Story-Keyes Corridor Complete Streets Study

February 2018

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Valley Transportation Authority

The Santa Clara Valley Transportation Authority (VTA), in association with the City of San José, led the development of the Story-Keyes Corridor Complete Streets Study. The Study was made possible through a Caltrans Sustainable Transportation Planning Grant with a Vehicle Registration Fee local match. Caltrans Sustainable Transportation Planning Grants plan for multi-modal transportation systems and seek to improve public health, social equity, environmental justice, and provide other important community benefits.

Santa Clara Valley Transportation Authority

CITY OF SAN JOSE CAPITAL OF SILICON VALLEY

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1. Background and Study Process

1.1 Study Purpose and Process

The Story-Keyes Corridor Complete Streets Study (the Study) is the culmination of a community-based planning process to improve the safety, attractiveness, and efficiency of public transit, walking, and bicycling in the Story-Keyes corridor while continuing to serve the needs of drivers. This was accomplished through extensive community and technical stakeholder engagement to understand existing issues and opportunities, discuss potential improvements, and ultimately arrive at a preferred set of recommendations that reflect the long-term priorities and vision of the neighborhoods along the corridor, City of San José, and Santa Clara Valley Transportation Authority (VTA). The Study is critical for improving safety, mobility, access, and comfort for people of all ages and abilities in East San José and reflects an investment and commitment to the many disadvantaged communities along the corridor. The Study process engaged community members to understand how they use the corridor, their ideas and visions for how to improve the corridor, and how they would like to use the corridor in the future.

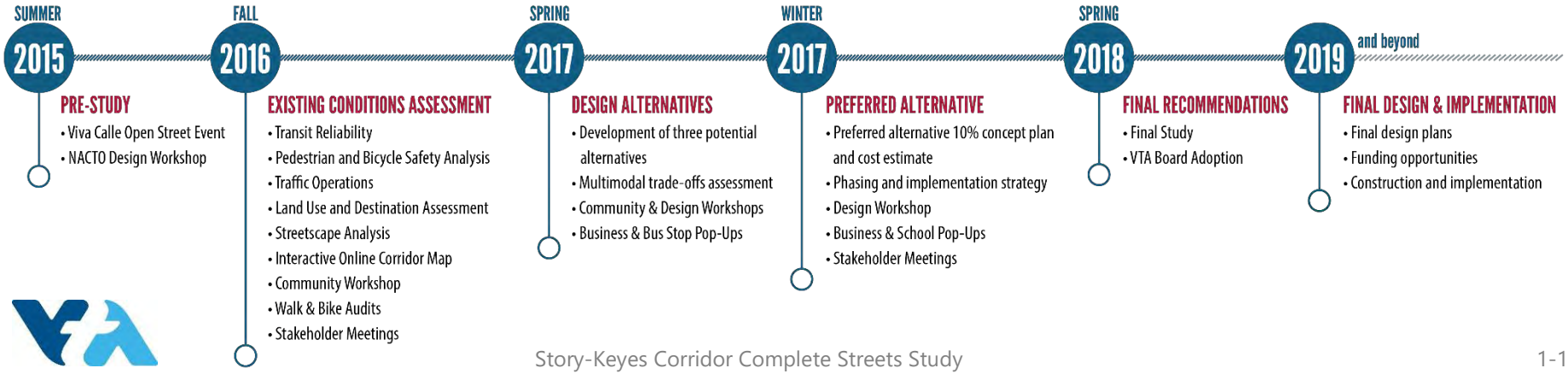
This Study is a partnership between VTA and the City of San José and creates a new model of collaboration between a countywide transportation agency and a local municipality. The Study builds off of the City of San José's and VTA's commitment to providing complete streets to improve mobility and safety for all people. The **Planning Background** and **Planning Context** sections below (Sections 1.3 and 1.4, respectively) highlight the citywide and countywide policies and initiatives that support the Study purpose.

What Is a Complete Street?

Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from train stations.

–National Complete Streets Coalition

Complete Streets also include consideration of goods movement as well as the quality of the streetscape environment. In practice, this can be a challenge: benefits and improvements to one mode may be at odds for improvements to other modes. Complete Streets seek to balance the needs of travel modes in a way that reflects citywide policies, safety, and local priorities and should always be considered as part of the larger transportation network.



1 Background and Study Process

VTA's core values and policies acted as guiding principles throughout the Study process. VTA's Strategic Plan defines these core values, as well as a set of three business lines that communicate the work VTA does and ties it back to its mission, vision, and values:

1. Faster, Frequent, Reliable Transit
2. Delivering Projects and Programs
3. Transportation System Management

The Study process led to the following specific objectives for the corridor:

- Safety for people walking, biking, taking the bus, and driving;
- Transit passengers' experience, including travel time and reliability of bus service and bus stop amenities;
- Pedestrian and bicycle facilities to provide continuous, safe, and comfortable facilities for people of all ages and abilities; and
- The US 101 interchange and SR 87 underpass to provide access for all travel modes.

The recommendations culminate in conceptual design plans, a preliminary cost estimate, and an implementation plan that VTA and the City can use to secure funding for implementation.

VTA's Core Values

VTA's core values are highlighted throughout the Study in their commitment to providing **safe**, **quality** transportation solutions that promote **sustainability** and recognize the **diversity** of the corridor. This report serves as a symbol of their commitment to **accountability** and **integrity** by providing transparency in the efforts made and the steps that follow.

1.2 Study Area Overview

The Story-Keyes corridor (the corridor) extends for approximately four miles between State Route 87 (SR 87) and Capitol Expressway and includes Willow Street, Graham Avenue, Goodyear Street, Keyes Street, and Story Road as shown on **Figure 1-1.** The corridor is highly diverse and includes many commercial districts serving predominantly Vietnamese and Latino communities, among others. It also serves as an important street corridor connecting many neighborhoods in East San José to local and regional destinations. There is a need to accommodate the growth San José is experiencing and balance the needs of the communities along the corridor, all within the existing right-of-way. The Story-Keyes Complete Streets Study presents recommendations that address more near-term and future needs.

The Line 25, which operates along the length of the corridor, is the third highest ridership route in the VTA bus system.

27,000
people live within a 1/4 mile of the corridor

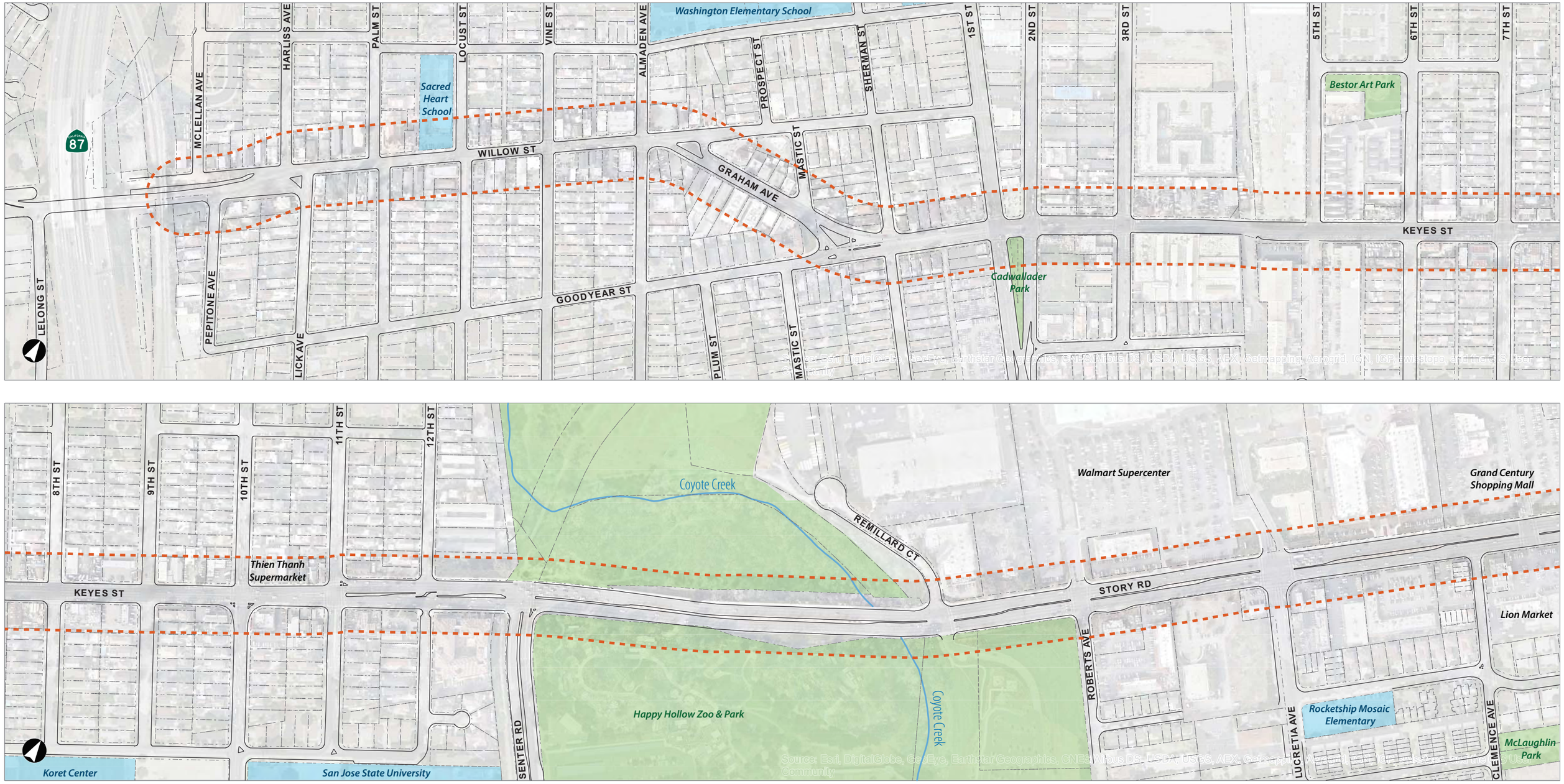
7,000
average weekday riders on Line 25

6,500 Willow Street

10,000-18,500 Keyes Street

30,000+ Story Road

vehicles per day



0 250 500 1000 Feet

January 2017

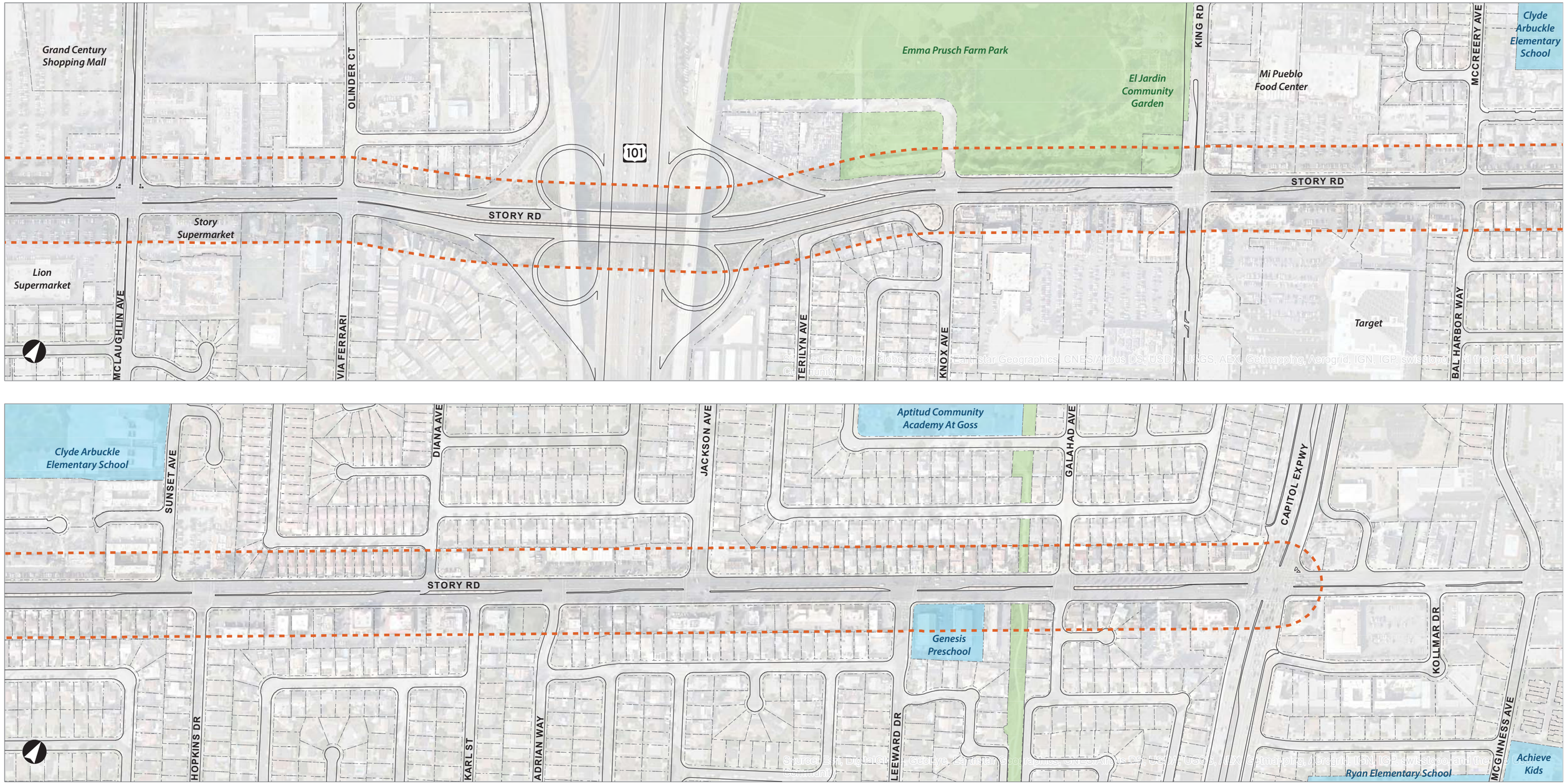
Figure 1-1A - Story-Keyes Corridor Study Area

Valley Transportation Authority

City of San Jose Capital of Silicon Valley

Fehr & Peers

cda Community Design + Architecture



January 2017

Figure 1-1B - Story-Keyes Corridor Study Area

Valley Transportation Authority

City of San Jose, Capital of Silicon Valley

Fehr & Peers

cd+a Community Design + Architecture

1 Background and Study Process

1.3 Planning Background

Both the City of San José and VTA have identified the Study need through various discrete initiatives and policies in the region. Three primary initiatives that have identified the corridor's need for transportation improvements are:

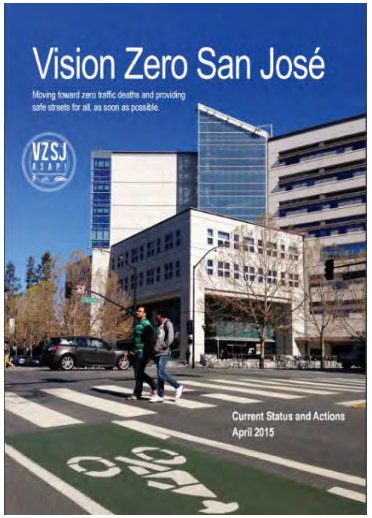
- The City of San José's commitment to addressing the transportation needs in disadvantaged communities
- The ***San José Vision Zero Action Plan***, which is a commitment to striving for zero traffic fatalities for all modes
- VTA's Complete Streets Program, dedicated to making Complete Streets in Silicon Valley

Addressing Transportation Needs in Disadvantaged Communities

The corridor is located in a designated Metropolitan Transportation Commission (MTC) ***Community of Concern***. The Community of Concern designation helps planners identify areas where environmental justice and equity are a concern based on demographics such as high concentrations of poverty, non-English languages spoken at home, older and younger residents, disabled residents, and minorities, among other variables. Furthermore, the corridor scores highly on CalEnviroScreen, a statewide screening methodology used to identify communities disproportionately burdened by pollution and socioeconomic vulnerability. Census tracts in the corridor range from the 46th to the 95th percentile of vulnerability by this metric.

Improving Safety and Getting to "Zero"

Through the ***San José Vision Zero Action Plan***, the City is committed to making safety improvements on Story Road between Senter Road and Capitol Expressway a priority. Citywide collision analysis showed this segment to have among the highest share of injury collisions for all travel modes across San José. Bus service on this corridor is important for VTA Line 25, which operates the full length of the corridor and has the third highest bus ridership in the VTA system.



Left: Pink areas highlight MTC's Communities of Concern. Source: Plan Bay Area 2040 Equity Report

Right: In 2015, the City spelled out a Vision Zero policy and strategy for the City, including designating a portion of Story Road as a "priority safety corridor".

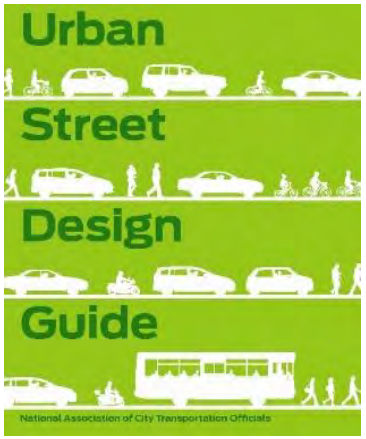
1 Background and Study Process

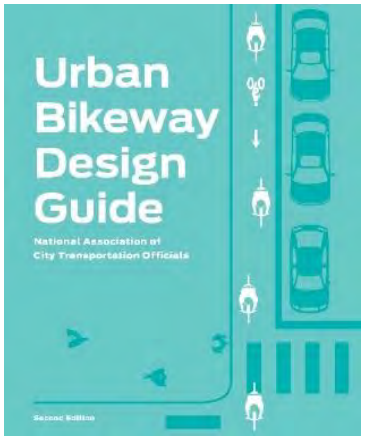
Making Complete Streets in Silicon Valley

VTA recently developed its Complete Streets Program and led the effort to secure a Caltrans Sustainable Transportation Planning Grant to study potential complete streets improvements on the corridor as one of the program's inaugural studies. This partnership between VTA and the City of San José was established to provide technical planning support to the City. During the ultimate implementation of the project, the City would likely lead the final design and construction.

To begin cross-agency coordination and build momentum for the project, VTA hosted a National Association of City Transportation Officials (NACTO) design charrette with the City of San José and Caltrans in March 2015. The ***NACTO Design Charrette*** was held over two days and was facilitated by NACTO complete streets trainers. The first day was focused on complete streets visioning and training geared toward elected officials, policy makers, and city directors. The second day was focused on training planning, engineering, and other agency staff on applying NACTO design principles from the *Urban Streets Design Guide* and *Urban Bikeway Guide* to the Keyes Street portion of the corridor. The design charrette identified potential improvements on Keyes Street between Goodyear Street/Graham Avenue and Senter Road, which have been incorporated into the the Study where appropriate.

In 2015, VTA and NACTO hosted a two-day charrette to build consensus for complete streets among agency leadership and elected officials and generate potential design solutions for the Keyes Street portion of the corridor.



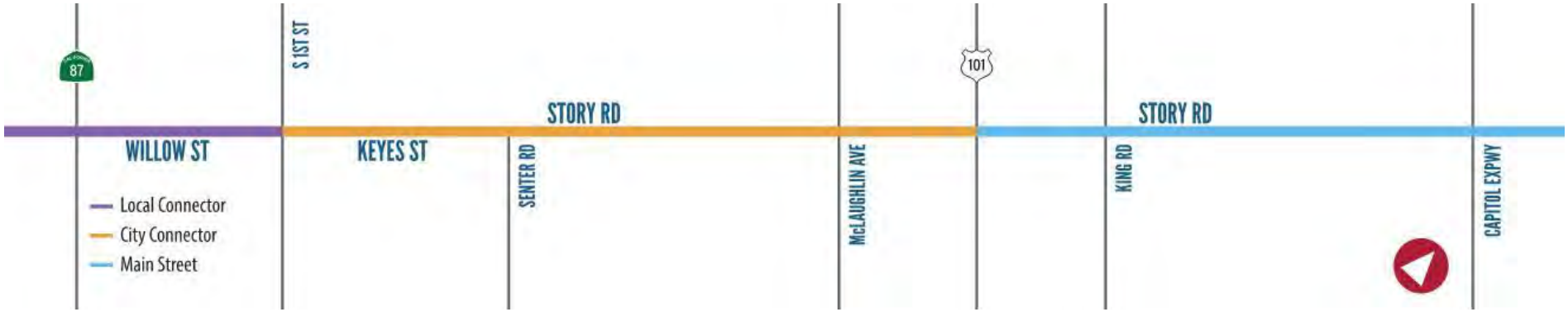


NACTO published the Urban Street Design Guide (2013) and Urban Bikeway Design Guide (2014) to provide cities with state-of-the-practice solutions that can help create complete streets.

1.4 Planning Context

The City of San José and VTA have shown their commitment to complete streets design through several policies and planning efforts. The City of San José's General Plan set the precedent for the importance of complete streets design in providing safe and accessible streets for everyone including pedestrians, bicyclists, motorists, and transit-users. Furthermore, the Story-Keyes corridor has been highlighted specifically due to its significance as a major east-west connector through San José. The following summarizes planning documents of importance to this Study:

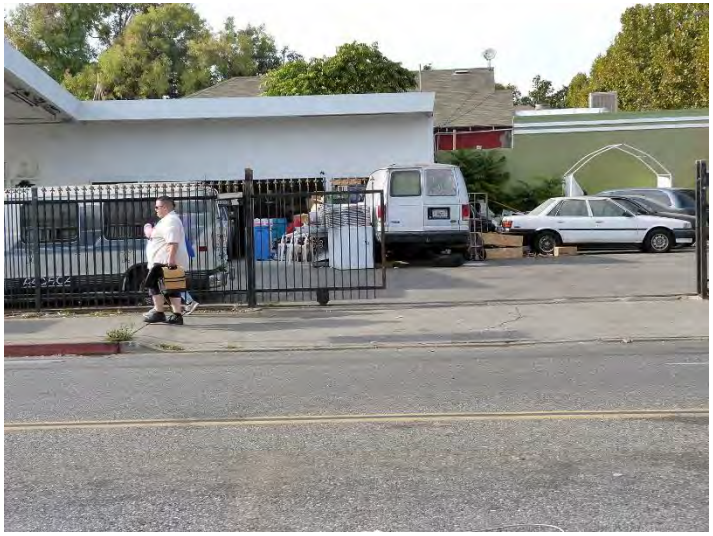
- ***San José Envision 2040 General Plan:*** Land use designations for the corridor are largely consistent with existing uses, while allowing for a potential increase in the intensity of existing uses and opportunities for introducing new land uses. The City's General Plan defines street typologies for major roadways citywide, which help determine modal priorities and guide decision-making for transportation projects. Designations on the corridor include:
  - *Local Connector Street*: Automobiles, bicycles, pedestrians, and trucks are prioritized equally in the roadway. Transit use, if any, is incidental. These streets have two traffic lanes and would accommodate low to moderate volumes of through traffic within the City. Pedestrians are accommodated with sidewalks. This designation applies to Willow Street.
  - *City Connector Street*: Automobiles, bicycles, pedestrians, and trucks are prioritized equally in the roadway. Transit use, if any, is incidental. These streets have four or six traffic lanes and would accommodate moderate to high volumes of through traffic within the City. Pedestrians are accommodated with sidewalks. This designation applies to Keyes and Story Road west of US 101.
  - *Main Street:* All transportation modes are accommodated on the roadway, with a significant priority given to pedestrians, especially at intersections. High pedestrian volumes are encouraged through wide sidewalks and pedestrian amenities, including street trees, high-quality landscaping, pedestrian curb extensions or bulbous, enhanced street crossings, and pedestrian-oriented signage identifying trails and points of interest. This designation applies to Story Road east of US 101.



- ***Vision Zero San José:*** The City's ***Vision Zero San José*** Traffic Safety Initiative designated a portion of Story Road as a "priority safety street" based on its high incidence of recorded collisions compared with roadways of similar capacity, citywide. Since then, the City of San José has conducted several walk audits along Story Road between McLaughlin and Capitol Expressway and Senter Road to examine site-specific near-term and long-term potential safety countermeasures associated with its Vision Zero program. The City's findings are currently in draft form, but considerations of those countermeasures are incorporated into this Study.
- ***Central Bikeways Projects*** are proposed bikeways in central San José, which have the highest proportion of jobs and population in the city. Proposed projects include connecting Tamien Path and the Guadalupe River Trail, a proposed bicycle route on Sunset Avenue and Hopkins Street, extending the Coyote Creek Trail, and the Story-Keyes enhanced bikeway project.
- ***San José Bike Plan (November 2009)*** proposes Class II bicycle lanes along Story Road.
- ***Santa Clara Countywide Bike Plan (administrative draft 2018)*** designates Story road as a countywide priority corridor with proposed Class II bicycle lanes.
- ***Strong Neighborhood Initiative (SNI)*** developed a partnership between the City of San José, the former Redevelopment Agency (RDA) and San José's residents and business owners to strengthen the city's neighborhoods by building clean, safe, and strong neighborhoods with independent, capable, and sustainable neighborhood organizations. The initiative included 20 SNI areas including Spartan Keyes, Mayfair, and East Valley/680 Communities along the project corridor. The *Spartan Keyes Neighborhood Improvement Plan* is a product of this initiative.
- ***Martha Gardens Neighborhood Specific Plan***: In the Keyes segment of the corridor the area between South 1st Street and the eastern half of the block between 6th and 7th Streets is part of the 2003 Martha Gardens Specific Plan. The Plan's land use recommendations include a mix of high-density residential and commercial uses along Keyes Street.
- ***City of San José Complete Streets Design Guidelines (final draft 2018)*** provide design guidelines and recommendations by street typology, consistent with the San José 2040 General Plan. The guidelines consider information about design vehicles, design speeds, and preferred dimensions of various complete streets tools.
- ***VTA Transit Passenger Environment Plan (TPEP)*** establishes guidelines for bus stop elements, prioritizes amenity improvements to high-ridership bus stops, and identifies a new, modern bus stop design for Santa Clara County. In the TPEP, bus stop typologies are developed based on daily passenger on-boardings and correspond to different levels of bus stop amenities.
- ***VTA Pedestrian Access to Transit Plan:*** This document identifies the need for pedestrian improvements to safely and more comfortably access transit stations.
- ***VTA FY 2016-2017 Transit Service Plan***: Line 25, which operates along the length of the corridor, is considered a core route for VTA based on its service frequency of every 15 minutes or less during peak hours. Line 25 has the third highest bus ridership in the VTA system, with over 7,000 passengers each week. No service changes are proposed for Line 25 as part of VTA's recently-adopted FY 2018-19 Transit Service Plan.

2. Existing Conditions

This Study began by analyzing existing conditions and community engagement to determine community needs, issues, and opportunities. The existing conditions findings along with community visioning were then used as the basis for developing design alternatives for the corridor. This chapter summarizes existing vehicle, pedestrian, bicycle, and transit facilities and their performance along the corridor. In addition, it provides the land use context and the characteristics of those who live, work, and travel along the corridor. Key issues and opportunities for each segment of the corridor are highlighted at the end of this chapter.



Clockwise from top right: (1) The US Route 101 interchange along Story Road; (2) Pedestrians walking along Goodyear Street; and (3) Bicyclists and pedestrians crossing at an intersection along Keyes Street.

2 Existing Conditions

2.1 Demographics

Approximately 27,000 people live within a quarter-mile on either side of the Story-Keyes corridor. **Figure 2-1** and **Figure 2-2** present key demographic indicators for the corridor with regard to the area's spoken languages and commute characteristics. The corridor has a diverse population, with 92 percent of residents identifying as a minority. As presented in Figure 2-1, the diversity of the corridor residents can be seen in the variety of languages spoken: Over half the corridor residents speak Spanish and over a quarter of residents speak an Asian language, including 16 percent of whom speak Vietnamese. Just 17 percent of residents are English-only speakers and approximately a third of the population does not speak English at all or prefers not to speak English as their primary language.[1]

Approximately 28 percent of residents in the Story-Keyes corridor are 17 years old or younger, which is a slightly larger youth population than the City of San José as a whole (24 percent). Approximately nine percent of residents are 65 years or older.[1]

While almost half of residents along the corridor live at or below the poverty line, many have access to cars. Only nine percent of residents have zero access to vehicles and nearly three-quarters of residents along the Story-Keyes corridor drive alone to work, which is slightly lower than the City of San José as a whole.

Appendix A provides additional details about the demographic make-up of the Story-Keyes corridor.

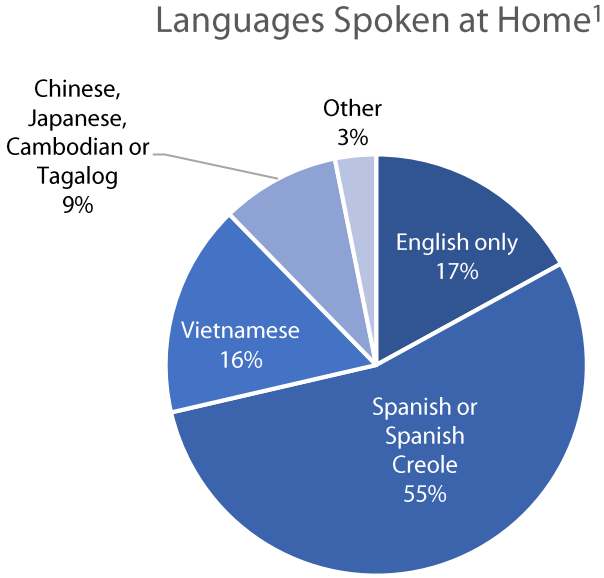


Figure 2-1: Languages Spoken at Home

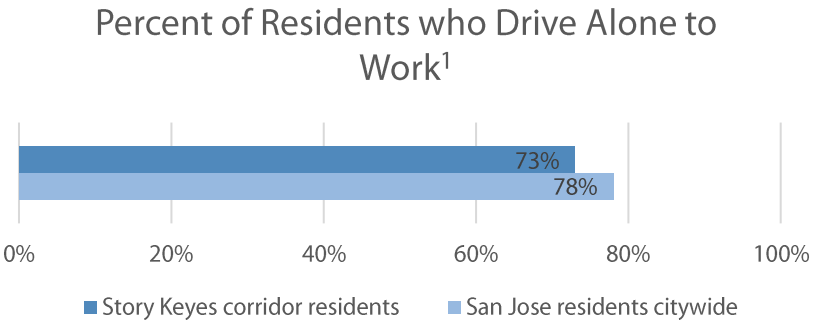


Figure 2-2: Percent of Residents who Drive Alone to Work

[1] Data in text and charts are from the ACS 2010-2014 5-year estimates tables: ACS Table S0101 "Age and sex"; ACS Table B16001 "Language spoken at home by ability to speak English for population 5 years and over"; ACS Table B08301 "Means of transportation to work", respectively.

2.2 Land Use Context and Key Destinations

Land use and key destinations along the corridor provide important context when looking at travel patterns and mode choice for those who travel along the corridor. Further, land use along the corridor and how it relates to existing infrastructure (for example, how much sidewalk is provided along store frontages or how many driveways are along the corridor) provides important insight when determining potential future complete streets and streetscape improvements. This Study analyzed the land use along the corridor to understand that context.

The following section summarizes key findings by mapping the land use and key destinations found along the four segments of the Story-Keyes corridor. For the purpose of this Study, key destinations are defined as land uses that (1) draw people from outside the immediate area, such as shopping centers, specialty markets, parks, and educational facilities; and (2) serve the immediate community, such as neighborhood-serving retail and service uses, elementary schools, and faith-based and non-denominational institutions. **Figure 2-3** highlights the key destinations and land uses around the Story-Keyes corridor. **Appendix B** provides additional details about the land use characteristics of the corridor.

Willow Street

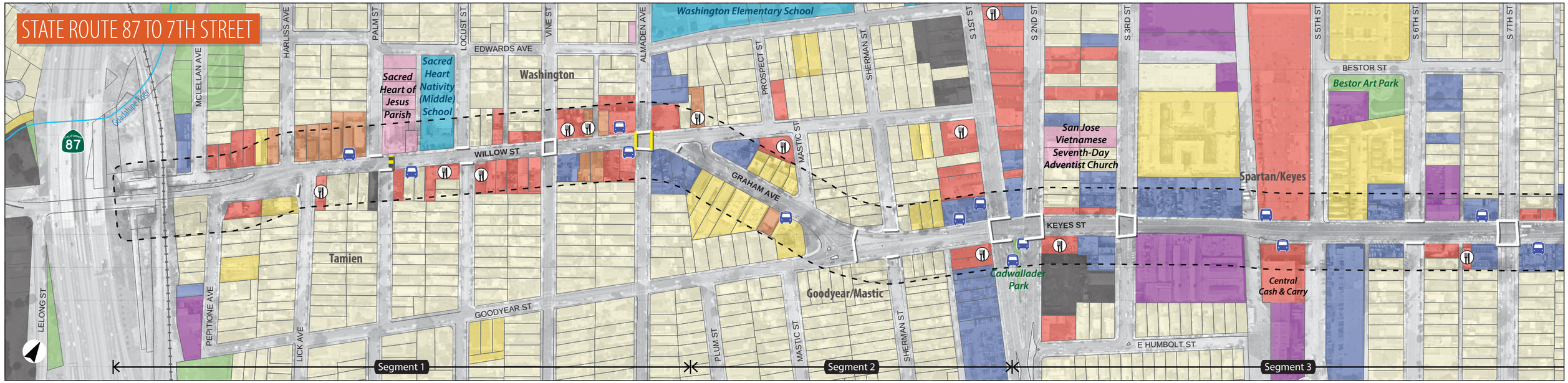
The study corridor includes Willow Street between SR 87 and Graham Avenue. Willow Street within the study corridor consists mostly of mixed-use and small-scale, neighborhood-serving commercial uses on relatively shallow lots (about 100 feet deep). Most buildings have frontages with building entrances directly accessible from the sidewalks. Block lengths along Willow Street are about 250 to 300 feet in length, allowing for frequent cross streets providing convenient connections between residential neighborhoods and the corridor. The surrounding areas include the established residential neighborhoods of Tamien and Washington, which are predominantly single-family residential homes. Key destinations along this portion of the study corridor include the neighborhood-serving retail and service businesses along Willow Street. There are several schools just off the corridor including Washington Elementary School and Sacred Heart Nativity School.

