2020

Sunnyvale Active Transportation Plan

AUGUST 2020

Sunnyvale

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Chapter 1: Introduction and Background

Sunnyvale residents and workers are increasingly interested in bicycling and walking as a safe and convenient mode of transportation to get where they need to go. Some students bike or walk through Sunnyvale neighborhoods to reach their schools. Residents and people from all over the Bay Area commute to Sunnyvale on Caltrain, VTA buses and light rail, and often times bike the “last mile” to their Silicon Valley employer. Families are biking and walking to run errands, visit the library, or spend the afternoon on the John W. Christian Greenbelt to Lakewood Park.

The purpose of the 2020 Sunnyvale Active Transportation Plan (ATP) is to assist the City in creating a safe, connected, and efficient citywide walking and bicycling network. The Plan lays out goals, strategies, suggested infrastructure projects, and supporting programs, as well as identifies funding sources and implementation priorities. The ATP will serve as a guide for City Council to consider future actions and to approve future grant applications. Implementation of the recommendations identified in the ATP is dependent on the availability of funding sources and subject to additional studies to determine the feasibility of the recommendations on the design level.

The recommendations within this Active Transportation Plan were developed through engagement with Sunnyvale community members and stakeholders, along with a technical analysis of walking and biking needs across the city. As the City looks to implement projects, additional community outreach will be conducted.

Plan Contents

Chapter 1, Introduction, lays out the purpose of the 2020 Sunnyvale Active Transportation Plan.

Chapter 2, Existing Conditions, places the plan in the wider context of Sunnyvale's transportation and land use planning efforts as it relates to active transportation.

Chapter 3, Outreach, outlines how the project team consulted with Sunnyvale residents and community members to guide the vision and recommendations in this plan.

Chapter 4, Bicycle Plan, describes bicycling needs in the city, defines the Plan's bicycling goals, and outlines the citywide bicycle infrastructure and programmatic recommendations.

Chapter 5, Pedestrian Plan, describes pedestrian needs in the city, defines the Plan's pedestrian goals, and outlines the citywide pedestrian infrastructure and programmatic recommendations.

Chapter 6, Safe Routes to School Plan, identifies barriers to accessing local schools by walking or bicycling in the city and outlines recommendations at the 21 public schools serving Sunnyvale students.

Appendices, provides additional documentation on the project recommendations, prioritization results, and outreach materials.

What's New in This Plan?

This plan updates Sunnyvale's 2006 Bicycle Plan, 2007 Pedestrian Safety and Opportunities Study, and 2012 Comprehensive School Traffic Study. In the past 14 years, new innovations in bicycle infrastructure design have been approved by the California Department of Transportation (Caltrans) and implemented throughout California. The Federal Highway Administration (FHWA) has developed new pedestrian measures tied to improving the safety of people walking. Across the country, different campaigns and movements, such as Vision Zero, Complete Streets, and Safe Routes to School (SRTS) have gained traction and focus on implementing more safety improvements for all ages and abilities to bike and walk.

The Active Transportation Plan addresses the needs of people walking and biking separately, acknowledging unique barriers and implementation challenges to each mode. In addition, this plan has a separate focus on SRTS, prioritizing biking and walking safety along students' path to school. Thus, the Active Transportation Plan is organized into three sections: the Bicycle Plan (Chapter 4), the Pedestrian Plan (Chapter 5), and the SRTS Plan (Chapter 6).

Glossary

Vision Zero: Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy and equitable mobility for all.

Complete Streets: Streets that are planned, designed and operated for safe mobility for all users including pedestrians, bicyclists, motorists, and transit users of all ages and abilities.

Safe Routes to School (SRTS): Safe Routes to School is an initiative to make it safe, convenient, and fun for children to walk and bicycle to and from schools.

Relationship to Other Plans

Sunnyvale's General Plan guides the long-term physical development of the City and sets out a vision for transportation where:

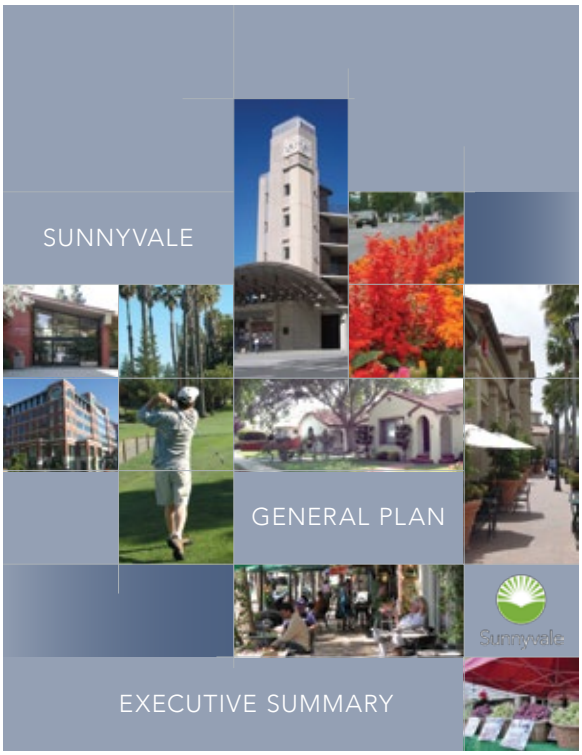
An effective multimodal transportation system offers the community a variety of transportation modes for local travel...and favors accommodation of alternative modes to the automobile as a means to enhance efficient transit use, bicycling and walking...

This Active Transportation Plan helps the City realize this complete streets vision along with implementing goals, policies and recommendations adopted through complementary city planning efforts such as: Peery Park (2016), Moffett Park (ongoing), Lawrence Station (ongoing), Downtown (ongoing), Lakeside (2015), and El Camino Real (ongoing) Specific/Area Plans.

In addition, the Active Transportation Plan dovetails off of the City's Vision Zero Plan (adopted in 2019), setting the long-term goal to eliminate traffic fatalities and serious injuries on Sunnyvale's streets.

The ATP is also strengthened by the City's Climate Action Playbook (2019), which targets reducing vehicle miles traveled per person by 20% by 2030 and 25% by 2050.

The City's Green Stormwater Infrastructure Plan (2019) also informs this plan. Green infrastructure, such as bioretention plantings and pervious pavements can be integrated within walking and biking facilities.



Chapter 2: Existing Conditions

Demographics

Sunnyvale is home to 156,503 residents with a similarly low population density to neighboring South Bay cities. In addition to local residents, Sunnyvale attracts more than 80,000 employees each workday, as notable large office and research facilities such as LinkedIn, Google and Lockheed Martin are located within the City.

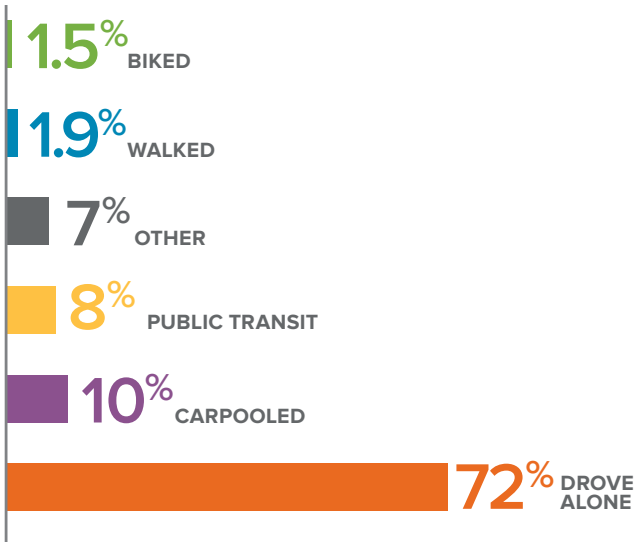
The median age of Sunnyvale residents is 35.6 years, which reflects the median age of other South Bay cities. Children and young adults under the age of 24 account for approximately 28 percent of the City's total population. The largest 10-year age group is those aged 25-34 years, which represent over 21 percent of the city's total population. 12 percent of Sunnyvale residents are aged 65 and over.

Commute Trends

Almost three-quarters of Sunnyvale's residents commute to work by driving alone (see Figure 1).[1] These numbers can likely be attributed to the City's low-density development and zoning patterns, as well as personal preferences. Currently 1.5 percent of residents report bicycling as their primary mode of transportation to work. Similarly, 1.9 percent of residents report walking as their primary mode of transportation to work.

It should be noted that this data does not account for commuters with multiple modes of travel to and from work, such as commuters that ride a bicycle to a Caltrain station before transferring to Caltrain for the remainder of their trip. In these surveys, such trips would be counted as a transit trip. In addition, the census data fails to capture people who commute by walk or bicycle only one or two days per week. Consequently, it is understood that the number of actual commuter walking and biking trips is higher than what is represented through census numbers.

Figure 1: Sunnyvale Commute Travel Modes



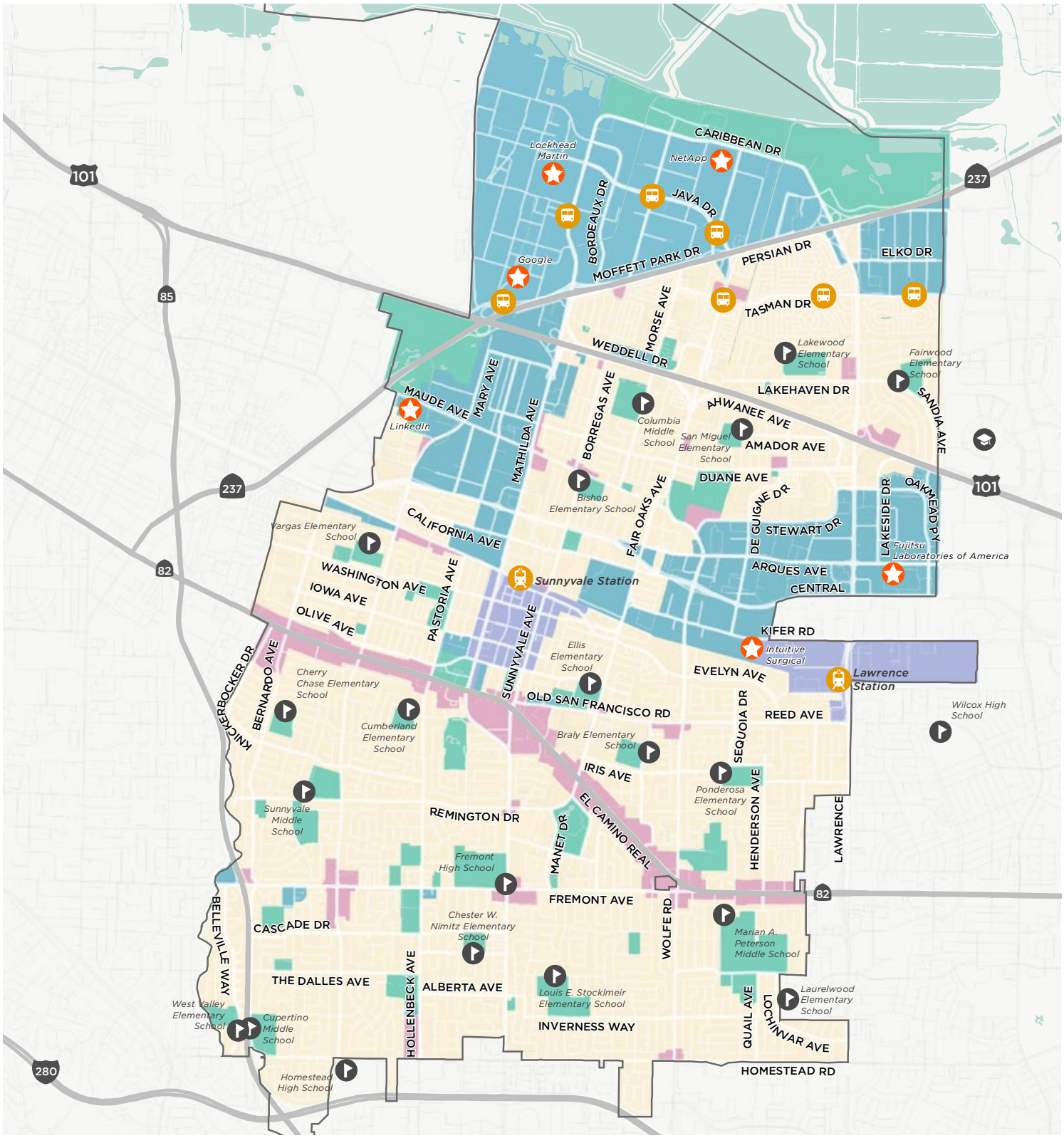
1 U.S. Census Bureau; American Community Survey, 2017 American Community Survey five-year estimates

Land Use and Major Destinations

Sunnyvale's current land use is a mix of residential, commercial, industrial, and office park land use types (Map 1). Residential areas are the most prevalent land use type, accounting for approximately 45 percent of the total land area. These areas are located primarily in the southern half of the City, south of the Caltrain rail line, as well in northern Sunnyvale between US Highway 101 and State Route 237. Sunnyvale's office parks and industrial areas are generally confined to the northern half of the city.

Sunnyvale contains a variety of employment, retail, and recreational destinations, (Map 1). Office parks and research facilities such as Moffett Park, Peery Park, and East-Central Sunnyvale are important employment centers. These destinations are often located near transit stations or next to highways. The city's popular recreational and shopping destinations include Murphy Avenue, Downtown Sunnyvale, El Camino Real, Baylands Park, Twin Creeks Fields, the Sunnyvale Farmers Market, and the Bay Trail.

The distinct and separated land uses in Sunnyvale presents a challenge to encouraging people to take trips by biking and walking as opposed to automobile. However, the current land use pattern underlies the importance of creating comfortable and connected walking and biking facilities, and promoting future development that includes a mix of uses.



Map 1. Project Area

Land Use

- Commercial
- Office / Industrial
- Residential
- Public Facility
- Transit Mixed Use

Major Destinations

- Major Employer
- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- City Boundary

0 0.5 1 MILE

Transit

Sunnyvale is served by the Santa Clara Valley Transit Authority (VTA) light rail and buses and the Caltrain Commuter Rail.

Located in northern Sunnyvale, six VTA light rail stations provide access to office parks for those commuting from outside of the city. Though light rail stations are generally located in non-residential areas, they can be used to travel to other areas in the greater San Jose region. In addition to the rail line, VTA bus routes provide access within Sunnyvale. VTA operates three high-frequency bus lines through Sunnyvale, two lines on El Camino Real, and one on Mathilda Avenue/Sunnyvale-Saratoga Road.

The Caltrain rail line runs east-west through central Sunnyvale. Two commuter stations are located within the City, including downtown Sunnyvale Station and Lawrence Station near the Sunnyvale-Santa Clara border. Both stations are surrounded by either existing or proposed high-density mixed-use areas. Bicycle connections and linkages are especially important in these areas.

Existing Bicycle Network

Sunnyvale's existing bike network is made up of shared use paths, separated bikeways, buffered bike lanes, bike lanes, and bike routes (Table 1). The City does not currently have any Class IIIB Bicycle Boulevards, which is a low stress facility appropriate for local streets. See the descriptions below to understand how these terms will be used throughout this plan.

Sunnyvale's current bicycle network has approximately 90 miles of designated lanes, routes, and paths. These are recorded within this Plan as centerline miles. Bike lanes are the most common facility type, making up 54.3 miles of the total network. Shared-use paths are the next most common facility type (18.0 miles), followed by on-street bike routes (13.0 miles) and buffered bike lanes (4.1 miles).

Table 1. Existing Bikeway Network

Facility Type	Mileage
Class I Shared-Use Path	18.0 miles
Class II Bicycle Lane	54.3 miles
Class IIB Buffered Bicycle Lane	4.1 miles
Class III Bicycle Route	13.0 miles
Class IIIB Bicycle Boulevard	0 miles
Class IV Separated Bikeway	0.4 miles
Complete Network	**89.8 miles**

Bicycle Facility Types

CLASS I

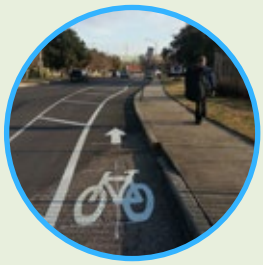
Shared-Use Path

- Paths completely separated from motor vehicle traffic used by people walking and biking.
- Comfortable for people of all ages and abilities.
- Typically located immediately adjacent and parallel to a roadway or in its own independent right-of-way, such as within a park or along a body of water.

CLASS II

Bicycle Lane

- A dedicated lane for bicycle travel adjacent to traffic.
- A painted white line separates the bicycle lane from motor vehicle traffic.



CLASS IIB

Buffered Bicycle Lane

- A dedicated lane for bicycle travel separated from vehicle traffic by a painted buffer.
- The buffer provides additional comfort for users by providing space from motor vehicles or parked cars.

CLASS III

Bicycle Route

- A signed bike route that people biking share with motor vehicles.
- Can include pavement markings.
- Comfortable facility for more confident bicyclists.
- Recommended when space for a bike lane may not be feasible.

CLASS IIIB

Bicycle Boulevard

- Calm, local streets where bicyclists have priority but share roadway space with motor vehicles.
- Shared roadway bicycle markings on the pavement as well as traffic calming features such as speed humps and traffic diverters keep these streets more comfortable for bicyclists.
- Comfortable facility for bicyclists with wider range of abilities.

CLASS IV

Separated Bikeway

- An on-street bikeway separated from motor vehicle traffic by a curb, median, planters, parking delineators, or other physical barrier.

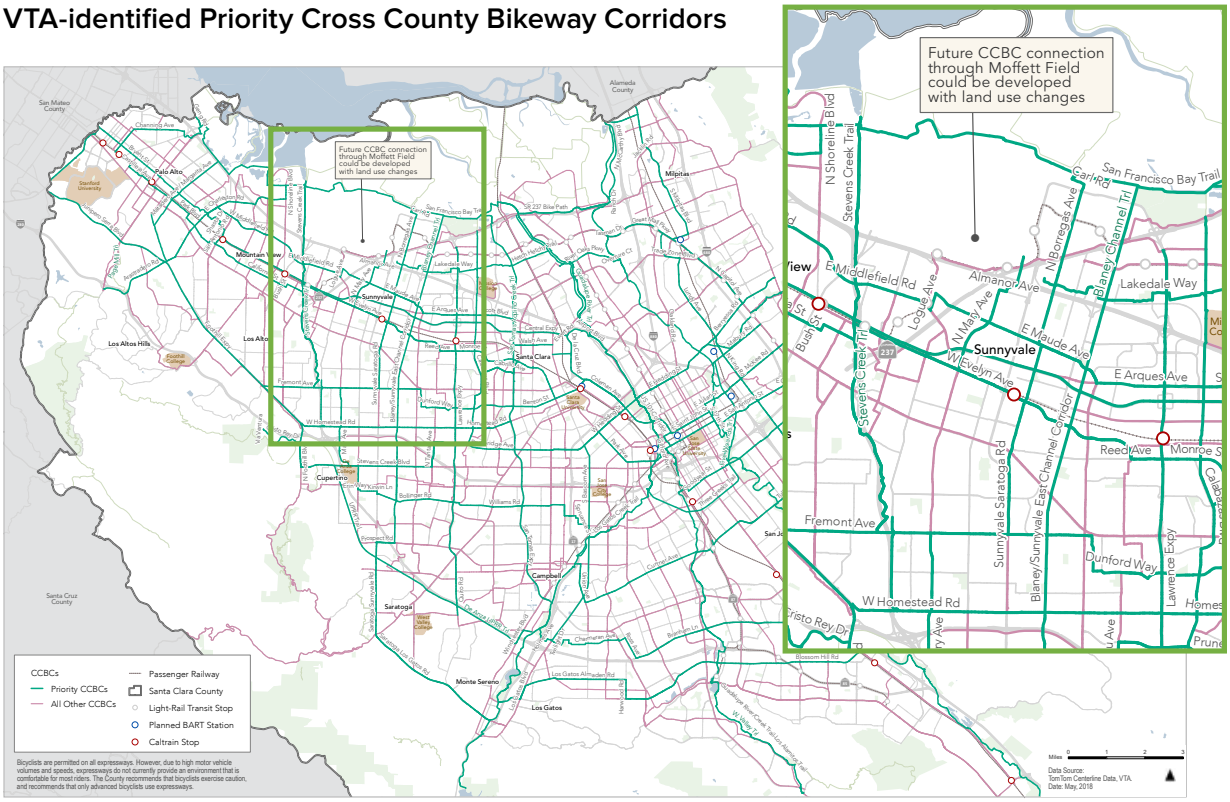
Bike lanes on higher-speed arterial roadways make up the majority of Sunnyvale's existing bicycle network (Map 2). This facility type caters to more advanced bicyclists and is often not suitable for less experienced riders. Though the current network provides basic connectivity within the City, the network could benefit from more comfortable bikeway connections.

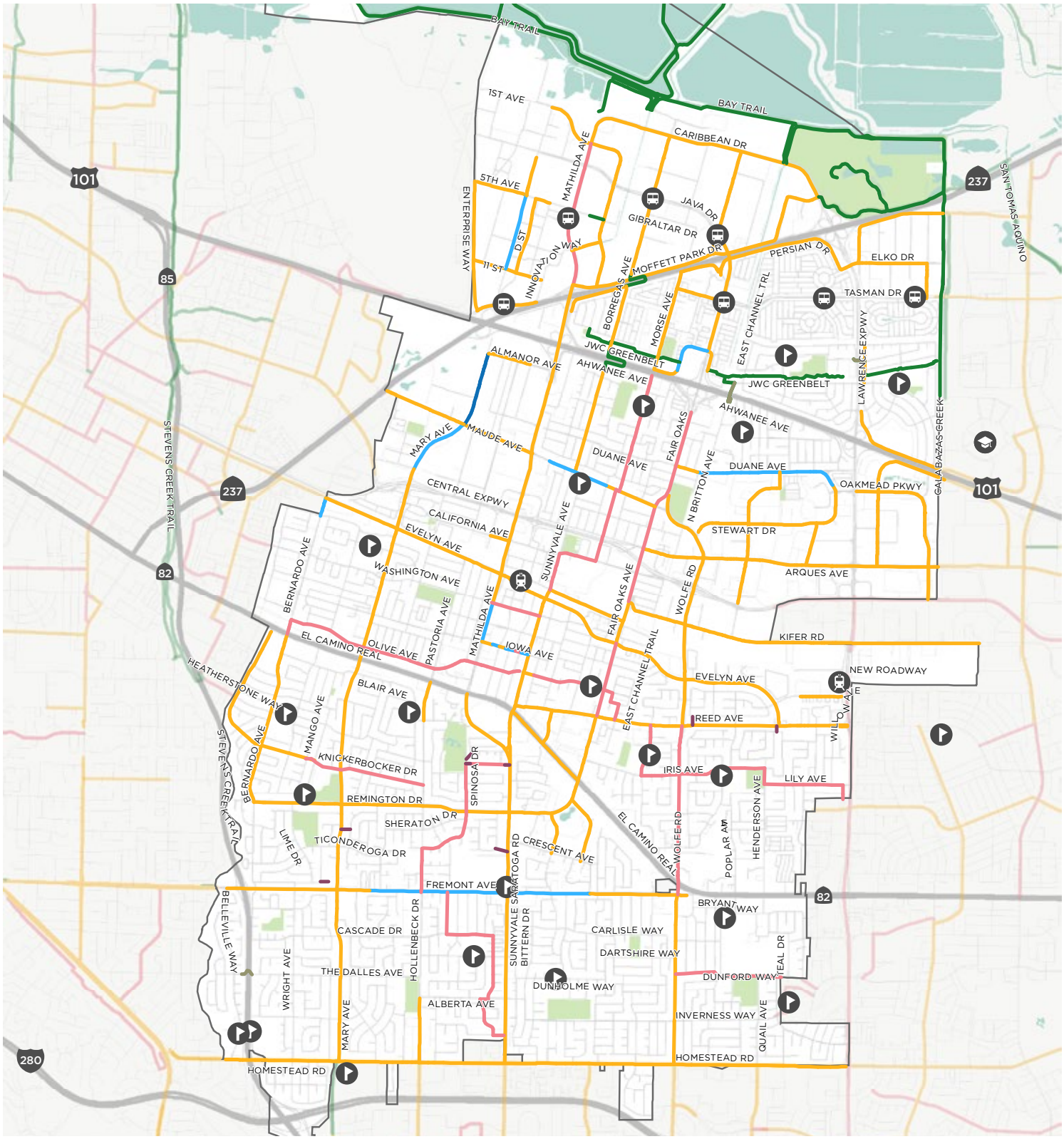
Santa Clara Valley Transportation Authority (VTA) adopted an updated Countywide Bicycle Plan in May 2018, laying out a vision for approximately 950 miles of Cross-County Bicycle Corridors (CCBC), many within Sunnyvale. In Santa Clara County, bicycles are allowed on all county expressways, such as Lawrence Expressway and Central Expressway, which have wide shoulders.

Shared-Use Paths

Sunnyvale's existing trail network is primarily located north of Highway 101. The John W. Christian Greenbelt, San Francisco Bay Trail, and the Calabazas Creek Trail along the Sunnyvale-Santa Clara border provide both local and regional connectivity. The John W. Christian Greenbelt is a local paved trail that provides east-west connections. The trail offers low-stress accessibility to parks, neighborhoods, and retail nodes as well as Lakewood Elementary School. On a more regional scale, the Bay Trail runs east-west along Sunnyvale's northern waterfront. The trail traverses Baylands Park, connecting users to neighboring cities such as Mountain View and Santa Clara, as well as other cities in the region.

VTA-identified Priority Cross County Bikeway Corridors





Map 2. Existing Bicycle Network

Existing Bikeways

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIB Buffered Bicycle Lane
- Class III Bicycle Route
- Class IV Separated Bikeway
- Pedestrian Bridge (Walk Bike)
- Neighborhood Cut Through

Boundaries + Destinations

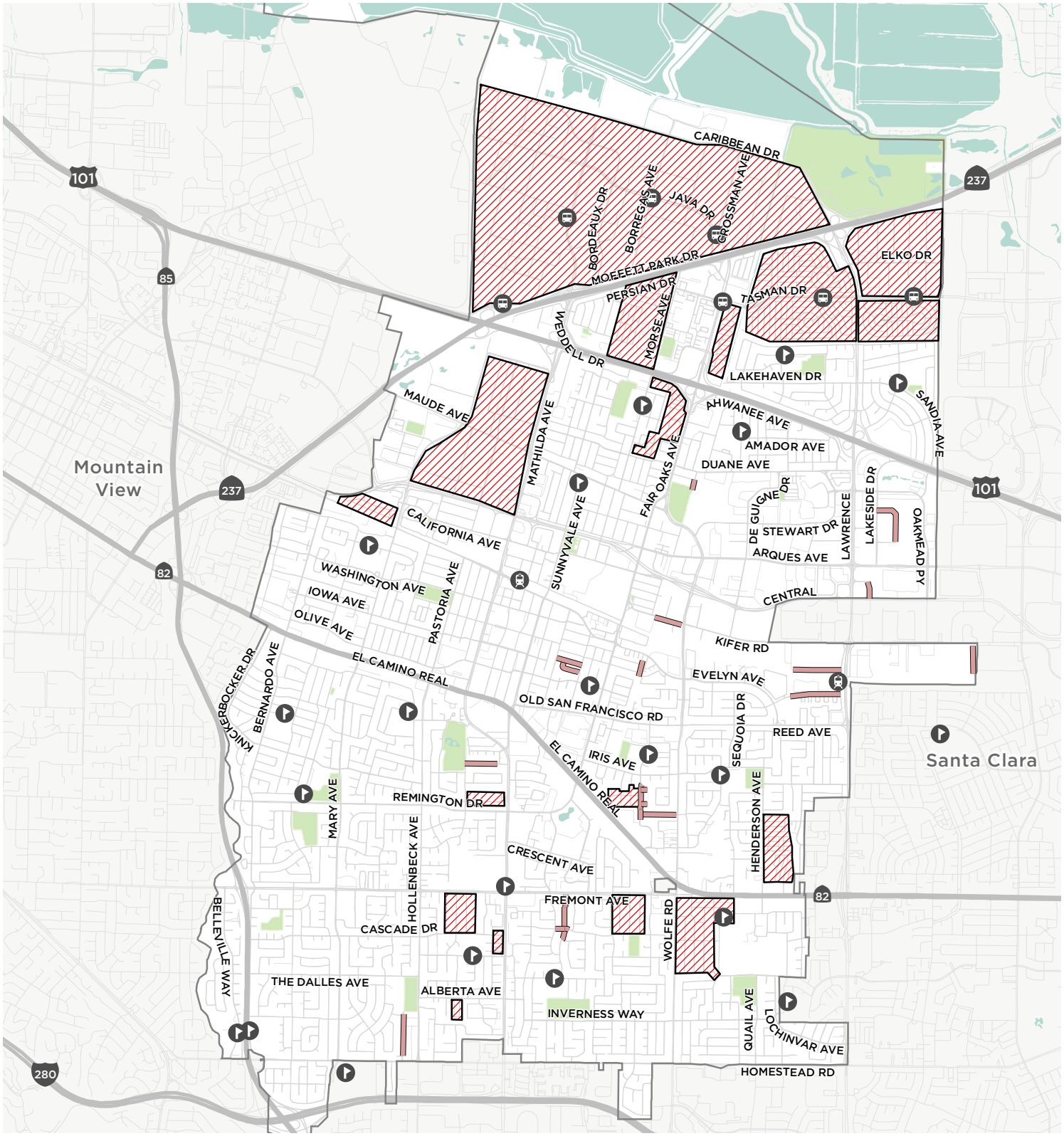
- Public School
- Caltrain Station
- Light Rail Station
- Mission College
- Park
- City Boundary

**Homestead Rd offers part-time bicycle lanes.

0 0.5 1 MILE

Existing Pedestrian Network

The majority of Sunnyvale's street network is equipped with complete sidewalks. In addition to this network, there are 18 miles of shared pedestrian and bicyclist paths. Sidewalk widths tend to widen along higher-speed roadways and throughout the downtown area, creating a more comfortable environment for pedestrians. Residential areas and streets surrounding Downtown Sunnyvale Caltrain Station also generally have good sidewalk coverage. Areas with gaps in the sidewalk network include several blocks south of Fremont Ave. as well as surrounding some of the office parks, areas with private streets, and formerly unincorporated county pockets (Map 3).



Map 3. Pedestrian Connectivity

Missing Sidewalks

- Missing Sidewalk
- Areas with Missing Sidewalks or Sidewalk Gaps

Boundaries + Destinations

- Public School
- Caltrain Station
- VTA Light Rail Station
- Park
- City Boundary

0 0.5 1 MILE

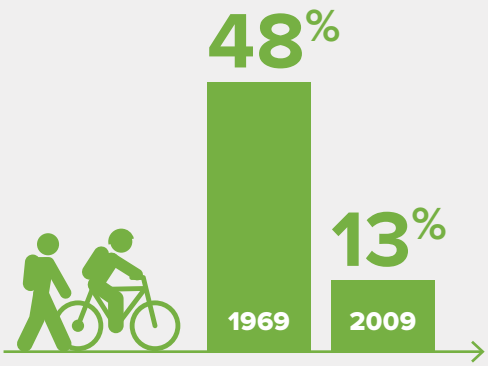
Existing Safe Routes to School Program

Sunnyvale Safe Routes to School (SRTS) supports families walking, bicycling, and carpooling to school. SRTS activities make it safer, easier, and more fun for families to walk and bike to school, improving their health, well-being, and safety. The goal of Sunnyvale SRTS is to help Sunnyvale residents to arrive at the 21 public schools safely. These 21 public schools are in four school districts, and they are located in Sunnyvale, Cupertino and Santa Clara. The City of Sunnyvale supports children and families in walking and bicycling to school through safety education, fun events, and traffic safety improvements around schools.

SRTS programs involve the 6 Es, which are a variety of activities and events that make it easier, safer and more fun to walk, bike, and bus to school. These activities depend on partnerships among agencies, school staff, teachers, students, parent volunteers, community members, and law enforcement.

- **Equity:** Incorporating equity considerations to reach all populations by including communities of various races and ethnicities addressing the needs of children, and reaching low-income communities.
- **Education:** Classes and activities that provide students and families with bicycle, pedestrian, and traffic safety skills, and information about the benefits of bicycling and walking and the positive impacts these activities have on personal health and the environment.
- **Encouragement:** Events and activities that spark families' interest in walking and bicycling to school, with programs that reward participation.
- **Engineering:** Street infrastructure improvements (signage, crosswalks, signals, etc.) designed to improve the safety of people walking, bicycling, and driving along school routes.
- **Enforcement:** Strategies to deter unsafe behaviors of people driving, walking, and bicycling, and encourage all road users to obey traffic laws and share the road safely around schools and on school routes.
- **Evaluation:** Evaluating the projects and programs of each of the other "E's" helps to track progress and determine which programs and projects are most effective.

THE TREND



The percentage of children walking or biking to school has **dropped precipitously within one generation.**

Nearly one-third of Sunnyvale 5th and 7th grade students did not score in the "Healthy Fitness Zone" during physical fitness testing during the 2018-2019 school year.*

Roads near schools are congested, **decreasing safety and air quality** for children.

KIDS WHO WALK OR BIKE TO SCHOOL

Arrive energized and are able to function at school

Are **likely to be more physically active**

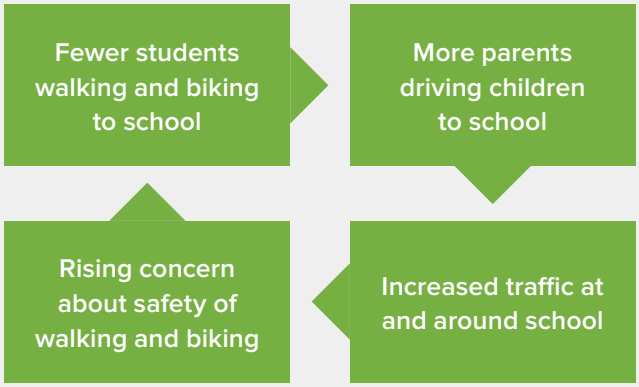
Are **less likely to suffer from depression and anxiety**

Get most of the recommended 60 minutes of daily physical activity during the trip to and from school

Demonstrate **improved test scores and better school performance****

SAFETY CONCERNS FEEDBACK LOOP

The Safety Concerns Feedback Loop illustrates a reactive cycle that occurs when more parents drive their children to school instead of using active modes such as biking and walking.



*Source: CA Department of Education, 2018-19 California Physical Fitness Report
**More information, including primary sources, can be found at http://guide.saferoutesinfo.org

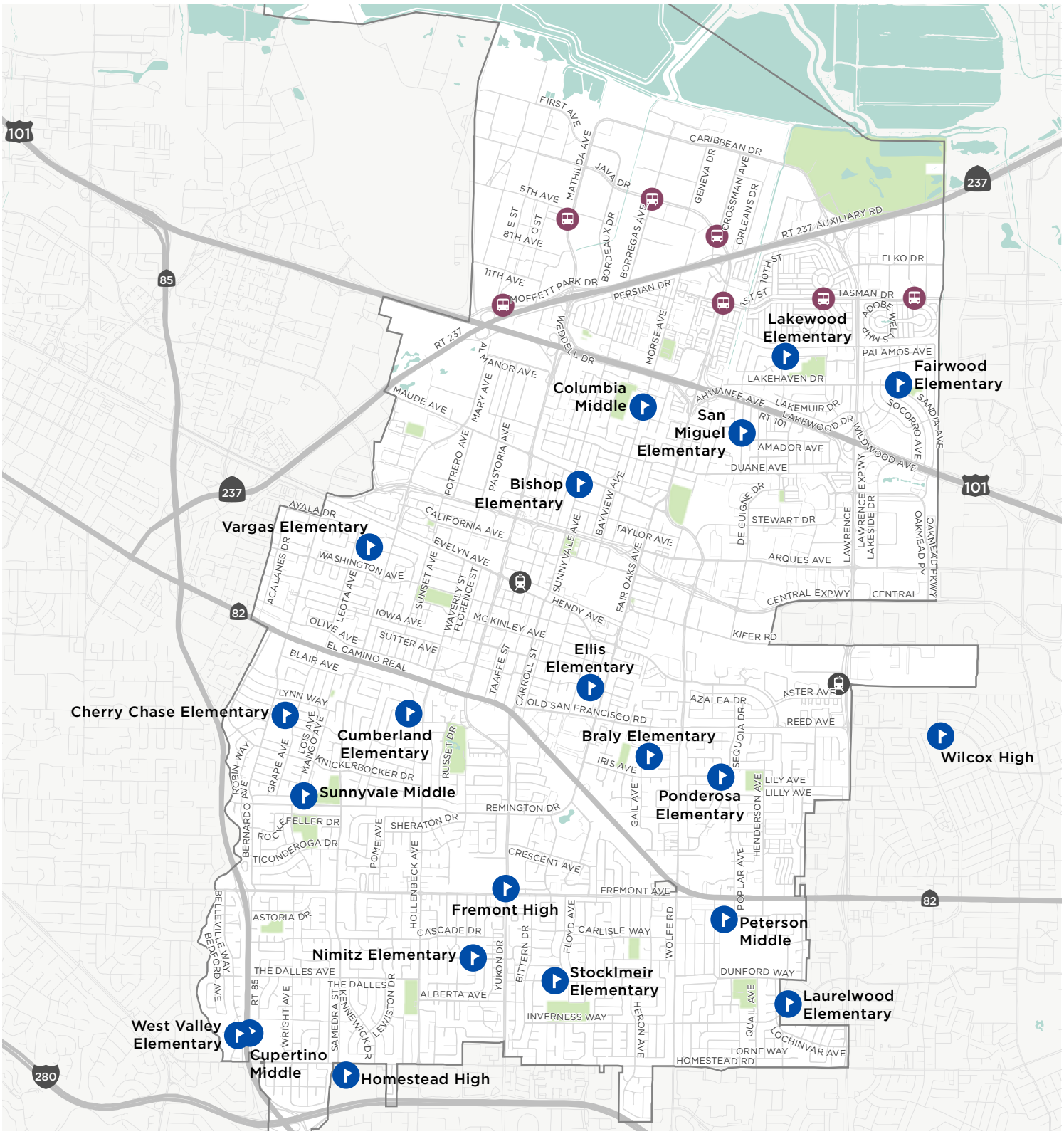
Schools Participating in Sunnyvale Safe Routes to School

Currently, Sunnyvale SRTS serves 21 public schools, representing four school districts in Sunnyvale, Cupertino, and Santa Clara. The schools are shown in Map 4 and listed in Table 2.

Table 2. Public Schools participating in Sunnyvale SRTS Program by school district.

District	Schools
Sunnyvale School District	Bishop Elementary Cherry Chase Elementary Columbia Middle Cumberland Elementary Ellis Elementary Fairwood Elementary Lakewood Elementary San Miguel Elementary Sunnyvale Middle Vargas Elementary
Santa Clara Unified School District	Braly Elementary Laurelwood Elementary* Peterson Middle Ponderosa Elementary Wilcox High*
Cupertino Unified School District	Cupertino Middle Nimitz Elementary Stocklmeir Elementary West Valley Elementary
Fremont Union High School District	Fremont High Homestead High*

**School is outside Sunnyvale City limits.*



Map 4. Public Schools

- Public School
- Caltrain Station
- VTA Light Rail Station
- Parks
- City Boundary

0 0.5 1 MILE

Existing Programs and Policies

Bicycle, walking, and SRTS-focused programs provide education and encouragement for residents. Many of the existing programs are funded through the SRTS program and aimed at school aged children, however a number of partnering agencies and organizations provide support for adults.

Sunnyvale Safe Routes to School Program

Since 2018, the City of Sunnyvale has funded Sunnyvale's SRTS program that encourages school-aged children to walk and bicycle to school through infrastructure improvements, enforcement, safety education, and outreach. The City funds a SRTS Coordinator position through the Department of Public Safety. The program offers two citywide bicycle rodeos annually that provide support, materials, and education around bicycle safety. These events include bike inspections and repairs, helmet fitting, bike safety courses, and other bicycle-related events.

REGIONAL

Regional programs provide resources that can be utilized by any city in the San Francisco Bay Area. The City of Sunnyvale has participated in the following regional programs.

Spare the Air Youth Program

The San Francisco Bay Area's Regional Planning Organization, the Metropolitan Transportation Commission (MTC), organizes a SRTS group of SRTS providers from around the region. The Technical Advisory Committee meets quarterly, in person in San Francisco with a remote option. The meetings are a good place to meet other practitioners, learn about other local programs, and connect with funding opportunities.

BikeMobile

The Bay Area BikeMobile hosts bicycle repair clinics at schools, libraries, recreation centers, and community events across the San Francisco Bay Area. At these events, participants are engaged in a hands-on repair process so that they may be more confident in making future repairs on their own. Additionally, BikeMobile promotes safe riding, teaches beginners how to ride without training wheels, and gives away refurbished bicycles. Because BikeMobile is offered through Spare the Air Youth and MTC, it is a free resource to the public that focuses on low-income communities that often do not have access to professional bike repair.

COUNTYWIDE

The County of Santa Clara Public Health Department formerly ran the Sunnyvale SRTS program. After transitioning the program to the City in August 2017, the County's role has been limited to collecting hand tally data and publicizing Walk & Bike to School Week each fall.

CITYWIDE

Community Service Officer Norma O'Connell is the City's SRTS Coordinator. Officer O'Connell works with 21 public schools and four districts serving Sunnyvale students to provide a variety of SRTS activities.

Sunnyvale SRTS Collaborative

In 2008, the Santa Clara County Public Health Department began providing SRTS programming to a majority of schools in Sunnyvale. To assist, the Public Health Department convened a group of stakeholders to create the Sunnyvale SRTS Collaborative, which coordinated efforts across the City and provided overall direction for the program. The Collaborative also identified infrastructure needs, and worked with the City of Sunnyvale to establish a SRTS Program Coordinator position within the Department of Public Safety. Since the hiring of Officer O'Connell, the group has taken on independent projects and meets monthly on a volunteer basis.

Sunnyvale SRTS Task Force

Coordinated by Officer O'Connell, the Sunnyvale SRTS Task Force meets twice a year at the beginning and end of the school year to coordinate activities across the City. The Task Force is comprised of school district representatives and school representatives. Prior to the 2018-2019 school year, the Task Force met on a quarterly basis.

Community Education about SRTS

Officer O'Connell conducts targeted outreach to educate the community on the Sunnyvale SRTS program. She presents at Parent-Teacher Association (PTA) meetings, meets one-on-one with school principals, and provides public presentations about the program.

Citywide Rodeos and Helmet Fittings

The City offers two citywide bicycle rodeos and helmet fittings each year. A bicycle rodeo is a bicycle safety event in which children practice various on-bicycle skills and learn bicycle safety tips. Any child in Sunnyvale is welcome to attend these events and participate in a bicycle rodeo or be fitted with a helmet.

Monthly Safe Routes to School Newsletter

Monthly newsletters are emailed to all public elementary, middle, and high schools in Sunnyvale with traffic tips, safety information for people walking and bicycling, and upcoming SRTS events. The newsletters are distributed by a designated person at each school, such as a parent SRTS coordinator, the principal, or the school secretary.

Bicycle Rodeo Kits

Beginning in August 2017, the City has offered Bike Rodeo Kits to all schools with detailed instructions on how to conduct a bike rodeo and all the necessary supplies. While they remain popular with families and schools, many schools have expressed a desire for rodeos to be offered during school hours, which they were when the program was run by the County.

Bicycling and Walking Safety Assemblies

Assemblies presented by Officer O'Connell have been offered to all elementary schools by request since August 2018. The assemblies provide bicycling and walking safety tips to students in grades K-5. While there is no limit to the number of schools that can host an assembly, three schools have participated as of December 2019.

Helmet Fittings and Distributions

Any school can request a helmet fitting and distribution event. Both the school-based helmet events and the citywide helmet events were funded by a CA Office of Traffic Safety (OTS) grant that has been renewed for a second year.

Targeted Enforcement Activities

The City provides multiple enforcement services to support safe and legal driving around schools. In some instances, the City has taken videos of traffic to share with schools and educate families and students on unsafe behaviors. The City has also provided a pedestrian decoy, who crosses the street in an effort to educate drivers who fail to yield. When requested by schools, the City can provide traffic enforcement to manage specific illegal behaviors, such as U-turns and failing to yield. In some cases, the officers write citations, while at other times the officers provide a warning in order to educate the driver.

Teen Traffic Diversion Classes

These classes are held at the Department of Public Safety headquarters and discuss topics such as bicycle helmet safety, distracted driving, pedestrian safety, and common vehicle code violations. Helmet fittings are often included as well. Students are cited to attend diversion classes during targeted observations near high schools.

Travel Tallies

The City conducts travel tallies twice a year at each school (October and May). Teachers in each classroom get a head count of how many students walk, bicycle, carpool, or drive to school. Tallies are then compiled and returned to the City. Sunnyvale does not currently implement parent surveys.

Walk and Bike to School Week and Bike to School Day

Every year during the second week of October (International Walk and Bike to School Week) and the second Thursday in May (Bike to School Day), schools participate in events and activities in support of kids walking and biking to school, including bike trains and walking school buses. These activities can be leveraged in conjunction with City bicycling and walking infrastructure awareness and promotion.

Sunnyvale-Cupertino Cycling Club

The Sunnyvale-Cupertino Cycling Club is a non-profit group of bicycle advocates and riders who host weekly group rides for varying skill levels and work with local advocacy groups, such as the Silicon Valley Bicycle Coalition, to improve bicycling conditions in Sunnyvale and the larger region.

Smart Cycling Training

The Santa Clara Valley Transportation Authority (VTA) and the Santa Clara County Public Health Department intend to offer bicycle safety courses in the near future. Designed for bicyclists high-school age or older, the course includes in-class and on-bike training.

Pedestrian Safety for Older Adults

In November 2018, a Public Safety Officer and a Public Safety Lieutenant held a “train the trainer” class in collaboration with the Sunnyvale Senior Center. Nine community volunteers and four staff members were trained to present the National Highway Traffic Safety Administration-developed “Pedestrian Safety for Older Adults” curriculum. Between November 2018 and August 2019, three public workshops were held serving about 45 Sunnyvale residents. Feedback from the program was very positive and it may be continued into the future.

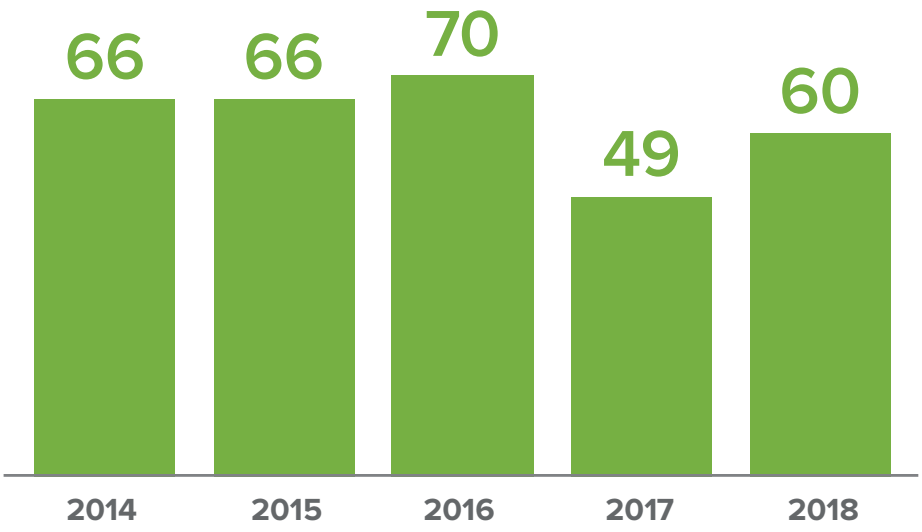
Active Transportation Safety

Bicycle and pedestrian-related collision data can provide insight into specific locations and roadways that tend to have higher rates of collisions. This analysis uses collision data acquired from UC Berkeley's Transportation Injury Mapping Systems (TIMS) between the dates of 1/1/2014 and 12/31/2018 to determine high-level collision trends and areas with a history of frequent collisions. The data was also validated against the locally-collected Crossroads datasets provided by the City for the same time period. It is important to note that this analysis relies on reported collisions, but not all collisions involving people walking and biking are reported.

Bicycle Safety

A total of 307 bicycle-related collisions were reported in Sunnyvale during the study period, with an average of 62 collisions per year. Collisions per year did not tend to notably fluctuate year-to-year as shown in Figure 2. Bicycle-related collisions were most likely to result in either 'Other Visible Injury" or "Complaint of Pain," although seven percent resulted in a fatality or severe injury. Figure 3 below shows collision severity type percentages.

Figure 2. Annual Bicycle Collisions

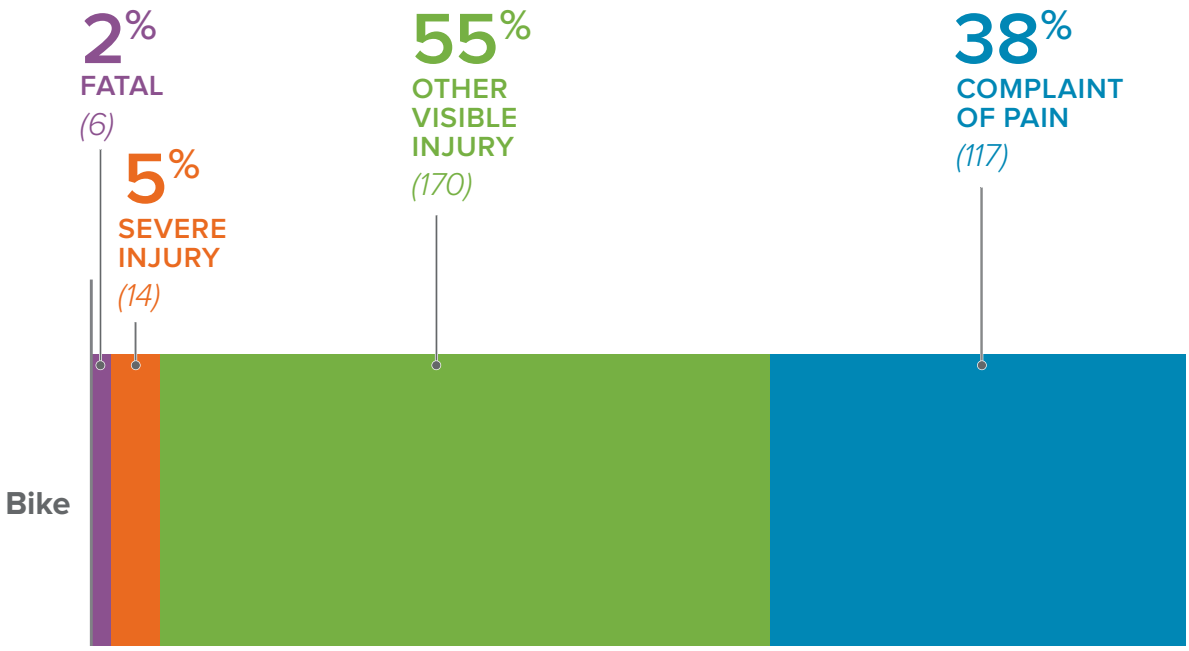


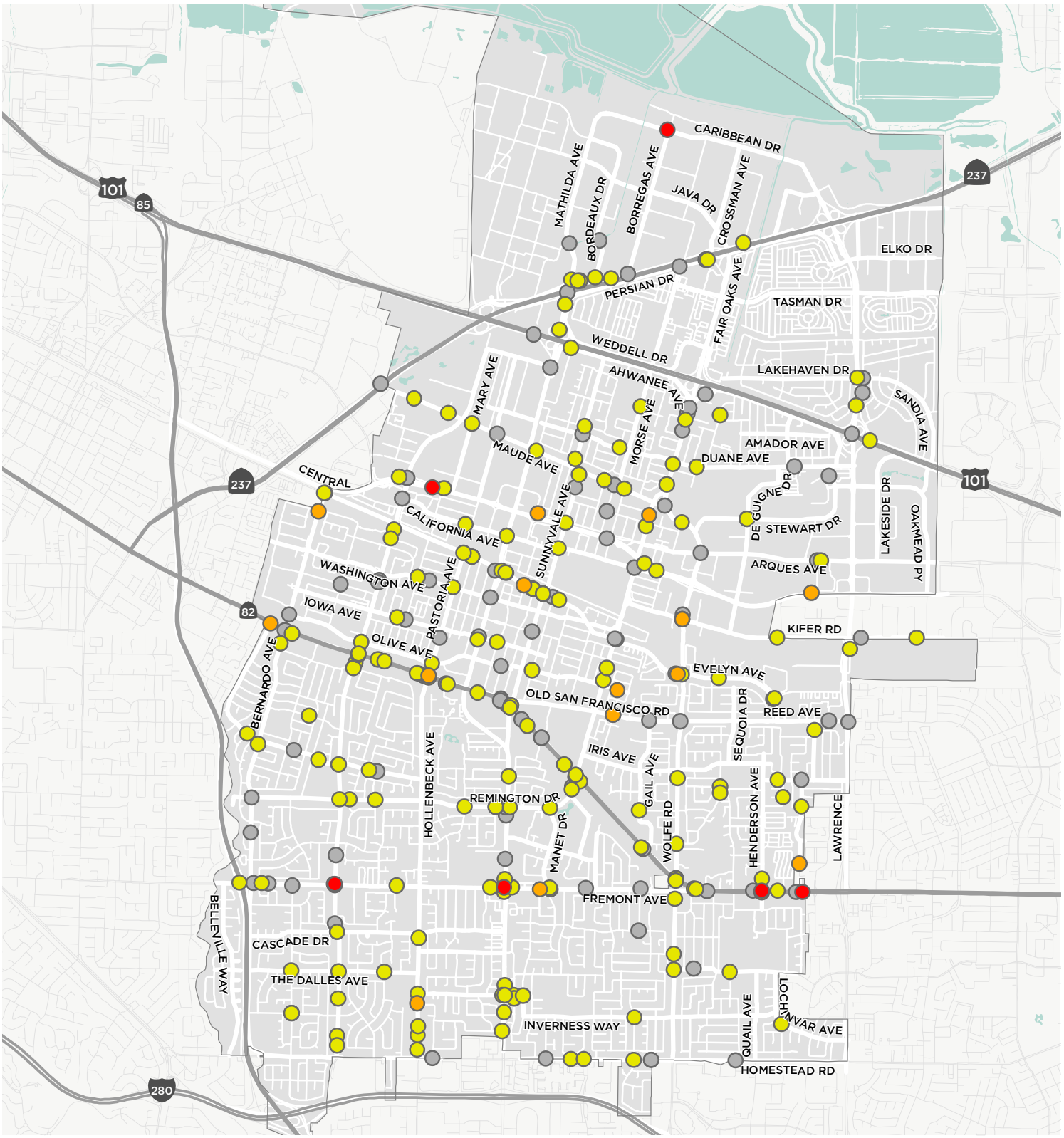
COLLISION TRENDS

Bicycle-related collision locations are shown on Map 5. Key takeaways from the analysis include:

- **65 percent of bicycle-related collisions** occurred on higher-speed roadways, including arterials, county expressways and state highways
- **59 percent of bicycle-related collisions** occurred on roadways with bicycle lanes
- **Four of six total fatalities** during the study period occurred on Fremont Ave. and El Camino Real
- **The three most frequent bicycle collision factors** include improper turning (90 total), automobile right-of-way violations (76 total), and unsafe speeds (26 total)
- Motorists were determined to be at fault in **69 percent of bicycle-related collisions**

Figure 3. Severity of Collisions





Map 5. Bicycle Safety

Bicycle-Related Collisions by Severity 2014 - 2018
(307 Total Collisions During Study Period)

- Fatality (6)
- Severe Injury (14)
- Minor Injury (170)
- Complaint of Pain (117)

City Boundary

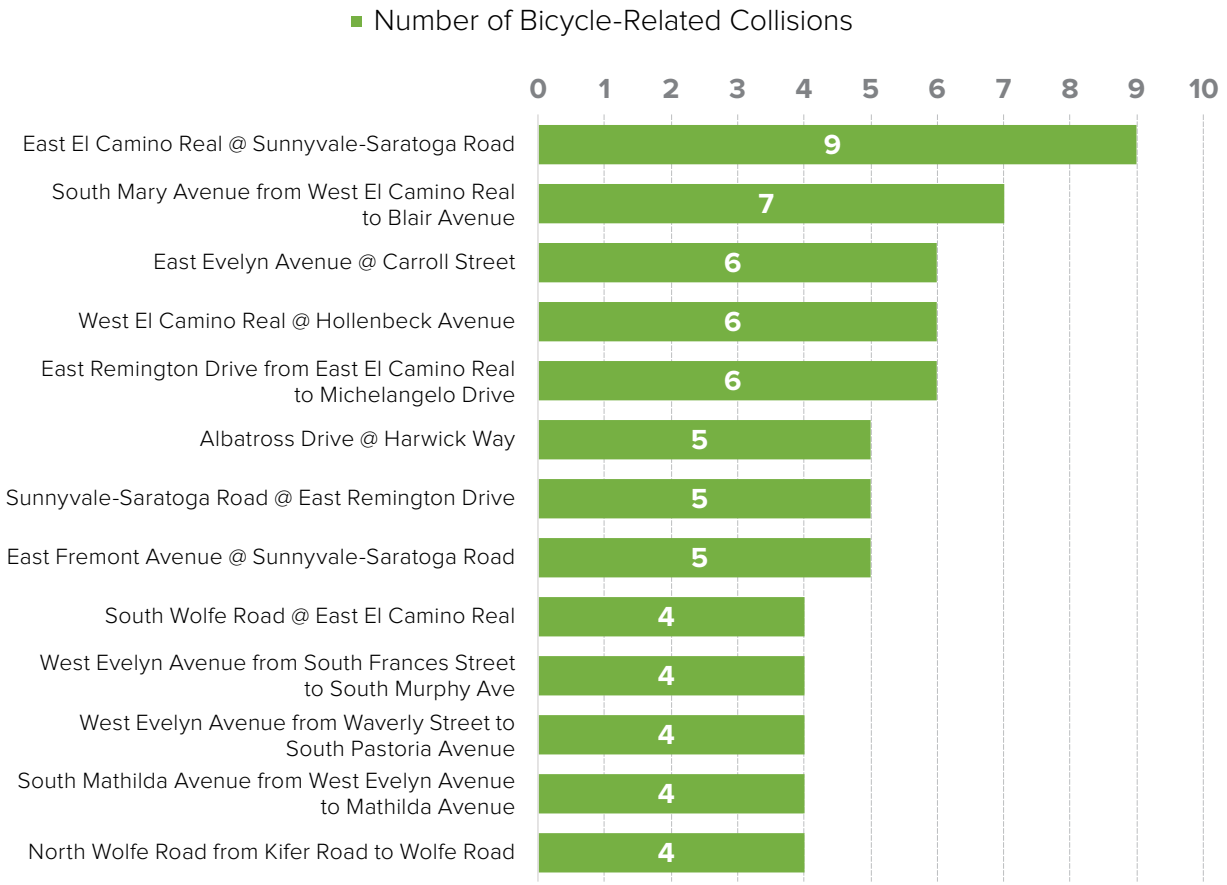
0 0.5 1 MILE

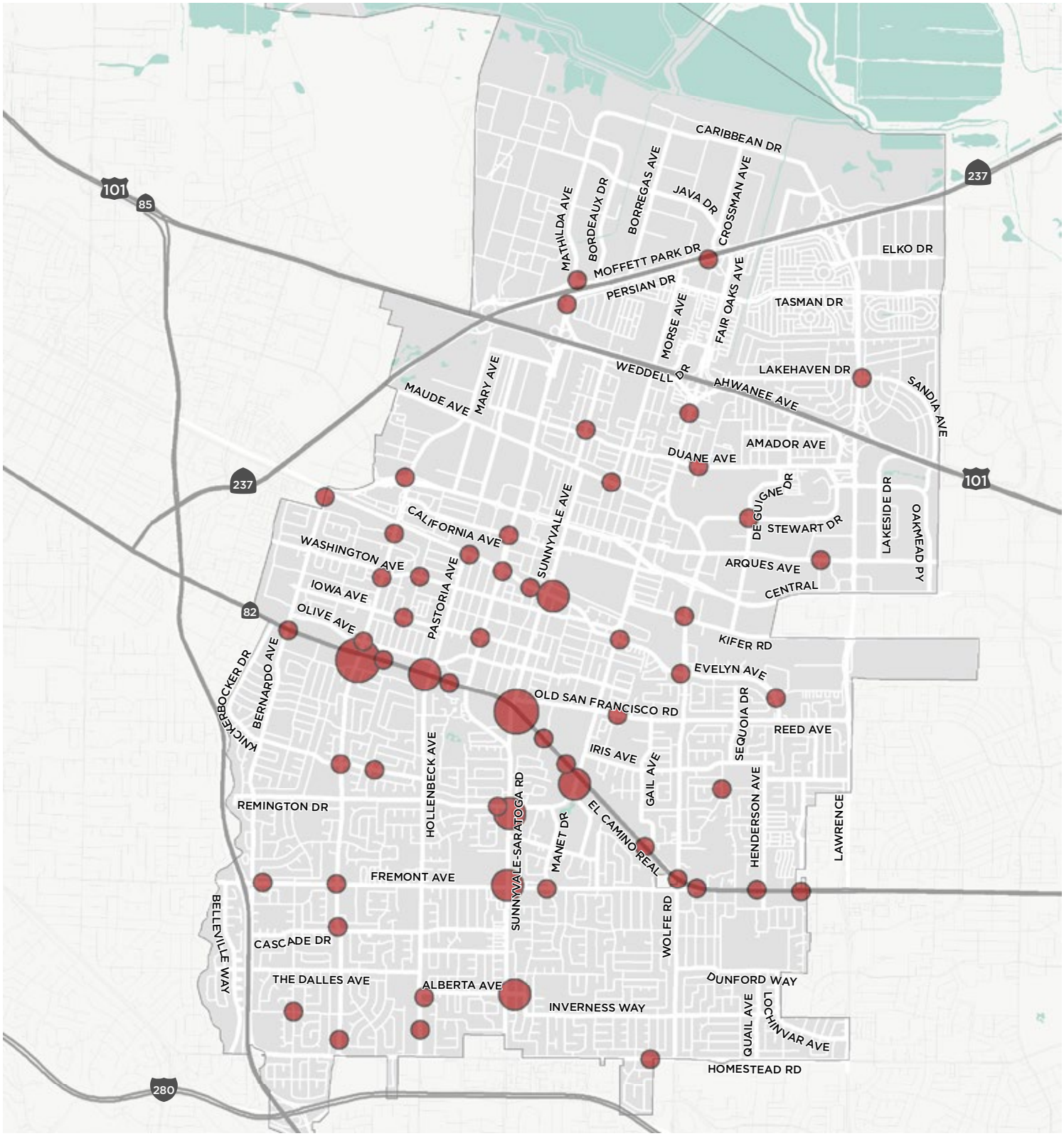
HOTSPOT ANALYSIS

Using a spatial cluster analysis, locations with two or more bicycle collisions within a 300-foot radius were identified (Map 6). These locations reveal areas within Sunnyvale where bicycle collisions have a history of occurring.

