plus proposed land use amendment conditions. The proposed land use amendment would not result in further impacts on roadways in adjacent jurisdictions than that those identified for the current General Plan. Therefore, the proposed land use amendment would result in a *less than significant* impact on the roadway segments in adjacent jurisdictions.

**Table 11**
**AM 4-Hour Traffic Impacts in Adjacent Jurisdictions (Branham Light Rail Park & Ride)**

| City | Base Year (2015) | | | Existing General Plan | | | Existing General Plan Plus GPA | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose |
| Campbell | 0.14 | 0.14 | 100% | 0.86 | 0.86 | 100% | 0.86 | 0.86 | 100% |
| Cupertino | 3.76 | 2.96 | 79% | 1.01 | 0.79 | 78% | 1.13 | 0.91 | 80% |
| Gilroy | 0.00 | 0.00 | 0% | 1.13 | 1.13 | 100% | 1.13 | 1.13 | 100% |
| Los Altos | 1.21 | 0.25 | 21% | 1.63 | 0.25 | 15% | 1.24 | 0.25 | 20% |
| Los Altos Hills | 0.65 | 0.00 | 0% | 1.71 | 0.93 | 54% | 1.71 | 0.93 | 54% |
| Los Gatos | 0.70 | 0.70 | 100% | 1.02 | 1.02 | 100% | 1.02 | 1.02 | 100% |
| Milpitas | 1.08 | 0.87 | 81% | 10.56 | 10.56 | 100% | 10.56 | 10.56 | 100% |
| Monte Sereno | 0.00 | 0.00 | 0% | 0.00 | 0.00 | 0% | 0.00 | 0.00 | 0% |
| Morgan Hill | 0.46 | 0.46 | 100% | 0.56 | 0.56 | 100% | 0.24 | 0.24 | 100% |
| Mountain View | 1.69 | 1.51 | 89% | 1.91 | 1.63 | 85% | 1.96 | 1.67 | 85% |
| Palo Alto | 0.64 | 0.16 | 25% | 2.81 | 0.16 | 6% | 2.81 | 0.16 | 6% |
| Santa Clara | 0.04 | 0.04 | 100% | 1.06 | 0.99 | 93% | 1.06 | 0.99 | 93% |
| Saratoga | 1.86 | 1.57 | 85% | 3.22 | 3.22 | 100% | 3.22 | 3.22 | 100% |
| Sunnyvale | 0.95 | 0.46 | 49% | 1.01 | 1.01 | 100% | 1.01 | 1.01 | 100% |
| Caltrains Facilities | 5,313.11 | 4,133.95 | 78% | 5,234.15 | 4,402.09 | 84% | 5,002.22 | 4,298.36 | 86% |
| Santa Clara County Expressways | 2.75 | 2.75 | 100% | 13.03 | 12.83 | 98% | 15.94 | 15.75 | 99% |

Notes:
1. Total deficient lane miles are total lane miles of street segments with V/C ratios of 1.0 or greater.
2. A deficient roadway segment is attributed to San Jose when trips from the City are 10% or more on the deficient segment.

Outlined indicates significant impacts.

## Impacts on Transit, Bicycle, and Pedestrian Circulation

The Circulation Element of the Envision San Jose 2040 General Plan includes a set of balanced, long-range, multimodal transportation goals and policies that provide for a transportation network that is safe, efficient, and sustainable (minimizes environmental, financial, and neighborhood impacts). In combination with land use goals and policies that focus growth into areas served by transit, these transportation goals and policies are intended to improve multi-model accessibility to employment, housing, shopping, entertainment, schools, and parks and create a city where people are less reliant on driving to meet their daily needs. San Jose's Transportation Goals, Policies, and Actions aim to:

- Establish circulation policies that increase bicycle, pedestrian, and transit travel, while reducing motor vehicle trips, to increase the City's share of travel by alternative transportation modes.
- Promote San Jose as a walking- and bicycling-first city by providing and prioritizing funding for projects that enhance and improve bicycle and pedestrian facilities.

Included within the General Plan are a set of Goals and Policies to support a multimodal transportation system that gives priority to the mobility needs of bicyclists, pedestrians, and public transit users while also providing for the safe and efficient movement of automobiles, buses, and trucks. Policies TR-2.1 through TR-2.11 provide specific policies to guide improvement to walking and bicycling. Such policies include the provision of continuous bicycle system, constructing sidewalks and crosswalks. Similarly, the Envision San Jose 2040 General Plan includes specific policies to maximize use of public transit (TR-3.1 through 3.4). As the Branham Light Rail Park and Ride project develops, the project should ensure that it is consistent with the Envision San Jose 2040 General Plan to provide safe, accessible and inter-connected pedestrian and bicycle facilities, and accommodate transit services (i.e., bus dugout) as new roadways are constructed. The impacts to pedestrian, bicycle, and transit facilities *are less-than-significant*.

# 6. Cottle Light Rail Park and Ride (Site-Specific GPA Traffic Analysis)

This report presents the results of the long-range site-specific traffic impact analysis for the proposed Cottle Light Rail Park and Ride General Plan Amendment (GP17-004). The purpose of the General Plan Amendment (GPA) traffic analysis is to assess the long-range impacts of the proposed amendment on the citywide transportation system. The potential traffic impacts of the project were evaluated in accordance with the guidelines and thresholds set forth by the Envision San Jose 2040 General Plan. In addition, a near term traffic analysis in conjunction with any future development permit applications consistent with the Envision San Jose 2040 General Plan will be required once a specific development proposal for the site is identified.

## General Plan Amendment Site Description

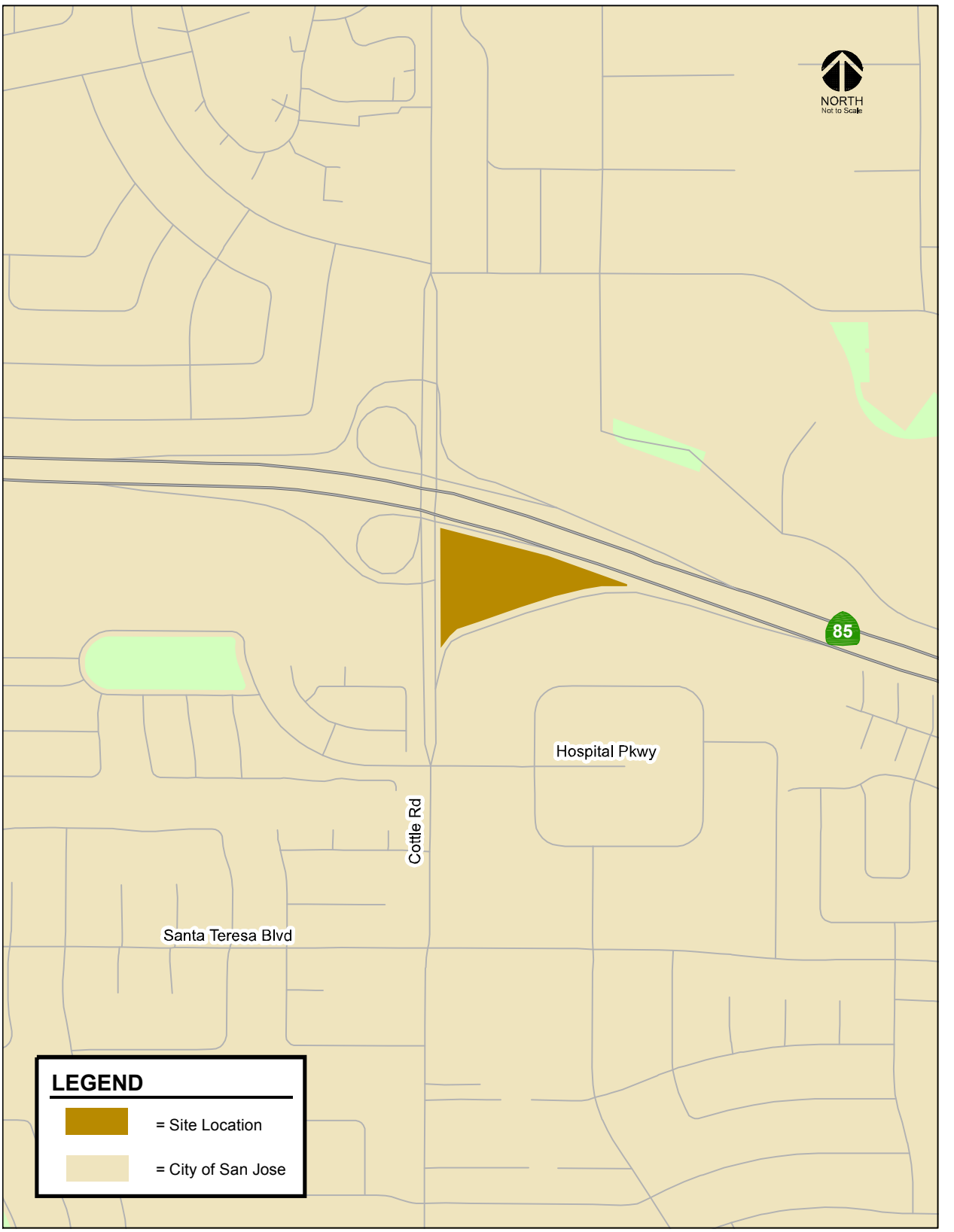
The project consists of amending the adopted land use designation of the Envision San Jose 2040 General Plan for the approximately 4.48-acre site is bound by Cottle Road, SR 85 and the SR 85 southbound on-ramp. The GPA site location is presented on Figure 15. The adopted General Plan land use designation for the site is *Neighborhood/Community Commercial* and *Public/Quasi-Public*, and the proposed amendment involves changing the adopted land use to *Transit Residential.* The site is currently being used as the Park and Ride parking lot for VTA's Cottle Road Light Rail Station.