Goodyear Street/Graham Avenue

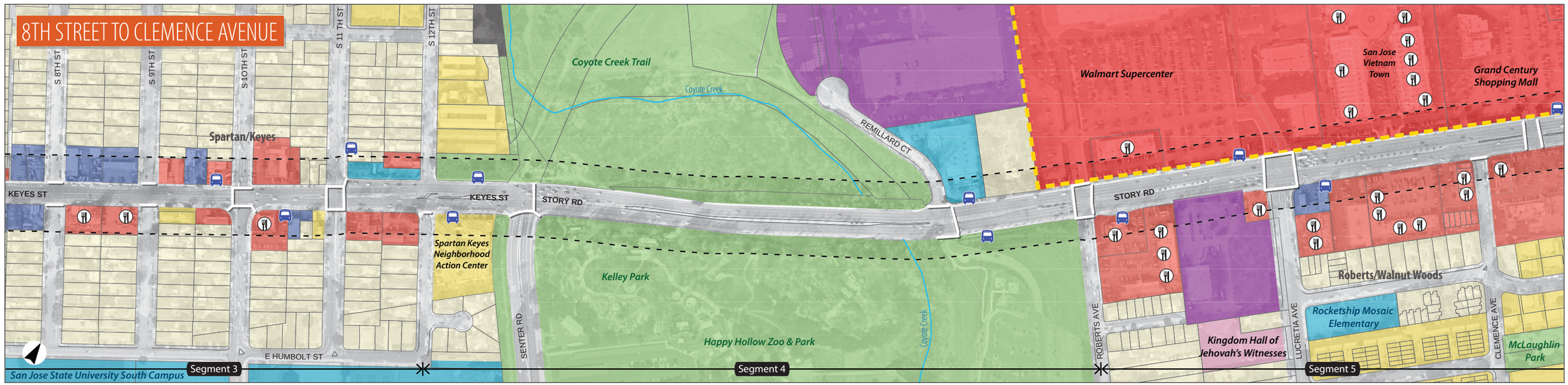
The study corridor includes Graham Avenue beteween Willow Street and Goodyear Street, and Goodyear Street between Graham Avenue and 1st Street. Graham Avenue is primarily residential, with the surrounding areas including the established residential neighborhood of Goodyear Mastic. Graham Avenue is predominantly apartment complexes, while the surrounding neighborhoods are predominantly single-family homes. Goodyear Street is a mix of apartment complexes and single-family homes, and transitions to commercial uses closer to 1st Street. Similar to Willow Street, short block lengths along Goodyear Street and Graham Avenue create a highly connected street network.

View along Willow Street looking east at Vine Street

STATE ROUTE 87 TO 7TH STREET



8TH STREET TO CLEMENCE AVENUE



0 250 500 1000 Feet

Figure 2-3A Existing Land Use and Key Destinations

Legend

- Single-family Residential
- Multi-dwelling Residential
- Mixed Use (horizontal or vertical mix of residential and commercial uses)
- General Commercial (retail and services uses)
- Community Commercial (retail and services uses serving a larger area)
- Auto-related Uses (service, sale, repair, gas stations)
- Industrial (production, distribution, warehousing)
- Open Space/Parkland
- Public/Quasi Public
- Sites of Faith-based Organizations
- Vacant

- Study Area - 100-foot buffer from edge of Right-of-Way
- Development proposal pending for property
- Restaurant/Bar
- Bus Stop

School
Park
Other
Italicized text indicates key desintations

- Existing Standard Crosswalk
- Existing Ladder Crosswalk

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0 250 500 1000 Feet

Figure 2-3B Existing Land Use and Key Destinations

Legend

- Single-family Residential
- Multi-dwelling Residential
- Mixed Use (horizontal or vertical mix of residential and commercial uses)
- General Commercial (retail and services uses)
- Community Commercial (retail and services uses serving a larger area)
- Auto-related Uses (service, sale, repair, gas stations)
- Industrial (production, distribution, warehousing)
- Open Space/Parkland
- Public/Quasi Public
- Sites of Faith-based Organizations
- Vacant
- Study Area - 100-foot buffer from edge of Right-of-Way
- Development proposal pending for property
- Restaurant/Bar
- Bus Stop
- *School*
- *Park*
- *Other*
- *Italicized text indicates key desintations*
- Existing Standard Crosswalk
- Existing Ladder Crosswalk

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2 Existing Conditions

Keyes Street

The study corridor includes Keyes Street between 1st Street and Senter Road. The land uses along Keyes Street consist mostly of auto-related and auto-oriented general commercial uses. Similar to Willow Street, these uses occupy relatively shallow lots situated along the short ends of the blocks. Lots between 2nd and 5th Streets are significantly deeper due to the industrial history of the area and the former rail line that ran through the area. These lots are included in the Martha Gardens Specific Area Plan, which proposes that Keyes Street be a mix of high-density multi-family housing and commercial uses. Building frontages along Keyes Street are primarily utilitarian fences, blank walls, and small surface parking lots due to the auto-related and auto-oriented land uses. These types of building frontages typically do not contribute positively to good street life as they do not activate and enliven the sidewalk space. The surrounding areas of Keyes Street includes the established, residential Spartan Keyes neighborhood, which is predominantly single-family housing interspersed with multi-family development. The short blocks along Keyes Street allow for frequent cross streets to establish convenient connections between residential neighborhoods and the corridor.

Key destinations in this part of the corridor include a Cash & Carry supermarket, auto-body repair shops, and other industrial uses. Sports facilities including the Spartan Stadium, San José Municipal Stadium (home of the San José Giants), and San José Sharks practice facility are located directly to the south of Keyes Street.

Auto repair center on Keyes Street between 5th Street and 6th Street, representing typical land use along Keyes Street

Story Road

Story Road is the longest segment of the study corridor, making up 2.75 miles of the four-mile corridor. For the purpose of discussing land use, Story Road is divided into two segments, a western segment encompassing Story Road between Senter Road and Knox Avenue, and an eastern segment between Knox Avenue and Capitol Expressway.

Story West Segment

The west segment of Story Road runs between Kelley Park, a 172-acre green space, and the US Route 101 on- and off-ramps. Sidewalks along Story Road adjacent to Kelley Park are bordered by the fenced and landscaped frontage of the park. Between Senter Road and Roberts Avenue, Happy Hollow Park & Zoo, part of Kelley Park, border the sidewalk on the south side of Story Road, while accessible open space along Coyote Creek and the Coyote Creek Trail border the sidewalk on the north side of the street. Between Roberts Avenue and Knox Avenue, Story Road consists mainly of big-box retail, strip malls, commercial uses, and industrial uses including warehousing and distribution uses. The majority of adjacent land uses are set back from the street to make room for landscape strips and surface parking lots, limiting pedestrian accessibility from Story Road. Due to the large number of surface parking lots and long block faces, there are several driveways and limited cross streets along Story Road, reducing the walkability of this stretch of the study corridor.

Interstate 280, located ⅓ of a mile north of Story Road, restricts direct connection between residential neighborhoods and Story Road.

Residential neighborhoods south of the Story Road study area consist of a mix of multi-family housing, single-family homes, and townhouses. Walking distances between these residential areas and Story Road are longer compared to the Willow Street and Keyes Street segments of the corridor due to the larger depth of the corridor-adjacent lots in this area and the reduced frequency of cross streets connected to the corridor. There are several schools located just south of

the corridor, such as Robert F. Kennedy Elementary School, Santee Elementary School, and Franklin McKinley Middle School.

Key destinations along this segment of the corridor include Kelley Park, the Leininger Community Center, the Coyote Creek Trail, the Spartan Keyes Neighborhood Action Center, a Wal-Mart Super Center, the Grand Century Mall, and San José Vietnam Town. A few ethnic specialty markets also line this segment of the corridor and most likely draw trips from the greater region.

Shopping center along Story Road between Clemence Avenue and McLaughlin Avenue

Story East Segment

The east segment of Story Road consists of Story Road between Knox Avenue and Capitol Expressway. This segment of Story Road is a mix of both commercial and residential uses. Between King Road and Bal Harbor Way, Story Road is primarily commercial space. Between Bal Harbor Way and Capitol Expressway, the corridor is lined with a mix of residential and commercial developments, including a wide range of small-scale retail, service businesses, and a number of restaurants. While most commercial uses still provide surface parking lots, many of the developments are situated to provide direct pedestrian access from the sidewalk. The residential uses lining this segment of Story Road include both single- and multi-family housing accessed by driveways on Story Road, and larger residential developments accessed by side streets and fenced off along Story Road.

Several established residential neighborhoods make up the surrounding areas around this segment of the corridor including the Overfelt, Khmer Krom, Arbuckle, and Dorsa neighborhoods. Pedestrian access between these neighborhoods and the corridor is limited due to the larger depth of the corridor-adjacent lots and infrequent cross streets due to the longer block length. There are many school located to both the north and south of the corridor including Anthony Dorsa Elementary School, KIPP Heartwood Academy, Hubbard Elementary School, Clyde L. Fischer Middle School, Clyde Arbuckle Elementary School, Sylvia Cassell Elementary School, and Aptitud Community Academy.

Key destinations in this part of the corridor include strip malls made up of small and big-box businesses with surface parking along both sides of Story Road, a Target, the Genesis Pre-School/Eastside Church of God/Sharman Harris Youth Center, the Lower Silver Creek Trail (west of Galahad Avenue), and the Emma Prusch Farm Park. Emma Prusch Farm Park is a public park along Story Road that offers extensive open space and amenities for active and passive recreation, including community gardening.

Shopping center along Story Road between King Road and Bal Harbor Way

2.3 Corridor Concerns

Crime

Areas with inadequate lighting, lack of urban open spaces, and inconsistent maintenance can often solicit anti-social and illicit activities. In conversations with community members, gang-related violence, prostitution, and vagrancy were noted as important issues along the corridor affecting travel mode choice and sense of security. The 2002 *Spartan Keyes Neighborhood Improvement Plan* echoes the presence of some of these issues, and how these negatively affect the sense of safety in the neighborhood. A more recent snapshot of criminal activity in the study area indicates many locations along the corridor are hotspots for criminal activities such as assault, robbery, and public intoxication or drug use, among others.[2]

Homelessness

In 2017, there were 4,350 homeless individuals in Santa Clara County.[3] While there are not specific statistics on how many homeless people live on the corridor, there is a long history of homelessness in the area, with anecdotally large homeless populations present along various areas of the corridor and a history of organized encampments. Neighborhood Improvement Plans (*Spartan Keyes Neighborhood Improvement Plan* and *Greater Gardener Neighborhood Improvement Plan*), recent news articles, and stakeholder meetings conducted as part of this project have called out several areas along the Story-Keyes corridor where homelessness is a concern. Specific areas mentioned include the alley between 7th and 8th Streets off Keyes Street, along Coyote Creek and the Guadalupe River, and near the US Route 101 interchange. Addressing the transportation needs of the homeless population is integral in providing a comprehensive set of recommendations that address the safety, mobility, and accessibility needs of all people who utilize the corridor. Outreach to these groups was primarily done through engagement of local groups that serve those populations. Information and input from the City of San José Homelessness Response Team, ConXión staff, and First Community Housing is incorporated into this Study.

Roadway Safety

Safety has been a major area of emphasis on the corridor for the City of San José, VTA, and the community. For the purpose of this Study, safety refers specifically to collisions occurring between roadway users, and does not include personal security, which refers to considerations of crime. While safety is important for all roadway users, pedestrians and bicyclists are particularly vulnerable to collisions, as they travel at slower speeds than vehicles and do not have the level of protection afforded by a vehicle. As a result, pedestrian and bicycle safety is a critical factor in Complete Street design. The most readily available data sources for studying traffic safety for the study corridor is the City of San José's traffic collision database, which includes information for each collision reported to police. This Study analyzed data from 2010 to 2015 for collisions between pedestrians and vehicles, collisions between pedestrians and bicyclists, and collisions between two vehicles.

[2] Source: www.crimemapping.com; based on San José Police Department data for August 2016 through February 2017

[3] 2017 City of San José Homeless Census & Survey Comprehensive Report: https://www.sanjoseca.gov/DocumentCenter/View/70076

2.4 Streetscape and Urban Design

Streetscape and urban design contribute to the overall visual and functional quality of the pedestrian environment and support neighborhood and district identity. Streetscape and urban design features include street enhancements such as street trees and landscaping, pedestrian-scale and roadway light fixtures, street furnishings, streetlight banners, and special sidewalk, plaza, or crosswalk paving and design. The streetscape of the Story-Keyes corridor was analyzed as a part of this Study. Key features found along the corridor include street trees, landscape and hardscape treatments in medians and traffic islands, pedestrian-scale and roadway light fixtures, streetlight banners identifying business districts and neighborhoods, and street furniture. This section presents a summary of key findings from the analysis of the streetscape and urban design characteristics of the corridor.

Appendix C provides additional details about the streetscape and urban design of the Story-Keyes corridor.

Willow Street

The Willow Street portion of the study corridor, also known as the "Calle Willow" Business District, has a strong sense of identity. Its identity has been established largely due to the consistency in scale, and to some degree the style, of buildings and the continuity of street trees and pedestrian-scale and roadway light fixtures. Despite the strong sense of identity, there is inconsistency in street furniture and conflicting signage along Willow Street. Street furniture, such as trash receptacles, bicycle racks, and newspaper racks are present intermittently along this portion of Willow Street. Their installation appears to have occurred incrementally over time with no coordination in style or theme with the existing light fixtures. Additionally, banners on the light fixtures and median island signage vary in messaging between "Willow Street Neighborhood Business District" and "Calle Willow Business District."

Graham Avenue/Goodyear Street

The Graham Avenue/Goodyear Street portion of the corridor is relatively short and is fronted primarily with residential uses. There is not much streetscape along this segment; however, the two landscaped triangular median islands at either end of Graham Avenue present an opportunity for further enhancement of the streetscape.

Median Islands along Goodyear Street provide opportunity areas for further streetscape and urban design improvements.

Signage in the median introducing the Calle Willow neighborhood, along with wide sidewalks, banners, and pedestrian-scaled building frontages increase the streetscape along Willow Street.

Keyes Street

With the exception of decorative pedestrian-scale light fixtures, which occur along the entire length of the street, Keyes Street does not have a strongly defined streetscape character. This is largely due to the lack of continuity in street trees, which are irregularly spaced and do not contribute to a sense of district character, and a lack of street furniture outside of bus stops. However, some sense of unity can be found in the uniformity of building use and scale, which are primarily medium-scaled auto-oriented businesses.

The stretch between 11th Street and Senter Road has a comparatively stronger streetscape character which can be attributed to regular spacing of trees, continuous pedestrian-scale and roadway light fixtures, and the presence of a median with trees and decorative hardscape treatments.

Story Road

Story Road generally lacks continuity in streetscape and urban design. The US Route 101 interchange is in the middle of the study segment of Story Road and despite the continuation of Story Road's signature median treatments through the interchange, its high volumes, speeds, and lack of landscaping harms the continuity of urban design along Story Road.

Along Story Road, the most significant streetscape features include its tree-lined medians enhanced with decorative hardscape treatments. Regularly spaced street trees are present along some portions of this segment's sidewalks, including along Happy Hollow Park & Zoo and the frontages of the San José Vietnam Town shopping center and the Grand Century Shopping Mall. Along Story Road between Knox Avenue and Capitol Expressway there are continuous street trees planted either in tree wells or in landscaped parkways located between the curb and pedestrian right-of-way. Where street trees are lacking, landscaped building setbacks, buffers along parking lots, and residential landscaping help maintain a landscape streetscape character. As a whole, this portion of Story Road lacks a coordinated streetscape. This can be attributed to the roadway light fixtures, which are not supplemented by pedestrian-scale fixtures and fail to provide a sense of identity due to their utilitarian design and distant spacing. However, there are some areas with banners that announce "Story Road" and the Vietnam Town Shopping Center.

Street furniture, such as trash receptacles and newspaper racks, occur infrequently throughout the segment and there is no consistent theme to the selection and color.

Banners in Vietnam Town help with neighborhood identity and streetscape.

2.5 Walking

While the existing corridor is auto-oriented in design, many people still walk along the corridor to reach their destinations. Pedestrian activity is mostly attributed to the large number of schools located just off the corridor, seniors who frequently use the corridor, and people accessing bus service along the corridor. Students walking between school, home, stores, and community destinations on the corridor comprise many of the trips, as well as trips to and from the bus stops along the corridor, as Line 25 has the third highest ridership in the VTA bus system. This section analyzes collision data to understand pedestrian safety, as well as the existing pedestrian facilities and walking environment along the Story-Keyes corridor.

Pedestrian Safety

Collision data from 2010 to 2015 for pedestrian-automobile collisions were analyzed to understand pedestrian safety along the corridor. The City of San José recorded 52 pedestrian-automobile collisions (pedestrian collisions) on the corridor that resulted in injury, including three fatal and 15 severe injury collisions. While pedestrian collisions accounted for only six percent of all collisions on the corridor, pedestrian collisions accounted for all fatalities and almost 50 percent of all severe injuries that occurred on the corridor.

Three major pedestrian collision profiles were observed:[4]

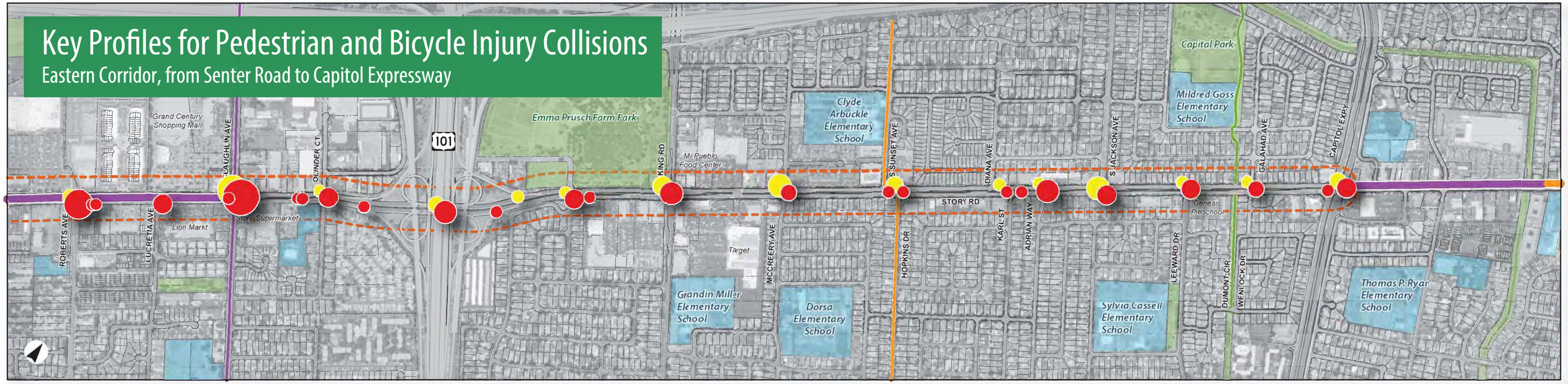
- ***Limited Crossing Infrastructure:*** 28 percent (15 collisions) of all pedestrian collisions that resulted in injury and were related to limited crossing infrastructure on the corridor. This collision type may occur when a pedestrian is not crossing in a legal crosswalk, marked or unmarked. These may result from a missing crosswalk at a location where people want to cross. Seven of these collisions were severe or fatal collisions.
- ***Left Turn Hook Collisions:*** 23 percent (12 collisions) of pedestrian injury collisions along the corridor were left turn hook collisions. These occur where a pedestrian has the walk signal at the same time as drivers are permitted to turn left across the crosswalk. These types of collisions can be addressed by providing a left-turn arrow and separating the left-turn from the pedestrian phase, or by providing a leading pedestrian interval, which gives pedestrians the walk signal before autos have a green signal.
- ***Child-involved Collisions near Schools:*** Eight percent (four collisions) of all pedestrian collisions that resulted in injury along the corridor involved a school-age child (age 5-17) and occurred within ¼ mile of a school. Due to the large number of schools within ¼ mile of the corridor, providing safe routes to school is an important function of the corridor.

Figure 2-4 maps the pedestrian and bicycle collisions of the corridor along with their respective collision profile. Bicycle collisions are discussed in more detail in **Section 2.7**. **Appendix E** includes summary statistics and maps of bicycle and pedestrian collisions and discusses potential countermeasures for common types of collisions on the corridor.

[4] Not all collisions are represented in the summarized profiles, as only the most observed profiles were summarized. Therefore, they will not sum to 100 percent of collisions.

Key Profiles for Pedestrian and Bicycle Injury Collisions

Eastern Corridor, from Senter Road to Capitol Expressway



Reported Pedestrian Injury Collisions

43

23% of these injury collisions occurred as the vehicle was approaching a left turn signal.

72% of these injury collisions occurred while pedestrians were crossing at a crosswalk. 28% occured where pedestrians were crossing at a location without a crosswalk.

7% of these injury collisions occurred within 1/4 mile of schools, and affected pedestrians ages 5-17.

Reported Bicycle Injury Collisions

64

64% of these injury collisions occurred on roads without dedicated bicycling facilities. Bicycle paths, lanes, and routes often create an exclusive space for bicyclists to ride at their preferred speed without interference.

39% of bicycle collisions were right-hook collisions, occurring when a vehicle made a right turn and collided with a cyclist.

3% of these collisions occurred within 1/4 mile of schools and affected bicyclists ages 5-17.

0 250 500 1,000 1,500 Feet

January 2017

Source: CITY OF SAN JOSE COLLISION DATABASE 2010-15, SANTA CLARA COUNTYWIDE BICYCLE MASTER PLAN, FEHR & PEERS

Figure 2-4A - Story-Keyes Corridor Study Area

Story-Keyes Study Corridor

Pedestrian Collision

Bicycle Collision

Number of Collisions: 1, 2, 3, 4, 6, 9

Bicycle Facilities

- Class 1: Bicycle Path
- Class 2: Bicycle Lane
- Class 2B: Buffered Bicycle Lane
- Class 3: Bicycle Route

Valley Transportation Authority

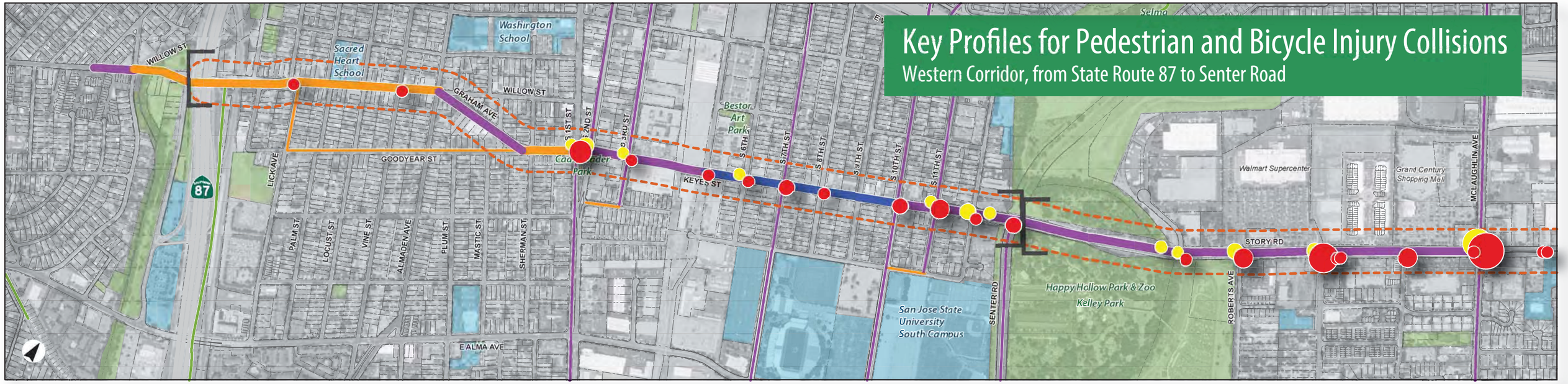
City of San Jose Capital of Silicon Valley

Fehr & Peers

cda Community Design + Architecture

Key Profiles for Pedestrian and Bicycle Injury Collisions

Western Corridor, from State Route 87 to Senter Road



Reported Pedestrian Injury Collisions

9

22% of these injury collisions occurred as the vehicle was approaching a left turn signal.

67% of these injury collisions occurred while pedestrians were crossing at a crosswalk. 33% occured where pedestrians were crossing at a location without a crosswalk.

11% of these injury collisions occurred within 1/4 mile of schools, and affected pedestrians ages 5-17.

Reported Bicycle Injury Collisions

18

22% of these injury collisions occurred on roads without dedicated bicycling facilities. Bicycle paths, lanes, and routes often create an exclusive space for bicyclists to ride at their preferred speed without interference.

50% of bicycle collisions were right-hook collisions, occurring when a vehicle made a right turn and collided with a cyclist.

6% of these collisions occurred within 1/4 mile of schools and affected bicyclists ages 5-17.

0 250 500 1,000 1,500 Feet

January 2017

Source: CITY OF SAN JOSE COLLISION DATABASE 2010-2015, SANTA CLARA COUNTYWIDE BICYCLE MASTER PLAN, FEHY & PEERS

Figure 2-4B - Story-Keyes Corridor Study Area

Story-Keyes Study Corridor

Pedestrian Collision

Bicycle Collision

Number of Collisions

1 2 3 4 6 9

Bicycle Facilities

Class 1: Bicycle Path

Class 2: Bicycle Lane

Class 2B: Buffered Bicycle Lane

Class 3: Bicycle Route

Valley Transportation Authority

CITY OF SAN JOSE CAPITAL OF SILICON VALLEY

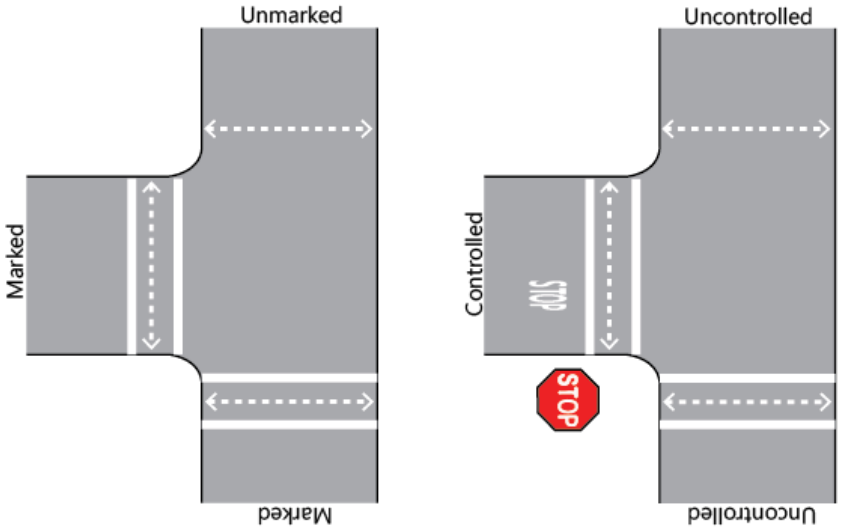
FEHR & PEERS

cd+a COMMUNITY DESIGN + ARCHITECTURE

Crossing Opportunities

Frequent crossing opportunities and safe crosswalks are important for creating thriving pedestrian environments. Today, crossing opportunities vary on the corridor; more frequent opportunities exist on Willow Street with its short blocks and narrow roadway compared to Keyes Street and Story Road. **Figure 2-5** shows the locations of existing crosswalks.

Appendix D provides a detailed crosswalk assessment of the Story-Keyes corridor.

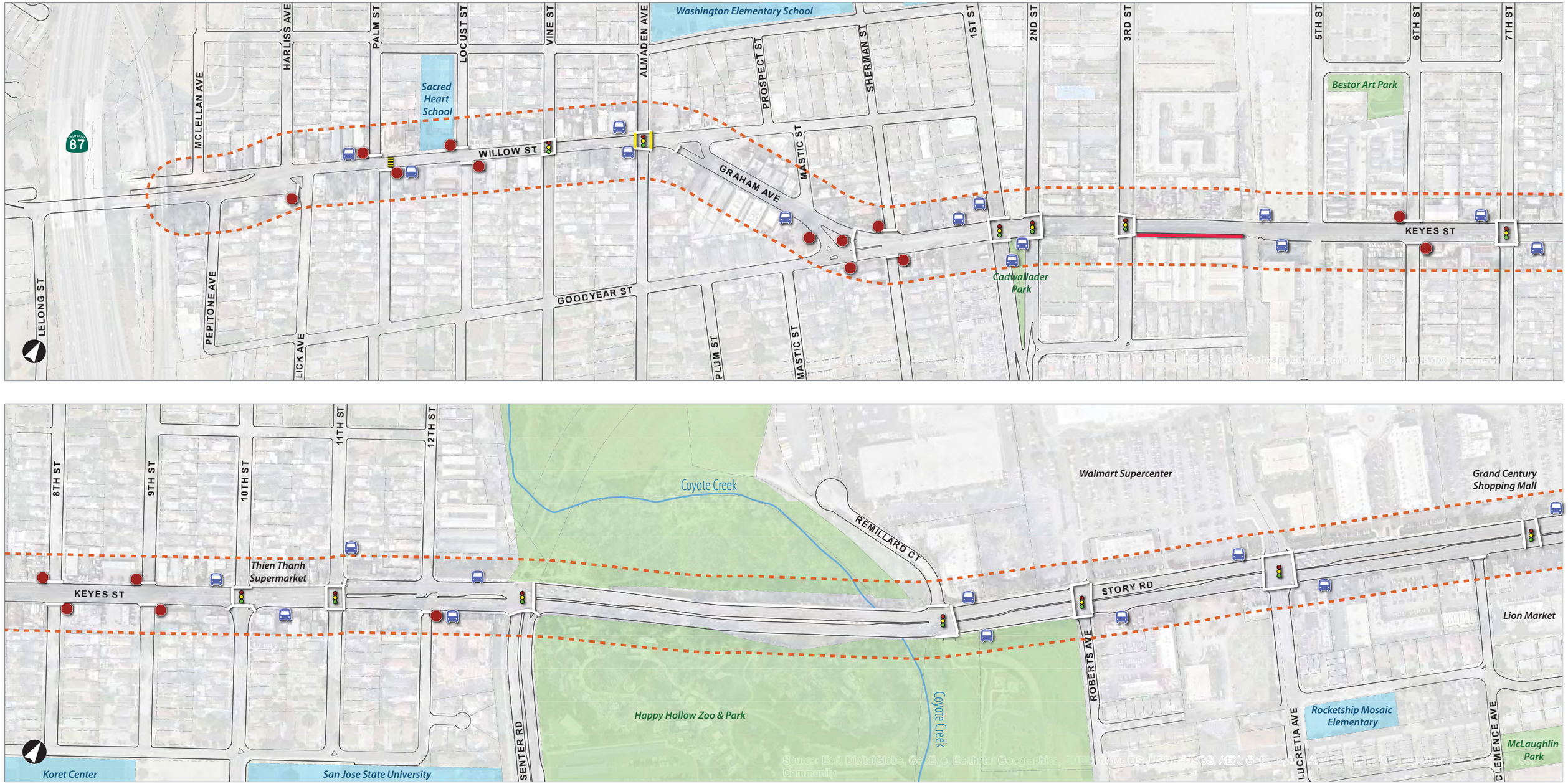


Left: Examples of marked and unmarked crosswalks. Right: Examples of a marked, controlled crosswalk; an unmarked, uncontrolled crosswalk; and a marked, uncontrolled crosswalk

What is a Crosswalk?

A crosswalk is a location where crossing the street is legal per the California Vehicle Code. Unless otherwise prohibited, at intersections with a sidewalk on each side of the street and where two streets generally meet at right angles, crosswalks are considered legal at each leg of the intersection, whether they are "marked" or "unmarked," as described below. Crosswalks are primarily classified by three characteristics: whether they are marked or unmarked; controlled or uncontrolled; and at an intersection or mid-block.

- **Marked Crosswalks** are marked with striping on the street, typically two white stripes that define an area in which pedestrians may cross the street. To increase driver visibility, these are sometimes marked to look like a ladder. In school zones, these markings are yellow. The *City of San José Complete Streets Design* Guidelines include a flowchart indicating when to mark crosswalks based on pedestrian demand, frequency, land use factors, and engineering considerations. If those conditions are not met, leaving the crosswalk as an unmarked crosswalk may be appropriate.
- **Unmarked Crosswalks** have no striping, but provide legal protection for pedestrians to cross the street at these locations. Marked crosswalks reinforce the location and legitimacy of a pedestrian crossing, but engineering factors, such as roadway characteristics and safety considerations, guide whether or not a crosswalk should be marked.
- **Controlled Crosswalks** have a traffic signal or stop-sign that require vehicles to come to a complete stop in order to give pedestrians an opportunity to cross. The installation of traffic signals and stop-signs are regulated by the state and certain engineering warrants must be met before they can be installed.
- **Uncontrolled Crosswalks** have no traffic control. Controlled crosswalks typically provide maximum safety benefit in requiring vehicles to stop for pedestrians; however, these treatments are not appropriate on all roadways. On some roadways, uncontrolled crosswalks can be safe and the most appropriate treatment.
- In addition, crosswalks may be located at an **intersection** where two streets meet; or **mid-block**, between intersections. Mid-block crosswalks typically require additional considerations, as drivers may not expect to see pedestrians crossing in the middle of the block.



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January 2017

Figure 2-5A - Crosswalks and Bus Stops on the Story-Keyes Corridor

Source: VTA, City of San Jose, Fehr and Peers

- Existing Bus Stops
- Stop Sign
- Traffic Signal
- Existing Standard Crosswalk
- Existing Ladder Crosswalk
- Missing Sidewalk
- Park
- School

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Grand Century Shopping Mall
Emma Prusch Farm Park
El Jardin Community Garden
Mi Pueblo Food Center
Clyde Arbuckle Elementary School
Story Supermarket
Lion Supermarket
Target
Aptitud Community Academy At Goss
Genesis Preschool
Ryan Elementary School
Achieve Kids
STORY RD
OLINDER CT
MCLAUGHLIN AVE
VIA FERRARI
TERILYN AVE
KNOX AVE
KING RD
MCCREERY AVE
BAL HARBOR WAY
SUNSET AVE
DIANA AVE
JACKSON AVE
GALAHAD AVE
CAPITOL EXPWY
HOPKINS DR
KARL ST
ADRIAN WAY
LEEWARD DR
KOLLMAR DR
MCGINNESS AVE
101

0 250 500 1000 Feet

January 2017

Figure 2-5B - Crosswalks and Bus Stops on the Story-Keyes Corridor

Source: VTA, City of San Jose, Fehr and Peers

- Existing Bus Stops
- Stop Sign
- Traffic Signal
- Existing Standard Crosswalk
- Existing Ladder Crosswalk
- Missing Sidewalk
- Park
- School

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Willow Street

Willow Street is generally easier to cross than other corridor segments, as it's a two-lane roadway with shorter blocks. These characteristics minimize crossing distances and create several opportunities to legally cross the street. The frequent crossing locations complement the heavy pedestrian demand created by the retail and commercial uses lining the street. While people can legally cross at each intersection along Willow Street, few crosswalks are marked, which may result in drivers not recognizing that pedestrians may legally cross.

Graham Avenue/Goodyear Street

Graham Avenue connects two complex intersections that are difficult to cross due to their designs with median islands, limited marked crosswalks, and – at the Goodyear intersection – limited provision of sidewalk. No crosswalks are located in the long block between Willow and Goodyear Street, but demand is limited due to surrounding residential land uses.