- Top results of the hotspot analysis are shown in Figure 4. Thirteen locations were determined to have four or more collisions. Key takeaways from the analysis include:
  - » Seven intersections and six corridors in Sunnyvale experienced four or more bicycle-related collisions during the study period
  - » The intersection of El Camino Real and Sunnyvale-Saratoga Road is the most frequent bicycle collision location. Nine collisions occurred during the study period.
  - » Collision hotspots are clustered along El Camino Real and Evelyn Ave.

Figure 4. Locations with 4+ Bicycle-Related Collisions (2014-2018)





Map 6. Bicycle Safety

Hotspots with 2 or More Bicycle-Related Collisions (2014 - 2018)

- 2 - 4
- 5 - 6
- 7 - 9

City Boundary

0 0.5 1 MILE

Pedestrian Safety

Pedestrian-related collision data can provide insight into specific locations and roadways that tend to have higher rates of collisions. This analysis uses collision data acquired from UC Berkeley's Transportation Injury Mapping Systems (TIMS) between the dates of 1/1/2014 and 12/31/2018 to determine high-level collision trends and areas with a history of frequent collisions. The data was also validated against the locally-collected Crossroads datasets provided by the City for the same time period.

A total of 196 pedestrian-related collisions were reported in Sunnyvale during the study period, with an average of 40 collisions per year. Unlike bicycle collisions, pedestrian collisions did notably fluctuate, for example, from 33 collisions in 2017 to 51 in 2018. The last year of data, 2018, had the highest number of reported collisions during the study period. Pedestrian-related collisions were most likely to result in either 'Other Visible Injury" or "Complaint of Pain." Fifteen percent of collisions resulted in fatality or severe injury. Figure 5 below shows collision severity type percentages.

COLLISION TRENDS

Pedestrian-related collision locations are shown on Map 7. Key takeaways from the analysis include:

- Collisions tend to happen at intersections.
- One in five pedestrian collisions occurred on El Camino Real.
- Sixteen fatalities occurred during the study period. Of these, 13 collisions were on higher-speed roadways including arterials, county expressways and state highways.
- Forty-one percent of pedestrian-related collisions occurred in residential areas.
- Motorists were determined to be at fault in 77 percent of pedestrian-related collisions.
- The most common collision factor when motorists are determined at fault occurred when a driver failed to yield to a pedestrian (88 percent).

Figure 5. Severity of Pedestrian Collisions

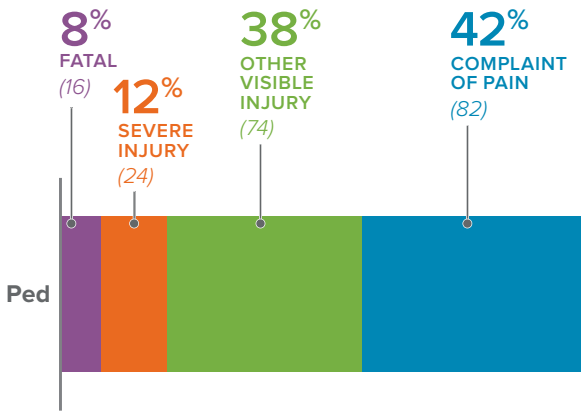
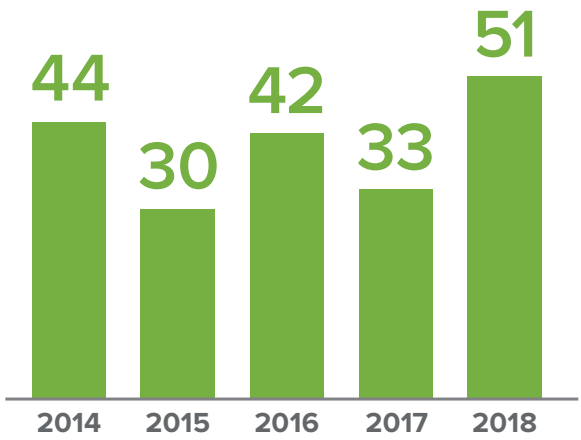
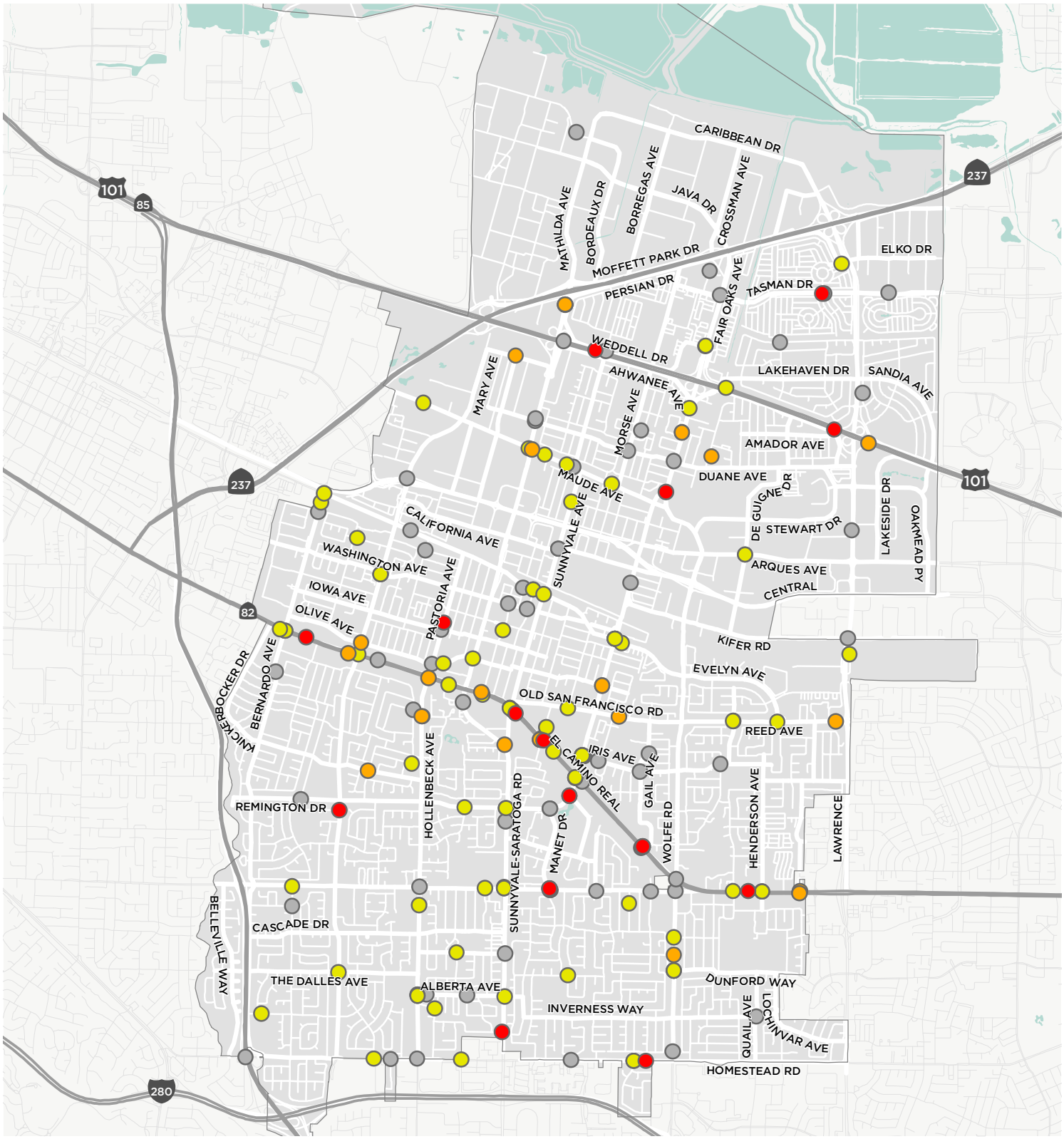


Figure 6. Annual Pedestrian Collisions





Map 7. Pedestrian Safety

Pedestrian-Related Collisions by Severity 2014 - 2018
(196 Total Collisions During Study Period)

City Boundary

- Fatality (16)
- Severe Injury (24)
- Minor Injury (74)
- Complaint of Pain (82)

0 0.5 1 MILE

Chapter 3: Outreach

Engaging the Sunnyvale community has been a priority for the City's current active transportation planning efforts. Since this project kicked off in April 2019, a variety of outreach opportunities were used to seek input from diverse Sunnyvale residents and community members.

The project team engaged stakeholders throughout the development of the Active Transportation Plan in order to:

- **Understand Walking and Biking Needs –** Sunnyvale residents weighed in on current barriers to biking and walking, and what destinations and routes could be made more bikeable and walkable. This information helped the project team develop an understanding of the needs and gaps of the citywide network.
- **Develop a Vision for Active Transportation in the City –** Stakeholders across different groups weighed in on the vision, policies and objectives for the Plan, guiding the high-level direction of the Plan.
- **Refine Draft Recommendations –** The City presented the draft bicycle, pedestrian, and SRTS recommendations developed through the process. Stakeholders and the public helped the City clarify these recommendations, and identified additional areas for improvement.

PUBLIC MEETINGS

- One Community Workshop
- One Webinar
- Three Mobile Workshops
- Two Biking Tours
- Two Walking Tours
- Twenty-one School Walking Audits

STAKEHOLDER MEETINGS

- Six Bicycle and Pedestrian Advisory Commission Meetings
- Five Focus Groups
- School District Meetings
- One Meeting with Neighboring Jurisdictions
- One City Council Meeting

ONLINE INPUT

- Interactive Mapping Tool
- Online Survey
- Online Public Draft Plan Comment Tool
- City Website and Social Media

Members of the public give feedback after the Crosstown Biking Tour

Public Outreach

The City held community workshops, mobile workshops, focus groups, and walking and bike tours during the existing conditions and recommendation phases of the Plan development. Additionally, the City's commissions and committees were updated and consulted at key milestones throughout the development process.

APRIL - MAY 2019
School Walk Audits

Twenty-one school walk audits were performed in April and May 2019. Walk audits were scheduled for either arrival or dismissal with either the school principal or school administrative assistant and were coordinated with Officer Norma O'Connell, the Sunnyvale SRTS Coordinator. After confirming the date and time for the audit, Officer O'Connell and school staff would issue an invitation to parents and school district staff to join the audit. Audits brought together a combination of school staff, parents, school district staff (when available), City staff, and transportation planning and engineering consultants.

APRIL 18, 2019
BPAC Meeting #1

The project team presented the Active Transportation planning process to the Bicycle and Pedestrian Advisory Commission (BPAC) at the start of the process. BPAC members provided feedback on the direction of the plan, and their key objectives.

MAY 5, 2019
Fit and Fun Festival Mobile Workshop

The project team hosted a mobile workshop at the Fit and Fun Festival at the onset of the process to announce the start of the Plan, and to listen to people's initial feedback on barriers to biking and walking in Sunnyvale.

MAY 7, 2019
Bike to Work Day Mobile Workshop

Hosted at Plaza Del Sol, project team members talked to people as part of the Bike to Work day and to record initial feedback on barriers to biking and walking in Sunnyvale.

Public feedback collected at Bike to Work Day

MAY 15, 2019
Teen Advisory Committee Meeting

The project team met with the Teen Advisory Committee to help the City understand barriers preventing youth from walking or riding a bike in Sunnyvale.

JUNE 10, 2019
Senior Center Advisory Committee

This focus group asked participants how they usually get to the senior center, and what were their priority issues regarding walking and biking.

JUNE 10, 2019
Advisory Committee On Accessibility Focus Groups

This focus group asked participants what their key concerns are for improving the accessibility of walking and biking for people with disabilities.

AUGUST 3, 2019
Crosstown Biking Tour

Biking tour participants explored new opportunities for bike infrastructure on Evelyn Ave., Mary Ave., Remington Ave., and South Fair Oaks Ave.

AUGUST 6, 2019
Moffett Park Biking Tour

Biking tour participants explored the pedestrian and bicycle overcrossings of Highway 101 and Highway 237 and looked at other connections to employment centers in the Moffett Park Area.

AUGUST 6, 2019
El Camino Real Walking Tour

Walking tour participants started at Peterson Middle School and explored improving walking and biking safety along and across El Camino Real between Poplar Ave. and Helen Ave.

AUGUST 9, 2019
Fair Oaks Park Walking Tour

Walking tour participants explored walking and biking comfort and connections around Fair Oaks Park.

AUGUST 15, 2019
BPAC Meeting #2

BPAC members convened for a study session, reviewing and providing feedback on the existing conditions and needs analysis.

SEPTEMBER 14, 2019
State of the City Mobile Workshop

The project team held a mobile workshop at the State of the City event, alerting attendees to the City's ongoing active transportation planning efforts

SEPTEMBER 30, 2019
Moffett Park Business Group Focus Group

This focus group asked participants of the Moffett Park Business Group about their company's current commute patterns, goals for commuting, and barriers to walking and biking in the Moffett Park area.

OCTOBER 9, 2019
General Business Group Focus Group

A focus group open to all businesses in Sunnyvale solicited feedback from both small and large companies. Focus group participants highlighted their company's goals for walking and biking, and shared key commuting challenges for their employees.

OCTOBER 19, 2019
BPAC Meeting #3

BPAC members discussed and provided feedback on the Draft Vision, Goals and Policies for the Active Transportation Plan.

DECEMBER 5, 2019
Draft Recommendations Community Workshop

Over 70 residents and community members attended this community workshop to provide feedback on the draft recommendations developed as part of the three Active Transportation plans.

DECEMBER 19, 2019
BPAC Meeting #4

BPAC members provided feedback on the draft recommendations, and outlined additional routes and areas that the project team should explore for further improvements.

FEBRUARY/MARCH 2020
Meetings with School Districts

The City met with staff from Sunnyvale School District, Fremont Union High School School District, Santa Clara Unified School District, and Cupertino Unified School district to review Safe Routes to School improvements.

MARCH 10, 2020
Meeting with Neighboring Jurisdictions

Staff from neighboring jurisdictions and coordinating agencies met to review and provide feedback on the Public Draft Plan.

MARCH 12, 2020
Draft Plan Webinar

This webinar provided an overview of the Active Transportation Draft Plan and how members of the public could provide input.

APRIL 16, 2020
BPAC Meeting # 5

BPAC members reviewed and provided input on the Public Draft Plan.

JUNE 18, 2020
BPAC Meeting #6

BPAC members met to recommend City Council adopt the Final Active Transportation Plan with suggested modifications (see Appendix G).

JULY 20, 2020
Sustainability Commission

City staff presented the final draft plan to the Sustainability Commission and obtained input.

AUGUST 25, 2020
City Council Meeting

City Council adopted the Active Transportation Plan.

Online Outreach

Online outreach was an important component of this plan development. In order to give community members the opportunity to provide input on their own time and schedule, the project team distributed an online survey and collected feedback via an online map to reach even more people in Sunnyvale.

ONLINE SURVEY

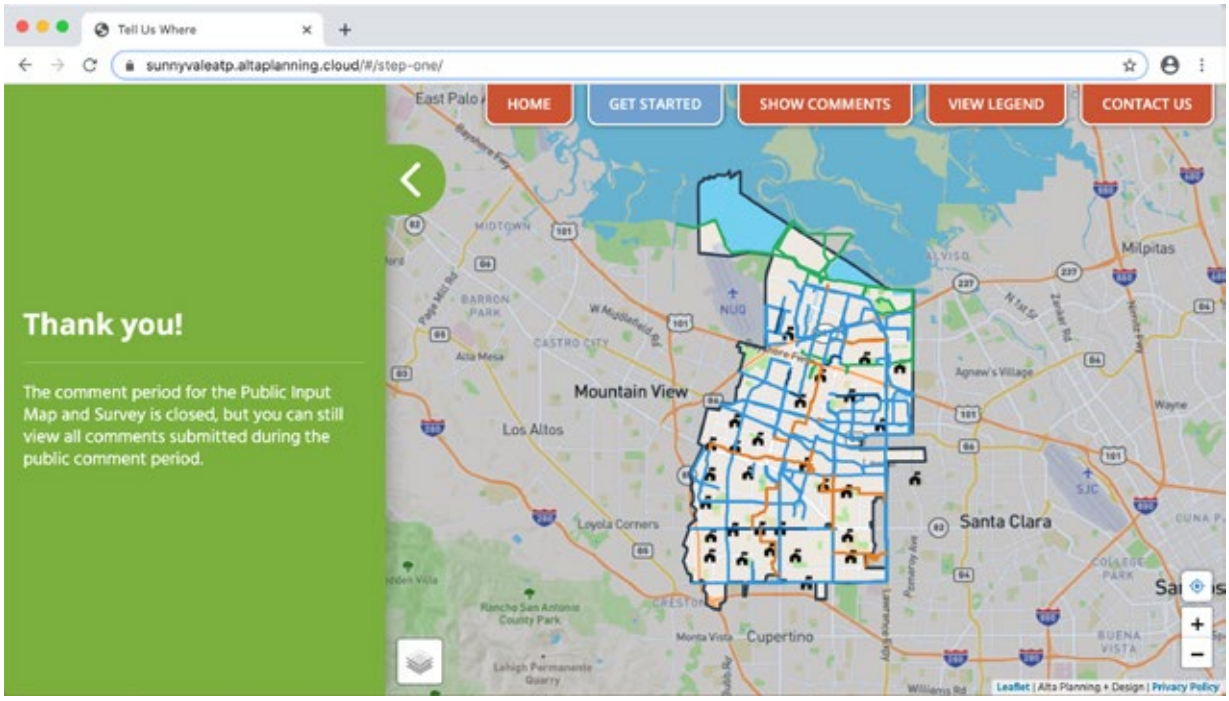
The City of Sunnyvale distributed an online survey to gather input on walking and bicycling challenges, preferences, and opportunities throughout Sunnyvale. The 21-question survey was made available online and advertised at mobile workshops and through City email notifications. The survey was open between September and October 2019 and received 944 responses. These responses informed the city's understanding of the public's current bicycling patterns as well as barriers to bicycling in Sunnyvale.

ONLINE MAP

An online map gave people in Sunnyvale the chance to share where they currently walk and bike and where they would like to walk and bike in the future. People also identified barriers to using active modes in the city.

People also identified barriers to bicycling in the city. The online map received 821 individual comments between September and October 2019. This feedback shaped the development of the active transportation network and spot improvement recommendations in this Plan.

Example of Sunnyvale's online map.



Key themes from the Community Survey:

DESIRE TO WALK AND BIKE MORE

Whether it's for work, errands, or recreation, people in Sunnyvale want to walk and bike more than they do now. Nine out of ten survey respondents responded that they would like to walk and bike more than they do today.

SAFETY CONCERNS

Safety was a widely identified barrier to bicycling in Sunnyvale. Survey respondents said that safer streets and dedicated bicycle infrastructure would encourage them to walk and bicycle more often.

"I don't feel comfortable biking in our neighborhood with my kids. I can't bike on the sidewalks with them and I am not comfortable having my kids bike on roads. Only paths or protected bike lanes are okay for my family. Our street has a bike lane, but that isn't good enough for kids."

—Survey Respondent

TRAILS/SHARED-USE PATHS AND SEPARATED BIKE LANES AS MOST DESIRABLE FACILITY TYPE

Trails/separated paths and separated bike lanes were identified as the top two most-comfortable bike facilities by survey respondents. Shared travel lanes were identified as the least comfortable bike facility.

IMPORTANCE OF A CONNECTED, CONTINUOUS BICYCLE NETWORK

Survey respondents said that it is important for them to have reliable, continuous routes if they are going to bike in Sunnyvale. People expressed frustration about gaps in the existing bicycle network.

"It's very hard to commit to cycling or walking when there is no predictability about walking or bicycling infrastructure."

—Survey Respondent

CONNECTING KEY DESTINATIONS

Survey respondents said that it is important to be able to walk and bike to important destinations such as work, restaurants, shopping areas, schools, and parks in Sunnyvale.

"My bike commute is a relatively safe route, but I don't have the same options for retail, grocery, restaurants."

—Survey Respondent

SUPPORTING THE BICYCLE NETWORK WITH OTHER BICYCLE INFRASTRUCTURE

People in Sunnyvale expressed the necessity of bicycle infrastructure that complements the bicycle network, such as more secure bicycle parking throughout the city.

"[I'd like to see] safer and more prevalent bike racks. When I've cycled before with kids to McDonalds or Zanotto's, there are no good places to lock up my bike and I'm nervous about leaving the bikes locked up outside for any length of time."

—Survey Respondent

DESIRE FOR A MORE COMFORTABLE PEDESTRIAN NETWORK

Survey respondents identified complete sidewalk networks, slower vehicle speeds, and more comfortable streetscape design elements as parts of a pedestrian network that would encourage them to walk more.

"[I'd like to see] wider sidewalks next to businesses, more amenities like pocket parks and coffee kiosks, shade, places to sit and rest."

—Survey respondent

WALKING SERVES MANY NEEDS

Walking infrastructure in Sunnyvale helps people complete a wide variety of trips. Nearly half of all survey respondents take a walk for their health and recreation at least once a week. In addition to walking for recreation, people in Sunnyvale are walking to work, to school, and while running errands.

What We Heard

Across all of our outreach efforts, we heard:

Focus on Creek Trails

Overall, people use and appreciate nearby creek trails, such as the Stevens Creek Trail and Calabazas Creek Trail. Creek trails are seen as important walking and bicycle connections that allow people to travel long distances away from the stress and air pollution of cars. People want to see improved connections and access points to existing creek trails. In addition, many advocated for new and extended trail segments, such as the Stevens Creek Trail extension, and the East Channel Trail.

Design Protected Bikeways on Arterials

High speeds and high volumes of cars were consistently reported as being a deterrent to bicycling on Sunnyvale roads. People identified a number of arterials as providing the shortest, most direct route to their destination, but don't feel safe biking on these streets. Facilities without physical separation from cars were reported as insufficient bike facilities for these roadways.

Increase Bicycle Priority at Intersections

Across the city, people reported intersections that did not prioritize their bicycle travel. This included intersections that did not detect bicycles, signal timing that was too short to let bicyclists cross, or travel configurations that left people biking feeling unprotected as they crossed the intersection.

Encouraging Biking and Walking can Improve Commuting Options

Many see bicycle and pedestrian infrastructure improvements as key to encouraging bicycling commuting in Sunnyvale. As Sunnyvale continues to add more jobs and more housing within its boundaries, encouraging bicycle commuting is seen as a key tactic to help people get around.

Prioritize Student Routes

City investment in bicycle and pedestrian infrastructure should prioritize routes used by students getting to and from school. Many identified routes and intersections used by students at Cupertino Middle School, Peterson Middle School, and Fremont High School, as needing improvements and enhancements.

Chapter 4: Bicycle Plan

Bikeway Needs

The needs of people bicycling within Sunnyvale are diverse and dependent on an individual's level of experience, comfort, and transportation needs. To understand the needs of people bicycling in Sunnyvale, this chapter examines a Bicycle Level of Traffic Stress analysis to identify locations within the existing street network that may attract or deter people from riding bicycles.

The chapter outlines three common barriers that lead to gaps in the citywide bikeway network, including:

- Limited highway crossings for bicycles restrict direct bicycle trips
- Existing bikeways on arterial roadways are unsuitable for all ages and abilities
- Bike facilities end before the intersection

The findings of the needs analysis support a four-pronged strategy for building a comprehensive low-stress bicycle network in Sunnyvale. The four strategies include:

1. Make it Comfortable and Connected
2. Make it Local
3. Fill in the Network
4. Focus on the Intersections

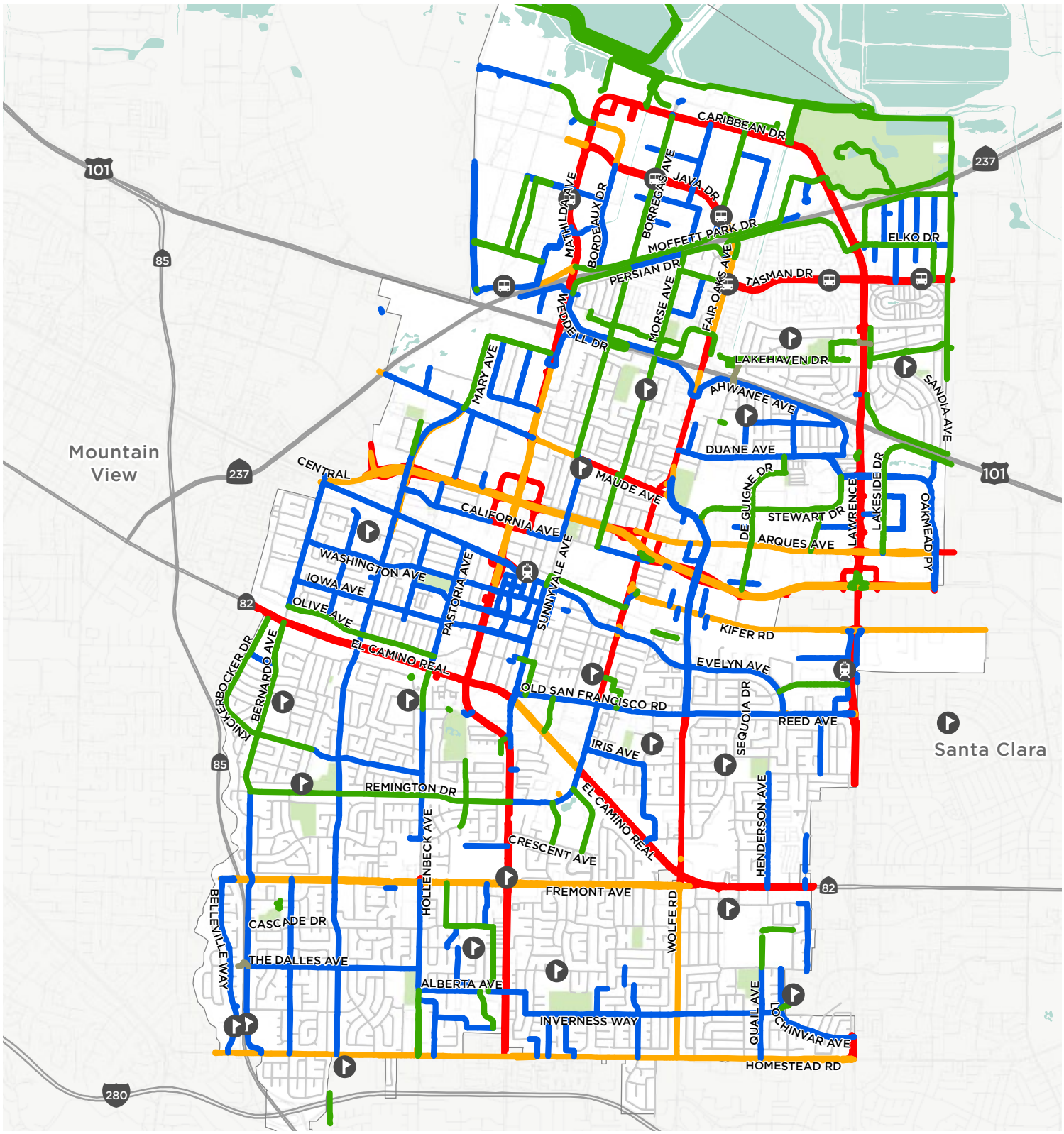
Bicycle Level of Traffic Stress

Bicycle Level of Traffic Stress (BLTS) analysis quantifies perceived stress levels when biking along Sunnyvale's roadways and paths. The less stressful—and therefore more comfortable—a bicycle facility is, the wider its appeal to a broader segment of the population. The analysis uses roadway network data, including number of lanes, posted speed limit, and presence of existing bikeway facilities to determine bicyclist comfort level. BPAC's feedback were incorporated into the BLTS to account for locations where terrain, high vehicle speeds, and challenging crossings decreased people's comfort.

The BLTS analysis quantifies stress levels when riding along Sunnyvale's roadways and paths, using the following four levels and the types of riders that would feel comfortable riding on that particular road.

- LTS 1: All Ages and Abilities
- LTS 2: Average Adult
- LTS 3: Confident Adult
- LTS 4: Fearless Adult

As shown in Map 8, neighborhood streets that carry relatively little vehicular traffic and have slower vehicle speeds are considered LTS 1 and are considered suitable for people of all ages and abilities. Multi-use trails, like the Bay Trail, are also considered LTS 1. Collector and arterial streets without separated bicycle facilities, such as Sunnyvale Saratoga Rd., are considered LTS 3 or 4, and are only suitable for confident or fearless adult riders.



Map 8. Bicycle Level of Traffic Stress

- Level 1 All Ages & Abilities
- Level 1 All Ages and Abilities (Residential)
- Level 2 Average Adult
- Level 3 Confident Adult
- Level 4 Fearless Adult
- Pedestrian Bridge (Walk Bike)

- Public School
- Caltrain
- VTA Station
- City Boundary

0 0.5 1 MILE

TYPES OF PEOPLE BIKING

Research indicates that the majority of people in the United States would bicycle if dedicated bicycle facilities were provided. However, only a small percentage of Americans (1-3 percent) are willing to ride if no facilities are provided. This research into how people perceive bicycling as a transportation choice has indicated that most people fall into one of four categories, illustrated below. It's important to note that there is a diversity of bicyclists, including people who have no other means of transportation due to cost of transit, driving, or legally cannot drive. Regardless, the goal should be more comfortable bikeways that serve everyone.

1-3%

STRONG & FEARLESS

Very comfortable and willing to ride on streets with no designated bike facilities

5-10%

ENTHUSIASTIC & CONFIDENT

Very comfortable riding but prefer streets with designated bike lanes

50-60%

INTERESTED, BUT CONCERNED

Comfortable on trails & streets with buffered or separated bikeways and interested in biking more

30%

NOT CURRENTLY INTERESTED

Physically unable or very uncomfortable biking even on streets with separated bikeways

Common Barriers

The existing conditions analysis, bolstered by the community engagement feedback, helped the project team identify three roadway conditions in Sunnyvale that act as barriers to bicycle travel, including:

- Limited highway crossings for bicycles restrict direct bicycle trips
- Existing bikeways on arterials are unsuitable for all ages and abilities
- Bike facilities often end before the intersection

LIMITED HIGHWAY CROSSINGS FOR BICYCLES RESTRICT DIRECT TRIPS

Highway 101, State Route 237, and State Route 85 pass through Sunnyvale, dividing the primarily residential southern part of the city from the northern part of the city where the majority of the employment is located. There is only one dedicated bicycle and pedestrian crossing of both highways at Borregas Avenue. The other crossings at Mathilda Ave., Java Drive/Fair Oaks Ave., and Lawrence Expressway are mixed with vehicular traffic. The shortest crossing distance of Highway 101 using existing roadways is 0.8 miles. For a bicyclist that is not already on a street that will connect across Highway 101, the bicyclist may spend an additional five or more minutes in order to navigate to one of the crossings.

With the exception of the Java Drive crossing over State Route 237, the other roadway crossings are highway interchanges, typically considered extremely dangerous and unsafe for all bicycling users. This is due to the high speed at which drivers travel when entering and exiting the highways at on- and off-ramps and the "cloverleaf" designs that limit visibility at these interchanges.

EXISTING BIKEWAYS ON ARTERIAL ROADWAYS ARE UNSUITABLE FOR ALL AGES AND ABILITIES

Arterial roadways are high-capacity urban roadways with 35 mph or greater speed limits. Within Sunnyvale, arterials present the shortest and most direct connections between destinations. As shown in the Level of Stress Analysis, these roadways currently are classified as LTS 3 and LTS 4.

Sunnyvale has over 33 miles of arterials, 27.8 miles (78 percent) of which have bicycle facilities. However, most of the bicycle facilities on these roadways are standard bike lanes (see Table 3), and not suitable for a majority of bicycle users. The majority of bicyclists feel uncomfortable riding on multi-lane, higher speed roadways without a barrier or other form of separation.

Table 3. Bikeways on Sunnyvale Arterial Roadways

	Bikeways on Arterials (miles)	Arterials with Bikeway Type (%)
Class I Separated Use Path	0.0 miles	0%
Class II Bike Lanes	23.8 miles	70.6%
Class IIB Buffered Bike Lanes	1.85 miles	2.5%
Class III Bike Routes	1.9 miles	5.2%
Class IV Separated Bikeway*	0.4 miles	0%

*newly constructed Class IV facilities on Mary Ave are not on a arterial roadway.

BIKE FACILITIES END BEFORE THE INTERSECTION

The most vehicle-bike conflicts occur at intersections. The National Association of City Transportation Officials (NACTO) reports that in 2017, 43 percent of urban bicyclist fatalities occurred at intersections.[2] There are many roadways throughout Sunnyvale where bike lanes end as riders approach the intersection, leaving the rider more vulnerable. This is especially common for arterial and expressway intersections. Also common are free right-turn lanes or "slip lanes" where bicyclists can feel particularly stressed as drivers often do not look for bicyclists before turning.

Bikeway Strategies

The needs analysis within this chapter highlights a number of common barriers across the city that should be addressed to create a comprehensive bikeway network. The following four strategies provide direction on how bikeway recommendations can address these barriers.

2 Don't Give Up at the Intersection: Designing All Ages and Abilities Bicycle Crossings. NACTO (May 2019) https://nacto.org/publication/urban-bikeway-design-guide/dont-give-up-at-the-intersection/

Table 4. Bicycle Network Strategies

Strategy	Recommendation
Strategy 1: Make it Comfortable and Connected Class II bicycle lanes are comfortable for some, but most people interested in biking in Sunnyvale would not consider using bike lanes for transportation on busy arterials unless they are physically separated from moving vehicles.	**Low Stress Spine Network** A network of bikeway facilities that provide connected, cross-town travel. Where possible, this network provides separation from vehicular traffic, and is made up of trails and separated bikeways.
Strategy 2: Make it Local There is a need to develop a bike route networks on residential streets to connect people to their local destinations. Community members prefer traveling on low-volume streets when biking shorter distances. This bike route network is important to guide users the last mile or half-mile to home, to schools and parks, and to their local shopping needs.	**Bike Route Network** A network of low-stress connections on low volume, low speed residential streets to get residents across neighborhoods and to local destinations. These connections will consist of Class III Bicycle Routes and Class IIIB Bicycle Boulevards with wayfinding signage along residential roads.
Strategy 3: Fill in the Network Separated or calm bikeways may not be suitable for all roadways. However, providing continuous bikeways creates a connected bicycle network.	**Complete Bikeway Network** The complete network will include all bikeway types. Class II Bike Lanes and Class IIB Buffered Bike Lanes will fill in gaps in the network where other, more preferred bikeway types are unfeasible.
Strategy 4: Focus on the Intersections A bikeway is only as strong as its weakest link. Wide, unprotected intersections or other challenging bikeway crossings can leave people biking vulnerable to conflict with motor vehicles.	**Spot Improvements** A group of identified crossing improvements along the bike network that aim to provide increased comfort at existing intersections and increased access to bicycle undercrossings and overcrossings.

Vision, Goals, and Metrics

The goals for the Bicycle Plan reflect the priorities expressed by the community throughout the public outreach phase. Discussions with City departments, best practices across the nation, and input from community stakeholders have shaped the proposed strategies and policies intended to help the City achieve these goals.

Vision Statement

Sunnyvale is a Complete Streets Community where residents and commuters have the choice to bicycle and walk to meet their transportation needs on a connected, comfortable, convenient, safe and efficient network designed for all abilities and ages.

GOAL 1

Leverage community resources to increase interest in bicycling and raise the bicycling mode share from 1.5 percent in 2017 to 10 percent by 2030.

- **Policy 1:** Design a connected, comfortable, convenient, safe and efficient bicycle network.
  - » **Action 1.1:** Utilize design guidelines provided in this document as appropriate as well as guidance from the National Association of City Transportation Officials (NACTO), Santa Clara Valley Transportation Authority (VTA) Bicycle Technical Guidelines, and the most recent state and federal design guidelines to develop on-street and off-street bicycle facilities.

Table 5. Performance Goals

Goal	Baseline	Source
Achieve the League of American Bicyclists Bicycle Friendly Silver status by 2030.	Bronze status	League of American Bicyclists
Increase commuter bicycling mode share from 1.5% in 2017 to 10% in 2030 and continue to work toward increasing bicycling mode share in the next 10 years	1.50%	American Community Survey, U.S. Census Bureau
Reduce traffic fatalities and serious injuries by 50% by 2029	61 pedestrian and bicycle related fatality and serious injuries (2014-2018)	Sunnyvale Vision Zero Plan (2019), Sunnyvale Collision Database

  - » **Action 1.2**: When possible, install best-practice intersection treatments, such as bike boxes, fully protected intersections, and two-stage left turn lanes to reduce automobile-bicycle conflicts.
  - » **Action 1.3:** Continue to install bicycle loop or video detection devices and bicycle detection markings at all intersections.
  - » **Action 1.4**: Provide safe access to city streets for all modes of transportation. Safety considerations of all transport modes shall take priority over capacity considerations of any one transport mode.*
  - » **Action 1.5:** Narrow lanes to the City's current standard of 11-foot lanes, or to 10-foot lanes under unique circumstances, to create or expand bicycle facilities. VTA requires 11-foot travel lanes for travel lanes that require bus access.
  - » **Action 1.6:** Prioritize street space allocated for transportation over parking when determining the appropriate future use of street space.

*At the August 25, 2020 City Council meeting, as part of the discussion, City Council and members of the bicycling community/advocacy group discussed that "shall take priority over capacity considerations of any one transport mode" means there is still a need to review each proposed improvement, with independent judgment applied, and this action is not solely meant as an all-encompassing statement.

- » **Action 1.7:** Work with adjacent cities to eliminate barriers and facilitate ways to get across barriers to travel such as discontinuous streets, trails, bike lanes, sidewalks, and paths.
- » **Action 1.8** Work with online mapping companies to ensure that recommended bicycle routes within City limits are accurate.

- **Policy 2:** Maintain and expand the bicycle parking network throughout Sunnyvale.
  - » **Action 2.1:** Consult, monitor, and continue to implement bicycle parking requirements in new developments according to the City of Sunnyvale Municipal Code 19.46.150.
  - » **Action 2.2:** Amend municipal code 19.46.150 "Bicycle Parking" to eliminate references to the "ribbon weave racks" as substandard bicycle rack design and create a standard detail for a typical "Inverted U" Bicycle Rack with proper placement dimensions.
  - » **Action 2.3:** Utilize bicycle parking design and placement guidelines from best practices listed in the Santa Clara Valley Transportation Authority (VTA) Bicycle Technical Guidelines.
  - » **Action 2.4:** Encourage event organizers to provide and publicize valet bicycle parking at local events.

GOAL 2

Increase education, encouragement, and enforcement to support a bicycle-friendly community

- **Policy 3:** Support programs, events, and organizations that promote a bicycle-friendly Sunnyvale.
  - » **Action 3.1**: Continue to support and participate in Bike to Work Day and other bike promotion events.
  - » **Action 3.2:** Integrate bicycling encouragement programs into existing municipal programs and events where possible.
  - » **Action 3.3:** Require large employers to develop and maintain Transportation Demand Management (TDM) programs to reduce number of vehicle trips generated by their employees.
  - » **Action 3.4:** Encourage businesses to apply for Bicycle Friendly Business status with the League of American Bicyclists.
  - » **Action 3.5:** Coordinate implementation of the Bicycle Plan with implementation of the SRTS Plan so that children are encouraged to bicycle to school.

GOAL 3

Evaluate bicycle planning progress on a regular basis and adapt the City's efforts as needed to increase effectiveness

- **Policy 4:** Develop a system for reporting on progress made on completion of the planned bicycle network.
  - » **Action 4.1:** Prepare and present a triennial report on progress made on achieving the goals and implementing the policies of this Plan to the Bicycle and Pedestrian Advisory Commission.
  - » **Action 4.2:** Update the Bicycle Plan every ten years.

Bikeway Recommendations

Built on the needs analysis and public outreach, this section presents the recommended bicycle network for the City of Sunnyvale.

Low-Stress Spine Network

A network of bikeway facilities that provide connected, cross-town travel. Where possible, this network provides separation from vehicular traffic.

Bicycle Route Network

A network of low-stress connections on low-volume, low-speed residential streets to get residents across neighborhoods and to local destinations.

Complete Bikeway Network

A network with all bikeway types to close gap closures in the bikeway network.

Spot Improvements

Intersection improvements and highway crossing improvements along the bicycle network. Examples of improvements include installation of new traffic control devices, or the redesign of access to existing bicycle or pedestrian undercrossings and overcrossings.

Low-Stress Spine Network

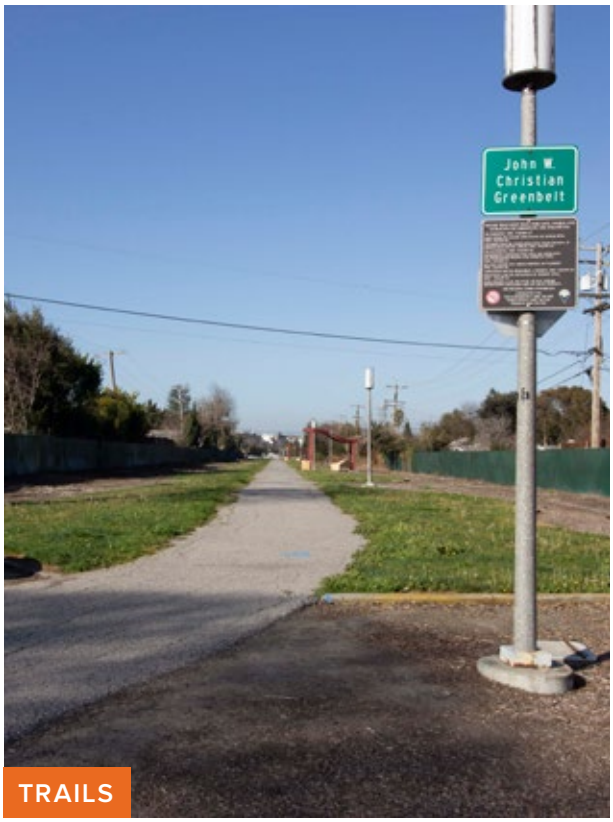
The **Low-Stress Spine Network** lays out the proposed bikeway facilities that provide connected, cross-town travel (Map 9). For the most part, this network provides separation from vehicular traffic, and is made up of trails, separated, and buffered bikeways. These facilities require tradeoffs such as removing travel lanes, removing on-street parking, obtaining easement, or right of way dedication.

In this network, Sunnyvale Ave./Sunnyvale-Saratoga Ave./Borregas Ave. and the East Channel Trail become key north-south connectors. Roadways such as Evelyn Ave., El Camino Real, and Fremont Ave. will provide east-west connectivity.

THESE BIKEWAYS MAY LOOK LIKE:

BUFFERED BIKE LANES

PROTECTED BIKEWAY



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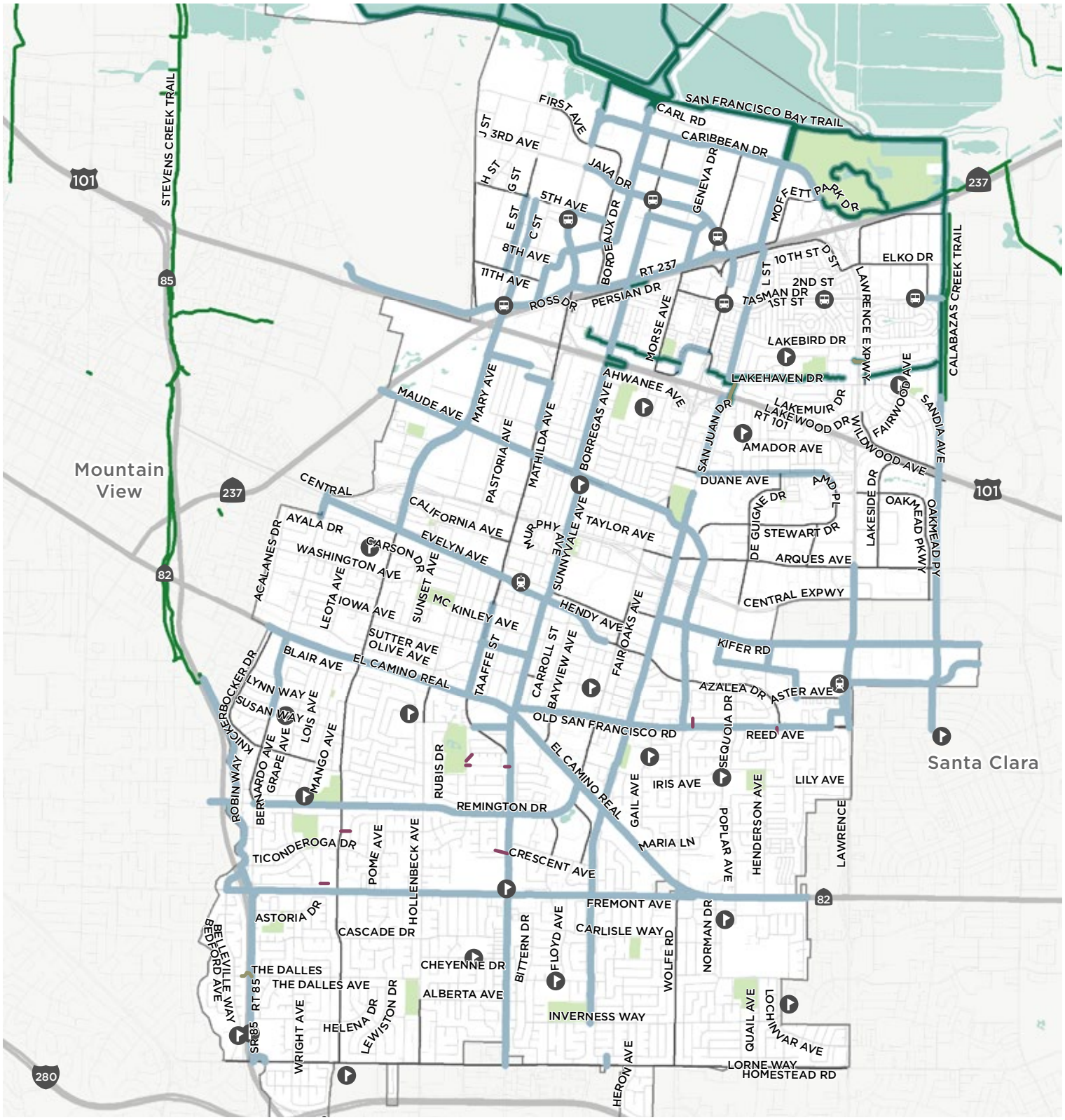


Map 9. Low Stress Spine Network

Proposed Low Stress Spine Route

Existing Facilities

- Trail
- Existing Pedestrian Bridge (Walk Bike)
- Neighborhood Cut Through
- Existing Class II Bicycle Lane

Boundaries + Destinations

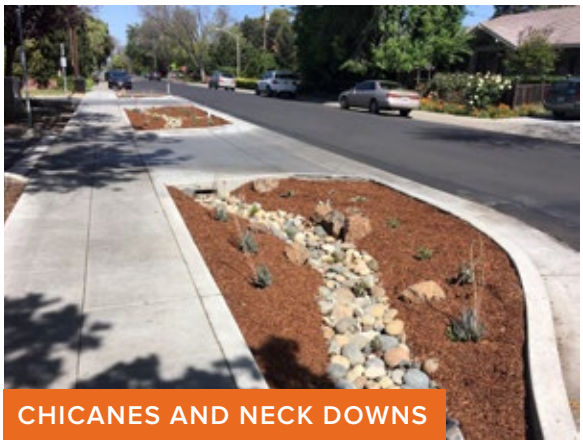
- Public School
- Sunnyvale Caltrain Station
- VTA Light Rail Station
- Park
- City Boundary

0 0.5 1 MILE

What is the Bicycle Route Network?

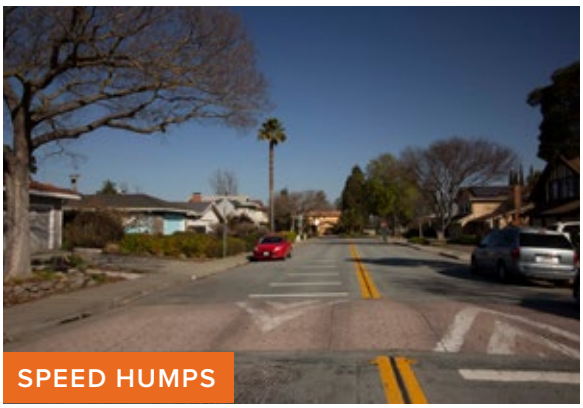
Bicycle routes on residential streets connect people to their local destinations, guiding users across neighborhoods and to places such as home, school, and shopping needs. These connections look to prioritize bike travel and bicycle wayfinding on low-volume, low-speed streets. This network is made up of Class III Bicycle Routes and Class IIIB Bicycle Boulevards. Bicycle Boulevards may include additional traffic calming design (examples shown below). Design features, such as curb extensions, can incorporate green stormwater infrastructure, which uses vegetation for improved stormwater management while also providing urban greening.

TRAFFIC CALMING MEASURES CAN INCLUDE:



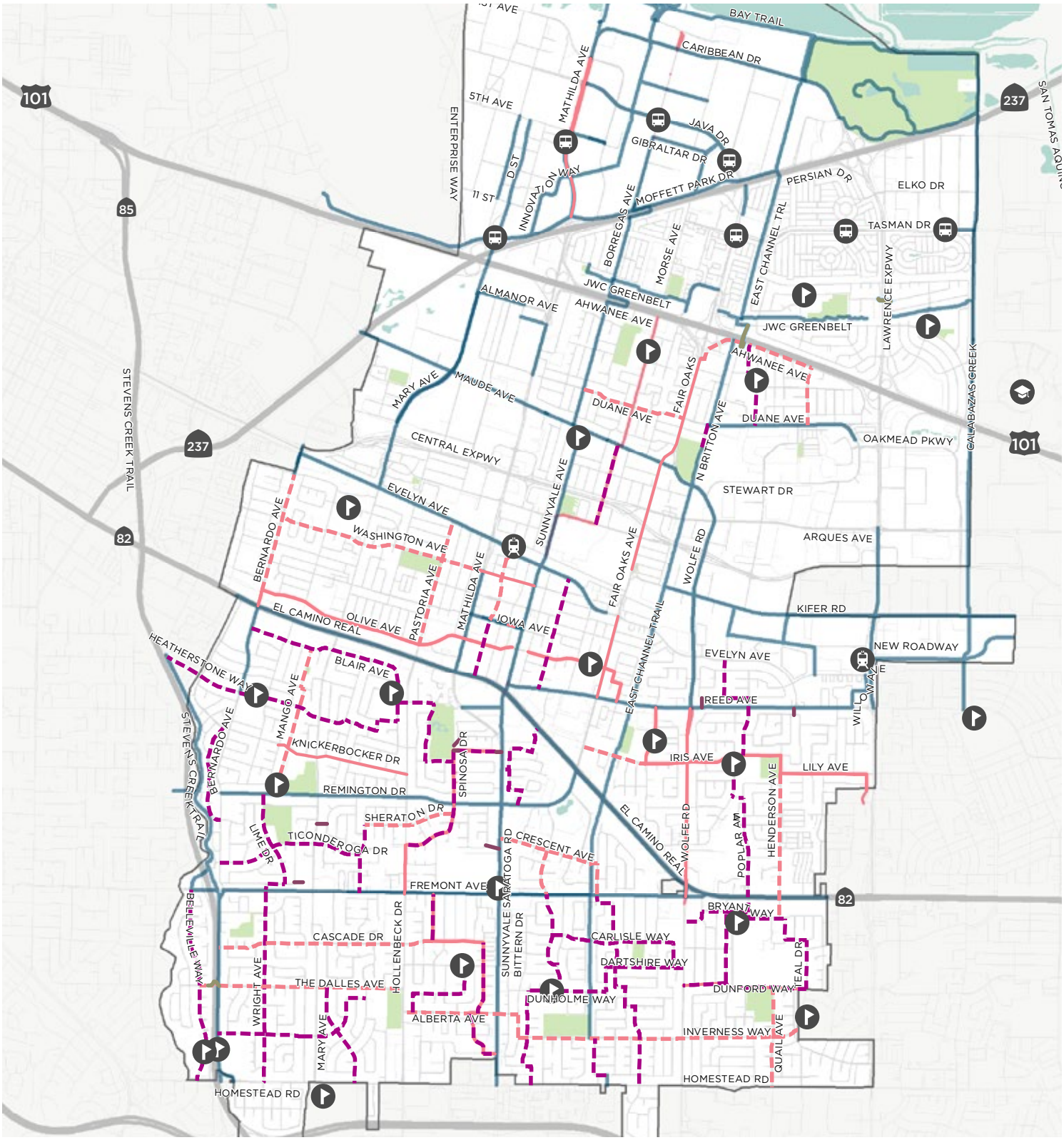
CHICANES AND NECK DOWNS

NEIGHBORHOOD TRAFFIC CIRCLES



SPEED HUMPS

TRAFFIC DIVERTERS AND PARTIAL CLOSURES



Map 10. Bicycle Route Network

EXISTING PROPOSED

- Class III Bicycle Route
- Class IIIB Bicycle Boulevard
- Proposed Low Stress Spine Route
- Neighborhood Cut Through
- Pedestrian Bridge (Walk Bike)

Boundaries + Destinations

- Public School
- Mission College
- Caltrain Station
- Park
- Light Rail Station
- City Boundary

0 0.5 1 MILE

Complete Bikeway Network

The **Complete Bikeway Network** shows all existing and proposed bikeways in Sunnyvale. Bikeway mileage for existing, proposed, and full build out are shown in Table 6. Note that proposed bikeways also include converting existing bikeways to different classifications in addition to new bikeways.

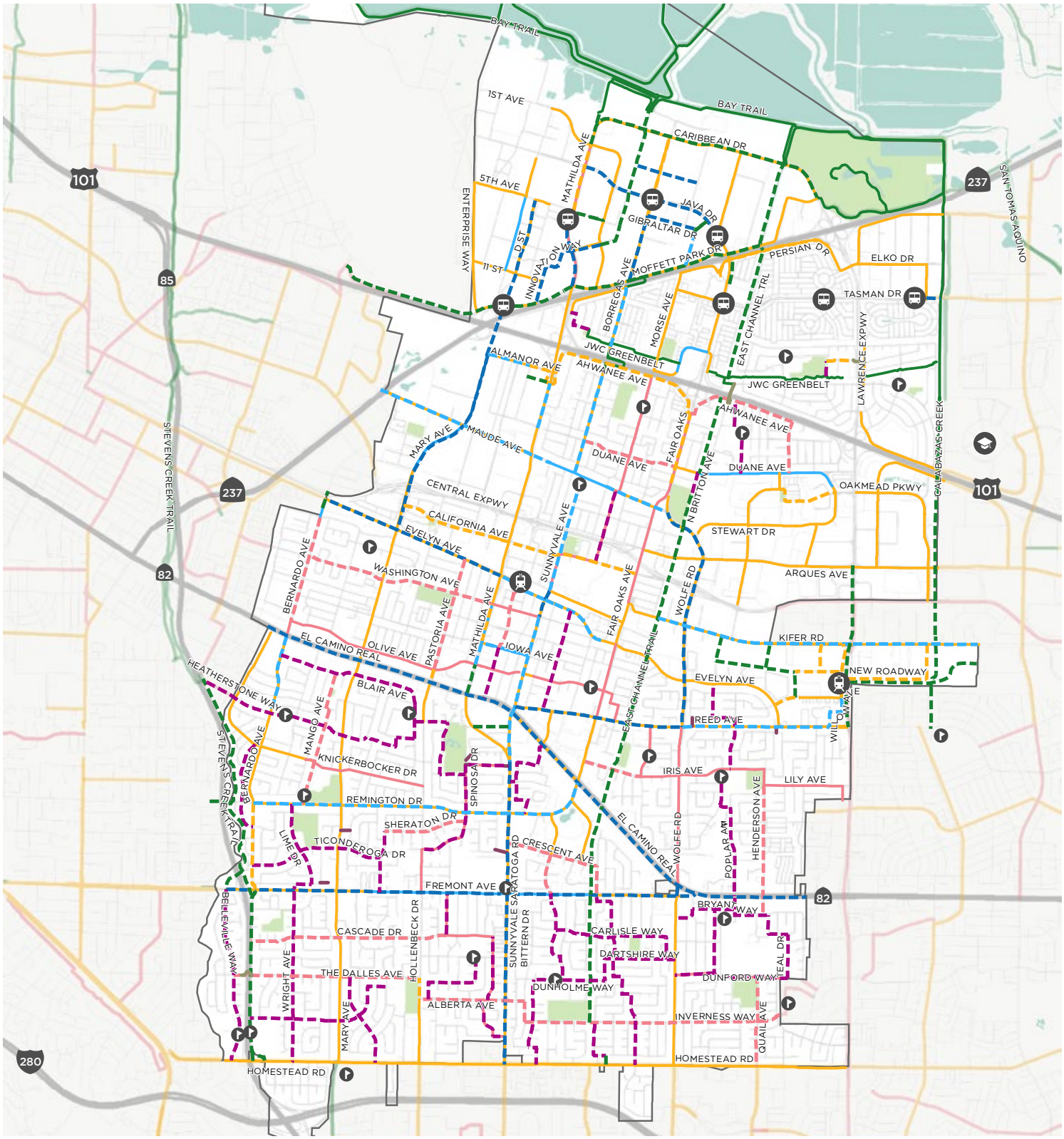
The following pages provide a zoomed in look to the complete network. For more information, see Appendix A: Bicycle Recommendations.

Where Class IV separated bikeways are proposed on roads with bus transit, the City will work with VTA early in the design process to identify how transit customers will be accommodated. This may include building transit islands or modifying the Class IV bikeway to an unprotected facility so the bus can move to the curb.

A note for El Camino Real: The overall recommendation on El Camino Real is a Class IV Separated Bikeway. At locations where public right-of-way is limited or where there are frequent driveways, the City may need to install buffered bicycle lanes. The final configuration will be determined during the redevelopment phase.