The GPA traffic analysis guidelines provide a trip threshold for General Plan land use amendments that require a site-specific GPA analysis. A proposed land use amendment that would result in an increase of more than 250 peak-hour trips to be generated by the subject site due to proposed increases in households or employment would be required to prepare a site-specific GPA traffic analysis. The proposed amendment would result in 589 additional households and 88 fewer jobs on the site. The increase in households will result in an additional 380 AM and 620 PM peak hour trips at the GPA site when compared to the current GP. Therefore, a site-specific GPA traffic analysis is required for the proposed land use amendment. The GPA does not propose any changes to the city's major transportation system and the transportation policies that were adopted in the Envision San Jose 2040 General Plan.

## Scope of the Study

The analysis includes the evaluation of the potential for the proposed land use amendment to result in increased vehicle miles traveled, increased traffic volume on specified roadway segments, impacts to travel speeds on transit priority corridors, impacts to roadways in adjacent jurisdictions, and impacts to pedestrian, bicycle, and transit facilities. Impacts are evaluated based on the same measures of effectiveness (MOEs) and significance criteria utilized in the Envision San Jose 2040 GP TIA and described in Chapter 3 of this report. Traffic conditions were evaluated for the following traffic scenarios using the City of San Jose's Traffic Demand Forecasting (TDF) model:

**Figure 15**
**Cottle Light Rail Park & Ride GPA Site Location**



- **Projected Year 2015 Conditions:** The Projected Year 2015 Conditions represent a projection of transportation conditions in 2015 using the City's GP TDF model. The roadway network also reflects the Year 2015 roadway network and transportation system.
- **Current 2040 General Plan Conditions:** Future traffic due to the current GP land uses (i.e., including the adopted Four-Year GP Review Land Use adjustments) is added to regional growth that can be reasonably expected to occur by 2040. Current 2040 GP conditions includes the citywide roadway network to reflect the current roadway network as well as all transportation system improvements as identified in the current GP.
- **Proposed 2040 General Plan Amendment Conditions:** Current 2040 General Plan conditions with the proposed land use amendment. Transportation conditions for the Proposed 2040 GP Amendment Conditions were evaluated relative to the Current 2040 GP Conditions to determine any long-range traffic impacts.

# Existing Conditions

This section describes the existing conditions for all of the major transportation facilities in the vicinity of the site, including the roadway network, transit service, and bicycle and pedestrian facilities.

## Existing Roadway Network

Regional access to the project site is provided via SR 85 and US 101. Local access to the site is provided by Cottle Road, Santa Teresa Boulevard. These facilities are described below.

**US 101** is an eight-lane (three mixed-flow lanes and one HOV lane in each direction) freeway in the vicinity of the site. It extends north through San Francisco and south through Gilroy. Regional access to the project site is provided via its interchange with SR 85.

**SR 85** is a predominantly north-south freeway that is oriented in an east-west direction in the vicinity of the project. It extends from Mountain View to US 101 in south San Jose. SR 85 is a six-lane freeway with four mixed-flow lanes and two HOV lanes. It connects to I-280, SR 17, SR 87, and US 101. Access to the site is provided via its interchange Cottle Road.

**Cottle Road** is a six-lane north-south arterial roadway in the in the vicinity of the site that extends from Curie Drive to Blossom Hill Road. Access to the project site is provided via the Cottle Road and SR 85 (S) intersection.

**Santa Teresa Boulevard** is six-lane north-south arterial roadway that extends from South San Jose to SR 85, where it transitions to SR 87. Access to the project site is provided via Cottle Road.

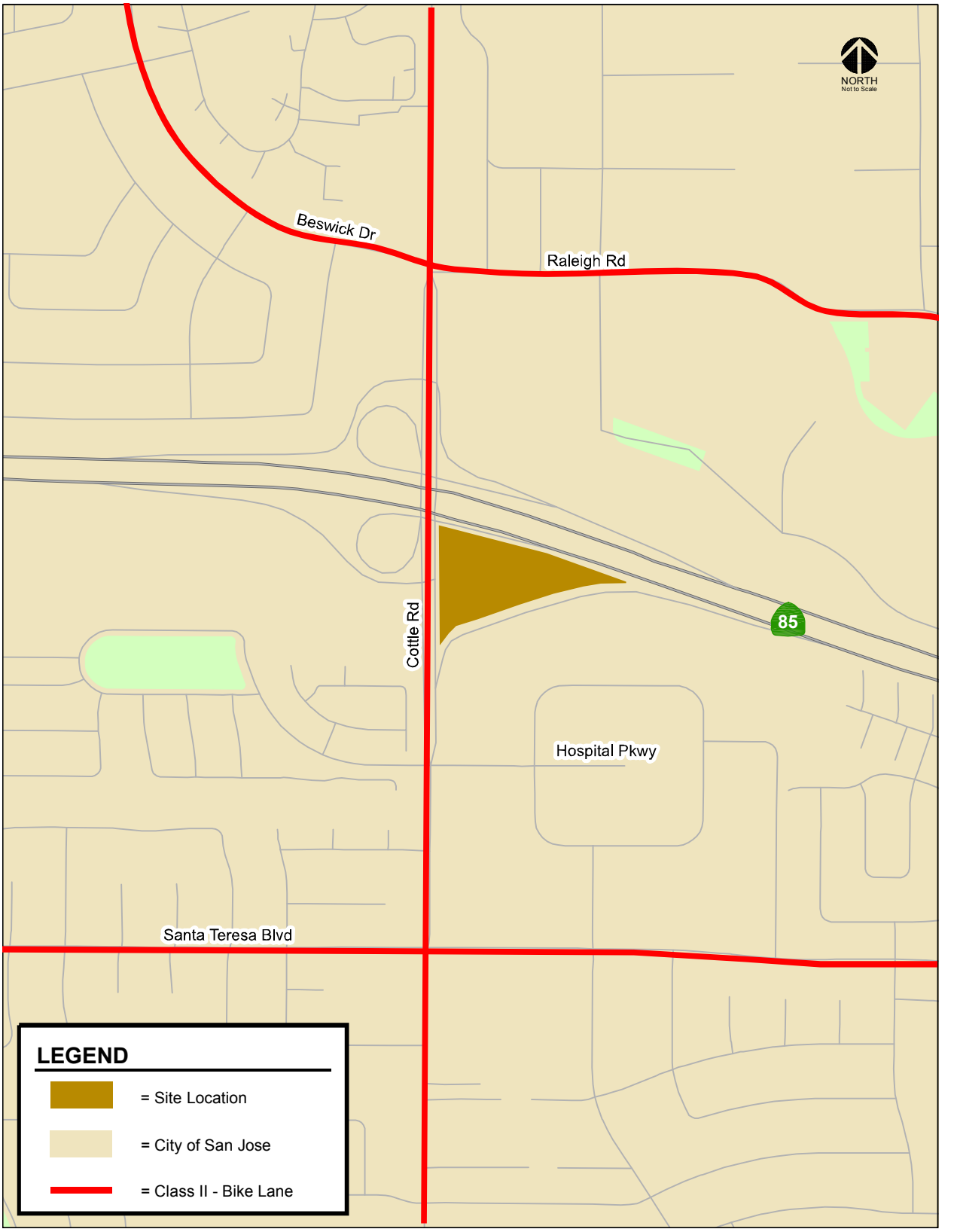
# Existing Bicycle and Pedestrian Facilities

There are several bike lanes and a bike routes in the vicinity of the project site. Bicycle facilities are divided into three classes of relative significance. Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path. Class II bikeways are striped bike lanes on roadways that are marked by signage and pavement markings. Class III bikeways are bike routes and only have signs to help guide bicyclists on recommended routes to certain locations. Class II striped bike lanes are provided on the following roadways:

- Cottle Road – Along its entire length northward starting from Curie Drive
- Santa Teresa Boulevard – Along its entire length northward starting from Bailey Avenue
- Beswick Drive/Raleigh Road – Between Charlotte Drive and Blossom Hill Road

The existing bicycles facilities are shown in Figure 16.

**Figure 16**
**Existing Bicycle Facilities (Cottle Light Rail Park & Ride)**



In addition, The City of San Jose bicycle master plan, *San Jose Bike Plan 2020*, provides policies and improvements to bicycle facilities to improve the use of bicycles in the City. It includes an inventory of existing bicycle facilities and identifies locations for enhancement of existing facilities by expansion and or establishing potential connections.

Pedestrian facilities in the project area consist primarily of sidewalks along the streets in most residential and commercial areas, as well as the aforementioned bike/pedestrian path. Sidewalks are found along virtually all previously described local roadways in the study area, including Cottle Road, Santa Teresa Boulevard and other roadways in the project vicinity.

## Existing Transit Services

Existing transit services to the study area are provided by the VTA. The VTA transit services are described below and shown on Figure 17.

### VTA Bus Services

**Local Route 27** runs from Good Samaritan Hospital to Kaiser San Jose and operates from 6:00 AM to 8:30 PM with 30-minute headways during the weekday commute periods. The bus stop closest to the project site is located along the project frontage on Cottle Road.

**Local Route 42** runs from Kaiser San Jose to Evergreen Valley College and operates from 6:00 AM to 7:00 PM with 50-minute headways during the weekday commute periods. The bus stop closest to the project site is located along International Circle.

**Local Route 66** runs from Kaiser San Jose to Milpitas/Dixon Road and operates from 5:00 AM to 12:00 AM with 15- to 20-minute headways during the weekday commute periods. The bus stop closest to the project site is located within the Kaiser Permanente Hospital parking area.

**Local Route 68** runs from Gilroy Transit Center to San Jose Diridon Transit Center and operates from 4:00 AM to 1:00 AM with 15-minute headways during the weekday commute periods. The bus stop closest to the project site is located along the project frontage on Cottle Road.