Keyes Street

Primarily commercial and industrial land uses line Keyes Street, with multiple sports stadiums to the south, which create high potential demand for crossings. Keyes Street provides marked crosswalks sporadically and only at existing signalized intersections. At several signals, not all legs of the intersection have marked crosswalks which limits pedestrian connectivity, such as at 10th Street and Senter Road. These factors create long distances between marked crosswalks, which can lead to pedestrians crossing illegally to reach their destinations. Further, this can be particularly problematic where high-ridership bus routes require transfer between stops. For example, to access the westbound bus stop between 12th Street and Senter Road from the Bella Castello Apartments, located directly across the street, requires a transit user to walk an additional 500 to 1,000 feet due to poor pedestrian connectivity. This is due to crossings being prohibited at 12th Street by a median closure, as well as at the Senter Road signal where the west crosswalk is missing. People can cross at most uncontrolled intersections, but crossings are difficult due to the wide four to five lane cross sections and the 30 to 35 miles per hour vehicle speed limits typical of the corridor.

Left: Crossing at Willow Street/Vine Avenue intersection. Below: Limited marked crosswalks, median islands, and auto-oriented design at the complex Graham Avenue/Goodyear Street intersection makes crossing difficult.

Story Road

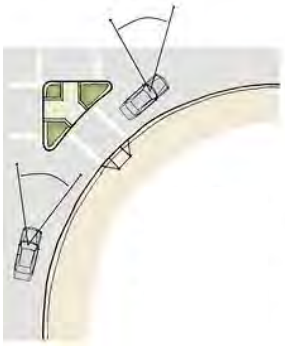
Story Road has the widest cross section of the study corridor and has high vehicle volumes and long blocks, which makes crossing difficult and results in major barriers to pedestrian connectivity. Further, crosswalks are only marked at signalized intersections along Story Road. While this is the highest level of traffic control for a crosswalk, crossing can still be difficult at these locations due to heavy turning movements and permitted right and left turns. Permitted right turns on red are also frequent at many intersections, such as at King Road. Turning motorists may be focused on finding a gap in traffic to make their turn, and neglect pedestrians trying to cross the street.

Slip lanes and large corner radii are common at many intersections along Story Road. Their geometry allow motorists to make right turns at high speeds, risking potentially not seeing pedestrians who may have a walk sign concurrent with the motorists' green signal. Bent crosswalks are unpredictable for visually impaired pedestrians and further lengthen already long crossing distances for all pedestrians.

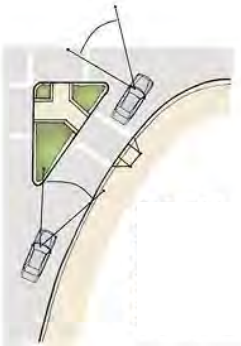
Aggressive driver behavior and frequent running of red lights were observed along the corridor. These types of behaviors create concerns for pedestrians all along the corridor, but can be particularly difficult on Story Road where double left-turn lanes are common. For example, at McLaughlin Road drivers failing to observe a red protected left-turn arrow can create the risk of a multiple threat collision for pedestrians.

In addition, the US 101 interchange at Story Road represents a significant barrier to pedestrians, particularly for those with mobility and visual impairments. The interchange has a traditional clover-leaf design, which allows all on- and off-ramps to be uncontrolled and made for high travel speeds. While crosswalks are marked across all ramps, high vehicle speeds make the crossing difficult, as well as the fact that motorists exiting or entering the highway aren't necessarily expecting pedestrians.

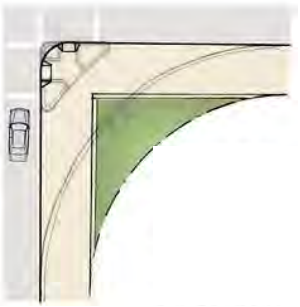
Source: www.sfbetterstreets.org



Larger radius results in faster turns and less visibility of pedestrians waiting to cross.



Smaller radius results in need for vehicles to slow to enter traffic, as well as improved visibility of pedestrians and on-coming traffic.



Removing the slip lane results in shorter crossing distances for pedestrians, safer conditions at the intersection, and space for landscaping, seating, or other useable amenities.

An example of a bent crosswalk at Senter Road. Bent crosswalk are unpredictable for those with visual impairments and create longer crossing distances for all pedestrians.

Walking Environment

Sidewalks provide space for pedestrian travel and access to corridor-adjacent uses, as well as for potential activities such as outdoor café or restaurant seating, window shopping, or waiting for transit. Key characteristics that contribute to the pedestrian environment and affect pedestrian safety and comfort are sidewalk width, sidewalk continuity, buffers between pedestrian travel areas and vehicle traffic, and the presence of landscaping, street trees, and pedestrian-scale and roadway light fixtures. Additional characteristics include sidewalk obstructions and driveways that may have implications for compliance with the Americans with Disabilities Act (ADA) and the presence of pedestrian connections between sidewalks and adjacent land uses. The following section provides an overview of the walking environment conditions along the Story-Keyes corridor.

Existing sidewalk characteristics, including width and any provided buffers, were assessed by comparing them to guidance and policy provided in the City of San José's *Draft Complete Streets Guidelines*. The *Draft Complete Streets Guidelines* provides recommendations by street typology, which are defined in the *Envision San José 2040 General Plan*. Each of the three street typologies on the corridor (Local Connector Street, City Connector Street, and Main Street) prioritize pedestrians on the corridor. For more information see **1.4 Planning Context.**

Left: Outdoor seating at a restaurant on Goodyear Street activates the sidewalk.

Right: Pedestrians walking across a driveway on Story Road.

Willow Street

Willow Street within the study area has sidewalks that are at least eight to ten feet wide, scattered pedestrian-scale lighting, street trees, and on-street parking. The street trees and on-street parking provide separation between pedestrians and moving traffic, providing a more comfortable walking environment. In addition to these amenities, the small-scale, mixed-use, and commercial developments provide pedestrian entrances that engage the sidewalk and produce a more comfortable pedestrian walking environment along this segment of the corridor.

Graham Avenue/Goodyear Street

Similar to Willow Street, Graham Avenue and Goodyear Street within the study area have sidewalks that are at least eight to ten feet wide, some street trees, and on-street parking. Where there are street trees and on-street parking, they provide separation between pedestrians and moving traffic, creating a more comfortable walking environment. Much of the residential uses along Graham Avenue and Goodyear Street provide pedestrian access along the corridor, which engages the sidewalk and creates a nice pedestrian walking environment.

Keyes Street

Along Keyes Street, the majority of sidewalks range from eight to ten feet in width. There is a notable gap in sidewalk on the south side of Keyes between 3rd Street and 4th Street. Pedestrians are separated from the two vehicle travel lanes in either direction (posted speed limit is 35 mph) by combinations of on-street parking, street trees, and bicycle lanes. While these facilities provide separation between pedestrians and moving traffic, the prevalence of driveways, surface parking lots, fencing, and blank building walls create a less engaging and comfortable pedestrian environment compared to Willow Street. The intermittent presence of street trees and the use of pedestrian-scale lighting in conjunction with the proposed redevelopment envisioned in the *Martha Gardens Specific Plan* provides a good base for future pedestrian improvements along Keyes Street.

Storefronts along Willow Street at Almaden Avenue

Story Road

Story West Segment

Along Story Road between Senter Road and Knox Avenue the majority of sidewalks range from six to eight feet in width, except near the US Route 101 interchange, where sidewalks narrow.

Pedestrians traversing this segment of the corridor are separated from the three lanes of moving traffic in each direction by only a bicycle lane and scattered and discontinuous street trees. Compared to other segments of the study corridor, this segment of Story Road has decreased sidewalk width, an increase in the number of travel lanes, higher vehicle speeds (posted speed limit is 35 to 40 miles per hour), and a significant increase in noise due to the high volume of vehicles.

Throughout this segment, the majority of corridor-adjacent land uses are open space, landscaped areas, or set back from the sidewalk to allow room for surface parking lots, restricting direct access to entrances via designated pedestrian walkways. Furthermore, due to the large setbacks and the relatively inactive nature of parking lots and landscaped areas, there are limited "eyes on the street," which may negatively affect pedestrians' sense of security while traversing the corridor.

Notable exceptions to these pedestrian conditions include Vietnam Town and Grand Century Shopping Mall, where sidewalk widths widen to eight to ten feet and include street trees, and buildings are connected to sidewalks via pedestrian walkways.

Sidewalk along the Story West segment with streetlight poles interrupting the line of travel along the sidewalk

Story East Segment

The majority of sidewalks along Story Road between Knox Avenue and Capitol Expressway have widths exceeding ten feet, with the remaining sidewalks ranging between eight and ten feet in width. Pedestrians are separated from the three lanes of moving traffic in each direction (posted speed limit of 35 miles per hour) by street trees, landscaped parkway strips, and on-street parking. In spite of the presence of these buffers, pedestrian comfort is still challenged by the number of travel lanes, high vehicle speeds, and significant level of noise from the high vehicle volumes. Further, pedestrian-scale light fixtures are not provided anywhere along this portion of the corridor.

Between Knox Avenue and King Road, the majority of corridor-adjacent land uses include open space such as the Emma Prusch Farm Park, and commercial buildings that are set back to allow for landscaped areas and surface parking lots. In proximity to the Story Road/King Road intersection, a number of buildings are directly accessible from the sidewalk. The pedestrian plaza at the southeast corner of the Story Road/King Road intersection provides a formalized connection between the sidewalk and adjacent commercial development, and serves as a waiting area for transit users.

East of Bal Harbor Way, small-scale commercial and residential uses are interspersed along the corridor. Residential and commercial driveways frequently break the sidewalk and can be points of conflict between pedestrians and vehicles. Further, some larger residential developments do not provide direct access from Story Road and instead wall off their developments, reducing the degree of pedestrians' sense of security due to the lack of "eyes on the street."

Line 25 bus stop and commercial frontage on Story Road. Wide sidewalks and street trees enhance the walking environment here.

2.6 Transit

Line 25, the third highest ridership bus route in the VTA system, serves the entire length of the Story-Keyes corridor, making the corridor integral to VTA's transit service. Line 25 offers important connections to destinations to the north and south, with 1st Street and King Road serving as major transfer points for transit users. Many users of the corridor use Line 25 to get to work, home, school, and other destinations in the neighborhood and beyond.

Bus Ridership

VTA Line 25 runs the entire length of the corridor and accounts for nearly seven percent of all bus ridership for the agency. Between July and December 2014, the route had over 7,000 average weekday on-boardings, which has remained consistent over the last couple years. It connects to a number of other VTA routes at major transfer points along the study corridor including at the Keyes Street/1st Street intersection, which is a transfer point for Routes 66, 68, and 82, and at the Story Road/S King Road intersection, which is a transfer point for Routes 12, 22, and 77. These transfer points are two of the three highest use bus stops along Line 25 with approximately 1,300 and 1,100 total daily on- and off-boardings[5], respectively. The third highest use bus stop is at the Keyes Street/Senter Road intersection, which serves locations such as the Bella Castello Apartments, Happy Hollow Park & Zoo, Spartan-Keyes Neighborhood Action Center, and Leninger Community Center. This stop has approximately 1,000 total daily on- and off-boardings, collectively. Existing bus stop locations and ridership are presented on **Figure 2-6.**

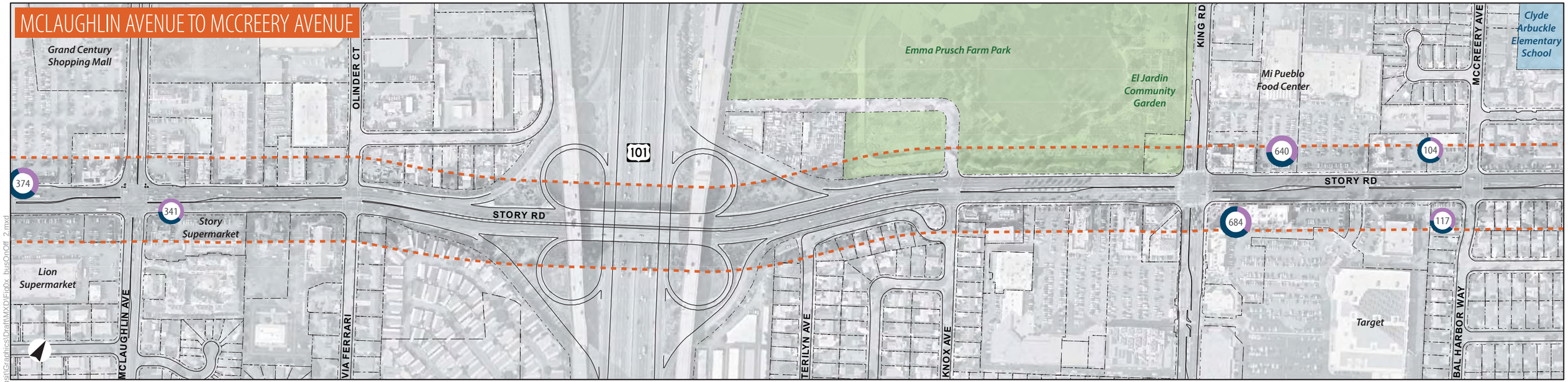
Appendix F provides a detailed analysis of transit ridership along the corridor.

Left: VTA Line 25 bus at a stop along the Story-Keyes corridor. Line 25 has the third highest ridership bus route in system. Below: A transit rider off-loading their bicycle from the bus bike rack.

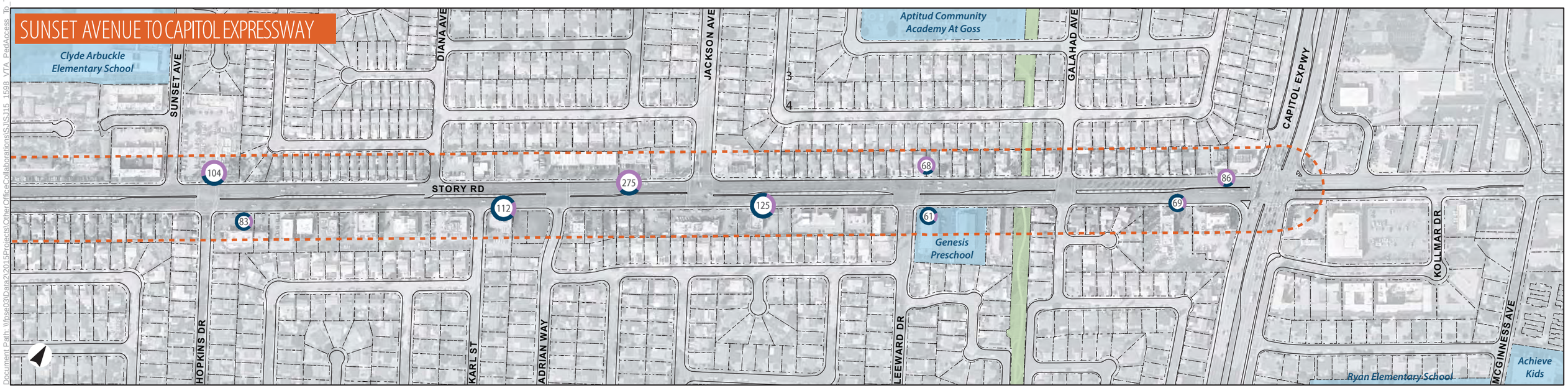
[5] These numbers include ons and offs at both the eastbound and westbound stops.

Figure 2-6A. Bus Ridership for VTA Line 25 – Western and Mid Corridor

MCLAUGHLIN AVENUE TO MCCREERY AVENUE



SUNSET AVENUE TO CAPITOL EXPRESSWAY



0 250 500 1000 Feet

November 2016

Source: VTA daily average weekday ridership from April 2014

Figure 2-6B. Bus Ridership for VTA Line 25 – Mid and Eastern Corridor

Average Daily Ons and Offs by Stop

552

Bus Passenger On-Boardings

Bus Passenger Off-Boardings

Number of Average Daily On-Boardings

1 - 100

100 - 350

> 350

Study Area

Valley Transportation Authority

City of San Jose Capital of Silicon Valley

Fehr & Peers

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Bus Stop Design

Bus stop amenities vary significantly along the corridor. While most bus stops have benches and trash receptacles, and a few provide bus shelters, many have only a bench, which can make waiting for the bus uncomfortable, particularly in poor weather conditions. Lack of pedestrian-scale lighting is a major community concern throughout the corridor, but especially at bus stops. During outreach, community members noted that it can feel uncomfortable and unsafe waiting at many of the bus stops along the corridor due to lack of lighting. Waiting at the bus stop when there is limited or no lighting can make transit users feel insecure and targets for crime. Some bus shelters are also used as shelter by the homeless.

Bus stop amenities have been the focus of a recent planning effort by VTA. In May 2016, VTA adopted the *Transit Passenger Environment Plan* (TPEP), which establishes guidelines for bus stop amenities and elements, prioritizes amenity improvements to high-ridership bus stops, and identifies a new, modern bus stop design for Santa Clara County. The TPEP includes recommendations for access improvements for some Line 25 bus stops along the study corridor. In the TPEP, bus stops are classified into the following categories based on the number of daily passenger on-boardings:

- ***Basic Stops:*** Fewer than 40 daily on-boardings
- ***Core Stops:*** Between 40 and199 daily on-boardings
- ***Major Stops:*** Greater than 200 daily on-boardings
- ***Community Destination Stops***: Stops located at major destinations within VTA's jurisdiction. Stop design is based on adjacent use, for example, a civic building

The Story-Keyes corridor contains eight major stops and a mix of core and basic stops. Each of these bus stop types has a recommended list of amenities, presented in **Table 2-1**.

Table 2-1: Transit Passenger Environment Plan Bus Stop Types and Amenities

	Basic	Core	Major
Daily On-Boardings	< 40	40 – 199	> 200
Standard bus stop sign	Yes	Yes	Yes
Enhanced bus stop sign	No	No	Maybe
Real-Time Information	Yes, RTI decal on standard bus stop sign	Yes, RTI decal on standard bus stop sign	Yes, RTI decals or flexible message sign, if possible
Shelter system	No	Maybe	Yes
Seating	Maybe	Yes	Yes
Bicycle rack	One U-rack if along bicycle facility, more if demand warrants	One U-rack if along bicycle facility, more if demand warrants	One U-rack, more if demand warrants
Lighting	Relies on street lighting; consider solar-powered fixture where necessary	In-shelter, solar or pedestrian-activated lighting, if possible	In-shelter, solar or pedestrian-activated lighting, if possible

Source: VTA Transit Passenger Environment Plan (TPEP), 2016.

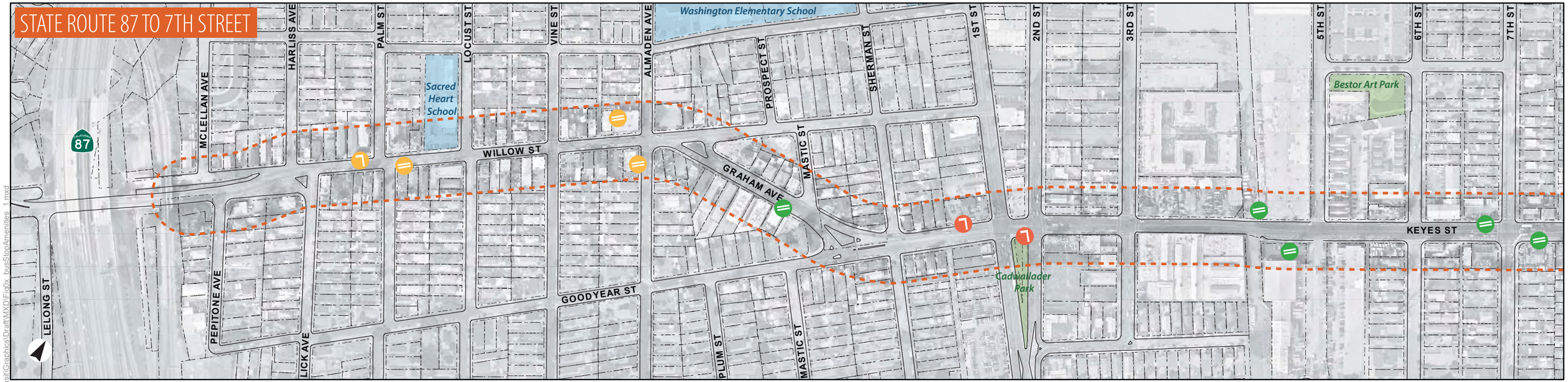
None of the existing bus stops along the corridor include the full list of recommended amenities; however, the long-term vision of the corridor includes recommendations to ensure bus stops are consistent with TPEP guidance.

Most existing bus stops are designed for buses to pull out or stop curbside. VTA currently prefers pullouts on the study corridor due to the high posted speed limits (35 to 40 miles per hour), which can make rear-end collisions a concern for in-lane stopping. However, in some areas along the corridor, roadway space is too constrained to provide a pullout, resulting in observed aggressive driving to get around buses or vehicles queuing through intersections.

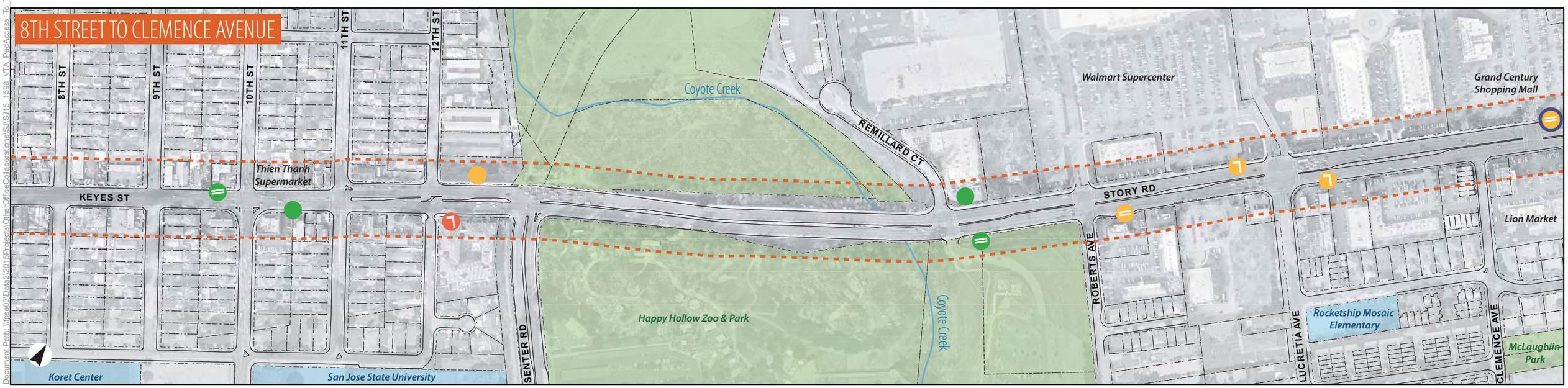
More information on the VTA inventory of bus stop amenities is presented on **Figure 2-7.**

The Line 25 bus has many bus pullouts on the corridor today, requiring the bus to merge into and out of traffic, a common source of delay.

STATE ROUTE 87 TO 7TH STREET



8TH STREET TO CLEMENCE AVENUE



0 250 500 1000 Feet

November 2016

Source: VTA 2016

Figure 2-7A. Bus Stop Amenities for VTA Line 25 – Western and Mid Corridor

VTA Transit Passenger Environment Plan Type*

- Basic Stop (< 40 Daily On-Boardings)
- Core Stop (40 - 200 Daily On-Boardings)
- Major Stop (> 200 Daily On-Boardings)

Bus Stop Amenity Type**

- No Amenity Present
- Bus Bench Present
- Bus Shelter Present
- Accessibility Enhancement Needed

Study Area

* Per VTA Transit Passenger Enhancement Plan

** Per VTA Line 25 Bus Stop Inventory

Valley Transportation Authority

City of San Jose, Capital of Silicon Valley

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MCLAUGHLIN AVENUE TO MCCREERY AVENUE

Grand Century Shopping Mall
OLINDER CT
101
Emma Prusch Farm Park
El Jardin Community Garden
KING RD
Mi Pueblo Food Center
MCCREERY AVE
Clyde Arbuckle Elementary School
STORY RD
Story Supermarket
Lion Supermarket
MCLAUGHLIN AVE
VIA FERRARI
TERILYN AVE
KNOX AVE
Target
BAL HARBOR WAY

SUNSET AVENUE TO CAPITOL EXPRESSWAY

Clyde Arbuckle Elementary School
SUNSET AVE
DIANA AVE
JACKSON AVE
Aptitud Community Academy At Goss
GALAHAD AVE
CAPITOL EXPWY
STORY RD
Genesis Preschool
KOLLMAR DR
HOPKINS DR
KARL ST
ADRIAN WAY
LEEWARD DR
MCGINNESS AVE
Achieve Kids
Ryan Elementary School

0 250 500 1000 Feet

November 2016

Source: VTA 2016

Figure 2-7B. Bus Stop Amenities for VTA Line 25 – Mid and Eastern Corridor

VTA Transit Passenger Environment Plan Type*
- Basic Stop (< 40 Daily On-Boardings)
- Core Stop (40 - 200 Daily On-Boardings)
- Major Stop (> 200 Daily On-Boardings)

Bus Stop Amenity Type**
- No Amenity Present
- Bus Bench Present
- Bus Shelter Present
- Accessibility Enhancement Needed

Study Area

* Per VTA Transit Passenger Enhancement Plan

** Per VTA Line 25 Bus Stop Inventory

Valley Transportation Authority
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Bus Reliability Analysis

Bus reliability measures the consistency of bus speeds on a corridor. This is an important metric to evaluate transit operations and long stretches, or "hot spots," of poor reliability. In some cases, this metric can help identify strategic areas for targeted service enhancements. A bus reliability analysis was performed as part of the Study to evaluate the current performance of VTA bus service on Line 25 along the corridor. Automatic Vehicle Location (AVL) data for bus service along the corridor was used to determine the average travel speed of transit vehicles with Fehr & Peers' proprietary Reliability+ tool.

INRIX travel speed data was obtained in order to identify prevailing vehicle speeds. The average bus speeds were then compared to the average prevailing speeds for vehicles in each segment to determine the relative level of transit delay being encountered within the segment. The average number of hourly on- and off-boardings at bus stops within each segment was also identified during the analysis of the results, as dwell time, or the amount of time a bus takes at each stop, can significantly impact the overall average bus travel times.

Bus speeds are consistently lower than prevailing vehicle speeds in several parts of the corridor regardless of on-/off-boarding activity, including on either side of McLaughlin Avenue and segments between 3rd Street and Senter Road. The lowest bus travel speeds correspond with time points as well as the bus stops with the greatest on- and off-boardings, such as at 1st Street, near Lucretia Avenue, at McLaughlin Avenue, and near King Road.

Figure 2-8 through **Figure 2-11** show average bus speeds as a percentage of prevailing vehicle speeds for the respective morning, midday, school, and evening peak periods, as well as the average number of on- and off-boardings at each bus stop along the route during those same time periods. The table to the right provides average bus speeds in a tabular format.

Additional detail on this analysis is presented in **Appendix G.**

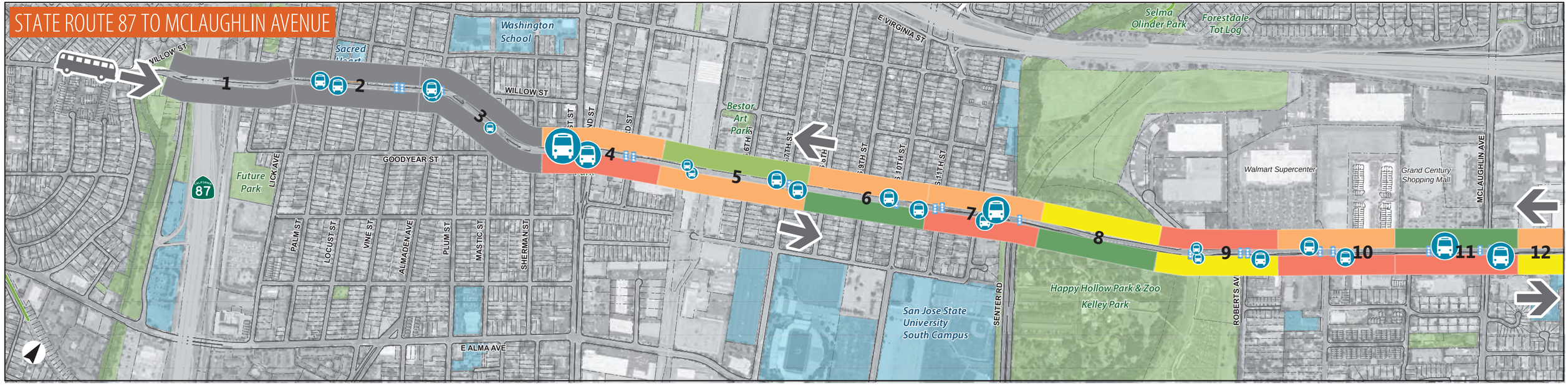
Segment	Direction	Average Bus Travel Speed (mph)				Average Bus Travel Speed as a Percent of Prevailing Vehicle Speeds			
		AM	Midday	School	PM	AM	Midday	School	PM
1	Westbound	3.1	5.8	3.8	1.9	Vehicle travel time data is not available for Segments 1-3.			
	Eastbound	1.7	5.5	2.2	3.6				
2	Westbound	9.1	10.5	8.7	5.0				
	Eastbound	6.5	7.2	6.2	4.0				
3	Westbound	3.4	8.1	6.0	3.2				
	Eastbound	5.4	6.1	6.5	6.1				
4*	Westbound	4.2	3.6	3.4	4.3	27%	29%	26%	33%
	Eastbound	2.6	2.0	2.1	2.2	20%	15%	16%	16%
5	Westbound	7.8	6.7	6.6	6.5	63%	42%	41%	39%
	Eastbound	5.7	6.6	5.8	5.0	38%	40%	37%	31%
6	Westbound	8.1	10.3	6.7	6.7	30%	60%	43%	40%
	Eastbound	22.4	10.2	3.9	4.8	140%	60%	27%	35%
7	Westbound	5.1	4.6	4.5	5.2	27%	24%	25%	26%
	Eastbound	3.6	3.7	3.1	3.0	20%	21%	20%	21%
8	Westbound	18.0	24.7	30.5	29.8	52%	123%	154%	143%
	Eastbound	28.3	32.8	31.3	8.5	108%	198%	223%	69%
9	Westbound	21.3	13.7	12.7	10.9	19%	68%	65%	52%
	Eastbound	12.2	5.1	3.5	3.0	47%	31%	25%	24%
10	Westbound	4.8	3.0	3.0	3.4	38%	15%	15%	16%
	Eastbound	3.6	3.1	3.0	3.1	14%	19%	21%	25%
11	Westbound	3.4	3.5	3.9	3.8	94%	21%	24%	22%
	Eastbound	4.2	3.8	3.7	3.6	16%	22%	24%	25%
12	Westbound	4.3	4.6	3.5	5.1	24%	24%	18%	26%
	Eastbound	14.5	24.2	21.9	16.7	51%	95%	94%	77%
13	Westbound	21.2	27.9	27.7	20.6	21%	114%	114%	82%
	Eastbound	22.8	11.8	7.7	4.9	96%	51%	38%	28%
14*	Westbound	3.1	3.7	3.3	2.7	25%	18%	17%	15%
	Eastbound	2.9	3.3	2.7	2.7	17%	20%	19%	21%
15	Westbound	4.8	3.6	3.8	3.0	223%	20%	21%	18%
	Eastbound	11.6	5.1	10.0	6.2	57%	26%	52%	34%
16	Westbound	7.6	7.5	9.0	10.0	20%	41%	50%	58%
	Eastbound	9.6	9.2	5.3	9.8	47%	46%	27%	54%
17	Westbound	5.4	5.6	4.7	4.8	27%	30%	26%	28%
	Eastbound	12.1	7.3	5.6	5.0	60%	36%	30%	29%
18	Westbound	10.8	9.9	16.4	7.1	37%	51%	86%	40%
	Eastbound	10.7	8.5	11.1	10.6	56%	41%	63%	75%
19	Westbound	3.3	3.5	3.1	4.0	16%	20%	18%	25%
	Eastbound	3.5	3.0	4.0	3.8	23%	18%	27%	30%

Line 25 Average Bus Travel Speed as a Percent of Prevailing Vehicle Speed

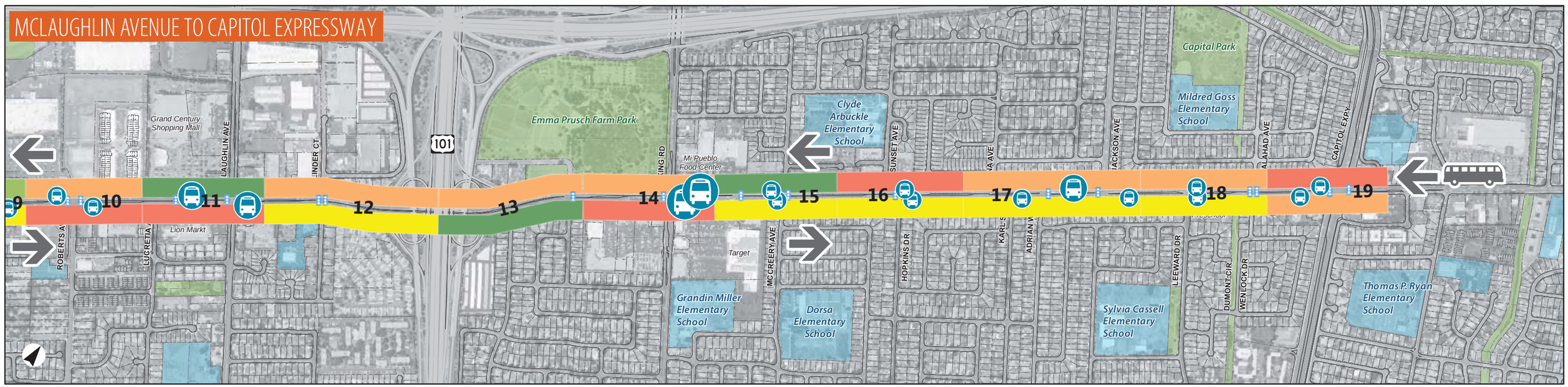
**Segment containing timepoint schedule stop*