Table 6. Existing and Proposed Bikeway Mileage Totals

Facility Type	Existing	Proposed	Full Build Out
Class I	18.0	18.8	36.8
Class II	54.3	7.9	46.3
Class IIB	4.1	11.5	13.6
Class III	13.0	12.7	23.2
Class IIIB	0.0	22.2	22.2
Class IV	0.4	17.1	17.5
TOTAL	**89.8**	**90.2**	**159.6**



Map 11. Complete Bikeway Network

EXISTING PROPOSED

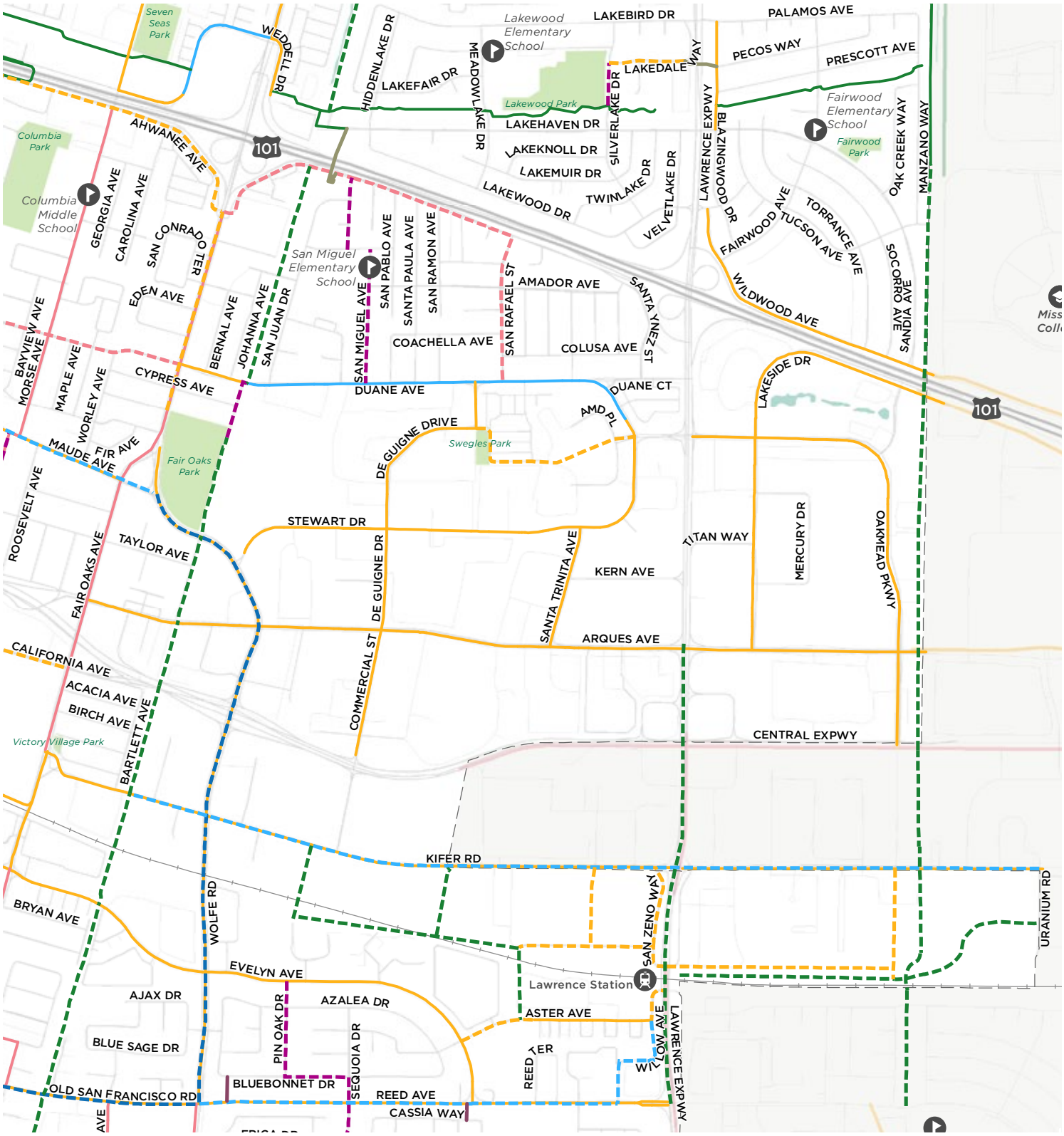
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIB Buffered Bicycle Lane
- Class III Bicycle Route
- Class IIIB Bicycle Boulevard
- Class IV Separated Bikeway
- Existing Pedestrian Bridge (Walk Bike)
- Neighborhood Cut Through

Boundaries + Destinations

- Public School
- Mission College
- Caltrain Station
- Light Rail Station
- Park
- City Boundary

**Homestead Rd offers part-time bicycle lanes.

0 0.5 1 MILE



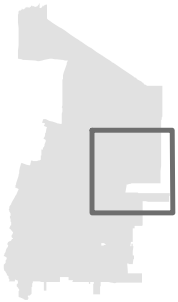
Map 12. Recommended Bikeways - Central/East Sunnyvale

EXISTING PROPOSED

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIB Buffered Bicycle Lane
- Class III Bicycle Route
- Class IIIB Bicycle Boulevard
- Class IV Separated Bikeway
- Existing Pedestrian Bridge (Walk Bike)
- Neighborhood Cut Through

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary



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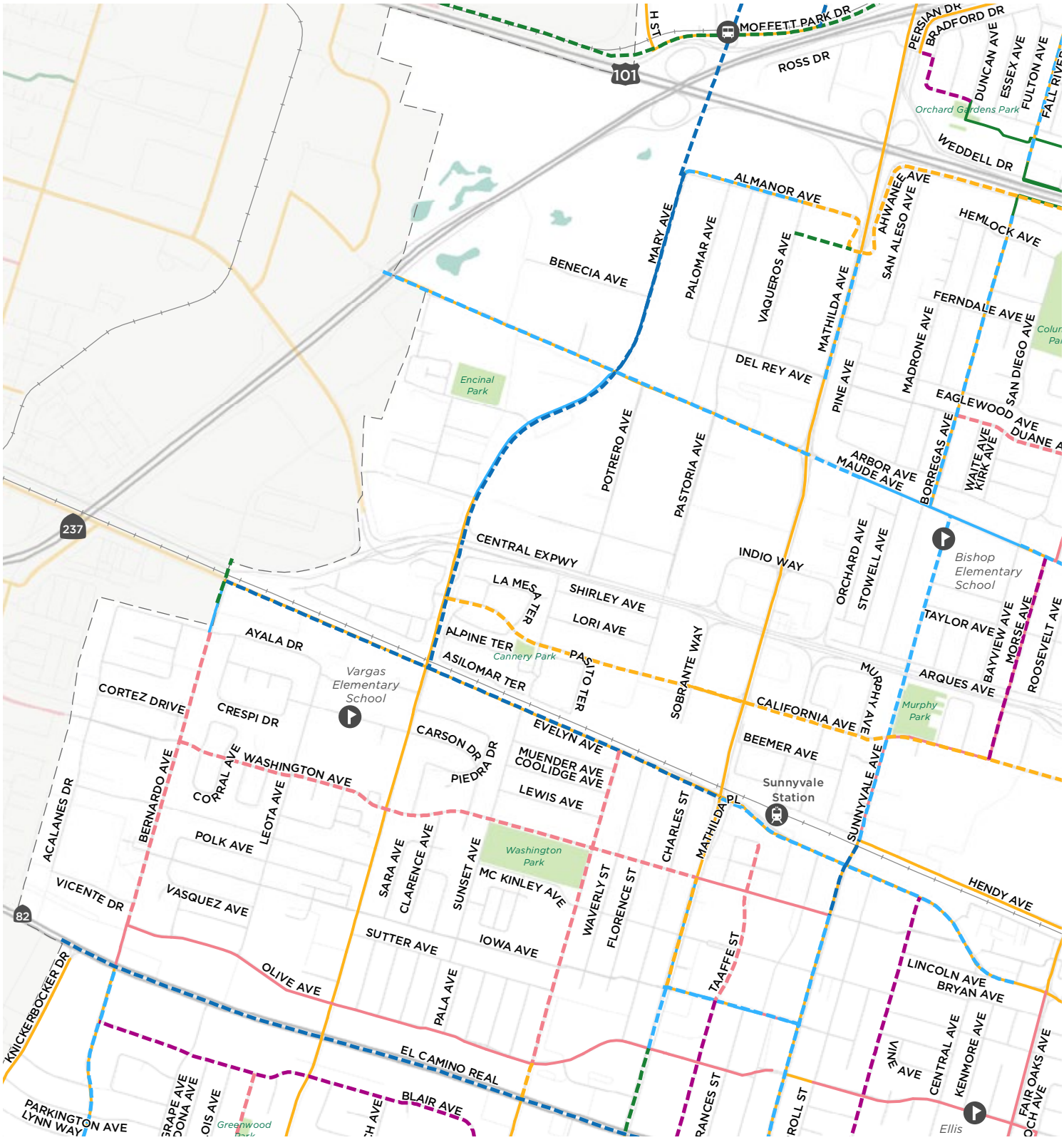


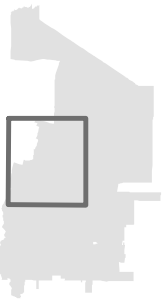
Map 13. Recommended Bikeways - Central/West Sunnyvale

EXISTING PROPOSED

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIB Buffered Bicycle Lane
- Class III Bicycle Route
- Class IIIB Bicycle Boulevard
- Class IV Separated Bikeway
- Existing Pedestrian Bridge (Walk Bike)
- Neighborhood Cut Through

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary



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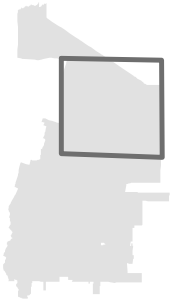
Map 14. Recommended Bikeways North Sunnyvale

EXISTING PROPOSED

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIB Buffered Bicycle Lane
- Class III Bicycle Route
- Class IIIB Bicycle Boulevard
- Class IV Separated Bikeway
- Existing Pedestrian Bridge (Walk Bike)
- Neighborhood Cut Through

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary



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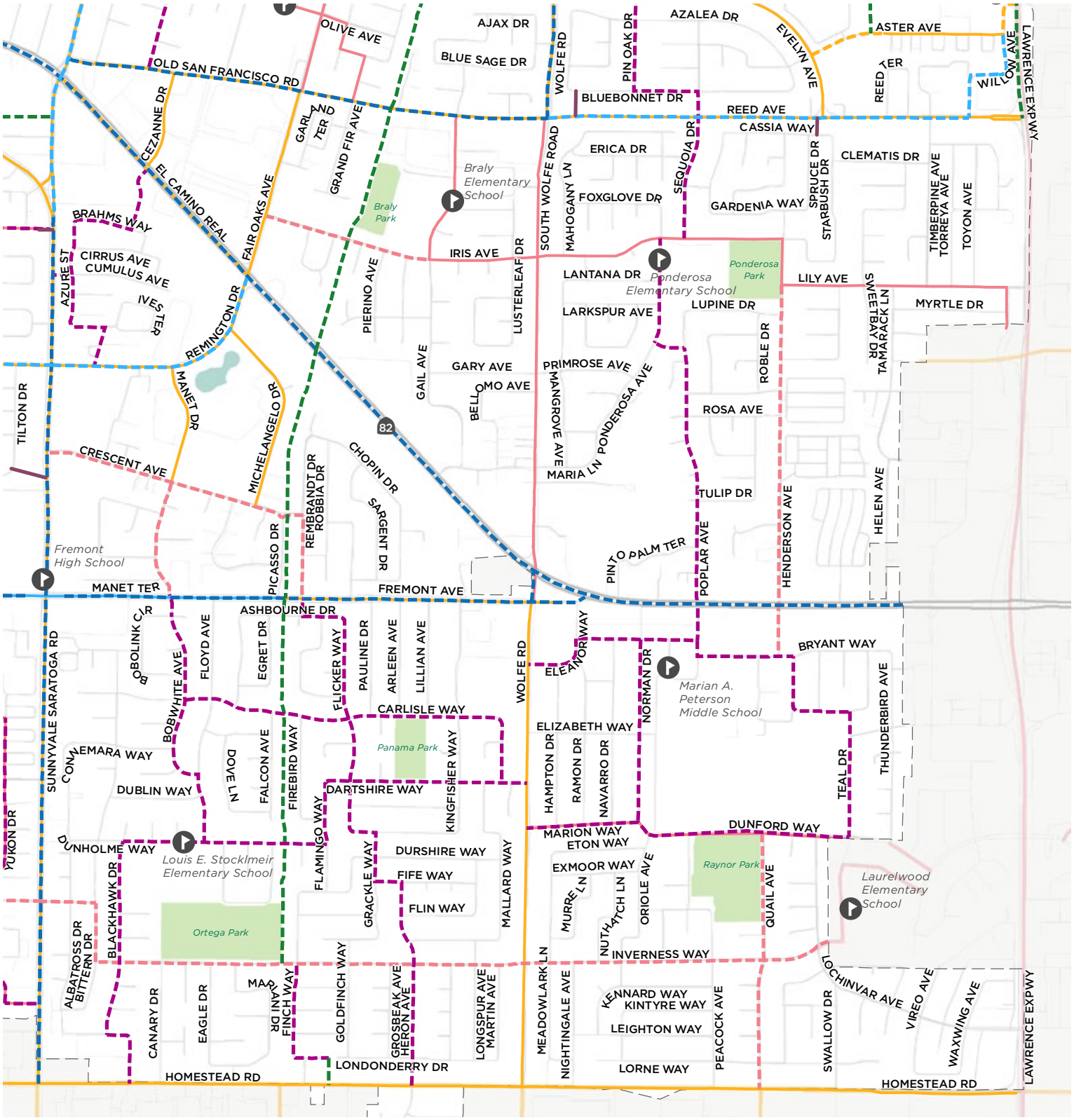


Map 15. Recommended Bikeways Southeast Sunnyvale

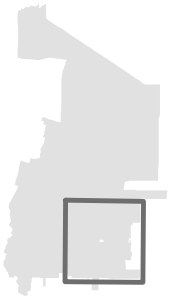
EXISTING PROPOSED

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIB Buffered Bicycle Lane
- Class III Bicycle Route
- Class IIIB Bicycle Boulevard
- Class IV Separated Bikeway
- Existing Pedestrian Bridge (Walk Bike)
- Neighborhood Cut Through

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary

**Homestead Rd offers part-time bicycle lanes.



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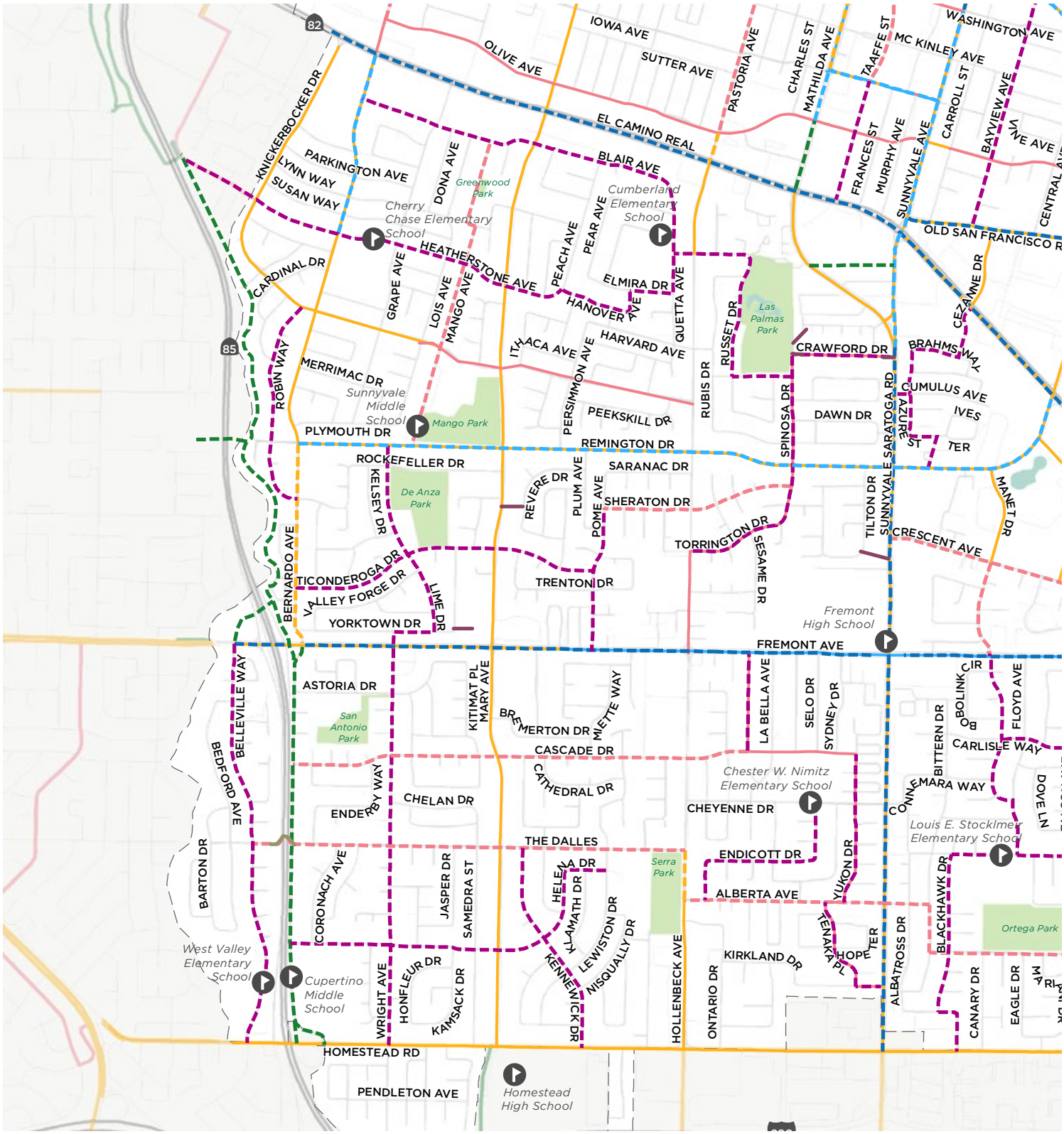

Map 16. Recommended Bikeways Southwest Sunnyvale

EXISTING PROPOSED

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIB Buffered Bicycle Lane
- Class III Bicycle Route
- Class IIIB Bicycle Boulevard
- Class IV Separated Bikeway
- Existing Pedestrian Bridge (Walk Bike)
- Neighborhood Cut Through

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary

**Homestead Rd offers part-time bicycle lanes.

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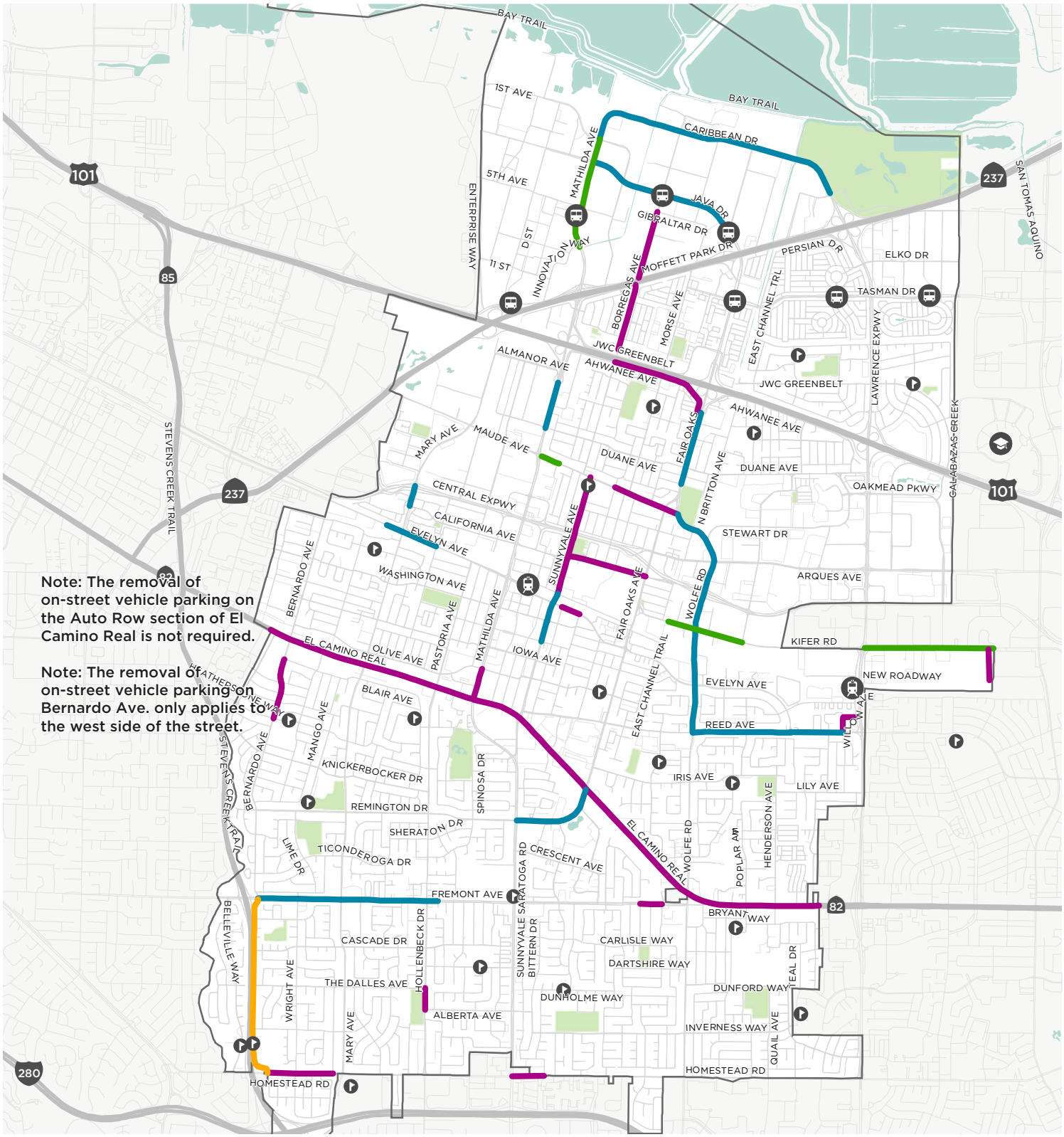


Map 17. Future Design Considerations Roadway Needs for Bicycle Recommendations

- Roadway Reallocation (Road Diet)
- On-Street Vehicle Parking Removal
- One-Way Roadway Conversion
- Right-of-way Acquisition

Recommendations are considered planning-level, meaning they should be used as a guide when implementing projects. Traffic impact analysis and more detailed design analysis will be required to evaluate specific site conditions and develop designs that reflect conditions, constraints, and public input.

Boundaries + Destinations

- Public School
- Mission College
- Caltrain Station
- Light Rail Station
- Park
- City Boundary

0 0.5 1 MILE

Spot Improvements

In addition to safe and connected bikeway segments, a fully functioning bicycle network addresses localized spot issues that would otherwise present network barriers (Map 18). Spot improvements may include:

- Intersections that do not comfortably facilitate travel by bicycle
- Improved access to off-street shared use paths
- Improved design of and access to bicycle grade-separated crossings (overcrossings and undercrossings)

This plan includes 76 spot improvement recommendations in Sunnyvale. These spot improvements were developed alongside the recommendations for the City's bicycle network and reflect public and stakeholder feedback.

Protected Intersection

Specific spot improvement recommendations and designs for most of these locations will be developed by the City on a case-by-case basis due to the varied context at each spot location.

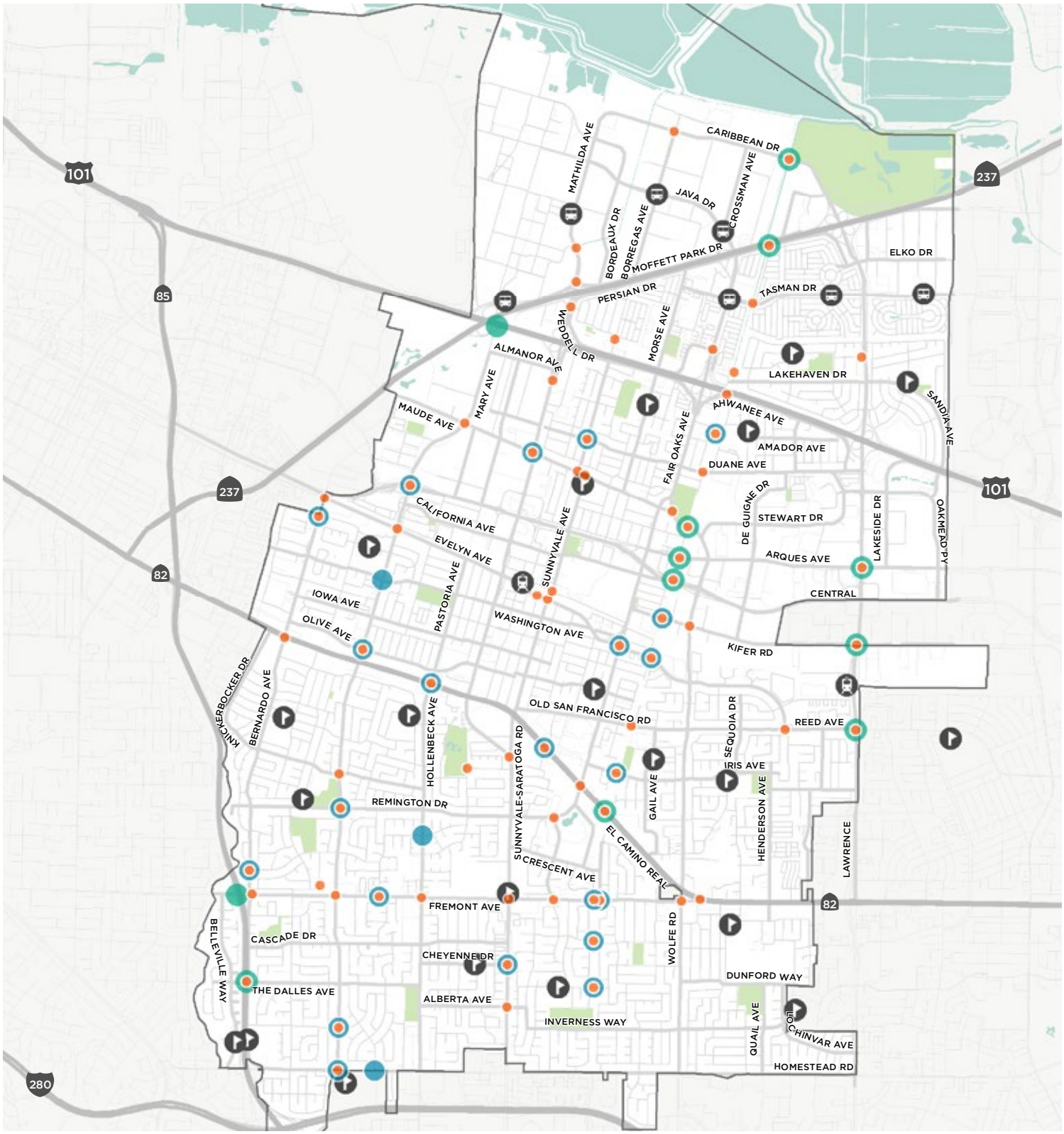
- **Crossing improvements** are intersection design strategies to reduce vehicle speeds at intersections, enhance the visibility of people riding bicycles, and protect people on bicycles from automobiles as they move or turn through an intersection. The appropriate design strategies for each intersection depend upon the characteristics of the street crossing. Design strategies when large, arterial roads meet each other require more protection for bicyclists than when a shared-use path crosses a residential street.

  Crossing improvements include but are not limited to:

  » **Protected Intersections.** A Dutch-inspired design treatment that is intended to minimize potential conflicts between people biking, driving, and walking at large intersections. Protected intersections provide bicyclists and pedestrians physical separation using vertical elements such as flexible posts or concrete islands to reduce stressful interactions with cars.

- **High-intensity Activated Crosswalk (HAWK) Beacon.** Useful at mid-block and unsignalized crossings of multi-lane arterials, a HAWK beacon is distinct from regular traffic signals and constant flash warning beacons because it is only activated by pedestrians when needed. When activated, the HAWK beacon's red signal makes clear the requirement for a complete stop.
- **Curb Extensions.** Also known as bulbouts, this feature expands the sidewalk and curb seven to eight feet at the corners of intersections. Curb extensions shorten the distance pedestrians need to cross roads, increase pedestrian visible to motorists, and can have a traffic calming effect.
- **Median Refuge Islands.** Typically areas at the mid-point of a marked crossing that prove a safe waiting space for pedestrians. They minimize pedestrian exposure by allowing pedestrian to cross the roadway in two separate stages.
- **Bicycle Boxes.** A marked area, typically painted green, at the head of a traffic lane at a signalized intersection that provides bicyclists with visible way to get ahead of queuing traffic during the red signal phase. This can help bicyclists position themselves to turn left instead of mixing with traffic to merge across traffic from the bicycle lane.
- **Median Diverters.** This treatment restricts vehicles from going straight through an intersection while providing refuge for bicyclists to cross one direction of traffic at a time before proceeding straight.
- **Traffic Circle.** Also known as mini roundabouts or neighborhood traffic circles, these features include a raised circular island in the middle of intersections on local neighborhood streets with the intention of reducing motor vehicle speeds.

Traffic circles can reduce collision risk and improve traffic flow at intersections.



Map 18. Bikeway Spot Improvements

- Crossing Improvement
- Traffic Control Improvement
- Grade-Separation Improvement

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary

0 0.5 1 MILE

- **Traffic control improvements** are design elements and signalization modifications at intersections or crossings that improve the safety and efficiency of crossing movements for all roadway users. Traffic control improvements to improve roadway safety for people biking include but are not limited to:
  - » Bicycle Detection Loops, Passive Detection Signal Timing
  - » Bicycle Signal Heads
  - » Leading Bicycle Intervals (LBIs) and Other Signal Phasing

Bicycle signal heads allow for dedicated bicycle signal phasing.

Bicycle detector loops can be installed in the roadway to trigger traffic signals for bicyclists.

- **Grade-separation improvements** are sites that will require special attention to design details to keep bike paths and bikeways safe and accessible as they cross through parts of the city with different surface heights, such as overcrossings and undercrossings. At overcrossings (bridges) and undercrossings (tunnels), it is important for the City of Sunnyvale to consider the California Highway Design Manual guidance for entry control along Bicycle Paths (California Highway Design Manual Bikeway Design Criteria 1003.1.17)

More information on bikeway design guidelines can be found in the National Association of Transportation Official's (NACTO) Urban Bikeway Design Guide. More information on design guidelines for protected intersections and signal phasing at intersection crossings can be found in the NACTO 2019 Publication "Don't Give Up at the Intersection: Designing All Ages and Abilities Bicycle Crossings".

Bicycle Parking and Wayfinding

BICYCLE PARKING

Convenient and secure bicycle parking completes a bicycling network. Bicycle parking can take many different forms, from a simple bicycle rack to a secure locker or gated area. Bicycle parking is available throughout Sunnyvale, but many locations do not provide an adequate amount of bike parking. During the public outreach process, people in Sunnyvale expressed a desire for more bicycle parking in the city.

Bicycle parking can be categorized into short-term and long-term parking. The characteristics and appropriate context for each type of bicycle parking is an important consideration for the City as it installs new bicycle parking.

Short-Term Bicycle Parking

Short-term bicycle parking serves people who leave their bicycles for relatively short periods of time, such as shopping, errands, dining, or recreation. Bicycle racks are the most common device for short-term bicycle parking. They provide a high level of convenience and a moderate level of security. The rack types illustrated below and recommended for use in Sunnyvale are consistent with the bicycle parking guidelines outlined in VTA's Bicycle Technical Guidelines. The City may also choose to partner with local artists to design customized bicycle racks that serve as both parking and public art. Where possible, bicycle corrals can be installed to provide higher volumes of bicycle parking in areas of high demand or limited sidewalk space.

Circular Bicycle Racks

Inverted U-Rack Bicycle Rack

Post & Ring Bicycle Racks

Bicycle corrals are suitable for popular destinations. A single bicycle corral can store upwards of 8 bicycles in the same space as a parked automobile while keeping the sidewalk clear for people, seating, landscaping, or other street furniture

Long-Term Bicycle Parking

Long-term bicycle parking serves people who intend to leave their bicycles for longer periods of time. These facilities can provide a higher level of security and protection from the elements than bicycle racks and are typically found at transit stations, multi-family residential buildings, commercial buildings, and in other areas where people would benefit from a secure place to leave their bicycle for extended periods of time.

Bicycle cage in the parking garage of a transit facility

Bicycle e-lockers can be accessed through card key or keypad

Bicycle lockers and secure parking areas are common long-term bicycling parking styles. Bicycle lockers vary in design and operation, ranging from keyed lockers that are rented to one individual on an annual or monthly basis to e-lockers that can be reserved in hourly increments and unlocked with a credit card or an access code.

Secure parking areas range in style and operation as well, from bicycle cages or rooms to stations that are controlled by an attendant, card key, or keypad. As electric bicycles grow in popularity, the City should begin to consider the needs of electric bicycle users in any study of the provision of bike parking. The needs of e-bike users are different than other bicyclists. Electric bicycle users need to be able to charge bicycle batteries and also look for enhanced safety/anti-theft parking options. The City should also consider the needs of cargo bike users.

CITYWIDE BICYCLE PARKING RECOMMENDATIONS

This plan recommends that the City of Sunnyvale expands its bicycle parking as opportunities arise and new development occurs. This plan also recommends programs to install bicycle parking throughout the city, especially in highly trafficked destinations and around transit. This plan also recommends an update to the bike parking ordinance in the City's Municipal Code.

Bike Parking Recommendation #1: Bicycle Parking at Caltrain

Caltrain stations in Sunnyvale are direct connections to a strong regional public transportation network. Bicycle parking opportunities at transit opens up new opportunities for people to make the connection between their homes and these transportation systems.

The Sunnyvale Caltrain station currently has four e-lockers. It has one of the highest average bicycle e-locker occupancy rates and the highest number of unique individual users for its e-lockers in the Caltrain network.[3] Lawrence station currently has no e-lockers. The City should work with Caltrain to plan, fund, design, and construct more long-term e-locker bike parking facilities at both Caltrain stations in Sunnyvale. Caltrain's Bicycle Parking Management Plan currently identifies Sunnyvale as a station for additional e-lockers.

3 http://www.caltrain.com/Assets/_Planning/Bicycle+Access+and+Parking+Plan/Bicycle+Parking+Management+Plan+-+Final.pdf

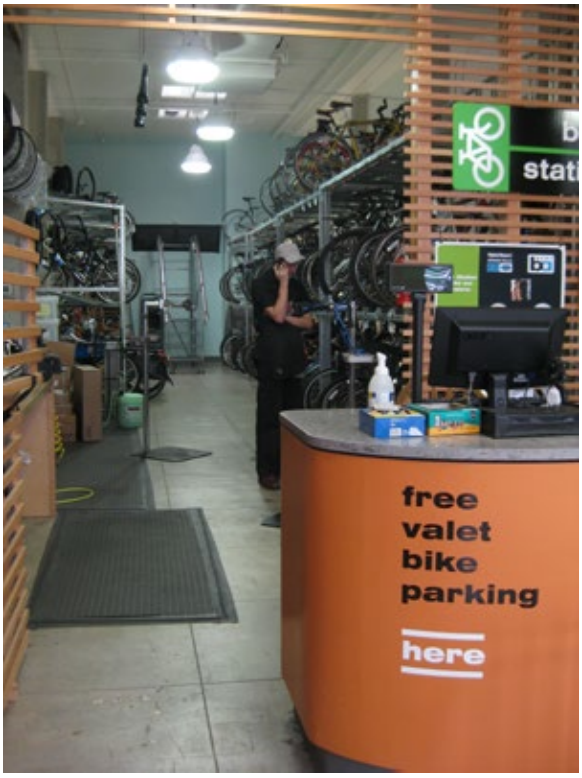
Bike Parking Recommendation #2: Update the bicycle parking ordinance in the City of Sunnyvale's Municipal Code

Sunnyvale is one of many cities around California that have adopted policies to encourage bicycling through the implementation of bicycle parking. The City of Sunnyvale's Municipal Code defines two different classes of bicycle parking and stipulates the provision of bicycle parking at multi-family developments, non-residential developments, and mixed-use developments.

The current municipal code includes the "ribbon weave" bicycle rack design as an example of bicycle parking (Ordinance 19.46.150). The ribbon weave is no longer considered a best practice for bicycle parking due to its unintuitive design, and should be evaluated for removal from the ordinance. For more information, see VTA's Bicycle Technical Guidelines (2012).

City officials should also consider an update to the bicycle parking minimums established in the municipal code. The guidelines established should reflect the type and quantity of bicycle parking needed in new developments and major renovations.

A bike station in downtown Berkeley, CA



Wayfinding

A bicycle wayfinding system consists of comprehensive signing and/or pavement markings to guide bicyclists to their destinations. Wayfinding signs direct bicyclists along the existing bicycle network and to important community destinations such as libraries, schools, parks, shopping districts, and civic buildings. Wayfinding is important for people to be able to navigate throughout Sunnyvale. Signs along the bicycle network should indicate the direction of travel, the locations of major destinations, and the time/distance to these destinations along the network.

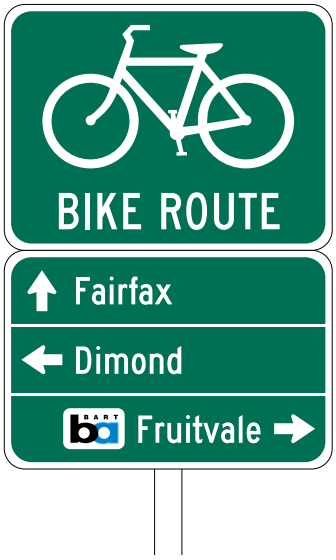
Sunnyvale currently has three guided bicycle routes, but does not have a consistent wayfinding sign program implemented throughout the rest of the city's bicycle network. This program could serve both wayfinding and safety purposes including:

- Helping to familiarize users with the network
- Helping users identify the best routes to destinations
- Helping users understand travel time and distances to their destinations

Wayfinding Signage Examples

Confirmation Sign

Turn Sign



Decision Sign

Wayfinding Recommendation: Comprehensive Wayfinding Program

The City of Sunnyvale can develop and implement a comprehensive wayfinding program for bicyclists, integrating this program with Caltrain stations, downtown wayfinding or branding initiatives, and signage along the Bay Trail and other regional trail systems.

An example of a location in need of wayfinding is along the John W. Christian Trail where the user must deviate from the trail using surface streets to cross Fair Oaks and Lawrence Expressway.

A community-wide bicycle wayfinding program would identify:

- Sign locations
- Sign type - what information should be included and design features
- Key destinations to be highlighted on each sign
- Approximate distance and/or travel time to each destination

BICYCLE PROGRAMMATIC RECOMMENDATIONS

This section describes recommended bicycle-related programs for the City of Sunnyvale. Additional encouragement and educational bicycle programming for youth can be found in Chapter 6: Safe Routes to School Plan.

Adult Bicycling Skills Classes

Most adults biking have not received training on safe bicycling practices, the rules of the road, and bicycle handling skills. Bicycling skills classes can address this education gap. With a large planned increase in bicycle infrastructure in the coming years, the City should sponsor and partner with other organizations to provide Adult Bicycle Skills classes as a way to encourage people who are inexperienced or less comfortable biking to try out new facilities.

The League of American Bicyclists offers classes taught by certified instructors. In addition, the Silicon Valley Bicycle Coalition and Santa Clara Valley Transportation Authority offer adult bicycle education classes periodically and at the request of local jurisdictions.

Recommendation: This Plan recommends the City support adult bicyclist skills classes.

Employer-Based Encouragement Programs

Though the City cannot host these programs, it can work with or provide information to employers about commuting by bicycle. Employers can host bicycle classes and participate in Bike to Work Day.

Employers can also set up a National Bike Challenge (nationalbikechallenge.org) account so that employees can log their hours and set up an internal contest for who logs the most hours.

Recommendation: This Plan recommends the City collaborate with employers to implement bicycle related programs.

Bicycle Friendly Community

The League of American Bicyclists recognizes communities that improve bicycling conditions through education, encouragement, enforcement, and evaluation programs. Communities can achieve diamond, platinum, gold, silver, or bronze status, or an honorary mention. Bicycle-friendliness can indicate that a community is healthy and vibrant.

Like good schools and attractive downtowns, bicycle-friendliness can increase property values, spur business growth, and increase tourism.

Sunnyvale is currently a Bronze-level Bicycle Friendly Community.

Recommendation: This Plan recommends the City reapply for an elevated Bicycle Friendly Community status after implementation of the priority projects and many of the recommended programs identified in this Plan.

Bikeway Implementation

With limited funding, the City of Sunnyvale has to determine how to prioritize the proposed bikeway recommendations.

Some of these prioritized projects can be completed more quickly. For instance, projects with community support and minimal trade-offs can be installed as part of the City's capital improvement funds. Other prioritized projects may be more complex and require additional study, or involve multi-jurisdictional coordination. Even if these projects are prioritized as "high priority", these projects will require the City seeking out additional grant funding opportunities.

The intent of prioritizing projects is to create a strategic list to guide implementation, recognizing budget and staff limitations. Prioritization results are flexible concepts that serve as guidelines. Over time as development occurs or other changes to land uses and the transportation network take place, this framework can be used to reevaluate remaining projects and continue pursuing implementation of this Plan. For example, a low priority spot improvement may be completed ahead of a high priority project due to immediate funding opportunities as part of a redevelopment or larger project. A high priority project may require additional study and funding making it take longer to implement.

Methodology

Recommended projects were evaluated using five criteria that support the vision and goals of the Bicycle Plan. The prioritization process assigns a number between 0 and 6 to all recommendations, based on the criteria outlined in Table 7. The collision reduction criterion is 2 points, correlating to what the project team heard that safety on a roadway is the greatest determinate of whether people will bike there. Based on the frequency of scores, projects will be sorted into high, medium, and low priority categories.

Table 7. Criteria for Recommendation Prioritization

Criteria	Measure	Points
Collision Reduction	Projects that are within close proximity (250 feet) of at least one bicycle-related collision.	1
	Projects that provide facilities on the High Injury Network (as developed by the Vision Zero Plan) or provides an alternative route to the High Injury Network.	1
Equity	Projects that are located within a disadvantaged community, as defined by MTC's Community of Concern.	1
Access to Key Destinations	Projects that connect people within 500 feet of a Caltrain station, VTA light rail station, school, trail, or major employment area.	1
Community-Identified Need	Projects that were identified through multiple engagement efforts with unique stakeholders.	1
Cross-Town Connection	Projects that are included as part of the Low-Stress Spine Network.	1

Table 8. Project Prioritization

High Priority	
Spot	25 projects
Bikeways	24 projects
Medium Priority	
Spot	32 projects
Bikeways	39 projects
Low Priority	
Spot	19 projects
Bikeways	26 projects

Priority Bikeway Projects

Projects that score between 4 and 6 are categorized as **high priority**. Projects receiving a score of 3 are categorized as **medium priority**. Projects receiving a score of 2 or less are categorized as **low priority**.

High, medium, and low priority projects can be viewed in the following tables and maps, and a full list of project prioritization scoring can be found in Appendix B.

Rows in the table that are italicized are located outside of the City's public right-of-way and will require coordination with other agencies.

Table 9. Bicycle Spot Improvement Project Prioritization

STREET 1	STREET 2	DESIGN	ALSO IN PED PLAN
High Priority			
Bernardo Ave.	**Evelyn Ave.**	Crossing Improvement	x
Bernardo Ave.	**Fremont Ave.**	Crossing Improvement	x
Bernardo Ave.	**El Camino Real**	Crossing Improvement	x
Borregas Ave.	**Maude Ave.**	Crossing Improvement	
Borregas Ave.	**Duane Ave.**	Crossing Improvement and Traffic Control	x
Cezanne Dr.	**El Camino Real**	Crossing Improvement and Traffic Control	x
East Channel Trail	***El Camino Real***	*Crossing Improvement and Grade Separation*	
East Channel Trail	***Fremont Ave.***	*Crossing Improvement and Traffic Control*	
East Channel Trail	***Duane Ave.***	*Crossing Improvement*	
El Camino Real	***Fremont Ave.***	*Crossing Improvement*	*x*
Mary Ave.	**Evelyn Ave.**	Crossing Improvement	
Mary Ave.	**Fremont Ave.**	Crossing Improvement	x
Mary Ave.	**Remington Dr.**	Crossing Improvement and Traffic Control	
Mary Ave.	**Central Expy.**	Crossing Improvement and Traffic Control	
Mathilda Ave.	**Maude Ave.**	Crossing Improvement and Traffic Control	x
Mathilda Ave.	**Moffett Park Dr.**	Crossing Improvement	
Mathilda Ave.	**Ahwanee Ave.**	Crossing Improvement	
Murphy Ave.	**Evelyn Ave.**	Crossing Improvement	x
Pastoria Ave.	**El Camino Real**	Crossing Improvement and Traffic Control	
Fair Oaks Ave.	**El Camino Real**	Crossing Improvement	x
Sunnyvale Ave.	**Maude Ave.**	Crossing Improvement	
Sunnyvale Ave.	**Evelyn Ave.**	Crossing Improvement	
Sunnyvale Saratoga Rd.	**Fremont Ave.**	Crossing Improvement	
Wolfe Rd.	**Kifer Rd.**	Crossing Improvement	
Wolfe Rd.	**Fremont Ave.**	Crossing Improvement	x

Rows in the table that are italicized are located outside of the City's public right-of-way and will require coordination with other agencies

STREET 1	STREET 2	DESIGN	ALSO IN PED PLAN
MEDIUM			
Bernardo Ave.	**Ayala Dr.**	Crossing Improvement and Traffic Control	
Borregas Ave.	**Carribean Dr.**	Crossing Improvement	
Borregas Ave.	**John W. Christian Greenbelt**	Crossing Improvement	
East Channel Trail	***Old San Francisco Rd.***	*Crossing Improvement*	
East Channel Trail	***John W. Christian Greenbelt***	*Crossing Improvement*	
East Channel Trail	***Carribean Dr.***	*Crossing Improvement and Grade Separation*	
East Channel Trail	***Iris Ave***	*Crossing Improvement and Traffic Control*	
East Channel Trail	***Tasman Dr.***	*Crossing Improvement*	
East Channel Trail	***Evelyn Ave.***	*Crossing Improvement and Traffic Control*	
East Channel Trail	***Central Expy.***	*Crossing Improvement and Grade Separation*	
East Channel Trail	***Kifer Rd.***	*Crossing Improvement and Traffic Control*	
East Channel Trail	***Wolfe Rd.***	*Crossing Improvement and Grade Separation*	
Fair Oaks Ave.	**Evelyn Ave.**	Crossing Improvement and Traffic Control	x
Fair Oaks Ave.	**Weddell Dr.**	Crossing Improvement	x
Fieldfair Dr.	**Fremont Ave.**	Crossing Improvement and Traffic Control	
Hollenbeck Ave.	**Fremont Ave.**	Crossing Improvement	
Lawrence Expy.	***Reed Ave.***	*Crossing Improvement and Grade Separation*	
Lawrence Expy.	***Kifer Rd.***	*Crossing Improvement and Grade Separation*	
Lawrence Expy.	***Arques Ave.***	*Crossing Improvement and Grade Separation*	
Manet Dr.	**Fremont Ave.**	Crossing Improvement	x
Manet Dr.	**Remington Dr.**	Crossing Improvement	x
Mary Ave.	**Knickerbocker Dr.**	Crossing Improvement	
Mary Ave.	**Olive Ave.**	Crossing Improvement and Traffic Control	x
Mary Ave.	**Maude Ave.**	Crossing Improvement	
Mathilda Ave.	**Ross Dr.**	Crossing Improvement	x
Mathilda Ave.	**Innovation Wy.**	Crossing Improvement	
Stevens Creek/SR 85 on- and off-ramps	***Fremont Ave.***	*Grade Separation*	
Sunnyvale Ave.	**Hendy Ave.**	Crossing Improvement	
Sunnyvale Saratoga Ave.	**Alberta Ave./Harwick Wy.**	Crossing Improvement	
Sunnyvale Saratoga Ave.	**Cheyenne Dr.**	Crossing Improvement and Traffic Control	
Sunnyvale Saratoga Rd.	**Mathilda Ave.**	Crossing Improvement	
Wolfe Rd.	**Maude Ave.**	Crossing Improvement	x

Rows in the table that are italicized are located outside of the City's public right-of-way and will require coordination with other agencies

STREET 1	STREET 2	DESIGN	ALSO IN PED PLAN
Low Priority			
East Channel Trail	***Persian Dr. / SR 237***	*Crossing Improvement and Grade Separation*	
East Channel Trail	***Blythe Ave.***	*Crossing Improvement and Traffic Control*	
East Channel Trail	***Ahwanee Ave.***	*Crossing Improvement*	
East Channel Trail	***Carlisle Wy.***	*Crossing Improvement and Traffic Control*	
East Channel Trail	***Dunholme Wy.***	*Crossing Improvement and Traffic Control*	
East Channel Trail	***Arques Ave.***	*Crossing Improvement and Grade Separation*	
Kennewick Dr.	**Homestead Rd.**	*Traffic Control*	
Lakedale Expy. Bridge	**Lakedale Wy.**	Crossing Improvement	
Mary Ave. Overcrossing	**Hwy 101**	Grade Separation	
Mary Ave.	**Homestead Rd.**	Crossing Improvement and Traffic Control	
Mary Ave.	**Washington Ave.**	Traffic Control	
Pome Ave.	**Fremont Ave.**	Crossing Improvement and Traffic Control	
The Dalles Ave.	**85 Overcrossing**	Crossing Improvement and Grade Separation	
Bernardo Ave.	**Ticonderoga Dr.**	Crossing Improvement and Traffic Control	x
Crawford Dr.	**Las Palmas Park**	Crossing Improvement	
Hollenbeck Dr.	**Sheraton Ave.**	Traffic Control	
Mandarin Dr.	**Yorktown Dr.**	Crossing Improvement	
Mary Ave.	**Helena Dr.**	Crossing Improvement and Traffic Control	
Reed Ave.	**Evelyn Ave.**	Crossing Improvement	

Rows in the table that are italicized are located outside of the City's public right-of-way and will require coordination with other agencies

Table 10. Bikeway Prioritization

STREET	START	END	PROPOSED FACILITY CLASS
High Priority			
Almanor Ave.	Mary Ave.	Mathilda Ave.	2B, 2
Bernardo Ave.	Heathersone Wy.	Ayala Dr.	2B, 3
Bernardo Ave. - Homestead-Bernardo Connector	Fremont Ave.	Homestead Rd.	1
Borregas Ave.	Maude Ave.	Carribean Dr.	2B, 4
Caribbean Dr.	Moffett Park	Bordeaux Dr.	1
Cezanne Dr. - Cumulus Dr. - Azure St.	El Camino Real	Remington Dr.	3B
East Channel Trail	*Ahwannee Ave.*	*Central Expy*	*3B, 1*
East Channel Trail	*Evelyn Ave.*	*El Camino Real*	*1*
East Channel Trail	*El Camino Real*	*Homestead Rd.*	*1, 3B*
El Camino Real	*City Limit*	*City Limit*	*4, 1 (Based on ROW)*
Evelyn Ave.	Bernardo Ave.	521 feet west of Mary Ave.	4
Fair Oaks Ave.	Ahwanee Ave.	Balsam Ave.	2
Fremont Ave.	Belleville Wy.	El Camino Real	4
Kifer Rd.	East Channel Trail	Uranium Dr.	2B
Mathilda Ave.	El Camino Real	Washington St.	1, 2B, 2
Maude Ave.	City Boundary	Wolfe Rd.	2B
Moffett Park Dr.	Ellis St.	East Channel Trail	1
Old San Francisco Rd. - Reed Ave.	Sunnyvale Ave.	Willow Ave.	2B, 4
Remington Dr.	Bernardo Ave.	El Camino Real	2B
Stevens Creek Trail	*City Limits*	*Heatherstone Wy.*	*1*
Sunnyvale Ave.	El Camino Real	Maude Ave.	2B, 4
Sunnyvale Saratoga Rd.	Homestead Rd.	El Camino Real	2B, 4
The Dalles Ave. - Alberta Ave. - Bittern Dr. - Inverness Wy.	Belleville Wy.	Teal Dr.	3, 2
Wolfe Rd.	Fremont Ave.	El Camino Real	4

Rows in the table that are italicized are located outside of the City's public right-of-way and will require coordination with other agencies

STREET	START	END	PROPOSED FACILITY CLASS
Medium Priority			
Ahwanee Ave.	Mathilda Ave.	San Rafael St.	2, 3
Bernardo Ave.	Fremont Ave.	Remington Dr.	2
Birdland Bike Routes - Quail Ave. - Teal Dr. - Sage Hen Wy. - Castleton Wy. - Bryant Wy. - Eleanor Wy.	Homestead Rd.	Bryant Rd.	3, 3B
Blair Ave. - Quetta Ave.	Bernardo Ave.	Elmira Dr.	3B
Blue Jay Dr. - Blackhawk Dr. - Dunholme Wy. - Bobwhite Ave.- Floyd Ave.- Manet Dr.	Homestead Rd.	Crescent Ave.	3B, 3
Calabazas Creek Trail	Central Expy	Monroe St.	1
Calabazas Creek Trail	Existing Trail	Central Expy	1
California Ave.	Mary Ave.	Fair Oaks Ave.	2
Cascade Dr. - Cordilleras Ave.	Bernardo Ave.	Fremont Ave.	3, 3B
Caspian Ct	West Channel	Geneva Dr.	4
Central Expy Undercrossing	Bernardo Ave.	Bernardo Ave.	1
Duane Ave.	Borregas Ave.	Fair Oaks Ave.	3
East Channel Trail	*Caribbean Dr.*	*Lakehaven Ter*	*1*
East Channel Trail	Central Expy.	Evelyn Ave.	1
Evelyn Ave.	521 feet west of Mary Ave.	Deodar Wy.	2B, 4
Garner Dr. - Bradford Dr. - Ross Dr.	John W. Christian Greenbelt	Weddell Dr.	3B
Heatherstone Ave. - Hanover Ave. - Elmira Dr.	Stevens Creek Trail	Quetta Ave.	3B
Helena Dr. - Kinnewick Dr.	Bernardo Ave.	Lewiston Dr.	3B
Henderson Ave.	Lily Ave.	Bryant Wy.	3
Innovation Wy.	Moffett Park Dr.	Bordeaux Dr.	4
Java Dr.	Crossman Dr.	Mathilda Ave.	4
Lawrence Station Area Plan Trails	Various	Various	1
Lawrence Station Area Plan Bikeways - San Zeno Wy.- Aster Ave.- Sonoma Ct - Santa Vittoria	Kifer Rd.	LSAP Trail	2
Mary Ave.	Evelyn Ave.	Almanor Ave.	4
Mary Ave. Overcrossing	Mary Ave.	D St.	4
Mathilda Ave.	5th Ave.	Moffett Park Dr.	4
Mathilda Ave.	5th Ave.	1st Ave.	2
Mathilda Ave.	Del Rey Ave.	Ahwanee Ave.	2B
Morse Ave.	California Ave.	Maude Ave.	3B
Parking Lot between Motel 6 and Applied Chemicals	*Vaqueros Ave.*	*Mathilda Ave.*	*1*
Pastoria Ave.	Evelyn Ave.	El Camino Real	2, 3
Poplar Ave. - Nettle Pl - Ponderosa Ave. - Sequoia Dr. - Bluebonnet Dr. - Pin Oak Dr.	Bryant Wy.	Evelyn Ave.	3B
Taaffe St.	El Camino Real	Sunnyvale Station	3, 3B
Torrington Dr. - Spinosa Dr. - Crawford Dr.	Hollenbeck Ave.	Sunnyvale Saratoga Rd.	3B

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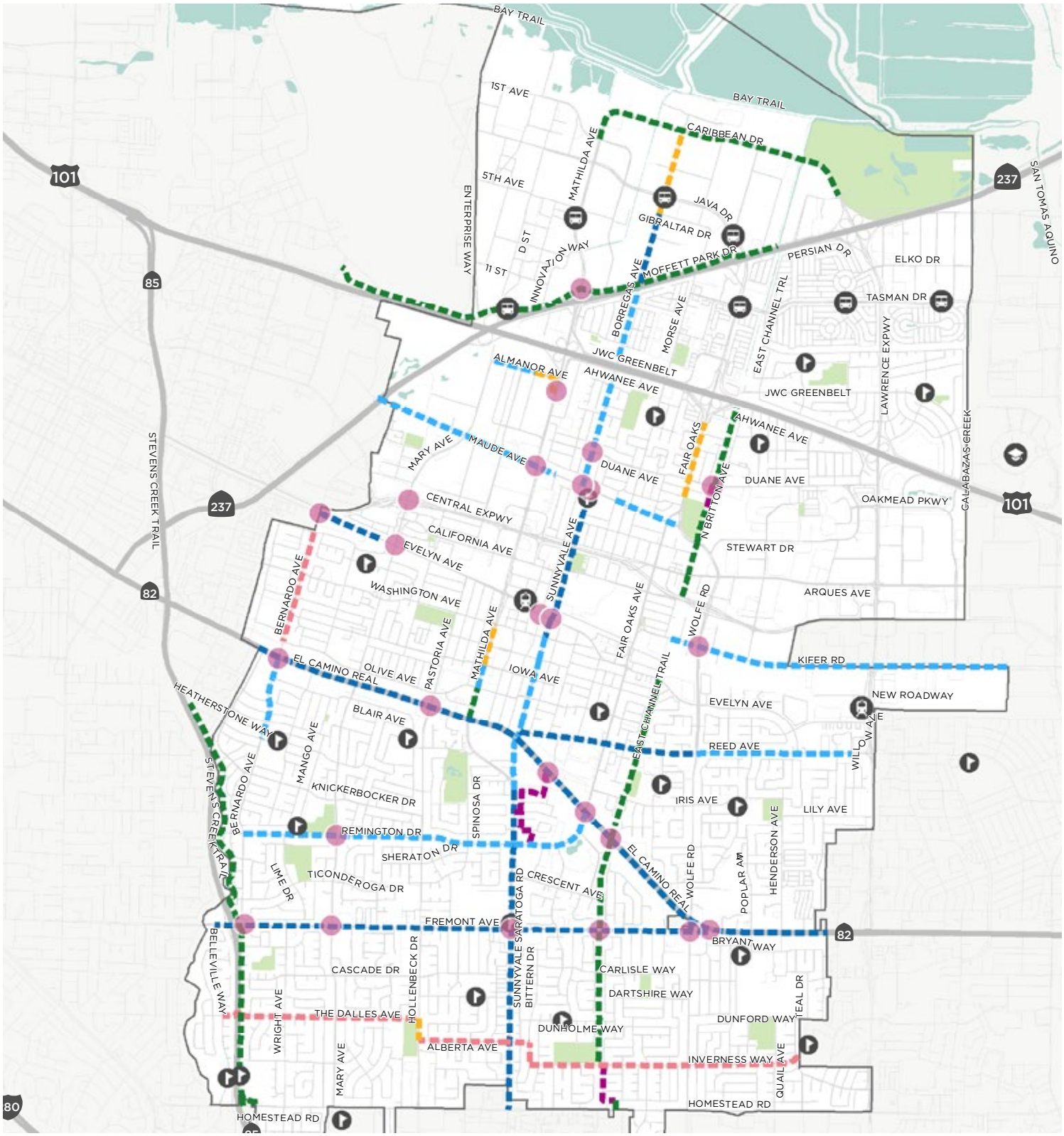
STREET	START	END	PROPOSED FACILITY CLASS
Medium Priority			
Washington Ave.	Bernardo Ave.	Mathilda Ave.	3
West Channel Trail	*Bordeaux Dr.*	*Carl Rd.*	*1*
Willow Ave.	Reed Ave.	Lawrence Expy.	2, 2B
Wolfe Rd.	Fair Oaks Ave.	Old San Francisco Rd.	4
Wright Ave. - Yorktown Dr. - Lime Dr. - Mango Ave. - Lynn Wy. - Ramona Ave.	Homestead Rd.	Blair Ave.	3B, 3
Low Priority			
5th St. (Private St.)	*Mathilda Ave.*	*Bordeaux Dr.*	*1*
Alberta Ave. - Norland Dr. - Endicott Dr. - Saskatchewan Dr. - Cheyenne Dr.	Hollenbeck Ave.	Sunnyvale Saratoga Rd.	3B
Alt Route North of Tasman Dr. Connector	East Java Dr.	Persian Dr.	1
Bay Trail Connector	Mathilda Ave.	Bay Trail	1
Belleville Wy.	Fremont Ave.	Homestead Rd.	3B
Bike/Ped Bridge	Fremont Ave.	SCT	1
Bike/Ped Bridge	Mountain View	SCT	1
Carlisle Wy. - Mallard Wy.	Bobwhite Ave.	Dartshire Wy.	3B
D St. (Private St.)	*Mary Ave. Bridge*	*5th St.*	*4*
Danforth Dr. - Russet Dr. - Hyde Park Dr.	Quetta Ave.	Spinosa Dr.	3B
Flamingo Wy. - Dartshire Wy.	Dunholme Wy.	Wolfe Rd.	3B
Flicker Wy. - Heron Ave. - Rembrandt Dr. - Crescent Ave.	Homestead Rd.	Sunnyvale Saratoga Rd.	3B, 3
Gibraltar Dr.	Borregas Ave.	Innsbruck Dr.	4
Innsbruck Dr.	Moffett Park Dr.	Java Dr.	2B, 1
Iowa Ave.	Mathilda Ave.	Sunnyvale Ave.	2B
Iris Ave.	Fair Oaks Ave.	Gail Ave.	3
La Conner Dr. - Tenaka Pl - Yukon Dr.	Sunnyvale Saratoga Rd.	Cascade Dr.	3B
New Trail	Mathilda Ave.	Sunnyvale Saratoga Rd.	1
Persian Dr.	East Java Dr.	Quality Inn Parking Lot	2
Robin Wy.	Bernardo Ave.	Knickerbocker Dr.	3B
San Junipero Dr. - San Miguel Ave.	Duane Ave.	Ahwanee Ave.	3B
San Rafael St. - Indian Wells Ave.	Ahwanee Ave.	Duane Ave.	3, 2
Silverlake Dr. - Lakedale Wy.	Lakedale Wy. Crossing	Greenbelt	3B, 2
South Bayview Ave.	Evelyn Ave.	Old San Francisco Rd.	3B
Tasman Dr.	Reamwood Ave.	Calabezas Creek Trail	4
Ticonderoga Dr. - Pome Ave. - Sheraton Dr.	Bernardo Ave.	Spinosa Dr.	3B, 3