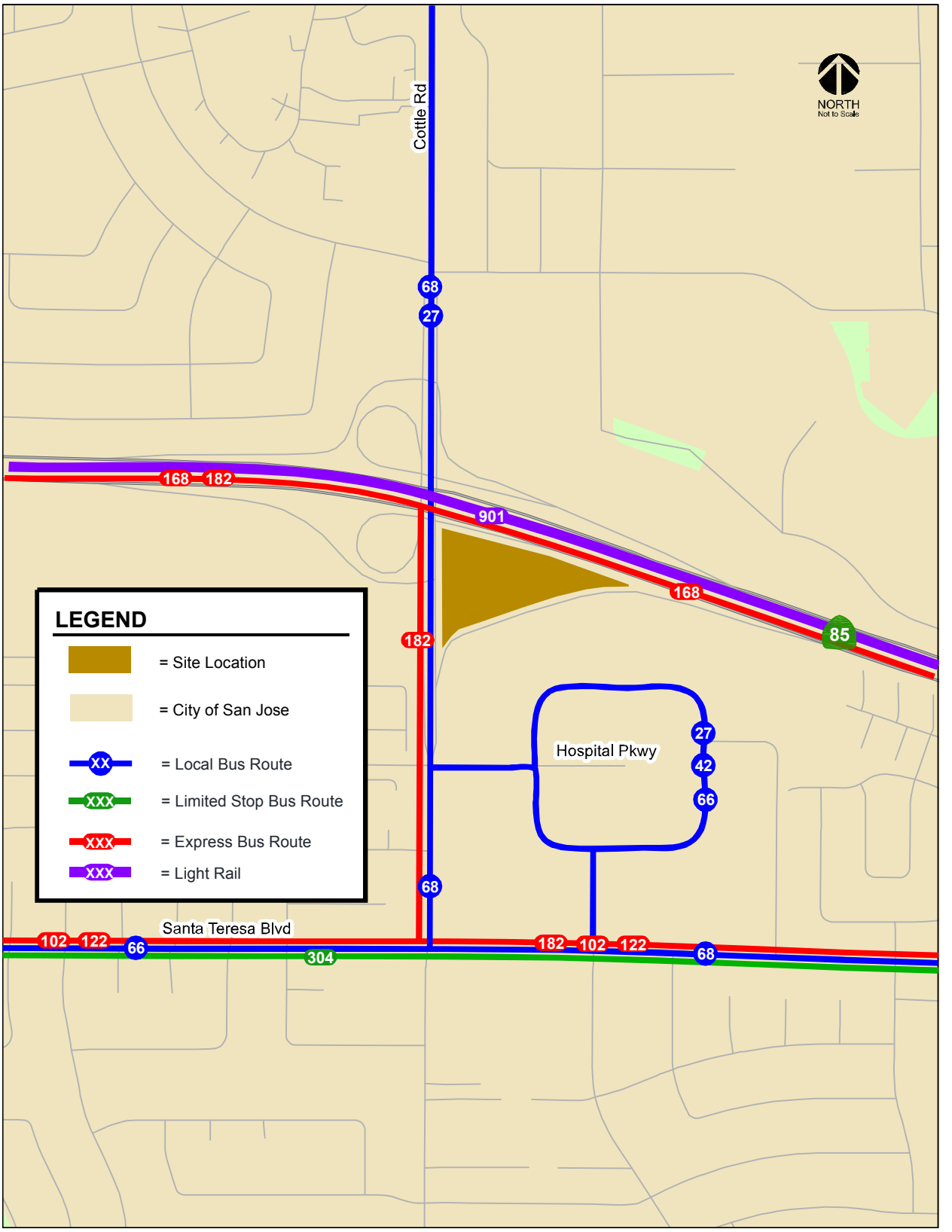
**Express Route 102** runs from South San Jose to Palo Alto and operates six trips northbound in the AM and southbound in the PM with 30-minute headways during the weekday commute periods. The bus stop closest to the project site is located along Santa Teresa Boulevard near its intersection with Cottle Road.

**Express Route 122** runs from South San Jose to Lockheed Martin/Moffett Industrial Park and operates one trip northbound in the AM and southbound in the PM. The bus stop closest to the project site is located along Santa Teresa Boulevard near its intersection with Cottle Road.

**Express Route 182** runs from Palo Alto to IBM/Bailey Avenue and operates one trip southbound in the AM and northbound in the PM. The bus stop closest to the project site is located at the Santa Teresa Light Rail Station.

**Limited-Stop Route 304** provides limited service from the Sunnyvale Transit Center, through downtown San Jose, to the Santa Teresa Light Rail Station. Route 304 operates four trips northbound in the AM and southbound in the PM with 30- to 50-minute headways during the weekday commute periods. The bus stop closest to the project site is located along Santa Teresa Boulevard near its intersection with Cottle Road.

**Figure 17**
**Existing Transit Services (Cottle Light Rail Park & Ride)**



### Light Rail Transit (LRT) Service

The project site encompasses the Cottle LRT station Park and Ride lot and is located adjacent to the Cottle LRT station. LRT service at the Cottle LRT station is provided by the Alum Rock-Santa Teresa LRT line, which operates nearly 24 hours a day (4:00 AM to 2:00 AM) with 10-15-minute headways during peak commute and midday hours. The Alum Rock-Santa Teresa LRT line provides service from the Santa Teresa station in south San Jose, through downtown San Jose to north San Jose where it curves east and operates along the Tasman Corridor, bends south and runs along the Capitol Corridor, and ultimately terminates in east San Jose just south of Alum Rock Avenue. The closest LRT station is located at the SR 85 and Cottle Road interchange.

## General Plan Amendment Site-Specific Long-Range Analysis

The site-specific long-range traffic impacts resulting from the proposed GPA were determined based on the MOEs and associated significance thresholds described in Chapter 3. The results of the site-specific GPA long-range analysis are described below.

### Vehicle Miles Traveled Per Service Population

The San Jose TDF model was used to calculate daily vehicle miles traveled (VMT) per service population, where service population is defined as the number of residents plus the number of employees citywide. This approach focuses on the VMT generated by new population and employment growth. VMT is calculated as the number of vehicle trips multiplied by the length of the trips in miles. Any increase in VMT per service population over the current General Plan due to the proposed land use amendment is considered a significant impact.

As shown in Table 12, the daily VMT would decrease slightly and the VMT per service population would not change with the proposed land use amendment when compared to the current General Plan. Therefore, the proposed land use amendment would result in a *less than significant* impact on the citywide VMT.

**Table 12**
**Daily Vehicle Miles Traveled Per Service Population (Cottle Light Rail Park & Ride)**

| | Base Year (2015) | Existing General Plan | Existing General Plan Plus GPA |
|---|---|---|---|
| Citywide Daily VMT | 20,588,249 | 31,251,446 | 31,243,016 |
| Citywide Service Population | 1,385,030 | 2,065,461 | 2,065,461 |
| Daily VMT Per Service Population | 14.9 | 15.1 | 15.1 |
| ***Increase in VMT/Service Population over General Plan Conditions*** | | | ***0.0*** |
| **Significant Impact?** | | | **No** |

Note:
Service Population = Residents + Jobs

### *Journey-to-Work Mode Share*

The San Jose TDF model was used to calculate journey-to-work citywide mode share percentages. Mode share is the distribution of all daily work trips by travel mode. The modes of travel included in the TDF model are drive alone, carpool with two persons, carpool with three persons or more, transit (rail and bus), bike, and walk trips. Although work trips may occur at any time of the day, a majority of work trips

occur during typical peak commute periods (6:00 – 10:00 AM and 3:00 – 7:00 PM). Any increase in the journey-to-work drive alone mode share percentage over the current General Plan due to the proposed land use amendment is considered a significant impact.

Table 13 summarizes the citywide journey-to-work mode share analysis results. When compared to the current General Plan, the percentage of journey-to-work drive alone trips would not change as a result of the proposed land use amendment. Approximately 73% of the commuters would drive single occupancy vehicles to travel to and from work under the current General Plan and the current General Plan with the proposed land use amendment. Therefore, the proposed land use amendment would result in a *less than significant* impact on citywide journey-to-work drive alone mode share.

**Table 13**
**Journey-to-Work Mode Share (Cottle Light Rail Park & Ride)**

| Mode | Base Year (2015) | | Existing General Plan | | Existing General Plan Plus GPA's | |
|---|---|---|---|---|---|---|
| | Trips | % | Trips | % | Trips | % |
| Drive Alone | 724,530 | 78.3% | 1,061,730 | 72.5% | 1,061,620 | 72.4% |
| Carpool 2 | 112,030 | 12.1% | 178,190 | 12.2% | 178,100 | 12.2% |
| Carpool 3+ | 42,310 | 4.6% | 79,220 | 5.4% | 79,560 | 5.4% |
| Transit | 26,820 | 2.9% | 99,570 | 6.8% | 100,260 | 6.8% |
| Bicycle | 7,060 | 0.8% | 19,610 | 1.3% | 19,690 | 1.3% |
| Walk | 12,130 | 1.3% | 26,260 | 1.8% | 26,280 | 1.8% |
| **Increase in Drive Alone Percentage over General Plan Conditions** | | | | | | -0.1% |
| **Significant Impact?** | | | | | | **No** |

## Average Vehicle Speeds in Transit Priority Corridors

The San Jose TDF model was used to calculate the average vehicle travel speeds during the AM peak hour for the City's 14 transit corridors that were evaluated in the Envision San Jose 2040 General Plan TIA. The analysis of transit priority corridor speeds was completed to assist with the assessment of whether the proposed land use amendment would cause a significant change in travel speeds on the transit priority corridors compared to the current General Plan. A transit corridor is a roadway segment identified as a Grand Boulevard in the Envision San Jose 2040 General Plan Land Use/Transportation Diagram. Grand Boulevards serve as major transportation corridors and, in most cases, are primary routes for VTA's LRT, BRT, local buses, and other public transit vehicles. The travel speeds are calculated by dividing the segment distance by the vehicle travel time. A land use amendment that result in a decrease in average travel speed on a transit corridor in the AM peak one-hour period when the average speed drops below 15 mph or decreases by 25% or more, or the average speed drops by one mph or more for a transit corridor with average speed below 15 mph when compared to the current General Plan is considered a significant impact.