0 – 3.0 MPH | 3.1 – 5.0 MPH | 5.1 – 7.0 MPH | 7.1 – 15.0 MPH | > 15.0 MPH

STATE ROUTE 87 TO MCLAUGHLIN AVENUE



MCLAUGHLIN AVENUE TO CAPITOL EXPRESSWAY



0 250 500 1,000 1,500 Feet

November 2017

Figure 2-8 - AM Average Bus Speed as a Percent of Prevailing Travel Speed

Transit Speeds as a Percent of Prevailing Speed

- ≤ 20 %
- 20.1% - 40%
- 40.1% - 60%
- 60.1% - 80%
- > 80 %
- No Data

Bus Stops Total On-Offs/Hour

- < 1
- 2 - 5
- 6 - 10
- 11 - 20
- > 20

Traffic Control

- Signal

Valley Transportation Authority

City of San Jose, Capital of Silicon Valley

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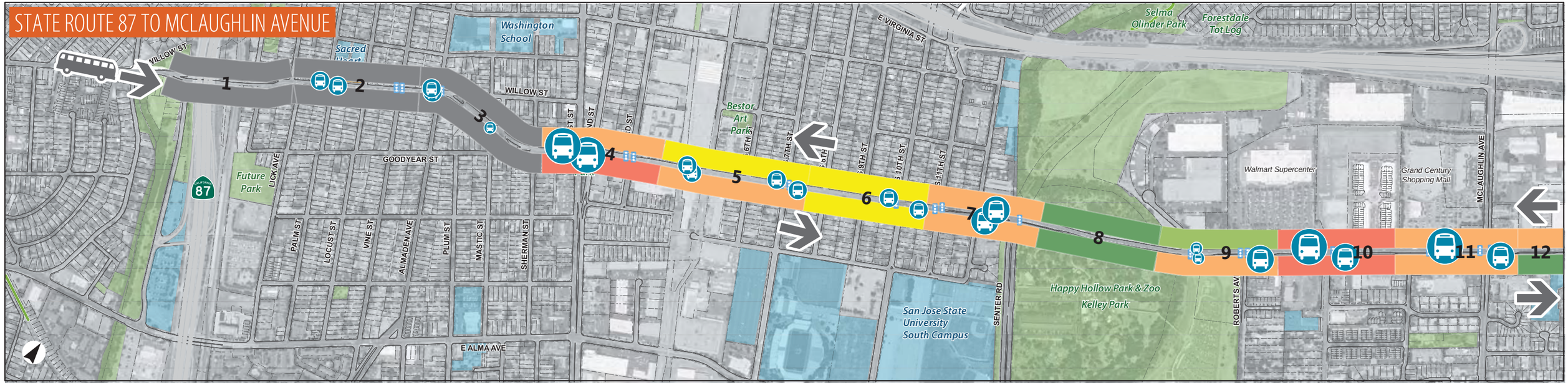
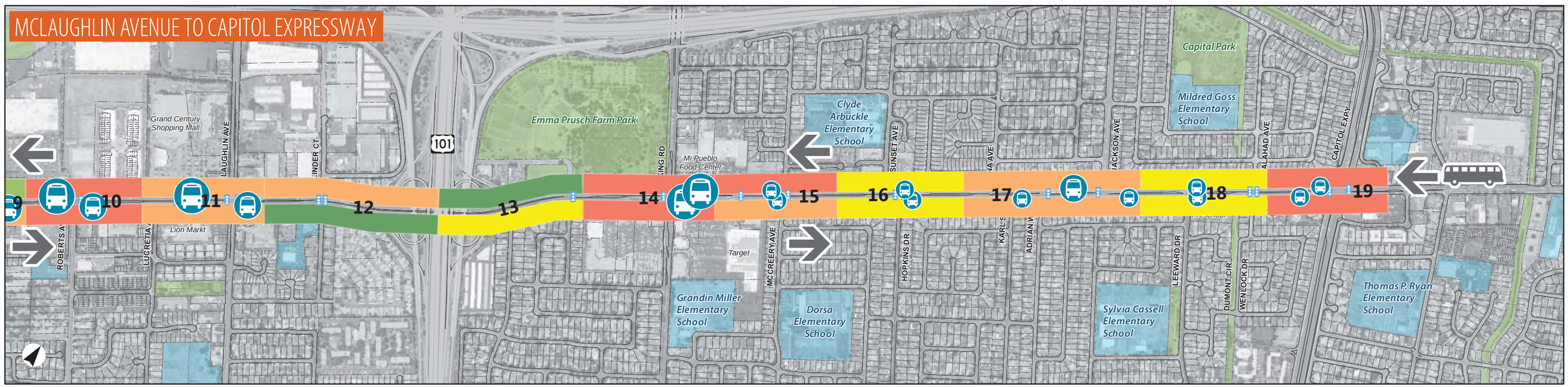
STATE ROUTE 87 TO MCLAUGHLIN AVENUE



MCLAUGHLIN AVENUE TO CAPITOL EXPRESSWAY



0 250 500 1,000 1,500 Feet

November 2017

Figure 2-9 - Midday Average Bus Speed as a Percent of Prevailing Travel Speed

Transit Speeds as a Percent of Prevailing Speed

- ≤ 20 %
- 20.1% - 40%
- 40.1% - 60%
- 60.1% - 80%
- > 80 %
- No Data

Bus Stops Total On-Offs/Hour

- < 1
- 2 - 5
- 6 - 10
- 11 - 20
- > 20

Traffic Control

- Signal

Valley Transportation Authority

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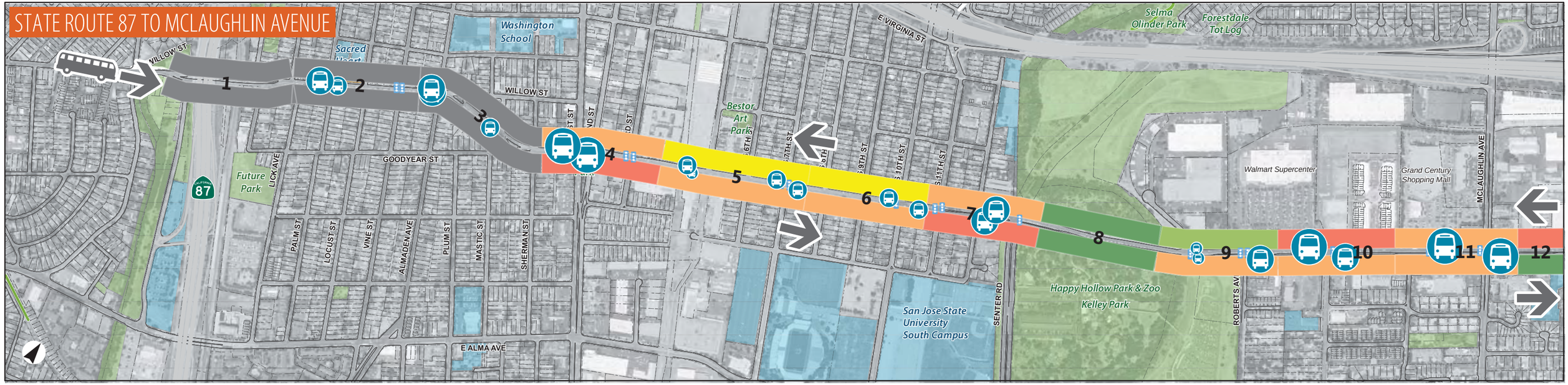
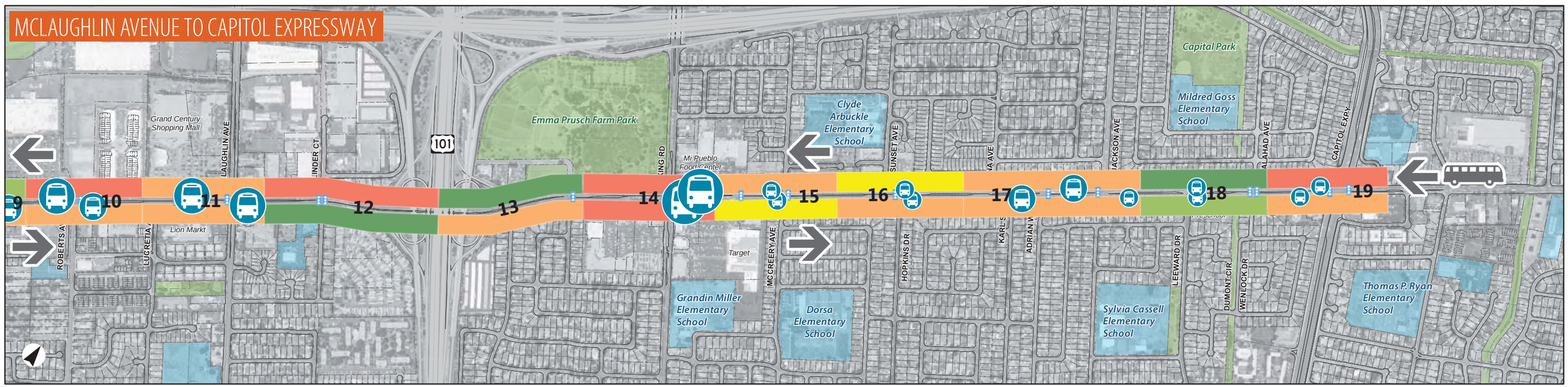
STATE ROUTE 87 TO MCLAUGHLIN AVENUE



MCLAUGHLIN AVENUE TO CAPITOL EXPRESSWAY



0 250 500 1,000 1,500 Feet

November 2017

Figure 2-10 - School Peak Average Bus Speed as a Percent of Prevailing Travel Speed

Transit Speeds as a Percent of Prevailing Speed

- ≤ 20 %
- 20.1% - 40%
- 40.1% - 60%
- 60.1% - 80%
- > 80 %
- No Data

Bus Stops Total On-Offs/Hour

- < 1
- 2 - 5
- 6 - 10
- 11 - 20
- > 20

Traffic Control

- Signal

Valley Transportation Authority

City of San Jose, Capital of Silicon Valley

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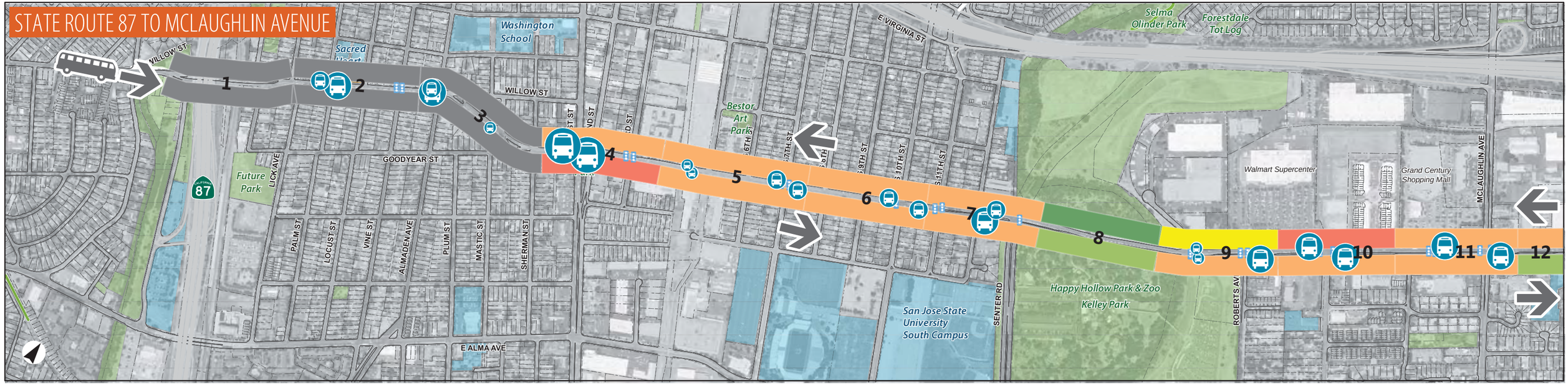
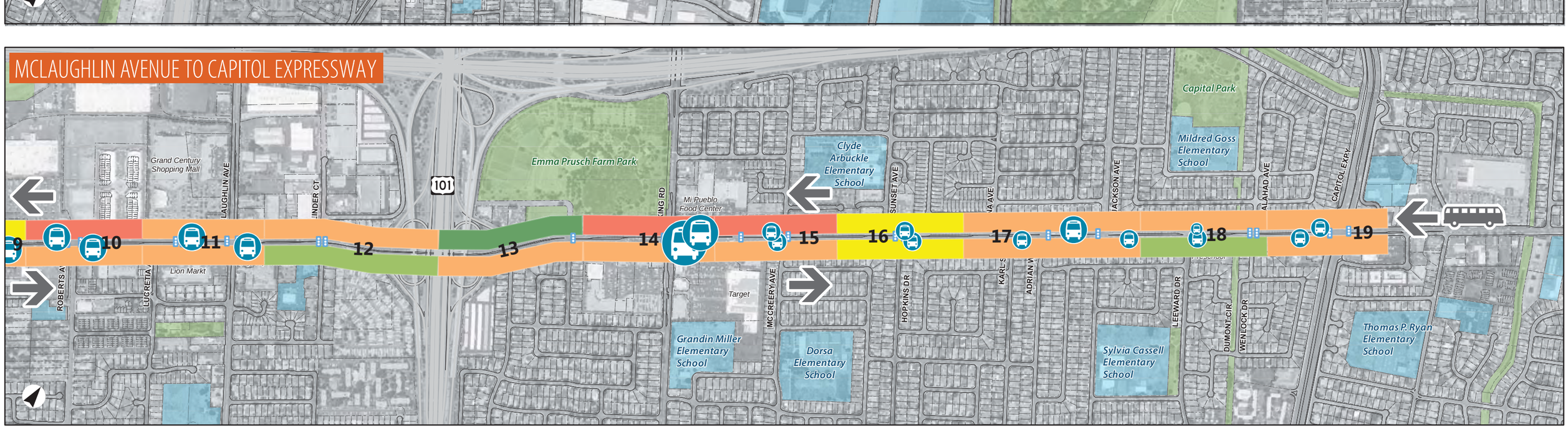
STATE ROUTE 87 TO MCLAUGHLIN AVENUE



MCLAUGHLIN AVENUE TO CAPITOL EXPRESSWAY



0 250 500 1,000 1,500 Feet

November 2017

Figure 2-11 - PM Average Bus Speed as a Percent of Prevailing Travel Speed

Transit Speeds as a Percent of Prevailing Speed

- ≤ 20 %
- 20.1% - 40%
- 40.1% - 60%
- 60.1% - 80%
- > 80 %
- No Data

Bus Stops Total On-Offs/Hour

- < 1
- 2 - 5
- 6 - 10
- 11 - 20
- > 20

Traffic Control

- Signal

Valley Transportation Authority

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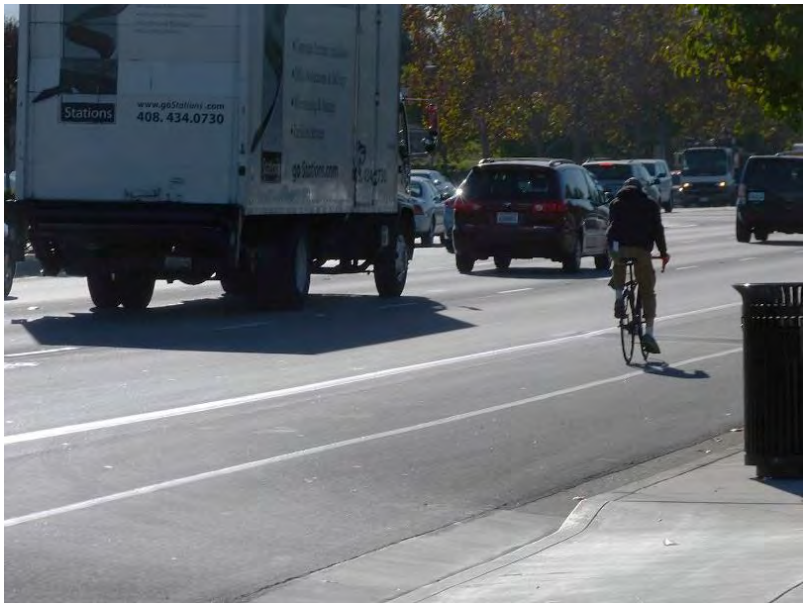
2.7 Biking

The Story-Keyes corridor is a useful east-west connector for bicyclists in the City of San José due to its connections to several trails and fairly continuous bicycle facilities. While the corridor offers bicycle facilities and serves many local bicycle trips, biking is difficult and uncomfortable on most parts of the corridor due to a lack of separation between bicycle facilities and vehicle right of way and the nature of vehicle travel along the corridor, which includes high vehicle volumes and speeds. The majority of the observed bicycle trips were on the sidewalk, most likely due to bicyclists feeling unsafe or uncomfortable biking in the street. Children were also observed primarily biking on the sidewalk. This section discusses bicycle safety along the corridor, existing bicycle facilities, and major issues and opportunities.



Clockwise from top right: (1) Green-backed skip-striping at an intersection along Keyes Street. (2) A cyclist travelling next to heavy vehicle traffic in a bicycle lane on the Story-Keyes corridor, with oncoming bus merging into the bike lane to access the curbside bus stop. (3) Designated bicycle facilities on Willow Street as seen from Locust Street

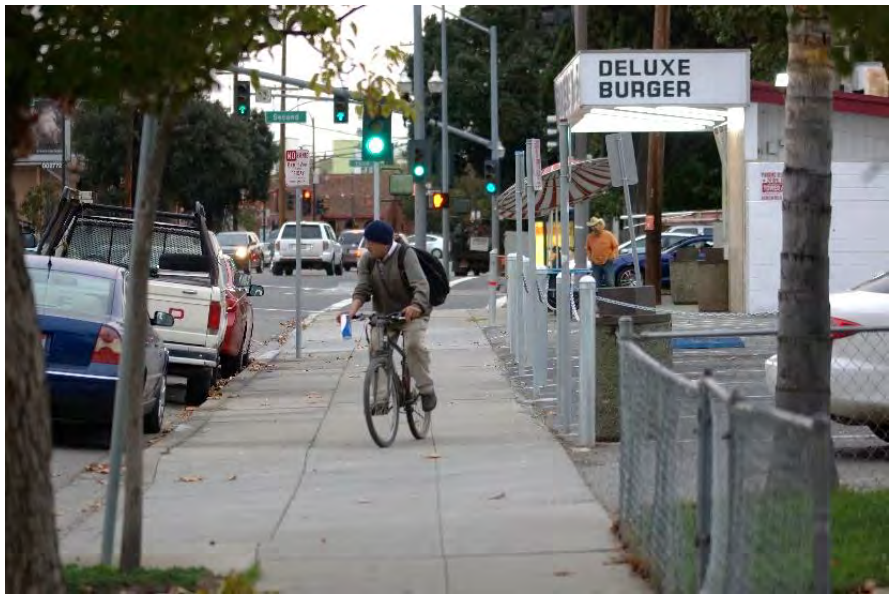
Bicycle Safety

A collision analysis was performed with data for reported collisions that occurred between 2010 and 2015 (six years of data) and recorded in the City of San José collisions database. Between 2010 and 2015, 82 injury bicycle-automobile collisions were reported, accounting for approximately 11 percent of all reported collisions. Twelve additional reported bicycle collisions resulted in property damage only. Eight of the bicycle collisions on the corridor were categorized as severe injury collisions, representing 25 percent of all severe injury collisions reported on the corridor.

Three major collision profiles were observed:

- ***Lack of Dedicated Bicycle Facilities:*** While bicycle facilities are present on about 40 percent of the corridor, almost 55 percent of all bicycle collisions occurred at locations without bicycle facilities. Bicycle collisions occurred disproportionately at locations that lack designated bicycle facilities, which indicates the importance of bicycle facilities in ensuring bicyclist safety.
- ***Right Turn Hook Collisions:*** Right turn hook collisions accounted for over a third (40 percent) of all bicycle injury collisions. These occurred when a vehicle made a right turn across the bicyclist's path of travel.
- ***Child-involved Collisions near Schools:*** In the study period, almost four percent of all bicycle collisions involved school-aged children.

Anecdotally, many do not feel safe riding in the street and chose to use the sidewalk instead. **Figure 2-4** maps the pedestrian and bicycle collisions of the corridor along with their respective collision profile. **Appendix E** includes summary statistics and maps of bicycle and pedestrian collisions and discusses potential countermeasures for common types of collisions on the corridor.



Left: Crossing Willow Street at Lick Avenue is difficult for many bicyclists due to the large intersection and limited controlled auto movements. Below: Cyclist riding on the sidewalk on Goodyear Street.

Bicycle Infrastructure

The Story-Keyes corridor provides designated bicycle facilities between SR 87 and McLaughlin Avenue, about 2.3 miles of the 4.25-mile corridor. Facilities include a designated bicycle route on Willow Street and bicycle lanes on Graham Avenue and Keyes Street between Willow Street and McLaughlin Avenue. Along the bicycle route on Willow Street, sharrows convey that bicyclists and motorists are asked to share the travel lane, as there is not enough roadway width to provide a bicycle lane without removing parking. Goodyear Street between Pepitone Avenue and Mastic Street provides a good alternative route to Willow Street for through bicyclists who feel more comfortable riding on a quieter residential street. The bicycle lanes on Graham Avenue and Keyes Street are delineated with traditional bicycle lane markings that include white lines separating the vehicle travel lane and bicycle lane. Buffers and green paint enhance the bicycle lanes between 5th and 10th Streets on Keyes Street. There is a two-block gap in the bicycle lanes on Goodyear Street between Graham Avenue and 1st Street, where Goodyear Street becomes a designated bicycle route with sharrows on the outside travel lanes. There are no bicycle facilities provided today in the almost two-mile stretch between McLaughlin Avenue and Capitol Expressway. Bicycle lanes are present outside of the study corridor on Story Road, east of Capitol Expressway, as well as west of Lick Avenue on Willow Street.

Per the City of San José's *Bicycle Master Plan* and information provided by City staff, the following bicycle facility improvements are planned:

- **Closing the bicycle lane gaps** on Goodyear Street and Story Road (per the Bicycle Master Plan)
- **Installing buffered bicycle lanes** on the north/south couplet of Vine Street and Almaden Avenue
- **Installing a two-way separated bikeway** at the skewed Hopkins Drive/Sunset Avenue intersection between the Hopkins Drive/Story Road intersection and Sunset Avenue/Poco Way
- **Enhancements to the existing bicycle lanes** between 10th Street and Clemence Avenue

Figure 2-12 presents the existing bicycle network for the study area as well as the associated level of traffic stress. Level of traffic stress is discussed in more detail below.

Bicycle Parking

Formal bicycle parking opportunities, such as bicycle racks or long-term bicycle parking, are limited on the corridor today, resulting in the majority of bicycle parking being informal, for example on sign posts. Bicycle racks have been installed with new development, such as at the commercial development at the King Road/Story Road intersection. The commercial development added bicycle parking spaces both in the public right-of-way and in the shopping center's paseo areas.

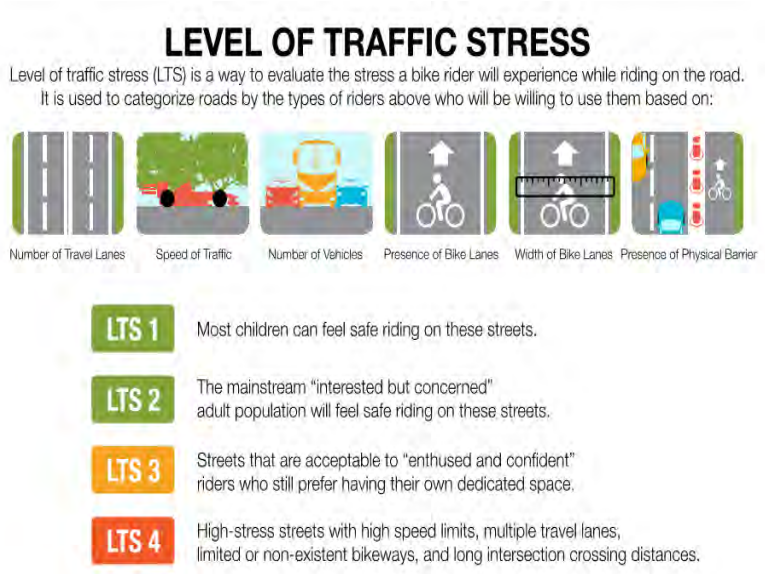
Story Road east of Senter Road, adjacent to Happy Hollow Park & Zoo. There is a bicycle lane without a buffer along the right side of the road.

Issues and Opportunities

Bicycling is a necessary means of travel for many people along the corridor, despite the fact that limited bicycle facilities can make it unpleasant and stressful. Bicycle comfort is heavily dependent on vehicle volume and speeds on the adjacent roadway and the presence of bicycle facilities. A common metric for understanding bicycle comfort is "level of traffic stress" (LTS), which evaluates a roadway based on vehicle volumes, vehicle speeds, and available bicycle facilities. LTS is measured on a scale of one through four, based on thresholds set by research from the Mineta Transportation Institute, with LTS 1 being the most comfortable for riders and LTS 4 being the most uncomfortable. The levels are split between LTS 1 and 2 and LTS 3 and 4 as follows:

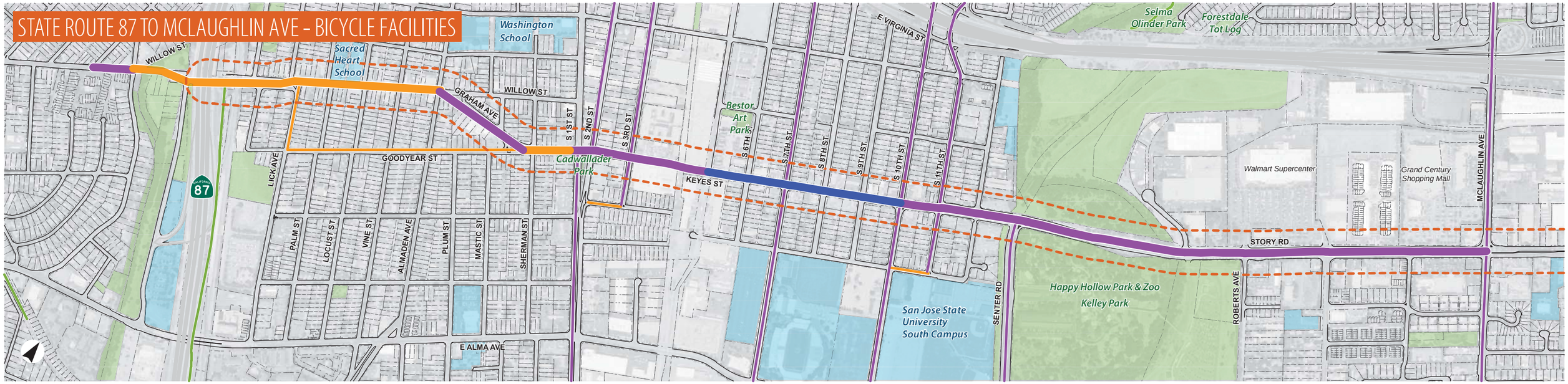
- ***LTS 1 and LTS 2*** are suitable for the average bicyclist who has limited bicycling experience and a low tolerance for traffic stress before simply choosing to not make the trip by bicycle. This group is often referred to as the "interested but concerned" group and includes those who are curious about taking more trips by bicycle but may not feel comfortable doing so. LTS 1 and 2 facilities are also appropriate for children who have some previous bicycling education.
- ***LTS 3 and LTS 4*** are considered high-stress bikeways that are uncomfortable for the majority of bicyclists. LTS 3 and LTS 4 bikeways are usually only utilized by those for whom cycling is their only transportation option or those who are experienced and confident riding in traffic.

Most of the Story-Keyes corridor is LTS 3 or 4, signifying that those who are choosing to bike either have no other choice, or are experienced with that level of traffic stress. This high level of traffic stress explains the large number of cyclists observed riding on the sidewalk. Though sidewalk riding has other safety considerations that are equally as concerning as on-street cycling, such as poor visibility at driveways and the potential for pedestrian-bicyclist conflicts, many cyclists feel safer biking on the sidewalk than in the street. Willow Street is an exception to the rest of the corridor with a LTS of 2, as it's a narrower street with generally lower speeds. However, despite the narrower cross section, Willow Street has high vehicle volumes, which may still be uncomfortable for more inexperienced cyclists. In addition, the Willow Street intersections at Lick Avenue and Graham Avenue, and the Graham Avenue intersection at Goodyear Street, are complex and may be challenging for less confident bicyclists, especially if the cyclist is making a turning movement. Goodyear Street, west of Graham Avenue, serves as an attractive alternative to Willow Street due to its lower vehicle volumes and prevailing speeds.

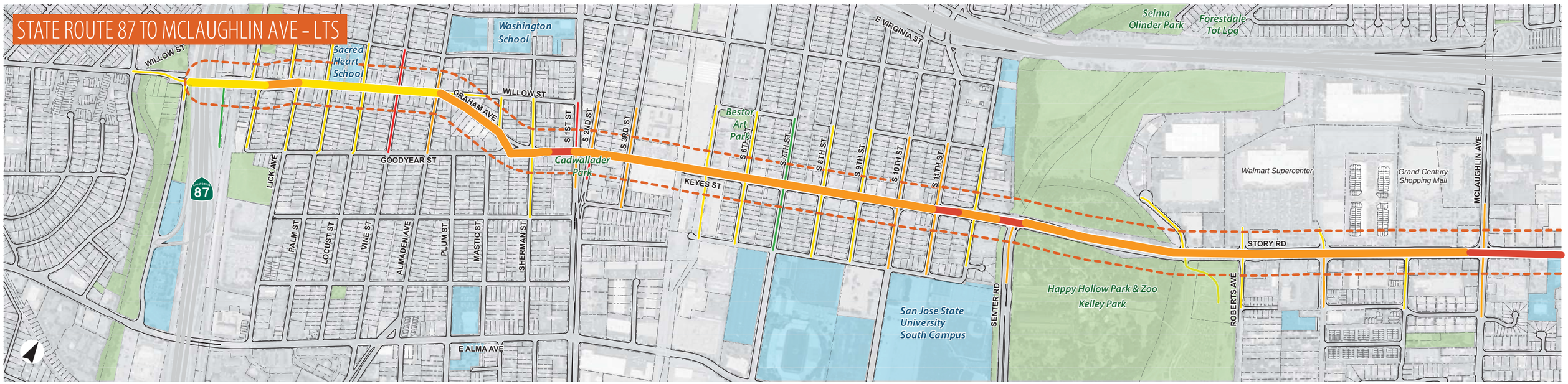


Level of Traffic Stress (LTS) is a comfort metric that describes how comfortable a roadway is based on the roadway and bikeway characteristics shown above.

STATE ROUTE 87 TO MCLAUGHLIN AVE – BICYCLE FACILITIES



STATE ROUTE 87 TO MCLAUGHLIN AVE – LTS



0 250 500 1,000 1,500 Feet

August 2016

Source: SANTA CLARA COUNTYWIDE BICYCLE MASTER PLAN, FEHR AND PEERS, 2016

Figure 2-12A Bicycle Level of Traffic Stress - Western Corridor

Bicycle Facilities

- Class 1: Bicycle Path
- Class 2: Bicycle Lane
- Class 2B: Buffered Bicycle Lane
- Class 3: Bicycle Route

Level of Traffic Stress (LTS)

- LTS 1
- LTS 2
- LTS 3
- LTS 4
- Story-Keyes Study Corridor
- Intersecting Side Streets or Paths

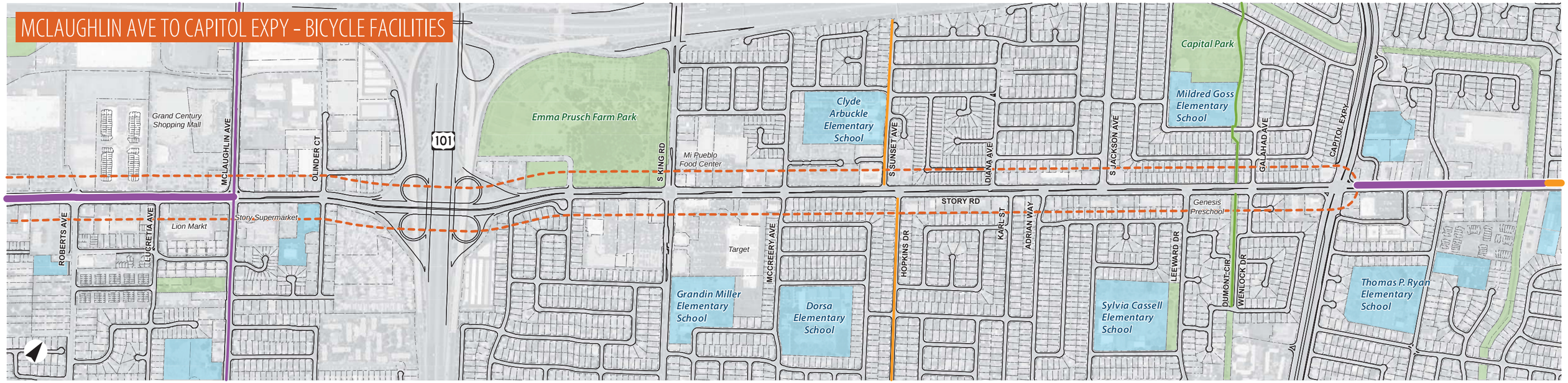
Valley Transportation Authority

CITY OF SAN JOSE CAPITAL OF SILICON VALLEY

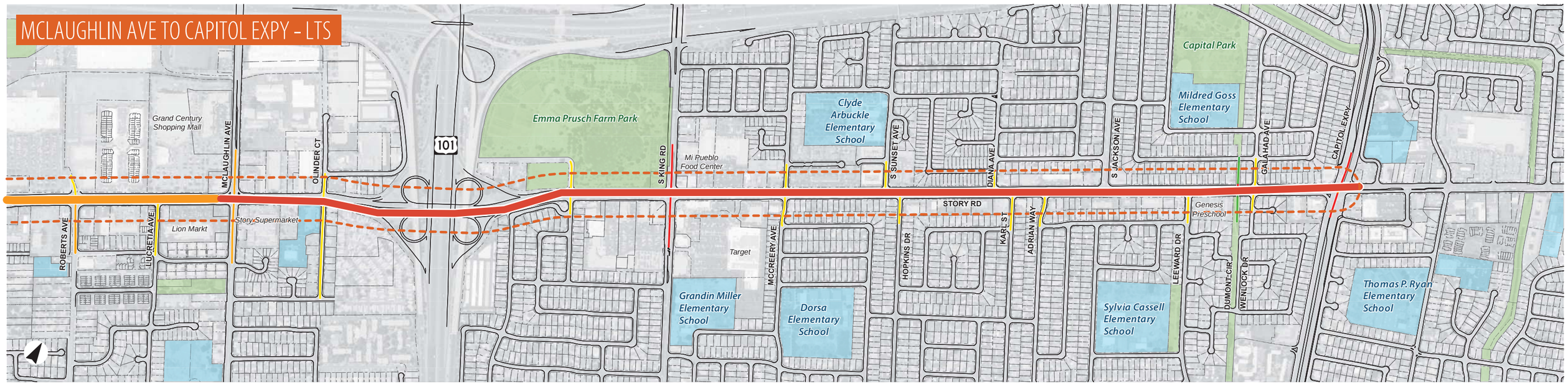
FEHR PEERS

cd+a COMMUNITY DESIGN + ARCHITECTURE

MCLAUGHLIN AVE TO CAPITOL EXPY – BICYCLE FACILITIES



MCLAUGHLIN AVE TO CAPITOL EXPY – LTS



0 250 500 1,000 1,500 Feet

August 2016

Figure 2-12B Bicycle Level of Traffic Stress - Eastern Corridor

Source: SANTA CLARA COUNTYWIDE BICYCLE MASTER PLAN, FEHR AND PEERS, 2016

Bicycle Facilities

- Class 1: Bicycle Path
- Class 2: Bicycle Lane
- Class 2B: Buffered Bicycle Lane
- Class 3: Bicycle Route

Level of Traffic Stress (LTS)

- LTS 1
- LTS 2
- LTS 3
- LTS 4
- Story-Keyes Study Corridor
- Intersecting Side Streets or Paths

Valley Transportation Authority

CITY OF SAN JOSE CAPITAL OF SILICON VALLEY

FEHR PEERS

cd+a COMMUNITY DESIGN + ARCHITECTURE

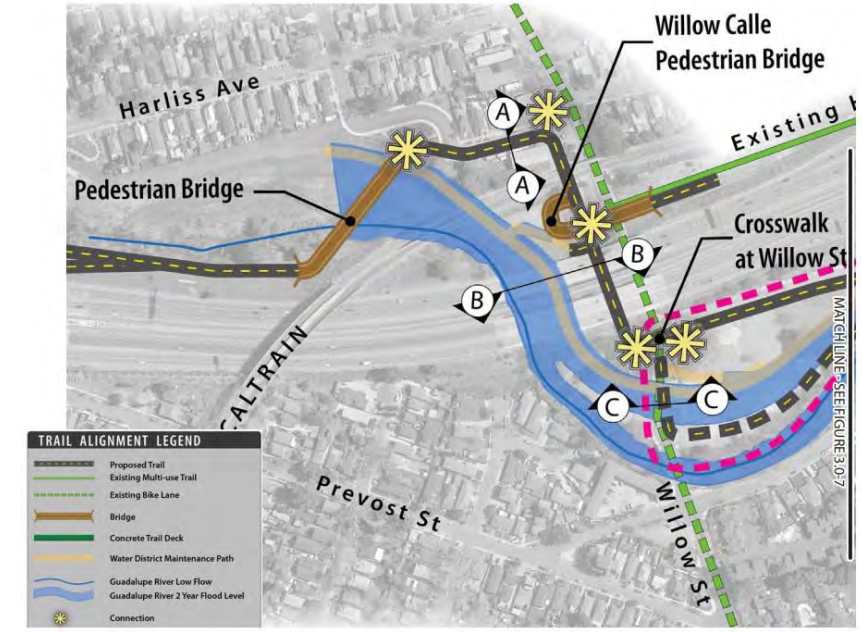
Trails

The Story-Keyes corridor intersects several trails including the Tamien Path, Guadalupe River Trail, Five Wounds/Coyote Creek Trail, and Lower Silver Creek Trail. Trail connections and amenities are as follows:

- ***Tamien Path/Guadalupe River Trail:*** Tamien Path runs parallel to SR 87 and connects Willow Street to the Tamien Light-Rail Station and beyond. The City of San José's *Guadalupe River Trail Master Plan* calls out improvements north of Willow Street to close the gap between Tamien Path and the Guadalupe River Trail. While the Tamien Path has trail lighting, the lights are often non-operational, leading to poor visibility, which has led to community concerns of crime.
- ***Coyote Creek Trail:*** The Coyote Creek Trail intersects Story Road near Happy Hollow Park & Zoo. The trail is continuous to the south but has gaps and informal (unpaved) connections to the north. Access to the trail is also provided from Senter Road and Remillard Court. No lighting is provided on this trail.
- ***Lower Silver Creek Trail:*** The Lower Silver Creek Trail intersects Story Road between Galahad Avenue and Leeward Drive. At Story Road, bicyclists who would like to continue on the trail are required to detour to the adjacent signal at Galahad Avenue due to a lack of a formalized connection. No lighting is provided on this trail.