Rows in the table that are italicized are located outside of the City's public right-of-way and will require coordination with other agencies

53 TRANSIT CTR



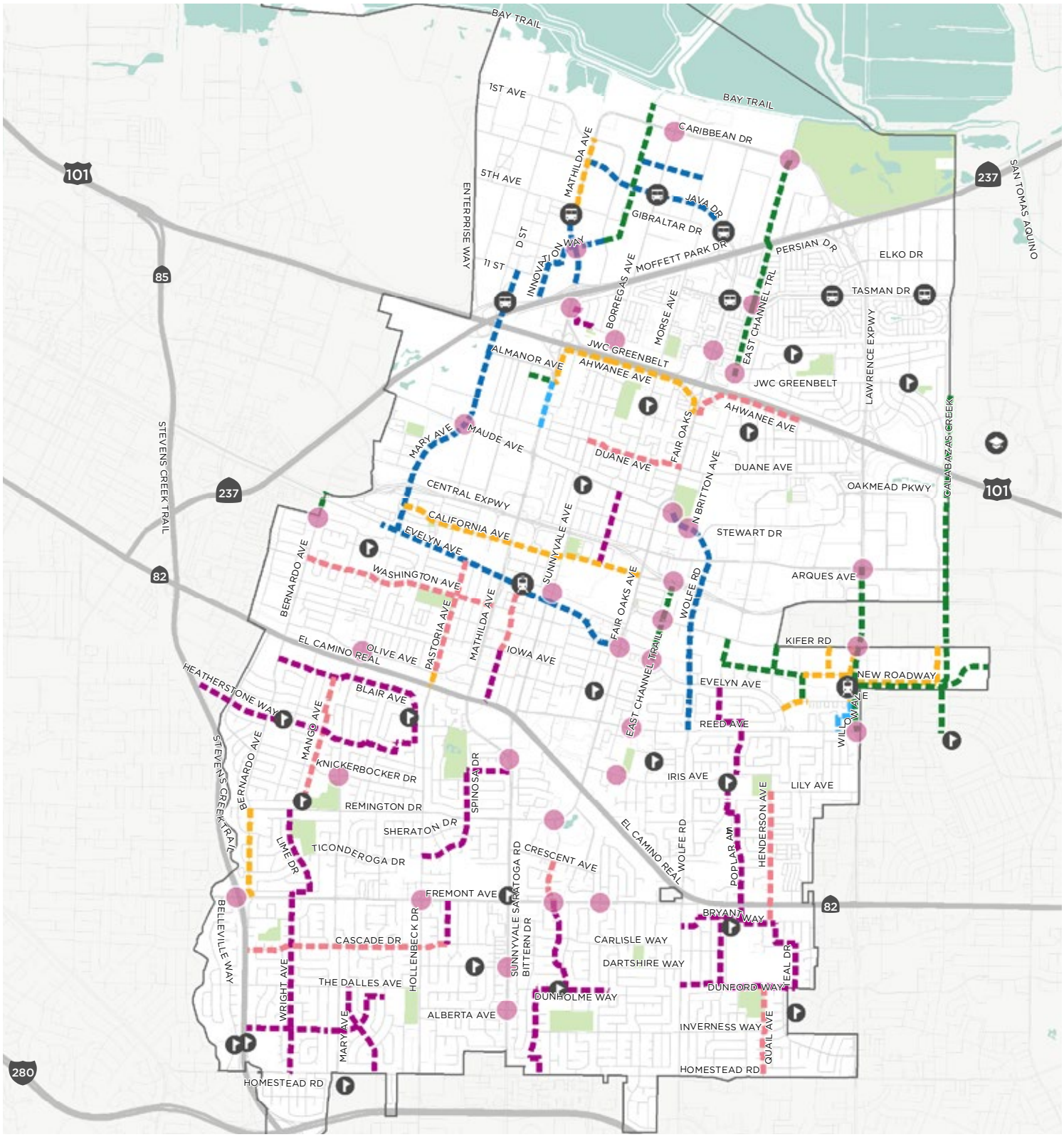
Map 19. High Priority Bikeway Projects

- Bicycle Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIB Buffered Bicycle Lane
- Class III Bicycle Route
- Class IIIB Bicycle Boulevard
- Class IV Separated Bikeway

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary

0 0.5 1 MILE



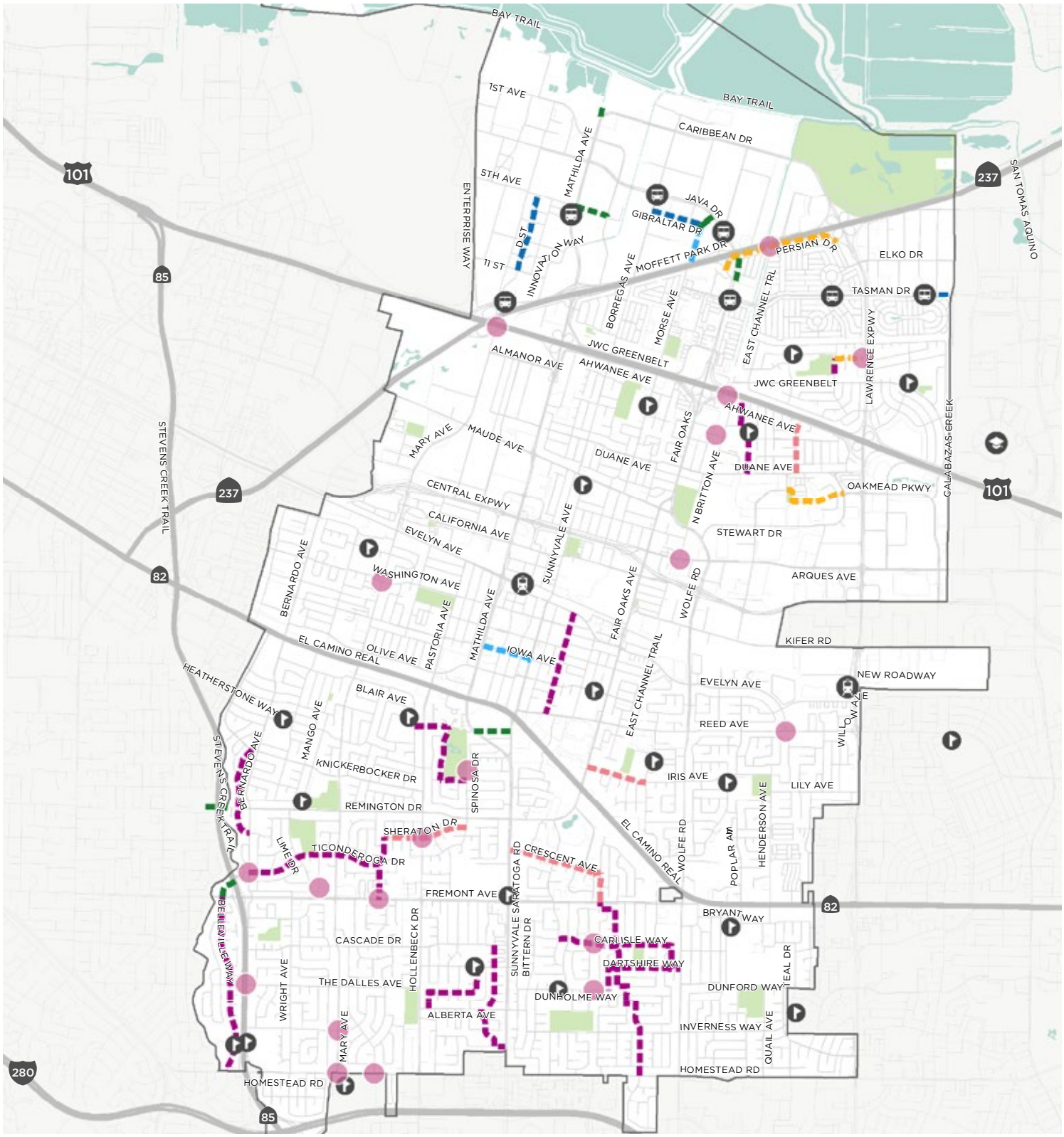
Map 20. Medium Priority Bikeway Projects

- Bicycle Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIB Buffered Bicycle Lane
- Class III Bicycle Route
- Class IIIB Bicycle Boulevard
- Class IV Separated Bikeway

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary

0 0.5 1 MILE



Map 21. Low Priority Bikeway Projects

- Bicycle Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIB Buffered Bicycle Lane
- Class III Bicycle Route
- Class IIIB Bicycle Boulevard
- Class IV Separated Bikeway

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary

0 0.5 1 MILE

Table 11. Capital Costs by Bikeway Type

Bikeway Type	Cost Estimate Per Mile Low	Cost Estimate Per Mile High	Mileage	Cost Estimate Low	Cost Estimate High
Class I Shared-Use Path	$700,000	$1,500,000	18.8	$13,160,000	$28,200,000
Class II Bicycle Lane	$132,000	$387,000	7.9	$1,042,800	$3,057,300
Class IIB Buffered Bike Lane	$172,000	$420,000	11.5	$1,978,000	$4,830,000
Class III Bicycle Route	$15,400	$25,700	12.7	$195,580	$326,390
Class IIIB Bicycle Boulevard	$75,000	$1,020,000	22.2	$1,665,000	$22,644,000
Class IV Separated Bikeway	$300,000	$2,313,000	17.1	$5,130,000	$39,552,300
Total			**90.2**	**$23,171,380**	**$98,609,990**

Design and maintenance costs are not included within bikeway costs. Design costs are typically 15% of construction costs.

Class I Shared-Use Path: Includes asphalt path and minor crossing improvements. Does not include signal modification or right of way acquisition.

Class II Bicycle Lane: Low cost assumes signage, striping. High cost assumes green conflict marking, traffic signal modification including bike signal detection.

Class IIB Buffered Bicycle Lane: Low cost assumes signage, striping, and a painted buffer. High cost assumes green conflict marking, traffic signal modification including bike signal detection, and wayfinding signage.

Class III Bicycle Route: Includes signage and striping.

Class IIIB Bicycle Boulevard: Low cost assumes signage, striping, and minor traffic calming such as speed humps, and up to 3 other elements such as medians, diverters or a raised crosswalk. High cost assumes low cost items plus traffic circles, curb extensions, traffic signal modification including bike signal detection, and wayfinding signage.

Class IV Separated Bikeway: Low cost assumes signage, striping, and a painted buffer with flexible delineators. High cost assumes green conflict marking, traffic signal modification including bike signal

Capital Costs

This Plan recommends at least $23 million in bicycle projects to help Sunnyvale achieve its vision of becoming a Complete Streets Community (Table 11). Cost estimates are provided in 2020 dollars and only include construction costs, not design. Due to annual inflation, cost estimates may increase in the future. Cost estimates for spot improvements will be developed in a later design phase following more detailed engineering analysis.

Maintenance Costs

Additional cost considerations include the cost of maintaining and replacing bikeways. For example, Class IV separated bikeways require the City to purchase new street sweeping machines that are small enough to fit inside the facility. In addition, all bikeways will need to be re-striped when the road is repaved.

Funding Sources

Identifying and securing funding for the projects identified in the Bicycle Plan is crucial to achieving the vision and goals established in this plan. A variety of sources exist to fund bicycle infrastructure projects, programs, and studies. Local and regional funding sources can be used for the construction or maintenance of bicycle improvements, along with competitive grant programs. Table 12 displays these funding sources as well as the project types eligible under each source. Short descriptions of each funding source are in the following table.

Table 12. Funding Sources

	ON-STREET BIKEWAYS	TRAILS	SAFE ROUTES TO SCHOOL	SAFE ROUTES TO TRANSIT	CROSSING/ INTERSECTIONS	BICYCLE PARKING FACILITIES	PROGRAMS	STUDIES
Local and Regional Grant Programs								
2016 Measure B (VTA)	●	●	●	●	●		●	●
Transportation Fund for Clean Air County Program Manager Fund (VTA)	●	●	●	●	●			
One Bay Area (MTC & VTA)	●	●	●	●				
Transportation Development Act, Article 3 (VTA)	●	●	●	●	●			
Transportation for Livable Communities (MTC)	●	●	●	●				
Vehicle Emissions Reductions Based at Schools Program (VTA)	●	●	●	●				
Bicycle Facilities Grant Program (BAAQMD)	●	●	●	●		●		
Climate Initiatives InMissingvative Grant Fund (MTC)	●	●	●	●				
Lifeline Transportation Program (MTC)			●	●				
State and Federal Grant Programs								
Active Transportation Program (CTC)	●	●	●	●	●		●	
Affordable Housing & Sustainable Communities (CA HCD)	●			●			●	
Urban Greening Grants (CA NRA)	●	●	●	●				
Highway Safety Improvement Program (Caltrans)	●		●	●	●			
Sustainable Transportation Planning Grants (Caltrans)								●
Solutions for Congested Corridors (CTC)	●	●			●			
Office of Traffic Safety (CA OTS)							●	
Recreational Trails Program (CA DPR)		●						
Habitat Conservation Fund (CA DPR)		●						
Other State Programs								
Local Partnership Program (CTC)	●		●	●	●		●	
Rd. Maintenance and Rehabilitation Program (Controller's Office)	●		●	●				●

LOCAL AND REGIONAL GRANT PROGRAMS

2016 Measure B

Comment start Santa Clara voters approved a half-cent sales tax in 2016 to fund transportation infrastructure investments including bicycle, pedestrian, and complete streets projects. Funding priority will go to walking projects that connect to schools, transit, and employment centers; complete gaps in the existing pedestrian network; cross major barriers; and make walking a safe, convenient form of transportation. Supported projects must be identified in city, county or regional planning documents. Measure B is expected to raise $6.3 billion (2017 dollars) over 30 years; $250 million of that has been allocated for bicycle and pedestrian improvements.

Funds are programmed by VTA.

Transportation Fund for Clean Air County Program Manager Fund

The Bay Area Air Quality Management District (BAAQMD) administers funds to the VTA for projects that reduce vehicle emissions including bicycle projects. These funds come from a $4 vehicle registration surcharge in Bay Area counties and can be used as a match for competitive state or federal programs.

Funds are programmed by VTA.

One Bay Area Grant

The One Bay Area grant program (OBAG) emphasizes funding for projects within Priority Development Areas (PDAs) in the region that are in-line with housing and land-use goals. Projects that are within or provide access to these PDAs could qualify for OBAG grants.

Funds are programmed by the Metropolitan Transportation Commission (MTC) and the Santa Clara Valley Transportation Authority (VTA).

Transportation Development Act Article 3

Transportation Development Act Article 3 (TDA 3) provides funding annually for bicycle and pedestrian projects. Two percent of TDA 3 funds collected within the county are used for TDA 3 projects. MTC policies require that all projects be reviewed by a BPAC or similar body before approval.

Funds are programmed by VTA.

Transportation for Livable Communities Program

Designed to support community-based transportation projects that bring “new vibrancy” to downtown areas, commercial cores, neighborhoods, and transit corridors. The projects resulting from these grants are intended to provide for a range of transportation choices including bicycling, should support connections between transportation and land use, and should be developed through an inclusive community planning process.

Funds are programmed by MTC.

Vehicle Emissions Reduction Based at Schools Program

The Vehicle Emissions Reduction Based at Schools (VERBS) program receives funds from MTC's Climate Initiative SRTS Program. The goals of this include reducing greenhouse gases by promoting walking, biking, transit, and carpooling to school. These federal CMAQ funds are allocated to each county based on school enrollment. The VERBS Program places an additional focus on safety and reducing collisions.

Funds are programmed by VTA.

Bicycle Facilities Grant Program

Throughout the nine-county Bay Area, the Bicycle Facilities Grant program strives to reduce emissions from on- road vehicles and improve air quality by helping residents and commuters shift to bicycling and walking as alternatives to driving for short distances and first- and-last mile trips. The Bay Area Air Quality Management District (BAAQMD) has grant programs that fund both on-street facilities and bicycle parking facilities. Funding comes from the BAAQMD's Transportation Fund for Clean Air.

Funds are programmed by BAAQMD or the VTA.

Climate Initiatives Innovative Grants Fund

MTC's Climate Initiatives Program promotes innovative ways to reduce greenhouse gas emissions in the Bay Area; and taps federal funding for a pair of competitive grant programs. Innovative grants of $1 million and up are used to support high-impact projects that can be replicated around the region.

Funds Programmed by MTC

Lifeline Transportation Program

Uses both state and federal funds to provide Lifeline grants for projects that meet mobility and accessibility needs in low-income communities across the Bay Area. MTC establishes new guidelines for each cycle of Lifeline grants,but the goal is the same each time: fund community-based transportation projects developed through a collaborative and inclusive process. Lifeline projects must address transportation gaps or barriers identified in community-based transportation plans or other local planning efforts in low-income neighborhoods.

Funds programmed by MTC

STATE AND FEDERAL GRANT PROGRAMS

California Active Transportation Program

California's Active Transportation Program (ATP) funds infrastructure and programmatic projects that support the program goals of shifting trips to walking and bicycling, reducing greenhouse gas emissions, and improving public health. Competitive application cycles occur every one to two years, typically in the spring or early summer. Eligible projects include construction of bicycling and walking facilities, new or expanded programmatic activities, or projects that include a combination of infrastructure and non-infrastructure components. Typically no local match is required, though extra points are awarded to applicants who do identify matching funds.

Funds are programmed by the California Transportation Commission (CTC).

Affordable Housing and Sustainable Communities Program

The Affordable Housing and Sustainable Communities Program (AHSC) funds land-use, housing, transportation, and land preservation projects that support infill and compact development that reduces greenhouse gas (GHG) emissions. Projects must fall within one of three project area types: transit-oriented development, integrated connectivity project, or rural innovation project areas. Fundable activities include affordable housing developments, sustainable transportation infrastructure, transportation-related amenities, and program costs.

Funds are programmed by the Strategic Growth Council and implemented by the Department of Housing and Community Development.

Urban Greening Grants

Urban Greening Grants support the development of green infrastructure projects that reduce GHG emissions and provide multiple benefits. Projects must include one of three criteria, most relevantly: reduce commute vehicle miles traveled by constructing bicycle paths, bicycle lanes or pedestrian facilities that provide safe routes for travel between residences, workplaces, commercial centers, and schools. Eligible projects include green streets and alleyways and non-motorized urban trails that provide safe routes for travel between residences, workplaces, commercial centers, and schools.

Funds are programmed by the California Natural Resources Agency.

Highway Safety Improvement Program

Caltrans offers Highway Safety Improvement Program (HSIP) grants every one to two years. Projects on any publicly owned road or active transportation facility are eligible, including bicycle and pedestrian improvements. HSIP focuses on projects that explicitly address documented safety challenges through proven countermeasures, are implementation-ready, and demonstrate cost-effectiveness.

Funds are programmed by Caltrans.

Sustainable Transportation Planning Grants

Caltrans Sustainable Transportation Planning Grants are available to communities for planning, study, and design work to identify and evaluate projects, including conducting outreach or implementing pilot projects. Communities are typically required to provide an 11.47 percent local match, but staff time or in-kind donations are eligible to be used for the match provided the required documentation is submitted.

Funds are programmed by Caltrans.

Solutions for Congested Corridors Program

Funded by SB1, the Congested Corridors Program strives to reduce congestion in highly traveled and congested roads through performance improvements that balance transportation improvements, community impacts, and environmental benefits. This program can fund a wide array of improvements including bicycle facilities and pedestrian facilities. Eligible projects must be detailed in an approved corridor-focused planning document. These projects must include aspects that benefit all modes of transportation using an array of strategies that can change travel behavior, dedicate right of way for bikes and transit, and reduce vehicle miles traveled.

Funds are programmed by the CTC.

Office of Traffic Safety

Under the Fixing America's Surface Transportation (FAST) Act, five percent of Section 405 funds are dedicated to addressing nonmotorized safety. These funds may be used for law enforcement training related to pedestrian and bicycle safety, enforcement campaigns, and public education and awareness campaigns.

Funds are programmed by the California Office of Traffic Safety.

Recreational Trails Program

The Recreational Trails Program helps provide recreational trials for both motorized and non-motorized trail use. Eligible products include trail maintenance and restoration, trailside and trailhead facilities, equipment for maintenance, new trail construction, and more.

Funds are programmed by the California Department of Parks and Recreation.

Habitat Conservation Fund

The Habitat Conservation Fund Program supports projects that bring urban residents into park and wildlife areas, protect plant and animal species, and acquire and develop wildlife corridors and trails.

Funds are programmed by the California Department of Parks and Recreation.

OTHER STATE FUNDS

Local Partnership Program

This program provides SB1 funds to local and regional agencies that have passed sales tax measures, developer fees, or other transportation-imposed fees to fund road maintenance and rehabilitation, sound walls, and other transportation improvement projects. Jurisdictions with these taxes or fees are eligible for a formulaic annual distribution of no less than $100,000. These jurisdictions are also eligible for a competitive grant program. Local Partnership Program funds can be used for a wide variety of transportation purposes including roadway rehabilitation and construction, transit capital and infrastructure, bicycle and pedestrian improvements, and green infrastructure.

Funds are programmed by the CTC.

Road Maintenance and Rehabilitation Program

Senate Bill 1 (SB1) created the Road Maintenance and Rehabilitation Program (RMRP) to address deferred maintenance on state highways and local road systems. Program funds can be spent on both design and construction efforts. On-street active transportation related maintenance projects are eligible if program maintenance and other thresholds are met. Funds are allocated to eligible jurisdictions.

Funds are programmed by the State Controller's Office with guidance from the CTC.

Chapter 5: Pedestrian Plan

Pedestrian Needs

There are a number of factors involved in creating a more walkable city, including the perceived comfort and safety of your walking route, and how pleasant and interesting your surroundings are. The experience of walking is fine-grained, cracks in a portion of a sidewalk or one challenging intersection crossing can affect your walking trip.

This Plan looks at existing walking conditions across the city, and community feedback gathered on barriers to walking to understand where the City should focus improving pedestrian infrastructure. The pedestrian needs analyzed in this chapter focus on four major components of walkability:

- Safety
- Publicly-Identified Barriers
- Equity
- Access to Local Needs

Then, this chapter outlines a number of focus areas, corridors, and spots that will be the focus for pedestrian improvements for the City. The pedestrian recommendation section provides examples of the types of improvements that may be implemented at different types of crossings.

In 2019, the City adopted the Green Stormwater Infrastructure Plan, which aims to gradually transform the City's traditional storm drainage infrastructure to green stormwater infrastructure. Green stormwater infrastructure, such as bioretention rain gardens and pervious pavement, helps to reduce pollutants discharged in stormwater to local waterways. Integrating green stormwater components into pedestrian facilities, such as curb extensions, can improve pedestrian safety and create more appealing walking routes.

"Green Streets," or streets that use a holistic stormwater management approach, have benefits beyond improving stormwater quality and reducing runoff. Green streets can provide shade and enhanced air quality improvements through an increased tree canopy, incorporate protected bicycle lanes buffered by vegetative features, and overall improve the beauty of a neighborhood with more plantings. The City will evaluate opportunities to integrate green streets and green stormwater infrastructure within the pedestrian recommendations.

Safety

A key strategy to creating a pedestrian-friendly environment is designing streets that are safe for people walking. Sunnyvale's Vision Zero Plan reinforces the City's priority to invest in pedestrian safety and to reduce traffic fatalities across the city.

Historical pedestrian collision data was collected for 2014-2018 and locations with more than one pedestrian-involved collision during that time frame was evaluated. The analysis identified 34 "hot spots," or intersections where two or more pedestrian crashes have occurred. Two of the intersections identified had six pedestrian crashes, at South Fair Oaks Ave. and Iris Ave., and at El Camino Real and Cezanne Dr. Eight of the 34 spots occurred on El Camino Real, and areas of Hollenbeck Ave., Fremont Ave., Remington Ave., and Fair Oaks Ave. have multiple collision hot spots. A full list of the 34 intersections can be found in Table 13.

Table 13. Areas of Two or More Pedestrian-Involved Collisions

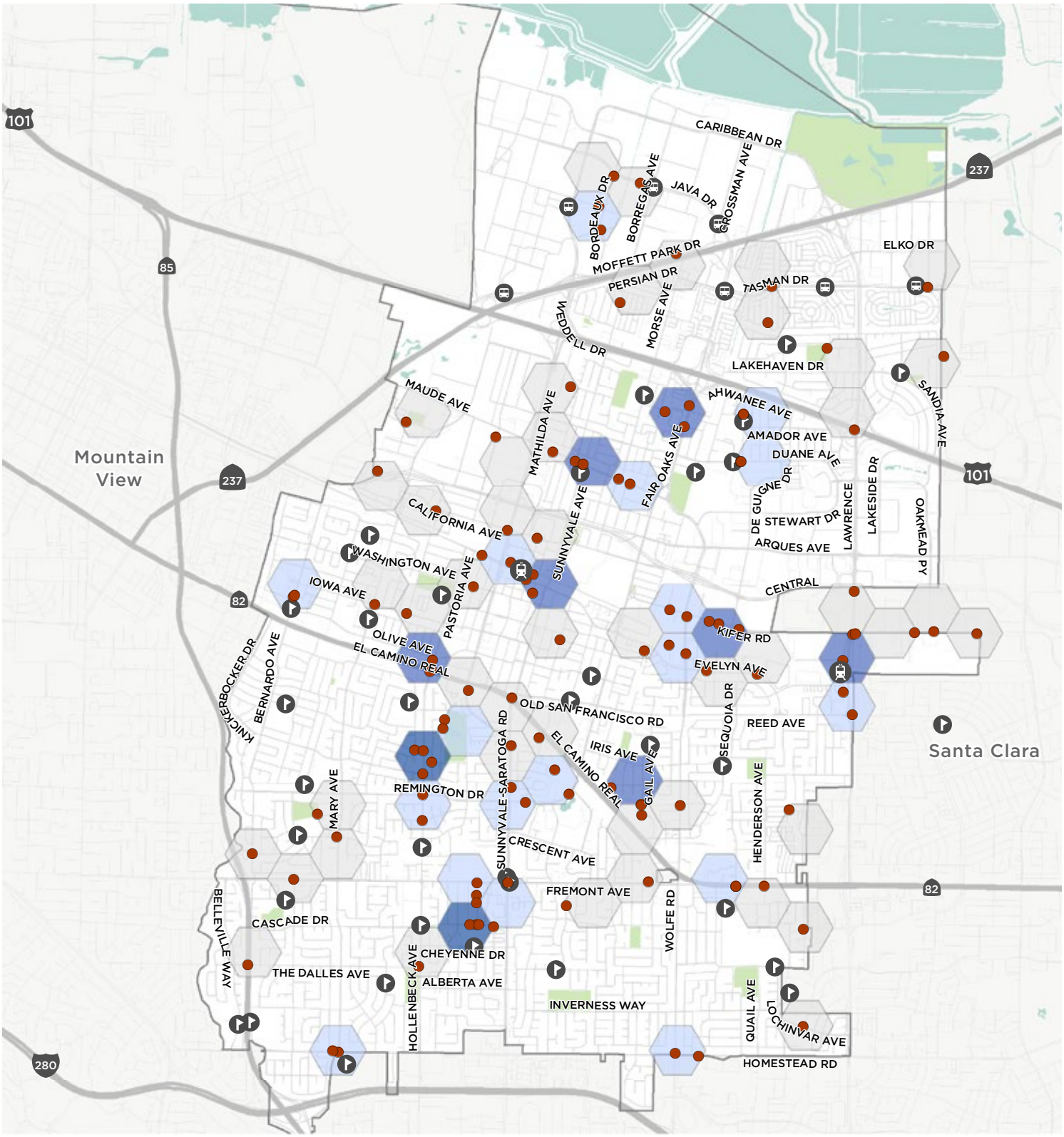
Street 1	Street 2	Ped-Involved Collisions
South Fair Oaks Ave.	Iris Ave.	**6**
Cezanne Dr.	El Camino Real	**6**
South Fair Oaks Ave.	Evelyn Ave.	**5**
Alberta Ave.	Hollenbeck Ave.	**5**
El Camino Real	Maria Lane	**4**
Fremont Ave.	Manet Dr./Bob White Ave.	**4**
El Camino Real	Sunnyvale Saratoga Rd. / Sunnyvale Ave.	**4**
El Camino Real	Remington Dr. / Fair Oaks Ave.	**4**
Fremont Ave.	Sunnyvale Saratoga Rd.	**3**
Mathilda Ave.	Ross Dr.	**3**
Henderson Ave.	El Camino Real	**3**
Helen Ave.	El Camino Real	**3**
Bernardo Ave.	El Camino Real	**3**
Marion Wy.	Wolfe Rd.	**3**
Pastoria Ave.	Iowa Ave.	**2**
Heron Ave.	Homestead Rd.	**2**
Sunnyvale Saratoga Rd.	Remington Dr.	**2**
Mary Ave.	Washington Ave.	**2**
Evelyn Ave.	Murphy Ave.	**2**
California Ave.	Sunnyvale Ave.	**2**
Remington Dr.	Manet Dr.	**2**
Bernardo Ave.	Evelyn Ave.	**2**
North Fair Oaks Ave.	Caliente Dr.	**2**
Olive Ave.	South Fair Oaks Ave.	**2**
Mathilda Ave.	Maude Ave.	**2**
El Camino Real	Taaffe St.	**2**
Mathilda Ave.	Del Rey Ave.	**2**
Hollenbeck Ave.	Danforth Dr.	**2**
Weddell Dr.	North Fair Oaks Ave.	**2**
Remington Dr.	Michelangelo Dr.	**2**
Reed Ave.	Sequoia Dr.	**2**
Arques Ave.	Commercial St.	**2**
Tasman Dr.	Vienna Dr.	**2**
Maude Ave.	Murphy Ave.	**2**

Source: UC Berkeley's Transportation Injury Mapping Systems (TIMS). Collision data collected between the dates of 1/1/2014 and 12/31/2018 (most recent available at time of publication).

Publicly Identified Barriers

Sunnyvale residents and visitors provided local insights to identify barriers to walking. The project team collected more than 300 barriers to walking through an online tool that was open from August through October 2019. Participants identified barriers such as challenging crossings, missing sidewalks, and uncomfortable roadways.

Map 22. Publicly Identified Barriers highlights the areas where multiple barriers to walking were identified. Pockets across multiple neighborhoods, including the SNAIL neighborhood, Nimitz neighborhood, and area surrounding the Sunnyvale Caltrain Station had multiple barriers identified.



Map 22. Publicly Identified Walking Barriers

Public Identified

- Barrier to Walking
- 1 barrier
- 2 barriers
- 3 barriers
- 4 barriers

Destinations

- Caltrain Station
- VTA Light Rail Station
- School
- Parks

0 0.5 1 MILE

Equity

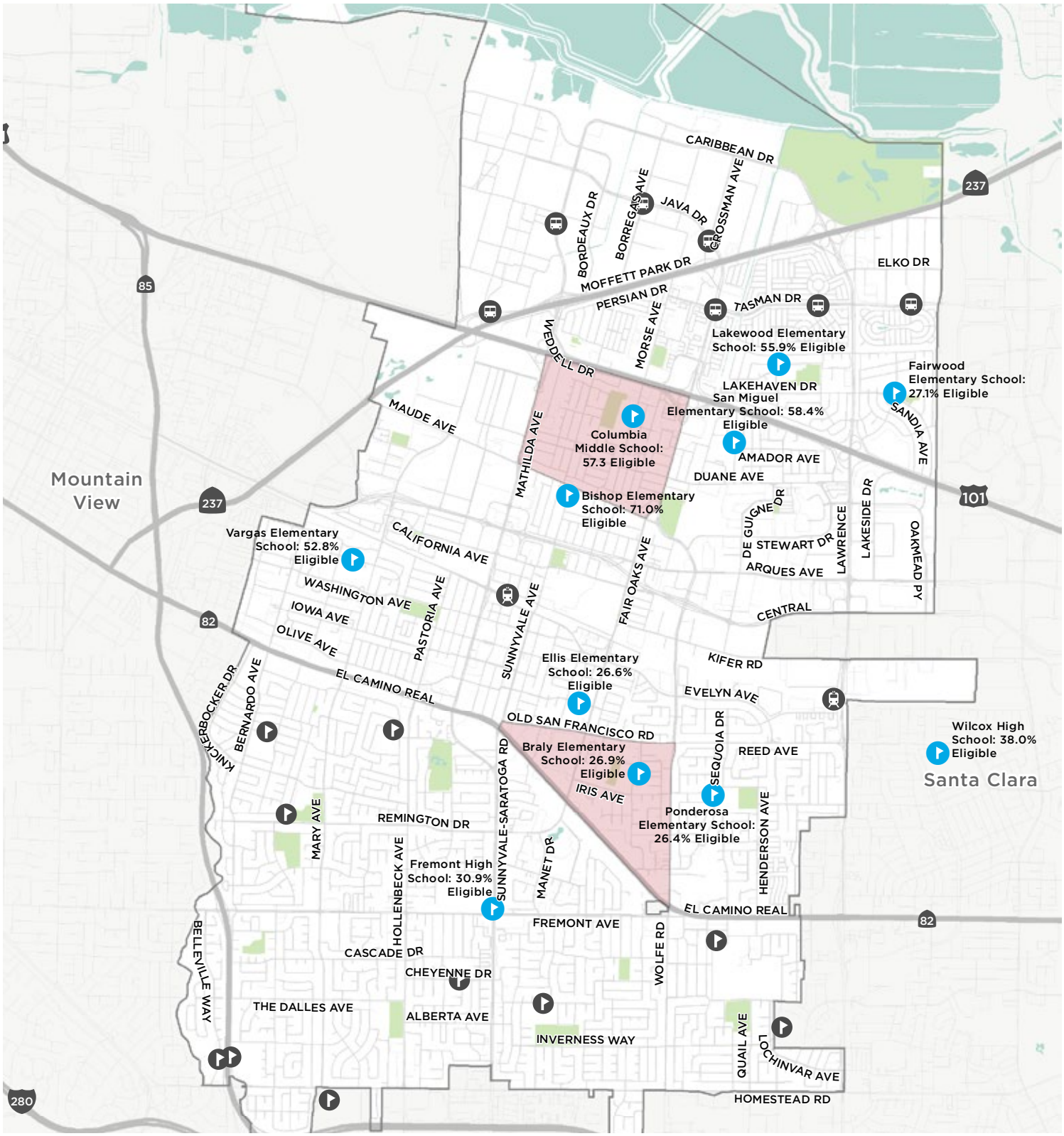
The allocation of public resources in the United States and across the San Francisco Bay Area has historically favored wealthier white communities over disadvantaged communities. Within Sunnyvale, prioritizing walkability within disadvantaged communities acknowledges that active transportation options provide economic, social, and health-promoting opportunities.

This analysis uses the Metropolitan Transportation Commission (MTC) Communities of Concern metric to identify disadvantaged neighborhoods by census tract, using the thresholds of high, higher, and highest. MTC uses the following metrics to determine these areas: race/ethnicity, low-income population (household income below 200% of the Federal poverty level), limited English proficiency population, zero-vehicle households, seniors 75 and over, population with a disability, single-parent families, and severely rent-burdened households.

This analysis also includes data on schools were a majority of students (over 50%) are eligible for Free or Reduced Price Meals (FRPM).

As shown in Map 23. Equity, Sunnyvale currently has three census tracts identified as a "high" Community of Concern. These areas include:

- Sunnyvale Neighbors of Arbor including LaLinda area, also known as the SNAIL neighborhood
- The neighborhoods captured within Old San Francisco Rd., S Wolfe Rd., and El Camino Real
- A small area to the east of Calabazas Creek that has a larger portion within the City of Santa Clara's jurisdiction



Map 23. Equity

MTC Communities of Concern

Free or Reduced Priced School Meals

- Public School with >25% of Students Eligible for FRMP

Destinations

- Caltrain Station
- VTA Light Rail Station
- Public School
- Park
- City Boundary

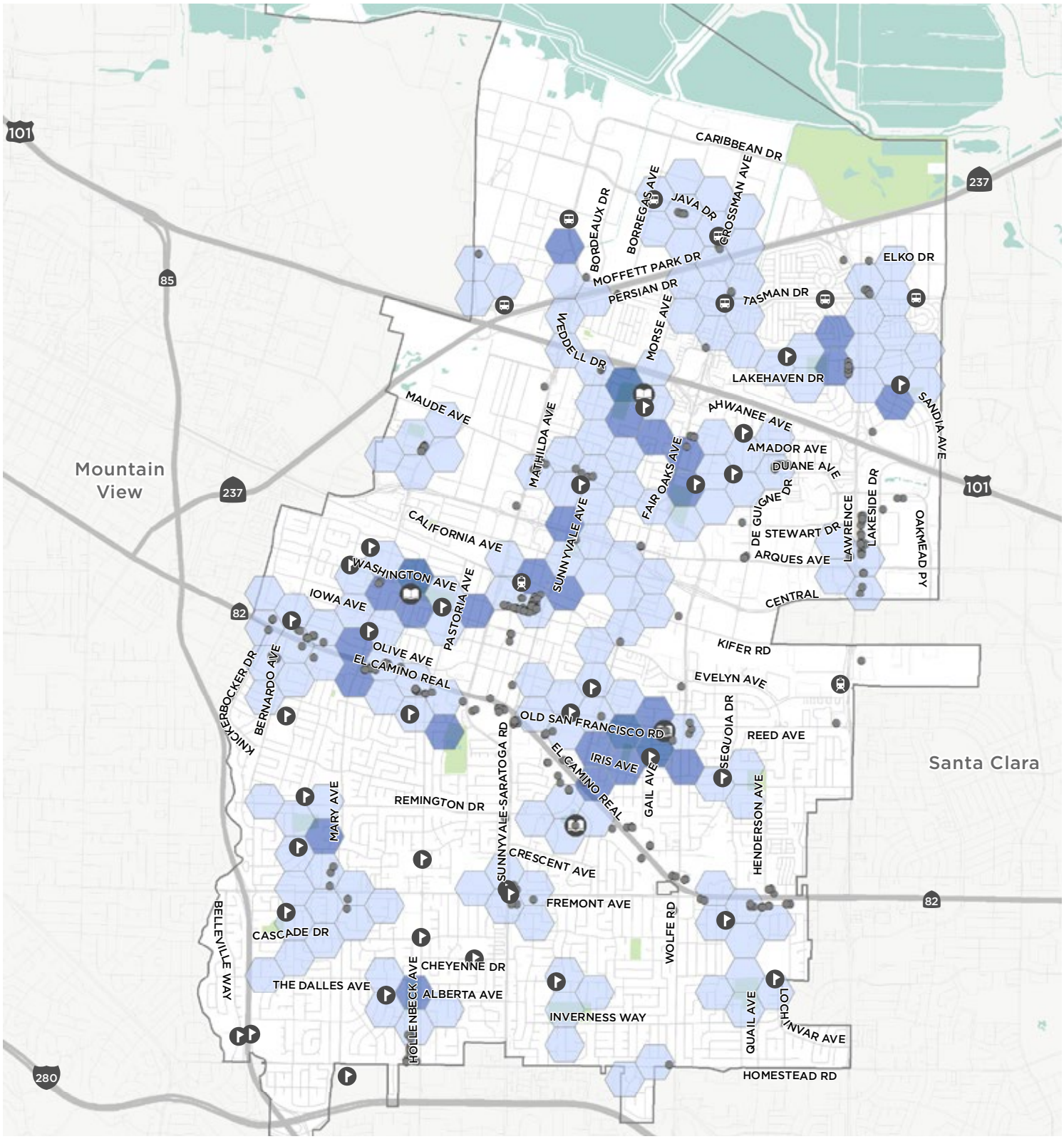
0 0.5 1 MILE

Access to Local Needs

Creating a connected and comfortable pedestrian network helps people reach their walking destinations most efficiently and safely. The fourth component of walkability analyzes how to improve people's walking access to key neighborhood-serving destinations including schools, libraries and community centers, parks, retail, and transit stops.

A pedestrian shed or "ped shed" was developed by determining the distance that could be covered by someone walking for five minutes at a typical pace. This ped shed is then displayed by drawing a quarter-mile circle around a destination. A five-minute walk is considered to be a reasonable trip to reach a destination or to connect with other modes.

Map 24. Access to Local Needs identifies areas where different categories of destinations have overlapping ped sheds, denoting these areas as having a range of two to four overlapping ped sheds depending on how many types of destinations can be reached within a quarter mile.



Map 24. Access to Local Needs

Local Needs

- School
- VTA Light Rail Station
- Caltrain Station
- Library or Community Center
- Retail
- Parks

Quarter Mile Access (# of types of destinations)

- 2
- 3
- 4

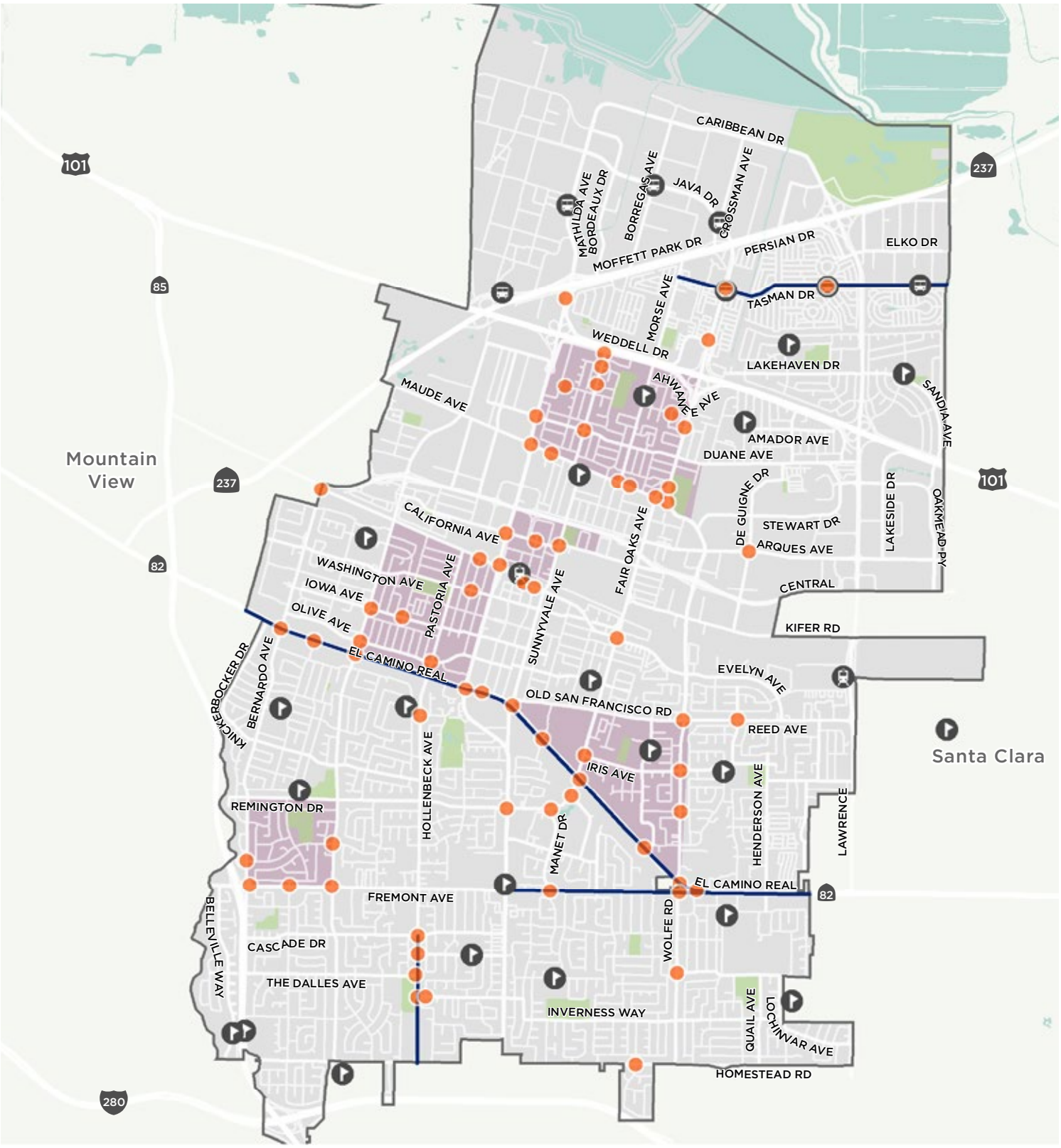
0 0.5 1 MILE

Focus Areas and Corridors

A central strategy for the Pedestrian Plan is the designation of five Focus Pedestrian Areas and four Focus Pedestrian Corridors for the city (Map 25). These zones help the City focus on areas with the highest potential for increasing walkability. The areas were developed by culminating focus areas for each of the four components of walkability: safety, equity, destination accessibility, and publicly identified.

In addition to these zones and corridors are a number of intersection safety spot improvements that have been identified through our pedestrian safety analysis. Even though these intersections are outside of the Focus Areas and Corridors, the history of pedestrian collisions at these intersections warrant City attention.

The City acknowledges and will reference the pedestrian improvements presented in Area L and Area F of VTA's Pedestrian Access to Transit Plan.



Map 25. Pedestrian Recommendations

Pedestrian Recommendations

- Pedestrian Improvement
- Focus Corridor
- Focus Area

Boundaries + Destinations

- Public School
- Caltrain Station
- VTA Light Rail Station
- Park
- City Boundary

Vision, Goals, and Metrics

The goals for the Pedestrian Plan reflect the priorities expressed by the community throughout the public outreach phase. Discussions with City departments, best practices across the nation, and input from community stakeholders have shaped the proposed strategies and policies intended to help the City achieve these goals.

Vision Statement

Sunnyvale is a Complete Streets Community where residents and commuters have the choice to bicycle and walk to meet their transportation needs on a connected, comfortable, safe, and convenient network designed for all abilities and ages.

Table 14. Performance Goals

Goal	Baseline	Source
Reduce traffic fatalities and serious injuries by 50% by 2029	61 pedestrian and bicycle related fatality and serious injuries (2014-2018)	Sunnyvale Vision Zero Plan (2019)

GOAL 1

Design a more comfortable, connected, and accessible pedestrian network that serves users of all ages and abilities

- **Policy 1:** Continue to assess opportunities to fill in sidewalk gaps and expand sidewalk connectivity to new developments.
  - » **Action 1.1** Install and connect sidewalks and install safe crosswalks in industrial and office areas.
  - » **Action 1.2** When public right-of-way is available, identify funding sources or apply to grants to support construction of new sidewalks.
  - » **Action 1.3** For areas without sidewalk that were previously annexed from the County such as the Raynor-Park and Birdland neighborhoods, in order to install sidewalks in these areas, the annexation documents and the associated Master Plan for Services indicated that residents in the neighborhood would need to petition the City and hold an election to form an assessment district to pay for the sidewalk and the related utilities. Alternatively, the City Council could choose to fund the construction of such improvements.
- **Policy 2:** Work to eliminate barriers to pedestrian travel in the city.
  - » **Action 2.1:** Continue to enforce the sidewalk maintenance program per Municipal Code 13.08.380 to ensure the pedestrian network is free from obstructions.
  - » **Action 2.2:** Work with adjacent cities to eliminate barriers and facilitate ways to get across barriers to travel such as discontinuous streets, trails, bike lanes, sidewalks, and paths.
  - » **Action 2.3:** Work with online mapping companies to ensure that recommended walking routes within City limits are accurate.
- **Policy 3:** Continue to identify intersections for improvements that facilitate pedestrian travel and meet Americans with Disabilities Act (ADA) requirements.
  - » **Action 3.1:** When possible, evaluate intersections and locations for installing new or enhancing existing crosswalks, curb extensions, pedestrian-scale lighting, and other improvements.

» **Action 3.2:** Consider implementing leading pedestrian interval (LPI) phases in high pedestrian demand areas such as downtown to facilitate safe and efficient pedestrian travel. Coordinate with Caltrans on implementing LPI crossing El Camino Real. When possible, review signal timing and locations at high-demand locations to identify and adjust for increased pedestrian clearance time and/or shorter pedestrian waiting times.

GOAL 2

Design and implement programs to support and incentivize pedestrian travel

- **Policy 4:** Implement pedestrian friendly designs and facilities.
  - » **Action 4.1:** Continue to make available Sunnyvale's free Street Tree Planting program to produce a more pleasant walking experience for pedestrians.
  - » **Action 4.2**: Continue to provide pedestrian facilities, such as street trees, benches, waste receptacles, and landscaping, in the furniture zone when planned for and where space allows.
  - » **Action 4.3:** Work with Caltrain and the Santa Clara VTA to provide more pedestrian amenities such as benches and covered waiting areas at transit stops with real-time transit info. Sunnyvale will reference VTA's Transit Passenger Environment Plan (TPEP), which provides recommendations based on stop ridership.
  - » **Action 4.4:** Continue to update toolkit of available traffic calming measures to reflect best practices.
- **Policy 5:** Target pedestrian improvements in areas with high numbers of seniors (e.g. senior centers, hospitals) to allow the senior community greater accessibility to services, transit, and other amenities.
  - » **Action 5.1:** Collaborate with City departments to implement Sunnyvale's Age-Friendly Community Action Plan. For more information see: https://sunnyvale.ca.gov/news/topics/agefriendly/default.htm
- **Policy 6:** Introduce and promote education, encouragement, and outreach for pedestrian programs, as well as enforcement programs to further support pedestrian safety.
  - » **Action 6.1:** Continue to develop effective safety programs for youths, adults, and seniors that educate pedestrians and drivers of their rights and responsibilities.
  - » **Action 6.2:** Continue to promote the City's Access Sunnyvale site to encourage residents to report sidewalk hazards within the City.

GOAL 3

Evaluate pedestrian planning progress on a regular basis and adapt the City's efforts to increase effectiveness

- **Policy 7:** Develop a system for reporting on progress made on completing the goals and policies of the Pedestrian Plan.
  - » **Action 7.1:** Prepare and present a triennial report on progress made on achieving the goals and implementing the policies of this plan to the Bicycle and Pedestrian Advisory Commission.
  - » **Action 7.2:** Update the Pedestrian Plan every 10 years.
  - » **Action 7.3:** Implement Vision Zero policies and designs from the Vision Zero Plan - Countermeasures Toolbox to reduce traffic fatalities and serious injuries by 50 percent by 2029.

Pedestrian Recommendations

Infrastructure Recommendations

RECOMMENDATIONS BY FOCUS AREAS AND CORRIDORS

Proposed improvements in Sunnyvale include building improved sidewalks to close gaps in the pedestrian network and enhancing crossing conditions at intersections. Recommendations were evaluated and are mapped within Pedestrian Priority Areas and Corridors. These areas are directly shaped by the streets and paths that provide important walking connections to the highest number of neighborhood destinations such as schools, parks, libraries, and transit stops.

See Tables 13-19 and Maps 26-29 for specific spot improvement locations.

SIDEWALKS

Residents are encouraged to walk when they know they can expect shaded, wide, obstruction-free, and connected sidewalks along with conveniently located and low-stress street crossings. Businesses and commercial areas can thrive where sidewalks have been designed at appropriate scale for the street-level activity.

The City of Sunnyvale understands that sidewalk design should go beyond minimums widths and provide necessary pedestrian amenities. The City has over 10 design standards for new sidewalks at varying widths and designed to be either attached (directly next to roadway) and detached (separated from roadway by buffer, such as planting strip). In addition, the City has adopted location-specific sidewalk standards for associated Specific and Precise Plans.

Existing sidewalk gaps (identified in Map 3. Pedestrian Connectivity) and other deficiencies can be addressed in different ways, depending on the ownership of the sidewalk:

- **Within the City's Right-of-way:** For areas that are within the City's right-of-way, sidewalks can be installed in a couple of ways. One, as new development occurs, the City can require developers to build and upgrade sidewalks as part of the development agreement. Two, if no development is planned for that area, the City can apply for funding sources to build sidewalks.
- **On properties previously annexed from the County:** Some neighborhoods in South Sunnyvale such as the Raynor-Park and Birdland neighborhoods were previously annexed from the County. At the time of the annexation in the 1970s, the residents of Raynor Park expressed a desire to retain the rural character of the neighborhood. The annexation documents and the associated Master Plan for Services indicated that residents in the Raynor Park neighborhood would need to petition the City and hold an election to form an assessment district to pay for the sidewalk and the related utilities. Alternatively, the City Council could choose to fund the construction of such improvements. In addition, as the City implements SRTS improvements in the future, staff will evaluate opportunities to fill in small sidewalk gaps on routes to and from school within the school's immediate vicinity.
- **On private roads with Sunnyvale:** On private roads, property owners on these roads would be responsible for the installation of sidewalks and related utilities. However, the City will not take over maintenance of sidewalks on private roads.

Roadways previously annexed by the County, such as portions of Bryant Ave, do not currently have consistent sidewalks.

Areas within Moffett Park were not originally developed with sidewalks on both sides of the street. The City can require new development in this area to construct sidewalks.

Recommendation 1: Assess Sidewalk Gaps

The City has a database of sidewalk gaps to show where missing sidewalks are located. These gaps can be found on local residential streets annexed from the County, private roads, and industrial or business park areas. Residents did not elect to build sidewalks at the time of annexation. However, if they later decide they want to install sidewalks, they could choose to create an assessment district to complete these gaps. This would require them to pay into the district to have the improvements built, such as curbs, gutters, sidewalks, street lighting, storm drainage systems.

Alternatively, the City Council could choose to fund the construction of such improvements. In addition, as the City implements SRTS improvements in the future, staff will evaluate opportunities to fill in small sidewalk gaps on routes to and from school within the school's immediate vicinity. ***The City should continue to update this database and inform residents of opportunities to construct sidewalks.***

Recommendation 2: Ensure Sidewalks are Maintained

Adjacent property owners are responsible for the maintenance of sidewalks including any parking strip area between the property line and the street line, free and clean of excessive amounts of leaves, and of trash or debris (Municipal Code 13.12.050). Vegetation must also be maintained. ***The City will continue to respond to resident and business owner maintenance requests and work to resolve any issues.***

Recommendation 3: Clarify Sidewalk Width Standards

All new and redevelopment projects requiring discretionary permits are required to include sidewalks of at least six feet. Multi-family, commercial, and Specific and Precise Plan areas may require wider sidewalks (City Ordinance 18.12.160). The City has many standard details for varying width sidewalks and frontage zones and specific requirements within Specific and Precise Plans. ***The City should create a citywide map to show which standards apply to each street.*** This could be a public education tool and internal resource for staff when conducting development plan review.

Recommendation 4: Ensure Street Trees are Maintained

The provision of shade has been documented as one of the main determinants of walking as a transportation choice. In addition to providing pedestrian comfort, trees are a key component of an urban ecosystem, providing stormwater capture, carbon sequestration, and urban cooling. The City provides maintenance services for approximately 38,000 street trees, with the assistance of property owners. The City provides pruning services for street trees to maintain structural integrity and to avoid branch or trunk failure as much as possible. Residents are expected to maintain any debris in the right-of-way, water their street trees as needed and report any problems regarding their street trees. ***The City should use all methods of communication to regularly remind property owners of their responsibilities for maintaining City trees on their property and process for requesting City assistance with pruning services.***

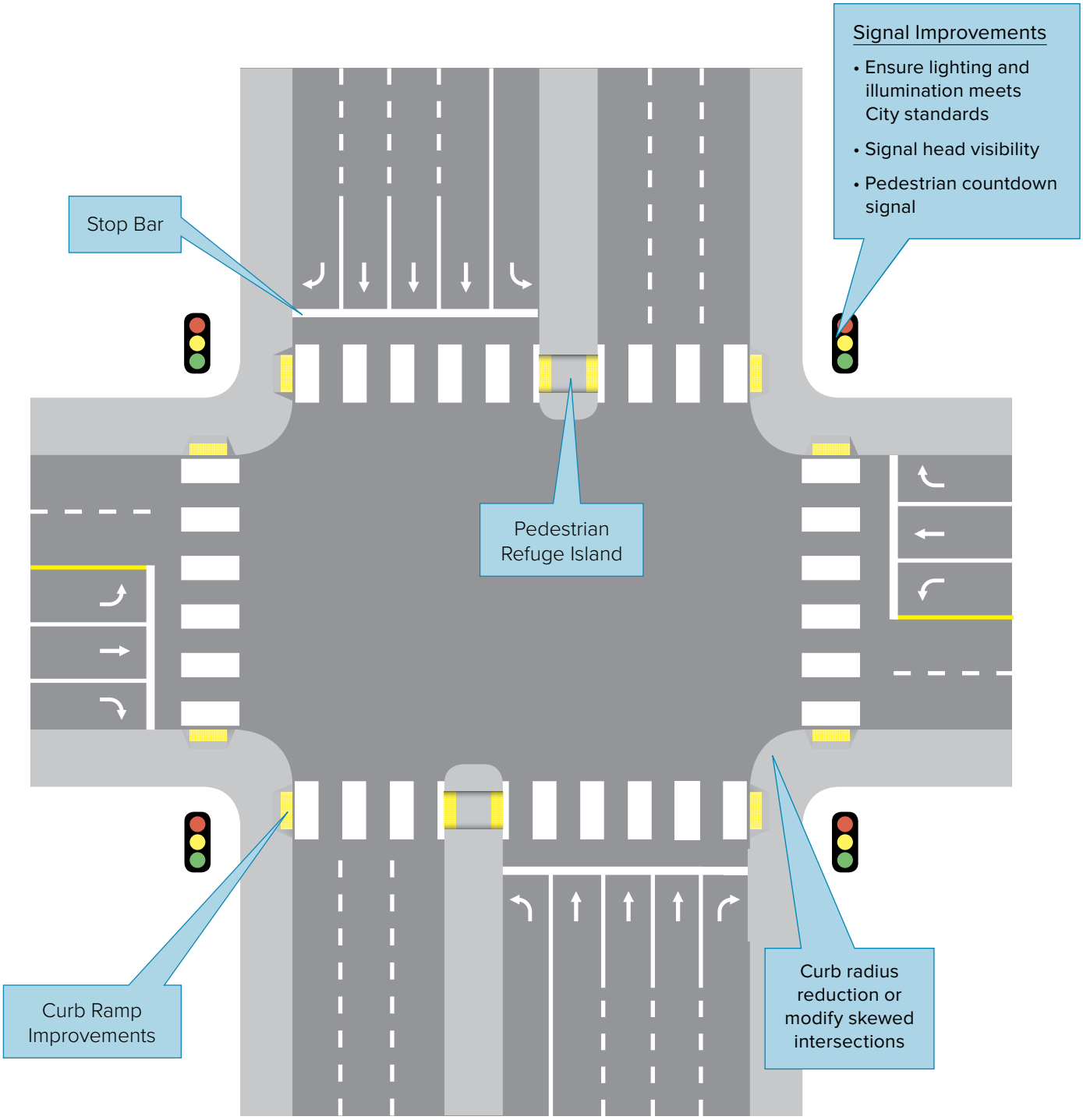
PEDESTRIAN CROSSING TYPOLOGIES

The following pages describe a number of crossing typologies that represent the types of improvements to be implemented at different intersections, based on the characteristic of the intersection. Improvements on intersections with larger arterial roadways differ from improvements on lower volume residential streets. These typologies are broken down by the characteristic of the intersection, and include the appropriate infrastructure improvements for each. The typologies include:

- Major Road Signalized Intersection
- Other Signalized Intersection
- Major Road Unsignalized Intersection
- Other Unsignalized Intersection

Table 15. Pedestrian Toolbox by Intersection Typology

Crossing Typologies	Description	Example Location	Recommended Improvements
Major Road Signalized intersection	Signalized intersection that intersects with one major road	Fair Oaks Ave. / Weddell Dr.	• Ensure curb ramps meet ADA standards • Consider installing high visibility crosswalk - specifically near schools and high pedestrian use areas • Pushback stop bar • Signal improvements: » Ensure lighting and illumination meets City standards » Improve signal head visibility » Pedestrian countdown signal • Pedestrian Refuge island for major road crossing • Evaluate pedestrian signal crossing times • Redesign of channelized rights to reduce vehicle turning speed • Install "Yield to pedestrian" signage
Other Signalized Intersection	Signalized intersection that intersects with minor or neighborhood roads	Pastoria Ave. / Iowa Ave.	• Ensure curb ramps meet ADA standards • Consider installing high visibility crosswalk - specifically near schools and high pedestrian use areas • Pushback stop bar • Signal improvements: » Ensure lighting and illumination meets City standards » Improve signal head visibility » Pedestrian countdown signal • Evaluate pedestrian signal crossing times • Remove obstacle (shrubbery, fencing, etc.) for sight-distance • Install "Yield to pedestrian" signage
Major Road unsignalized intersection	Unsignalized intersection that intersects with one major road	Taaffe St. / El Camino Real	• Ensure curb ramps meet ADA standards • Consider installing high visibility crosswalk - specifically near schools and high pedestrian use areas • Evaluate installing pedestrian hybrid beacon (HAWK) for major road crossing • Install advance yield/stop lines • Evaluate if intersection meets signal warrants • Ensure lighting and illumination meets City standards
Other unsignalized intersection	Unsignalized intersection that intersects with minor or neighborhood roads	Evelyn Ave. / Murphy Ave.	• Ensure curb ramps meet ADA standards • Crosswalk improvements: » Consider installing high visibility crosswalk - specifically near schools and high pedestrian use areas » Install curb extension/bulb-outs » Evaluate installing Rectangular Rapid Flash Beacon (RRFB) » Install raised crosswalk • Install red curb 15-20 feet from corner • Evaluate if intersection meets signal warrants • Ensure lighting and illumination meets City standards • Remove obstacle (shrubbery, fencing, etc.) for sight-distance

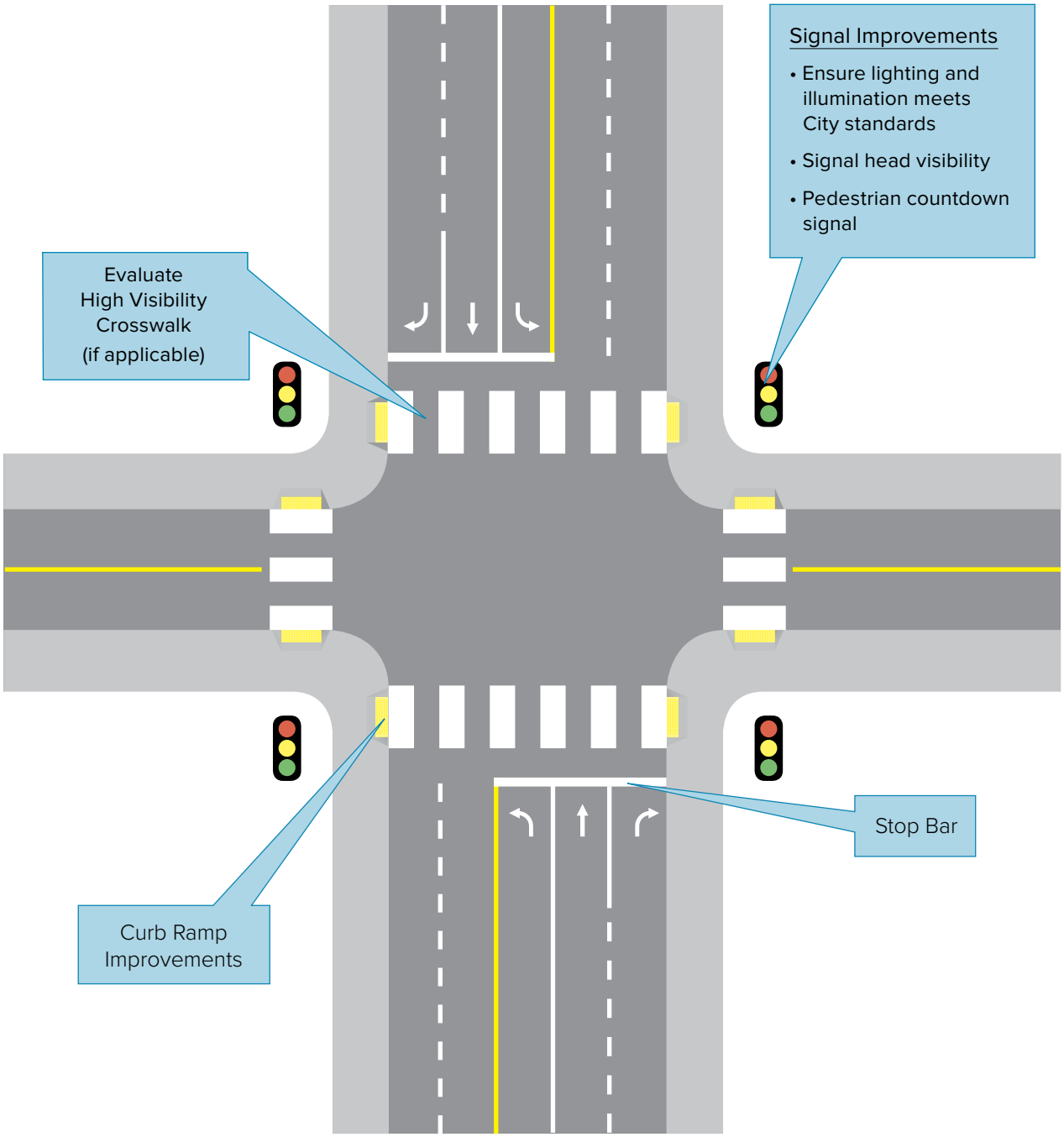


Major Road Signalized Intersection

Regarding specified improvements, lighting refers to the placement and fixture of street lights, while illumination refers to the lighting level and intensity, often measured by Lux.