Table 14 presents the average vehicle speeds on the City's 14 transit priority corridors (i.e., Grand Boulevard segments) during the AM peak hour of traffic. When compared to the travel speeds under current General Plan conditions, the change in traffic resulting from the proposed land use amendment would have a minimal effect on the travel speeds in the transit corridors. The model estimates decrease in travel speeds of less than one mph and one percent on four corridors due to the proposed land use amendment. Travel speeds on the remaining corridors would improve slightly or remain unchanged when compared to the current GP. Therefore, the proposed land use amendment would result in a *less than significant* impact on the vehicle speeds in the transit priority corridors.

**Table 14**
**AM Peak Hour Vehicle Speeds for San Jose Transit Priority Corridors (Cottle LR PNR)**

| Transit Priority Corridor | Base Year (2015) | Existing General Plan | Existing General Plan Plus GPA's | % Change (Existing General Plan Plus GPA's - Existing GP) | Absolute Change (Existing General Plan Plus GPA's - Existing GP) |
|---|---|---|---|---|---|
| 2nd St<br>from San Carlos St to St. James St | 11.4 | 11.4 | 11.4 | 0% | 0.0 |
| Alum Rock Av<br>from Capitol Av to US 101 | 21.2 | 15.3 | 15.1 | -1% | -0.2 |
| Camden Av<br>from SR 17 to Meridian Av | 22.2 | 14.6 | 15.4 | 5% | 0.7 |
| Capitol Av<br>from S. Milpitas Bl to Capitol Expwy | 23.9 | 20.8 | 20.6 | -1% | -0.2 |
| Capitol Expwy<br>from Capitol Av to Meridian Av | 25.8 | 24.5 | 25.3 | 3% | 0.8 |
| E. Santa Clara St<br>from US 101 to Delmas Av | 20.3 | 16.9 | 16.8 | -1% | -0.1 |
| Meridian Av<br>from Park Av to Blossom Hill Rd | 22.7 | 19.1 | 19.1 | 0% | -0.1 |
| Monterey Rd<br>from Keyes St to Metcalf Rd | 24.2 | 17.2 | 17.3 | 0% | 0.1 |
| N. 1st St<br>from SR 237 to Keyes St | 19.8 | 12.7 | 13.3 | 5% | 0.6 |
| San Carlos St<br>from Bascom Av to SR 87 | 22.1 | 21.0 | 20.9 | 0% | 0.0 |
| Stevens Creek Bl<br>from Bascom Av to Tantau Av | 21.3 | 17.2 | 17.3 | 1% | 0.1 |
| Tasman Dr<br>from Lick Mill Bl to McCarthy Bl | 24.0 | 13.5 | 13.5 | 0% | 0.0 |
| The Alameda<br>from Alameda Wy to Delmas Av | 19.7 | 14.1 | 14.1 | 0% | 0.0 |
| W. San Carlos St<br>from SR 87 to 2nd St | 19.3 | 18.3 | 18.3 | 0% | 0.0 |

Notes:

Outlined indicates significant impacts.

## Adjacent Jurisdictions

The San Jose General Plan TDF model was used to calculate the number of lane miles of street segments with V/C ratios of 1.0 or greater during the peak 4-hour AM period within adjacent jurisdictions. The effect of the proposed land use adjustments is evaluated based on the percentage of traffic that would be added to the deficient roadways. A deficient roadway segment in an adjacent jurisdiction is attributed to San Jose when trips originating from residents and jobs within San Jose equal 10 percent or more on the deficient segment. An impact to an adjacent jurisdiction is considered significant when 25% or more of total deficient lane miles are attributable to the City of San Jose. The 25% threshold represents what would be a noticeable change in traffic.

Table 15 summarizes the City of San Jose's traffic impacts on the roadway segments within adjacent jurisdictions. City of San Jose traffic would significantly impact roadway segments in the same 13 adjacent jurisdictions under both the current General Plan and the current General Plan plus proposed land use amendment conditions. With the proposed land use amendment, the percentage of deficient lane miles attributable to the City would be the same at all but five roadway segments when compared to the current GP. The model estimates increase in traffic contribution of 2% or less in four jurisdictions and a minimal decrease in traffic contribution in one jurisdiction due to the proposed land use amendment. The proposed land use amendment would not result in further impacts on roadways in adjacent jurisdictions than that those identified for the current General Plan. Therefore, the proposed land use amendment would result in a *less than significant* impact on the roadway segments in adjacent jurisdictions.

**Table 15**
**AM 4-Hour Traffic Impacts in Adjacent Jurisdictions (Cottle Light Rail Park & Ride)**

| City | Base Year (2015) | | | Existing General Plan | | | Existing General Plan Plus GPA | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose |
| Campbell | 0.14 | 0.14 | 100% | 0.86 | 0.86 | 100% | 0.86 | 0.86 | 100% |
| Cupertino | 3.76 | 2.96 | 79% | 1.01 | 0.79 | 78% | 2.89 | 0.79 | 27% |
| Gilroy | 0.00 | 0.00 | 0% | 1.13 | 1.13 | 100% | 1.13 | 1.13 | 100% |
| Los Altos | 1.21 | 0.25 | 21% | 1.63 | 0.25 | 15% | 1.63 | 0.25 | 15% |
| Los Altos Hills | 0.65 | 0.00 | 0% | 1.71 | 0.93 | 54% | 1.71 | 0.93 | 54% |
| Los Gatos | 0.70 | 0.70 | 100% | 1.02 | 1.02 | 100% | 1.02 | 1.02 | 100% |
| Milpitas | 1.08 | 0.87 | 81% | 10.56 | 10.56 | 100% | 10.80 | 10.80 | 100% |
| Monte Sereno | 0.00 | 0.00 | 0% | 0.00 | 0.00 | 0% | 0.00 | 0.00 | 0% |
| Morgan Hill | 0.46 | 0.46 | 100% | 0.56 | 0.56 | 100% | 0.24 | 0.24 | 100% |
| Mountain View | 1.69 | 1.51 | 89% | 1.91 | 1.63 | 85% | 1.96 | 1.67 | 85% |
| Palo Alto | 0.64 | 0.16 | 25% | 2.81 | 0.16 | 6% | 2.81 | 0.16 | 6% |
| Santa Clara | 0.04 | 0.04 | 100% | 1.06 | 0.99 | 93% | 1.06 | 0.99 | 93% |
| Saratoga | 1.86 | 1.57 | 85% | 3.22 | 3.22 | 100% | 3.22 | 3.22 | 100% |
| Sunnyvale | 0.95 | 0.46 | 49% | 1.01 | 1.01 | 100% | 1.01 | 1.01 | 100% |
| Caltrains Facilities | 5,313.11 | 4,133.95 | 78% | 5,234.15 | 4,402.09 | 84% | 5,002.22 | 4,298.36 | 86% |
| Santa Clara County Expressways | 2.75 | 2.75 | 100% | 13.03 | 12.83 | 98% | 15.94 | 15.75 | 99% |

Notes:
1. Total deficient lane miles are total lane miles of street segments with V/C ratios of 1.0 or greater.
2. A deficient roadway segment is attributed to San Jose when trips from the City are 10% or more on the deficient segment.

Outlined indicates significant impacts.

## Impacts on Transit, Bicycle, and Pedestrian Circulation

The Circulation Element of the Envision San Jose 2040 General Plan includes a set of balanced, long-range, multimodal transportation goals and policies that provide for a transportation network that is safe, efficient, and sustainable (minimizes environmental, financial, and neighborhood impacts). In combination with land use goals and policies that focus growth into areas served by transit, these transportation goals and policies are intended to improve multi-model accessibility to employment, housing, shopping, entertainment, schools, and parks and create a city where people are less reliant on driving to meet their daily needs. San Jose's Transportation Goals, Policies, and Actions aim to:

- Establish circulation policies that increase bicycle, pedestrian, and transit travel, while reducing motor vehicle trips, to increase the City's share of travel by alternative transportation modes.
- Promote San Jose as a walking- and bicycling-first city by providing and prioritizing funding for projects that enhance and improve bicycle and pedestrian facilities.

Included within the General Plan are a set of Goals and Policies to support a multimodal transportation system that gives priority to the mobility needs of bicyclists, pedestrians, and public transit users while also providing for the safe and efficient movement of automobiles, buses, and trucks. Policies TR-2.1 through TR-2.11 provide specific policies to guide improvement to walking and bicycling. Such policies include the provision of continuous bicycle system, constructing sidewalks and crosswalks. Similarly, the Envision San Jose 2040 General Plan includes specific policies to maximize use of public transit (TR-3.1 through 3.4). As the Cottle Light Rail Park and Ride project develops, the project should ensure that it is consistent with the Envision San Jose 2040 General Plan to provide safe, accessible and inter-connected pedestrian and bicycle facilities, and accommodate transit services (i.e., bus dugout) as new roadways are constructed. The impacts to pedestrian, bicycle, and transit facilities *are less-than-significant*.

# 7. Trimble Road (Site-Specific GPA Traffic Analysis)

This report presents the results of the long-range site-specific traffic impact analysis for the proposed Trimble Road General Plan Amendment (GP17-007). The purpose of the General Plan Amendment (GPA) traffic analysis is to assess the long-range impacts of the proposed amendment on the citywide transportation system. The potential traffic impacts of the project were evaluated in accordance with the guidelines and thresholds set forth by the Envision San Jose 2040 General Plan. In addition, a near term traffic analysis in conjunction with any future development permit applications consistent with the Envision San Jose 2040 General Plan will be required once a specific development proposal for the site is identified.