Per the City of San José's *Bicycle Master Plan* and information provided by City staff, the following improvements are planned for these trails:

- ***Coyote Creek Trail Improvements*** to address the crossings on Story Road at Senter Road and Remillard Court. Conceptual designs have been prepared but funding has not been secured.



Top: Diagram from the Guadalupe River Trail Master Plan showing the proposed connection between the trail and Willow Street. Bottom: Unimproved areas of the Coyote Creek Trail north of the corridor will eventually connect to the Senter Road intersection.

2.8 Driving

The Story-Keyes corridor serves as a primary east-west arterial for this part of San José, providing important regional connections to Interstate 280, US Route 101, and other major arterials within the City. Posted speed limit is generally high, around 35 to 40 MPH, and the roadway is designed to prioritize moving vehicle traffic through the corridor. This section discusses average daily traffic, safety, traffic operations, truck routes, and parking along the corridor.

Automobile Safety

A collision analysis was performed with data for collisions that occurred between 2010 and 2015 and were reported to the police. The data was provided by the City of San José for the purpose of this analysis. The majority of reported collisions that occurred on the corridor were between two vehicles, totaling 740 reported collisions between 2010 and 2015. These types of collisions represent about 84 percent of all collisions along the corridor. However, only one percent of those collisions were severe injury collisions, with no fatal vehicle collisions reported during that time period. However, it is important to note there were two pedestrian-vehicle collisions that resulted in pedestrian fatalities. Nine severe injury vehicle collisions were reported, accounting for just under a third of all reported severe injuries on the corridor. The most common collision type was rear-end collisions (43 percent), which are commonly associated with speeding and distracted driving. Approximately 20 percent of collisions occurred when left-turning vehicles struck another vehicle, which is commonly associated with permitted left turns (no turn arrow) and red light violations (vehicles proceeding with a red arrow).

Roadway characteristics include wide lanes, two to seven travel lanes, and slip lanes. These prevalent characteristics along the corridor prioritize vehicle mobility over other modes of travel. Left: Story Road cross section. Below: Willow Street cross section.

Average Daily Traffic (ADT)

While the entire Story-Keyes corridor is auto-oriented in design, vehicle volumes and congestion vary across the corridor. The corridor cross section gradually widens when moving east along the corridor: it is two lanes on Willow Street, widens to four to five lanes on Keyes Street, and becomes six to seven lanes on Story Road. **Table 2-2** shows the typical cross-section, ADT range, and posted speed limit for each section of the corridor.

Some key findings include:

- ***Cross section width generally correlates with ADT*** on the corridor, with the exception of portions of Keyes Streets and Goodyear Street where they are wider than existing ADT demands. Most of segments of Keyes Street and Story Road range from 10,000 to 20,000 vehicles per day. ADT drops to below 10,000 vehicles per day west of 1st Street. Willow Street has the lowest ADT with approximately 6,500 vehicles per day.
- ***Areas with the highest ADT are generally near major regional connections.*** The highest ADT was observed near the US Route 101 interchange on Story Road, where it ranges from approximately 28,000 to 41,000 vehicles per day. Story Road near Jackson Avenue, which connects to I-680, also has high ADT, with about 26,000 vehicles per day. Story Road at Senter Road, which is a major freeway access route to Interstate 280, also has a spike in ADT to 27,500 vehicles per day. Interstate 280 access is also provided at the 1st Street/2nd Street couplet and 7th Street, which also experience high ADT. Traffic volumes drop on Keyes Street west of 7th Street.

Table 2-2: Traffic Volumes and Posted Speed Limit by Section

Section Name	Typical Cross-Section	ADT Range[1]	Posted Speed Limit
Willow Street[2]	• 40 feet curb-to-curb, typically • Two travel lanes • Parking on both sides	6,400-6,500 vehicles/day	25 MPH, increases to 35 MPH West of Lick Avenue
Keyes Street[3]	• 70 feet curb-to-curb, typically • Pinch point between 3rd and 4th Streets with 50' cross-section • Four- to five- travel lanes • Parking on both sides	8,500-18,900 vehicles/day	35 MPH, only 25 MPH west of South 1st Street
Story Road West[4]	• 102 feet curb-to-curb, typically • Six to seven travel lanes • No parking	21,800-41,000 vehicles/day	40 MPH
Story Road East[5]	• 102 feet curb-to-curb, typically • Six to seven travel lanes • Parking in some sections, particularly with fronting residential use	16,200-28,500 vehicles/day	35 MPH

1. Estimated ADT from City of San José Traffix model/node index.
2. Willow Street – SR 87 to Goodyear Street/Graham Avenue
3. Keyes Street - Goodyear Street/Graham Avenue to Senter Road
4. Story Road West - Senter Road to Knox Avenue, inclusive of US 101 ramps
5. Story Road East – Knox Avenue to Capitol Expressway

Traffic Operations

A traffic operations analysis was performed with data from the City of San José's Traffix database. Level of Service (LOS) was calculated for each study intersection and the results indicate all of the 20 studied intersections operate at an acceptable level of service in both the morning and evening peak hour, with the exception of the King Road/Story Road intersection, which does not operate at the acceptable service level during the evening peak hour. Although the Capitol Expressway/Story Road intersection experiences a similar level of service as the King Road/Story Road intersection, Capitol Expressway is in Santa Clara County's jurisdiction, which has lower thresholds for acceptable level of service (LOS E) than the City of San José (LOS D). **Appendix H** provides details on the traffic operations analysis performed.

Parking

On-street parking is permitted along many of the residential and some commercial segments of the corridor. The following summarizes on-street parking permissions along of the three segments of the corridor:

- ***Willow Street*** has on-street parking along both sides for most of its length within the study area, which serves local businesses that have limited off-street parking.
- ***Keyes Street*** generally allows on-street parking, except for at pinch points in the roadway where the width of the cross section does not allow for parking without reducing the number of travel lanes.
- ***Story Road*** typically provides on-street parking directly in front of residential uses. In addition, these residential uses typically have one or more off-street parking spaces. However, the 35 to 40 miles per hour speed limits can make on-street parking maneuvers and getting into and out of driveways difficult.

Off-street parking is limited along Willow Street and Keyes Street, but Story Road has several large off-street surface parking lots primarily fronting commercial land uses. The driveways providing access to these parking lots can become conflict points between users traversing the adjacent roadway, including bicyclists and motorists, and drivers pulling into and out of the driveways. This problem is exacerbated by heavy vehicle volumes along the corridor forcing motorists pulling out of the driveway to focus their attention on finding a gap in traffic, pulling their attention away from potential pedestrians and bicyclists using the adjacent facilities. Further, vehicles entering and exiting the driveways may encroach on the sidewalk, blocking pedestrian right of way. These issues are mitigated at signalized commercial driveways such as at Remillard Court, Roberts Avenue, Lucretia Avenue, and the driveway on Story Road between Clemence Avenue and McLaughlin Avenue.

Parking is a community priority on Willow Street where parcels are smaller and may have limited or no off-street parking.

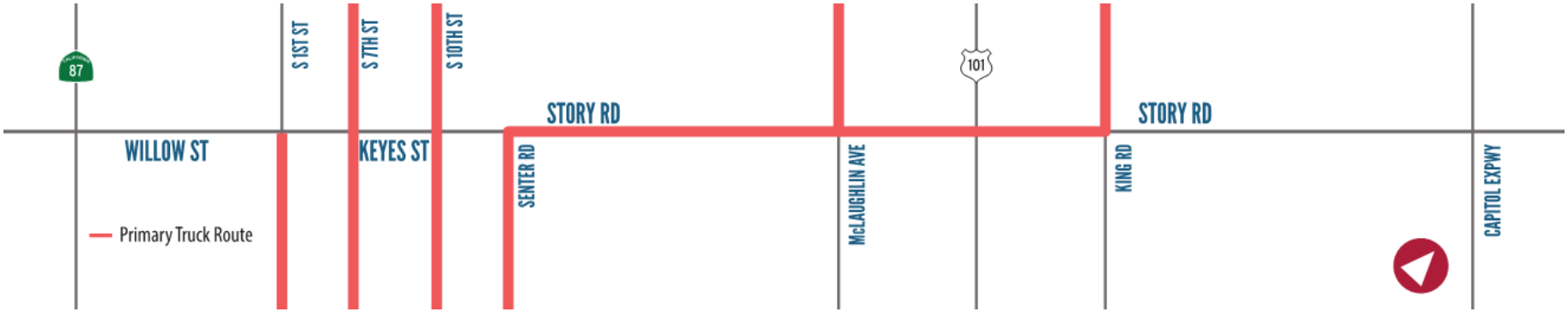
Truck Routes

The *Envision San José 2040 General Plan* acknowledges the Story-Keyes corridor as an important freight connection for the City of San José. A portion of Story Road provides regional truck access and is a designated primary truck route between Senter Road and King Road.

About half of the study corridor is a designated truck route. There are also several north-south primary truck routes that intersect the corridor, including 1st Street, 7th Street, 10th Street, Senter Road, McLaughlin Avenue, and King Road. Many of the truck routes are in the residential Spartan-Keyes neighborhood, which can create pollution and noise concerns for residents. However, the truck routes also serve an important goods movement and business function in connecting industrial areas south of Keyes Street with I-280 and US 101 and providing access for the large commercial uses on Story Road. For the purpose of this study, extensive data on truck usage in the area was not provided, however, time restrictions for trucks are currently in effect on certain north-south routes to limit the impact on the neighboring residential areas.

Large trucks share the roadway with bicyclists, transit, and vehicles on the corridor.

The *Envision San José 2040 General Plan* truck routes within the vicinity of the corridor can be seen below.



2.9 Summary of Key Opportunities

The following tables outline key opportunity areas highlighted during the analysis of existing conditions along the Story-Keyes corridor. This analysis, along with extensive community outreach, acted as the foundation for the creation of the long-term vision of the corridor. A summary of the community design process is included in **Chapter 3.** The Story-Keyes corridor recommendations and long-term vision are summarized in **Chapter 4.**

Willow Street and Graham Avenue

Table 2-3: Willow Street/Graham Avenue Opportunity Areas

	• Provide additional crossing opportunities on Willow Street • Improve pedestrian connectivity and access at skewed intersections at Willow Street/Lick Avenue, Willow Street/Graham Avenue, and Graham Avenue/Goodyear Street • Create pedestrian improvements with safe routes to school in mind, given the proximity to Sacred Heart Nativity School and Washington Elementary School • Enhance accessibility at Sherman Avenue/Goodyear Street • Address areas that are inconsistent with ADA requirements, for example, driveways that lead to inaccessible sidewalks
	• Improve Line 25 operations at intersections, such as at the Willow Street/Graham Avenue and Graham Avenue/Goodyear Street intersections • Enhance the passenger waiting environment by providing amenities such as bus bulbs with bus shelters and lighting, per the TPEP
	• Consider alternative bikeways to Willow Street, such as Goodyear Street, that may have greater bicyclist comfort and lower ADT • Improve connections between Willow Street and north-south bikeways, such as Almaden Avenue and Vine Street • Consider bicycle parking on Willow Street to serve local businesses and bus stops
	• On-street parking is observed to be generally well-utilized • While some parking exists off-street, lot sizes are generally smaller and do not provide substantial off-street parking supply
	• Consider streetscape improvements that further enhance the existing streetscape character of this vibrant district • Reduce crossing distances, such as with bulb out installations or similar treatments • Enhance pedestrian-scaled lighting on Willow Street • Replace failing trees and planting new trees in empty tree wells • Introduce neighborhood- or district-themed street furnishings if supported by the community • Improve entry features at the northern and southern ends of Graham Street (median islands) and near the SR 87 underpass (e.g. roundabout) • Address trail connections, such as providing connections to the Guadalupe River Trail and the Tamien Path for better, more direct, access to Tamien Station through recommended improvements in the City of San José's *Guadalupe River Trail Master Plan*

Goodyear Street and Keyes Street

Table 2-4: Goodyear Street/Keyes Street Opportunity Areas	
	• Provide more frequent crossing opportunities by installing crosswalks. These will likely require additional enhancements, such as flashing beacons, bulb outs, and pedestrian refuge without a lane reduction • Mark each crosswalk at signalized intersections • Provide a continuous pedestrian facility by addressing sidewalk gaps on the south side of Keyes Street, just east of 3rd Street, and on the east side of 3rd Street south of Keyes Street • Work with owners of properties that are redeveloping to reduce the number of driveways that access contiguous parking areas that serve multiple properties. • Minimize conflict points between pedestrians and vehicles by reducing the width of driveways to the minimum needed to accommodate the vehicles that use driveways for access • Address areas that are inconsistent with ADA requirements, for example, driveways that lead to inaccessible sidewalks
	• Enhance the pedestrian waiting environment by providing amenities such as bus bulbs with bus shelters and lighting • Improve transit operations and accessibility by relocating bus stops to the far side of intersections and in close proximity to crosswalks • Improve major transit transfer points, such as the bus stop at the intersection of South 1st Street and Keyes Street • Prioritize improvements to high-ridership bus stops, such as at Senter Street, which has the third-highest ridership on the corridor
	• Provide continuous bicycle facilities by closing gaps, such as on Goodyear Street between Graham Avenue and 2nd Street • Provide bicycle facilities that are low traffic stress and accessible to all ages and abilities • Consider bicycle parking on Willow Street to serve local businesses and bus stops
	• Consider a lane reduction in areas that are low ADT and have a four-lane cross-section, such as on Goodyear and Keyes Streets between Graham Avenue and 7th Street • Better utilize on-street parking by removing abandoned vehicles and enforcing vehicle abatement
	• Enhance constrained sidewalk environment wherever feasible • Reduce travel lanes to allow opportunities for landscaping and green infrastructure • Provide a well-lit pedestrian environment by providing pedestrian-scale lighting in under-lit areas • Provide continuous and appropriately spaced street trees • Use tree grates to maximize the sidewalk width In areas with constrained sidewalk widths but high foot traffic

Story Road

Table 2-5: Story Road Between Senter Road and Knox Avenue Opportunity Areas	
	• Improve crosswalk frequency to provide crossing opportunities at least every 500 feet, which will require substantial enhancements such as pedestrian hybrid beacons or traffic signals • Provide a buffer between the sidewalk and flow of traffic by enhancing streetscape wherever possible • Provide a continuous pedestrian facility by closing sidewalk gaps, such as between McLaughlin Avenue and Via Ferrari on the south side • Enhance safety for all modes at the US 101 interchange through intersection geometry improvements and crosswalk enhancements • Enhance the safe routes to school in this segment • Prioritize multimodal safety in this segment per the Vision Zero San José priority safety corridor assessment • Meet pedestrian demand by expanding sidewalk widths in areas with high pedestrian volumes where feasible • Address areas that are inconsistent with ADA requirements, for example, driveways that lead to inaccessible sidewalks
	• Consider bus pullouts wherever feasible • Enhance the passenger waiting environment by providing shelters and lighting at existing bus stops, which may require coordinating with local property owners to secure easements
	• Enhance bicycle facilities to ensure they are low-stress facilities for all ages and abilities • Provide a continuous bicycle facility by closing bicycle lane gaps, including through the US 101 interchange • Improve conflict zones between bicyclists and motorists by improving driveway crossings and reducing the width of driveways to the minimum needed to accommodate its uses • Provide connections between the corridor and north-south bicycle facilities, such as the Coyote Creek Trail • Consider bicycle parking to serve local businesses, both shoppers and employees
	• Substantial off-street parking is provided on commercial parcels, which creates heavy driveway traffic
	• Enhance streetscape wherever possible to provide shade and buffer from heavy traffic • Provide consistent, appropriately-spaced street trees along the corridor • Provide connections to the Coyote Creek Trail and consider improvements to the Kelley Park and the Coyote Creek Trail area

Table 2-6: Story East Opportunity Areas	
	• Improve crosswalk frequency to provide crossing opportunities at least every 500 feet, which will require substantial enhancement such as pedestrian hybrid beacons or traffic signals • Provide a buffer between the sidewalk and flow of traffic by enhancing streetscape wherever possible • Enhance the important safe routes to school function of this segment • Increase pedestrian visibility and slow vehicle turning speeds by reduce curb radii, such as at the intersection of King Street and Story Road
	• Consider bus pullouts wherever feasible • Enhance the passenger waiting environment by providing shelters and lighting at existing bus stops, which may require coordinating with local property owners to secure easements
	• Provide a continuous and accessible bicycle facility by closing bicycle lane gaps and implementing low traffic stress bikeways, where feasible • Improve conflict zones between bicyclists and motorists by improving driveway crossings • Provide connections between the corridor and north-south bicycle facilities, such as Sunset Drive, which provides a connection over Interstate 280 • Consider providing bicycle parking to serve local businesses, both shoppers and employees
	• Enhance streetscape wherever possible to provide shade and buffer from heavy traffic • Provide consistent, appropriately-spaced street trees along the corridor

3. Community Design Process

Community members, community-based groups, public agencies, and decision-makers were engaged throughout the design process to develop a shared vision for the Story-Keyes corridor. This vision focuses on the ideas and needs of those who work and live along the corridor while still addressing the City's complete streets, Vision Zero, and vehicle-miles-travelled (VMT) reduction policies.

Traditional engagement strategies, such as open houses and community forums, rely on community members to make the time to be a part of the planning process. In that way, traditional engagement strategies can put the onus on the community, rather than the project team, to have a thoughtful, community-based design process. These meetings often occur on weekday evenings, when many people get off work, have childcare responsibilities, and need to put dinner on the table. These traditional outreach formats also have an air of formality that may limit the comfortability of community members to share their experiences and opinions because they are unfamiliar with planning terminology or practices. In an effort to recognize these limitations, the Story-Keyes Complete Streets Study used a wide variety of community engagements events that, particularly for outreach on the preferred alternative, focused on meeting people where they are: out and about on the corridor, shopping, waiting for the bus, picking up their kids at school, or at community service provider and neighborhood council meetings. This leveled the playing field for participation substantially and worked toward a more equitable approach to community participation.

These innovative strategies included: "pop-ups" at local stores and bus stops where employees, customers, and transit riders were asked about their experiences on the corridor; meetings with stakeholder groups; walk and bike audits; online surveys; school visits; and on-one-on conversation with local businesses. More information on each of these events is included on subsequent pages. Public noticing, outreach materials, and conversations were held in English, Spanish, and Vietnamese to encourage participation from a more representative cross-section of the communities along the corridor.

This chapter highlights the overall outreach approach and timeline and briefly summarizes each outreach event and highlights common themes found throughout the process. **Appendix I** provides additional details on the community design process and events.

What is a Pop-Up?

Pop-ups are an informal outreach strategy used to increase community participation and awareness by setting up booths or posters in areas where community members often visit on a typical day or commute.

Examples of pop-ups hosted for the Story-Keyes Complete Streets Corridor Study include setting up informal, interactive booths at Viva Calle Open Streets, surveying bus passengers at bus stops, and visiting businesses to share information and gather feedback from owners, employees, and customers.

Community members at Viva Calle Open Streets, where VTA hosted informal and interactive booths to gather input about the corridor.

STORY-KEYES COMPLETE STREETS OUTREACH SUMMARY

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

SUMMER 2015 — PRE-STUDY
- Viva Calle Open Street Event
- NACTO Design Workshop

FALL 2016 — EXISTING CONDITIONS
- Online Outreach & Flyers
- Interactive Online Corridor Maps
- Community Workshops
- Walk & Bike Audits
- Stakeholder Meetings
- School Presentation
- VTA Committees

SPRING 2017 — DESIGN ALTERNATIVES
- Online Outreach
- Community & Design Workshops
- Business & Bus Stop Pop-Ups
- Neighborhood Association Presentations

WINTER 2017 — PREFERRED ALTERNATIVE
- Design Workshop
- Online Outreach
- Business & School Pop-Ups
- School Presentations
- Stakeholder Meetings

SPRING 2018 — FINAL RECOMMENDATIONS
- Final Study
- VTA Board Adoption
- City of San José Adoption

524 IN-PERSON PARTICIPANTS

37,607 ONLINE REACH*

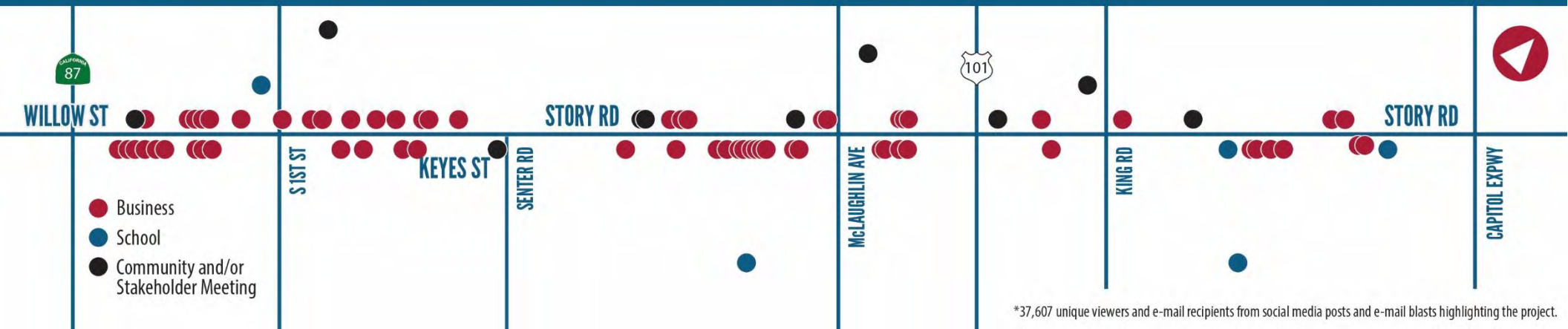
14 OUTREACH FORMATS

14 COMMUNITY GROUPS

2 TECHNICAL EXPERT GROUPS (VTA, CITY OF SJ)

65 BUSINESSES

3 LANGUAGES (ENGLISH, SPANISH, VIETNAMESE)



*37,607 unique viewers and e-mail recipients from social media posts and e-mail blasts highlighting the project.

3 Community Design Process

3.1 Outreach Approach

The outreach process was designed to achieve a community-driven complete streets study, organized around the following principles that derive from the Study goals outlined in the **Study Purpose and Process** section (Section 1.1) above:

- **Visioning and Defining Purpose:** Create a shared vision with goals and objectives that respond to various contexts along the corridor.
- **Listening and Learning**: Engage stakeholders and residents in identifying perceptions, aspirations, and needs that reflect the diversity of travel modes and demographics throughout the corridor.
- **Education and Information Sharing:** Educate stakeholders and residents about existing safety, connectivity, access, and comfort issues and opportunities for innovative walking, bicycling, and transit solutions that work for users of all ages and abilities while still serving motorists.
- **Building Consensus:** Reach consensus with the community on preferred solutions and consensus with stakeholders, agency staff, and decision-makers on proposed projects and priorities for implementation. Build excitement and momentum for the Study and proposed improvements by engaging as many people as possible in identifying problems and developing design concepts. Focus on people who do not typically participate in the public outreach process, such as those who may be excluded due to language barriers, time commitment, or caretaking and childcare responsibilities, to help ensure ideas and solutions pull from the full spectrum of corridor demographics.

To achieve this, the community engagement events were organized across the three phases of the Study:

1. **Existing Conditions/Needs Assessment:** This phase focused on understanding the existing conditions (infrastructure, policies/ programs, and demographics) and asking for input on pedestrian, bicycling, transit, and automobile needs and initial ideas for change.
2. **Complete Streets Design Alternatives:** This phase focused on developing recommendations and designs for various segments along the corridor, gathering feedback and identifying resident and stakeholder preferences for proposed changes.
3. **Presentation and Refinement of Preferred Alternative:** This phase included developing the preferred alternative and confirming it effectively responds to the needs, constraints, and aspirations identified in the previous phases.

The timeline below highlights each phase and its relevant outreach activities.

3 Community Design Process

3.2 Community Engagement Timeline

Summer 2015
PRE-STUDY

- **Viva Calle Open Streets Event:** VTA hosted informal and interactive booths to gather input about the corridor at the City of San José's Viva Calle open streets event.
- **NACTO Design Workshop:** VTA and NACTO hosted a two-day charrette to build consensus for complete streets among agency leadership and elected officials and generate potential design solutions for the Keyes Street portion of the corridor.

Photo Credit: Viva Calle Facebook page

Fall 2016
EXISTING CONDITIONS

- **Interactive Online Corridor Map:** An interactive, online corridor map was utilized to gain feedback from the public on how the corridor is used and its perceived strengths and weaknesses. Users were instructed to drop pins in specific areas they liked and in areas they saw as issues, and could then elaborate on the benefit or challenge of that area. More than 45 people submitted over 100 comments.
- **Community Workshop #1:** An evening community workshop was held in Fall of 2016 to gather input from the public about existing conditions and needs. VTA and the Local Government Commission started the meeting with a presentation introducing the project and provided an overview of Complete Streets concepts. Participants then broke into small groups with a project team staff member to discuss existing challenges and future opportunities. A total of 17 community members were in attendance.

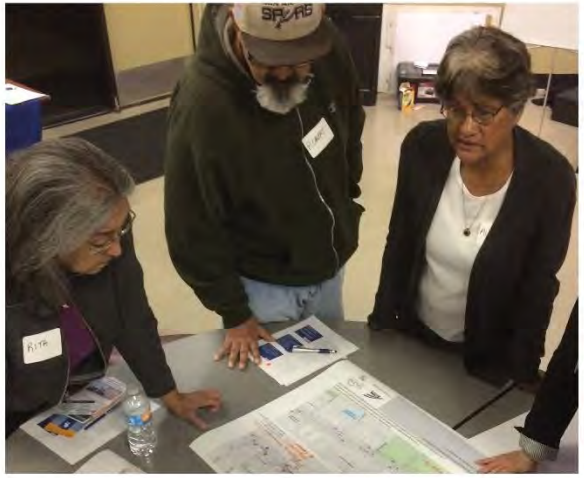
- **Walk and Bike Audits:** Walk and bike audits were conducted on Willow Street, Keyes Street, and Story Road with VTA and City of San José stakeholders and community-based groups, including the Story Road Business Association, Silicon Valley Bicycle Coalition, and California Walks. Audits focused on technical infrastructural issues and observations of how people use the corridor today, including children walking to school, people walking to shopping, and waiting for the bus. Findings were incorporated into the existing conditions documentation and concept drawings.

3 Community Design Process

Winter 2017

Spring 2017

DESIGN ALTERNATIVES



Ad-Hoc Stakeholder Meetings: Additional stakeholder meetings were held with groups who could not attend the community workshop or walk and bike audits. Three separate meetings were held with organizations from the community including church officials from Iglesia Ni Cristo, staff from ConXión, and staff from First Community Housing.

Community Workshop #2: An evening workshop was held in May of 2017 to present design alternatives for the corridor and identify community preference to inform development of the preferred design alternative.

Design Workshop #1: The first design workshop was held with technical stakeholders from VTA and the City of San Jose as well as California Walks. After a design briefing presentation, participants divided into groups to tackle key questions on the corridor, such as bus stop design, US 101 interchange redesign, separated bikeway design questions, and transit operations and design questions. Feedback was incorporated into the preferred alternative.

Pop-ups, Online Outreach, and Focused Stakeholder Meetings: Following the second community workshop, several pop-up and one-on-one outreach activities were held to gather additional feedback from the community regarding the proposed alternatives. In addition, an online survey was administered that focused on community preferences for improvements along the corridor. About 300 community members provided feedback on the proposed improvement options through in-person outreach and the online survey.

3 Community Design Process

PREFERRED ALTERNATIVE

Summer 2017

Design Workshop #2: A second design workshop was held with VTA staff and City of San José staff to review preferred design alternatives and discuss key topics related to the alternative. Participants had small group discussions on each key topic, and takeaways were reported back to the rest of the group at the end of the workshop. Takeaways were then incorporated into the concept plans.

Fall 2017/Winter 2018

Business Pop-ins: The community outreach team dropped in at businesses along the corridor and spoke with business owners, merchants, and staff in English, Spanish and Vietnamese to get feedback on the proposals. Sixty-five businesses were shown sketches of the proposed changes and asked to provide feedback. The response to the proposed changes along Willow Street and Keyes Street was very positive with 94 and 100 percent of businesses, respectively, agreeing that the proposed changes would be an improvement. Businesses along Story Road were concerned about traffic congestion and the potential impact of a bus-only lane; however, 67 percent of businesses still felt the changes would be an improvement.

Additional Community Group Meetings: Presentations were given to stakeholder and community groups to introduce the preferred recommendations and gather feedback. Presentations were given at a "Madre-a-Madre" meeting at Washington Elementary School and a parent meeting at A.J. Dorsa Elementary School, as well as at ConXión, Asian-Americans for Community Involvement (AACI), San José Mayor's Gang Prevention Task Force, and the Spartan-Keyes Neighborhood Association. Responses to the proposed recommendations were generally in favor of improvements and noted concerns on congestion on Story Road.

3.3 Common Themes

Over the course of the community design process several key themes emerged that were influential in the shaping of the preferred concept:

- ***Creating a Multimodal Corridor:*** Community members expressed the desire to see the corridor become more pedestrian, bicycle, and transit user- friendly. Even people who primarily drive on the corridor recognized the need for safety enhancements for people walking and biking.
- ***Protecting the Character of the Corridor:*** It was stressed that the unique character of each segment of the corridor be enhanced, particularly by small businesses.
- ***Enhancing Streetscape:*** Participants were interested in adding lighting, wayfinding signage, trees, and landscaping, as well as incorporating more art and reducing trash along the corridor.
- ***Addressing Common Challenges:*** Challenges include high vehicle speeds, difficult-to-navigate intersections for people walking and biking, traffic, and the need for additional lighting for personal security.

Figure 3-1 highlights comments from the interactive corridor map. A third of the comments were related to the pedestrian environment, a third to the bicycling environment, and a quarter to driving, with the remainder for bus conditions. Over half of the people surveyed indicated they visit the corridor multiple times per week in a typical month, and most respondents use multiple modes of travel in the corridor in a typical month. Almost three quarters said they arrive by car for some of those visits. The infographic on the next page highlights key takeaways from the **Presentation and Refinement of Preferred Alternative** phase of outreach, which was focused primarily on understanding small business concerns.

Online Webmap Feedback: What Do People Like About the Corridor?

The online webmap asked people what their favorite aspects of the Story-Keyes corridor. While many noted the challenges of the corridor, many also identified the historical, cultural, and iconic destinations on the corridor, including:

- Happy Hollow Park
- Japanese Friendship Garden
- Burger Bar
- Bus service
- Veggielution and Emma Prusch Park

Figure 3-1 highlights additional comments made on the webmap.

School "Pop-Ups" Feedback: What are parents and teachers thinking about?