OTHER IMPROVEMENTS

- Evaluate pedestrian crossing
- Redesign of channelized rights to reduce vehicle turning speed
- Install Yield to pedestrian signage
- Curb radius reduction or modify skew intersections. Evaluate crossing for High Visibility Crosswalk.

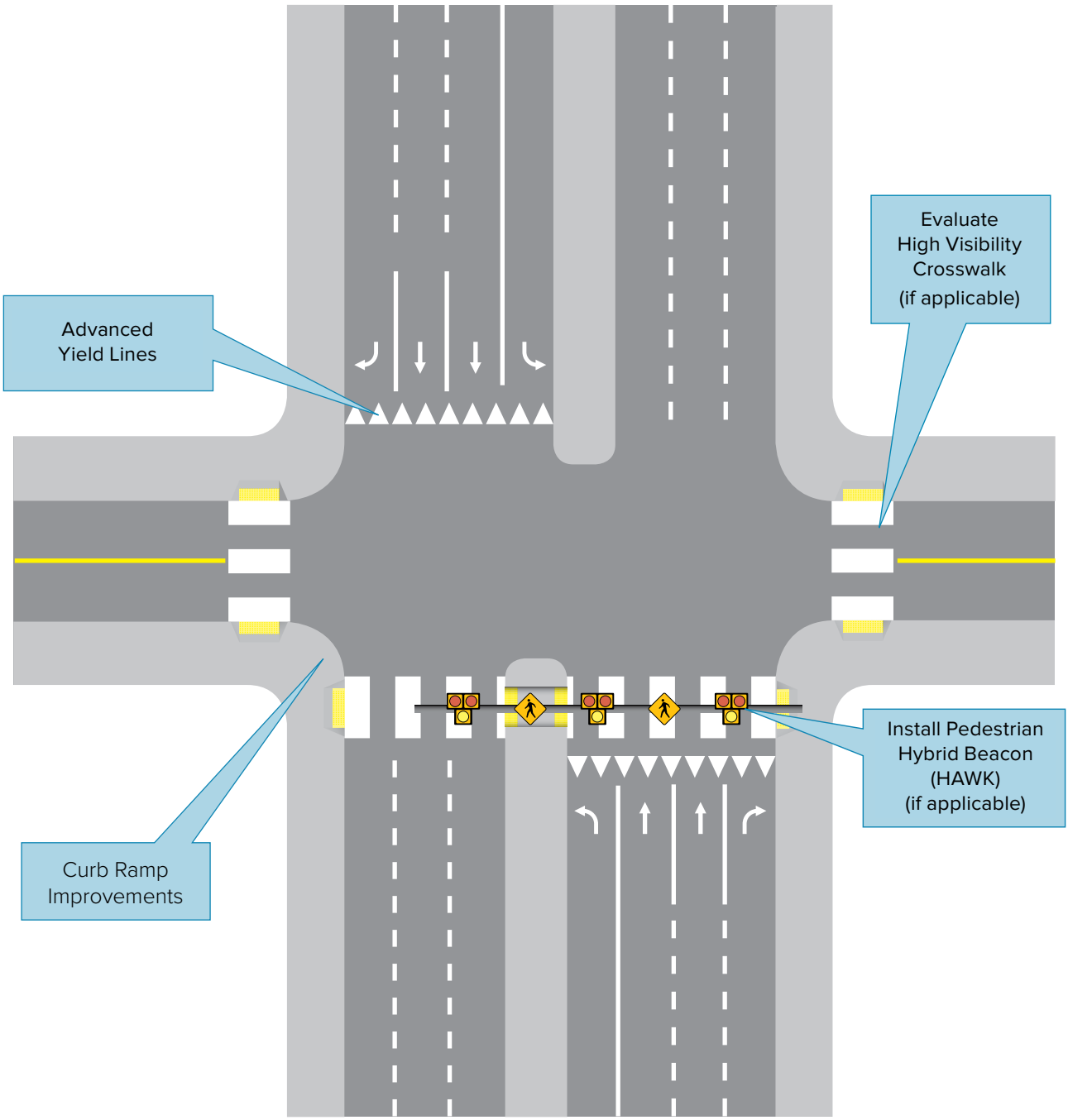


Other Signalized Intersection

Regarding specified improvements, lighting refers to the placement and fixture of street lights, while illumination refers to the lighting level and intensity, often measured by Lux.

OTHER IMPROVEMENTS

- Evaluate pedestrian crossing times
- Remove obstacles (shrubbery, fencing, etc.) for sight distance
- Install yield to pedestrian signage

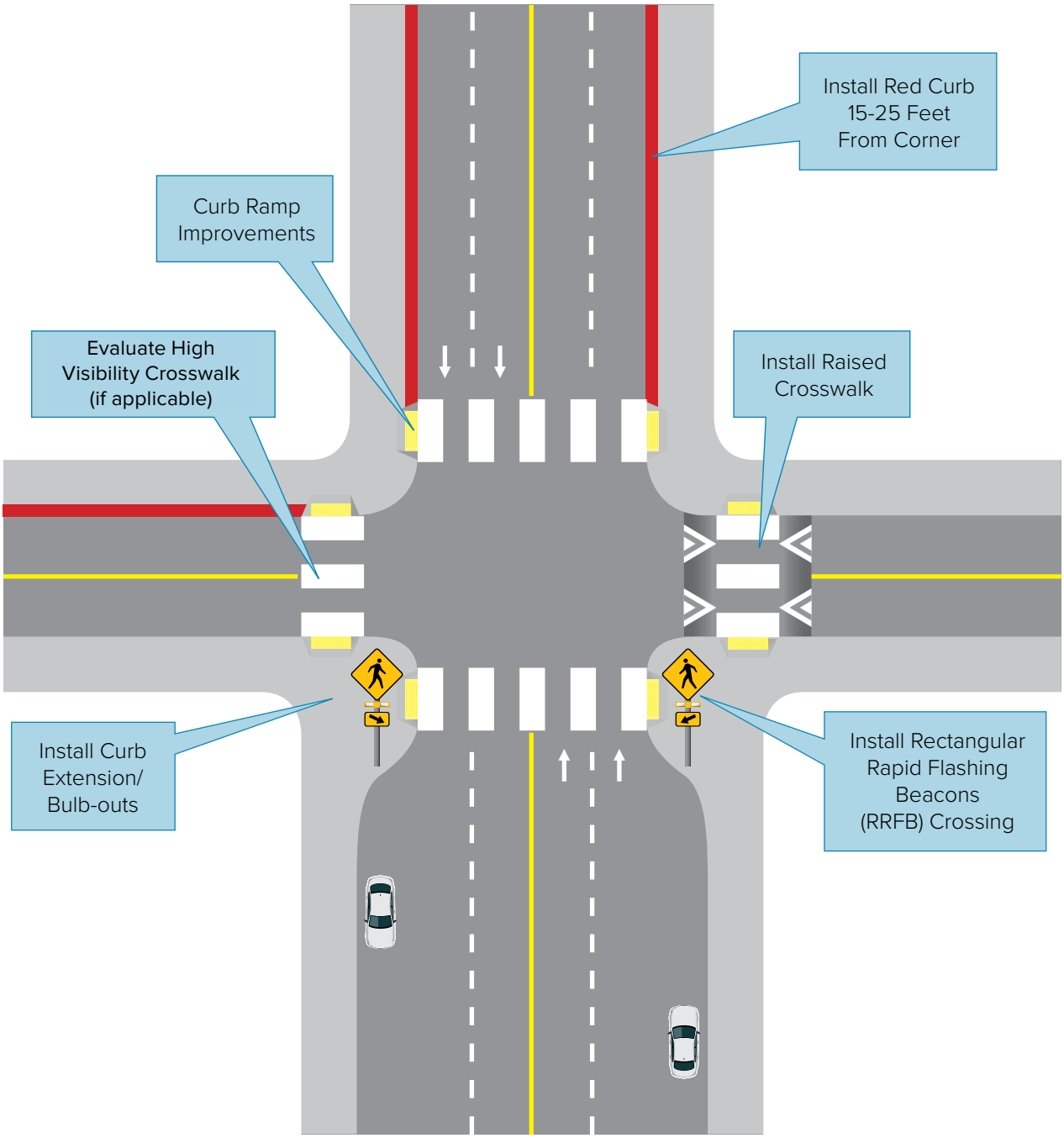


Major Road Unsignalized Intersection

OTHER IMPROVEMENTS

- Evaluate if intersection meets signal warrants
- Ensure lighting and illumination meets City standards

Regarding specified improvements, lighting refers to the placement and fixture of street lights, while illumination refers to the lighting level and intensity, often measured by Lux.



Other Unsignalized Intersection

Regarding specified improvements, lighting refers to the placement and fixture of street lights, while illumination refers to the lighting level and intensity, often measured by Lux.

OTHER IMPROVEMENTS

- Evaluate if intersection meets all-way stop controls or signal warrant
- Ensure lighting and illumination meets City standards
- Remove obstacles (shubbery, fencing, etc.) for sight distance

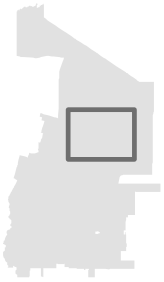
Table 16. SNAIL Neighborhood and Tasman Corridor

Intersection		Focus Area/Corridor	Crossing Typology
Borregas Ave.	**Del Norte Ave.**	SNAIL Neighborhood Zone	Other Signalized Intersection
Borregas Ave.	**Ahwanee Ave.**	SNAIL Neighborhood Zone	Other Signalized Intersection
Borregas Ave.	**Hemlock Ave.**	SNAIL Neighborhood Zone	Other Signalized Intersection
Borregas Ave.	**Duane Ave.**	SNAIL Neighborhood Zone	Other Unsignalized Intersection
Fair Oaks Ave.	**Caliente Dr.**	SNAIL Neighborhood Zone	Major Road Signalized Intersection
Fair Oaks Ave.	**Maude Ave.**	SNAIL Neighborhood Zone	Other Signalized Intersection
Mathilda Ave.	**Maude Ave.**	SNAIL Neighborhood Zone	Major Road Signalized Intersection
Mathilda Ave.	**Del Rey Ave.**	SNAIL Neighborhood Zone	Major Rd. Unsignalized Intersection
Morse Ave.	**Maude Ave.**	SNAIL Neighborhood Zone	Other Unsignalized Intersection
Roosevelt Ave.	**Maude Ave.**	SNAIL Neighborhood Zone	Other Unsignalized Intersection
San Aleso Ave.	**Ferndale Ave.**	SNAIL Neighborhood Zone	Mid-Block Crossing
San Angelo Ave.	**Maude Ave.**	SNAIL Neighborhood Zone	Other Unsignalized Intersection
San Conrado Ter.	**Ferndale Ave.**	SNAIL Neighborhood Zone	Other Unsignalized Intersection
Wolfe Rd.	**Maude Ave.**	SNAIL Neighborhood Zone	Major Rd. Unsignalized Intersection
Wolfe Rd.	**Fair Oaks Ave.**	SNAIL Neighborhood Zone	Other Signalized Intersection
Fair Oaks Ave.	**Tasman Dr.**	Tasman Dr. Corridor	Major Road Signalized Intersection
Vienna Dr.	**Tasman Dr.**	Tasman Dr. Corridor	Other Signalized Intersection

Recommendation details for the Safe Routes to School improvements (shown by the smaller blue dots) can be found in Chapter 6.

Tasman Drive between Morse Avenue and Lawrence Expressway has been identified as a Focus Corridor in the Plan and the City has heard from residents that missing sidewalks in the area are a barrier for mobility. Sunnyvale is addressing this gap, although right of way and existing trees provide constraints to adding new pedestrian facilities.

Map 26. SNAIL Neighborhood and Tasman Corridor Ped Recommendations



Recommendations

- Pedestrian Improvement
- Safe Routes to Schools Improvement
- Class I Shared-Use Path (Existing)
- Class I Shared-Use Path (Proposed)
- Pedestrian Bridge (Walk Bike)

Focus Areas

- Focus Corridor
- Focus Area

Boundaries + Destinations

- Public School
- Caltrain Station
- Light Rail Station
- Mission College
- Park
- City Boundary

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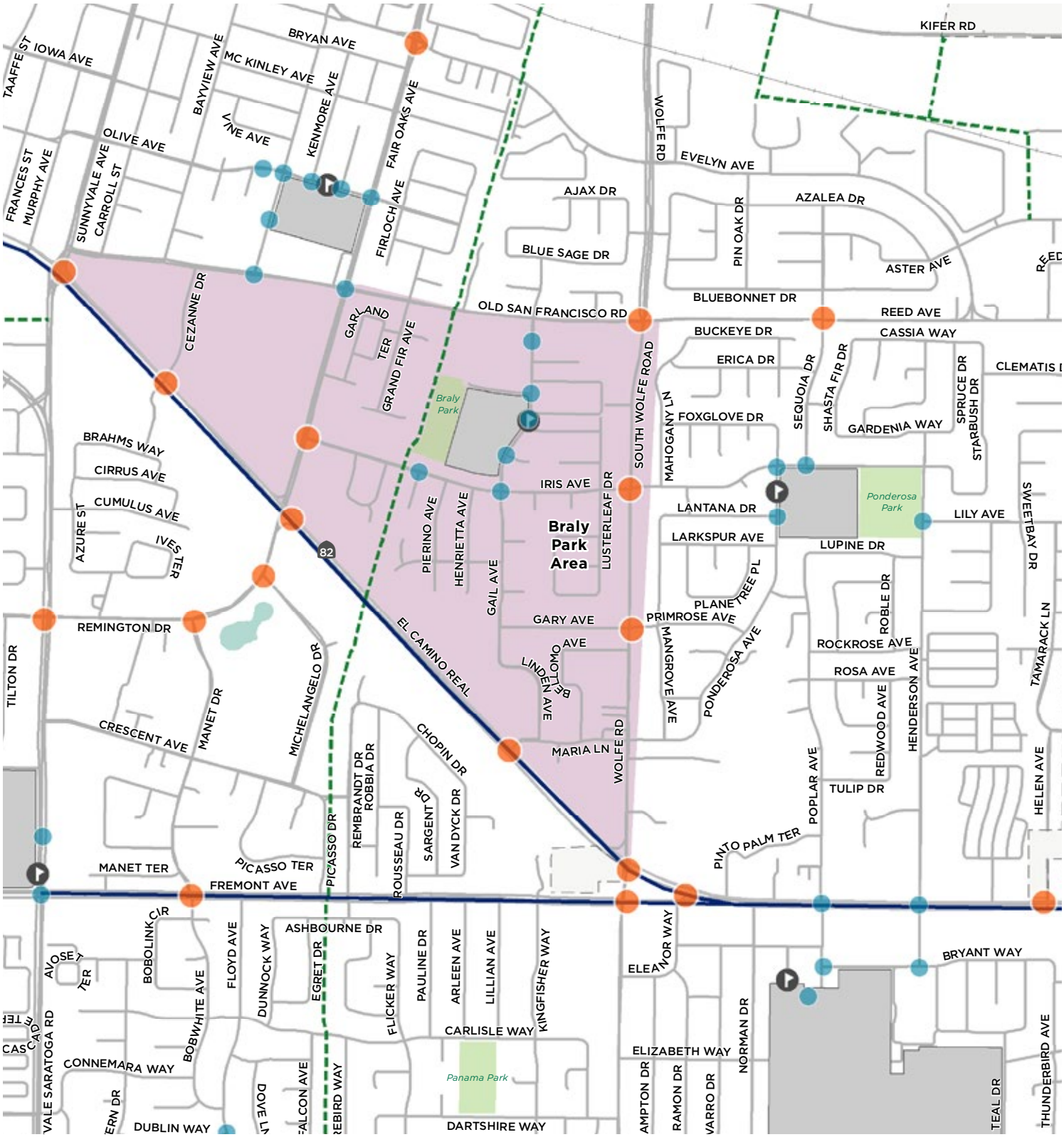
Table 17. Braly Park Area, El Camino Real, and Fremont Ave. Corridor

Intersection		Focus Area/Corridor	Crossing Typology
Fair Oaks Ave.	**Iris Ave.**	Braly Park Area	Other Signalized Intersection
Wolfe Rd.	**Gary Ave.**	Braly Park Area	Other Unsignallized Intersection
Wolfe Rd.	**Iris Ave.**	Braly Park Area	Other Signalized Intersection
Wolfe Rd.	**Old San Francisco Rd.**	Braly Park Area	Major Road Signalized Intersection
Cezanne Dr.	**El Camino Real**	El Camino Real	Major Road Signalized Intersection
Fair Oaks Ave.	**El Camino Real**	El Camino Real	Major Road Signalized Intersection
Sunnyvale Ave.	**El Camino Real**	El Camino Real	Major Road Signalized Intersection
Wolfe Rd.	**El Camino Real**	El Camino Real	Major Road Signalized Intersection
Maria Ln.	**El Camino Real**	El Camino Real	Major Road Signalized Intersection
Helen Ave.	**El Camino Real**	El Camino Real	Major Road Unsignalized Intersection
El Camino Real	**Fremont Ave.**	El Camino Real	Major Road Unsignalized Intersection
Wolfe Rd.	**Fremont Ave.**	Fremont Ave. Corridor	Major Road Signalized Intersection
Manet Dr.	**Fremont Ave.**	Fremont Ave. Corridor	Other Signalized Intersection

Recommendation details for the Safe Routes to School improvements (shown by the smaller blue dots) can be found in Chapter 6.



Map 27. Braly Park Area, El Camino Real, and Fremont Ave. Corridor Ped Recommendations

Recommendations

- Pedestrian Improvement
- Safe Routes to Schools Improvement
- Class I Shared-Use Path (Existing)
- Class I Shared-Use Path (Proposed)
- Pedestrian Bridge (Walk Bike)

Focus Areas

- Focus Corridor
- Focus Area

Boundaries + Destinations

- Public School
- Caltrain Station
- Light Rail Station
- Mission College
- Park
- City Boundary

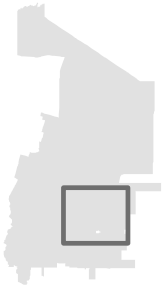


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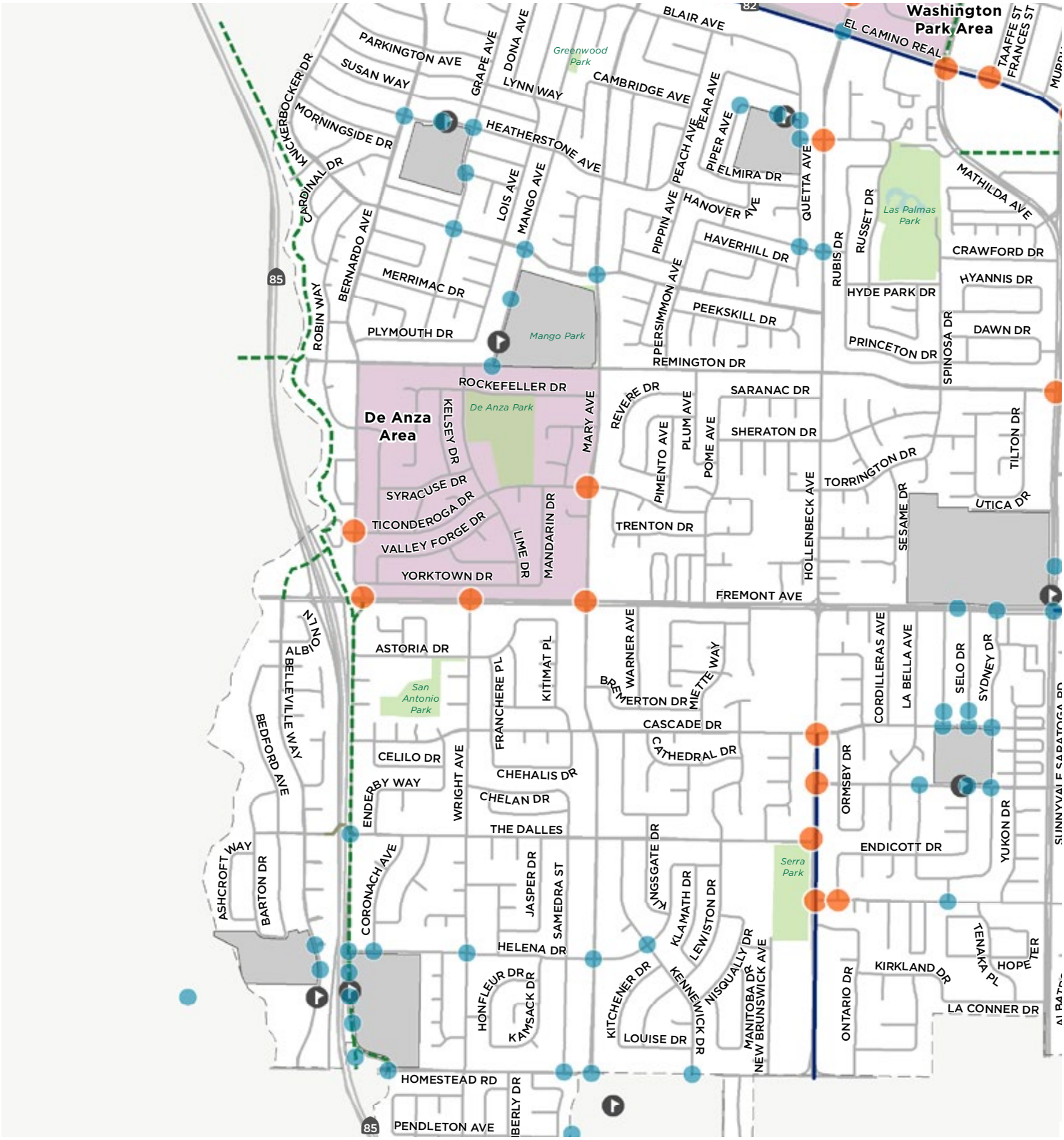
Table 18. De Anza Area and Hollenbeck Ave. Corridor

Intersection		Focus Area/Corridor	Crossing Typology
Bernardo Ave.	**Fremont Ave.**	De Anza Area	Major Road Signalized Intersection
Bernardo Ave.	**Ticonderoga Dr.**	De Anza Area	Other Unsignalized Intersection
Mary Ave.	**Ticonderoga Dr.**	De Anza Area	Other Signalized Intersection
Mary Ave.	**Fremont Ave.**	De Anza Area	Major Road Signalized Intersection
Wright Ave.	**Fremont Ave.**	De Anza Area	Major Road Signalized Intersection
Hollenbeck Ave.	**Alberta Ave.**	Hollenbeck Ave. Corridor	Other Signalized Intersection
Hollenbeck Ave.	**The Dalles Ave.**	Hollenbeck Ave. Corridor	Other Unsignalized Intersection
Hollenbeck Ave.	**Cheyenne Dr.**	Hollenbeck Ave. Corridor	Other Unsignalized Intersection
Hollenbeck Ave.	**Cascade Dr.**	Hollenbeck Ave. Corridor	Other Signalized Intersection

Recommendation details for the Safe Routes to School improvements (shown by the smaller blue dots) can be found in Chapter 6.



Map 28. De Anza Area and Hollenbeck Ave. Corridor Ped Recommendations

Recommendations

- Pedestrian Improvement
- Safe Routes to Schools Improvement
- Class I Shared-Use Path (Existing)
- Class I Shared-Use Path (Proposed)
- Pedestrian Bridge (Walk Bike)

Focus Areas

- Focus Corridor
- Focus Area

Boundaries + Destinations

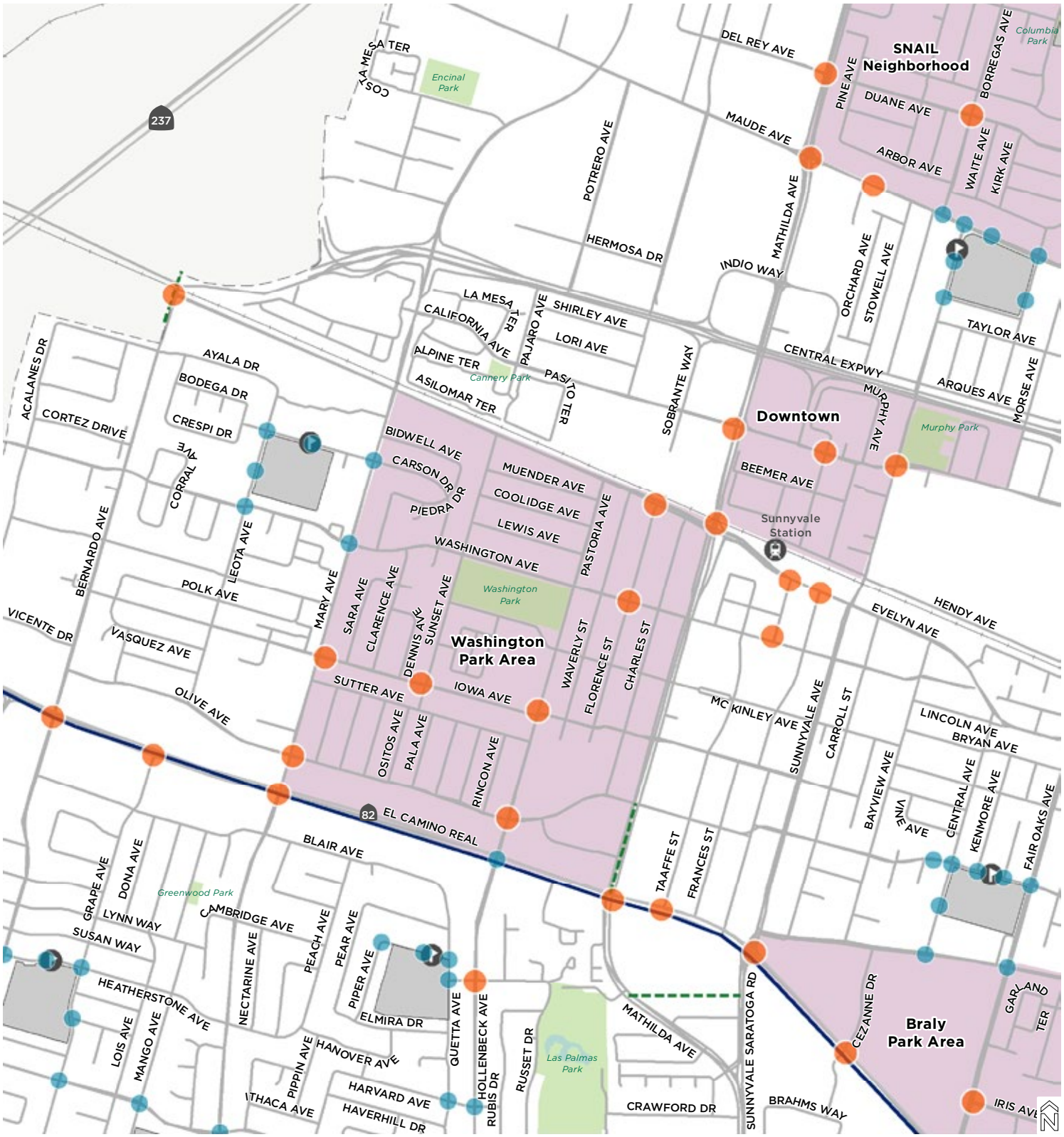
- Public School
- Caltrain Station
- Light Rail Station
- Mission College
- Park
- City Boundary

0 0.25 0.5 MILE

Table 19. Downtown, El Camino Real, and Washington Park Area

Intersection		Focus Area/Corridor	Crossing Typology
Mathilda Ave.	**Evelyn Ave.**	Downtown	Other Unsignalized Intersection
Murphy Ave.	**Evelyn Ave.**	Downtown	Other Unsignalized Intersection
Frances St.	**Evelyn Ave.**	Downtown	Other Signalized Intersection
Frances St.	**California Ave.**	Downtown	Other Unsignalized Intersection
Mathilda Ave.	**California Ave.**	Downtown	Major Road Signalized Intersection
Sunnyvale Ave.	**California Ave.**	Downtown	Other Signalized Intersection
Bernardo Ave.	**El Camino Real**	El Camino Real	Major Road Signalized Intersection
Cezanne Dr.	**El Camino Real**	El Camino Real	Major Road Signalized Intersection
Sunnyvale Ave.	**El Camino Real**	El Camino Real	Major Road Signalized Intersection
Mary Ave.	**El Camino Real**	El Camino Real	Major Road Signalized Intersection
Grape Ave.	**El Camino Real**	El Camino Real	Major Road Signalized Intersection
Taaffe St.	**El Camino Real**	El Camino Real	Major Rd. Unisignalized Intersection
Mathilda Ave.	**El Camino Real**	El Camino Real	Major Road Signalized Intersection
Florence St.	**Evelyn Ave.**	Washington Park Area	Other Unsignalized Intersection
Florence St.	**Washington Ave.**	Washington Park Area	Other Unsignalized Intersection
Mary Ave.	**Iowa Ave.**	Washington Park Area	Other Signalized Intersection
Mary Ave.	**Olive Ave.**	Washington Park Area	Other Unsignalized Intersection
Pastoria Ave.	**Olive Ave.**	Washington Park Area	Other Unsignalized Intersection
Pastoria Ave.	**Olive Ave.**	Washington Park Area	Other Signalized Intersection
Sunset Ave.	**Iowa Ave.**	Washington Park Area	Other Unsignalized Intersection

Recommendation details for the Safe Routes to School improvements (shown by the smaller blue dots) can be found in Chapter 6.



Map 29. Downtown, El Camino Real, and Washington Park Area Ped Recommendations

Recommendations

- Pedestrian Improvement
- Safe Routes to Schools Improvement
- Class I Shared-Use Path (Existing)
- Class I Shared-Use Path (Proposed)
- Pedestrian Bridge (Walk Bike)

Focus Areas

- Focus Corridor
- Focus Area

Boundaries + Destinations

- Public School
- Caltrain Station
- Light Rail Station
- Mission College
- Park
- City Boundary

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Pedestrian Improvements Implementation

The prioritization framework helps the City understand where to start when implementing this plan. A higher ranked project indicates a higher pedestrian need, and also prioritizes projects that serve residents living in disadvantaged communities.

Safe Routes to School projects identified through School Walk Audits (and outlined in more detail in Chapter 6) will be included within this prioritization process.

METHODOLOGY

Recommended projects were evaluated using five criteria that support the vision and goals of the Pedestrian Plan. The framework scores recommended projects using the following criteria:

- Collision Reduction
- Equity
- Access to Key Destinations
- Community Identified Need
- Safe Routes to School

The prioritization process assigns a number value between 0 and 6 to all recommendations based on the criteria outlined in Table 20.

Table 20. Criteria for Recommendation Prioritization

Criteria	Measure	Points
Collision Reduction	Projects that are within close proximity (250 feet) of at least one pedestrian-related collision.	1
	Reword as Projects that provide improvements on the High Injury Network (as developed by the Vision Zero Plan)	1
Equity	Projects that are located within a disadvantaged community, as defined by MTC's Community of Concern.	1
Access to Key Destinations	Projects that connect people within 500 feet to a Caltrain station, VTA light rail station, library, school, trail, or major employment area.	1
Community-Identified Need	Projects that were identified through multiple engagement efforts with unique stakeholders	1
Safe Routes to School	Projects identified through the School Walk Audits	1

PRIORITY PEDESTRIAN PROJECTS

Projects that score between 4 and 6 are categorized as **high priority**. Projects receiving a score of 3 are categorized as **medium priority**. Projects receiving a score of 2 or less are categorized as **low priority.**

High, medium, and low priority projects can be viewed in the following tables and maps, and a full list of project prioritization scoring can be found in Appendix D.

Table 21. Project Prioritization

High Priority	
Spot	32 projects
Medium Priority	
Spot	120 projects
Low Priority	
Spot	36 projects

Table 22. Pedestrian Spot Improvement Prioritization

Rows in the table that are italicized are located outside of the City's public right-of-way and will require coordination with other agencies.

STREET 1	STREET 2	DESIGN	ZONE/AREA	ALSO IN BIKE PLAN
High Priority				
Bayview Ave.	**Maude Ave.**	Safe Routes to School	Bishop Elementary School	
Bishop Elementary Frontage	**Maude Ave.**	Safe Routes to School	Bishop Elementary School	
Borregas Ave.	**Maude Ave.**	Safe Routes to School	Bishop Elementary School	X
Central Ave.	**Old San Francisco Rd.**	Safe Routes to School	Ellis Elementary School	
Cezanne Dr.	***El Camino Real***	*Crossing Improvement*	*El Camino Real*	*X*
Fair Oaks Ave.	**El Camino Real**	Crossing Improvement	El Camino Real	
Fair Oaks Ave.	**Old San Francisco Rd.**	Safe Routes to School	Ellis Elementary School	
Fair Oaks Ave.	**Tasman Dr.**	Crossing Improvement	Tasman Dr. Corridor	
Gail Ave.	**Iris Ave.**	Safe Routes to School	Braly Elementary School	
Gail Ave.	**Goldenrod Ct.**	Safe Routes to School	Braly Elementary School	
Gail Ave.	**Braly Elementary Frontage**	Safe Routes to School	Braly Elementary School	
Helen Ave.	***El Camino Real***	*Crossing Improvement*	*El Camino Real*	
Henderson Ave.	***El Camino Real***	*Safe Routes to School*	*Peterson Middle School*	
Hollenbeck Ave./ Pastoria Ave.	***El Camino Real***	*Safe Routes to School*	*Cumberland Elementary Schoo*	
Mango Ave.	**Remington Dr.**	Safe Routes to School	Sunnyvale Middle School	
Maria Ln.	**El Camino Real**	Crossing Improvement	El Camino Real	
Mathilda Ave.	**Maude Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	X
Mathilda Ave.	**Del Rey Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	

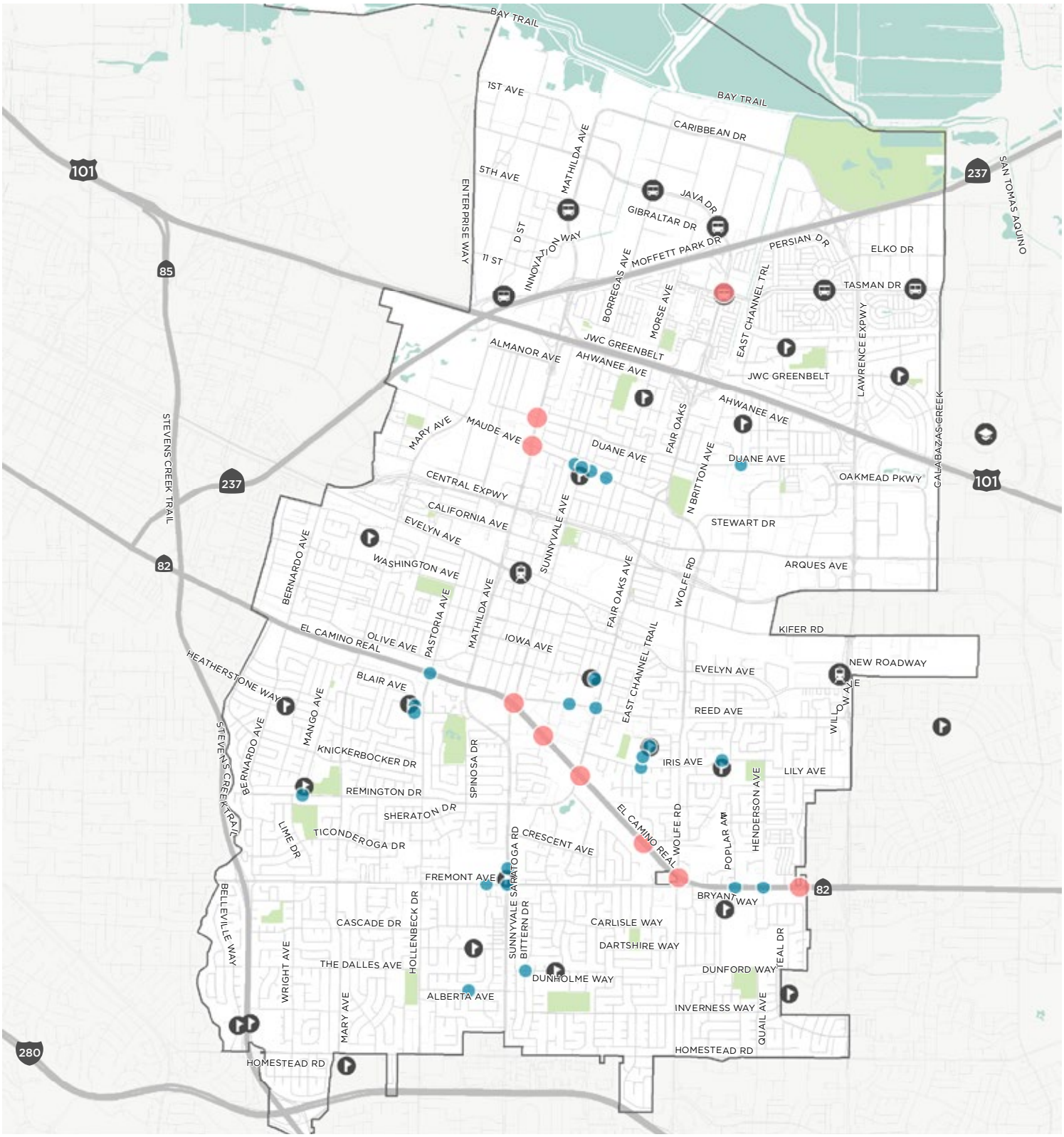
STREET 1	STREET 2	DESIGN	ZONE/AREA	ALSO IN BIKE PLAN
High Priority				
Ponderosa Ave.	**Iris Ave.**	Safe Routes to School	Ponderosa Elementary School	
Poplar Ave.	**El Camino Real**	Safe Routes to School	Peterson Middle School	
Cumberland Elementary Frontage	**Cumberland Dr.**	Safe Routes to School	Cumberland Elementary School	
Quetta Ave.	**Danforth Dr.**	Safe Routes to School	Cumberland Elementary School	
Richelieu Pl.	**Alberta Ave.**	Safe Routes to School	Nimitz Elementary	
San Miguel Ave.	**Duane Ave.**	Safe Routes to School	San Miguel Elementary School	
Sunnyvale Ave.	**Maude Ave.**	Safe Routes to School	Bishop Elementary School	X
Sunnyvale Ave.	**El Camino Real**	Crossing Improvement	El Camino Real	
Sunnyvale Saratoga Rd.	**Fremont Ave.**	Safe Routes to School	Fremont High School	X
Sunnyvale Saratoga Rd.	**Fremont High Frontage**	Safe Routes to School	Fremont High School	
Sydney Dr.	**Fremont Ave.**	Safe Routes to School	Fremont High School	
Wolfe Rd.	***El Camino Real***	*Crossing Improvement*	*El Camino Real*	
Wilson Ave.	**Olive Ave.**	Safe Routes to School	Ellis Elementary School	
Bittern Dr.	**Dunholme Wy.**	Safe Routes to School	Stocklmeir Elementary School	
Medium Priority				
Belleville Wy.	**West Valley Elementary Driveway**	Safe Routes to School	West Valley Elementary School	
Belleville Wy.	**West Valley Parking Lot Entrance**	Safe Routes to School	West Valley Elementary School	
Bernardo Ave.	**Heatherstone Wy.**	Safe Routes to School	Cherry Chase Elementary School	
Bernardo Ave.	**The Dalles Ave.**	Safe Routes to School	Cupertino Middle School	
Bernardo Ave.	**Helena Dr.**	Safe Routes to School	Cupertino Middle School	
Bernardo Ave.	**Homestead Rd.**	Safe Routes to School	Cupertino Middle School	
Bernardo Ave.	**Cupertino Middle Frontage**	Safe Routes to School	Cupertino Middle School	
Bernardo Ave.	**The Dalles Ave.**	Safe Routes to School	Homestead High School	
Bernardo Ave.	**El Camino Real**	Crossing Improvement	El Camino Real	X
Bernardo Ave.	**Evelyn Ave.**	Crossing Improvement	None	X
Bernardo Ave. between N and S Parking Lot	**Cupertino Middle**	Safe Routes to School	Cupertino Middle School	
Blackhawk Dr.	**Dunholme Wy.**	Safe Routes to School	Stocklmeir Elementary School	
Borregas Ave.	**Ahwanee Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	
Borregas Ave.	**Del Norte Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	
Borregas Ave.	**Hemlock Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	
Central Ave.	**Ellis Elementary Frontage**	Safe Routes to School	Ellis Elementary School	
Cherry Chase Elementary Frontage	**Heatherstone Wy.**	Safe Routes to School	Cherry Chase Elementary School	

STREET 1	STREET 2	DESIGN	ZONE/AREA	ALSO IN BIKE PLAN
Medium Priority				
Chickadee Ct.	**Dunholme Wy.**	Safe Routes to School	Stocklmeir Elementary School	
Condor Wy.	**Dunholme Wy.**	Safe Routes to School	Stocklmeir Elementary School	
Coronach Ave.	**Helena Dr.**	Safe Routes to School	Cupertino Middle School	
Cupertino Middle School Bus Loop	**Northern Parking Lot**	Safe Routes to School	Cupertino Middle School	
Del Norte Ave.	**San Diego Ave.**	Safe Routes to School	Columbia Middle School	
Dunford Wy.	**Lochinvar Ave.**	Safe Routes to School	Laurelwood Elementary	
El Camino Real	**Fremont Ave.**	Crossing Improvement	El Camino Real	X
Ellis Elementary School Frontage	**Olive Ave.**	Safe Routes to School	Ellis Elementary School	
Fair Oaks Ave.	**Weddell Dr.**	Crossing Improvement	None	X
Fair Oaks Ave.	**Evelyn Ave.**	Crossing Improvement	None	X
Fair Oaks Ave.	**Caliente Dr.**	Crossing Improvement	SNAIL Neighborhood Zone	
Fair Oaks Ave.	**Maude Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	
Fair Oaks Ave.	**Iris Ave.**	Crossing Improvement	Braly Park Area	
Fair Oaks Ave.	**Olive Ave.**	Safe Routes to School	Ellis Elementary School	
Fairwood Ave.	**John W. Christian Greenbelt**	Safe Routes to School	Fairwood Elementary School	
Fairwood Ave.	**Redrock Ct.**	Safe Routes to School	Fairwood Elementary School	
Fairwood Ave.	**Fairwood Elementary Frontage**	Safe Routes to School	Fairwood Elementary School	
Fairwood Ave.	**Sandia Ave.**	Safe Routes to School	Fairwood Elementary School	
Floyd Ave.	**Dublin Wy.**	Safe Routes to School	Stocklmeir Elementary School	
Floyd Ave.	**Dunholme Wy.**	Safe Routes to School	Stocklmeir Elementary School	
Frances St.	**Evelyn Ave.**	Crossing Improvement	Downtown	
Gail Ave.	**Braly Elementary School**	Safe Routes to School	Braly Elementary School	
Gail Ave.	**Daffodil Ct.**	Safe Routes to School	Braly Elementary School	
Gas Station Area	***Cupertino Middle School***	*Safe Routes to School*	*Cupertino Middle School*	
Grape Ave.	**Heatherstone Wy.**	Safe Routes to School	Cherry Chase Elementary School	
Grape Ave.	**El Camino Real**	Crossing Improvement	El Camino Real	
Hemlock Ave.	**San Diego Ave.**	Safe Routes to School	Columbia MIddle School	
Henderson Ave.	**Lily Ave.**	Safe Routes to School	Ponderosa Elementary School	
Heron Ave.	**Homestead Rd.**	Crossing Improvement	None	
Hollenbeck Ave.	**Alberta Ave.**	Crossing Improvement	Hollenbeck Ave. Corridor	
Hollenbeck Ave.	**The Dalles Ave.**	Crossing Improvement	Hollenbeck Ave. Corridor	
Hollenbeck Ave.	**Harvard Ave.**	Safe Routes to School	Cumberland Elementary School	
Hollenbeck Ave.	**Cascade Dr.**	Crossing Improvement	Hollenbeck Ave Corridor	
Hollenbeck Ave.	**Danforth Dr.**	Crossing Improvement	None	
Jackpine Ct.	**Iris Ave.**	Safe Routes to School	Braly Elementary School	

STREET 1	STREET 2	DESIGN	ZONE/AREA	ALSO IN BIKE PLAN
Medium Priority				
Kenmore Ave.	**Olive Ave.**	Safe Routes to School	Ellis Elementary School	
Kennewick Dr.	**Helena Dr.**	Safe Routes to School	Cupertino Middle School	
Kennewick Dr.	**Homstead Rd.**	Safe Routes to School	Homestead High School	
Lakechime Dr.	**Meadowlake Dr.**	Safe Routes to School	Lakewood Elementary School	
Lakewood Elementary School Parking Lot	**Lakechime Dr.**	Safe Routes to School	Lakewood Elementary School	
Leota Ave.	**Carson Dr.**	Safe Routes to School	Vargas Elementary School	
Leota Ave.	**Washington Ave.**	Safe Routes to School	Vargas Elementary School	
Leota Ave.	**School Drop Off Loop**	Safe Routes to School	Vargas Elementary School	
Los Arboles Ave.	**Cascade Dr.**	Safe Routes to School	Nimitz Elementary	
Manet Dr.	**Fremont Ave.**	Crossing Improvement	Fremont Ave. Corridor	X
Manet Dr.	**Remington Dr.**	Crossing Improvement	None	X
Mango Ave.	**Sunnyvale Middle Frontage**	Safe Routes to School	Sunnyvale Middle School	
Mango Ave.	**Knickerbocker Dr.**	Safe Routes to School	Sunnyvale Middle School	
Mary Ave.	**Helena Dr.**	Safe Routes to School	Cupertino Middle School	X
Mary Ave.	**Homestead Rd.**	Safe Routes to School	Homestead High School	X
Mary Ave.	**Knickerbocker Dr.**	Safe Routes to School	Sunnyvale Middle School	X
Mary Ave.	**Washington Ave.**	Safe Routes to School	Vargas Elementary School	X
Mary Ave.	**Carson Dr.**	Safe Routes to School	Vargas Elementary School	
Mary Ave.	**El Camino Real**	Crossing Improvement	El Camino Real	
Mary Ave.	**Iowa Ave.**	Crossing Improvement	Washington Park Area	
Mary Ave.	**Olive Ave.**	Crossing Improvement	Washington Park Area	X
Mathilda Ave.	**California Ave.**	Crossing Improvement	Downtown	
Mathilda Ave.	**Evelyn Ave.**	Crossing Improvement	Downtown	
Mathilda Ave.	**El Camino Real**	Crossing Improvement	El Camino Real	
Mathilda Ave.	**Ross Dr.**	Crossing Improvement	None	X
Meadowlake Dr.	**John W. Christian Greenbelt Crossing**	Safe Routes to School	Lakewood Elementary School	
Meadowlake Dr.	**Lakefair Dr.**	Safe Routes to School	Lakewood Elementary School	
Meadowlake Dr.	**Lakehaven Dr.**	Safe Routes to School	Lakewood Elementary School	
Morse Ave.	**Glendale Ave.**	Safe Routes to School	Columbia Middle School	
Morse Ave.	**Ferndale Ave.**	Safe Routes to School	Columbia Middle School	
Morse Ave.	**Maude Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	
Murphy Ave.	**Evelyn Ave.**	Crossing Improvement	Downtown	X
Norland Dr.	**Alberta Ave.**	Crossing Improvement	None	
Pastoria Ave.	**Olive Ave.**	Crossing Improvement	Washington Park Area	
Ponderosa Ave.	**Lantana Dr.**	Safe Routes to School	Ponderosa Elementary School	
Poplar Ave. / Rosalia Ave.	**Bryant Wy.**	Safe Routes to School	Peterson Middle School	

STREET 1	STREET 2	DESIGN	ZONE/AREA	ALSO IN BIKE PLAN
Medium Priority				
Quetta Ave.	**Harvard Ave.**	Safe Routes to School	Cumberland Elementary School	
Remington Dr.	**Michelangelo Dr.**	Crossing Improvement	None	
Revelstoke Dr.	**Cheyenne Dr.**	Safe Routes to School	Nimitz Elementary	
Roosevelt Ave.	**Maude Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	
Rosalia Ave.	**Peterson Middle Frontage**	Safe Routes to School	Peterson Middle School	
Samedra St.	**Homestead Rd.**	Safe Routes to School	Homestead High School	
San Angelo Ave.	**Maude Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	
San Junipero Dr.	**Alvarado Ave.**	Safe Routes to School	San Miguel Elementary School	
San Miguel Ave.	**Amador Ave.**	Safe Routes to School	San Miguel Elementary School	
San Miguel Ave.	**Alvarado Ave.**	Safe Routes to School	San Miguel Elementary School	
Saskatchewan Dr.	**Cheyenne Dr.**	Safe Routes to School	Nimitz Elementary	
Selo Dr.	**Nimitz Elementary Frontage**	Safe Routes to School	Nimitz Elementary	
Selo Dr.	**Cascade Dr.**	Safe Routes to School	Nimitz Elementary	
Silverlake Dr.	**John W. Christian Greenbelt Crossing**	Safe Routes to School	Lakewood Elementary School	
Stocklmeir Elementary School Frontage	**Dunholme Wy.**	Safe Routes to School	Stocklmeir Elementary School	
Sunnyvale Ave.	**Hazelton Ave.**	Safe Routes to School	Bishop Elementary School	
Sunnyvale Ave.	**Bishop Elementary Frontage**	Safe Routes to School	Bishop Elementary School	
Sunnyvale Saratoga Rd.	**Remington Dr.**	Crossing Improvement	None	
Sydney Dr.	**Cascade Dr.**	Safe Routes to School	Nimitz Elementary	
Taaffe St.	**El Camino Real**	Crossing Improvement	El Camino Real	
Teal Dr.	**Laurelwood Elementary Frontage**	Safe Routes to School	Laurelwood Elementary	
Teal Dr.	**Inverness Wy./Lochinvar Ave.**	Safe Routes to School	Laurelwood Elementary	
Teal Dr.	**Dunford Wy.**	Safe Routes to School	Laurelwood Elementary	
Valcartier Dr.	**Cheyenne Dr.**	Safe Routes to School	Nimitz Elementary	
Vienna Dr.	**Tasman Dr.**	Crossing Improvement	Tasman Dr Corridor	
Wolfe Rd.	**Gary Ave.**	Crossing Improvement	Braly Park Area	
Wolfe Rd.	**Iris Ave.**	Crossing Improvement	Braly Park Area	
Wolfe Rd.	**Old San Francisco Rd.**	Crossing Improvement	Braly Park Area	
Wolfe Rd.	**Fremont Ave.**	Crossing Improvement	Fremont Ave Corridor	X
Wolfe Rd.	**Marion Wy.**	Crossing Improvement	None	
Wolfe Rd.	**Fair Oaks Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	
Wright Ave.	**Helena Dr.**	Safe Routes to School	Cupertino Middle School	

STREET 1	STREET 2	DESIGN	ZONE/AREA	ALSO IN BIKE PLAN
Low Priority				
Bayview Ave.	**Bishop Elementary Frontage**	Safe Routes to School	Bishop Elementary School	
Bernardo Ave.	**Ticonderoga Dr.**	Crossing Improvement	De Anza Area	X
Bernardo Ave.	**Fremont Ave.**	Crossing Improvement	De Anza Area	X
Borregas Ave.	**Duane Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	X
Carson Dr.	**Vargas Elementary Back Entrance**	Safe Routes to School	Vargas Elementary School	
Central Ave.	**Olive Ave.**	Safe Routes to School	Ellis Elementary School	
Chukar Ct.	**Dunholme Wy.**	Safe Routes to School	Stocklmeir Elementary School	
Commercial St.	**Arques Ave.**	Crossing Improvement	None	
Fallen Leaf Ln.	**Louise Ln.**	Safe Routes to School	West Valley Elementary School	
Florence St.	**Evelyn Ave.**	Crossing Improvement	Downtown	
Florence St.	**Washington Ave.**	Crossing Improvement	Downtown	
Frances St.	**California Ave.**	Crossing Improvement	Downtown	
Frances St.	**Washington Ave.**	Crossing Improvement	None	
Grape Ave.	**Hudson Ave.**	Safe Routes to School	Cherry Chase Elementary School	
Grape Ave.	**Knickerbocker Dr.**	Safe Routes to School	Cherry Chase Elementary School	
Henderson Ave.	**Bryant Wy.**	Safe Routes to School	Peterson Middle School	
Hollenbeck Ave.	**Cheyenne Dr.**	Crossing Improvement	Hollenbeck Ave. Corridor	
Lochinvar Ave.	**Kerry Ave. / Kensington Ave.**	Safe Routes to School	Laurelwood Elementary	
Los Arboles Ave.	**Nimitz Elementary Frontage**	Safe Routes to School	Nimitz Elementary	
Mary Ave. Bridge	**Homestead High Western Parking Lot Access**	Safe Routes to School	Homestead High School	
Mary Ave.	**Ticonderoga Dr.**	Crossing Improvement	De Anza Area	
Mary Ave.	**Fremont Ave.**	Crossing Improvement	De Anza Area	X
Pastoria Ave.	**Iowa Ave.**	Crossing Improvement	Washington Park Area	
Piper Ave.	**Cumberland Dr.**	Safe Routes to School	Cumberland Elementary School	
Quetta Dr.	**Cumberland Dr.**	Safe Routes to School	Cumberland Elementary School	
San Aleso Ave.	**Ferndale Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	
San Conrado Ter.	**Ferndale Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	
San Juan Dr.	**Blythe Ave.**	Safe Routes to School	San Miguel Elementary School	
San Pablo Ave.	**Alvarado Ave.**	Safe Routes to School	San Miguel Elementary School	
Sequoia Dr.	**Iris Ave.**	Safe Routes to School	Ponderosa Elementary School	
Sequoia Dr.	**Reed Ave.**	Crossing Improvement	None	
Silverlake Dr.	**Lakechime Dr.**	Safe Routes to School	Lakewood Elementary School	
Sunnyvale Ave.	**California Ave.**	Crossing Improvement	Downtown	
Sunset Ave.	**Iowa Ave.**	Crossing Improvement	Washington Park Area	
Wolfe Rd.	**Maude Ave.**	Crossing Improvement	SNAIL Neighborhood Zone	X
Wright Ave.	**Fremont Ave.**	Crossing Improvement	De Anza Area	



Map 30. High Priority Pedestrian Spot Improvements

- Safe Routes to School Improvement
- Spot Improvement

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary

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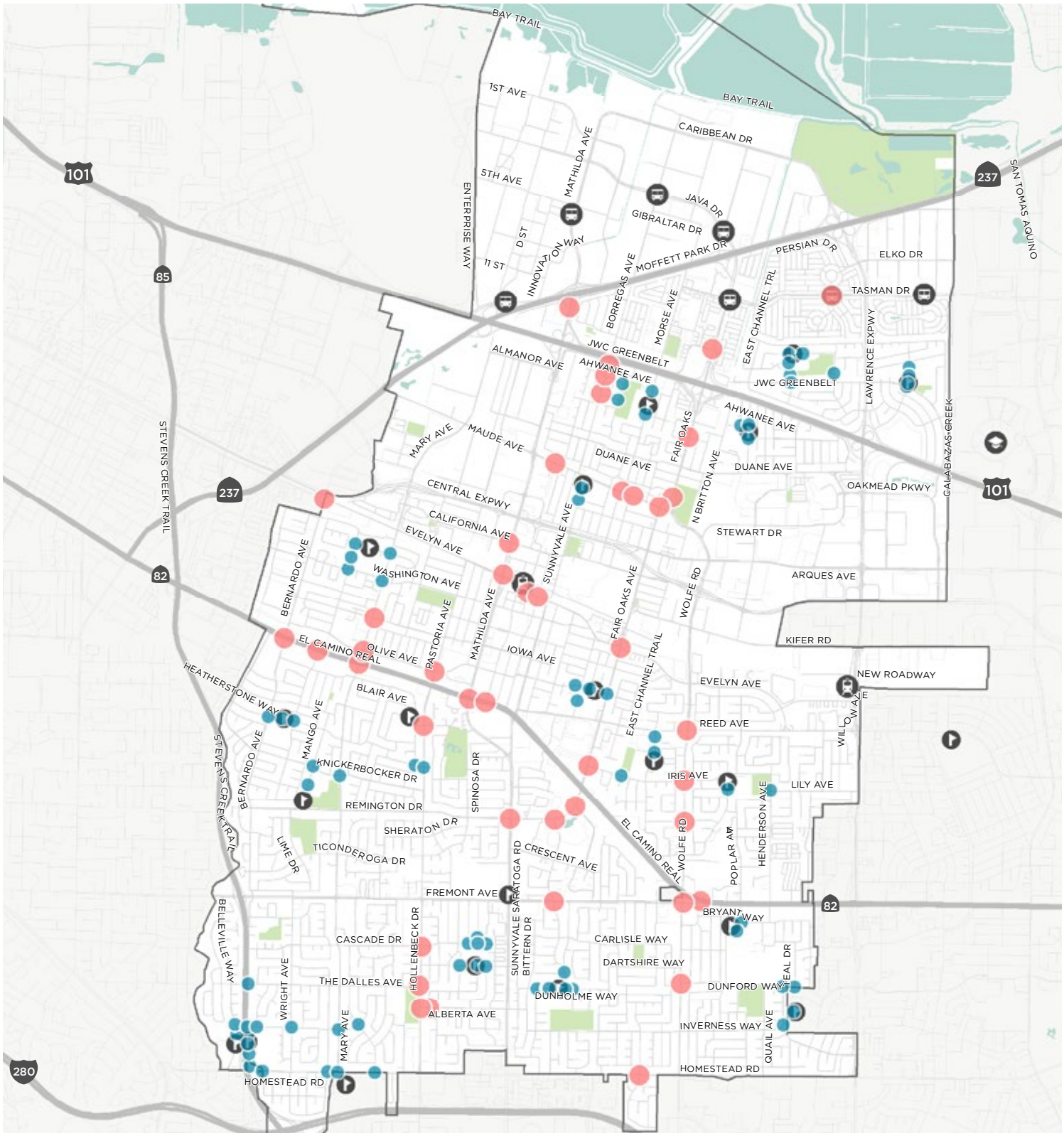

Map 31. Medium Priority Pedestrian Spot Improvements

- Safe Routes to School Improvement
- Spot Improvement

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary

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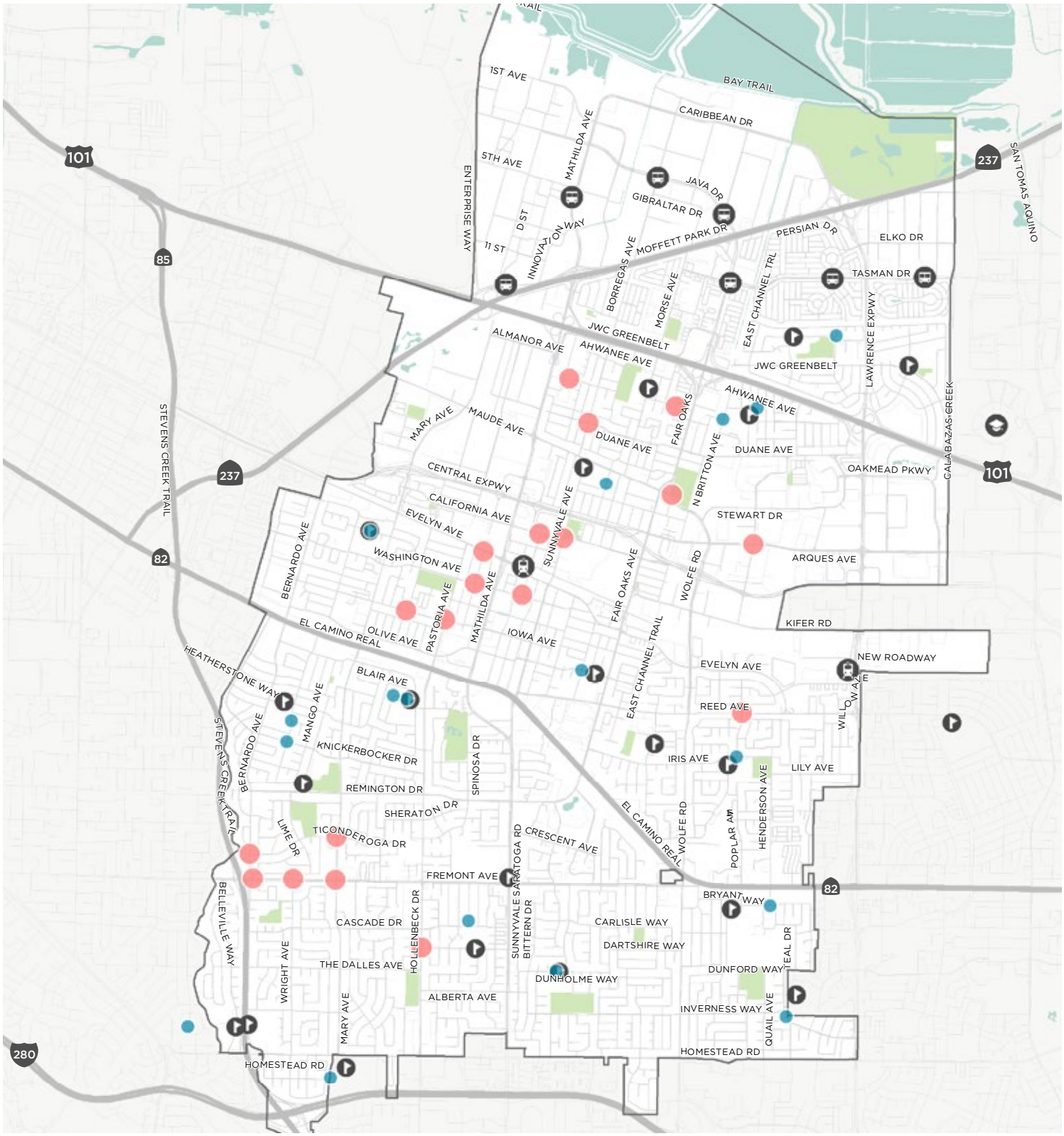

Map 32. Low Priority Pedestrian Spot Improvements

- Safe Routes to School Improvement
- Spot Improvement

Boundaries + Destinations

- Caltrain Station
- Light Rail Station
- Mission College
- Public School
- Park
- City Boundary

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COSTS

More detailed cost estimates for the Safe Routes to School improvements can be found in Chapter 6. Cost estimates for spot improvements will be developed in a later design phase following more detailed engineering analysis.