## General Plan Amendment Site Description

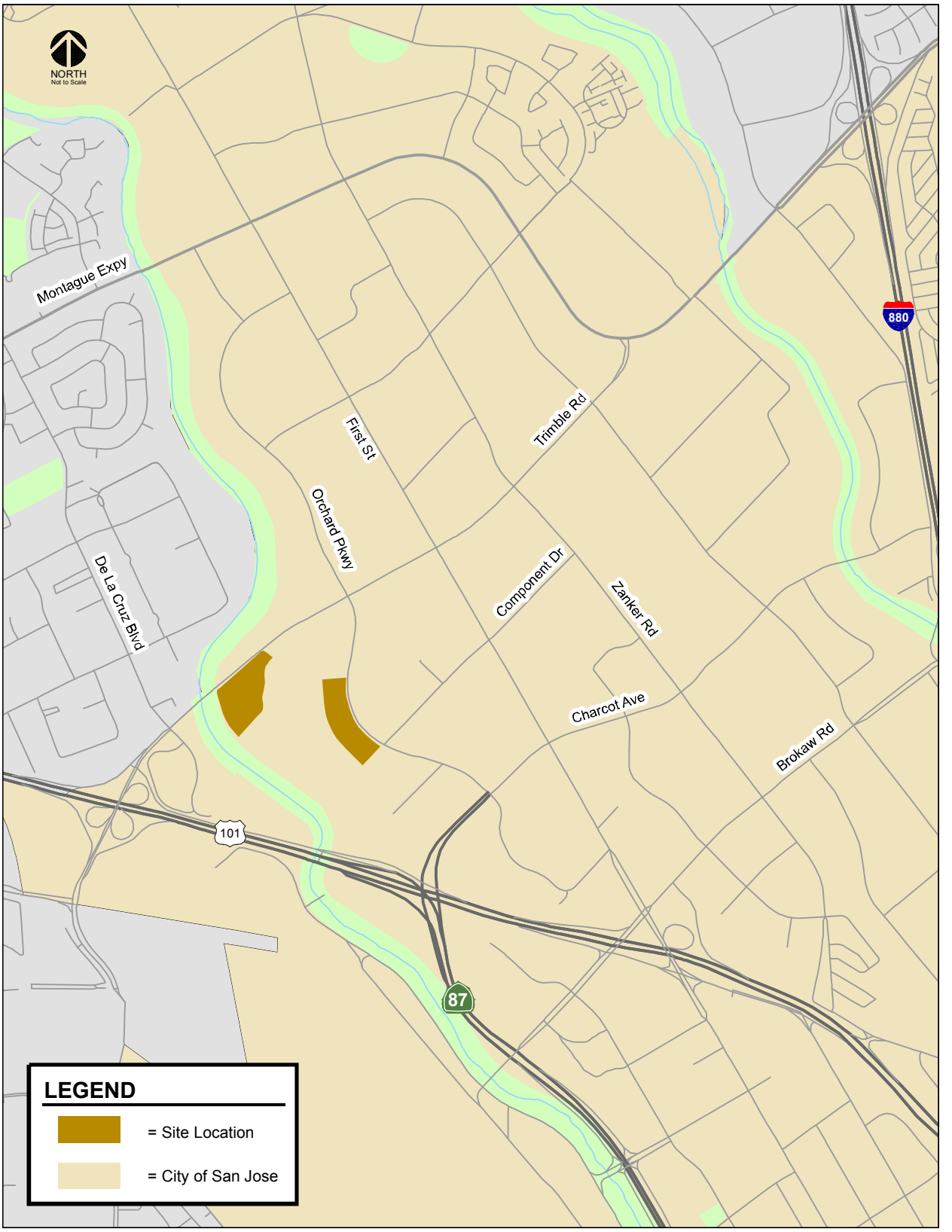
The project consists of amending the adopted land use designation of the Envision San Jose 2040 General Plan for the approximately 19.4-acre site located on west side of Orchard Parkway between Trimble Road and Component Drive inside the North San Jose growth area. The GPA site location is presented on Figure 18. The adopted General Plan land use designation for the site is *Industrial Park*, and the proposed amendment involves changing the adopted land use to *Combined Industrial/Commercial.* The site is currently partially occupied by two office buildings. The proposed land use change for development of the site would complement the immediate and surrounding land uses.

The GPA traffic analysis guidelines provides a trip threshold for General Plan land use amendments that require a site-specific GPA analysis. A proposed land use amendment that would result in an increase of more than 250 peak-hour trips to be generated by the subject site due to proposed increases in households or employment would be required to prepare a site-specific GPA traffic analysis. The proposed amendment would result in 669 fewer jobs on the site. However, the introduction of retail land uses on the site will result in an increase in trips, particularly during the PM peak hour. The proposed land use amendment will result in an additional 380 AM and 620 PM peak hour trips at the GPA site when compared to the current GP. Therefore, a site-specific GPA traffic analysis is required for the proposed land use amendment. The GPA does not propose any changes to the city's major transportation system and the transportation policies that were adopted in the Envision San Jose 2040 General Plan.

## Scope of the Study

The analysis includes the evaluation of the potential for the proposed land use amendment to result in increased vehicle miles traveled, increased traffic volume on specified roadway segments, impacts to travel speeds on transit priority corridors, impacts to roadways in adjacent jurisdictions, and impacts to pedestrian, bicycle, and transit facilities. Impacts are evaluated based on the same measures of effectiveness (MOEs) and significance criteria utilized in the Envision San Jose 2040 GP TIA and described in Chapter 3 of this report. Traffic conditions were evaluated for the following traffic scenarios using the City of San Jose's Traffic Demand Forecasting (TDF) model:

**Figure 18**
**Trimble Road GPA Site Location**



- **Projected Year 2015 Conditions:** The Projected Year 2015 Conditions represent a projection of transportation conditions in 2015 using the City's GP TDF model. The roadway network also reflects the Year 2015 roadway network and transportation system.
- **Current 2040 General Plan Conditions:** Future traffic due to the current GP land uses (i.e., including the adopted Four-Year GP Review Land Use adjustments) is added to regional growth that can be reasonably expected to occur by 2040. Current 2040 GP conditions includes the citywide roadway network to reflect the current roadway network as well as all transportation system improvements as identified in the current GP.
- **Proposed 2040 General Plan Amendment Conditions:** Current 2040 General Plan conditions with the proposed land use amendment. Transportation conditions for the Proposed 2040 GP Amendment Conditions were evaluated relative to the Current 2040 GP Conditions to determine any long-range traffic impacts.

# Existing Conditions

This section describes the existing conditions for all of the major transportation facilities in the vicinity of the site, including the roadway network, transit service, and bicycle and pedestrian facilities.

## Existing Roadway Network

Regional access to the project site is provided via US 101 and I-880. Local access to the site is provided by Trimble Road, First Street, Zanker Road, Orchard Parkway, and Charcot Avenue. These facilities are described below.

**US 101** is a north/south freeway with six mixed-flow lanes and two high-occupancy-vehicle (HOV) lanes through most of Santa Clara and San Jose. US 101 extends northward through San Francisco and southward through Gilroy. Access to and from the site is provided via an interchange at Trimble Road.

**I-880** is a north/south freeway providing regional access from East Bay cities to San Jose, where it ultimately becomes SR 17 and extends into Santa Cruz. Within the project vicinity, I-880 primarily is a six-lane freeway. Access to the project site from I-880 is provided via an interchange at Montague Expressway.

**Trimble Road** is a six-lane arterial extending southward from Montague Expressway to De La Cruz Boulevard near US 101. Direct access to the project site is provided via a right-in/right-out driveway on Trimble Road.

**First Street** is generally a four-lane north-south roadway in the vicinity of the project site that extends from the north San Jose area through downtown San Jose. The Mountain View-Winchester and Alum Rock-Santa Teresa light rail transit (LRT) lines run along the middle of First Street from downtown San Jose to Tasman Drive in north San Jose. Access to the project site is provided via Trimble Road.

**Zanker Road** is four-lane arterial that extends from US 101 northward past SR 237 where it transitions to Los Esteros Road. Zanker Road intersects with Charcot Avenue and provides a parallel route to First Street in the study area. Access to the project site is provided via Trimble Road.

**Orchard Parkway** is two-lane north-south roadway that begins at First Street and extends to Charcot Avenue, where it transitions to O'Nel Drive. Direct access to the project site is provided via a signalized project driveway intersection with Orchard Parkway.

**Charcot Avenue** is a two- to four-lane roadway that begins at the US 101/SR 87 junction as the SR 87 off- and on ramps to/from North First Street and runs eastward to O'Toole Avenue, just west of I-880, where it terminates. West of North First Street, Charcot Avenue is a four-lane roadway that provides direct access to SR 87, while the segment east of North First Street functions as a two-lane collector street providing access to adjacent employment areas. Access to the project site is provided via Orchard Parkway.

## Existing Bicycle and Pedestrian Facilities

There are several bike lanes and a bike routes in the vicinity of the project site. Bicycle facilities are divided into three classes of relative significance. Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path. Class II bikeways are striped bike lanes on roadways that are marked by signage and pavement markings. Class III bikeways are bike routes and only have signs to help guide bicyclists on recommended routes to certain locations. Class II striped bike lanes are provided on the following roadways:

- First Street – Along its entire length northward starting from Brokaw Road
- Zanker Road – Between Old Bayshore Highway and SR 237
- Trimble Road – US 101 and Montague Expressway
- Orchard Parkway – Along its entire length
- Charcot Avenue – Along its entire length
- Brokaw Road – Along its entire length
- River Oaks Parkway – Along its entire length

The existing bicycles facilities are shown in Figure 19.

In addition, The City of San Jose bicycle master plan*, San Jose Bike Plan 2020*, provides policies and improvements to bicycle facilities to improve the use of bicycles in the City. It includes an inventory of existing bicycle facilities and identifies locations for enhancement of existing facilities by expansion and or establishing potential connections.