During the **Presentation and Refinement of Preferred Alternative** phase of outreach, five schools were visited to get feedback on the recommendations for the corridor. The general response to the recommendations were positive, with the following excitements and concerns highlighted:

- Excited about:
  - Slowing vehicle speeds
  - Improved bicycle facilities
  - Streetscape
- Concerned about:
  - Vehicle speeds
  - Congestion
  - Bus-only lanes
  - Personal security when walking or riding bikes

Story-Keyes Final Plan Outreach (December 2017)

221 IN-PERSON PARTICIPANTS

65 BUSINESSES

4 COMMUNITY ORGANIZATIONS

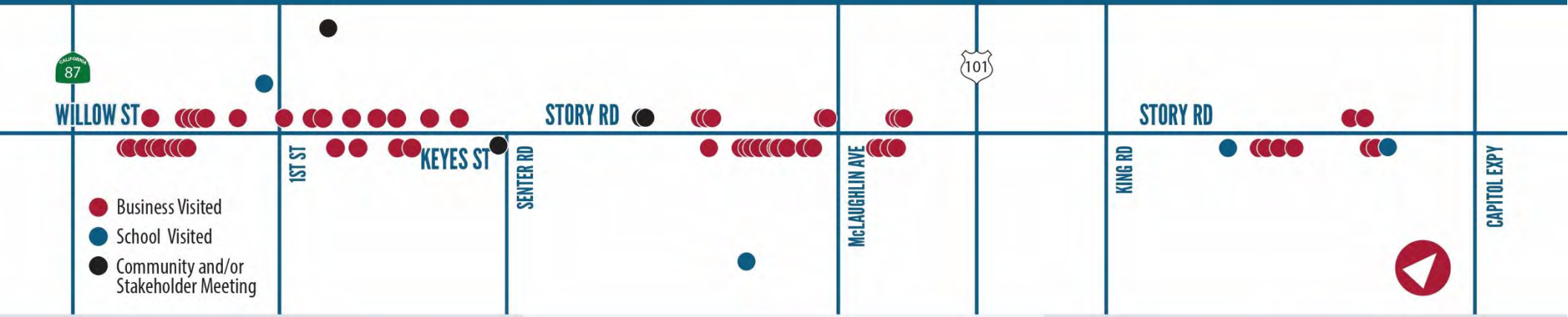
5 SCHOOLS

Businesses are excited about:

- Increased Safety
- Improved Streetscape & Beautification
- Improved Lighting
- Improved Transit Facilities

Businesses are concerned about:

- Challenge during Construction
- Traffic Congestion
- Parking Challenges
- Concerns on Security & Personal Safety



WILLOW STREET

16 businesses reached

94% think the proposed changes are positive

96% think the majority of customers either walk, bike, or take public transit to their businesses

Businesses are

excited about:

concerned about:

KEYES STREET

13 businesses reached

100% think the proposed changes are positive

15% think the majority of customers either walk, bike, or take public transit to their businesses

Businesses are

excited about:

concerned about:

STORY RD

36 businesses reached

67% think the proposed changes are positive

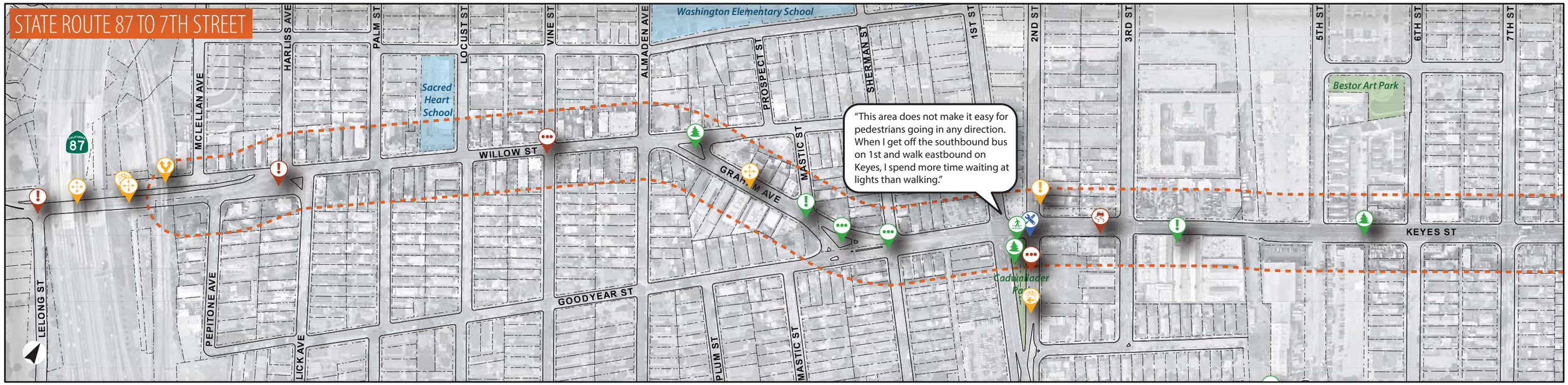
17% think the majority of customers either walk, bike, or take public transit to their businesses

Businesses are

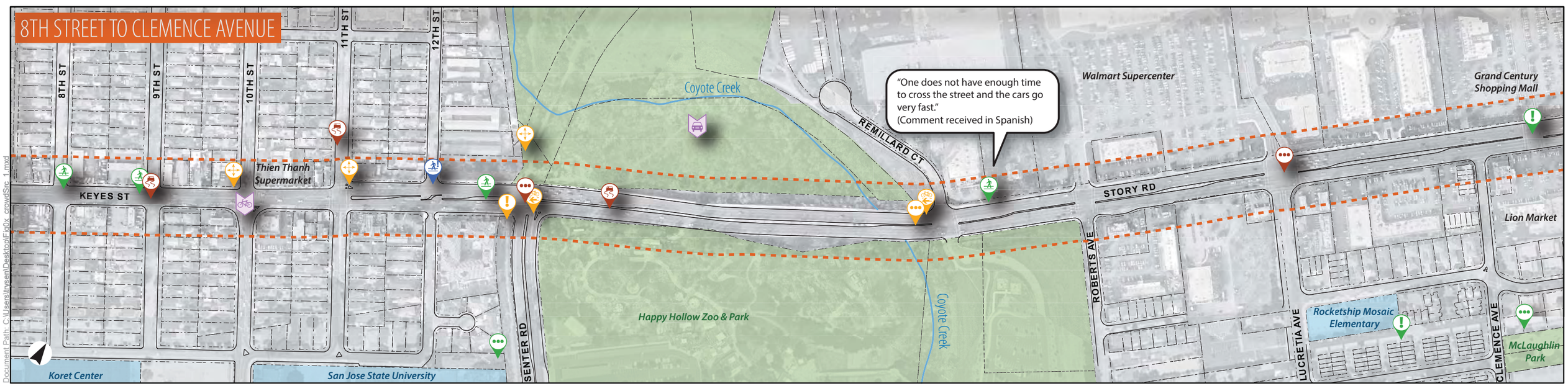
excited about:

concerned about:

STATE ROUTE 87 TO 7TH STREET



8TH STREET TO CLEMENCE AVENUE



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April 2018

Figure 3-1A - Community-Identified Issues and Opportunities from Online Mapping - Western and Mid Corridor

Story-Keyes Corridor Complete Streets Study

Categories for Improvement (10)

- It feels unsafe to walk/ride/drive here
- It's difficult to cross here
- Vehicle speeds too fast
- Need more trees and landscaping
- Make it easier/safer to get to this bus stop
- Improve facilities at this bus stop
- Add or improve bike lane
- Need better bike options
- Separate bikes more from cars
- Other

Comment Type (4)

- Walking-Related Comment
- Bicycling-Related Comment
- Transit-Related Comment
- Driving-Related Comment

Likes (3)

- I like biking here
- I like taking the bus here
- I like driving here

- Study Area
- Sample Comments Received

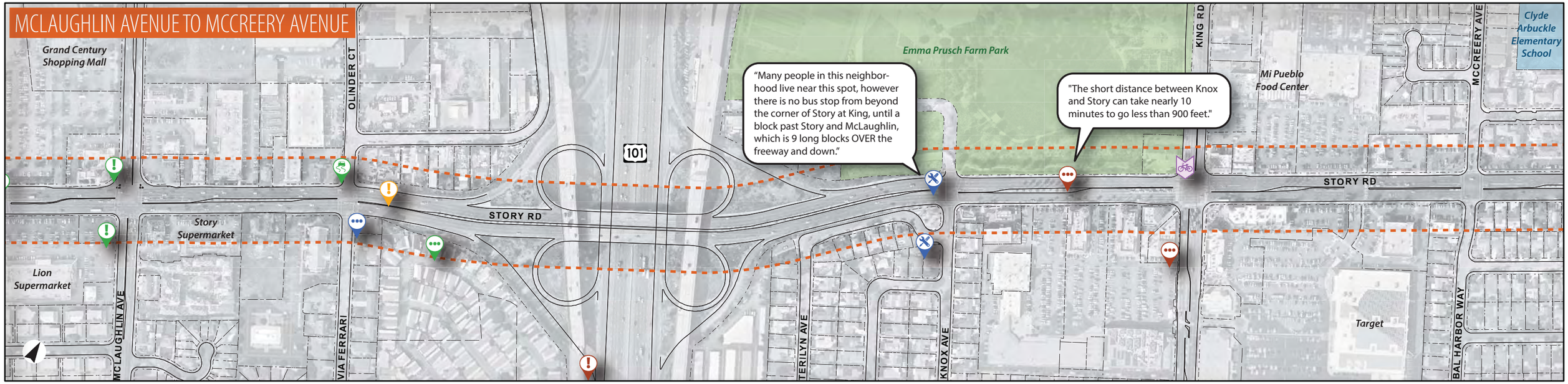
Valley Transportation Authority

CITY OF SAN JOSE CAPITAL OF SILICON VALLEY

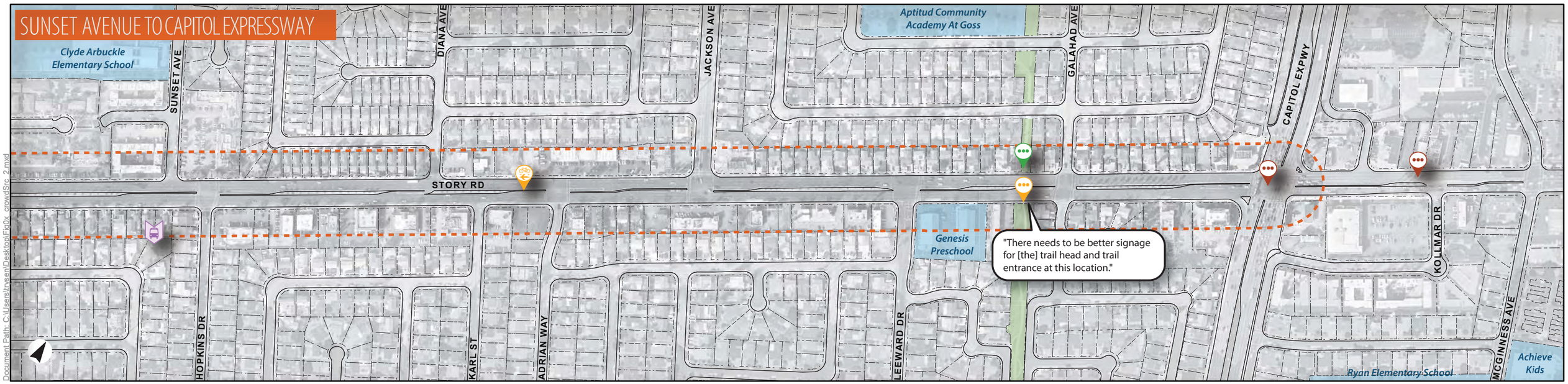
FEHR & PEERS

cda COMMUNITY DESIGN + ARCHITECTURE

MCLAUGHLIN AVENUE TO MCCREERY AVENUE



SUNSET AVENUE TO CAPITOL EXPRESSWAY



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April 2018

Figure 3-1B - Community-Identified Issues and Opportunities from Online Mapping - Western and Mid Corridor

Story-Keyes Corridor Complete Streets Study

Categories for Improvement (10)

- It feels unsafe to walk/ride/drive here
- It's difficult to cross here
- Vehicle speeds too fast
- Need more trees and landscaping
- Make it easier/safer to get to this bus stop
- Improve facilities at this bus stop
- Add or improve bike lane
- Need better bike options
- Separate bikes more from cars
- Other

Comment Type (4)

- Walking-Related Comment
- Bicycling-Related Comment
- Transit-Related Comment
- Driving-Related Comment

Likes (3)

- I like biking here
- I like taking the bus here
- I like driving here

- Study Area
- Sample Comments Received

Valley Transportation Authority

City of San Jose, Capital of Silicon Valley

Fehr & Peers

cda Community Design + Architecture

4. Corridor Design Vision

The community design process led to the creation of a long-term conceptual design vision that balances the needs of pedestrians, bicyclists, transit users, and motorists, and builds on existing strengths of the Story-Keyes corridor. **Table 4-1** summarizes recommendations in each segment that together create the long-term vision of the corridor. The remaining portion of the chapter expands on those recommendations and provides phasing suggestions for recommendations that cannot be implemented in their entirety in the short- or medium-term.

Appendix K presents the 10% design drawings and cost estimates for the corridor. 10% design drawings are not intended for construction. While they demonstrate a corridor design concept, they would require more detailed surveying and engineering to confirm design details as part of future project phases. Additional design alternatives that were considered are included in **Appendix J.**

Story Road Typical Proposed Improvements

Willow Street
Typical Proposed Improvements

Keyes Street
Typical Proposed Improvements

Table 4-1: Corridor-wide Summary of Proposed Vision Projects

	Recommendation	Willow Street	Graham Avenue/ Goodyear Street	Keyes Street	Story Road
Intersection Improvements	General Intersection Enhancements	✓	✓	✓	✓
	Transit Signal Prioritization			✓	✓
	Signal Modifications				✓
	Protected Intersections			✓	✓
	Complex Intersections	✓	✓		✓
Bicycle Enhancements	Bicycle Route Green-Backed Sharrows	✓			
	Parking-Separated Bikeways		✓	✓	
	Separated Bikeways				✓
Transit Enhancements	Bus Stop Consolidation		✓	✓	✓
	Floating Bus Islands			✓	✓
	Bus-Only Lane				✓
Trail Crossing Enhancements	Trail Amenities				✓
	Pedestrian and Bicycle Trail Access Improvements	✓			✓
Streetscape	Gateway Treatments	✓	✓		
	Sidewalk Gap Closure	✓		✓	✓
	Sidewalk Widening			✓	✓
	Street Trees		✓	✓	✓
	Pedestrian-Scale Lighting	✓	✓	✓	✓
	Green Infrastructure and/or Landscaping		✓	✓	✓
	General Streetscape Enhancements	✓	✓	✓	
Major Cross Section Changes	Lane Reductions		✓	✓	

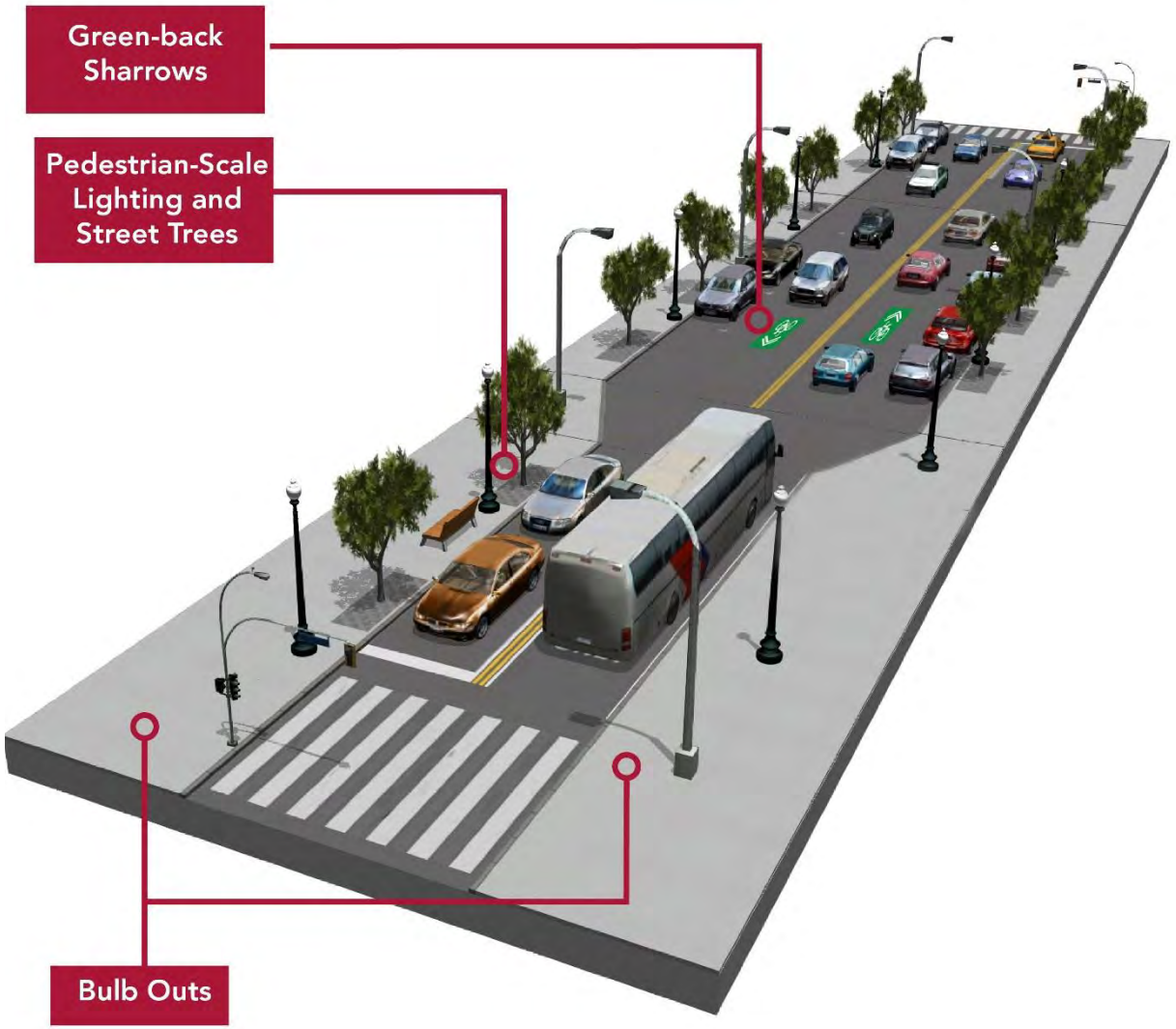
4 Corridor Vision

4.1 Willow Street

The study corridor includes Willow Street between Lelong Street and Graham Avenue. Willow Street makes up approximately 0.45 miles of the 4.25-mile study corridor. The posted speed limit is 35 miles per hour along the study area portion of Willow Street. With Willow Street's narrow existing cross-section, opportunities to significantly modify the street cross-section are limited. As a result, improvements on Willow Street focus on intersection improvements to support the Calle Willow business district and safe routes to school. This includes realignment of complex major intersections to provide gateways to Calle Willow and enhance safety and access for all travel modes. Sidewalk gap closures and bicycle lanes are proposed west of Lick Avenue through the SR 87 underpass. Because limited improvements can be made to the existing bicycle route with sharrows, Goodyear Street and Lick Avenue are proposed as bicycle boulevards to create a low-stress bicycle route.

At the right, typical improvements on Willow Street are shown, including bus bulbs, bulb outs, street trees where missing, pedestrian-scaled lighting where missing, and green-backed sharrows.

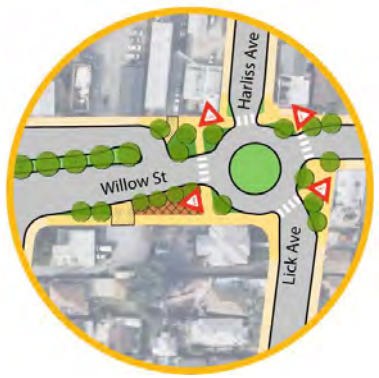
Typical Proposed Improvements on Willow Street



Intersection Improvements

Intersection improvements along Willow Street include realignment of the large, multi-leg intersections to enhance safety and make it easier for all modes to travel east-west on the corridor. The redesigned intersections also define distinct gateways in the Calle Willow neighborhood, which can further enhance the streetscape. In addition, general enhancements are recommended to address pedestrian visibility and shorten crossing distances.

- ***Roundabout at Willow Street/Lick Avenue:*** A single-lane roundabout would replace the existing pork-chop island. This creates a large opportunity area for a pocket plaza or park on the south side of Willow Street. Sidewalk and crosswalks would be provided on the north side of the street. The roundabout can also function as a gateway and can include urban design and landscaping improvements that reflect the character of the Calle Willow area. The roundabout would include crosswalks and splitter island pedestrian refuges, which allow pedestrians to cross just one direction of traffic at a time, on all approaches. For people who bike, green-backed sharrows would be marked through the roundabout and bicycle ramps would allow bicyclists to travel through the roundabout as a pedestrian if they do not feel comfortable "taking the lane" through the roundabout.
- ***Roundabout at Willow Street/Graham Avenue:*** Similar to the roundabout proposed at Lick Street, a single-lane roundabout at the Graham Avenue intersection would replace an existing pork-chop island and realign the skewed intersection. The roundabout would have the same bicycle, pedestrian, and gateway treatments as the Willow Street/Lick Avenue roundabout.
- ***General Intersection Enhancements:*** Curb extensions are recommended to improve sightlines between drivers and people walking as well as to shorten pedestrian crossing distances. These improvements help complete a safe routes to school network serving Sacred Heart Nativity School and Washington Elementary School, and enhance pedestrian routes to transit for the Tamien Station and Line 25 bus stops.
- ***High-Visibility Ladder Striped Crosswalks:*** High-visibility ladder striped crosswalks and advanced stop bars should be provided at all approaches of signalized and stop-controlled intersections to enhance motorist awareness of the approaching crosswalk and the safety of crossing pedestrians. Advanced yield bars should be provided at all yield-controlled roundabouts. The addition of high-visibility ladder striped crosswalks on Willow Street is in line with the City of San José's commitment to Vision Zero.



Top Left and Right: Roundabouts are the preferred improvements at Willow Street/Lick Avenue and Willow Street/Graham Avenue. At Goodyear Street/Graham Avenue, squaring up the intersection is proposed (at left).

State Route 87 Underpass Improvements

Willow Street travels under State Route 87 (SR 87) in the study corridor. There is an existing sidewalk on the south side of Willow Street and bicycle lanes in both directions. To improve this connection for people walking and biking and create a gateway to Calle Willow, proposed improvements include installation of:

- ***Sidewalk on the North Side:*** Installing sidewalk on the north side of the underpass would provide access on both sides of Willow Street, consistent with the built environment to both the east and west.
- ***Pedestrian-Scale Lighting:*** Pedestrian-scale lighting would improve security for people walking and biking as well as traffic safety.

Bicycle Enhancements

Willow Street has existing bicycle lanes between Lelong Street and Lick Avenue and is a bicycle route with sharrows between Lick Avenue and Graham Avenue. Sharing the lane with traffic on a bicycle route with frequent auto traffic and parking turnover can be stressful for bicyclists and deters many less experienced bicyclists. As a result, an alternative bicycle boulevard route is identified on Goodyear Street and Pepitone Street between Willow Street and Graham Avenue. With the narrow cross-section, more substantial bicycle facilities cannot be provided without on-street parking removal. Bicycle recommendations include:

- ***Green-Backed Sharrows:*** Green-backed sharrows would replace the existing standard sharrows on Willow Street to highlight the presence of cyclists riding on Willow Street.
- ***New Bicycle Boulevard on Pepitone Avenue and Goodyear Street:*** The new bicycle boulevard is proposed along Pepitone Avenue between Willow Street and Goodyear Street, and along Goodyear Street between Pepitone Avenue and Graham Avenue. The bicycle boulevard would provide a low-stress, all ages and abilities alternative to Willow Street.

Right: Example of pedestrian-scale lighting recommended along the SR 87 Underpass. Below: Example of green-backed sharrows recommended along Willow Street. Bottom: Example of bicycle ramp up to sidewalk at roundabout approach.

Transit Enhancements

VTA Line 25 has four bus stops on this segment of Willow Street (two each westbound and eastbound). To enhance rider experience, the following improvements are proposed:

- ***Improved shelters and bus stop design:*** Bus shelters should be installed based on guidance in VTA's *Transit Passenger Environment Plan.* Bus shelters enhance the feeling of personal security at bus stops by providing a well-lit environment and provide shelter during wet seasons. In addition, they can be used to provide useful transit information to passengers, as well as generate revenue through advertisements.

There is no bus stop relocation or consolidation proposed along Willow Street.

Future Trail Crossing Enhancements

Access to the Tamien Path is provided from Willow Street east of SR 87. In the long term, the Tamien Path is envisioned as part of the Guadalupe River Trail and would extend further north and south. Once the trail to the north is built out in the long-term, path crossing improvements will be needed at Willow Street. As a result, the long-term design recommendation includes:

- ***Trail Overcrossing of Willow Street:*** With the build out of the trail, provide a trail overcrossing over Willow Street to connect the Tamien Path and Guadalupe River Trail. Include trail spurs to provide convenient access to both sides of Willow Street.

Streetscape Improvements

Willow Street has existing sidewalks, pedestrian-scale lighting, and street trees along the study corridor. The long-term vision for streetscape improvements along Willow Street is to address any gaps in lighting and landscaping to create a cohesive streetscape and comfortable pedestrian environment along the entire length of the segment. This should be done by further enhancing the already established streetscape of the Calle Willow business district. The enhancements should incorporate input from the public and business interests. A major improvement will be to create gateways at either end of the Calle Willow district through the realignment and transformation of the Willow/Lick Avenue and Willow/Graham Avenue intersections. Recommendations include:

- ***Additional Street Trees:*** Street trees can be planted where they are missing or are too infrequent to provide a cohesive look and consistent shading on the street. Trees would be planted in new and existing tree wells and should be the same species as the predominant species among existing trees on the given block (typically Koelreuteria paniculata – Goldenrain tree or Gleditsia triacanthos – Honey locust). The City of San José *Tree Policy Manual & Recommended Best Practices* should be consulted for appropriate setbacks, visual clearances, lighting, and other infrastructure for new street trees.

- ***Pedestrian-Scale Lighting Fixtures (supplemental):*** Lighting fixtures are recommended along Willow Street in areas where they are too infrequent to produce consistent lighting levels along sidewalks. The new fixtures should match the existing fixtures in style, color, and finish to create visual continuity along Willow Street. Pedestrian-scale lighting aids in pedestrian safety and accessibility, as well as helps create a cohesive district identity along the street. It is recommended that the new light fixtures are fitted with hardware that allows for the installation of additional decorative banners, which can be used to promote the businesses district and special events.

- ***Gateway Treatments at Roundabouts:*** Gateway treatments at Lick Avenue and Graham Avenue are proposed to create distinct entries to the Calle Willow district. The treatments could include landscaping and public art. The latter represents an opportunity to involve local artists.

- ***Landscaping and/or Green Infrastructure:*** Landscaping and/or green infrastructure is recommended for the proposed bulb outs along Willow Street. Future design phases should evaluate the grading, drainage, and other local conditions to determine which of these areas are suited for the installation of green infrastructure elements, such as rain gardens.
- ***Sidewalk Furniture Opportunities***: New bulb outs create opportunities for accommodating street furniture, such as seating, bicycle parking, or trash receptacles. Providing seating can further activate the sidewalk and enhance the overall pedestrian experience but should only be installed with the support from the local community. It is recommended that all new street furniture are compatible in style, color, and finish with the already established streetscape elements (pedestrian-scale light fixtures and trash receptacles

Project List and Phasing

Table 4-2 presents the complete project list for Willow Street enhancement and potential phasing strategies for each location. For more information on near-term strategies, see **Section 5.4 *Quick Build Strategies for Near-Term Phasing.***

Left: Example of trash cans and decorative lighting with banners already on Willow Street. Below: Example of how green infrastructure can be integrated into median refuges and curb extension design at intersections.

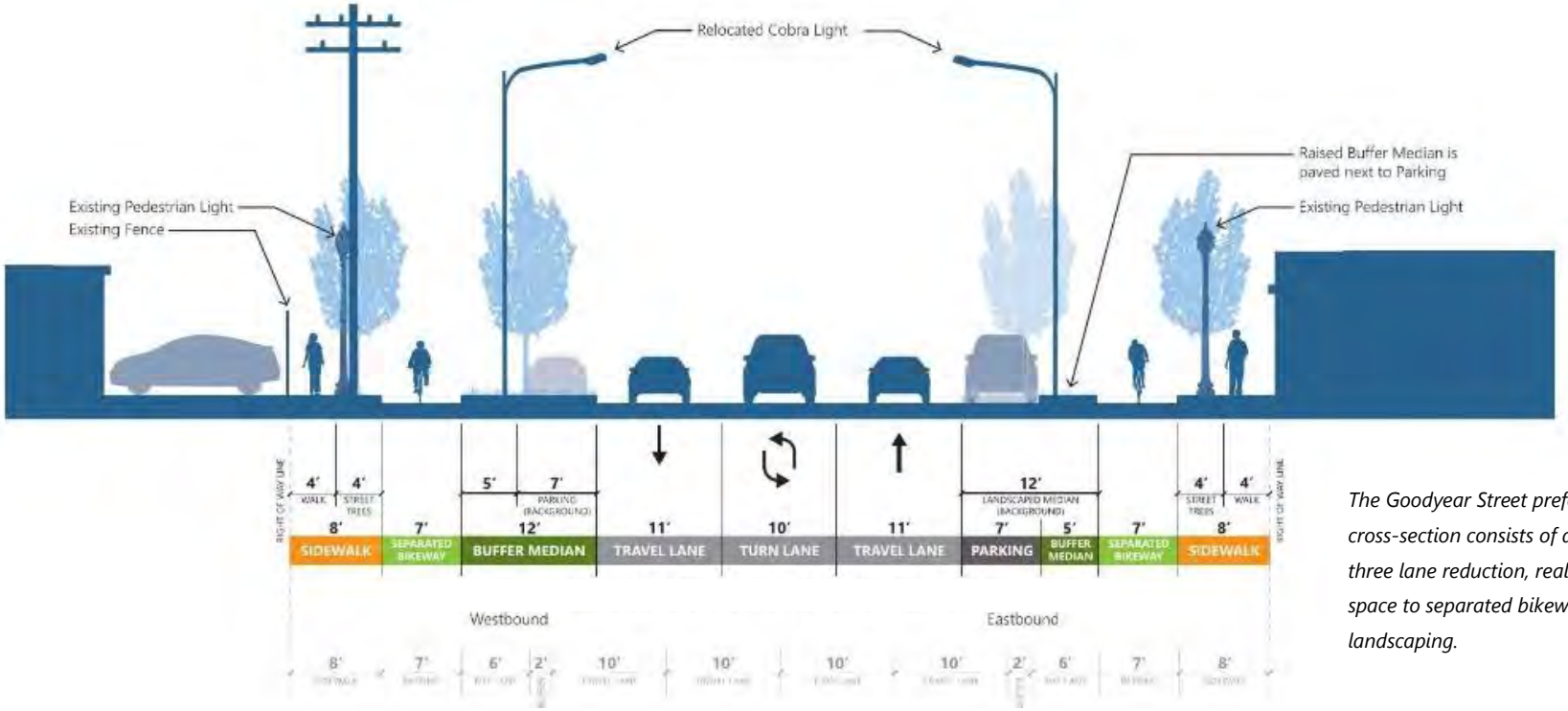
Table 4-2: Phasing of Proposed Willow Street Recommendations

Type	Location	Near-Term	Medium-Term	Long-Term
Bus	Each Bus Stop	-	-Install shelter and bus stop design per TPEP	-
Bikeway Improvements	Willow Street	-Stripe green-backed sharrows -Install bicycle wayfinding	-	-
	Goodyear Street/ Pepitone Street (parallel bikeway route)	-Sign and stripe bicycle boulevard -Evaluate speed and volumes to determine if traffic calming is needed -Install bicycle boulevard wayfinding	-	-
Crosswalk Improvements	Lick Avenue Intersection	-Square-up intersection with painted bulb outs/islands	-Install roundabout	-
	Graham Avenue Intersection	-Square-up intersection with painted bulb outs/islands	-Install roundabout	-
	All signalized intersections	-Install high-visibility ladder striping and advanced stop bars at each crosswalk	-	-
	Locust Street intersection	-Stripe high-visibility ladder crosswalk	-	-
	Each Intersection	-Paint bulb outs with planters or posts	-Install hardscaped bulb outs with directional curb ramps where feasible	-
Streetscape	Segment-wide	-Install new street trees in empty existing trees wells -Install new pedestrian-scale light fixtures where there are “dark spots” -Install “Calle Willow” wayfinding signs	-General landscaping and/or green infrastructure in bulb outs -Further extend street tree plantings and pedestrian-scale light fixtures to additional opportunity sites	-
	Lick Avenue Intersection	-Install temporary public art or other gateway treatments	-Install permanent “Calle Willow” gateway treatments at roundabouts	-
	Graham Avenue Intersection	-Install temporary public art or other gateway treatments	-Install permanent “Calle Willow” gateway treatments at roundabout	-

4.2 Graham Avenue/ Goodyear Street

The study corridor includes Graham Avenue between Willow Street and Goodyear Street, and Goodyear Street between Graham Avenue and Keyes Street. Graham Avenue and Goodyear Street make up approximately 0.25 miles of the 4.25-mile study corridor. With the wide five-lane cross-section, low average daily vehicle traffic (ADT), and low speed limits of 25 miles per hour, there are opportunities to repurpose a travel lane in each direction to provide a separated bikeway and streetscape enhancements with minimal impact to traffic. Graham Avenue already has a three-lane cross section with a travel lane and bicycle lane in each direction. As a result, minor streetscape improvements are proposed for Graham Avenue. The long-term vision also includes an intersection realignment at Graham Avenue/Goodyear Street to make Graham Avenue and Goodyear Street east of Graham the primary east-west thoroughfare. This can also act as a gateway to the neighborhood.

Goodyear Street Preferred Cross-Section



The Goodyear Street preferred cross-section consists of a four to three lane reduction, reallocating space to separated bikeways with landscaping.

Intersection Improvements

The Goodyear Street/Graham Avenue intersection is complex and difficult to navigate for people walking and biking, and bus operators. Graham Avenue currently intersects Goodyear Street at an all-way stop with a large pork-chop island with no pedestrian access. The following recommendations would convert underutilized roadway space into usable public space for the neighborhood and improved walking, biking, and transit connections:

- ***Squared-Up Intersection and Pocket Park:*** Removal of the existing islands is proposed, with Goodyear Street to the west intersecting with Graham Avenue-Goodyear Street at 90 degrees, which would be aligned as the major east-west route. Goodyear Street would become a side-street stop-controlled intersection. The realignment creates substantial opportunities to narrow the intersection to appropriate size for a neighborhood gateway. It also allows for a neighborhood-serving pocket park space on the west and south sides of the intersection.
- ***Goodyear Street Cul-De-Sac to Maintain Driveway Access:*** Because single-family houses with driveways are located along the proposed pocket park area, a small cul-de-sac is proposed to maintain access to those homes. This would maintain the primary vehicular flow as between Goodyear Street and Graham Avenue, instead of the cul-de-sac. Emergency access could still be maintained through the cul-de-sac to Sherman Street. This low-volume block is also the extension of the proposed Goodyear Street bicycle boulevard, and bicycle access would be provided between the cul-de-sac and the intersection of Goodyear Street/Sherman Street.
- ***Crosswalk Location and Frequency:*** Uncontrolled crosswalks would be marked at the new intersection to improve pedestrian connectivity. The crosswalks would include curb extensions to limit crossing distance and aid in drivers' visibility of pedestrians. Crosswalks would be striped with high-visibility markings and generally placed no less than 300 feet apart to maintain the flow of traffic and where land uses and pedestrian demand support their installation.