FUNDING

Identifying and securing funding for the projects identified in the Plan is crucial to achieving the vision and goals established in this Plan. A variety of sources exist to fund pedestrian infrastructure projects, programs, and studies. Local and regional funding sources can be used for the construction or maintenance of pedestrian improvements, along with competitive grant programs. Table 23 displays these funding sources as well as the project types eligible under each source.

Table 23. Funding Sources

FUNDING SOURCE	PEDESTRIAN INFRASTRUCTURE	TRAILS	SAFE ROUTES TO SCHOOL	SAFE ROUTES TO TRANSIT	PEDESTRIAN PROGRAMS	STUDIES
Local and Regional Grant Programs						
2016 Measure B (VTA)	●	●	●	●	●	●
Transportation Fund for Clean Air County Program Manager Fund (VTA)	●	●	●	●		
One Bay Area (MTC & VTA)	●	●	●	●		
Transportation Development Act, Article 3 (VTA)	●	●	●	●		
Transportation for Livable Communities (MTC)	●	●	●	●		
Vehicle Emissions Reductions Based at Schools Program (VTA)	●	●	●	●		
Community Design for Transportation Planning Grants (Caltrans)	●	●	●	●		
Climate Initiatives InMissingvative Grants Fund (MTC)	●	●	●	●		
Lifeline Transportation Program (MTC)	●		●	●		
State and Federal Grant Programs						
Active Transportation Program (CTC)	●	●	●	●	●	
Affordable Housing & Sustainable Communities (CA HCD)	●			●	●	
Urban Greening Grants (CA NRA)	●	●	●	●		
Proposition 1 Storm Water Grand Program - Round 2 (CA Water Resources Board)	●					
Highway Safety Improvement Program (Caltrans)	●		●	●		
Sustainable Transportation Planning Grant (Caltrans)						●
Solutions for Congested Corridors (CTC)	●	●				
Office of Traffic Safety (CA OTS)					●	
Recreational Trails Program (CA DPR)		●				
Habitat Conservation Fund (CA DPR)						
Other State Programs						
Local Partnership Program (CTC)	●		●	●		
Rd. Maintenance and Rehabilitation Program (Controller's Office)	●		●	●		

LOCAL AND REGIONAL GRANT PROGRAMS

2016 Measure B

Santa Clara County voters approved a half-cent sales tax in 2016 to fund transportation infrastructure investments including bicycle, pedestrian, and complete streets projects. Funding priority will go to bicycle and pedestrian projects that connect to schools, transit, and employment centers; complete gaps in the existing network; cross major barriers; and make walking and bicycling a safe, convenient form of transportation. Supported projects must be identified in city, county or regional planning documents. Measure B is expected to raise $6.3 billion (2017 dollars) over 30 years; $250 million of that has been allocated for bicycle and pedestrian improvements.

Funds are programmed by VTA.

Transportation Fund for Clean Air County Program Manager Fund

The Bay Area Air Quality Management District (BAAQMD) administers funds to the Santa Clara County VTA for projects that reduce vehicle emissions including bicycle projects. These funds come from a $4 vehicle registration surcharge in Bay Area counties and can be used as a match for competitive state or federal programs.

Funds are programmed by the Bay Area Air Quality Management District (BAAQMD and the Santa Clara Valley Transportation Authority (VTA)

One Bay Area Grant

The One Bay Area Grant (OBAG) programs emphasize funding for projects within Priority Development Areas (PDAs) in the region that are in-line with housing and land-use goals. Projects that are within or provide access to these PDAs could qualify for OBAG grants.

Funds are programmed by the Metropolitan Transportation Commission (MTC) & and the Santa Clara Valley Transportation Authority (VTA).

Transportation Development Act Article 3

Transportation Development Act Article 3 (TDA 3) provides funding annually for bicycle and pedestrian projects. Two percent of TDA 3 funds collected within the county are used for TDA 3 projects. MTC policies require that all projects be reviewed by a BPAC or similar body before approval.

Funds are programmed by VTA.

Transportation for Livable Communities Program

Designed to support community-based transportation projects that bring “new vibrancy” to downtown areas, commercial cores, neighborhoods, and transit corridors. The projects resulting from these grants are intended to provide for a range of transportation choices including walking and to support connections between transportation and land use, and should be developed through inclusive community planning.

Funds are programmed by MTC.

Vehicle Emissions Reduction Based at Schools Program

The Vehicle Emissions Reduction Based at Schools (VERBS) program receives funds from MTC’s Climate Initiative SRTS Program. The goals of this include reducing greenhouse gases by promoting walking, biking, transit, and carpooling to school. These federal CMAQ funds are allocated to each county based on school enrollment. The VERBS Program places an additional focus on safety and reducing collisions.

Funds are programmed by VTA.

Community Design for Transportation Planning Grants

These planning grants are intended to help agencies fund efforts to write new city codes or modify existing city codes and ordinances with the goal of creating compact, mixed-use communities and pedestrian-friendly streets - particularly around transit corridors and at transportation hubs.

Funds are programmed by Caltrans.

Climate Initiatives Innovative Grants Fund

MTC's Climate Initiatives Program promotes innovative ways to reduce greenhouse gas emissions in the Bay Area, and taps federal funding for a pair of competitive grant programs. Innovative Grants of $1 million and up are used to support high-impact projects that can be replicated around the region.

Funds Programmed by MTC

Lifeline Transportation Program

Uses both state and federal funds to provide Lifeline grants for projects that meet mobility and accessibility needs in low-income communities across the Bay Area. MTC establishes new guidelines for each cycle of Lifeline grants,but the goal is the same each time: fund community-based transportation projects developed through a collaborative and inclusive process. Lifeline projects must address transportation gaps or barriers identified in community-based transportation plans or other local planning efforts in low-income neighborhoods.

Funds programmed by MTC

STATE AND FEDERAL GRANT PROGRAMS

California Active Transportation Program

California's Active Transportation Program (ATP) funds infrastructure and programmatic projects that support the program goals of shifting trips to walking and bicycling, reducing greenhouse gas (GHG) emissions, and improving public health. Competitive application cycles occur every one to two years, typically in the spring or early summer. Eligible projects include construction of bicycling and walking facilities, new or expanded programmatic activities, or projects that include a combination of infrastructure and non-infrastructure components. Typically, no local match is required, though extra points are awarded to applicants who do identify matching funds.

Funds are programmed by the California Transportation Commission (CTC).

Affordable Housing & Sustainable Communities (CA HCD)

The Affordable Housing and Sustainable Communities Program (AHSC) funds land-use, housing, transportation, and land preservation projects that support infill and compact development that reduces greenhouse gas (GHG) emissions. Projects must fall within one of three project area types: transit-oriented development, integrated connectivity project, or rural innovation project areas. Fundable activities include affordable housing developments, sustainable transportation infrastructure, transportation-related amenities, and program costs.

Funds are programmed by the Strategic Growth Council and implemented by the Department of Housing and Community Development.

Urban Greening Grants

Urban Greening Grants support the development of green infrastructure projects that reduce GHG emissions and provide multiple benefits. Projects must include one of three criteria, most relevantly: reduce commute vehicle miles travels by constructing bicycle paths, bicycle lanes, or pedestrian facilities that provide safe routes for travel between residences, workplaces, commercial centers, and schools. Eligible projects include green streets and alleyways and non-motorized urban trails that provide safe routes for travel between residences, workplaces, commercial centers, and schools.

Funds are programmed by the California Natural Resources Agency.

Proposition 1 Stormwater Grant Program Round 2

The Proposition 1 Storm Water Grant Program Round 2 aims to provide funding for projects that help water infrastructure systems adapt to climate change, increase collaboration opportunities for water resource and infrastructure management, and improve regional water self-reliance. The Program's Round 2 funding provides approximately $86 million for multi-benefit storm water management project that include, but are not limited to, green infrastructure, rainwater and storm water capture projects and storm water treatment facilities. Eligible projects must be included in the region's Storm Water Resource Plan. Communities are required to provide a 50 percent local match, which may be in the form of federal grants or loans, local and private funding, or staff or volunteer ("in kind") services.

Funds are programmed by the CA Water Resources Board.

Highway Safety Improvement Program

Caltrans offers Highway Safety Improvement Program (HSIP) grants every one to two years. Projects on any publicly owned road or active transportation facility are eligible, including bicycle and pedestrian improvements. HSIP focuses on projects that explicitly address documented safety challenges through proven countermeasures, are implementation-ready, and demonstrate cost-effectiveness.

Funds are programmed by Caltrans.

Sustainable Transportation Planning Grants

Caltrans Sustainable Transportation Planning Grants are available to communities for planning, study, and design work to identify and evaluate projects, including conducting outreach or implementing pilot projects. Communities are typically required to provide an 11.47 percent local match, but staff time or in-kind donations are eligible to be used for the match provided the required documentation is submitted.

Funds are programmed by Caltrans.

Solutions for Congested Corridors Program

Funded by Senate Bill 1, the Congested Corridors Program strives to reduce congestion in highly traveled and congested corridors through performance improvements that balance transportation improvements, community impacts, and environmental benefits. This program can fund a wide array of improvements including bicycle facilities and pedestrian facilities. Eligible projects must be detailed in an approved corridor-focused planning document. These projects must include aspects that benefit all modes of transportation using an array of strategies that can change travel behavior, dedicate rights-of-way for bikes and transit, and reduce vehicle miles traveled.

Funds are programmed by the CTC.

Office of Traffic Safety

Under the Fixing America's Surface Transportation (FAST) Act, five percent of Section 405 funds are dedicated to addressing nonmotorized safety. These funds may be used for law enforcement training related to pedestrian and bicycle safety, enforcement campaigns, and public education and awareness campaigns.

Funds are programmed by the California Office of Traffic Safety.

Recreational Trails Program

The Recreational Trails Program helps provide recreational trials for both motorized and non-motorized trail use. Eligible products include trail maintenance and restoration, trailside and trailhead facilities, equipment for maintenance, new trail construction, and more.

Funds are programmed by the California Department of Parks and Recreation.

Habitat Conservation Fund

The Habitat Conservation Fund Program supports projects that bring urban residents into park and wildlife areas, protect plant and animal species, and acquire and develop wildlife corridors and trails.

Funds are programmed by the California Department of Parks and Recreation..

OTHER STATE PROGRAMS

Local Partnership Program

This program provides SB1 funds to local and regional agencies that have passed sales tax measures, developer fees, or other transportation-imposed fees to fund road maintenance and rehabilitation, sound walls, and other transportation improvement projects. Jurisdictions with these taxes or fees are eligible for a formulaic annual distribution of no less than $100,000. These jurisdictions are also eligible for a competitive grant program. Local Partnership Program funds can be used for a wide variety of transportation purposes including roadway rehabilitation and construction, transit capital and infrastructure, bicycle and pedestrian improvements, and green infrastructure.

Funds are programmed by the CTC.

Road Maintenance and Rehabilitation Program

Senate Bill 1 (SB1) created the Road Maintenance and Rehabilitation Program (RMRP) to address deferred maintenance on state highways and local road systems. Program funds can be spent on both design and construction efforts. On-street active transportation related maintenance projects are eligible if program maintenance and other thresholds are met. Funds are allocated to eligible jurisdictions.

Funds are programmed by the State Controller's Office with guidance from the CTC.

Chapter 6: Safe Routes to School Plan

Safe Routes to School Needs Analysis

The Sunnyvale SRTS Plan incorporated the perspectives of key stakeholders through a multi-prong needs analysis approach:

1. **School Walk Audits:** Observations of each school's arrival or dismissal procedures with representatives from the school, including both staff and parents, school district, City, and consultant team to identify areas of concern for people walking and bicycling to school.
2. **Public Workshop:** Recommendations produced through the walk audit process were presented to the public at an in-person meeting to gather feedback and comments.
3. **Detailed Review:** Recommendations produced through the walk audit process were presented to school staff, school district staff, and City staff to gather feedback and comments.

School Walk Audits

Walk audits were performed in April and May 2019 at 21 public schools that serve Sunnyvale students. Walk audits were scheduled for either arrival or dismissal with either the school principal or school administrative assistant and were coordinated with Officer O'Connell. After confirming the date and time for the audit, Officer O'Connell and school staff would issue an invitation to parents and school district staff to join the audit. Audits brought together a combination of school staff, parents, school district staff (when available), City staff, and transportation planning and engineering consultants.

Walk audit teams gathered before the first or last bell (depending on whether the walk audit was during arrival or dismissal) to be oriented to the school and the walk audit process. Using a large map print-out of the school and surrounding roadways, observation points were identified and walk audit team members volunteered to observe at a location of their choice.

During the audit, team members observed the location in question and noted issues or areas of concerns that prevented students, from safely walking or bicycling to the school. Afterwards, walk audit teams gathered to discuss observations and determine the areas of highest concern.

Following each walk audit, consultant staff prepared a technical memorandum summarizing the observations and areas of concern and an improvement plan map detailing recommended improvements to address the noted concerns. The improvement plans for each school begin on page 158.

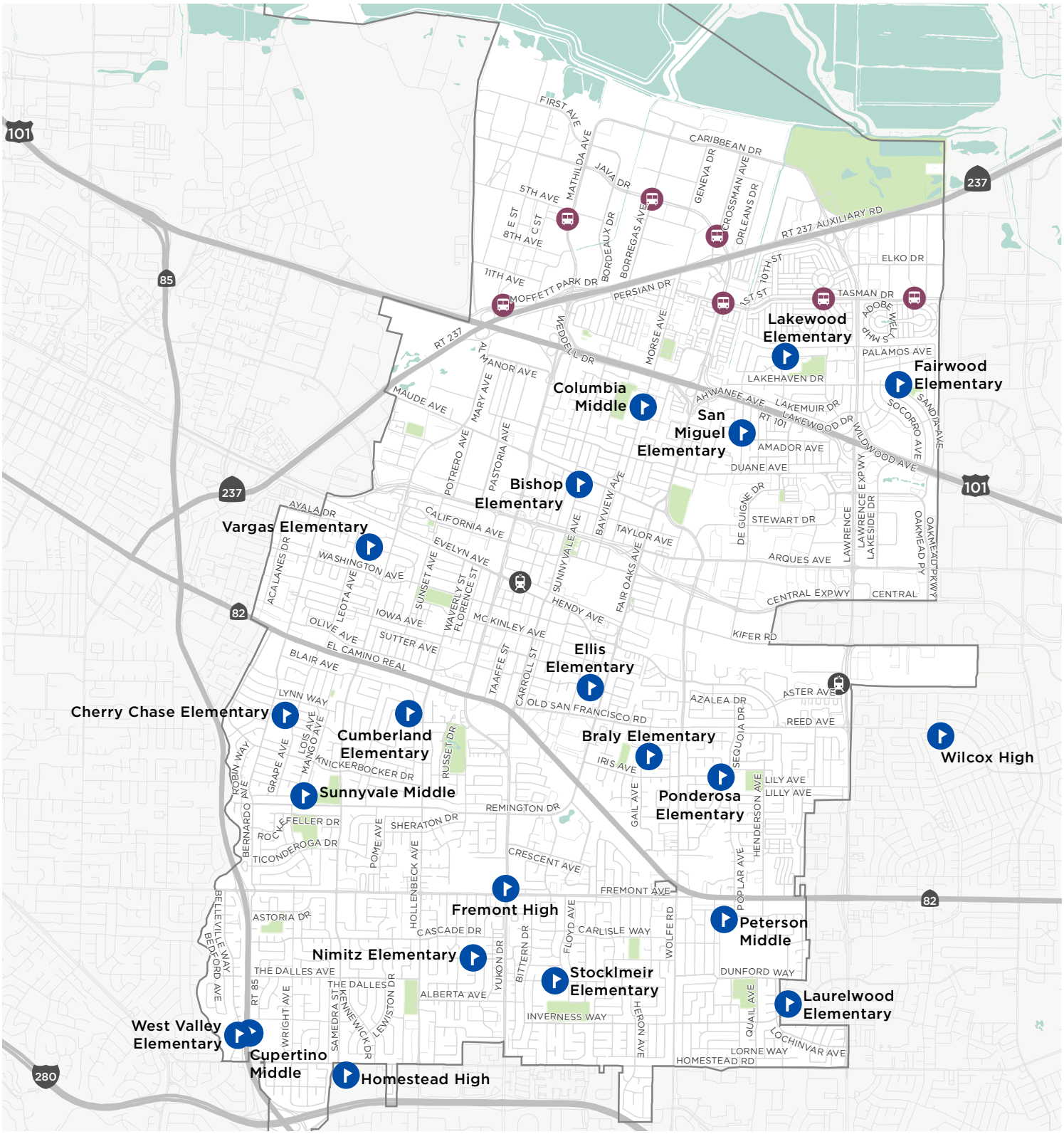
Walk audits had previously been conducted in 2018 at many schools in Sunnyvale by the Sunnyvale SRTS Collaborative. The walk audit teams considered notes from these walk audits as provide background information and to orient them to areas of concern.

Public Workshop

The 21 school improvement plan maps were presented at a public workshop in December 2019. Over 75 people attended this workshop, including parents and students from many of the schools audited. Each school's improvement plan map was printed twice and placed on a table with pens, markers, sticky notes, and comment cards. Attendees were able to draw directly on the plans or leave comments via a sticky note or comment card. City and consultant staff were present to answer questions. The feedback was recorded and each comment was considered in making edits to the improvement plan maps.

Detailed Review

Each school's technical memo and improvement plan map were provided to school staff, school district staff, and City staff for review. After internal review by each group, a set of internally-consistent, consolidated comments was provided to the consultant team for incorporation into the technical memos and improvement plan maps.



Map 33. Public Schools

- Public School
- Caltrain Station
- VTA Light Rail Station
- Parks
- City Boundary

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Vision and Goals

The goals for the SRTS Plan reflect the priorities expressed by the community throughout the public outreach phase. Discussions with City departments, best practices across the nation, and input from community stakeholders have shaped the proposed strategies and policies intended to help the City achieve these goals.

Vision Statement

Sunnyvale is a Complete Streets Community where residents and commuters have the choice to bicycle and walk to meet their transportation needs on a connected, comfortable, and convenient network designed for all abilities and ages.

GOAL 1

Increase safety for people walking and bicycling by improving school travel routes to be safe, convenient, and comfortable for all users and modes.

- **Policy 1:** Work with School Districts that serve Sunnyvale students, and the school community (teachers, administrators, students, parents, and neighbors) to identify infrastructure improvements that make walking and bicycling to school a safer option for students.

» **Action 1.1:** Identify, develop, and enhance education, encouragement, and enforcement programs while working with the School Districts that serve Sunnyvale students.

» **Action 1.2:** Utilize school walk audits to identify priority infrastructure improvements close to schools within the city to produce a safer walking and bicycling environment. Coordinate with neighboring jurisdictions to develop infrastructure improvements close to schools located outside of Sunnyvale but serve Sunnyvale residents.

» **Action 1.3:** Identify infrastructure improvements in the Capital Improvement Program (CIPs) to enhance pedestrian safety adjacent to schools.

» **Action 1.4:** Assist school districts, as needed, with providing bicycle racks to public schools that serve Sunnyvale students, or add additional racks at schools in need of more bicycle parking.

» **Action 1.5:** Work with the Department of Public Safety to target speed enforcement and use speed feedback signs. Consider installing traffic calming and other speed reduction measures to further incentivize drivers to travel the reduced speed limit in school zones as needed.

» **Action 1.6:** As the City implements SRTS improvements in the future, staff will evaluate opportunities to fill in small sidewalk gaps on routes to and from school within the school's immediate vicinity.

GOAL 2

Increase participation in the Safe Routes to School Program

- **Policy 2:** Conduct comprehensive community outreach to engage with students, parents, staff, and the community to design and implement a program that makes using active transportation modes to and from schools safer and increases the percentage of students arriving using active transportation.
  - » **Action 2.1:** Design an equitable outreach campaign to engage community members of all backgrounds in a Safe Routes to School program.
  - » **Action 2.2:** When possible, produce outreach materials to inform communities of the City of Sunnyvale's Safe Routes to School program and the progress made towards its goals and objectives.
  - » **Action 2.3:** Help to organize or host events that publicize and increase awareness of the Safe Routes to School efforts, programs, and resources.
  - » **Action 2.4:** Survey students to determine baseline active transportation mode share, and specify a goal for active transportation mode share by 2030, either by school, district, or another grouping.
- **Policy 3:** Encourage Sunnyvale public schools to participate in Sunnyvale's SRTS program.
  - » **Action 3.1:** Conduct walk audits at public schools that serve Sunnyvale students and utilize the subsequent improvement plans to pursue grant funding for implementation.
  - » **Action 3.2:** City staff should continue to participate in Santa Clara County Safe Routes to School programs and task forces.
  - » **Action 3.3:** Eliminate barriers to participation in the Safe Routes to School program, whether founded on race, ethnicity, national origin, disability, income level, language, or any other basis.
  - » **Action 3.4:** Present progress to the BPAC annually that highlights school participation in SRTS activities. Include hand tally results in the report.
- **Policy 4:** Expand on existing Walk and Bike to School encouragement events and programs to increase awareness about active transportation options available to students.
  - » **Action 4.1:** Continue to expand support for Walk to School Day and Bike to School Day.
  - » **Action 4.2:** Continue to encourage Walking School Bus and/or Bike Train to incentivize pedestrian and bicycling behavior in a supervised manner and report on progress.
  - » **Action 4.3:** Assist the school districts in establishing promotional campaigns to encourage students and parents to walk or roll to school.
  - » **Action 4.4:** Explore providing "Drive Your Bike" programming to middle school and high school aged students to prepare them to bicycle safely to school and around their neighborhoods.

Engineering Recommendations

Safe street design leads to safe walking and bicycling. Engineering improvements are therefore a key way that the City can increase safety around schools. As documented earlier, the bulk of the work for this plan entailed conducting school walk audits at each of the 21 public schools serving Sunnyvale students. This section offers citywide engineering recommendations, describes the engineering improvements recommended in the school improvement plans, and provides a summary of each school's existing conditions before displaying the improvement plan map.

Citywide Engineering Recommendations

Recommendation 1: Conduct biennial crossing guard evaluation at locations that have an existing crossing guard to determine if travel patterns have changed, which warrant adjustments for crossing guard placement.

Recommendation 2: Continue vegetation maintenance in the public right-of-way near public schools that serve Sunnyvale students to ensure good visibility to all signage. Vegetation on the school site is the responsibility of the school.

Recommendation 3: Where feasible or required, incorporate green stormwater infrastructure improvements within safe routes to school projects to enhance safety and shading opportunities.

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Glossary of Recommended Infrastructure Improvements

Each school improvement plan recommends technical engineering recommendations to improve safety and access for students and guardians who bike or walk to school.

This glossary provides an image and brief description of the most commonly recommended roadway improvements along with the symbol used to represent the recommendation.

This glossary is intended to help city staff, parents, students, school staff, and other members of the public better understand the improvement recommendations in this Plan.

ACCESS POINTS

Access points are indicated on all improvement plan maps. These indicate the locations where the school or campus can be entered.

ADVANCE YIELD MARKINGS

These markings, also referred to as “shark’s teeth,” are placed on the roadway 20-50 feet before a mid-block crosswalk or crosswalk at an uncontrolled intersection to indicate where drivers should stop and wait for people to cross. These markings have been shown to increase driver yield compliance.

BICYCLE PARKING

Bicycle parking can be designed for short-term or long-term use and includes bicycle racks (pictured), bicycle cages, lockers, and bicycle stations, among other designs. Parking should allow for bicycles to be locked to the rack at two points of the bike frame, sufficiently spaced from each other, and in a secure, well-illuminated area.

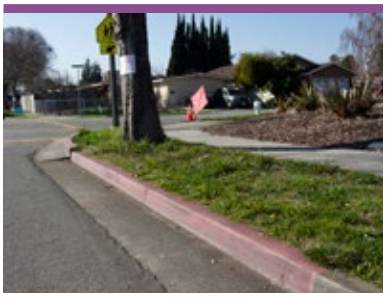
BUS STOPS

Existing VTA and other public agency bus stops are indicated on improvement plan maps. In some cases, recommendations to relocate a stop may be provided to improve sightlines or visibility.

CROSSING GUARDS

Crossing guards are trained personnel who help control traffic and aid people crossing streets near schools. Crossing guards can be useful at uncontrolled and stop sign-controlled intersections with high volumes of people walking.

CURB COLORS/PARKING RESTRICTIONS

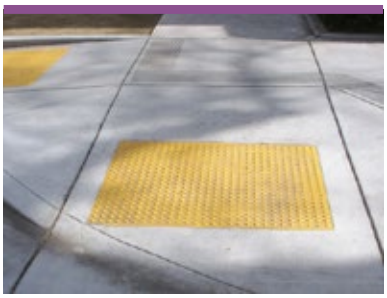


Curb colors indicate parking/loading restrictions along segments of curbs. In most cases, these are accompanied by signs providing additional detail about the restriction. Existing and proposed changes are noted on improvement plan maps. The length of the curb designation should be determined in accordance with City standards.

CURB EXTENSIONS/ BULB OUTS

Curb extensions/bulb-outs extend the curb into the street. They can provide several important traffic calming and safety benefits including a shorter crossing distance, improved visibility at intersections, and provide additional space for people waiting to cross. They can be installed at intersections or mid-block. The terms can be used interchangeably.

CURB RAMPS

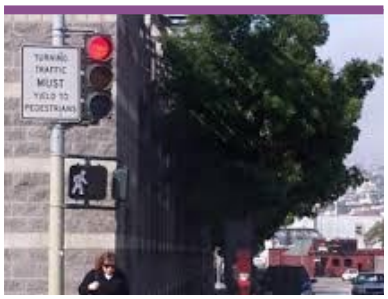


Curb ramps allow for smooth transitions between the sidewalk and street level. Curb ramps are important for those with special mobility needs, strollers, and many other users. Ramps must be built to current ADA standards.

HIGH-VISIBILITY CROSSWALKS

High visibility crosswalks are crosswalks that are marked with thick bars, drawing additional attention and awareness to the crossing. In school zones these crossings are yellow, as opposed to the standard white color.

LEADING PEDESTRIAN INTERVAL (LPI)



An LPI provides people with a few seconds to begin walking into the intersection before the vehicle signal turns green. This increases visibility and awareness of people crossing for. This is especially useful at locations with high volumes of people walking and/or vehicle turning movements.

LIMITING TURN MOVEMENTS

Prohibiting vehicle turning movements has many benefits for both vehicular circulation and safety for people walking and bicycling. Preventing certain turn movements, including U-Turns, can reduce conflict points and improve overall vehicle flow.

PARK & WALK LOCATIONS

Park and walk locations are areas within a few blocks of the campus where guardians can park their car and walk their student(s) to campus. They provide the double benefit of reducing congestion close to the school and providing an opportunity for students to start their day with a walk.

PEDESTRIAN HYBRID BEACON/HAWK

A pedestrian hybrid beacon, also known as a High-Intensity Activated Crosswalk (HAWK), is a signal designed to increase safety for people crossing at unsignalized locations on multi-lane roadways. When the button is pushed, the beacon will flash yellow to alert drivers to prepare to stop. It will then turn solid red to indicate drivers should stop. Once it begins flashing red, drivers may continue once the crosswalk is clear.

PEDESTRIAN REFUGE ISLANDS

A pedestrian refuge island is constructed in a road's median and is designed to be a waiting spot for people who cannot, or choose not to, cross the entire roadway at once. These features are particularly useful for seniors, students, and those with mobility impairments.

PEDESTRIAN SCALE LIGHTING

Pedestrian-scale lighting improves visibility for both people walking and driving, particularly at intersections.

PROTECTED INTERSECTIONS

Protected intersections add physical barriers and other infrastructure to reduce conflicts between people walking, bicycling, and driving by increasing visibility and providing physical protection. This design feature enhances sight distance and reduces crossing distances for people walking and bicycling.

RAISED CROSSWALKS

Raised crosswalks make people crossing more visible to people driving and also slow vehicles. They can be used at midblock crossing locations as well as in other areas, such as parking lots.

RECTANGULAR RAPID FLASH BEACON (RRFB)

RRFBs are user-activated flashing lights used at unsignalized intersections or mid-block crossings. These beacons alert people driving to the presence of people in the crosswalk. RRFBs have been shown to increase driver yielding behavior.

REDUCED CORNER RADII

The size of the curb radius (angle of the corner) has an impact on the speed of turning vehicles. A reduced corner radius creates a tighter turning movement and therefore reduces turning speed. Reducing turning speeds to about 15 mph is important as corners are where drivers are most likely to encounter people crossing. Curb extensions/bulb-outs are one way to reduce corner radii.

SCHOOL LOADING ZONES

School loading zones are curbside areas where drivers pull to the curb to pick-up or drop-off students. Loading zones can be signed and regulated in a variety of ways to suit the specific needs of each school.

Safety assessments may also include programmatic recommendations for a rolling drop-off or student valet program to increase loading zone efficiency.

SIDEWALKS

Sidewalks provide dedicated space for people to walk. The minimum width of a sidewalk should be six feet or greater.

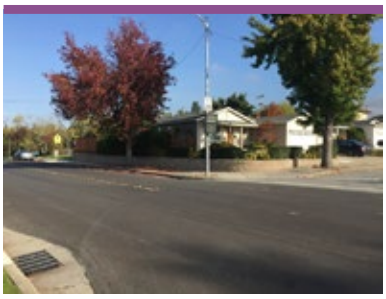
SIGNAGE

Improvement plans can include recommendations for new or updated roadside or on-campus signs. Signs serve a wide range of uses from prohibiting movements, limiting parking, or providing advance notice of school zones or crosswalks. Images of the intended signs are used. Non-standard signs that schools/school districts can implement are also recommended (e.g. “Please Pull Forward” etc.).

SPEED BUMPS

Speed bumps, also called speed humps, provide traffic calming by reducing vehicle speeds. They are typically placed in a series and cross the entire width of the roadway. These cannot be used on high volume or high-speed streets.

SPEED FEEDBACK SIGNS



Speed feedback signs attempt to slow speeding drivers by alerting them of their speed and the speed posted limit. These can be combined with signs reminding drivers they are entering a school zone.

STOP OR LIMIT LINES

Stop lines are solid white lines that extend across approach lanes. They may be used to indicate the point behind which vehicles are required to stop in compliance with a stop sign, or another traffic control device that requires vehicles to stop.

STOP SIGNS

A stop sign is a traffic control device used to regulate traffic through an intersection. In general, the implementation of stop control is regulated by the Federal Highway Administration and requires a technical analysis be conducted before a stop sign can be installed.

STREET LANE STRIPING

Adding or modifying a street’s striping pattern can make on-street movements more predictable. Narrow lanes can also encourage lower speeds.

TRAFFIC CONES

Traffic cones can be used by schools to block driveways and prevent turns that might interfere with students using the sidewalk or street safely. Cones are a low-cost and temporary method to perform traffic control for arrival and dismissal periods.

10

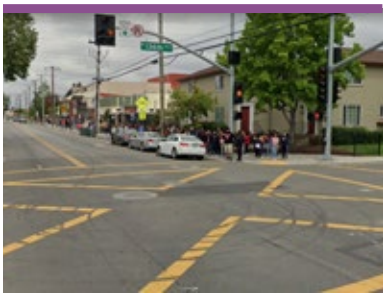
TRAFFIC SIGNALS, PEDESTRIAN SIGNAL HEADS, AND BICYCLE SIGNAL HEADS

A traffic signal is a traffic control device used to regulate traffic through an intersection.

Pedestrian signal heads and countdown signals provide people with information about the remaining time they have to cross the street.

Bicycle signal heads can be used to regulate bicycle traffic through an intersection to improve the efficiency of bicycle movements.

PEDESTRIAN SCRAMBLE



Traffic signals can be programmed to create a “pedestrian scramble” which shows red lights to vehicles in all directions, and allows people walking to cross the intersection in any direction.

Bishop Elementary School

450 N. Sunnyvale Ave.
Sunnyvale, CA 94085

GRADES
K-5

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
475

49%

ENGLISH LANGUAGE LEARNERS
(231)

71%

FREE/ REDUCED LUNCH
(335)

WALK AUDIT
TUESDAY, APRIL 23, 2019

ARRIVAL | **DISMISSAL**

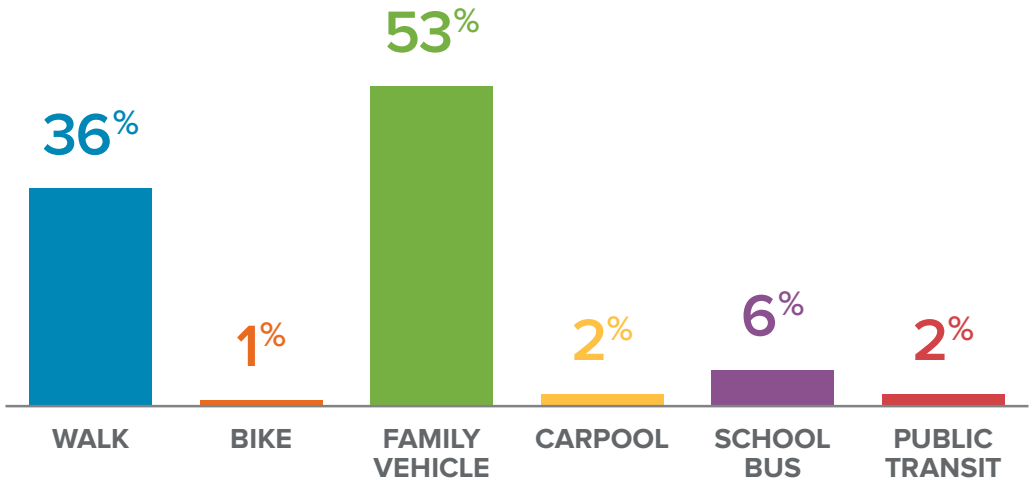
Bishop Elementary School is located in a residential neighborhood in the central section of the city. Although dedicated bicycle parking has been provided for students, few parked bicycles were observed during the walk audit. Recent, significant renovations include the construction of a new parking lot and driveway loop off of North Sunnyvale Avenue. In 2018, the City of Sunnyvale received an Active Transportation Program grant to fund SRTS improvements around Bishop Elementary. The work will be completed in 2020. Previous SRTS activities at Bishop have included Kindergarten, 2nd and 4th grade in-class walk and bike education, a Family Fun Bike Night, and a bike repair and helmet distribution event.

SUMMARY OF EXISTING CONDITIONS

E Maude Avenue Frontage

- A rolling drop-off/pick-up allows parents driving eastbound on E Maude Avenue to turn into the parking lot loop, drop-off or pick-up their student(s), and then turn right out of the loop to continue eastbound on E Maude Avenue.
- Parked vehicles east of the driveway exit blocked sight lines for parents exiting the parking lot loop.

Bishop Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

- Multiple students and parents were observed crossing E Maude Avenue mid-block; few people driving yielded to the people crossing.

N. Sunnyvale Avenue / E. Maude Avenue

- This is a signalized T-intersection with a crossing guard during arrival and dismissal hours.
- A long queue of automobile traffic along E Maude Avenue was creating delays for VTA Bus Line 55 and prevented the bus from pulling up to the bus stop near this intersection. As a result, bus users had to cross through traffic to board the bus.
- All people driving yielded to people walking in the right-turn slip lanes at the intersection.

N. Bayview Avenue / E. Maude Avenue

- This intersection is controlled by stop signs on the north and south approaches. There are in-road warning lights (IRWL) on the eastbound approach to the intersection and there is a crossing guard present during arrival and dismissal hours.
- People driving were perceived as speeding along the street, making incomplete stops at the intersection, and disregarding the crossing guard.
- During the audit 36 children crossed E Maude toward the school.

N. Sunnyvale Avenue / Hazelton Avenue

- This is a minor street stop-controlled T-intersection with a speed feedback sign on the northeast corner.
- There is a dedicated school bus drop-off zone north of the intersection near the main school entrance.
- Large turning radii on the northeast and southeast corners of the intersection allow people driving to make fast turns.

N. Bayview Avenue / Hazelton Avenue

- This is a minor street stop-controlled T-intersection.
- The northwest and southwest corners have large turning radii, allowing vehicles to make fast turns.

Existing Conditions

- Crossing Guard Location
- Bike Parking
- Relocation of Existing "No Left Turn" Sign
- Speed Feedback Sign
- Bus Stop
- School Access Point
- School Circulation
- Class IIB Buffered Bicycle Lane

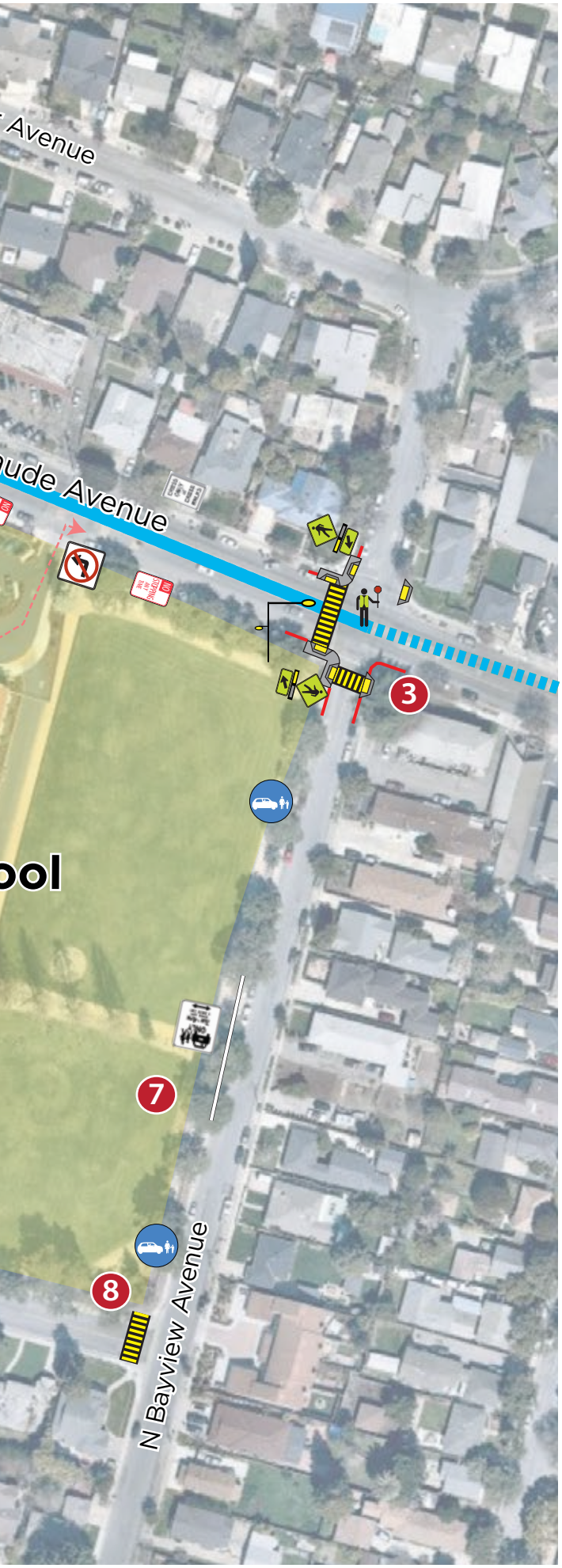
Recommendations

- Sidewalk Extensions & Gap Closure
- Raised Crosswalk
- High-Visibility Crosswalk
- Park & Walk Location
- Rectangular Rapid Flash Beacon (RRFB)
- R26S "No Stopping Any Time" Signage
- R1-5 "Yield to Pedestrians Here" Signage
- R25D "School Loading" Signage
- R2-9 "Cross Only at Crosswalks" Signage
- Curb Ramp
- Curb Extension
- Stop Bar
- Red Curb
- White Curb
- Lighting
- Directional Curb Ramps
- Class IIB Buffered Bicycle Lane

Implementing Agency

- # City of Sunnyvale
- # Sunnyvale School District

The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of any re



Safe Routes to Schools Improvement Plan

Bishop Elementary School
Sunnyvale

School Audit held April 2019

1 E. Maude Avenue Frontage
- Install R26S "No Stopping Any Time" signs along south side of E. Maude Avenue between dedicated right turn lane and the drop-off zone entrance, between the drop-off zone entrance and exit, and a er the drop-off zone exit. (Note: Currently under construc on)
- Remove parking on both sides of road and install Class IIB bicycle lanes.
- Install R2-9 "Cross Only at Crosswalks" signage.

2 N. Sunnyvale Avenue/E. Maude Avenue
- Install red curb paint along southeast corner and sides of proposed curb extension on northeast corner of E Maude Avenue and N Sunnyvale Avenue.
- Install advance stop markings on westbound approach consistent with Sunnyvale ATP: Safe Routes to School grant applica on.
- Improvements consistent with current city project to close slip lanes on south side of intersec on.

3 N. Bayview Avenue/E. Maude Avenue
- Upgrade both exis ng crosswalks to high visibility crosswalks.
- Upgrade northwest and northeast curb ramps to be ADA-compliant.
- Reconfigure southwest and southeast corners with direc onal curb ramps.
- Upgrade exis ng flashing beacon sign to RRFB.
- Install red curb paint on northwest and southwest corners of E. Maude Avenue and N. Bayview Avenue.
- Install ligh ng on southwest corner.

4 N. Sunnyvale Avenue/Hazelton Avenue
- Upgrade both exis ng crosswalks to high visibility crosswalks.
- Consider installing curb extensions on northwest and northeast corners of N. Sunnyvale Avenue and Hazelton Avenue.
- Install advanced yield markings and install R1-5 "Yield to Pedestrians Here" signage on north and south approaches. Conduct a speed survey to evaluate traffic calming infrastructure.
- Install pedestrian scale ligh ng on northeast corner.

5 Borregas Avenue/E. Maude Avenue
- Close slip lane onto Borregas Avenue, upgrade exis ng crosswalks to high visibility crosswalks, and install stop bars on all approaches consistent with the Ac ve Transporta on Program (ATP) SNAIL Neighborhood Connec vity Improvements grant applica on.
- Install red curb paint on all corners of offset intersec on.

6 N. Sunnyvale Avenue
- As part of the Ac ve Transporta on Program (ATP) SRTS grant funded project, removal of on-street parking will be evaluated to determine if they could be removed for installa on of a Class II bike lane.

7 Bayview Avenue Frontage
- Install R25D "School Loading" signage and install white curb in front of school access point on Bayview Avenue.

8 Bayview Avenue/Hazelton Avenue
- Install high visability crosswalk on west leg of intersec on.

9 Bike Parking and Campus Access
- Consider promo ng Park and Walk access on Bayview Avenue and Hazelton Avenue.

0 200 ft N

Improvements not to scale

Sunnyvale

ecommended improvements is the responsibility of the appropriate governing agency.

Braly Elementary School

675 Gail Ave.
Sunnyvale, CA 94086

GRADES
K-5

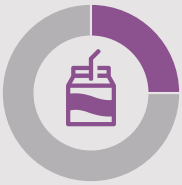
SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
391

49%

ENGLISH LANGUAGE LEARNERS
(190)

25%



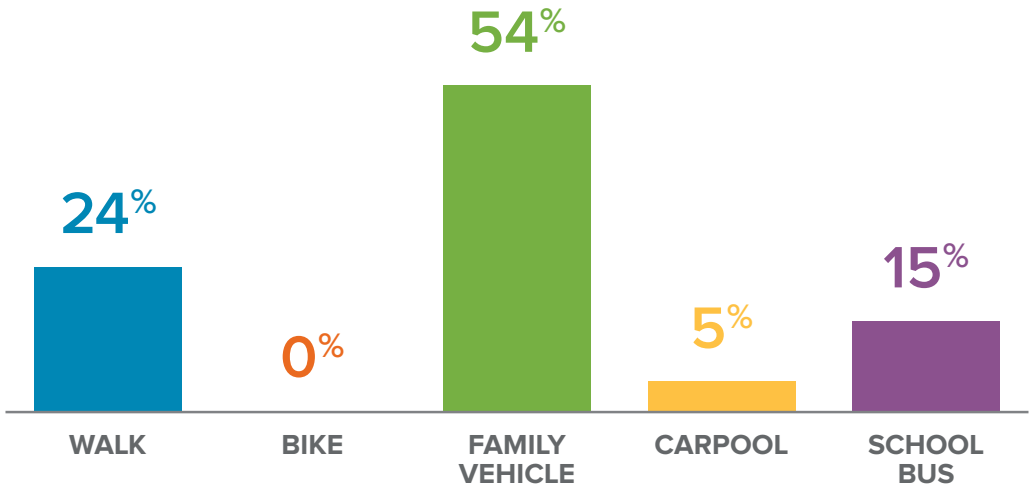
FREE/ REDUCED LUNCH
(98)

WALK AUDIT
TUESDAY, APRIL 30, 2019

ARRIVAL DISMISSAL

Braly Elementary School is located next to Braly Park in a residential neighborhood in central Sunnyvale. The school is close to Ponderosa Park and Ponderosa Elementary School, which are about a half-mile east of Braly Elementary. Previous SRTS activity at Braly Elementary has included Kindergarten and 2nd grade in-class walk and bike education and a Family Fun Bike Night.

Braly Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

SUMMARY OF EXISTING CONDITIONS

Gail Avenue Frontage

- A crossing guard is present during arrival and dismissal hours.
- Street corners in the segment have large radii, which allow for fast vehicle turns.
- Red paint demarcating “No Parking” zones is faded.

Gail Avenue / Iris Avenue

- Street corners at this intersection have large radii, which allow for fast vehicle turns.
- The crosswalks were highly trafficked, but people driving did not always make complete stops.

Gail Avenue / Daffodil Court

- Street corners at this intersection have large radii, which allow for fast vehicle turns.
- Daffodil Court became congested during arrival and dismissal, with some parents double parking and unloading children on the street.

Gail Avenue Segment (Old San Francisco Road to northeast side of Daffodil Court)

- Street corners at intersections along this corridor have large radii, which allow for fast vehicle turns.
- People were observed driving quickly along this segment of road to reach the traffic signal at Gail Avenue and Old San Francisco Road.

Existing Conditions

- Crossing Guard Location
- Speed Feedback Sign
- SchoolAccess Point
- School Circulation
- Class II Bicycle Lane
- Class III Bicycle Route

Recommendations

- High-Visibility Crosswalk
- Curb Extension
- Directional Curb Ramps
- R25D "School Loading" Signage
- Bus Loading Zone Signage
- Advance Yield Markings
- School Assembly B or D Signage
- Red Curb
- White Curb
- Park & Walk Location
- R1-5 "Yield to Pedestrians Here" Signage
- Potential Bike Parking Location
- Crosswalk and Stop Sign Warrant Study
- Class I Shared-Use Path
- Class III Bicycle Route
- Class IV Separated Bikeway

Implementing Agency

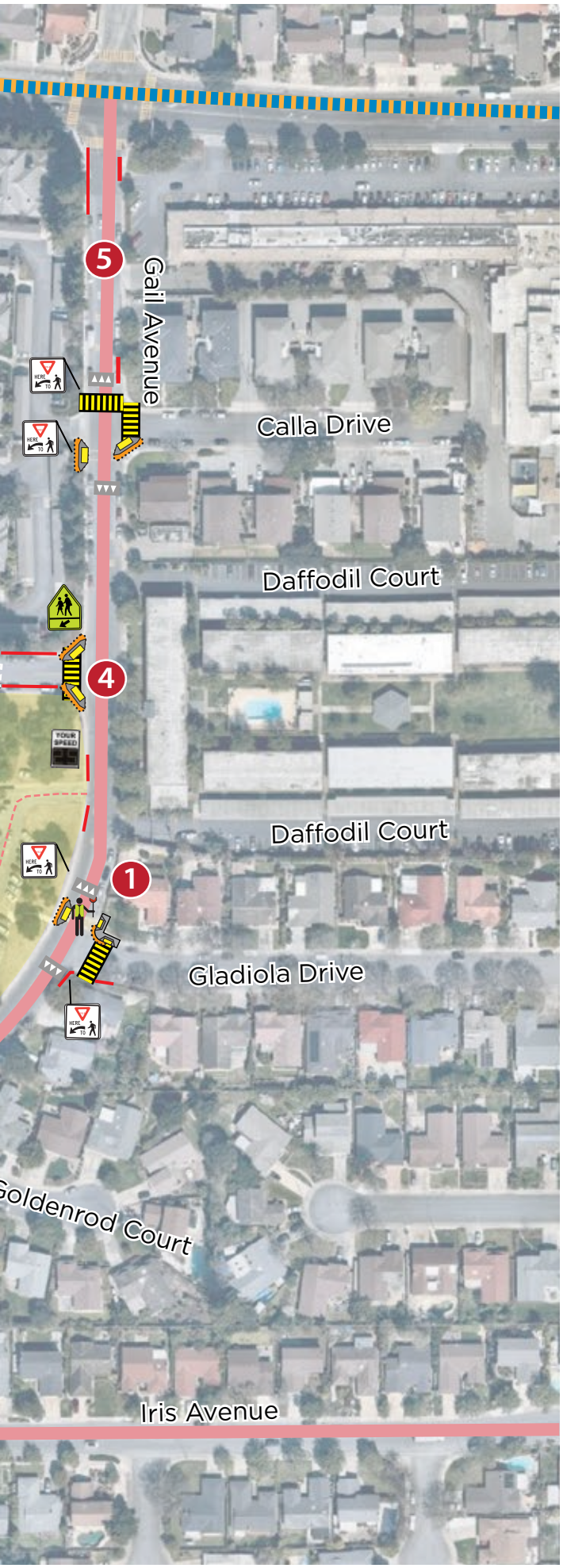
- # City of Sunnyvale
- # Santa Clara Unified School District

The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of any r

Safe Routes to Schools Improvement Plan

Braly Elementary School
Sunnyvale

School Audit held April 2019



1 Gail Avenue School Frontage
- Install high visibility crosswalk across Gladiola Drive.
- Install red paint on southeast corners.
- Install curb extensions and directional curb ramps on northwest and northeast corners of Gladiola Drive.
- Refresh or install red curb paint along northeast and southeast corners after installing curb extensions.
- Install advanced yield markings and install R1-5 “Yield to Pedestrians Here” signage at the north and south approach.

2 Gail Avenue/Iris Avenue
- Upgrade all four existing crosswalks to high visibility crosswalks.
- Consider Installing a curb extension at all four corners.

3 Gail Avenue/Goldenrod Court
- Perform crosswalk and stop warrant study crossing Goldenrod Court.

4 Gail Avenue/Daffodil Court
- Install curb extensions on the northwest and southwest corners.
- Upgrade west leg crosswalk to high visibility crosswalk .
- Refresh and extend 20 feet of red curb paint on the north and south sides of Daffodil Court and Gail Avenue.
- Repaint existing 107 feet of white curb space red and install “Bus Loading Zone” signage.
- Paint southern curb white (about 300 feet) and install RD25 “School Loading” signage.
- Install R1-5 “Yield to Pedestrians Here” signage at the south approach.

5 Gail Avenue Segment
- Install high visibility crosswalk across the northern leg of the Calla Drive intersection and upgrade eastern crosswalk to high visibility.
- Install curb extensions at southeast and southwest corners.
- Refresh the red curb paint along the northwest corner of Gail Avenue and Calla Drive.
- Refresh red curb paint along the west and east sides of the road south of Gail Avenue and Old San Francisco Road.
- Install advanced yield markings and install R1-5 “Yield to Pedestrians Here” signage at the north and south approach.

6 Jackpine Court /Iris Avenue
- Consider Park and Walk location to decrease the use of both Daffodil Court and drop-off zone.
- Consider a new school entrance point from the east side of Braly Park to increase access to Braly Elementary School.

7 Braly Elementary Campus
- Consider installing new gated secure bike parking with cover for students and teachers.

0 200 ft N

Improvements not to scale

Sunnyvale

ecommended improvements is the responsibility of the appropriate governing agency.

Cherry Chase Elementary School

1138 Heatherstone Way
Sunnyvale, CA 94087

GRADES
K-5

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
835

18%

ENGLISH LANGUAGE LEARNERS
(152)

4%

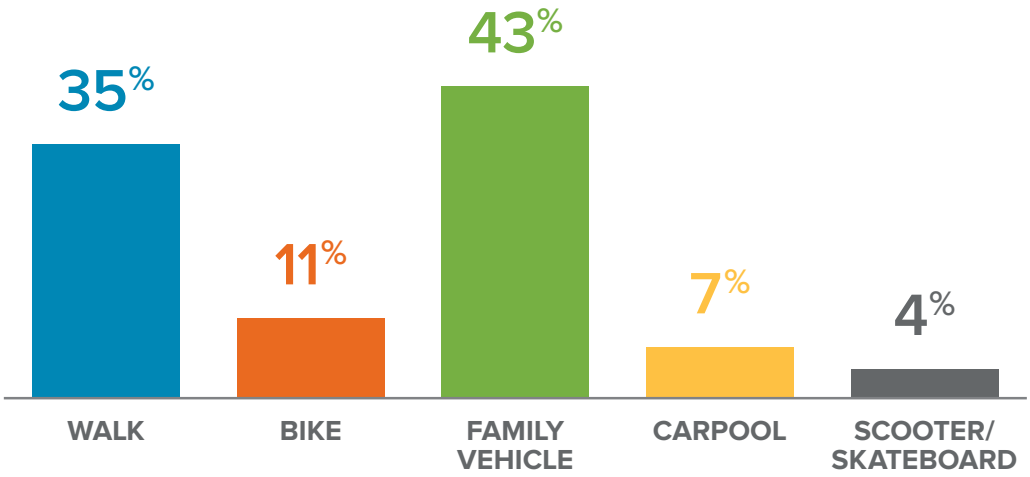
FREE/ REDUCED LUNCH
(34)

WALK AUDIT
MONDAY, MAY 6, 2019

ARRIVAL DISMISSAL

Cherry Chase Elementary School is located in a residential neighborhood on the west side of Sunnyvale. The school posts the preferred arrival and dismissal procedures on its website. In addition to the school rules for parking, arrival, and dismissal, the website also provides tips for avoiding common traffic violations and how to properly wear a helmet. Cherry Chase Elementary provides secure bicycle parking for up to 140 bicycles. Previous SRTS activity at Cherry Chase Elementary has included a bike rodeo, and Kindergarten, 2nd and 4th grade in-class walk and bike education.

Cherry Chase Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

SUMMARY OF EXISTING CONDITIONS

S. Bernardo Avenue / Heatherstone Way

- This is a signalized intersection with the majority of people observed walking north and south.
- The street corners at this intersection have large radii, which allow for fast vehicle turns.

Heatherstone Way School Frontage

- There is a driveway loop that was seen used by 67 parent drivers during the walk audit.
- Congestion and U-turns result in blocked crosswalks and blocked staff parking.

Grape Avenue / Heatherstone Way

- This is a four-way stop-controlled intersection with a crossing guard present during arrival and dismissal hours.
- The street corners at this intersection have large radii, which allow for fast vehicle turns.
- Parents were seen parking at the northeast corner, or double parking south of the intersection, in order to walk students to school.

Grape Avenue / Hudson Way

- This is a yield-controlled T-intersection that is skewed, resulting in long crosswalks and large radii.
- There is a crossing guard present during arrival and dismissal hours, however, some drivers ignored the crossing guard and drove through the intersection when students were crossing.