Pedestrian facilities in the project area consist primarily of sidewalks along the streets in most residential and commercial areas, as well as the aforementioned bike/pedestrian path. Sidewalks are found along virtually all previously described local roadways in the study area, including Orchard Parkway, Trimble Road, and First Street, and other roadways in the project vicinity.

## Existing Transit Services

Existing transit services to the study area are provided by the VTA. The VTA transit services are described below and shown on Figure 20.

### VTA Bus Services

**Local Route 58** runs from West Valley College to Alviso and operates from 6:00 AM to 8:00 PM with 30-minute headways during the weekday commute periods. There's no bus stop within walking distance of the project site.

**Express Route 121** runs from Gilroy Transit Center to Lockheed Martin Transit Center/Moffett Park and operates nine trips northbound in the AM and southbound in the PM with 15-minute headways during the weekday commute periods. There's no bus stop within walking distance of the project site.

**Express Route 122** runs from South San Jose to Lockheed Martin/Moffett Industrial Park and operates one trip northbound in the AM and southbound in the PM. There's no bus stop within walking distance of the project site.
**Express Route 181** runs from Fremont BART Station to San Jose Diridon Transit Center and operates from 5:30 AM to 12:30 AM with 15- to 20-minute headways during the weekday commute periods. There's no bus stop within walking distance of the project site.

**Limited-Stop Route 321** runs from South San Jose to Lockheed Martin/Moffett Industrial Park and operates one trip westbound in the AM and eastbound in the PM. There's no bus stop within walking distance of the project site.

**Figure 19**
**Existing Bicycle Facilities (Trimble Road)**

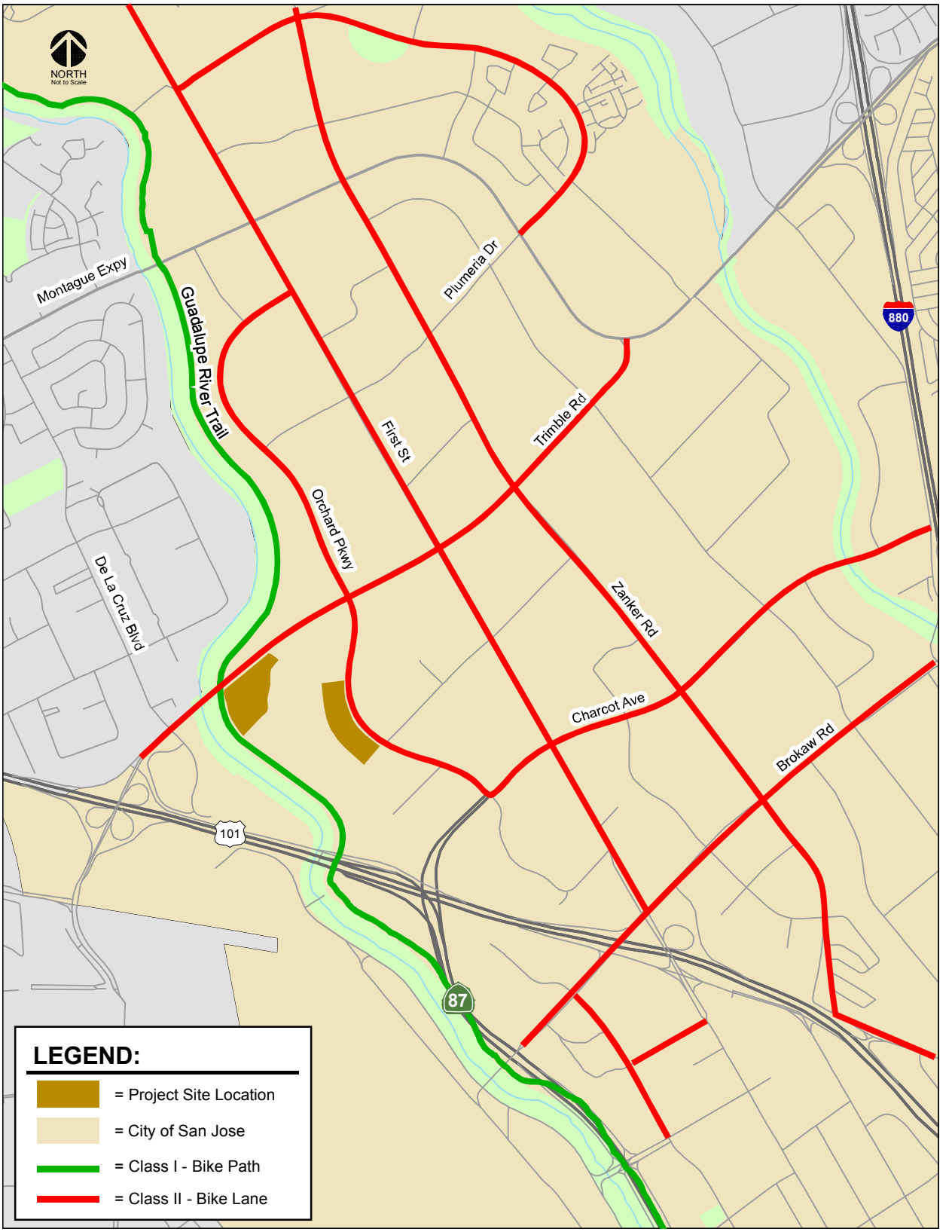
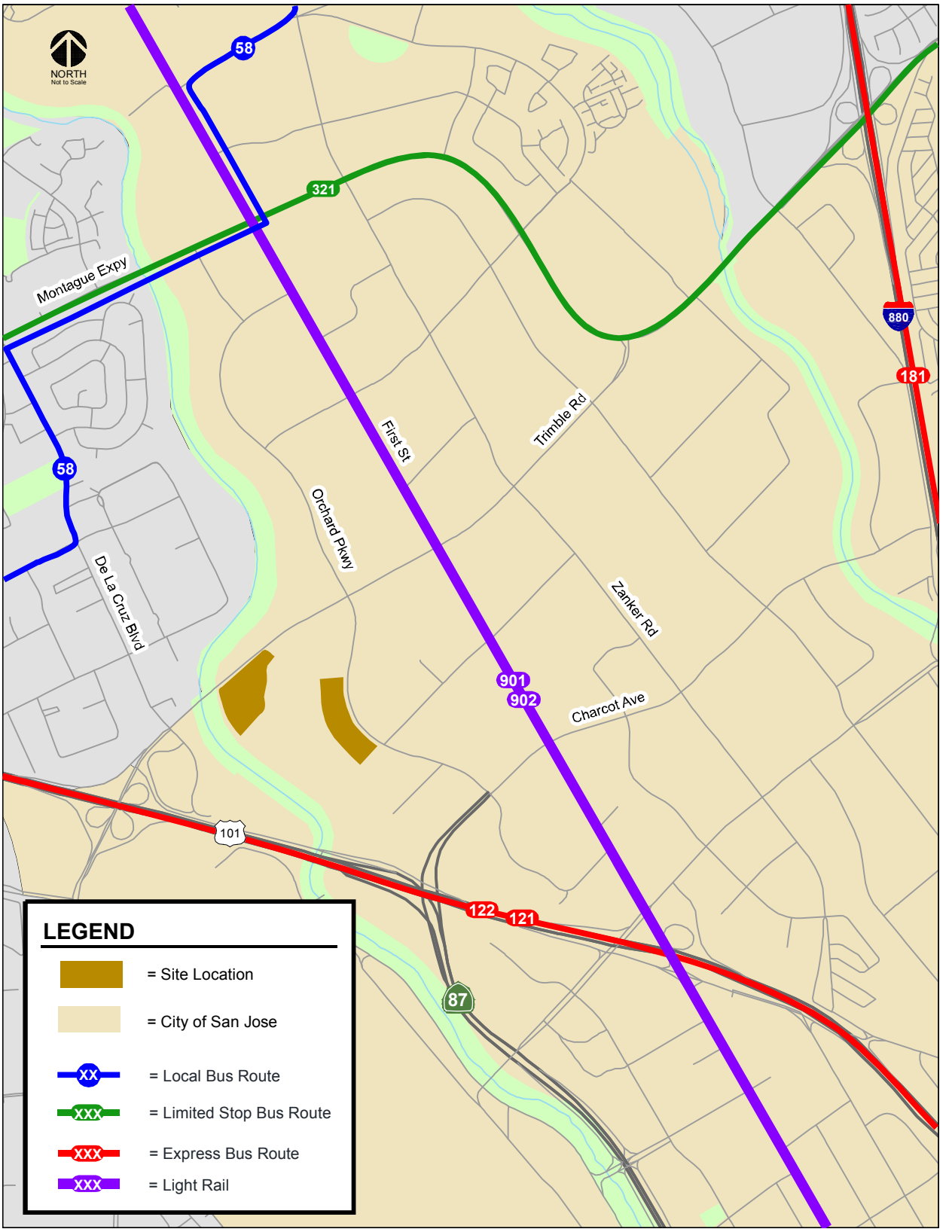


**Figure 20**
**Existing Transit Services (Trimble Road)**



### Light Rail Transit (LRT) Service

The Bonaventura LRT station, located near the intersection of First Street/Trimble Road less than 0.5 mile from the project site, is the nearest LRT station. LRT service at the Bonaventura LRT station is provided by the Alum Rock-Santa Teresa and Mountain View-Winchester lines. The Alum Rock-Santa Teresa LRT line operates nearly 24 hours a day (4:00 AM to 2:00 AM) with 10-15-minute headways during peak commute and midday hours. The Alum Rock-Santa Teresa LRT line provides service from the Santa Teresa station in south San Jose, through downtown San Jose to north San Jose where it curves east and operates along the Tasman Corridor, bends south and runs along the Capitol Corridor, and ultimately terminates in east San Jose just south of Alum Rock Avenue. The Mountain View-Winchester line operates from 5:00 AM to 1:00 AM with 15-minute headways during the weekday commute periods. The Mountain View-Winchester LRT line provides service from the Winchester station in Campbell, through downtown San Jose to north San Jose where it curves west and operates along the Tasman Corridor and ultimately terminates in at the Mountain View LRT Station.