Top: Example of a squared-up intersection with aligned approaches, allowing for a narrowed intersection and green space at each corner of the intersection. Bottom: Example of a pocket park created at a skewed intersection.

Bicycle Enhancements

Existing bicycle facilities include bicycle lanes in both directions on Graham Avenue between Goodyear Street and Willow Street and sharrows on Goodyear Street between Pepitone Avenue and Graham Avenue. The proposed bicycle enhancements are as follows:

- ***Retain Bicycle Lanes along Graham Avenue:*** Enhance bicycle lanes with green paint at the beginning of blocks and skip-strip striping at driveways.
- ***New Bicycle Boulevard along Goodyear Street:*** A bicycle boulevard is proposed along Pepitone Avenue between Willow Street and Goodyear Street. This provides an alternative to traveling through the constrained portion of Willow Street for the young, old, and those with limited bicycling experience. Future phases of the project should evaluate speed and volumes on Goodyear Street to determine if additional traffic calming is needed. Crossing support at larger intersections should also be evaluated. The bicycle boulevard would go through the proposed cul-de-sac and provide a connection to the Goodyear Street/Sherman Street intersection.
- ***Parking-Separated Bikeway:*** Repurpose one travel lane in each direction on Goodyear Street between Sherman Street and 1st Street to provide a parking-separated bikeway. The separated bikeway would include general landscaping and/or green infrastructure. Along stretches of on-street parking, the buffer would be paved to accommodate passengers exiting from parked vehicles.

Transit Enhancements

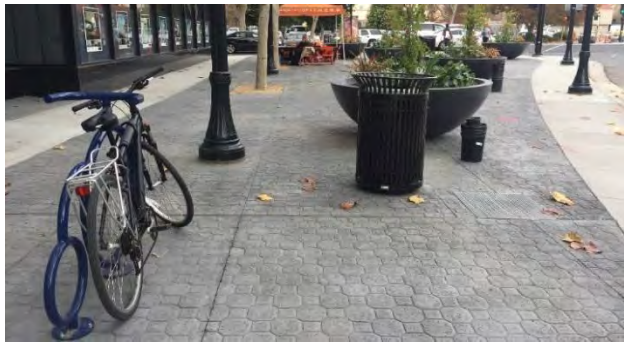
VTA Line 25 serves the entire span of Graham Avenue and Goodyear Street. Graham Avenue has one eastbound bus stop at the near-side of the Graham Avenue/Goodyear Avenue intersection. It is recommended that this stop be removed, as it does not have a westbound stop pair. Removing this stop would help transit efficiency along this segment of the corridor.

Example of a parking-separated bikeway with a buffer providing for loading and unloading.

Streetscape Improvements

Graham Avenue and Goodyear Street have existing sidewalks and some street trees along the study corridor. The long-term vision for streetscape improvements along Graham Avenue and Goodyear Street include addressing gaps in these existing features to create a cohesive corridor, as well as creating a pocket park at the squared-up intersection at Goodyear Street/Graham Avenue that also functions as a gateway to the residential portion of the Calle Willow neighborhood. The preferred recommendations for the long-term vision include:

- ***Additional Street Trees:*** Street trees are recommended to supplement existing trees and expand the tree canopy along Graham Avenue and Goodyear Street. Trees would be planted in new and existing tree wells and should be the same species as the predominant existing tree species along Graham Avenue (Quercus ilex – Holly oak). The City of San José *Tree Policy Manual & Recommended Best Practices* should be consulted for appropriate setbacks, visual clearances, lighting, and other infrastructure for new street trees.
- ***New Pedestrian-Scale Lighting:*** Light fixtures are recommended on Graham Avenue to create a well-lit connection to the Calle Willow commercial district. The new fixtures should match the fixtures on Willow Street in style, color, and finish to create continuity along these corridor segments.
- ***Pocket Parks:*** Pocket parks can be provided on the west and south sides of the squared-up Graham Avenue/Goodyear Street intersection to provide small-scale open spaces and amenities for local residents, such as seating or modestly sized play structures. The design of these pocket parks should occur with close consultation of adjacent property owners and residents.
- ***Gateway Treatments:*** Gateway treatments at the proposed squared-up intersection at Graham Avenue/Goodyear Street are recommended to provide a gateway into the residential neighborhood. Gateway treatments could include landscaping and public art elements and represent good opportunities to coordinate with resident groups.
- ***Landscaping and/or Green Infrastructure:*** Landscaping and/or green infrastructure is recommended at new bulb outs and the proposed squared-up intersection at Graham Avenue and Goodyear Street, and in the proposed buffer between parking and the bicycle lane. Future design phases should evaluate the grading, drainage, and other local conditions to determine which of these areas are suited for the installation of green infrastructure elements, such as rain gardens or linear stormwater planters.



Example of recent streetscape improvements and pocket park where a slip lane was removed near St. John in San José.

Project List and Phasing

Table 4-3 presents the complete project list for Graham Avenue and Goodyear enhancements and potential phasing strategies for each location. For more information on near-term strategies, see **Section 5.4 *Quick Build Strategies for Near-Term Phasing*.**

Table 4-3: Phasing of Proposed Graham Avenue and Goodyear Street Recommendations

Type	Location	Near-Term	Medium-Term	Long-Term
Bus	EB Goodyear Street Bus Stop at Majestic Street	-Remove bus stop given proximity to stops at Almaden Avenue and 1st Street to improve overall bus reliability	-Install transit signal priority for Line 25	-
Bicycle	Graham Avenue	-Enhance existing bicycle lanes with green pavement and skip-striping through driveway conflicts -Install bicycle wayfinding	-	-
	Goodyear Street	-Repurpose one travel lane in each direction to a parking-separated bikeway with Quick Build techniques -Remove parking at some driveways to maintain sight distance -Install bicycle wayfinding	-Install landscape buffers and raised medians for additional protection	-
Pedestrian	Graham Avenue/Majestic Street Intersection	-Painted bulb out onto Majestic Street to square the up the intersection	-Formalized bulb out with concrete	-
	Goodyear Street/Graham Avenue Intersection	-Consider Quick Build opportunities to enhance safety, such as squaring the intersection through: (1) removing the small pork-chop islands, (2) closing the WB slip lane, (3) making the existing SB approach of Graham two-ways, and (4) serving houses on WB Graham Avenue through a one-way frontage road.	-Remove pork chop islands and square-up intersection to make Goodyear Street the side-street -Stripe new high-visibility crosswalks at the intersections	-
Streetscape	Segment-wide	-Install new street trees in empty existing trees wells -Install new pedestrian-scale light fixtures where there are "dark spots"	-General landscaping and/or green infrastructure in bulb outs and buffers -Further extend street tree plantings and pedestrian-scale light fixtures to additional opportunity sites- Install wayfinding signage to Calle Willow business district	-
	Goodyear Street/Graham Avenue Intersection	-Consider landscape planters and colorful art installations in closed slip lane	-Install landscaping and/or green infrastructure and programming for pocket park	-
Auto	Goodyear Street	-Implement four-to-three lane reduction as a multimodal safety countermeasure, including for drivers -Provide a dedicated left-turn pocket at each intersection to provide safe space for autos to queue -Narrow travel lanes to manage speeds -Remove parking in front of auto-related uses and where utilization is low	-Install transit signal priority for Line 25, which would also improve traffic in east-west direction	-

4.3 Keyes Street

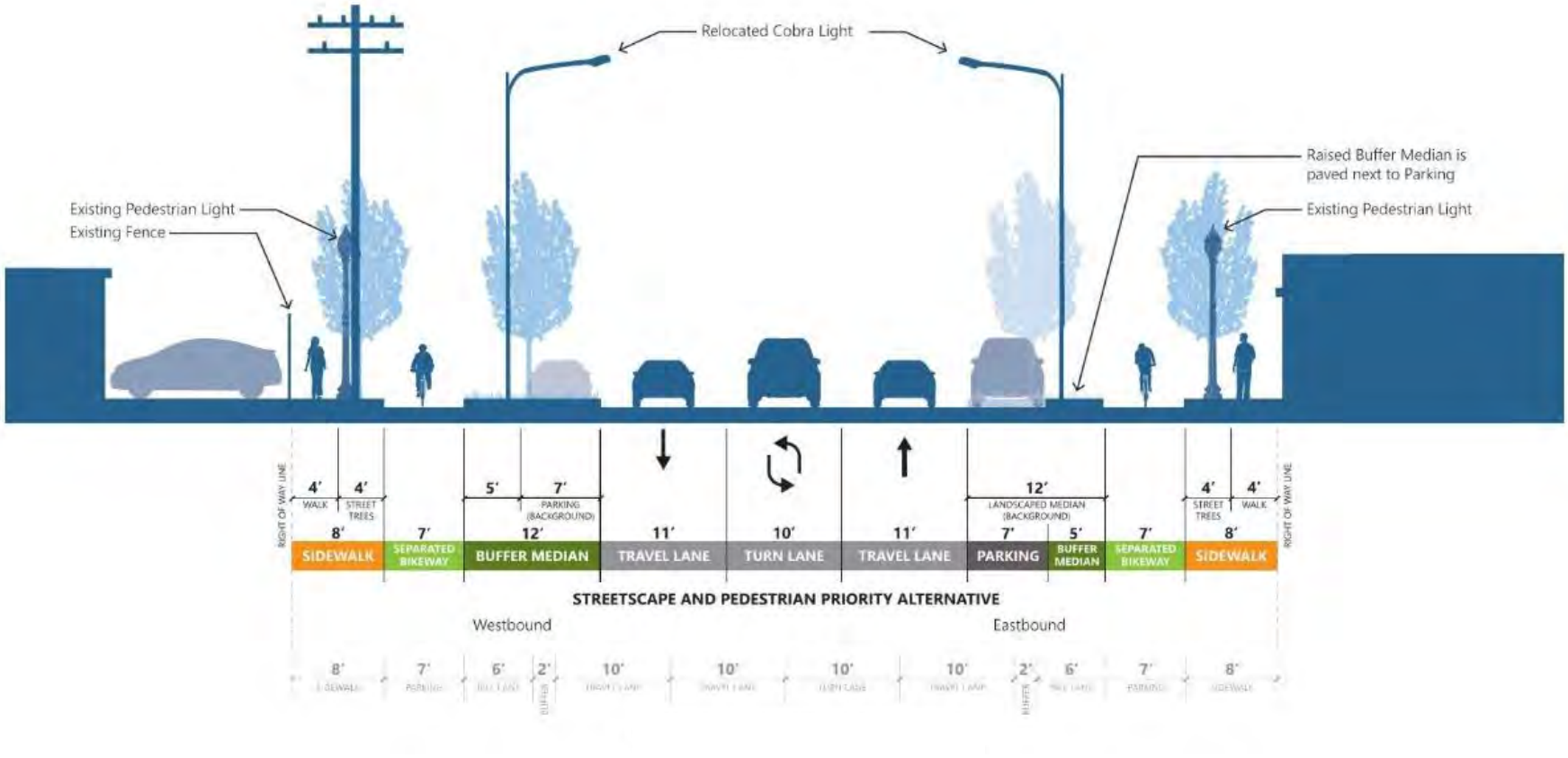
The study corridor includes Keyes Street between 1st Street and Senter Road. This segment of the study corridor makes up about 0.75 miles of the 4.25-mile corridor. Keyes Street has a wide cross section with two travel lanes in each direction and generally low ADT. The posted speed limit is 35 miles per hour through this segment of the corridor. Bicycle facilities include either buffered bicycle lanes or traditional bicycle lanes along the entire span of Keyes Street. On-street parking is allowed on both sides of Keyes Street for the majority of its length.

The long-term vision for Keyes Street repurposes one travel lane in each direction to provide a parking-separated bikeway and improved streetscape enhancements. These are substantial comfort and safety improvements for bicyclists, particularly at intersections. These also have significant pedestrian benefits, reducing crossing distances and exposure at intersection. Buffering people on the sidewalk from the roadway as well as providing more street tree and landscaping opportunities increases pedestrians comfort along the whole block.

Typical Proposed Improvements on Keyes Street

Keyes Street prioritizes people walking through reducing crossing distances, installing missing street trees and pedestrian-scale lighting, and providing more frequent crosswalks.

Keyes Street Preferred Cross-Section

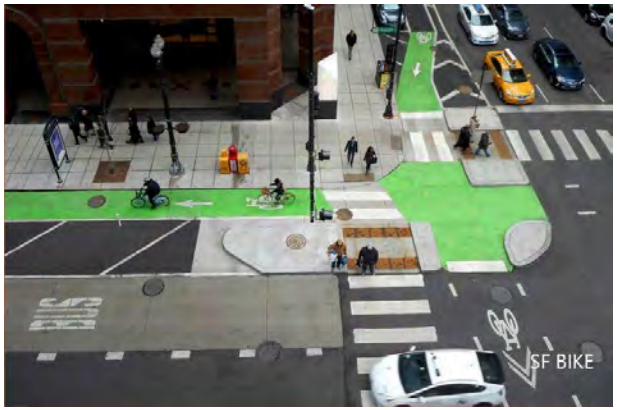


The Keyes Street preferred cross-section consists of a four to three lane reduction, reallocating space to separated bikeways with landscaping. This enhance pedestrian safety along the corridor and allows for reduce crossing distances and more frequent crosswalks on the corridor.

Intersection Improvements

Keyes Street has frequent and wide intersections along its entire span, providing the necessary space for protected intersection treatments. The long-term vision for Keyes Street includes protected intersections at all intersections, enhancing pedestrian, transit, and bicycle accessibility and safety. The preferred recommendations are as follows:

- ***Crosswalk Enhancements***: Enhancements would include increasing crosswalk frequency along the corridor to provide at least one marked crosswalk per block and providing high-visibility ladder striped crosswalks with advanced stop bars at all approaches of signalized intersections. New crosswalks would be uncontrolled and striped with high-visibility striping at 5th Street, 6th Street, 8th Street, and 9th Street. The bend-outs would provide a pedestrian refuge between the bicycle lane and vehicle travel lane, increasing pedestrian visibility and shortening crossing distances.
- ***Bicycle Protected Intersections:*** Protected intersections are proposed at intersections with links in the bicycle network. This includes 3rd Street, South 7th Street, and South 10thStreet. Slip lanes at 10th Street would be removed to install the protected intersection. At intersections with regional truck routes, curb radii would be designed to accommodate SU-30 trucks[6]. Protected intersections all support left and right bicycle turning movements onto and off of the corridor.
- ***Median Refuges with Appropriate Sight Distance:*** Median refuges are proposed at all other intersections along Keyes Street to improve bicyclist and pedestrian safety at minor side-street intersections. These improve sight lines between turning drivers and bicyclists as well as drivers and pedestrians. They also act as refuge islands to reduce the pedestrian crossing distance.
- ***Transit Signal Prioritization:*** Transit Signal Prioritization (TSP) is proposed at signalized intersections equipped with transit signal prioritization to improve transit speed and reliability. Transit would continue to share the travel lane with vehicles along Keyes Street, however, signals would prioritize transit to ensure they are able to move through the corridor with limited delay.
- ***Regional Freeway Access at 10th and 11th Streets:*** Freeway access would be maintained at 10th and 11th Streets. As a result, the roadway would add a second eastbound lane at 10th Street and drop the second westbound travel lane after 11th Street. The pork chop island at 11th Street would be removed, and the signal would be modified to separate westbound right-turns from the through bicycle movement. The existing westbound left turn lane would be retained at 10th Street.
- ***Slip Lane Removal:*** The slip lanes ate 10th and 11th Streets are recommended for removal to slow down turning vehicles and reduce pedestrian crossing distance.



Example of a protected intersection with pedestrian median refuges after the separated bikeway. Source: SF Bicycle Coalition

[6] SU-30 trucks are single-use trucks such as cement trucks, large delivery trucks, or large rental trucks

Bicycle Enhancements

Bicycle facilities are provided on Keyes Street along its span; however, these still provide a relatively stressful bicycle environment. This is because with speeds upwards of 35MPH, four lanes of traffic, and narrow parking lanes, many cyclists may still not feel comfortable riding. As a result, enhancements to the existing bicycle facilities are proposed to provide separated bikeways for people of all ages and abilities. This is supplemented with robust intersection improvements identified earlier that make it easy to get on and off the separated bikeway and improve safety between drivers and pedestrians at intersections. The proposed recommendation is as follows:

- ***Parking-Separated Bikeways:*** The parking-separated bikeway provides wide landscaped buffers to create a highly comfortable biking environment that has the dual benefit of improving the comfort and buffer between the sidewalk and traffic. The lane reduction is proposed between Goodyear Street and 10th Street in the eastbound direction, and between 11th Street and Goodyear Street in the westbound direction. Because there are many existing driveways on the corridor today, this is a long-term recommendation. With redevelopment, driveways currently along Keyes Street should be removed, consolidated, or relocated to adjacent side streets to limit the number of potential conflict points between bicyclists and vehicles turning in and out of the driveways. Driveway consolidation is consistent with urban village plans for this area, which call for denser infill development along Keyes Street. In the near-term, this approach could be assessed block-by-block with near-term parking removal in front of more auto-oriented uses with off-street parking. Where parking cannot be removed in the near-term the existing buffered bicycle lanes can be retained. A buffer of at least three feet should be maintained along the bikeway. Ideally, a six- to seven-foot bikeway would be provided; however, the bikeway may be reduced to five feet if needed to maintain the three-foot buffer.

Transit Enhancements

VTA Line 25 serves the entire span of Keyes Street. Stops are typically located at the far-side of the intersection and are closely spaced. The 1st/2nd Streets intersection serves as a major transfer point for transit riders along Keyes Street. In addition to transit signal prioritization, the long-term vision for transit enhancements along Keyes Street includes reliability improvements such as bus stop consolidation and relocation, and floating bus islands to improve pedestrian access to transit and bicyclist safety at bus stops. The proposed improvements are:

- ***Bus Islands:*** With the separated bikeway on Keyes and the generally high frequency of bus service, bus boarding islands are recommended to remove potential bus and bike conflicts and to provide continuous protection for the separated bikeway. Bus islands are similar to bus bulbs but are separated from the sidewalk space to by the separated bikeway. Crosswalks across the separated bikeway provide access to the bus islands. Bus islands also have operational and reliability benefits for buses, as they reduce the delay associated with maneuvering into and out of the general purpose lane. The multimodal operational and safety considerations of bus islands with in-lane stopping should be further evaluated in 35% design. A mitigated option would be to provide a bypass lane adjacent to the bus island to allow autos to pass a stopped bus, such as the design that is proposed in Downtown San José on San Fernando Street. If in-lane stopping is retained, the existing time point at 1st/2nd Streets will need adjustment (e.g. change location or provide a pull-out at that stop only).

- ***Bus Stop Amenities:*** Bus stop amenities should follow the recommendations provided in the TPEP. While the TPEP does not include layout templates for bus islands, the Study's recommendations can be adapted to provide a bus island amenity configuration.

- ***Bus Stop Consolidation and Relocation:*** Consolidation and relocation is recommended to ensure bus stops are appropriately spaced. Consideration is also given to placement at transfer locations, to make transfers intuitive and easy for transit riders. The following bus stops have proposed changes:

    - The southbound bus stop on 1st Street at Keyes Street is recommended to be relocated south of Keyes Street to minimize the number of crossings required for transit riders to make a transfer.

    - The midblock bus stops between 3rd Street and 5thStreet, the westbound bus stop west of 10th Street, and the eastbound bus stop east of 10th Street are proposed to be removed due to lower ridership and densely-spaced bus stops.

Top: Example bus boarding island with separated bikeway behind in Seattle. Bottom: Example bus stop typologies from the TPEP for use at high ridership stops

Streetscape Improvements

Keyes Street typically has sidewalk widths of eight to ten feet with some street trees and some pedestrian-scale lighting. The long-term vision of Keyes Street would address gaps in these existing facilities to create cohesion along the corridor segment in this neighborhood and to support the urban design goals expressed in the Martha-Gardens Specific Plan. The vision for Keyes Street also includes substantial landscaping and green infrastructure opportunities. The proposed recommendations are:

- ***Close the Sidewalk Gap*** on the south side of Keyes Street between 3rd Street and 4th Street as well as on the east side of 3rd Street approaching Keyes Street. This will require the implementation of a sidewalk easement or right-of-way acquisition from the adjacent property owner and would result in loss of the current informal employee parking along both building frontages.

- ***Sidewalk Widening and Other Streetscape Amenities:*** Widening and amenities are recommended along the length of this segment. Through the process of land use changes and redevelopment over time, the widening of existing sidewalks should be pursued. This widening would occur at the building frontages, as opposed to widening the sidewalk into the street. Where sidewalks are widened, consideration should be given to the integration of streetscape amenities, including landscaping and/or green infrastructure and a coordinated palette of new street furniture, such as trash receptacles and bicycle parking as well as seating elements in business districts or nodes of Keyes Street. It is recommended that all new street furniture be compatible in style, color, and finish with the existing pedestrian-scale light fixtures. However, no new street furnishings are proposed in the near-term due to narrow usable width of existing sidewalks with fences or structures typically built right on the property line.

- ***Street Trees:*** It is recommended that additional street trees are planted to supplement existing rows of trees and expand the tree canopy along Keyes Street. Trees would be planted in new and existing tree wells and should be the same species as the predominant existing tree species along Keyes Street (*Pyrus calleryana* – Callery pear). The City of San José *Tree Policy Manual & Recommended Best Practices* should be consulted for appropriate setbacks, visual clearances, lighting, and other infrastructure for new street trees.

- ***Landscaping and/or Green infrastructure:*** The proposed bulb outs at intersections and linear buffers between parking and the bicycle lane provide the opportunity for general landscaping and/or green infrastructure improvements. Future design phases should evaluate the grading, drainage, and other local conditions to determine which of these areas are suited for the installation of green infrastructure elements, such as rain gardens or linear stormwater planters.

- ***Pedestrian-Scale Lighting Fixtures (supplemental):*** Fixtures are recommended along Keyes Street in areas where the existing light fixtures are too infrequent to produce consistent lighting levels along sidewalks. The new fixtures should match the existing fixtures in style, color, and finish to create visual continuity along Keyes Street. It is recommended that the new and existing light fixtures be fitted with hardware that allows for the installation of decorative banners, which could be used to promote the future main street character of Keyes Street envisioned by the Martha Gardens Specific Plan, special events that take place on this segment of the corridor, or traffic safety and awareness messages.

Project List and Phasing

Table 4-4 presents the complete project list for Keyes Street enhancements and potential phasing strategies for each location. For more information on near-term strategies, see **Section 5.4 *Quick Build Strategies for Near-Term Phasing.***

Table 4-4: Phasing of Proposed Keyes Street Recommendations

Type	Location	Near-Term	Medium-Term	Long-Term
Bus Only Lanes	Between 12th Street and Senter Road (WB) and 11th Street and Senter Road (EB)	-	-Install red bus only-lanes in both directions	-
Bus Stops	Each Signalized Intersection	-	-Install aggressive transit signal priority treatments	-
	1st and 2nd Streets Stops	-Analyze in-lane stopping with bus boarding island in 35% design including multimodal operations and safety considerations -If in-lane stopping is retained, address existing time point at these stops -Relocate SB bus stop to far side of intersection -Install tactical bus islands -Conduct evaluation study to determine efficacy and public opinion of tactical bus islands	-Install hardscape bus boarding islands with separated bikeway behind based on findings on additional analysis in 35% design and beyond -Install shelter and bus stop design per TPEP	-
	5th and 10th Streets Stops	-Remove bus stops to improve bus speeds and reliability	-	-
	7th Street Stop	-Install tactical bus islands -Conduct evaluation study to determine efficacy and public opinion	-Install hardscape bus boarding islands with separated bikeway behind -Install shelter and bus stop design per TPEP	-
	10th and 11th Streets Stops	-Inventory signals to determine if controller upgrades are needed	-	-
Bikeway Improvements	1st Street to 10th Street (EB) and 11th Street (WB)	-Conduct parking assessment to identify areas for potential parking removal based on presence of off-street parking -Work with property owners to identify abandoned driveways and opportunities for driveway consolidated and/or removal -Install separated bikeway where parking removal is feasible and maintain buffered bicycle lane where parking removal is not feasible -Install bicycle wayfinding -Close driveways between 1st and 2nd Street on north side and 50 feet east of 7th Street to allow retain bicycle protection	-	-Install parking-separated bikeway as redevelopment occurs. Remove and/or consolidate driveways to remove sight-line safety conflicts for separated bikeway.
Bikeway Intersection Improvements	3rd, 7th, and 10th Street Intersections	-Install protected intersections. Consider using Quick Build techniques in near-term with more hardscape and concrete elements phased in over time	-Install hardscape protected intersections.	-

Table 4-4: Phasing of Proposed Keyes Street Recommendations

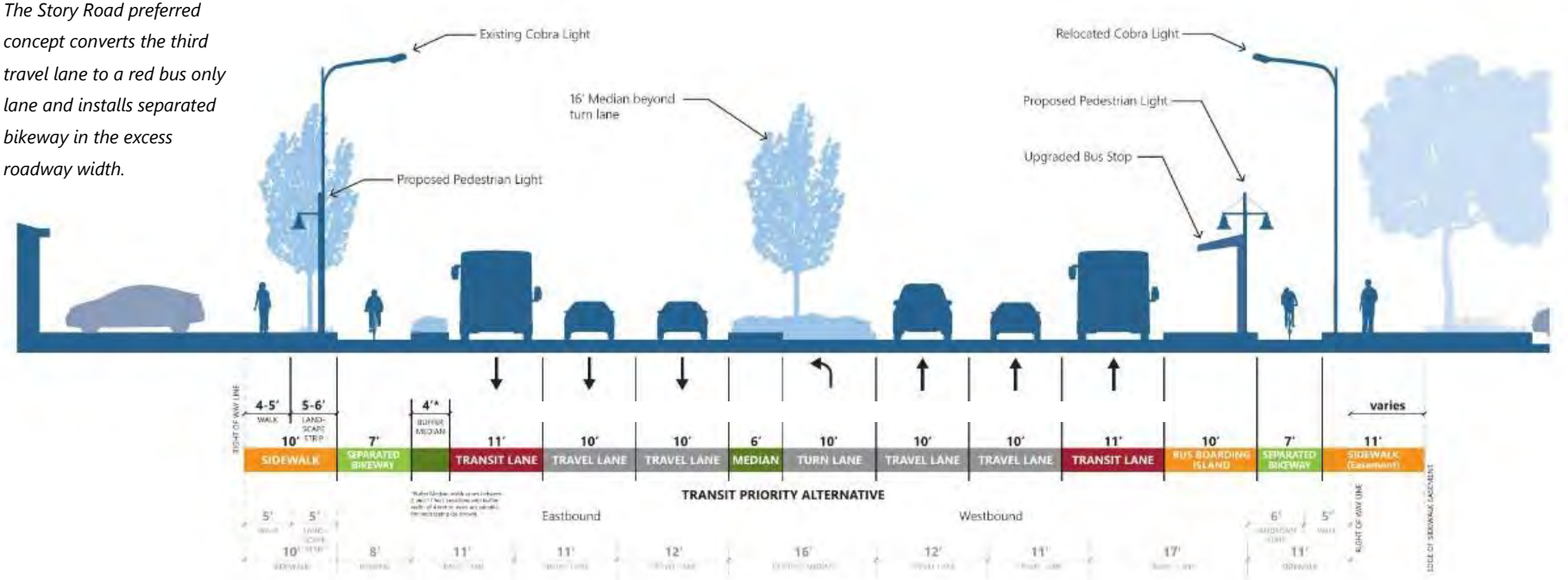
Type	Location	Near-Term	Medium-Term	Long-Term
	11th Street Intersection	-	-Protect WB right-turn movement and separate from WB bicycle movement	-
Bicycle Parking	Segment-wide	-Install bicycle racks in secure locations adjacent to businesses, bus stops, and similar destinations, consider artful racks that reflect the neighborhood character	-	-
Crosswalks	Each Intersection	-Install median refuge islands across separated bikeway to reduce crossing distances, including slip lane removal at 10th Street. Use Quick Build techniques like painted bulbs with planters or posts in near-term	-Install hardscape refuge islands	-
	5th, 6th, 8th, and 9th Street	-Install high-visibility uncontrolled crosswalks	-	-
	10th and 11th Streets	-	-Remove slip lanes to narrow crossing distance and enhance safety	-
	Each signalized intersection	-Install high-visibility ladder striping and advanced stop bars at each crosswalk	-	-
Sidewalk Gap Closure	South side of Keyes Street between 3rd Street and 450' to the East	-Work with property owner to acquire right of way -Install protected walkways	-Acquire right of way -Install sidewalk	-
	East side of 3rd Street between Keyes and 300' to south	-Work with property owner to acquire right of way -Install protected walkways	-Acquire right of way -Install sidewalk	-
Streetscape	Segment-wide	-Install new street trees in empty existing trees wells -Install supplemental pedestrian-scale light fixtures to address "dark spots"	-Install general landscaping and/or green infrastructure in buffer islands -Install pedestrian wayfinding signage	-
Auto	Segment-wide	-Implement four-to-three lane reduction as a multimodal safety countermeasure, including for drivers -Provide a dedicated left-turn pocket at each intersection to provide safe space for autos to queue -Narrow travel lanes to manage speeds -Remove parking in front of auto-related uses and where utilization is low	-Install transit signal priority for Line 25, which would improve traffic in east-west direction -Reinstate parking as driveways are removed and/or consolidated	-

4.4 Story Road

The study corridor includes Story Road between Senter Street and Capitol Expressway. Story Road makes up over half of the 4.25-mile study corridor at about 2.75 miles in length. Story Road provides several points of connection to major regional freeways and expressways, including Interstate 680, US Route 101, and the Capitol Expressway. It is a typical suburban arterial with a wide six lane cross-section and raised median with decorative pavers and trees in most locations. Posted speed varies from 35 to 40 MPH. Bicycle lanes are provided in both directions between Senter Street and McLaughlin Avenue and on-street parking is permitted where residential units front Story Road. The long-term vision for the corridor prioritizes transit along Story Road, with bus-only lanes, enhanced bus stops with floating islands, stop consolidation and relocation, and transit signal priority. Story Road between Senter Road and Capitol Expressway is part of the City's Vision Zero priority network, and as a result, major safety improvements are proposed at intersections as well as the US 101 interchange. Separated bikeways are proposed in the excess roadway width, as well as visibility enhancements for trail crossings and access.

Story Road Preferred Cross-Section

The Story Road preferred concept converts the third travel lane to a red bus only lane and installs separated bikeway in the excess roadway width.



Story Road

Between McCreery Avenue/Bal Harbor Way and Sunset Avenue

(Looking West)

Story Road Proposed Improvements

The Story Road preferred concept shows the proposed transit only lane, separated bikeways, and enhanced streetscape with missing street trees and pedestrian-scaled lighting. As properties redevelop, sidewalk would be widened at the back of the sidewalk.

Intersection Improvements

The majority of the intersections along Story Road are large signalized intersections and are often spaced 500-1,000 feet apart. Improvements at each intersection are proposed, with a focus on safety and controlled conflicts at intersections. The recommendations are:

- ***Bicycle Signals and Protected Right-Turns:*** The addition of bicycle signals as a separate phase from right-turns is recommended at all signalized intersections. The bicycle signals would give bicyclists their own protected phase to ensure bicyclist safety through the intersection. The bicycle phase may overlap with the adjacent pedestrian phase. Additional study should be prepared to determine preferred signal phasing and timing.
- ***Flashing Yellow Right-Turn Phases:*** At intersections where the right-turn volume exceeds 300 autos in the peak hour, the shared bus/right-turn lane may not fully clear with each right-turn phase. At these intersections, it is recommended to implement a flashing yellow right-turn phase with the pedestrian phase to allow remaining vehicles to clear the intersection. Additional study should be prepared to determine preferred signal phasing and timing.
- ***Shared Bus/Right-Turn Lanes:*** Shared lanes are recommended as there is not enough space at most locations to provide a separate right-turn lane and bus only lane. The right-turn pockets are needed to separate bicycle and right-turn auto conflicts across the separated bikeway, giving a place for autos to queue out of the way of through traffic when bicyclists received a green signal. For transit vehicles, this means that right-turning autos are queuing in their lane, which can be problematic for bus reliability if not used in conjunction with aggressive transit signal priority (TSP, as described in the bullet below). With aggressive TSP, when a bus is detected at the signal, the protected right-turn phase can be triggered, allowing for the queue in front of the bus to be cleared as the bus approaches the intersection. This lane would be marked with both red bus-only skip striping and right-turn arrows to signal both right-turning autos and buses should share the lane.
- ***Aggressive Transit Signal Prioritization:*** Aggressive transit signal prioritization is recommended at all signalized intersections. The signals would be programmed to clear right-turning vehicles from the shared bus/right-turn lane at the intersection when a transit vehicle is approaching to limit the delay experienced by transit at the intersection.
- ***Tightening Curb Radii:*** Tightening is recommended at all intersections to slow down turning vehicles and reduce pedestrian crossing distance. At Senter Road, McLaughlin Avenue, and Capitol Expressway, slip lanes would have to be removed to tighten curb radii.
- ***Protected Intersection at King Street:*** A protected intersection would provide support for turning movements between the bicycle lanes on King Street and the separated bikeways on Story Road. The protected intersection would also allow for improved sight lines between right-turning vehicles and bicyclists, which is important for this busy intersection. Protected right-turn phasing would still be installed at this intersection, given the high volume of right-turning vehicles.
- ***General Crosswalk Enhancements:*** Proposed improvements at crosswalks along the study segment of Story Road include high-visibility ladder striping with advanced stop bars at all signalized intersections. New crosswalks are proposed at the west approach at Senter Road and east approach at Jackson Avenue.

Bicycle Enhancements

In addition to the dedicated bus lanes on Story Road, separated bikeways can be provided by narrowing the existing wide travel lanes to more appropriate widths, consistent with the *San José Complete Streets Design Guidelines*. Separated bikeways on Story Road, as well as the intersection enhancements proposed, would create a safe and comfortable environment for cyclists of all ages and abilities. The recommendation is:

- ***Separated Bikeways:*** A separated bikeway is proposed along the entire span of the Story Road study segment. It is proposed to have a raised median separating the bicycle lane from the bus-only lane, with landscaping provided wherever the buffer space is wider than four feet. At driveways, the median would break and have green-skip chevron striping to notify both driver and bicyclists of the potential conflict area. A buffer of at least three feet should be maintained along the bikeway. Ideally, a six- to seven-foot bikeway would be provided; however, the bikeway may be reduced to five feet if needed to maintain the three-foot buffer. The installation of a separated bicycle lane would require either the removal of parking or of the existing landscaped median in residential areas. Where single family residences front the corridor, the recommendation is to remove parking to preserve the existing median design with decorative pavers and street trees. Additional outreach along with a parking supply and utilization study should be completed to look at parking availability on the adjacent residential side streets in the near-term.