Existing Conditions

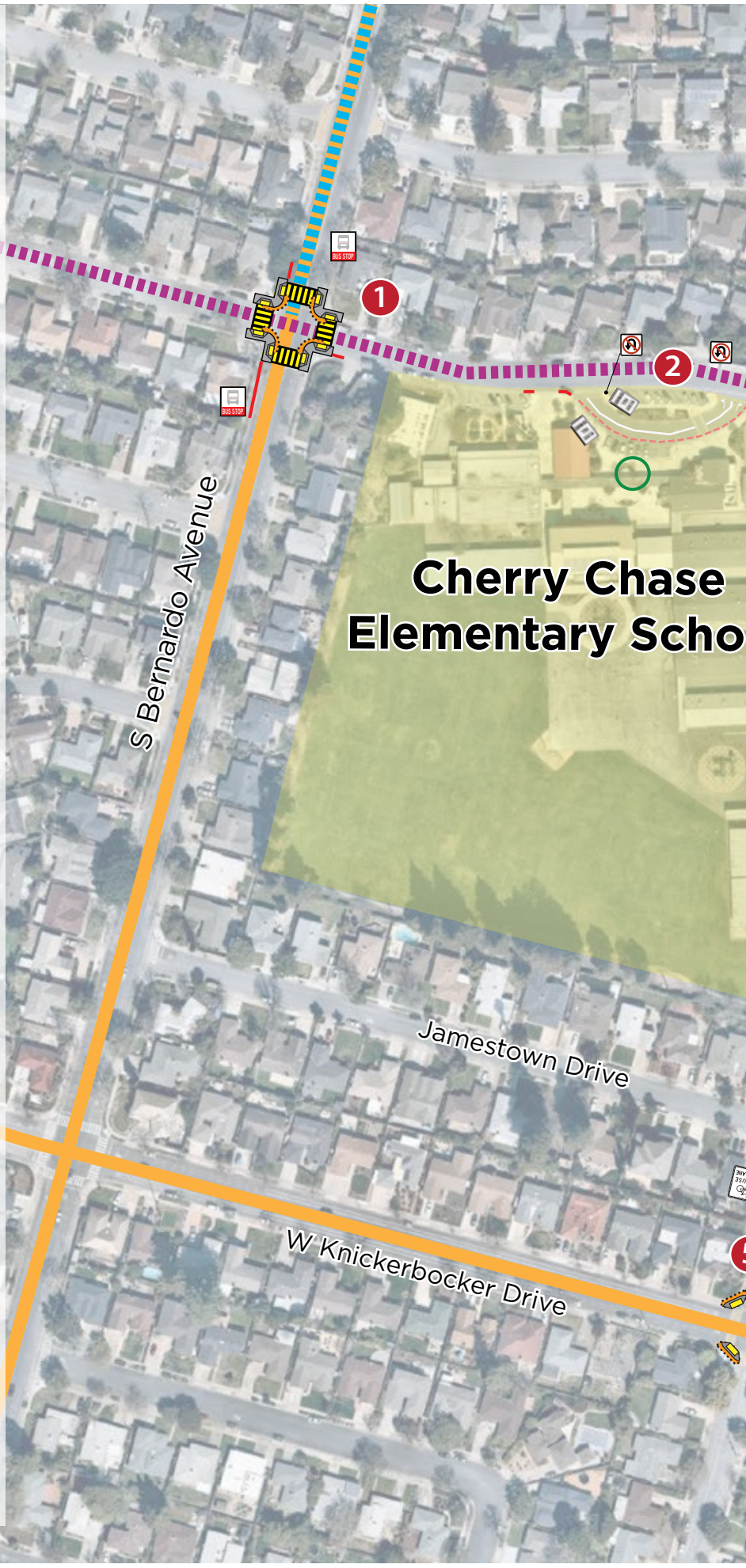
- Crossing Guard Location
- School Access Point
- School Circulation
- Bus Stop
- Bike Parking
- Class II Bicycle Lane

Recommendations

- High-Visibility Crosswalk
- Directional Curb Ramps
- Curb Extension
- R1-5 "Yield to Pedestrians Here" Signage
- R3-4 "No U-Turn" Sign
- Curb Ramp
- "Please Pull Forward" Signage
- R25D "School Loading" Signage
- Red Curb
- White Curb
- R61-19 "Double Lane Control Right & Left Turn" Signage
- White Right & Left Turn Pavement Marking
- R4-11 "Bikes May Use Full Lane" Signage
- Stop Sign Warrant Study
- R26A "No Parking Any Time" Signage
- Class IIIB Bicycle Boulevard
- Class IIB Buffered Bicycle Lane

Implementing Agency

- City of Sunnyvale
- Sunnyvale School District



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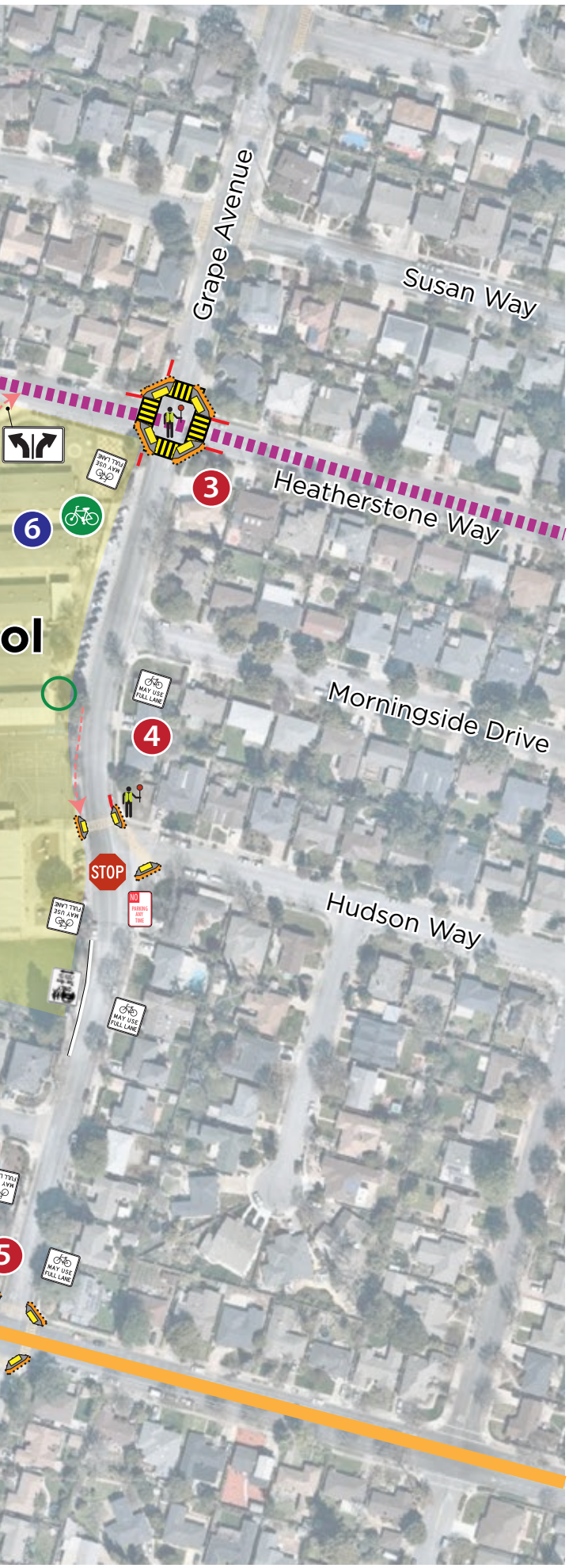


Safe Routes to Schools Improvement Plan

Cherry Chase Elementary School
Sunnyvale

School Audit held May 2019

1 S Bernardo Avenue/Heatherstone Way

- Upgrade all four existing crosswalks to high visibility crosswalks.
- Consider installing curb extensions on all four corners and construct with directional curb ramps.
- Consider installing 20 feet of red curb paint on northwest corner along S Bernardo Avenue and southeast corner along Heatherstone Way.
- Consider installing 70 feet of red curb paint along southbound VTA bus stop off of S Bernardo Avenue and Heatherstone Way.

2 Heatherstone Way Frontage

- Consider installing 10 feet of red curb on left and right corners of driveway before drop-off/pick-up loop.
- Stripe white in the middle of the drop-off to delineate traffic flow.
- Consider installing white left and right turn pavement arrows at end of school drop-off zone.
- Consider installing R3-4 “No U-Turn” signage on Heatherstone Way for both east and westbound traffic.
- Install “Please Pull Forward” signage near entrance of school drop-off zone on both sides on the sidewalk.
- Install R61-19 “Double Lane Control Right and Left Turn” signage at end of school drop-off zone.
- Install double yellow centerline striping along Heatherstone Way.

3 Grape Avenue/Heatherstone Way

- Upgrade existing crosswalk to high visibility crosswalks.
- Install curb extensions at all four corners.
- Consider installing and or refreshing 20 feet of red curb paint on all corners.

4 Grape Avenue/Hudson Way

- Install “Bikes May Use Full Lane” signage on Grape Avenue between Heatherstone Way and W Knickerbocker Drive.
- Install curb extensions on northeast, northwest, and southeast corners of the intersection.
- Install red curb paint northeast of proposed post curb extension of Hudson Way.
- Conduct a stop sign warrant study to evaluate the addition of a stop sign at intersection.
- Consider installing 160 feet of white curb along Grape Avenue between Hudson Way and Jamestown Drive. Add on RD25 “School Loading” signage along sidewalk.
- Install R26A “No Parking At Any Time” signage south of southeast corner of intersection.

5 Grape Avenue/West Knickerbocker Drive

- Install curb extensions at all four corners.

6 Bike Parking

- Consider securing existing bike parking for students and teachers.

0 200 ft N

Improvements not to scale

Sunnyvale

recommended improvements is the responsibility of the appropriate governing agency.

Columbia Middle School

739 Morse Ave.
Sunnyvale, CA 94085

GRADES
6-8

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
790

28%

ENGLISH LANGUAGE LEARNERS
(223)

57%

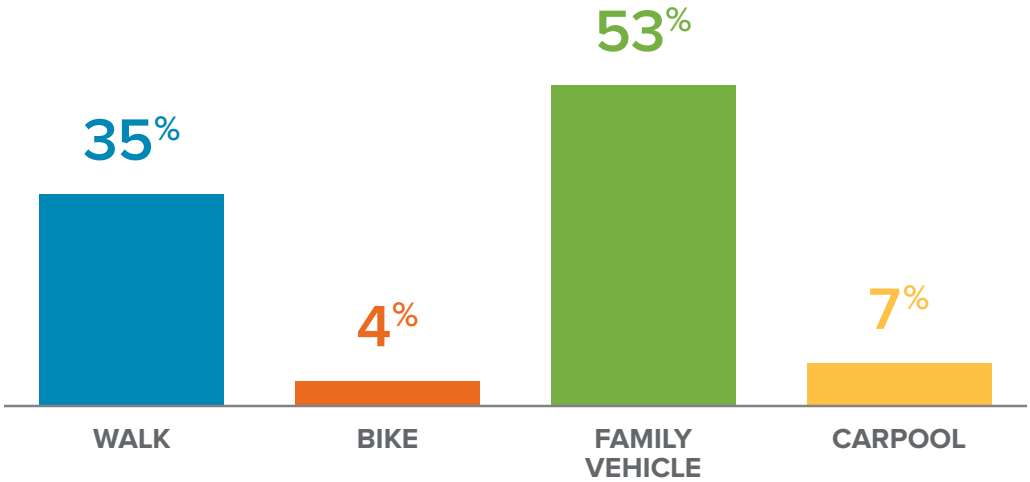
FREE/ REDUCED LUNCH
(450)

WALK AUDIT
MONDAY, MAY 20, 2019

ARRIVAL | **DISMISSAL**

Columbia Middle School is located in a residential area in the northern section of the city. The school offers bicycle parking inside the school; about 25 bicycles were parked on the day of the walk audit. There is also bicycle parking outside the school next to the Columbia Neighborhood Center, which provides recreational, health, educational and social services programs for low income Sunnyvale residents.

Columbia Middle School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

SUMMARY OF EXISTING CONDITIONS

Morse Avenue Frontage

- There are two one-way driveway loops along Morse Avenue.
- There is white curb for unloading/loading passengers along part of the road, and some sections of red curb indicating no parking near entrances and exits.

Morse Avenue / Glendale Avenue

- This is a T-intersection with two yellow high-visibility crosswalks.
- There is a crossing guard present during arrival and dismissal hours, yet at least one person driving failed to yield to the crossing guard while children were present.
- The street corners at this intersection have large radii, which allow for fast vehicle turns.

Morse Avenue / E. Ferndale Avenue

- This is a T-intersection with one yellow crosswalk.
- There is a crossing guard present during arrival and dismissal hours, yet at least three people driving failed to yield to the crossing guard while children were present.
- The street corners at this intersection have large radii, which allow for fast vehicle turns.

San Diego Avenue / Del Norte Avenue

- This is a T-intersection adjacent to an access point into the school.
- Approximately 30 students were observed running across San Diego Ave. from the school access point without looking to see if moving vehicles were present.

The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of ar

Safe Routes to Schools Improvement Plan

Columbia Middle School
Sunnyvale

School Audit held May 2019

1 Morse Avenue/Glendale Avenue
- Install directional curb ramps and curb extensions on northwest, northeast, and southeast corners of Morse Avenue and Glendale Avenue.
- Consider adding and or refreshing red curb paint along each school driveway entrance.

2 Morse Avenue/E Ferndale Avenue
- Install curb extensions and directional curb ramps on northwest, northeast, and southeast corners of Morse Avenue and E Ferndale Avenue.
- Install a raised crosswalk across the north leg of the intersection.
- Install high visibility crosswalk across the east leg.
- Install advance yield marking around Morse Avenue crosswalk.
- Consider adding 20 feet of red curb paint next to each end of proposed curb extension. Refresh red curb paint along northeast corner of Morse Avenue and E Ferndale Avenue.
- Install Speed Feedback Sign north of intersection facing northbound traffic consistent with Sunnyvale ATP: SNAIL Neighborhood grant application.

3 San Diego Avenue/Del Norte Avenue
- Install curb ramp on the northwest corner facing Del Norte Avenue.
- Install high visibility crosswalk across San Diego Avenue on the south leg. Curb ramp existing along the east side of San Diego Avenue can connect the north leg with proposed curb ramp.
- Install directional curb ramps and curb extension on southwest corner. Install curb extension on southeast corner.
- Install red curb on each side of southeast curb extension.
- Long Term: Move southeast curb north to be in line with southwest curb corner of Del Norte Avenue and San Diego Avenue.

4 Columbia Park and Parking Lot
- Consider making northeast gate to Alturas Avenue ADA accessible.

0 200 ft N

Improvements not to scale

Sunnyvale

y recommended improvements is the responsibility of the appropriate governing agency.

Cumberland Elementary School

824 Cumberland Ave.
Sunnyvale, CA 94087

GRADES
K-5

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
806

19%

ENGLISH LANGUAGE LEARNERS
(156)

5%

FREE/ REDUCED LUNCH
(42)

WALK AUDIT
TUESDAY, APRIL 30, 2019

ARRIVAL | **DISMISSAL**

Due to enrollment over the school's capacity, arrival and dismissal times are very busy at **Cumberland Elementary School.** Dismissal is slightly less hectic, as the school provides multiple after school programs that stagger pick-up. The school provides bicycle parking at multiple locations and it is often highly used. A bike rodeo, including a helmet fitting and distribution event, in May 2019 provided helmets to 27 students.

SUMMARY OF EXISTING CONDITIONS

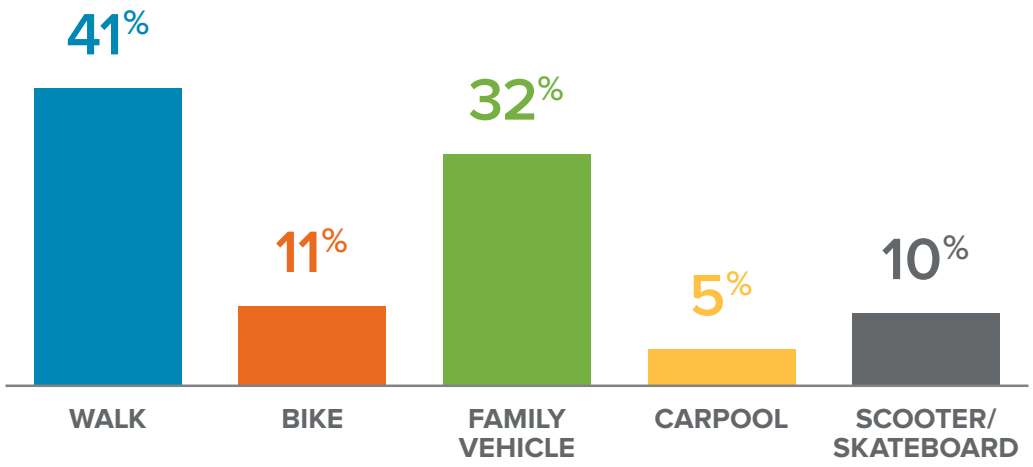
Cumberland Drive School Frontage

- There is a driveway loop for arrival and dismissal. Loading and unloading is allowed along the entire frontage, but parking is prohibited.
- Congestion from parents driving into or waiting to drive into the loop resulted in multiple undesired behaviors during the walk audit, including cutting off other people driving, driving on the wrong side of the road to pass the queue, and parking in "No Parking" zones.

Quetta Avenue / Cumberland Drive

- Over 80 people were observed walking across Cumberland Drive at this intersection on the day of the walk audit.
- Parked cars along both roads and people waiting in vehicles to turn onto Cumberland Drive obstruct visibility for people on foot.

Cumberland Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

Quetta Avenue / Danforth Drive

- This is a three-way stop-controlled intersection with crosswalks across all approaches and a crossing guard stationed during arrival and dismissal hours.
- During the walk audit, over 230 people walked and over 50 people bicycled across the intersection.
- There is a bus stop and a passenger loading zone to the south of the intersection along Quetta Avenue.

Piper Avenue / Cumberland Avenue

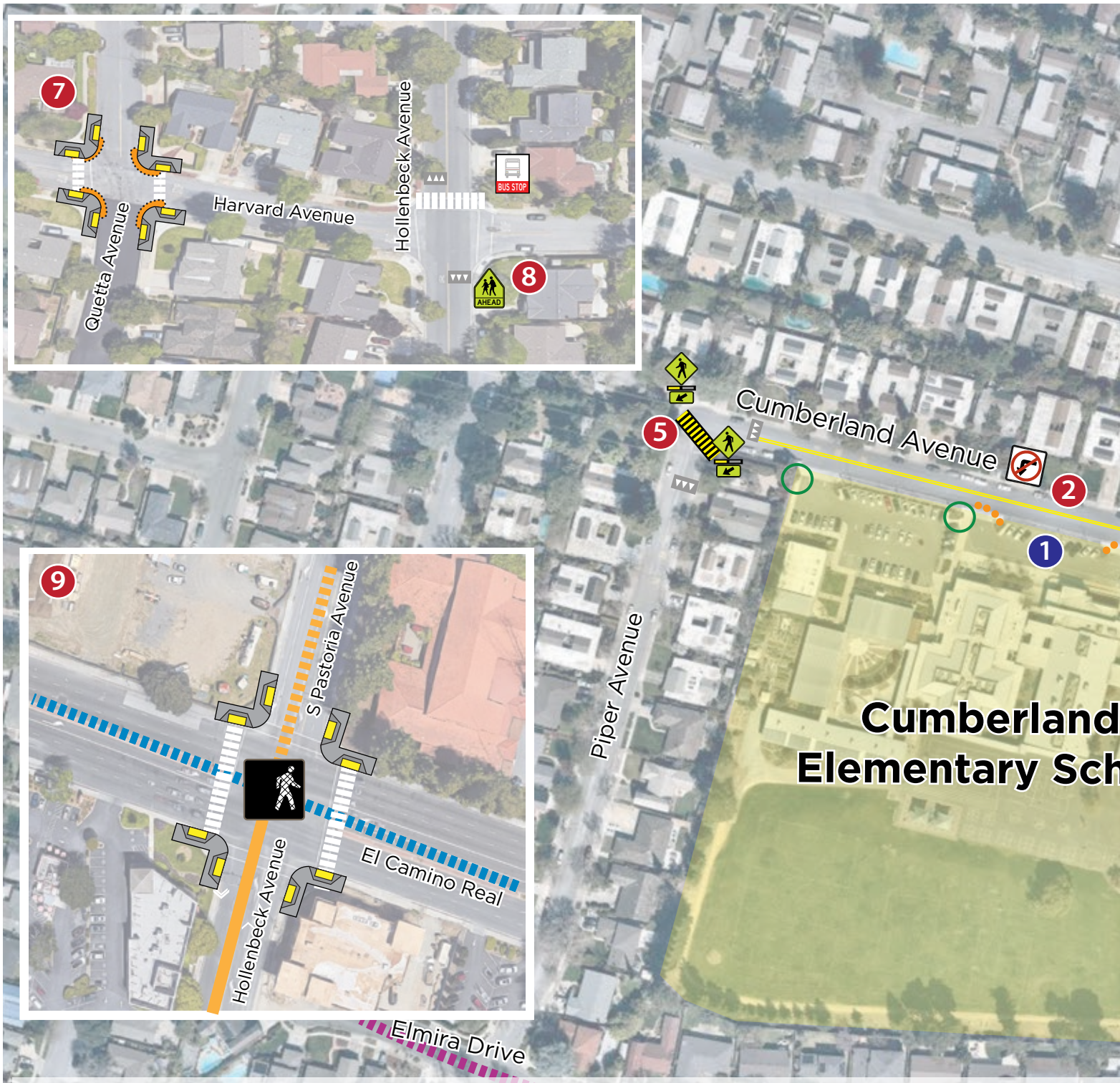
- This intersection connects a pedestrian walkway from the neighborhood to the school.
- Over 80 people were observed walking across the intersection during the walk audit.

El Camino Real / Hollenbeck Avenue / S. Pastoria Avenue

- El Camino Real is a six-lane road that students cross on foot and on bicycle to access the school.
- Walk audit participants reported that people driving do not always yield to people crossing on foot and bicycle.

Harvard Avenue / Hollenbeck Avenue

- This is a four-way intersection that is stop-controlled on Harvard Avenue with an existing pedestrian-actuated flashing beacon above the school crossing sign next to the crosswalk across Hollenbeck Avenue.
- Past audits noted high vehicle speeds along Hollenbeck Avenue.



Existing Conditions

- School Access Point
- Bus Stop
- Class II Bicycle Lane

Recommendations

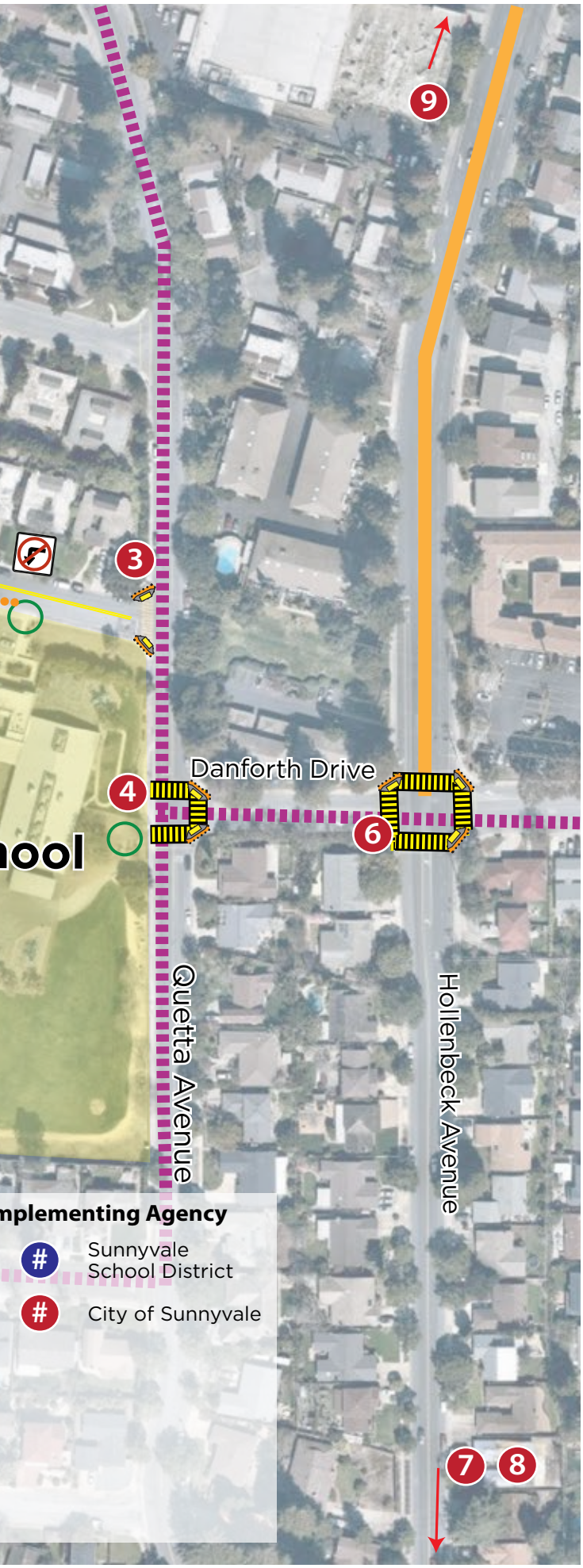
- Temporary Cones
- Directional Curb Ramps
- Curb Extension
- Red Curb
- Advance Yield Markings
- High-Visibility Crosswalk
- Double Yellow Centerline
- Leading Pedestrian Interval
- White Continental Crosswalk
- "No Left Turn" Signage
- School Assembly D Signage
- Rectangular Rapid Flash Beacon (RRFB)
- Class II Bicycle Lane
- Class IIIB Bicycle Boulevard
- Class IV Separated Bikeway

The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of ar

Safe Routes to Schools Improvement Plan

Cumberland Elementary School
Sunnyvale

School Audit held April 2019



1. **Cumberland Drive (School Frontage)**
   - During pickup/drop off times, place temporary cones at entrance and exit of school loop to disallow left turns into and out of loop.

2. **Cumberland Drive (School Frontage)**
   - Install double yellow centerline.
   - Install "No Left Turn" signage on westbound on Cumberland into school drop off loop.
   - Work with school to standardize signage.

3. **Cumberland Drive/Quetta Avenue**
   - Install a curb extension on northwest and southwest corners of intersection.

4. **Quetta Avenue/Danforth Drive**
   - Upgrade all three transverse crosswalks to high visibility crosswalks.
   - Install curb extensions on northeast and southeast corners of intersection.

5. **Piper Avenue/Cumberland Avenue**
   - Upgrade transverse crosswalk to high visibility crosswalk.
   - Install and RRFB.
   - Install advance yield markings.

6. **Danforth Drive/Hollenbeck Avenue**
   - Install curb extensions on northwest, northeast, and southeast corners of intersection.
   - Install high visibility crosswalks on all legs of intersection.

7. **Quetta Avenue/Harvard Avenue**
   - Install curb extensions and directional ramps on all corners of intersection.
   - Add double yellow center line striping on south leg of intersection.
   - Install white continental crosswalks on east and west legs of intersection.

8. **Hollenbeck Avenue/Harvard Avenue**
   - Upgrade north leg crosswalk to a white continental crosswalk.
   - Install advance yield markings on south and north legs.
   - Install an Assembly D sign on south leg for northbound traffic.

9. **Hollenbeck Avenue/El Camino Real/S. Pastoria Avenue**
   - Upgrade east leg and west leg crosswalks to white continental crosswalks.
   - Reduce corner radii and install directional curb ramps.
   - Install Leading Pedestrian Intervals.

0 200 ft N

Improvements not to scale

Sunnyvale

ny recommended improvements is the responsibility of the appropriate governing agency.

Cupertino Middle School

1650 S. Bernardo Ave.
Sunnyvale, CA 94087

GRADES
6-8

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
1,358

8%
ENGLISH LANGUAGE LEARNERS
(114)

9%
FREE/ REDUCED LUNCH
(118)

WALK AUDIT
THURSDAY, MAY 23, 2019

ARRIVAL | DISMISSAL

Cupertino Middle School is located on the south side of Sunnyvale just north of Homestead Road. The school does not allow parents to enter the parking lots during arrival and dismissal, so the majority of students arriving or leaving by car are picked up or dropped off on Bernardo Avenue and Helena Drive. The school provides secure bicycle parking both north and southwest of the school.

SUMMARY OF EXISTING CONDITIONS

Bernardo Avenue / The Dalles Avenue

- There are two standard white crosswalks connecting to a crossing over Highway 85.
- There is a crossing guard stationed during arrival and dismissal hours.

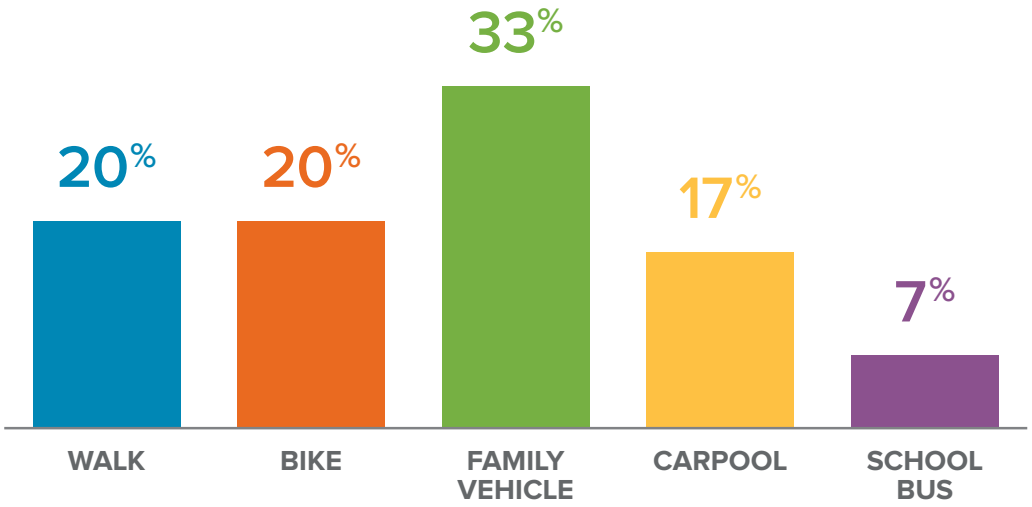
Bernardo Avenue / Helena Drive

- This is a T-intersection and is stop-controlled from Helena Drive.
- People driving were observed not coming to a complete stop and rolling through the yellow transverse crosswalk.

Coronach Avenue / Helena Drive

- This is a T-intersection and there is no traffic control at any approach.
- There is a crossing guard stationed during arrival and dismissal hours.

Cupertino Middle School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

Wright Avenue / Helena Drive

- This is a four-way stop-controlled intersection with transverse yellow crosswalks across all approaches.
- There is a crossing guard present during arrival and dismissal hours.
- The street corners at this intersection have large radii, which allow for fast vehicle turns.

Bus Loop / Northern Parking Lot

- The sidewalk along the frontage is narrow and/or missing.

Bernardo Avenue between Northern Parking Lot and Southern Parking Lot

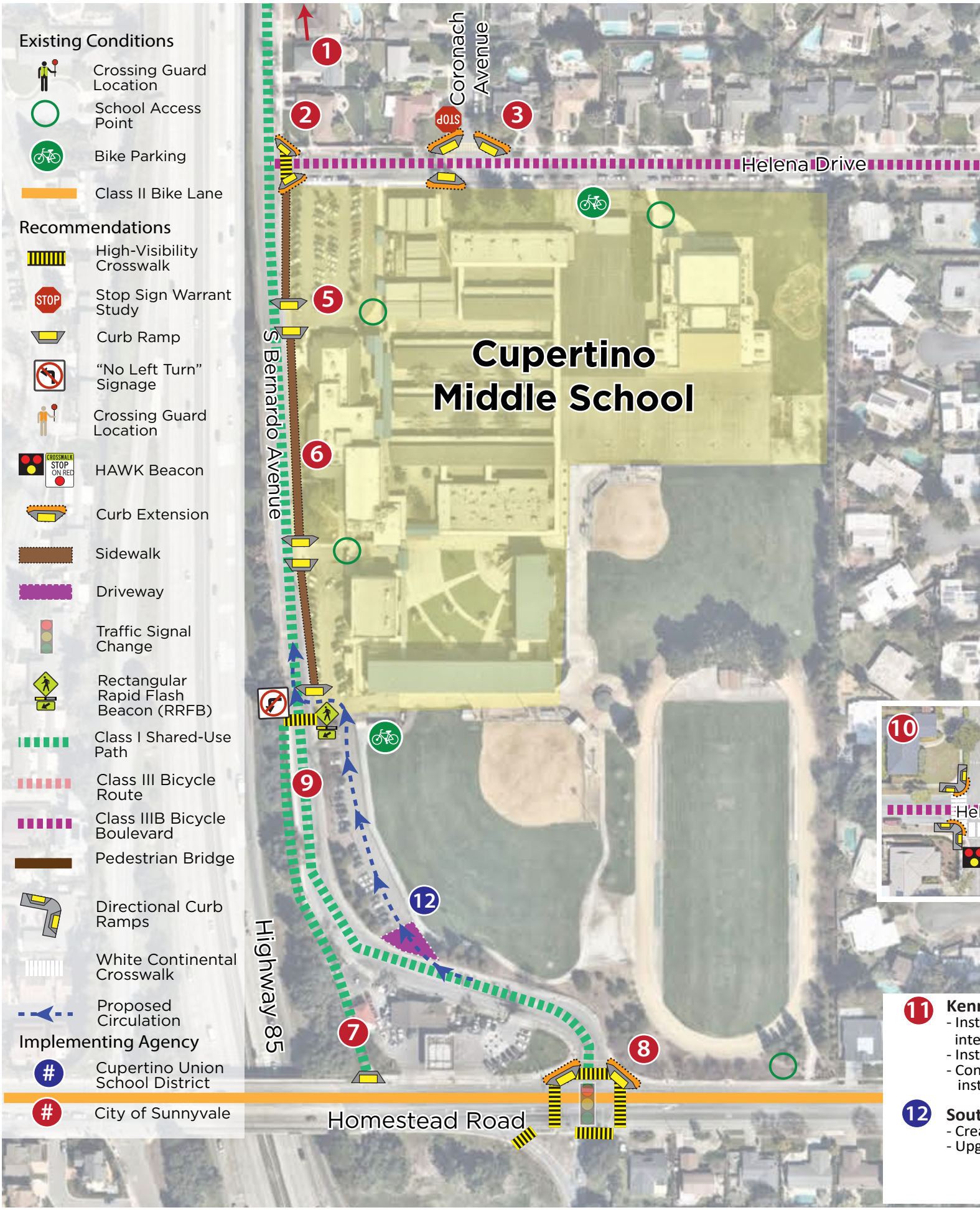
- The sidewalk is narrow on the west side of Bernardo Avenue.
- There is a high volume of people walking and bicycling along this section of Bernardo Avenue.

Gas Station Area

- There is a shared-use path behind the gas station but no curb ramps to access it by bicycle.
- Some parents wait at the gas station in vehicles to pick-up students.

Bernardo Avenue / Homestead Road

- This is a four-way signalized intersection with transverse crosswalks across the northern, eastern and southern approaches.
- Many students ride bicycles into the school using the back entrance gate approximately 250 feet east of the intersection.



The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of any

Safe Routes to Schools Improvement Plan

Cupertino Middle School
Sunnyvale

School Audit held May 2019

1 Bernardo Avenue/The Dalles Avenue (see inset)
- Upgrade existing crosswalks to high-visibility.
- Install curb ramp at end of the cul-de-sac on west side of pedestrian bridge.
- Install curb extensions on northeast and southeast corners of intersection to reduce turning radii.

2 Bernardo Avenue/Helena Drive
- Upgrade crosswalk to high visibility.
- Install curb extensions on northeast and southeast corners of intersection.

3 Coronach Avenue/Helena Drive
- Conduct stop sign warrant study.
- Install curb extensions on both legs of crosswalk across Helena Drive.

4 Wright Avenue/Helena Drive
- Upgrade crosswalks to high visibility.
- Install curb extensions and directional curb ramps on all corners.
- Consider a second crossing guard.

5 Bus Loop/Northern Parking Lot
- Install curb ramps across the driveway with new sidewalks. (see also Recommendation 6)

6 Bernardo Avenue between Northern Parking Lot and Southern Parking Lot/Crosswalk
- Upgrade crosswalk to high visibility.
- Widen sidewalk along school frontage.
- Install curb ramps across the driveway with new sidewalks.

7 Gas Station Area
- Install bike ramp from roadways to allow for bicycle access to shared-use path west of gas station.

8 Bernardo Avenue/Homestead Road
- Upgrade crosswalks to yellow high-visibility crosswalks.
- Install curb extensions to square up northern corners.
- Update signal timing to allow for more frequent left turns from Bernardo Avenue onto Homestead Road.

9 Bernardo Avenue
- Remove parking on east side of Bernardo Avenue.
- Install "No Left Turn" Sign at exit to school's souhern driveway.
- Install high visibility crosswalk and RRFB to south of entrance to school's southern driveway.

10 Mary Avenue/Helena Drive
- Install curb extensions and directional curb ramps on all corners.
- Upgrade existing RRFB to a HAWK Beacon.
- Upgrade existing crosswalks to white continental.

newick Drive/Helena Drive
all curb extensions and directional curb ramps on all corners of
rsection.
all white continental crosswalks on all legs of intersection.
duct stop sign warrant study. If stop sign is not warranted,
all an RRFB.

thern Drop-Off Loop
ate parking lot access at southern end of southern parking lot
grade parking lot to parking lot and drop off/pick up loop.
- Loop should be right-in/right-out only.
- New driveway access should be one-way-in only.

0 200 ft N

Improvements not to scale

Sunnyvale

recommended improvements is the responsibility of the appropriate governing agency.

Ellis Elementary School

550 E. Olive Ave.
Sunnyvale, CA 94086

GRADES
TK-5

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
787

49%
ENGLISH LANGUAGE LEARNERS
(385)

26%
FREE/ REDUCED LUNCH
(207)

WALK AUDIT
THURSDAY, MAY 2, 2019

ARRIVAL DISMISSAL

Ellis Elementary School is located in a residential neighborhood in Sunnyvale one block north of Old San Francisco Road. Many students arrive at campus in private vehicles, but many students were also observed walking and biking to school. There are multiple drop-off locations for students arriving by car and by bus. Previous SRTS activity at Ellis Elementary includes Kindergarten in-class education and multiple bike rodeos.

SUMMARY OF EXISTING CONDITIONS

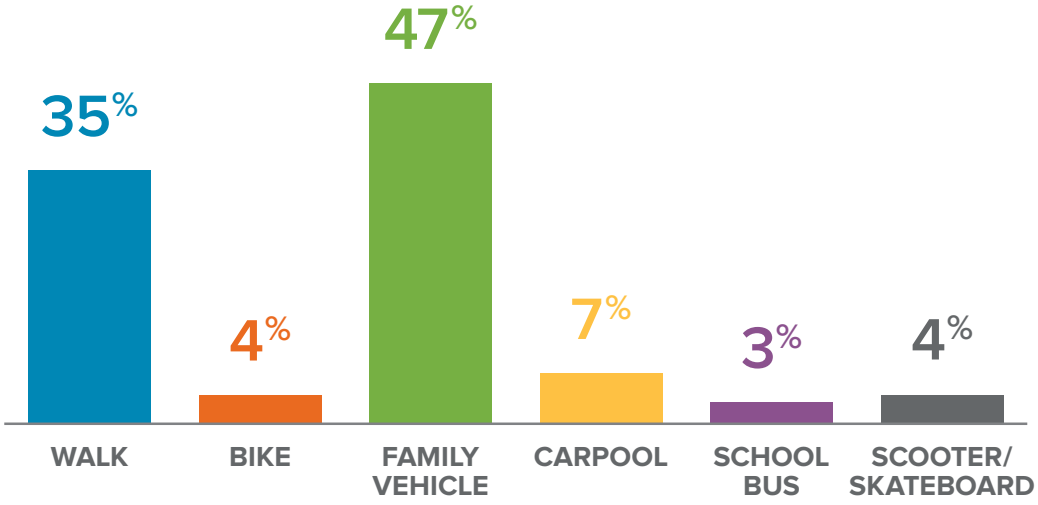
S. Fair Oaks Avenue / E. Olive Avenue

- This is a signalized intersection with a crossing guard stationed during arrival and dismissal hours. It is the preferred intersection used by parents and guardians walking with kindergarten students due to its proximity to the kindergarten classroom. However, it is also used by students from other grade levels.
- One drop-off lane is very close to this intersection, which was noted to cause back-ups and visibility issues as cars exited the drop-off lane.
- Most of the car movements at this intersection are left or right turns from E. Olive Avenue onto S. Fair Oaks Avenue, which creates points of conflict with pedestrians crossing the street.

E. Olive Avenue

- E. Olive Avenue is one of the two primary areas where students are dropped-off and picked-up at Ellis Elementary.
- Drivers were observed performing U-turns to enter the line of waiting cars and to pull directly to the curb if space was available.
- The queue of cars backed-up in both directions of travel along E. Olive Avenue.
- Many pedestrians crossed at the unmarked crosswalk across E Olive Avenue at Wilson Avenue.

Ellis Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

Kenmore Avenue / E. Olive Avenue

- This is an uncontrolled T-intersection.
- Parents who drove students to school were observed stopping near all corners of this intersection to unload students. This activity blocked curb ramps and crosswalks, and reduced visibility of people walking.
- Multiple people driving were observed stopping without pulling directly to the curb which blocked traffic and led people driving behind them to cross into the opposing travel lane and continue their movement.
- The entrance to the school parking lot is to the east of the intersection. People driving were observed blocking the driveway and preventing other vehicles from being able to turn in.

Central Avenue / E. Olive Avenue

- This is a four-way stop-controlled intersection with the highest number of students walking and bicycling to the school.
- People driving were observed failing to yield to people walking, stopping in the crosswalk, and entering the intersection before people finished crossing.
- School staff said that people drive more aggressive at this intersection when students are not around.

Central Avenue

- There are multiple drop-off/pick-up points along Central Avenue that create various points of conflict for people driving and people crossing midblock.
- There are two pull-in areas along central Avenue. Both areas have raised median islands.
- The northern pull-in area is reserved for school buses. People driving begin to disrespect this rule as the morning bell approaches.
- Parents and guardians are allowed to use the southern pull-in area during arrival and dismissal hours.
- When private vehicles are using both pull-in areas, they become heavily congested. Some people driving block travel lanes as they wait to turn into the pull-in area. Others park their cars in the area, despite its designation as a loading zone.
- Students who get out of vehicles in the outer lane were observed moving between cars to reach the curb.

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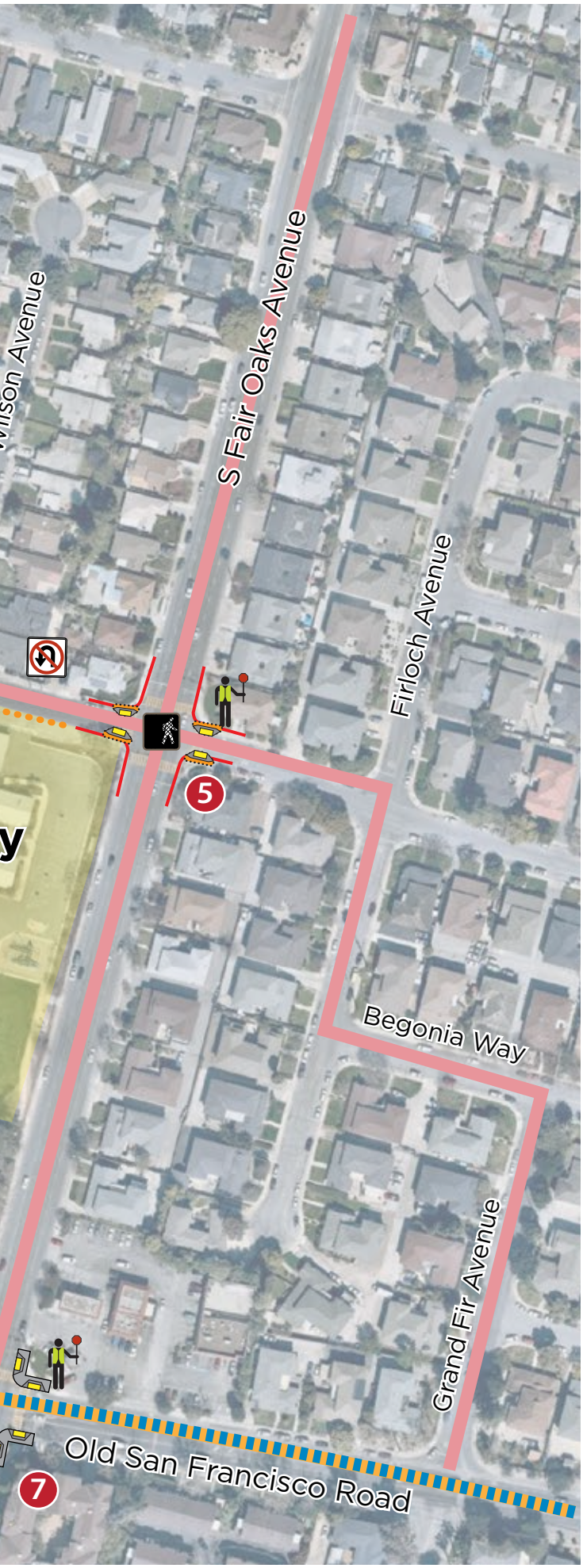


Safe Routes to Schools Improvement Plan

Ellis Elementary School
Sunnyvale

School Audit held May 2019

1 Central Avenue
- Restrict left turns into and out of northern pull-in area and install R3-2 “No Left Turn” signage.
- Install white curb and R2D5 “School Loading” signage.

2 Central Avenue/E. Olive Avenue
- Upgrade three existing crosswalks to high visibility crosswalks
- Install high-visibility crosswalk on west leg of intersection.
- Install advance stop markings at each approach with a marked crosswalk.
- Daylight intersection with red curb. Each approach should have 20 feet of red curb.

3 Kenmore Avenue/E. Olive Avenue
- Conduct stop sign warrant study to evaluate addition of a stop sign at Kenmore/E Olive intersection.
- Install a high visibility crosswalk on north leg of intersection.
- Install curb extensions on northwest and northeast corners.

4 Wilson Avenue /E. Olive Avenue
- Install high visibility crosswalks on northern and eastern legs of intersection.
- Conduct stop sign warrant analysis study at intersection.
- Install curb extension on northwest corner facing Wilson Avenue.
- Install curb extension on northeast corner facing both streets and install curb extension on southeast corner.
- Short Term: Place cones or delineators in the middle segment of the pull-in to discourage drivers from pulling U-turns to enter pull-in.
- Long Term: See Recommendation #9.

5 S. Fair Oaks Avenue/E. Olive Avenue
- Modify the signal phases to provide leading pedestrian intervals for crossings of S Fair Oaks Avenue.
- Install red curb to daylight intersection. Each approach should have 20 feet of red curb.
- Install curb extensions on east and west crosswalks of intersection.

6 E. Olive Avenue
- Install R3-4 “No U-Turn” signage on E Olive Avenue for Westbound Traffic.

7 S. Fair Oaks Avenue/Old San Francisco Road
- Modify the signal phases to provide a leading pedestrian interval at all crossings.
- Install directional curb ramps while reducing turning radii at all four corners.

8 Central Avenue/Old San Francisco Road
- Upgrade existing transverse crosswalk across Central Avenue to a high visibility crosswalk.

9 Ellis Elementary School Parking Lot & Pull-in Areas
- Short term: Relocate existing bicycle and scooter parking area to a moresecure location within campus.
- Long Term: Make changes in accordance with Ellis Elementary Site Plan.

0 200 ft N

Improvements not to scale

Sunnyvale

ny recommended improvements is the responsibility of the appropriate governing agency.

Fairwood Elementary School

1110 Fairwood Ave.
Sunnyvale, CA 94089

GRADES
K-5

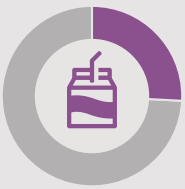
SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
435

23%

ENGLISH LANGUAGE LEARNERS
(100)

26%



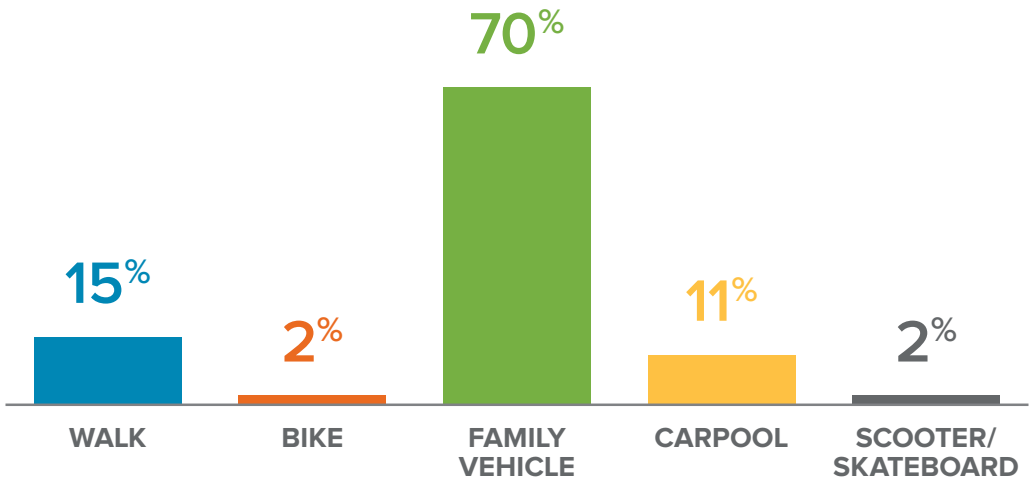
FREE/ REDUCED LUNCH
(112)

WALK AUDIT
MONDAY, APRIL 29, 2019

ARRIVAL | **DISMISSAL**

Fairwood Elementary School is located in a residential neighborhood in the north of Sunnyvale. It is directly adjacent to Fairwood Park, lies just south of the John W. Christian Greenbelt, and is a mile south of the Bay Trail. Many students and their guardians walk to Fairwood Elementary on Fairwood Avenue. Previous SRTS activity at Fairwood Elementary includes 4th grade in-class bike education.

Fairwood Elementary School Hand Tallies, Spring 2018



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SUMMARY OF EXISTING CONDITIONS

Sandia Avenue School Frontage

- There are two driveways into the parking lot; the eastern driveway is for entrance and the western driveway is for exit.
- Vegetation around the driveways limits visibility for people driving.

Fairwood Avenue / Sandia Avenue

- This is a four-way, all-way stop-controlled intersection with a crossing guard stationed during arrival and dismissal hours.
- During the walk audit, a high volume of people were observed walking and bicycling across this intersection.

Fairwood Avenue School Frontage

- There is a parking lot and driveway loop accessible from Fairwood Avenue. The southern driveway is for entrance and the northern driveway is for exit.
- At peak, up to four cars were queued waiting to enter the driveway.

Fairwood Avenue / Redrock Court

- This is an uncontrolled four-way intersection connecting a cul-de-sac and the school's driveway exit to Fairwood Avenue.
- This is a popular park and walk location. However, there are no marked crosswalks at this intersection.

Fairwood Avenue / John W. Christian Greenbelt

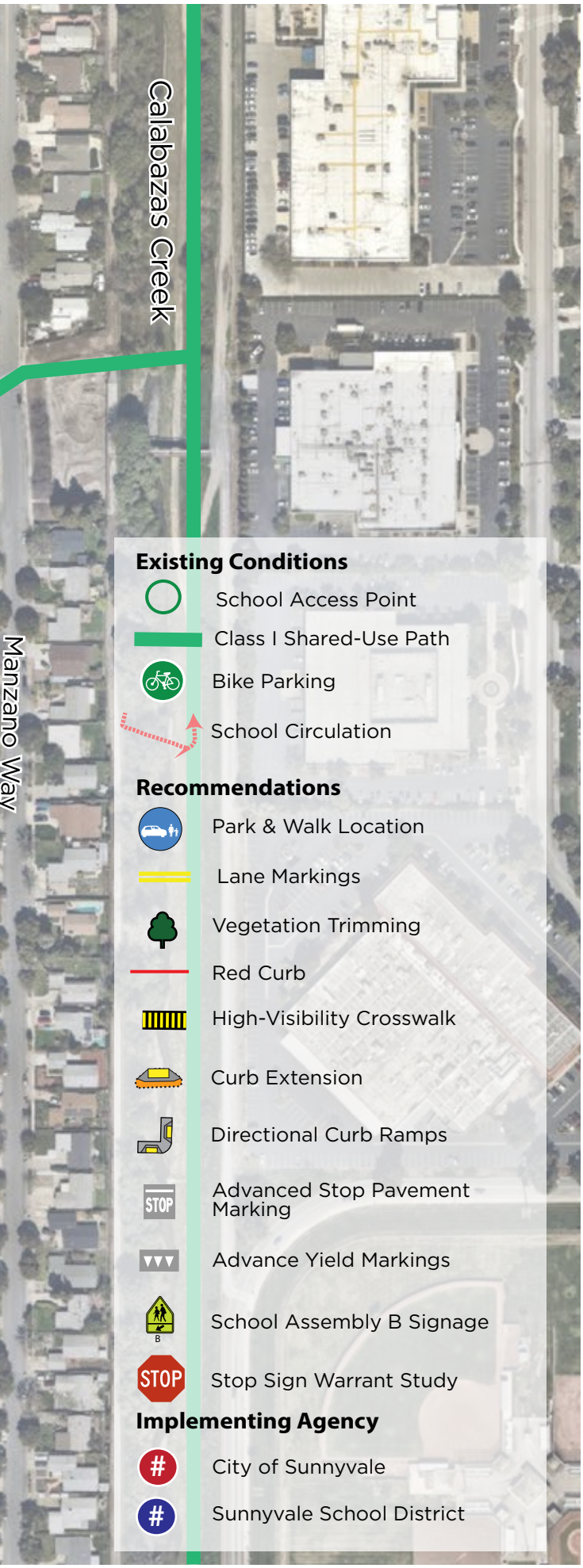
- The Greenbelt links multiple schools, parks, businesses and neighborhoods.
- The existing mid-block crossing has a white transverse crosswalk.

The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of ar

Safe Routes to Schools Improvement Plan

Fairwood Elementary School
Sunnyvale

School Audit held April 2019



1 Sandia Avenue
- Work with school garden club to trim vegetation in school's garden and in landscaped buffer to improve visibility for exiting drivers.

2 Fairwood Avenue/Sandia Avenue
- Upgrade the crosswalks at all four approaches to high visibility crosswalks.
- Install advance stop markings at each approach.
- Install curb extensions and directional curb ramps on all four corners.

3 Fairwood Avenue
- Stripe a Detail 22 yellow centerline stripe between Sandia Avenue and Prescott Avenue to discourage drivers from passing in opposing travel lane.

4 Fairwood Avenue/Redrock Court
- Stripe high-visibility crosswalk across south and west legs of the intersection.
- Install advance yield markings in advance of both crossings.
- Install School Assembly B signage at both crosswalks.
- Install curb extensions on the northwest, southwest, and southeast corners.
- Perform a stop or yield sign warrant analysis.
- Install red curb next to ramps to daylight intersection.

5 Fairwood Avenue/John W. Christian Greenbelt
- Upgrade existing white transverse crosswalk to a yellow high visibility crosswalk.
- Install curb extensions to narrow crossing distance.
- Install advance yield markings in advance of crosswalk.
- Install School Assembly B signage at crosswalk.

0 200 ft N

Improvements not to scale

Sunnyvale

ny recommended improvements is the responsibility of the appropriate governing agency.

Fremont High School

575 W. Fremont Ave.
Sunnyvale, CA 94087

GRADES
9-12

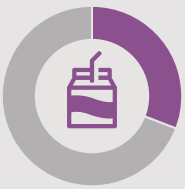
SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
2,081

14%

ENGLISH LANGUAGE LEARNERS
(300)

31%



FREE/ REDUCED LUNCH
(638)

WALK AUDIT
THURSDAY, MAY 23, 2019

ARRIVAL DISMISSAL

Fremont High School is located in a residential neighborhood in south-central Sunnyvale. Fremont High has two driveway loops, is served by the 55 VTA bus line, and provides bicycle racks between the school buildings and field facilities.

SUMMARY OF EXISTING CONDITIONS

Sunnyvale Saratoga Road School Frontage

- Multiple points of conflict were observed between people driving and people walking and bicycling, including people driving in the bicycle lane and braking suddenly to avoid people walking in the crosswalk.

Sydney Drive / W. Fremont Avenue

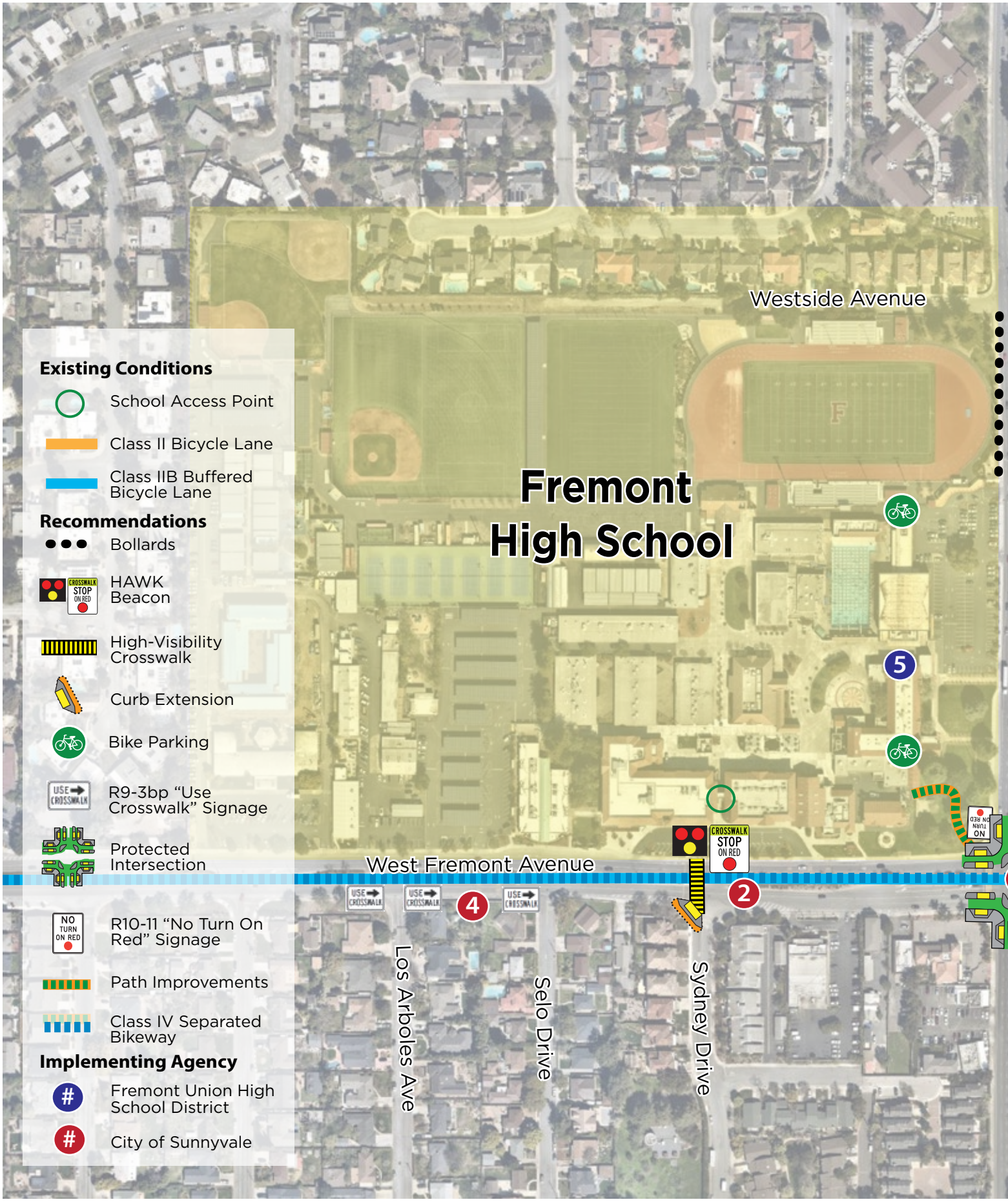
- People driving were observed not yielding to students crossing W. Fremont Avenue.

Sunnyvale Saratoga Road / Fremont Avenue

- This is a four-way signalized intersection with a high volume of students walking and bicycling to school.
- Many students were observed bicycling onto the school campus from this intersection
- Many people driving and making southbound turns encroached into the bicycle lane.

W. Fremont Avenue Driveway Loop

- People drove in the bicycle lane while queuing to enter the loop.
- People exiting the loop waited for a clearance to make a U-turn at Selo Drive, resulting in congestion within the loop.



The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of ar

Safe Routes to Schools Improvement Plan

Fremont High School
Sunnyvale

School Audit held May 2019

1 Sunnyvale Saratoga Road
- Short Term: Place bollards/implement physical buffer on southbound bicycle lane from Westside Ave to drop off turn-in until Class IV Separated Bikeway installed on Sunnyvale Saratoga.

2 Sydney Drive/West Fremont Avenue
- Upgrade current RRFB to HAWK Beacon.
- Upgrade current crosswalk to high visibility crosswalk.
- Install a curb extension on southwest corner of intersection.

3 Sunnvyale Saratoga Road/Fremont Avenue
- Evaluate operations at intersection for possible upgrade in timing of left turns, including protective signal phasing for bicycles and pedestrians.
- Install a protected intersection to allow for two stage left turns on all corners.
- Consider installing R10-11 “No Right Turn on Red” signage for vehicles turning right at northwest and northeast corners of intersection.
- Note: This location is a CMP intersection. Additional evaluation is necessary to evaluate if signal changes would cause significant impacts.