## General Plan Amendment Site-Specific Long-Range Analysis

The site-specific long-range traffic impacts resulting from the proposed GPA were determined based on the MOEs and associated significance thresholds described in Chapter 3. The results of the site-specific GPA long-range analysis are described below.

### Vehicle Miles Traveled Per Service Population

The San Jose TDF model was used to calculate daily vehicle miles traveled (VMT) per service population, where service population is defined as the number of residents plus the number of employees citywide. This approach focuses on the VMT generated by new population and employment growth. VMT is calculated as the number of vehicle trips multiplied by the length of the trips in miles. Any increase in VMT per service population over the current General Plan due to the proposed land use amendment is considered a significant impact.

As shown in Table 16, the daily VMT would increase slightly due to the proposed land use amendment when compared to the current General Plan. However, the VMT per service population would not change when compared to the current General Plan. The small increase in daily VMT is due to the shifting of land use/growth within different parts of the City. However, the increase in daily VMT is too small to have a measurable effect on the VMT per service population. Therefore, the proposed land use amendment would result in a *less than significant* impact on the citywide VMT.

**Table 16**
**Daily Vehicle Miles Traveled Per Service Population (Trimble Road)**

| | Base Year (2015) | Existing General Plan | Existing General Plan Plus GPA |
|---|---|---|---|
| Citywide Daily VMT | 20,588,249 | 31,251,446 | 31,255,598 |
| Citywide Service Population | 1,385,030 | 2,065,461 | 2,065,461 |
| Daily VMT Per Service Population | 14.9 | 15.1 | 15.1 |
| ***Increase in VMT/Service Population over General Plan Conditions*** | | | ***0.0*** |
| **Significant Impact?** | | | **No** |

Note:
Service Population = Residents + Jobs

## Journey-to-Work Mode Share

The San Jose TDF model was used to calculate journey-to-work citywide mode share percentages. Mode share is the distribution of all daily work trips by travel mode. The modes of travel included in the TDF model are drive alone, carpool with two persons, carpool with three persons or more, transit (rail and bus), bike, and walk trips. Although work trips may occur at any time of the day, a majority of work trips occur during typical peak commute periods (6:00 – 10:00 AM and 3:00 – 7:00 PM). Any increase in the journey-to-work drive alone mode share percentage over the current General Plan due to the proposed land use amendment is considered a significant impact.

Table 17 summarizes the citywide journey-to-work mode share analysis results. When compared to the current General Plan, the percentage of journey-to-work drive alone trips would not change as a result of the proposed land use amendment. Approximately 73% of the commuters would drive single occupancy vehicles to travel to and from work under the current General Plan and the current General Plan with the proposed land use amendment. Therefore, the proposed land use amendment would result in a *less than significant* impact on citywide journey-to-work drive alone mode share.

**Table 17**
**Journey-to-Work Mode Share (Trimble Road)**

| Mode | Base Year (2015) | | Existing General Plan | | Existing General Plan Plus GPA's | |
|---|---|---|---|---|---|---|
| | Trips | % | Trips | % | Trips | % |
| Drive Alone | 724,530 | 78.3% | 1,061,730 | 72.5% | 1,061,310 | 72.5% |
| Carpool 2 | 112,030 | 12.1% | 178,190 | 12.2% | 178,030 | 12.2% |
| Carpool 3+ | 42,310 | 4.6% | 79,220 | 5.4% | 79,460 | 5.4% |
| Transit | 26,820 | 2.9% | 99,570 | 6.8% | 99,830 | 6.8% |
| Bicycle | 7,060 | 0.8% | 19,610 | 1.3% | 19,620 | 1.3% |
| Walk | 12,130 | 1.3% | 26,260 | 1.8% | 26,260 | 1.8% |
| **Increase in Drive Alone Percentage over General Plan Conditions** | | | | | | 0.0% |
| **Significant Impact?** | | | | | | **No** |

## Average Vehicle Speeds in Transit Priority Corridors

The San Jose TDF model was used to calculate the average vehicle travel speeds during the AM peak hour for the City's 14 transit corridors that were evaluated in the Envision San Jose 2040 General Plan TIA. The analysis of transit priority corridor speeds was completed to assist with the assessment of whether the proposed land use amendment would cause a significant change in travel speeds on the transit priority corridors compared to the Adopted 2040 General Plan. A transit corridor is a roadway segment identified as a Grand Boulevard in the Envision San Jose 2040 General Plan Land Use/Transportation Diagram. Grand Boulevards serve as major transportation corridors and, in most cases, are primary routes for VTA's LRT, BRT, local buses, and other public transit vehicles. The travel speeds are calculated by dividing the segment distance by the vehicle travel time. A land use amendment that result in a decrease in average travel speed on a transit corridor in the AM peak one-hour period when the average speed drops below 15 mph or decreases by 25% or more, or the average speed drops by one mph or more for a transit corridor with average speed below 15 mph when compared to the current General Plan is considered a significant impact.

Table 18 presents the average vehicle speeds on the City's 14 transit priority corridors (i.e., Grand Boulevard segments) during the AM peak hour of traffic. When compared to the travel speeds under current General Plan conditions, the change in traffic resulting from the proposed land use amendment would have a minimal effect on the travel speeds in the transit corridors. The model estimates decrease in travel speeds of 0.8 mph or less on three corridors due to the proposed land use amendment. Travel speeds on the remaining corridors would improve slightly or remain unchanged when compared to the current GP. Therefore, the proposed land use amendment would result in a *less than significant* impact on the vehicle speeds in the transit priority corridors.

## Adjacent Jurisdictions

The San Jose General Plan TDF model was used to calculate the number of lane miles of street segments with V/C ratios of 1.0 or greater during the peak 4-hour AM period within adjacent jurisdictions. The effect of the proposed land use adjustments is evaluated based on the percentage of traffic that would be added to the deficient roadways. A deficient roadway segment in an adjacent jurisdiction is attributed to San Jose when trips originating from residents and jobs within San Jose equal 10 percent or more on the deficient segment. An impact to an adjacent jurisdiction is considered significant when 25% or more of total deficient lane miles are attributable to the City of San Jose. The 25% threshold represents what would be a noticeable change in traffic. Table 19 summarizes the City of San Jose's traffic impacts on the roadway segments within adjacent jurisdictions.

City of San Jose traffic would significantly impact roadway segments on the same 13 adjacent jurisdictions under both the current General Plan and the current General Plan plus proposed land use amendment conditions. With the proposed land use amendment, the percentage of deficient lane miles attributable to the City would be the same at all but five roadway segments when compared to the current GP. The model estimates increase in traffic contribution of 2% or less in four jurisdictions and a minimal decrease in traffic contribution in two jurisdictions due to the proposed land use amendment. The proposed land use amendment would not result in further impacts on roadways in adjacent jurisdictions than that those identified for the current General Plan. Therefore, the proposed land use amendment would result in a *less than significant* impact on the roadway segments in adjacent jurisdictions.

## Impacts on Transit, Bicycle, and Pedestrian Circulation

The Circulation Element of the Envision San Jose 2040 General Plan includes a set of balanced, long-range, multimodal transportation goals and policies that provide for a transportation network that is safe, efficient, and sustainable (minimizes environmental, financial, and neighborhood impacts). In combination with land use goals and policies that focus growth into areas served by transit, these transportation goals and policies are intended to improve multi-model accessibility to employment, housing, shopping, entertainment, schools, and parks and create a city where people are less reliant on driving to meet their daily needs. San Jose's Transportation Goals, Policies, and Actions aim to:

- Establish circulation policies that increase bicycle, pedestrian, and transit travel, while reducing motor vehicle trips, to increase the City's share of travel by alternative transportation modes.
- Promote San Jose as a walking- and bicycling-first city by providing and prioritizing funding for projects that enhance and improve bicycle and pedestrian facilities.

Included within the General Plan are a set of Goals and Policies to support a multimodal transportation system that gives priority to the mobility needs of bicyclists, pedestrians, and public transit users while also providing for the safe and efficient movement of automobiles, buses, and trucks. Policies TR-2.1 through TR-2.11 provide specific policies to guide improvement to walking and bicycling. Such policies include the provision of continuous bicycle system, constructing sidewalks and crosswalks. Similarly, the Envision San Jose 2040 General Plan includes specific policies to maximize use of public transit (TR-3.1 through 3.4). As the Trimble Road project develops, the project should ensure that it is consistent with the Envision San Jose 2040 General Plan to provide safe, accessible and inter-connected pedestrian and bicycle facilities, and accommodate transit services (i.e., bus dugout) as new roadways are constructed. The impacts to pedestrian, bicycle, and transit facilities *are less-than-significant*.