Transit Improvements

VTA Line 25 runs along Story Road, with frequent stop spacing. The long-term vision for Story Road highlights the importance of transit prioritization and reliability along the study segment. The recommendations are:

- ***Bus-Only Lanes:*** It is recommended that one lane in each direction be converted to a red bus-only lane. The bus-only lane, partnered with aggressive transit signal prioritization at signalized intersections, would increase transit speed and reliability and make transit a more competitive transportation option compared to vehicles along the study segment. This is seen as having the maximum potential benefit for increasing non-auto and reducing VMT and greenhouse gas (GHG) emissions, consistent with the City's General Plan goals.

  Bus Islands: Floating bus islands are recommended at all bus stops along the study segment of Story Road. Floating bus islands would allow for a separated bicycle lane between the sidewalk and the bus waiting area, limiting the potential conflict points between bicyclists and buses. Further, floating bus islands would allow for in-lane stopping, enhancing transit speed and reliability. Right-of-way acquisition or easements are required to have the space needed to install floating bus islands of adequate width along Story Road while also providing sufficient space to pedestrians accessing and passing the transit stop on adjacent sidewalks. Floating islands with the preferred dimensions will need to be phased to allow time for redevelopment and acquisition. The amenity selection for the floating bus islands should follow the recommendations provided in the TPEP. While the TPEP does not include layout templates for bus islands, the Study's recommendations can easily be adapted to provide a bus island amenity configuration.

- ***Bus Stop Consolidation and Relocation:*** Consolidation and relocation is recommended to ensure spacing of bus stops (every ¼ to ⅓ of a mile) and to provide far side bus stops at most locations. The following bus stops have proposed changes:

  - The bus stops near Remillard Court, in both directions, are proposed to be re-established to maintain good spacing through that portion of Story Road.

- The westbound bus stop east of King Road is proposed to be relocated to the far side of the intersection and the midblock eastbound bus stop between Galahad Avenue and Capitol Expressway is proposed to be relocated to the far side of the Capitol Expressway intersection.

- The eastbound bus stop east of Roberts Avenue and the westbound and eastbound bus stops west of McCreery Avenue/Bal Harbor Way are proposed to be removed.

US 101 Interchange Modifications

US 101 has an interchange at Story Road currently configured as a cloverleaf, which promotes high speeds when merging on and off the freeway. This creates an inhospitable environment for walking and biking and can create conflict between drivers speeding through the area. To reduce speeds of vehicles merging onto and off of the freeway and enhance pedestrian and bicyclist safety, a new configuration of the interchange is proposed:

- ***Squared-Up Interchange:*** The design would realign each ramp to bring the southbound on- and off-ramps and northbound on- and off-ramps to a new-squared up intersection, potentially controlled by a traffic signal. Squaring up ramps would maintain existing on- and off-ramps, or it could alternately be configured similar to a traditional diamond interchange where one point of access is provided for each on-ramp. This creates clear expectation between drivers, bicyclists, and pedestrians, and slows vehicle speeds at key conflict points, such as crosswalks. Crosswalks would be provided on all approaches, and the proposed separated bikeway and bus-only lane would continue through the interchange with similar right-turn separation between bicyclists and right-turning drivers. More detailed evaluation would be necessary as part of a future project phase but based on an initial evaluation a new squared-up interchange could likely be completed by regrading and realigning the existing on- and off-ramps without full reconstruction of the entire interchange.

Trail Crossing Improvements

The study segment of Story Road includes two major trail crossings, one at the Five Wounds/Coyote Creek Trail and another at Lower Silver Creek Trail. The long-term vision for these trail crossings include ease of access and place-making to identify their significance along the corridor. The preferred recommendations include the following:

- ***Coyote Creek Trail Crossing:*** The crossing would be located at the west leg of Senter Road/Story Road and the Story Road/Remillard Court intersections, where there are no crosswalks today. Trail improvements are needed to connect north of the intersection to the Coyote Creek Trail.

- ***Lower Silver Creek Trail Crossing:*** The crossing would be located on the west leg of the existing signal at Galahad Drive. Two-way separated bikeways would jog the path over to the existing signalized crossing at Galahad Drive. Today, bicyclists need to know that they can jog over to the adjacent intersection and must use the sidewalk to do so. The separated bikeways would minimize pedestrian and bicyclist interactions. To be consistent with the branding of the Lower Silver Creek Trail, the trail crossing and/or sidewalk should integrate etched fish artwork to help designate the route as the trail connection.

Streetscape Improvements

Story Road has existing sidewalks for almost all of its length with sporadic rows of trees and landscaping scattered along the corridor. There is roadway lighting but no pedestrian-scale lighting on this segment of the corridor. The existing median has unique decorative paver patterns and street tree plantings. The long-term vision of Story Road is to build off of these existing facilities to create a more cohesive streetscape along the corridor. The proposed curb extensions, partially landscaped bikeway buffer, and floating bus islands provide opportunities for the integration of general landscaping and /or green infrastructure along the corridor. The recommendations are:

- ***Sidewalk Gap Closure:*** The sidewalk gap along a short stretch on the south side of Story Road between McLaughlin Avenue and Via Ferrari would be addressed. Across the street, the existing curb line juts out into the roadway for one parcel, which should be straightened. Both are anticipated to require right-of-way acquisition from the adjacent property.

- ***Sidewalk Widening and Other Streetscape Amenities:*** Widening and other amenities are recommended to further enhance pedestrian safety and access along Story Road and in particular access to the proposed enhanced transit service and stops. Such widening can be pursued through the process of land use changes and redevelopment over time. The widening would occur at building frontages, as opposed to widening by moving the existing curb. Where sidewalks are widened, consideration should be given to the integration of streetscape amenities, including landscaping and/or green infrastructure and a coordinated palette of new street furniture, such as trash receptacles and bicycle parking as well as seating elements associated with individual business districts or nodes along Story Road.

- ***Sidewalk Widening at Removed Slip Lanes:*** Substantial sidewalk expansions occur at locations where the removal of slip lanes is proposed. These areas provide significant placemaking opportunities and can be used for a variety of enhancements of the pedestrian realm and the spatial relationship between the pedestrian realm and adjacent buildings and uses. Potential enhancements include general landscaping and/or green infrastructure (e.g. rain gardens) or small-scale plazas that integrate landscaping, seating, bicycle parking, shade elements, and other amenities. It is recommended to design these spaces with input from the community and business interests in the area.

- ***Landscaping and/or Green Infrastructure:*** The proposed bulb outs at intersections (on cross streets only), linear raised buffer medians between the dedicated transit lane and the bikeway (where 4 feet wide or wider), and the widened sidewalk areas where slip lanes are removed all provide the opportunity for general landscaping and/or green infrastructure improvements. Future design phases should evaluate the grading, drainage, and other local conditions to determine which of these areas are suited for the installation of green infrastructure elements, such as rain gardens or linear stormwater planters.

- ***Decorative Paved Buffer:*** Where the buffer area between the bikeway and dedicated transit lane is narrower than 4 feet, it is recommended to construct a raised and paved buffer median. The pavement surface could be executed using materials and patterns that are complementary to the decorative paving material and pattern in the existing medians along the center of Story Road.

- ***Street Trees:*** It is recommended that additional street trees are planted to supplement existing rows of trees and expand the tree canopy along Story Road to include blocks that currently have no street trees. Trees would be planted in new and existing tree wells or planter strips and should be the same species as the predominant existing tree species along a given block of Story Road (typically

Pistacia sinensis – Chinese pistache and Pyrus calleriana – Callery pear). New trees would also be planted in locations where existing bus stops are removed or relocated. All median trees would remain unchanged. The City of San José *Tree Policy Manual & Recommended Best Practices* should be consulted for appropriate setbacks, visual clearances, lighting, and other infrastructure for new street trees.

- ***Pedestrian-Scale Lighting Fixtures:*** The introduction of pedestrian-scale light fixtures in between the locations of existing roadway fixtures is recommended for the length of Story Road. It is recommended that hardware be installed on new and existing light fixtures to allow for banners, which can be used as place-making for the neighborhood or to promote local businesses and events. The specific light fixture should be selected with input from the local community and business interests as the style and color of the fixture will set the tone for the visual enhancement of the pedestrian realm along Story Road. The style and color of the new fixtures will establish a basis for selecting the look and feel of other amenities. The palette of street furniture should be coordinated and developed in a future design phase. It is recommended that the palette be distinct from that in other segments of the study corridor (e.g. by employing a contemporary rather than a traditional design character for all amenities).

  It is recommended that the new light fixtures be fitted with hardware that allows for the installation **of decorative banners,** which can be used to promote individual commercial nodes along Story Road and special events that take place on this segment of the corridor, or share traffic safety and awareness messages.

Project List and Phasing

Table 4-5 presents the complete project list for Story Road enhancements and potential phasing strategies for each location. For more information on near-term strategies, see **Section 5.4 *Quick Build Strategies for Near-Term Phasing*.**

Table 4-5: Phasing of Proposed Story Road Recommendations

Type	Location	Near-Term	Medium-Term	Long-Term
Bus Only Lanes	Between 12th Street and Capitol Expressway	-Adopt Grand Boulevard General Plan typology -Install transit signal priority for Line 25	-	- Convert third general purpose lane in each direction to a red bus only lane to improve bus reliability and travel speeds
Bus Stops	Each Bus Stop	-Install tactical bus islands	-	- Install hardscape bus boarding islands with separated bikeway behind, which requires right of way acquisition where identified in **Appendix J** -Install shelter and bus stop design per TPEP
	Each Signalized Intersection	-Utilize existing traffic control software (e.g. D4 and SCATS) to install aggressive transit signal priority treatments	-	-
	King Road (WB), Jackson Avenue (WB), Capitol Expressway (EB) Stops	-	-Relocate bus stop to far side of intersection	-
	Roberts Avenue (EB), McCreery Avenue/Bal Harbor Way, Stops	-	-Remove bus stops to improve bus speeds and reliability	-
	Remillard Court Stops	-	-Reinstate bus stops to provide consistent spacing	-
Trail Connections	Senter Road/Coyote Creek Trail Crossing	-Install missing crosswalk on west approach -Modify signals to separate NB left-turn and crosswalk phase	-Install cross-bike green skip-striping at south and east approaches to connect Senter Road path and bicycles lanes with Story Road and the Coyote Creek Trail -Install protected intersection at southwest and southeast corners -Improve connection to Coyote Creek Trail -Install wayfinding	-
	Galahad Avenue/Lower Silver Creek Trail Crossing	-Stripe west crosswalk at trail crossing -Install wayfinding to direct pedestrians and bicyclists to use the signal at Galahad Avenue	-Install decorative trail crossing on west side and decorative sidewalk using the Lower Silver Creek Trail's fish motif to identify the trail -Install two-way cycle track to provide two-way bicycle connection between the Lower Silver Creek Trail and the intersection	-

Table 4-5: Phasing of Proposed Story Road Recommendations

Type	Location	Near-Term	Medium-Term	Long-Term
			-With less width on the south side, install raised separated bikeway, and install an in-roadway two-way separated bikeway with landscaping on the north side where more space is available	
Bikeway Improvements	Between Senter Road and Capitol Expressway	-Install Quick Build separated bikeway through reducing travel lane widths -Stripe mixing zones at intersections -Conduct additional outreach for parking removal and bikeway improvements -Conduct parking assessment to identify areas for potential parking removal based on presence of off-street parking -Stripe green conflict zones at driveways and to establish separated bikeways at intersections	-Install landscape and hardscape buffer for the separated bikeway -Install bicycle wayfinding	--
Bikeway Intersection Improvements	Each Signalized Intersection	-Stripe mixing zones using Quick Build strategies	-Modify signal to protect right-turns (shared bus only/right-turn lane) and provide separate bicycle signal phase	-
	McLaughlin Avenue Intersection	-Consider installing protected intersection with Quick Build strategies	-Raise separated bikeway through pinch point -Close driveway at intersection for intersection and bikeway safety -Install hardscaped protected intersection	-
	King Road Intersection	-Consider installing protected intersection with Quick Build strategies	-Install hardscaped protected intersection	-
	Sunset Avenue/Hopkins Drive Intersection	-Tie into existing two-way separated bikeway on Sunset Avenue/Story Road -Provide access from separated bikeway onto Hopkins Drive bicycle boulevard -Incorporate Quick Build separated bikeway into proposed intersection improvements	-Install hardscaped version of the intersection improvements	-Extend connection on Sunset Avenue north along with improvements to the existing I-280 Bike/Ped Bridge to improve connections and ADA accessibility to the Mayfair neighborhood

Table 4-5: Phasing of Proposed Story Road Recommendations

Type	Location	Near-Term	Medium-Term	Long-Term
Bicycle Parking	Segment-wide	-Install bicycle racks in secure locations adjacent to businesses, bus stops, and similar destinations, consider artful racks that reflect the neighborhood character	-	-
Crosswalks	Each Signalized Intersection	-Reduce curb radii using Quick Build strategies to accommodate 30-40' design vehicle, consistent with primary truck route and Grand Boulevard designation vehicles per the City's *Complete Streets Design Guidelines.* Quit Build strategies are further discussed in **Section 5.4*: Quick Build Strategies for Near-Term Phasing*** -Install high-visibility ladder striping and advanced stop bars at each crosswalk	-Reduce crossing distances with combination of bus bulbs, reduced curb radii, and raised median of separated bikeway, as shown in **Appendix A** concept plan lines	-
	Senter Road, McLaughlin Avenue, Capitol Expressway	-	-Remove slip lanes to narrow crossing distance and enhance safety	-
Sidewalk Gap Closure & Curb Lines	South side of Story Road Street between 350-550' east of McLaughlin Avenue	-Consider installing a protected walkway	-Work with property owner to acquire right of way -Install sidewalk	-
	North Side of Story Road between 400-500' east of McLaughlin Avenue	-	- Work with property owner to acquire right of way -Straighten curb line and install sidewalk	-
Streetscape	Segment-wide	--Install new street trees in empty existing trees wells or gaps in rows of trees in planter strips -Install pedestrian wayfinding	-Install general landscaping and /or green infrastructure in raised buffer medians (4 feet or wider) -Install decorative paving in raised buffer medians narrower than four feet -Install pedestrian-scale light fixtures and banners -Expand installation of new street trees to blocks that currently have no or few trees	-Widen sidewalk at back of sidewalk as properties redevelop

Table 4-5: Phasing of Proposed Story Road Recommendations

Type	Location	Near-Term	Medium-Term	Long-Term
			-Construct plazas or other pedestrian amenities in expanded sidewalks at removed slip lanes	
US 101 Interchange	Between Via Ferrari and Knox Avenue	-Continue separated bikeway using Quick Build strategies through the interchange with mixing zones at ramps -Identify potential near-term opportunities to work with Caltrans to reduce auto speeds at ramps approaching existing crosswalks -Restripe existing crosswalks as high-visibility and install pedestrian activated warning beacons (e.g. pedestrian hybrid beacons if warranted) -Work with Caltrans to identify medium- and long-term opportunities to realign the intersection	-	-Square-up on- and off-ramps at interchanges to create two four-way signalized intersection -Protect right-turns to separate auto turning movement from through bicycle movement and crosswalks -Mark high-visibility crosswalk across ramps -Install landscape-buffered sidewalks between the bridge structure and the nearest cross streets
Auto	Segment-wide	-Provide shared right-turn lane/bus only lane at each intersection to provide dedicated queuing space -Narrow travel lanes to manage speeds -Complete parking utilization/supply study -Install transit signal priority for Line 25, which would improve traffic in east-west direction	-Work with community members to remove parking to provide continuous separated bikeways -Implement six-to-four lane reduction as a multimodal safety countermeasure	-

5. Phasing and Implementation

This chapter discusses potential next steps that VTA and the City of San José may undertake to implement the proposed vision for the Story-Keyes corridor. In addition to information on planning level cost ranges, funding strategies and an implementation action plan, opportunities for near term "quick-build" improvements are also identified. This Study represents a unique technical assistance partnership between VTA and the City of San José in which VTA took the lead on the study development. This strategy may be fruitful to assist the City in securing funding and preparing final design before the City ultimately delivers the project.

5.1 Total Cost Estimate

Planning level costs were developed as part of the conceptual design process. While more detailed cost estimating would need to be undertaken as part of future project phases, the long-term corridor improvements for the full corridor is estimated to cost approximately $49,400,000. This accounts for approximately:

- $4,700,000 for Willow Street
- $3,800,000 for Graham Avenue/Goodyear Street
- $12,000,000 for Keyes Street
- $28,900,000 for Story Road

More information on the preliminary cost estimates are located in **Appendix J**.

5.2 Potential Funding Sources

Implementing the vision for the corridor will require securing many different funding sources. Based on the City's and VTA's recent experiences with competitive grants and grant scoring criteria, the following funding sources are anticipated to be the best fits for the projects:

- **Caltrans Active Transportation Program (ATP):** While ATP is one of the most competitive statewide and regional grant funding sources, the Story-Keyes corridor is likely a strong contender for grant funding. One of the primary scoring criteria is benefit to disadvantaged communities, which is applicable to most of the corridor. With the safety benefits for active modes and the significant walking and biking comfort improvements, the project would likely rank high. This grant would likely only be applicable to the walking and biking related improvements. It is anticipated that some of the landscape and transit improvements would not be eligible. ATP Cycle 4 occurs in 2019 and is expected to be announced in Spring 2018.
- **Caltrans Highway Safety Improve Program (HSIP):** HSIP intends to address areas with serious documented safety records. The primary metric for this a cost benefit ratio that heavily weighs fatal and severe injuries. As much of this portion of Story Road is on the City' Vision Zero network and has fatalities and severe injuries in the collision record, the project will likely be very competitive for this funding source. This grant is primarily used to fund specific safety countermeasures, so project definition requires documented safety benefits for collision type. Another round of HSIP grants is likely to come in mid-2018.
- **One Bay Area Grants (OBAG):** As the local congestion management agency, VTA has a call for OBAG grant applications every two years. Priority is given to projects either fully or partially within a Metropolitan Transportation Commission (MTC)-designated Priority Development Area (PDA) or providing access to/from within 0.5 mile of a PDA. PDAs are designated locations where the region strategically wants to grow. Portions of the Study Area are within PDAs and the corridor provides access to PDAs located Downtown. The last OBAG grant cycle was in 2016.

- **2016 Measure B Sales Tax**: It is anticipated that the 2016 Measure B Santa Clara County transportation sales tax will be an important source for future funding. At present time, though approved by voters in late 2016, it is facing legal challenges. As a result, the timing of potential Measure B funding availability is uncertain.
- **Affordable Housing and Sustainable Communities (AHSC) program:** Funded through statewide Cap and Trade funds, the AHSC grants help fund affordable housing but can include substantial transportation improvements within one mile of the affordable housing site. Recent cycles have placed greater emphasis on transportation improvements. Given the need for affordable housing in the area, this could be an important grant funding source. However, it is reliant upon opportunities to coordinate with housing developers. The City should flag and pursue the grant as interest in affordable housing development arises on parcels along or near the corridor.
- **Senate Bill 1**: With the passage of the statewide transportation bill in 2017, additional funding sources are likely to become available for transit projects to reduce vehicle miles traveled (VMT).
- **FTA Small Starts Funding**: With the dedicated transit lane and bus stop redesigns, the project may be eligible for Small Starts funding from the Federal Transit Administration.
- **Roadway Repaving**: Many of the improvements can be made through the roadway repaving contracts the City already has in place. This is particularly true for near-term implementation of the projects, as described in **Section 5.4** Quick Build Strategies for Near-Term Phasing. While painted bulbs may be accommodated through standard repaving budgets, additional materials — such as plastic posts for bicycle lane protection or landscape planters to define bulb outs — may need additional funding sources to adequately implement the recommendations.

5.3 Implementation

Table 5-1 presents the five-year implementation action plan. This table is intended to spell out the steps needed to secure funding for the project, develop near-term improvements, prepare final design and environmental documents for the long-term vision, and engage in ongoing stakeholder outreach as the designs are further developed and ultimately implemented.

Project Phasing

Phasing will be an important of this project to ensure ongoing progress toward the long-term vision. The following phasing time periods are used:

- ***Near-Term:*** To be completed within five years
- ***Medium-Term:*** To be completed within five to 10 years
- ***Long-Term:*** To be completed within 10 years and beyond

5 Phasing and Implementation

Table 5-1: Implementation Action Plan

Year	Action	Lead Agency	Details	Relative Cost
2018	Develop Two-Year Funding Strategy	VTA, CSJ	-Confirm preferred funding sources, upcoming grant cycles, and project competitiveness for funding sources -Allocate staff time to develop project application -Strategize how to combine the grants to provide enough for near-term implementation -Consider whether or not a detailed prioritization exercise may be useful to determine which segment should be completed first	$
2018-2019	Apply for Competitive Funding Sources	VTA, CSJ	-Secure staff time for grant applications -Plan to pursue all or some combination of OBAG, HSIP, and ATP in the next cycle of funding -Pursue AHSC opportunistically -Pursue 2018 Measure B funding if and when available	$
2018-2020	Coordinate with Roadway Repaving and Other Maintenance Funding Sources	CSJ	-Identify whether paving projects on Willow Street, Keyes Street, or Story Road could be accelerated -Integrate proposed projects into planned upcoming pavement project between McLaughlin Avenue and King Street in 2018	$$
2018	Secure Funding for 35% Design and Environmental Clearance	VTA	-Secure funding for the $900,000 placeholder in the VTA Biennial Budget to bring the design to 35%, perform additional transportation operations analysis and environmentally clear the vision plans	$$$
2018-2019	Develop Pilot Project for Tactical Bus Islands	VTA	-Consider Willow Street or Keyes Street as potential pilot project locations for tactical bus island installation -Consider partnerships with local architects and artists to design bus islands as extend parklets instead of prefabricated bus islands	$$$
2018-2020	Complete 35% Design and Environmental Clearance	VTA with CSJ	-Further develop plan lines to detail out feasibility -Utilize the latest environment clearance tools, likely vehicles miles traveled (VMT), to clear the project and determine auto-related project impacts -Clear the full vision of the project for ease of implementation over time	Data
2019	Complete General Plan Amendment for Story Road	CSJ	-Change the General Plan typology of Story Road to Grand Boulevard between Senter Road and Capitol Expressway	$
2022	Implement Near-Term Projects on the Corridor	CSJ, VTA	-Within five years, implement near-term solutions and quick build projects for major project elements that have a phased strategy, including transit signal priority on Story Road.	$$$$
2022-2027	Implement the Medium-Term Projects	CSJ, VTA	-Within ten years, implement bus-only lanes	$$$$
2027 and beyond	Implement the Long-Term Projects	CSJ, VTA	-Within ten years and beyond, implement all long-term improvements on the corridor	$$$$

5 Phasing and Implementation

Phasing

A phasing plan has been developed to strategically implement the Study recommendations along the corridor over time. The general phasing plan is to implement improvements on Willow Street first; Keyes Street second; and Story Road third. This approach leverages the positive community response to implement improvements on Willow Street. It also is relatively more inexpensive and may be easier to implement. Keyes Street improvements can be coordinated with future resurfacing projects anticipated in the next five years, as it was last resurfaced in 2015. While the bus only lane on Story Road is a long-term project, transit signal priority (TSP) can be installed in the near-term. The existing signal infrastructure (e.g. controller systems and software) support TSP. **Table 4-3**, **Table 4-3**, **Table 4-4**, and **Table 4-5** outline the near-term, medium-term, and long-term improvements for each corridor segment, respectively.

5.4 Quick Build Strategies for Near-Term Phasing

There are many strategies the City and VTA can use to provide enhancements for people using the corridor in both the near- and long-term. However, with a four-mile length and significant proposals over the full length of the project, it is important to plan for phasing of the project and improvements in the near-term. Project phasing means a project or portions of a project can be implemented over time, as funds and resources are available. In many cases more cost-effective materials can be used to get the project off the ground sooner. Defined as "quick-build" improvements, these are increasingly sophisticated and aesthetically-pleasing treatments that provide flexibility in implementation. Saving cost on materials could mean more of the overall length of the project could be installed. As additional resources become available temporary materials can be upgraded to concrete curb or other more fixed materials. Outlined below are four quick-build tools that can be used in the near-term to put improvements on the ground quickly and cost effectively.

Painted Bulb Outs

In many locations, bulb outs are recommended to reduce crossing distances for pedestrians. Many cities have used painted bulb outs with raised elements such as delineator or landscape planters to define bulb outs without changing drainage patterns and without the added cost of concrete.

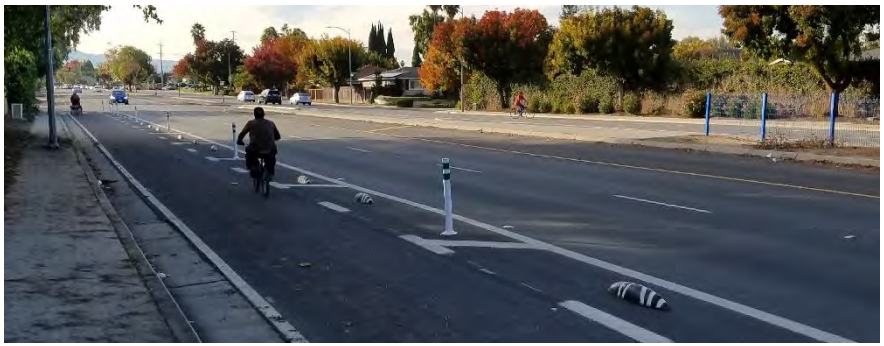
Left: The City of Fremont has used a combination of painted bulb outs with self-watering landscape planters to achieve this effect. Below: Prefabricated boarding islands or parklet-style boarding islands can be used to extend the sidewalk and allow buses to stop in line to improve transit reliability. Photo credit: www.zicla.com

Tactical Bus Boarding Islands

Bus stop can also have similar temporary treatments. These can be thought of in the same vein as parklet spaces and can be used to enhance public space and engage local architects and artists. There are also prefabricated bus boarding islands on the market the City could use to improve bus stops in the near-term. Oakland, Los Angeles, and New York City have experimented with prefabricated bus boarding islands.

"Paint and Plastic" Separated Bikeways

Many cities in the Bay Area, including San José, have had success with quick implementation of separated bikeways using painted buffer spaces and delineators or similar raised elements that are commonly made of plastic. Aesthetics of some delineators have improved recently, and there are more products on the market the City of San José could consider such as shorter, sturdier posts, and armadillos, which are recycled plastic dividers that have a lower profile than posts.



Left: "Paint and plastic" separated bikeways can include striped buffers where parking serves as a barrier between bicycle traffic and auto and transit traffic. Above: The City can use various products to provide separation between the bicycle lane and traffic, including planters and small plastic lumps (sometimes known as "zebras" or "armadillos"), which are already in use on Branham Lane.

5 Phasing and Implementation

Pavement to Parks Intersection Reconfigurations

Many cities have successful programs that improve safety by repurposing excess roadway space at skewed intersections with public spaces. These are often successful where foot traffic supports the creation of public space, such as in business districts. They can provide a distinctive look and feel in line with the local neighborhood character and are an opportunity to engage with local community-based organizations and artist groups. Maintenance of these spaces is an important consideration and could be an opportunity for a public-private partnership.

Above: San José could use a pavement to parks strategy to enhance safety and the public realm at complex intersections, such as Willow Street/Lick Avenue. Pink areas are potential areas that can be "reclaimed" for pocket park space. This could act a as a gateway to Calle Willow business district, similar to how the roundabout is envisioned in the long-term.

Left: An example of repurposing of remove a skewed intersection (and a redundant link in the roadway network) on Sunset Boulevard in Los Angeles. The resulting space now supports the Silver Lake Farmers Market and increases foot traffic in front of small businesses.

5.5 Immediate Next Steps

With the finalization of this Study, there are five immediate next steps that VTA and the City of San José can take to leverage the momentum of this current planning effort:

1. Identify grants with deadlines in 2018 and match them to identified improvement projects.
2. Coordinate internally with roadway repaving projects, upcoming development projects, and VTA-administered grants to identify additional potential funding sources for the improvements.
3. Develop Quick Build projects that can be implemented using low-cost materials, repaving, and/or other maintenance funds. Prioritize the goals of the Study, particularly access to transit, bicycle and pedestrian improvements, and safety for all users.
4. Develop 35% design drawings for the 10% plan lines and prepare environmental documents to provide a clear path forward for implementation.
5. Engage communities along the corridor on an ongoing basis to provide regular updates on the Study's implementation.

6. Glossary of Terms

The following are some of the terms and acronyms are used to describe existing and proposed conditions in this Study:

- ***ADA:*** American with Disabilities Act, typically used to refer to accessible pedestrian facilities, such as curb ramps and pedestrian push buttons at signalized intersections.
- ***ADT:*** Average Daily Traffic, which is the average total number of vehicles that use a roadway throughout the day.
- ***Bicycle Boulevard:*** These are typically residential or low ADT streets that are designated to give bicyclists priority. They are usually identified through pavement markings such as sharrows and signage.
- ***Bicycle Lanes (Class II):*** A dedicated area for bicyclists within the paved street width using striping and appropriate signage.
- ***Bike Escape Ramp:*** As part of roundabout design, a ramp is provided for less confident cyclists to exit the street and ride on the sidewalk for a short distance to avoid crossing in the roundabout right-of-way.
- ***Buffer***: Striped area between a travel lane and a bicycle lane and/or a bicycle lane and on-street parking. It typically has chevron arrows or diagonal hatching to denote the buffer. It is used to provide separation and additional comfort between bicyclists and/or moving vehicles or parked cars.
- ***Bulb Out***: Extensions of the sidewalk environment at intersections, typically shadowing parking. They improve driver-pedestrian visibility at crossings and shorten crossing distances.
- ***Bus Bulb:*** Similar to bulb outs, they are extensions of the sidewalk environment that typically shadow parking, but are located at transit stops and are designed to accommodate the full length of a transit vehicle. They typically allow for bus in-lane stopping.
- ***Bus Island***: A dedicated area for transit users to wait and board transit vehicles. They are typically concrete and separated from the sidewalk by a separated bikeway to mitigate bicycle-bus conflicts at transit stops. Bus islands typically allow for bus in-lane stopping.
- ***Charrette***: A stakeholder meeting dedicated to working through issues and deciding on solutions.
- ***Conflict Zone***: Portions of bicycle lanes where drivers frequently merge across, such as the portion of a bicycle lane that right-turning automobiles merge into before the intersection.
- ***Cross Section***: The configuration of a roadway, including the amount of right-of-way dedicated to pedestrians, transit, bicyclists, and vehicles.
- ***Green Infrastructure:*** A planning and design approach to managing stormwater and the urban heat island effect through landscaping and green elements such as bioswales, permeable pavement, plantings, and street trees.
- ***Green-Skip Striping:*** A paint treatment used to delineate bicycle facilities and increase their visibility. The skip striping can be overlaid with chevrons to further increase the visibility of the bicycle facility.
- ***In-Lane Stopping:*** Occurs when a bus bulb or bus island allows a transit vehicle to stop in the travel lane to on- and off-board at a transit stop. In-lane stopping mitigates the need for transit vehicles to merge into and out of traffic at transit stops.
- ***Median Refuge:*** A protected area denoted by raised curb, landscaping, and/or other materials where pedestrians can safely stop before completing their crossing of a roadway, typically located in the middle of the street.

6 Glossary of Terms

- ***Mixed Uses:*** Buildings or developments that contain multiple land uses. For example, a mixed-use building might have commercial ground floor space with residential units above.
- ***Mixing Zone***: Areas, typically at intersections, where dedicated bicycle facilities merge in with auto traffic.
- ***Mode Shift***: Changing the mode split over time, often in reference to increasing the percentage of trips made by walking, biking, and/or transit.
- ***Mode Split:*** The percentage of travelers using a particular type of transportation, typically the percentage of trips made by bicycle, pedestrian, transit, and autos.
- ***Multimodal***: The consideration of all modes of transportation in the planning, design, and use of a roadway or transportation facility. Multimodal typically refers to four primary modes of travel: bicycles, pedestrians, transit, and autos.
- ***NACTO:*** National Association of City Transportation Officials, which publishes two best practice resources guides: the Urban Bikeway Design Guide and the Urban Streets Design Guide.
- ***Parking-Separated Bikeway:*** An exclusive bike facility that is located between on-street parking and the sidewalk. On-street parking is pushed out and away from the curb to allow room for a bikeway between on-street parking and the sidewalk.
- ***Peak Hour***: The busiest hour(s) of the day for all modes, but typically used to refer to autos.
- ***Pedestrian-Scale Lighting***: light fixtures that are scaled to illuminate the sidewalk or a trail.
- ***Policies:*** The underlying principles that explain and justify how the City deals with transportation issues, typically established through adopted planning documents, directives form City officials, or similar means.
- ***Pork-chop Island:*** An intersection traffic control island which splits the flow of traffic into two, allowing for slip lanes.
- ***Practices:*** The methodologies, procedures, and approaches, either formal or informal, that guide how the City deals with transportation.
- ***Programs:*** the strategies, campaigns, and on-going efforts to address issues such as walking and biking education, enforcement, and encouragement. They may be run by the City or by another agency operating in San José. An example may include the Santa Clara Valley Transportation Authority Complete Streets program, which provides education and outreach, corridor studies, and drives policy on complete streets.
- ***Rain Gardens:*** A type of green infrastructure used to manage stormwater. See ***Green Infrastructure.***
- ***Right-Of-Way:*** Amount of space dedicated to a certain mode of transportation.
- ***Separated Bikeway:*** An exclusive bike facility that is located within or next to the roadway, but is made distinct from both the sidewalk and the general purpose roadway by markings, barriers or elevation differences.
- ***Sharrows:*** "Shared Lane Markings" are stencils on the pavement showing a bicycle symbol and two directional arrows or "chevrons". They denote bicycle routes where bicyclists and autos share the travel lane. They also demonstrate where bicyclists should ride in the travel

lane, which is typically in the middle of travel lane so that they "take the lane."

- ***Signalized Intersections***: Where two roadways meet at a traffic signal.
- ***Slip Lane:*** A right-turn lane at an intersection that allows drivers to make a turn without actually entering the intersection and that is often not controlled by a traffic signal. Typically separated by a triangular "pork-chop" island.
- ***Splitter Islands:*** Splitter islands provide pedestrian refuge between directions of traffic, allowing a pedestrian to cross just one direction of traffic at a time.
- ***Stakeholders:*** Community members, organizations, or agencies that have a heightened interest or concern in the project.
- ***VMT:*** Vehicle Miles Traveled, which accounts for private vehicle mileage generated.
- ***Wayfinding:*** Guidance either on signs or striped on the ground to indicate locations and/or directions to destinations.