**Table 18**
**AM Peak Hour Vehicle Speeds for San Jose Transit Priority Corridors (Trimble Road)**

| Transit Priority Corridor | Base Year (2015) | Existing General Plan | Existing General Plan Plus GPA's | % Change (Existing General Plan Plus GPA's - Existing GP) | Absolute Change (Existing General Plan Plus GPA's - Existing GP) |
|---|---|---|---|---|---|
| 2nd St<br>from San Carlos St to St. James St | 11.4 | 11.4 | 11.4 | 0% | 0.0 |
| Alum Rock Av<br>from Capitol Av to US 101 | 21.2 | 15.3 | 14.5 | -6% | -0.8 |
| Camden Av<br>from SR 17 to Meridian Av | 22.2 | 14.6 | 15.2 | 4% | 0.6 |
| Capitol Av<br>from S. Milpitas Bl to Capitol Expwy | 23.9 | 20.8 | 20.8 | 0% | 0.0 |
| Capitol Expwy<br>from Capitol Av to Meridian Av | 25.8 | 24.5 | 25.0 | 2% | 0.5 |
| E. Santa Clara St<br>from US 101 to Delmas Av | 20.3 | 16.9 | 16.7 | -1% | -0.2 |
| Meridian Av<br>from Park Av to Blossom Hill Rd | 22.7 | 19.1 | 18.7 | -2% | -0.4 |
| Monterey Rd<br>from Keyes St to Metcalf Rd | 24.2 | 17.2 | 17.3 | 1% | 0.1 |
| N. 1st St<br>from SR 237 to Keyes St | 19.8 | 12.7 | 12.8 | 0% | 0.0 |
| San Carlos St<br>from Bascom Av to SR 87 | 22.1 | 21.0 | 21.0 | 0% | 0.1 |
| Stevens Creek Bl<br>from Bascom Av to Tantau Av | 21.3 | 17.2 | 17.3 | 1% | 0.2 |
| Tasman Dr<br>from Lick Mill Bl to McCarthy Bl | 24.0 | 13.5 | 13.5 | 0% | 0.0 |
| The Alameda<br>from Alameda Wy to Delmas Av | 19.7 | 14.1 | 14.3 | 1% | 0.1 |
| W. San Carlos St<br>from SR 87 to 2nd St | 19.3 | 18.3 | 18.3 | 0% | 0.0 |

Notes:

Outlined indicates significant impacts.

**Table 19**
**AM 4-Hour Traffic Impacts in Adjacent Jurisdictions (Trimble Road)**

| City | Base Year (2015) | | | Existing General Plan | | | Existing General Plan Plus GPA | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose | Total Deficient Lane Miles[1] | Total Deficient Lane Miles Attributable to San Jose[2] | % of Deficient Lane Miles Attributable to San Jose |
| Campbell | 0.14 | 0.14 | 100% | 0.86 | 0.86 | 100% | 0.76 | 0.76 | 100% |
| Cupertino | 3.76 | 2.96 | 79% | 1.01 | 0.79 | 78% | 1.01 | 0.79 | 78% |
| Gilroy | 0.00 | 0.00 | 0% | 1.13 | 1.13 | 100% | 1.13 | 1.13 | 100% |
| Los Altos | 1.21 | 0.25 | 21% | 1.63 | 0.25 | 15% | 1.63 | 0.25 | 15% |
| Los Altos Hills | 0.65 | 0.00 | 0% | 1.71 | 0.93 | 54% | 1.71 | 0.93 | 54% |
| Los Gatos | 0.70 | 0.70 | 100% | 1.02 | 1.02 | 100% | 1.02 | 1.02 | 100% |
| Milpitas | 1.08 | 0.87 | 81% | 10.56 | 10.56 | 100% | 10.60 | 10.60 | 100% |
| Monte Sereno | 0.00 | 0.00 | 0% | 0.00 | 0.00 | 0% | 0.00 | 0.00 | 0% |
| Morgan Hill | 0.46 | 0.46 | 100% | 0.56 | 0.56 | 100% | 0.24 | 0.24 | 100% |
| Mountain View | 1.69 | 1.51 | 89% | 1.91 | 1.63 | 85% | 1.96 | 1.67 | 85% |
| Palo Alto | 0.64 | 0.16 | 25% | 2.81 | 0.16 | 6% | 2.81 | 0.16 | 6% |
| Santa Clara | 0.04 | 0.04 | 100% | 1.06 | 0.99 | 93% | 1.06 | 0.99 | 93% |
| Saratoga | 1.86 | 1.57 | 85% | 3.22 | 3.22 | 100% | 3.22 | 3.22 | 100% |
| Sunnyvale | 0.95 | 0.46 | 49% | 1.01 | 1.01 | 100% | 1.01 | 1.01 | 100% |
| Caltrains Facilities | 5,313.11 | 4,133.95 | 78% | 5,234.15 | 4,402.09 | 84% | 5,002.22 | 4,298.36 | 86% |
| Santa Clara County Expressways | 2.75 | 2.75 | 100% | 13.03 | 12.83 | 98% | 15.94 | 15.75 | 99% |

Notes:
1. Total deficient lane miles are total lane miles of street segments with V/C ratios of 1.0 or greater.
2. A deficient roadway segment is attributed to San Jose when trips from the City are 10% or more on the deficient segment.

Outlined indicates significant impacts.

# 8. Conclusions

This report presents the results of the long-range traffic impact analysis for the proposed City of San Jose 2017 General Plan Amendments (project). The project consists of amending the current adopted land use designations of the Envision San Jose 2040 General Plan for 10 parcels within the City of San Jose. The purpose of the General Plan Amendments (GPAs) traffic analysis is to assess the long-range impacts of the amendments on the citywide transportation system. The analysis includes evaluation of increased vehicle miles traveled, increased traffic volume on specified roadway segments, impacts to travel speeds on transit priority corridors, impacts to pedestrian, bicycle, and transit facilities, and impacts to roadways in adjacent jurisdictions. Impacts were evaluated based on the same measures of effectiveness (MOEs) and significance criteria utilized in the Envision San Jose 2040 GP TIA.

In addition, per GPA traffic analysis guidelines, a proposed land use amendment that would result in an increase of more than 250-peak-hour trips due to increased households or employment is required to prepare a site-specific GPA traffic analysis. The proposed land use amendments on three of the 10 amendment sites would result in a net increase of 250-peak-hour trips or more.

This study included an evaluation of the cumulative impacts of all 10 sites as well as the required site-specific GPA traffic analysis for the three sites. Individual development projects also will be required to complete a near term traffic analysis in conjunction with any future development permit applications consistent with the Envision San Jose 2040 General Plan (GP).

## Cumulative GPA Long-Range Traffic Impacts

### Vehicle Miles Traveled Per Service Population

Compared to the current General Plan, the proposed land use adjustments would not result in an increase in vehicle miles traveled per service population. Therefore, cumulatively, the 2017 GPAs would result in a less than significant impact on citywide daily VMT per service population. It is important to note that the VMT per service population is based on raw model output and does not reflect the implementation of adopted GP policies and goals that would further reduce VMT by increased use of non-auto modes of travel.

### Journey-to-Work Mode Share

The proposed land use adjustments will not result in an increase of drive alone trips when compared to the current General Plan. Therefore, cumulatively, the 2017 GPAs would result in a less than significant impact on citywide journey-to-work mode share.

### Average Vehicle Speeds in Transit Priority Corridors

The proposed land use adjustments will not result in a decrease in travel speeds of greater than one mph or 25 percent on any of the 14 transit priority corridors when compared to current GP conditions.

Therefore, cumulatively, the 2017 GPAs would result in a less than significant impact on the AM peak-hour average vehicle speeds on the transit priority corridors.

### Adjacent Jurisdictions

The current GP land uses and proposed GPA land use adjustments were shown to impact roadway segments within the same 14 adjacent jurisdictions. Therefore, the proposed GPA land use adjustments would not result in further impact on roadways in adjacent jurisdictions than that identified for the current GP land uses in the adopted Envision San Jose 2040 GP EIR.

## Site-Specific GPA Traffic Analysis

The proposed land use amendments on three of the 10 amendment sites would result in a net increase of 250 peak-hour trips or more to be generated by the subject site. Per GPA traffic analysis guidelines, a site-specific GPA traffic analysis was completed for each of the three sites listed below at which the proposed land use amendment will result in a net increase of more than 250 peak-hour trips.

- GP17-003 (Branham Light Rail Park & Ride)
- GP17-004 (Cottle Light Rail Park & Ride)
- GP17-007 (350-370 Trimble Road)

The results of the analysis show that the additional traffic generated by the each of the three individual GPA sites that required site-specific analysis would not cause any additional transportation impacts beyond those identified for the Current 2040 General Plan. Therefore, each of the three individual GPA sites would result in a *less than significant* impact on the citywide roadway system.

## Impacts on Transit, Bicycle, and Pedestrian Circulation

### Transit Services or Facilities

The proposed GPAs land use adjustments would not result in a change to the existing and planned roadway network that would have an adverse effect on existing or planned transit facilities. Therefore, the proposed 2017 GPAs land use adjustments would not substantially disrupt existing, or interfere with planned transit services or facilities.

### Bicycle Facilities

The proposed GPAs land use adjustments would not result in a change to the existing and planned roadway network that would affect existing or planned bicycle facilities. Therefore, the proposed 2017 GPAs land use adjustments would not substantially disrupt existing, or interfere with planned bicycle facilities; conflict or create inconsistencies with adopted bicycle plans, guidelines, policies, or standards; and provide insecure and unsafe bicycle parking in adequate proportion to anticipated demand.

### Pedestrian Facilities

The proposed GPAs land use adjustments would not result in a change to the existing and planned roadway network that would affect existing or planned pedestrian facilities. Therefore, the proposed 2017 GPAs land use adjustments would not substantially disrupt existing, or interfere with planned pedestrian facilities; create inconsistencies with adopted pedestrian plans, guidelines, policies, or standards; and provide accessible pedestrian facilities that would not meet current ADA best practices.

## Consistency with General Plan Polices

The City of San Jose's Transportation Policies contained in the General Plan are intended to do the following:

1. Establish circulation policies that increase bicycle, pedestrian, and transit travel, while reducing motor vehicle trips, to increase the City's share of travel by alternative transportation modes; and
2. Promote San Jose as a walking- and bicycling-first city by providing and prioritizing funding for projects that enhance and improve bicycle and pedestrian facilities.

Implementation of the General Plan Transportation Policies can help to promote a multi-modal transportation system and stimulate the use of transit, bicycle, and walk as practical modes of transportation in the City, which ultimately will improve operating speeds in the City's 14 transit priority corridors. An enhanced multi-modal transportation system is capable of reducing reliance on the automobile and decreasing the amount of vehicle travel, specifically journey-to-work drive alone trips.

Based on the result of the analysis, the 2017 GPAs are consistent with the City of San Jose General Plan transportation policies, because they would increase transit travel, while reducing motor vehicle trips and slightly improving operating speeds in the City's 14 transit priority corridors.