4 West Fremont Avenue
- Install R9-3bP “Cross Only at Crosswalk” signage to encourage crosswalk usage.

5 Fremont High School Campus
- Explore options for Bike Parking near southeast entrance of school.
- Consider improving path on southeast corner of campus.
- Explore options for Bike Parking near the Sunnvyale Saratoga Road entrance.

0 200 ft N

Improvements not to scale

Sunnyvale

ny recommended improvements is the responsibility of the appropriate governing agency.

Homestead High School

211370 Homestead Rd.
Cupertino, CA 95014

GRADES
9-12

SCHOOL TYPE
MAGNET

ENROLLMENT
2,425

8%
ENGLISH LANGUAGE LEARNERS
(184)

14%
FREE/ REDUCED LUNCH
(348)

WALK AUDIT
WEDNESDAY, MAY 29, 2019

ARRIVAL | DISMISSAL

Homestead High School is located in Cupertino just south of the Sunnyvale city limit. This school serves both Cupertino and Sunnyvale students. Bicycle parking on campus is heavily used by students. There is limited student vehicle parking on campus. Vehicle parking permits are sold on a first-come, first-served basis to students.

The City secured funding from the One Bay Area Grant Cycle 2 for Vehicle Emissions Reductions Based at Schools in 2017 for a project at Homestead High School. The improvements include traffic signal modification at S. Mary Avenue/Homestead Road and Kennewick Drive/Homestead Road, pedestrian access enhancements such as installation of high visibility crosswalks, accessible pedestrian signals, shortening crossing for pedestrians, installation of green buffered bike lanes along Homestead between MacKenzie Drive and Mary Avenue, and improvements of the existing path for bicycles to the high school from eastbound Homestead Road to the Mary Avenue Bridge Trail.

SUMMARY OF EXISTING CONDITIONS

Samedra Street / Homestead Road

- This is a T-intersection with stop-control on Samedra Street.
- There are no sidewalks on Samedra Street, and a narrow sidewalk on Homestead Road.

Mary Avenue / Homestead Road

- This is a four-way, multi-lane signalized intersection with transverse crosswalks across all four approaches.
- There are no pedestrian countdown signals on some of the crossings.
- People driving were observed blocking the crosswalk and intersection while attempting to turn into the school driveway.

Kennewick Drive / Homestead Road

- This is a four-way signalized intersection with transverse crosswalks; the south leg is the driveway entrance to the school.
- Some students bicycling were observed using the entrance as an exit.

Mary Avenue Bridge / Western Parking Lot Access

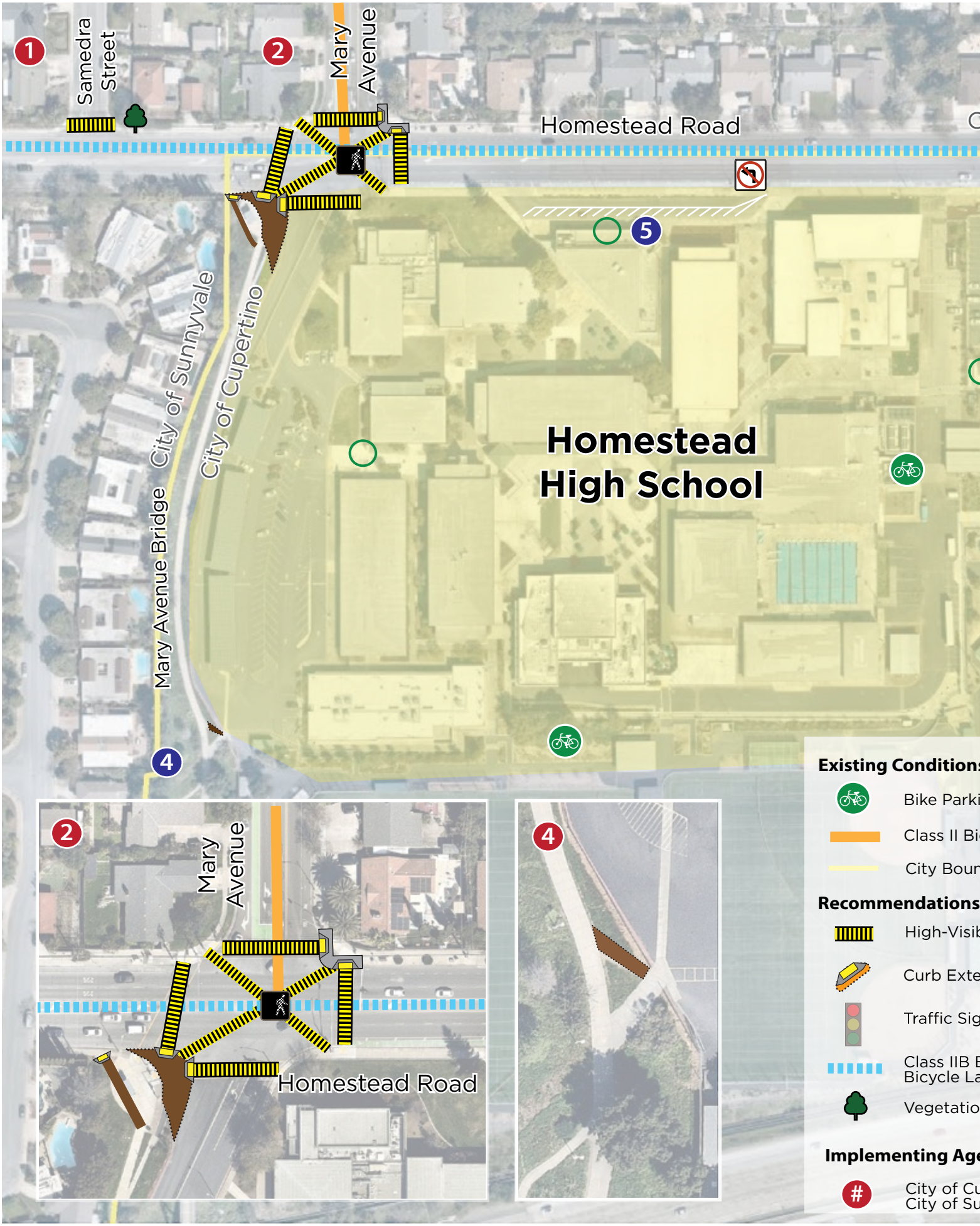
- A concrete path connects the Mary Avenue Bridge to the parking lot access instead of entering the loop.

Driveway Loop on Homestead Road

- People driving idle on both sides of the loop, do not pull up to the end of the loop when dropping off, turn left despite the left turn restriction, and park in the bicycle lane.

Student Parking Lot Exit

- People driving out of the parking lot block the sidewalk while waiting to turn left, forcing people walking to weave through vehicles.



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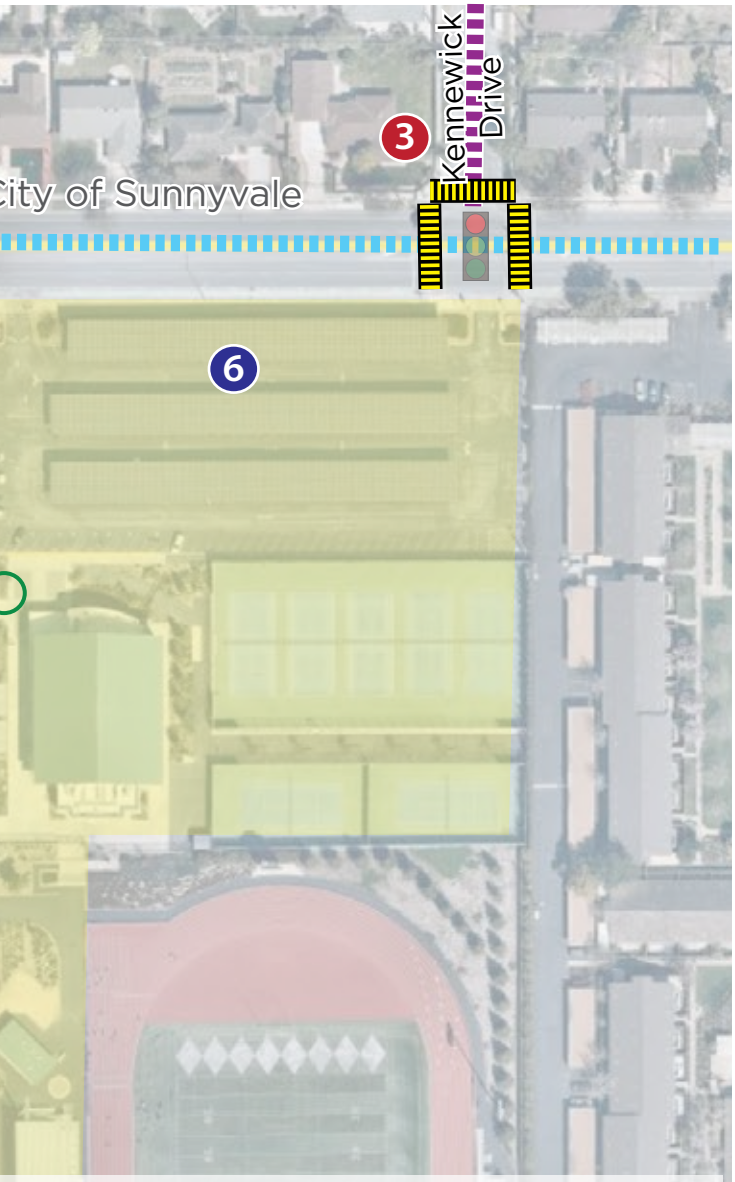


Safe Routes to Schools Improvement Plan

Homestead High School, Cupertino

School Audit held May 2019

1 Samedra Street/Homestead Road
- Install high-visibility crosswalk across Samedra Street.
- Remove vegetation along northeast corner.
- Square up northwest corner.**

2 Mary Avenue/Homestead Road (also see inset)
- Install high visibility crosswalks.
- Install Lead Pedestrian Interval phasing to traffic signal timing.
- Install pedestrian scramble/Barnes Dance for signal timing during school drop-off/pick-up hours.
- Reduce turning radii on northeast and southwest corners of intersection. Include access ramp to Mary Avenue Bridge trail on southwest corner.
- Install bicycle ramp.**

3 Kennewick Drive/Homestead Road
- Install high-visibility crosswalks.
- Modify signal timing.

4 Mary Avenue Bridge/Western Parking Lot Access (also see inset)
- Pave informal path between Mary Avenue Bridge trail and parking lot.
- Long term: Install bicycle roundabout.

5 Drop-Off/Pick-Up Loop
- Restripe to promote two lanes (drop off/pick up lane and through lane).
- Provide signs and markings encouraging drivers to pull forward.

6 Student Parking Lot
- At the west driveway, add stop line and right turn arrow in the driveway at the edge of sidewalk. Move Do Not Enter sign to west side of driveway.
- At the eastern driveway, add a stop bar and lane movement markings.

NOTE: Recommended improvements are consistent with the VERBS Grant.

**Recommendation not graphically represented on improvement plan.

s

ng

cycle Lane

ndary

School Access Point

bility Crosswalk

Leading Pedestrian Interval

nsion

Curb Ramp

Class IIIB Bicycle Boulevard

nal Change

Buffered
ane

Pedestrian Scramble

n Clearance

Sidewalk

ency

upertino/
unnyvale

Fremont Union High School District

0 200 ft

N

Improvements not to scale

Sunnyvale

y recommended improvements is the responsibility of the appropriate governing agency.

Lakewood Elementary School

750 Lakechime Dr.
Sunnyvale, CA 94089

GRADES
K-5

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
437

32%
ENGLISH LANGUAGE LEARNERS
(139)

55%
FREE/ REDUCED LUNCH
(238)

WALK AUDIT
THURSDAY, APRIL 25, 2019

ARRIVAL DISMISSAL

Lakewood Elementary School is located in northeast Sunnyvale. Lakewood Park and the John W. Christian Greenbelt are adjacent to the school to the east and south, respectively.

SUMMARY OF EXISTING CONDITIONS

Lakechime Drive / School Parking Lot

- Walk audit participants observed people driving above safe speeds along Lakechime Drive to pass school traffic.

Meadowlake Drive / Lakechime Drive

- This is a four-way stop-controlled intersection with transverse yellow crosswalks across all approaches.
- Walk audit participants observed people parking vehicles in or adjacent to crosswalks.

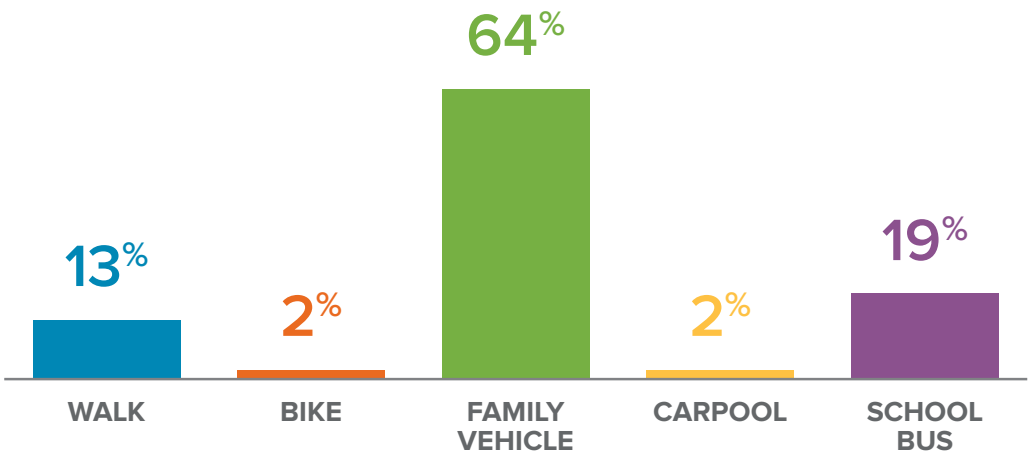
Meadowlake Drive / Lakefair Drive

- This is a T-intersection with no stop control and transverse crosswalks on the north and west approaches. There is a passenger loading/un-loading area on the east side of Meadowlake Drive.

Meadowlake Drive / John W. Christian Greenbelt Area

- There is an uncontrolled standard crosswalk where the shared-use path crosses Meadowlake Drive.

Lakewood Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

Meadowlake Drive / Lakehaven Drive

- This is a four-way stop-controlled intersection with transverse yellow crosswalks across three approaches and a crossing guard present during school arrival and dismissal hours.
- People driving were observed parking in or adjacent to the crosswalks.

Silverlake Drive / John W. Christian Greenbelt Area

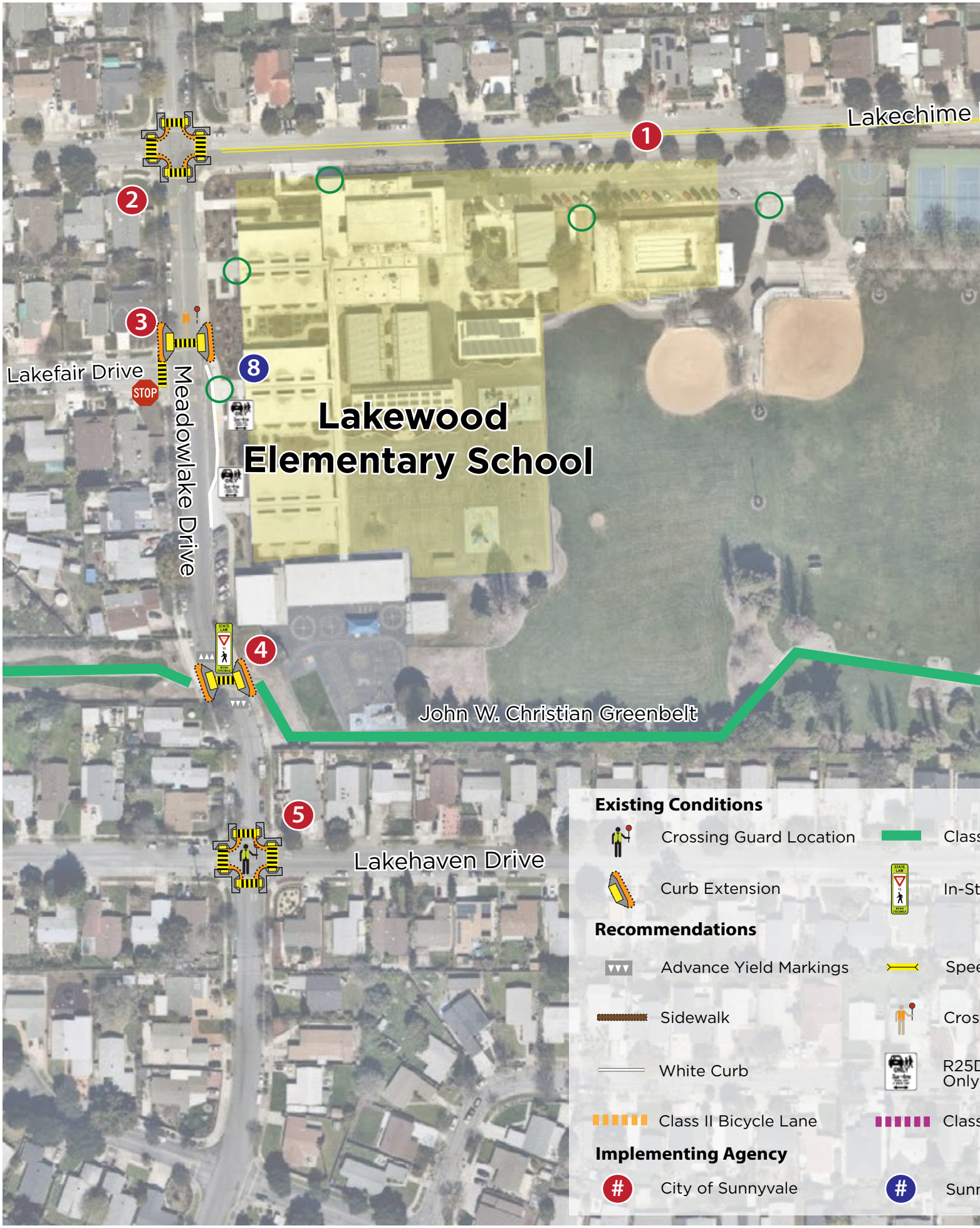
- There is no marked crosswalk where the shared-use path crosses Silverlake Drive, and the curb ramps between the greenbelt access points do not align.

Silverlake Drive / Lakechime Drive

- This is a T-intersection with stop control and a standard crosswalk on Lakechime Drive.
- The southwest corner has a large radius, and people driving were observed turning quickly and not coming to a complete stop at the stop sign.

School Driveway Loop Area on Lakechime Drive

- People driving do not use this area as a one-way loop as designed, but instead use it to park, or make U-turns into and out of the area.



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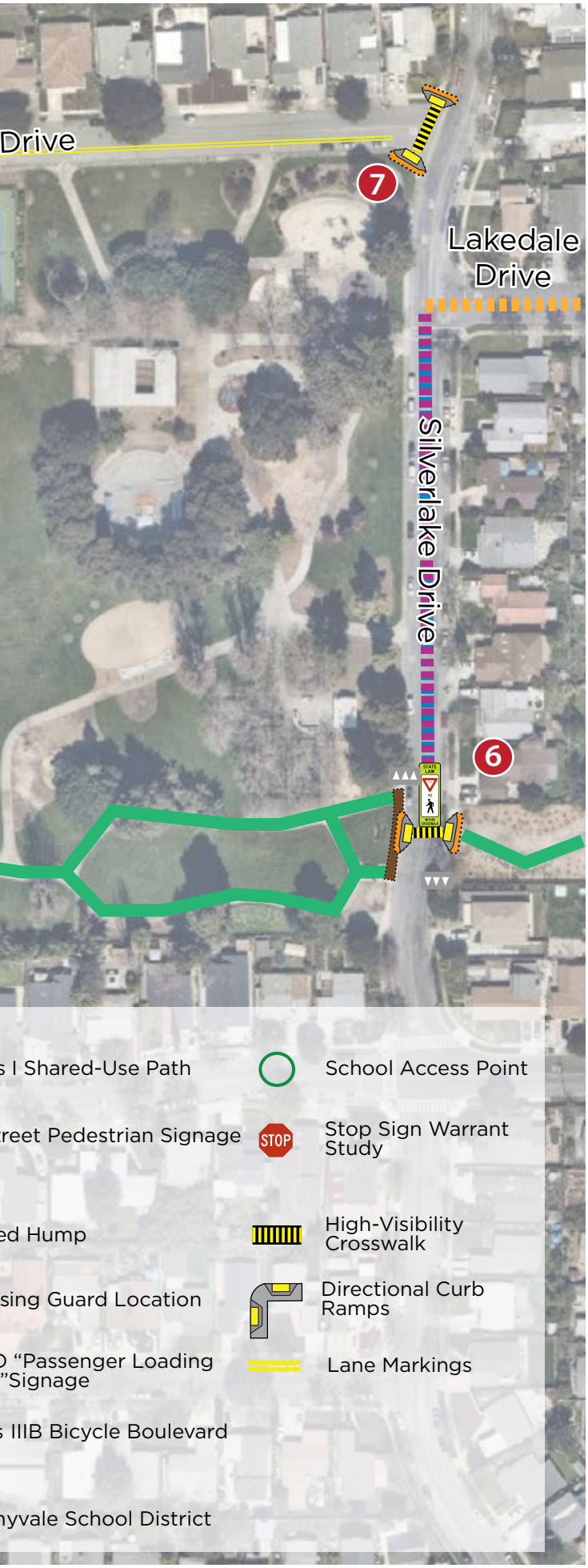
Safe Routes to Schools Improvement Plan

Lakewood Elementary School
Sunnyvale

School Audit held April 2019



1 Lakechime Drive/School Parking Lot
- Conduct a speed survey to evaluate potential for traffic calming infrastructure.
- Install double yellow center line along Lakechime Drive.

2 Meadowlake Drive/Lakechime Drive
- Install curb extensions and directional ramps at all four corners.
- Upgrade crosswalks to high-visibility crosswalks.

3 Meadowlake Drive in Front of School
- Upgrade crosswalks to high-visibility on north and west legs.
- Conduct stop sign warrant analysis on Lakefair Drive.
- Install curb extensions on northwest, northeast, and southwest corners of intersection.
- Place a new crossing guard at intersection.
- Work with school to install white curb and install R25-D "Passenger Loading Only' signage.

4 Meadowlake Drive/John. W. Christian Greenbelt Area
- Upgrade crosswalk to high-visibility crosswalk.
- Paint center stripe for 20 feet on trail up to edge of sidewalk and hazard mark bollards.
- Install yield signs and yield lines on either side of crosswalk on Meadowlake Drive.
- Install curb extensions on both sides of crosswalk.

5 Meadowlake Drive/Lakehaven Drive
- Upgrade existing crosswalks to high-visibility crosswalks.
- Install high-visibility crosswalk on western leg of intersection.
- Install curb extensions at all four corners.

6 Silverlake Drive/John. W. Christian Greenbelt
- Widen sidewalk to 8' between between the John W. Christian Greenbelt on west side.
- Install high-visibility crosswalk, in-street pedestrian signage, and yield lines.
- Install curb extensions on both sides of crosswalk.

7 Silverlake Drive/Lakechime Drive
- Upgrade crosswalk to high-visibility crosswalk.
- Install curb extension and directional curb ramps on northwest and southwest corners.

8 School Drop-Off/Pick-Up Area
- Require right turn only out of loop.
- Work with city to install white curb and install R25-D "Passenger Loading Only' signage.

0 200 ft N

Improvements not to scale

Sunnyvale

y recommended improvements is the responsibility of the appropriate governing agency.

Laurelwood Elementary School

955 Teal Dr.
Santa Clara, CA 95051

GRADES
K-5

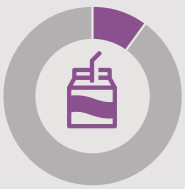
SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
644

34%

ENGLISH LANGUAGE LEARNERS
(217)

10%



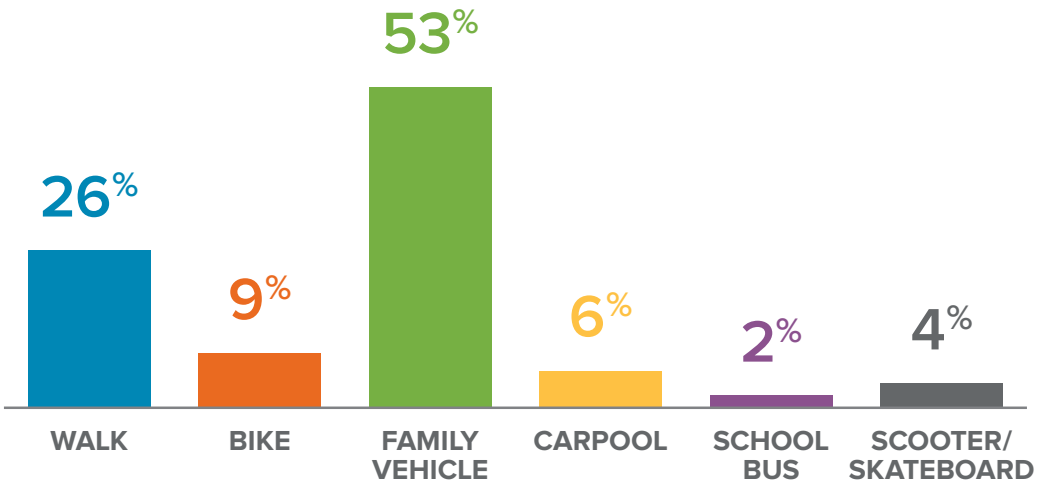
FREE/ REDUCED LUNCH
(67)

WALK AUDIT
TUESDAY, MAY 14, 2019

ARRIVAL DISMISSAL

Laurelwood Elementary School is located in the City of Santa Clara, one block from the Sunnyvale city limit. This school serves both Sunnyvale and Santa Clara students. In recent years, Laurelwood has increased student enrollment, which has resulted in increased vehicle traffic. There is unsecured bicycle parking for about 40 bicycles provided on the east side of the school near the main entrance. On the day of the walk audit, the bicycle racks appeared to be at full capacity.

Laurelwood Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

SUMMARY OF EXISTING CONDITIONS

Teal Drive / Dunford Way

- This intersection is all-way stop-controlled with three faded yellow crosswalks across the east, west, and north approaches.

Teal Drive / Lochinvar Avenue / Inverness Way

- The intersection is all-way stop-controlled, with three yellow standard crosswalks and a crossing guard present during arrival and dismissal hours.
- The skew of the intersection creates long crossings and large corner radii.

Lochinvar Avenue / Kerry Avenue / Kensington Avenue

- This is a four-way intersection with stop control on Kensington Avenue and Kerry Avenue and no striped crosswalks.
- All four corners of this intersection have large radii, allowing vehicles to take faster turns.

Teal Drive School Frontage

- A high-visibility mid-block crosswalk is located at the school entrance.

Existing Conditions
Bike Parking
Crossing Guard Location
School Bus Stop
School Access Point
City Boundary Line
Class III Bicycle Route
Recommendations
"School Assembly B" Signage
Advance Yield Markings
High-Visibility Crosswalk
Curb Extension
Reduced Corner Radius/Slip Lane Removal
Curb Ramp
"Keep Clear" Markings
Advance Stop Markings
Red Curb
Class III Bicycle Route
Stop Sign Warrant Study
Striping Removal
Implementing Agency
City of Sunnyvale
Santa Clara Uified School District
City of Santa Clara
Dunford Way
Inverness Way
Kerry Avenue
Lochinvar Avenue
City of Sunnyvale
City of Santa Clara
Teal Drive
Swallow Dr
Lochinvar Ave
STOP
1
2
3
4
5
6
7
8

Safe Routes to Schools Improvement Plan

Laurelwood Elementary
Santa Clara & Sunnyvale

School Audit held May 2019

1 Teal Drive/Dunford Way
- Install high visibility crosswalks on all approaches.
- Refresh red curb paint on the northwest corner and install on the northeast corners of Teal Drive and Dunford Way.
- Install advance stop markngs ahead of all approaches.
- Upgrade southeast and southwest curb ramps to be ADA-compliant.

2 Teal Drive/Inverness Way/Lochinvar Avenue
- Install curb extensions and directional ramps on northeast and southwest corners.
- Install high-visibility crosswalks on all approaches. Consider widening crosswalk on north approach to be an even width.
- Install red curb paint on the northwest and southeast corners of Teal Drive/Inverness Way/Lochinvar Avenue.
- Install red curb to the east of the crosswalk on the north and south sides of Teal Drive.
- Consider realignment of east crosswalk approach further east. Include reconstruction of curb ramp on the southeast corner to align with new crosswalk.

3 Kerry Avenue/Kensington Avenue/Lochinvar Avenue
- Install high-visibility crosswalks on the east and west legs.

4 Dunford Way/Lochinvar Avenue
- Conduct a stop sign warrant or yield study for the northbound approach.

5 Lochinvar Avenue/Swallow Drive
- Remove right turn slip lane on Swallow Drive.
- Install high-visbility crosswalk across the northern leg of the intersection. Install directional curb ramp at the northwest and southwest corners and intall a curb ramp at the northeast corner.
- Remove the crosswalk across the eastern approach of Lochinvar Avenue.

6 Teal Drive
- Install advance yield lines for the crosswalk in front of the school.
- Install double yellow center line striping on Teal Drive from Lochinvar Avenue to midblock crosswalk in front of the school.

7 Thrush Way/Teal Drive
- Conduct a stop sign warrant study. if stop sign is not warranted, install
- "School Assembly B" signage and advance yield markings in advance of the existing crosswalk.
- Reduce corner turning radius on northeast corner.

8 School Campus
- Consider making northeast gate to Alturas Avenue ADA accessible.

0 200 ft N

Improvements not to scale

Sunnyvale

Nimitz Elementary School

545 E. Cheyenne Dr.
Sunnyvale, CA 94087

GRADES

K-5

SCHOOL TYPE

NEIGHBORHOOD

ENROLLMENT

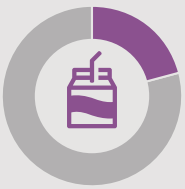
628

26%

ENGLISH LANGUAGE LEARNERS

(165)

21%



FREE/ REDUCED LUNCH

(132)

WALK AUDIT

TUESDAY, MAY 14, 2019

ARRIVAL DISMISSAL

Nimitz Elementary School is located in a suburban neighborhood in southern Sunnyvale. Although the school is within walking distance from commercial business on W. Fremont Avenue, many of the surrounding streets lack the infrastructure to support bicycling and walking in the area.

SUMMARY OF EXISTING CONDITIONS

Revelstoke Drive / Cheyenne Street

- There is a crossing guard at this location during arrival and dismissal hours.
- Walk audit participants observed people driving above safe speeds on Cheyenne Drive.

Saskatchewan Drive / Cheyenne Street

- A high volume of students walking and bicycling was observed at this intersection.

Valcartier Drive / Cheyenne Street

- There is an entrance to the school campus at this location.
- There is also a pedestrian walkway connecting Yukon Drive and Cheyenne Drive.

Richelieu Place / Alberta Avenue

- There is a crossing guard at this location during arrival and dismissal hours.
- There are white, transverse crosswalks at this intersection, and the north corners of the intersection are skewed.

Los Arboles Avenue / Cascade Drive

- Parent drivers were observed parking in front of neighborhood residents' driveways, in front of a fire hydrant, and in the red curb near the crosswalk.

Selo Drive / Cascade Drive

- Walk audit participants reported that minor collisions have occurred at this location in the past due to parent drivers parking in front of driveways.

Selo Drive

- There are no sidewalks along the length of this roadway leading up to the school.

Los Arboles Avenue

- There are no sidewalks along the length of this roadway leading up to the school.

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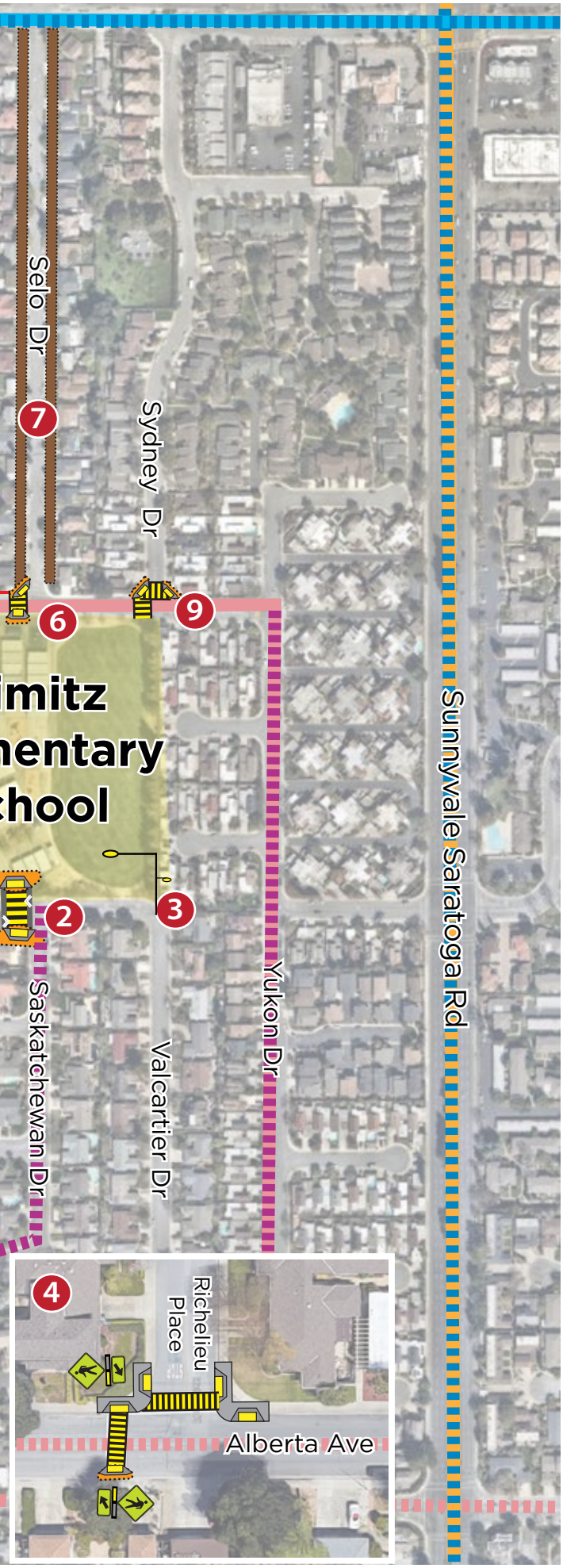
Safe Routes to Schools Improvement Plan

Nimitz Elementary, Sunnyvale

School Audit held May 2019



Improvements not to scale

1 Revelstoke Drive/Cheyenne Street
- Add advanced yield markings on Cheyenne St on west and east sides of intersection to alert cars of proper stopping position when students are in crosswalk.

2 Saskatchewan Drive/Cheyenne Street
- Upgrade existing crosswalk to raised crosswalk.
- Install curb extensions on both sides of the crosswalk.
- Install double yellow centerline along Cheyenne Street.

3 Valcartier Drive/Cheyenne Street
- Install double yellow centerline.
- Adjust existing bollards for ADA compliance and provide pedestrian scale lighing at pedestrian cut through.

4 Richelieu Place/Alberta Avenue
- Upgrade west and north legs of crosswalk to high visibility.
- Install directional curb ramps and reduce corner turning radii on the northwest and northeast corners of the intersection.
- Install curb extension on southwest corner.
- Install an RRFB on west leg of intersection.

5 Los Arboles Avenue/Cascade Drive
- Paint red curb in lieu of existing "No Parking from here to Corner" sign at corner of Cascade Drive. Remove sign.
- Install curb extensions on northeast, northwest, and and southeast corners of the intersection.
- Upgrade existing crosswalks to high visibility.

6 Selo Drive/Cascade Drive
- Paint red curb in lieue of existing "No Parking from here to Corner" sign at corner of Cascade Drive. Remove sign.
- Install curb extensions on southwest and northwest corners of the intersection.
- Upgrade existing crosswalk to high visibility.

7 Selo Drive
- Install continuous sidewalks along Selo Drive.
- Conduct a study for the removal of on-street parking on one side of the street; fill in the sidewalk gap, which might consist of a pedestrian/bicycle path with delineators or implementation of a permanent sidewalk installation.

8 Los Arboles Avenue
- Install continuous sidewalks along Los Arboles Ave.
- Conduct a study for the removal of on-street parking on one side of the street; fill in the sidewalk gap, which might consist of a pedestrian/bicycle path with delineators or implementation of a permanent sidewalk installation.

9 Sydney Drive/Cascade Drive
- Upgrade existing crosswalks to high visibility.
- Install curb extensions at northwest and southwest corners.

10 Drop-Off Loop
- Implement an attended rolling drop off in the morning; enforce the "pull forward" signage within the loop and discourage drop off at the entrance of the loop.

Sunnyvale

ecommended improvements is the responsibility of the appropriate governing agency.

Peterson Middle School

1380 Rosalia Ave.
Sunnyvale, CA 94087

GRADES
6-8

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
908

19%

ENGLISH LANGUAGE LEARNERS
(176)

25%

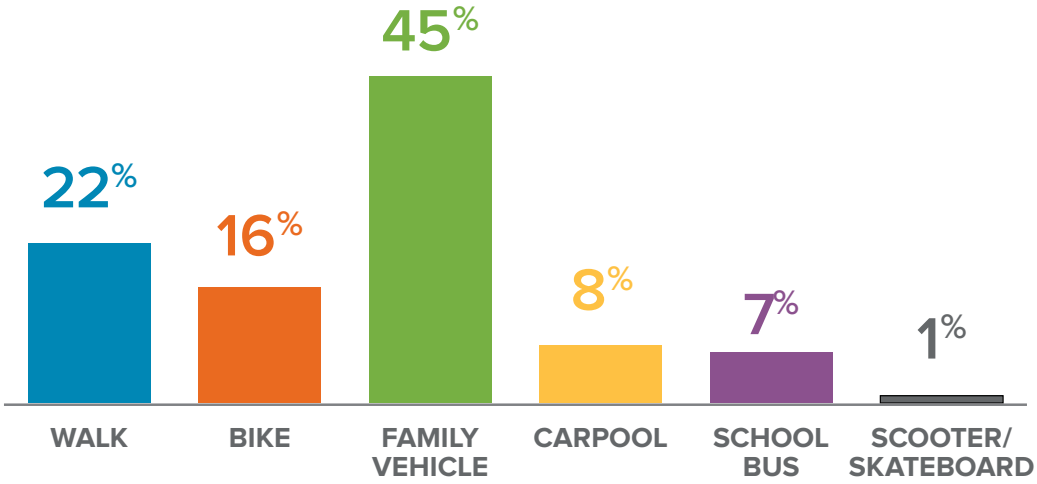
FREE/ REDUCED LUNCH
(223)

WALK AUDIT
TUESDAY, MAY 21, 2019

ARRIVAL | **DISMISSAL**

Peterson Middle School is located in the southeast corner of the city on the site of a former high school; as such, the school has a much larger campus footprint than a typical middle school. It is located in a formerly annexed County parcel, and when the parcels were annexed into the City, the neighborhood voted to not have sidewalks or other street improvements installed. Therefore, a lot of streets near the school do not have sidewalks. The school is primarily accessed through a network of “one-way” roads. There are signs installed by local community members throughout the immediate neighborhood directing vehicles. The school has a large number of students that walk or bike to the school. There is a secure bicycle parking corral at the southeast corner of the parking lot, accessible only via the campus or Bryant Way. The school hosted a helmet fitting and distribution event in June 2019. In October 2019, the school hosted the Bay Area BikeMobile, fitted and distributed helmets to 18 students, and inspected and corrected 10 students’ helmets.

Peterson Middle School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

SUMMARY OF EXISTING CONDITIONS

Poplar Avenue / El Camino Real

- This is a four-way signalized intersection. Caltrans, which owns and operates El Camino Real, recently installed high-visibility crosswalks across all four approaches, and pedestrian signal heads with countdown timers at this location.
- All four corners of the intersection have large radii, allowing for fast vehicle turns.

Henderson Avenue / El Camino Real

- This is a four-way signalized intersection. Caltrans, which owns and operates El Camino Real, recently installed high-visibility crosswalks across all four approaches, and pedestrian signal heads with countdown timers at this location.
- The majority of students bicycling to school and dozens of students walking to school passed through this intersection across the eastern approach.

Henderson Avenue / Bryant Way

- This is a four-way stop-controlled intersection with one marked crosswalk across the eastern approach.
- All school bicycle traffic uses Bryant Way to access bicycle parking or exit after school.

Poplar Avenue / Bryant Way / Rosalia Avenue

- There are no sidewalks or bicycle lanes along Poplar Avenue from the school to Bryant Way, leading to conflict between people walking, bicycling, and driving.
- Multiple signs along these roads are blocked by vegetation.

Rosalia Avenue

- This road serves as the main drop-off/pick-up area for the school for students arriving or leaving by private vehicle.
- There is no sidewalk on the northern side of the road.

Parking Lot / Campus Renovations

- Future renovations will relocate the school's bicycle parking.

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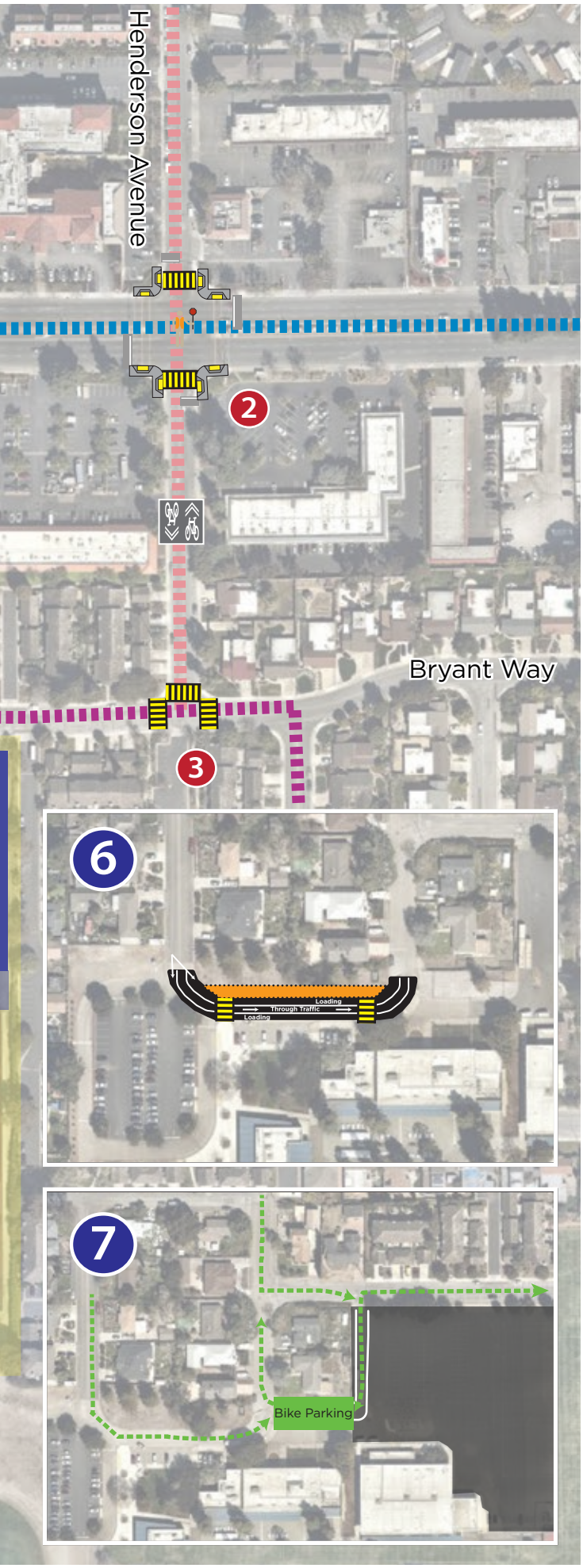


Safe Routes to Schools Improvement Plan

Peterson Middle School, Sunnyvale

School Audit held May 2019

1 Poplar Avenue/El Camino Real

- Upgrade north and south crosswalks to high visibility.
- Install directional curb ramps on all corners of intersection to reduce corner turn radii.
- Install sharrows on Poplar Avenue.
- Install advance stop markings ahead of all approaches
- Consider modifying vehicular flow by:
  - Adding separate left turn phases for both northbound and southbound traffic.
  - Extending the westbound left turn queue.
  - Installing vehicle detection.

2 Henderson Avenue/El Camino Real

- Upgrade north and south crosswalks to high visibility.
- Install directional curb ramps on all corners to reduce corner turn radii.
- Install sharrows on Henderson Avenue.
- Install advance stop markings ahead of all approaches.
- Consider modifying vehicular flow by adding separate left turn phases for both northbound and southbound traffic and installing vehicle detection.

3 Henderson Avenue/Bryant Way

- Upgrade existing east crosswalk to high visibility.
- Install high visibility crosswalks on north and west legs of intersection.

4 Poplar Avenue/Bryant Way/Rosalia Avenue

- Trim vegetation around the school to make signs more visible to all road users.
- Audit the school guide signs to determine if there are any conflicting signs or signs that need to be removed.
- Install "Vehicles Yield to Ped" signage on westbound Bryant Way.
- Conduct a study for the removal of on-street parking on one side of the street; fill in the sidewalk gap, which might consist of a pedestrian/bicycle path with delineators or implementation of a permanent sidewalk installation.
- If pedestrian/bicycle path or sidewalk is installed along the east side of Poplar Avenue, install high visibility crosswalk across east leg of the Bryant Way/Poplar Avenue intersection.

6 Rosalia Avenue (see insert)

- Using the landscaped area north of Rosalia Avenue, construct 10-feet of sidewalk to serve the northern loading lane. Add curb ramps to both sides of the crosswalks to access this area. Restrict students from walking across the drop-off area except in the crosswalks.
- Restripe this segment of Rosalia Avenue to reflect the realigned lanes and to better delineate the area.
- If feasible, consider assigning school staff to monitor the crosswalks to help meter students across.

7 Campus Renovations (see insert)

- The future campus renovations will relocate the school's bicycle parking. Special care needs to be taken to reasonably accommodate bicycle movements.
  - If possible, allow for access from both sides of the parking facility and work with school community to identify additional bike parking locations.
  - Students biking from the west or arriving via Poplar Avenue, should follow the traffic flow and enter the parking area from the parking lot driveway on Rosalia Avenue.
  - Students biking from the east should arrive via Bryant Way and enter via the western parking lot driveway. A dedicated pathway for bicyclists should be maintained from the driveway to the parking area.

0 200 ft N

Improvements not to scale

Sunnyvale

ny recommended improvements is the responsibility of the appropriate governing agency.

Ponderosa Elementary School

804 Ponderosa Ave.
Sunnyvale, CA 94086

GRADES
K-5

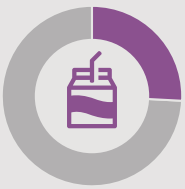
SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
590

44%

ENGLISH LANGUAGE LEARNERS
(260)

26%



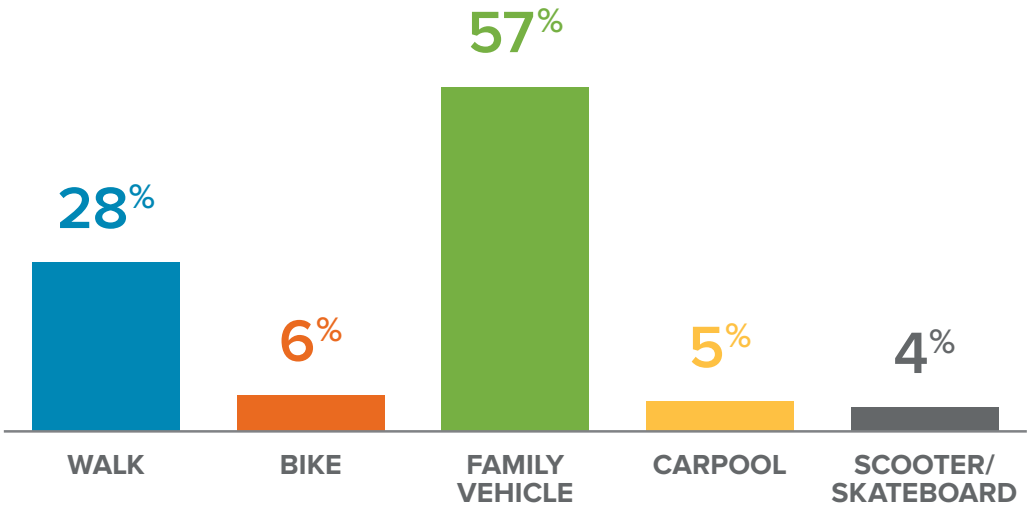
FREE/ REDUCED LUNCH
(153)

WALK AUDIT
MONDAY, MAY 20, 2019

ARRIVAL DISMISSAL

Ponderosa Elementary School is located in a residential neighborhood in central Sunnyvale, adjacent to Ponderosa Park. There is newly-installed bicycle parking at the Ponderosa Avenue entrance and behind the school near the baseball diamond. Each October, Ponderosa Elementary hosts a Bike Train and uses that opportunity to conduct helmet inspections and provide corrections. In 2019, the Bike Train had about 150 participants. Other previous SRTS activities at Ponderosa Elementary include kindergarten and 2nd grade in-class walk and bike education, Walk & Roll Day, and a bike repair event.

Ponderosa Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

SUMMARY OF EXISTING CONDITIONS

Sequoia Drive / Iris Avenue

- This is a T-intersection with a stop sign on Sequoia Drive, two transverse crosswalks, and a crossing guard stationed here during arrival and dismissal hours.
- Over 120 people walking were observed during a fifteen-minute timeframe during the arrival period.

Ponderosa Avenue / Iris Avenue

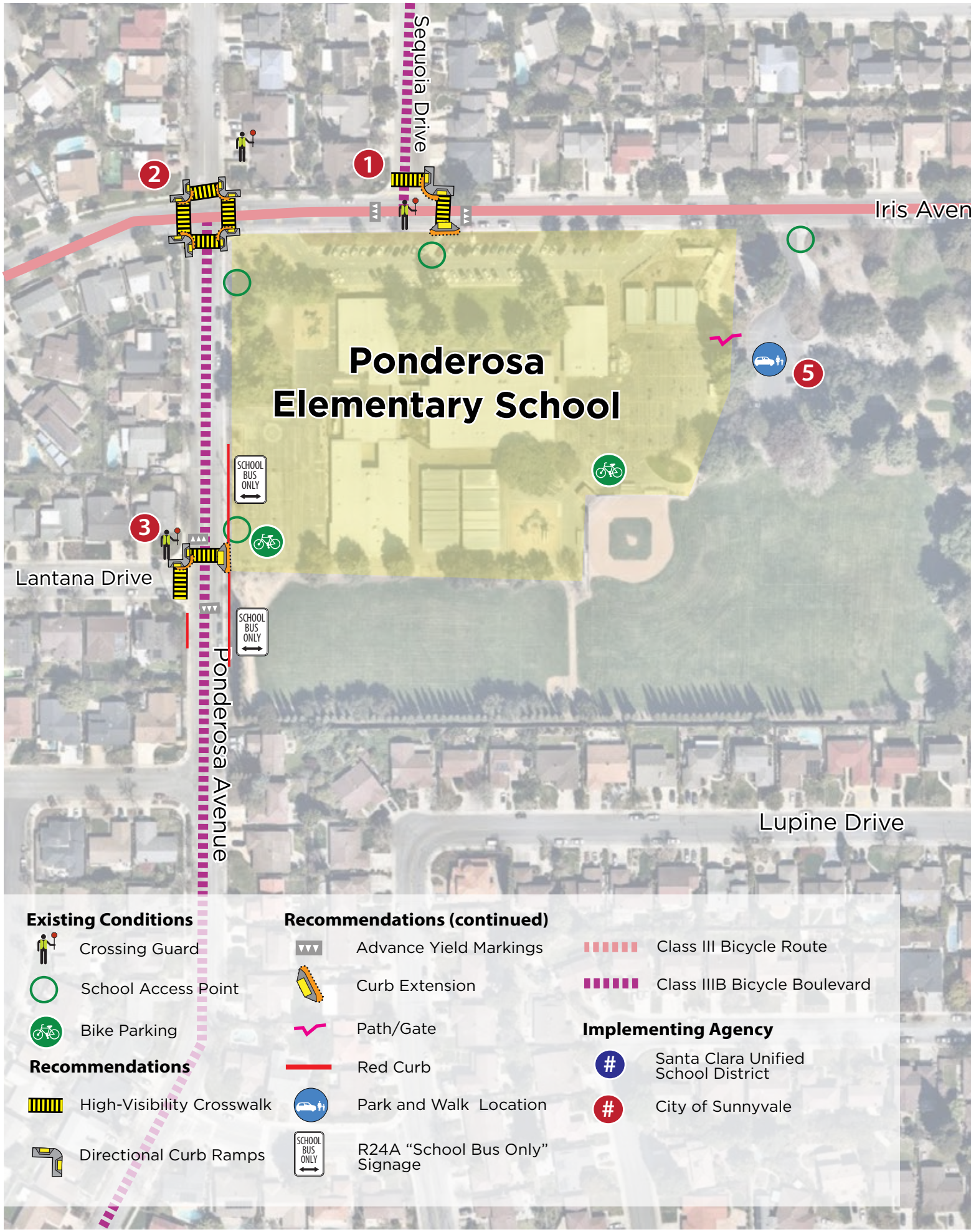
- This is a four-way stop-controlled intersection with standard crosswalks on all approaches.
- Many people driving were observed failing to come to a complete stop at the intersection.

Ponderosa Avenue / Lantana Drive

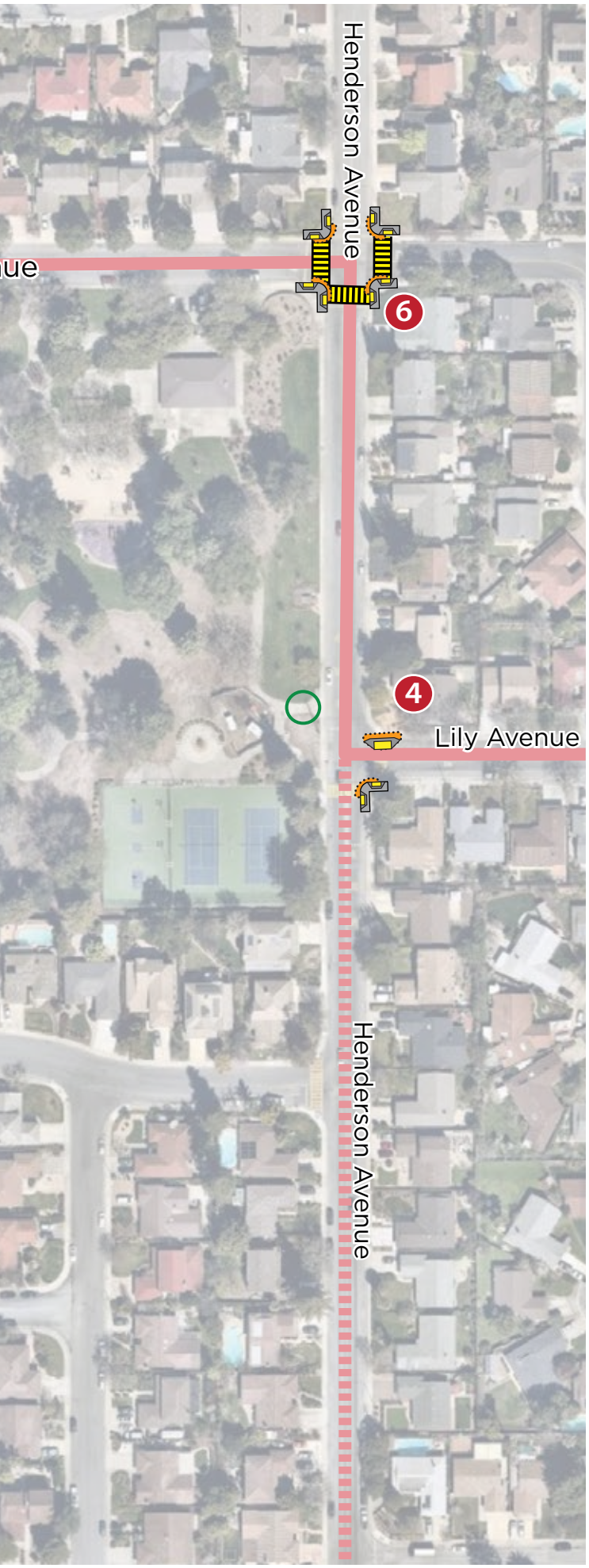
- There is a crossing guard stationed at this intersection during arrival and dismissal hours.
- Existing high-visibility crosswalk and red curb paint are faded.

Henderson Avenue / Lily Avenue

- This is a T-intersection with stop-control on Lily Avenue and a crossing guard stationed here during arrival and dismissal hours.
- There is an existing RRFB on the south leg of the intersection.
- Walk audit participants observed people driving into the crosswalk while waiting to turn onto Henderson Avenue from Lily Avenue.



The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of a



Safe Routes to Schools Improvement Plan

Ponderosa Elementary School
Sunnyvale

School Audit held May 2019

1 Sequoia Drive/Iris Avenue
- Upgrade transverse crosswalks to high visibility crosswalks.
- Install advance yield markings.
- Install curb extensions and directional ramps on northeast and southeast corners.

2 Ponderosa Avenue/Iris Avenue
- Upgrade existing crosswalks to high visibility.
- Install curb extensions and directional ramps on all four corners.

3 Ponderosa Avenue/Lantana Drive
- Repaint the crosswalks.
- Add advance yield markings on both sides of crosswalk on Ponderosa Ave.
- Repaint and extend red curb on the southwest corner of the intersection to a total length of 20.'
- Extend the red curb both northward and southward and add "School Bus Only" (R24A) signage.
- Install curb extensions and directional ramps on northwest and northeast corners.

4 Henderson Avenue/Lily Avenue
- Install curb extension on northeast corner of intersection facing Lily Avenue.
- Install curb extension and directional ramps on southeast corner of intersection.

5 Ponderosa Park Parking Lot
- Designate the lot as a "Park & Walk" location.
- Coordinate with Park Division to identify and construct a path and access route to the school.

6 Henderson Avenue/Iris Avenue
- Install curb extensions and directional ramps on all four corners.
- Upgrade existing crosswalks to high-visibility.

0 200 ft

N

Improvements not to scale

ny recommended improvements is the responsibility of the appropriate governing agency.

San Miguel Elementary School

777 San Miguel Ave.
Sunnyvale, CA 94085

GRADES

K-5

SCHOOL TYPE

NEIGHBORHOOD

ENROLLMENT

403

57%

ENGLISH LANGUAGE LEARNERS

(231)

57%

FREE/ REDUCED LUNCH

(229)

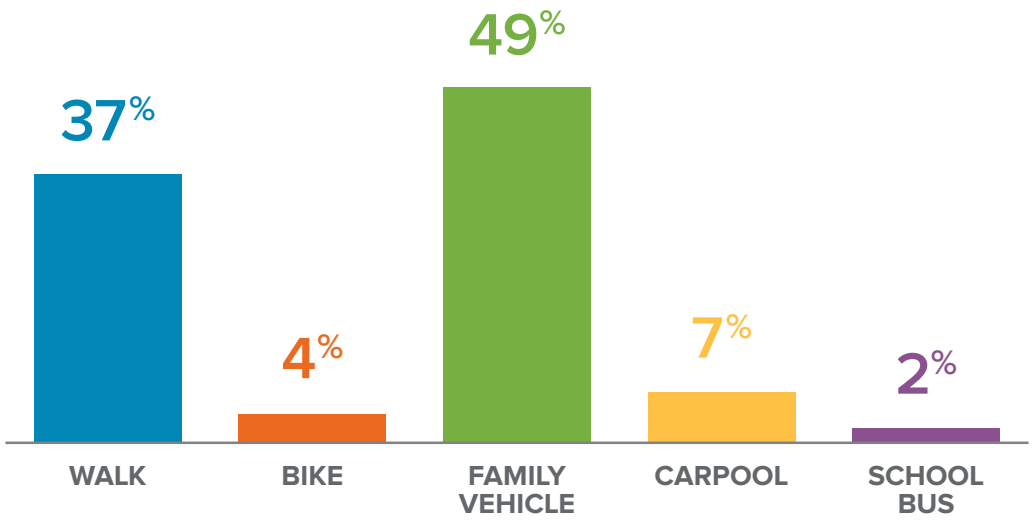
WALK AUDIT

THURSDAY, APRIL 25, 2019

ARRIVAL | **DISMISSAL**

San Miguel Elementary School is located in a residential neighborhood in the northeastern section of the city. Previous SRTS activities at San Miguel Elementary includes Kindergarten, 2nd and 4th grade in-class walk and bike education, a bike rodeo, and multiple Family Bike Nights.

San Miguel Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

SUMMARY OF EXISTING CONDITIONS

San Miguel Avenue School Frontage

- There is a one-way driveway in the front of the school.
- People were observed driving into the loop exit, and there is a faded "Do Not Enter" sign at the loop exit.

San Miguel Avenue / Amador Avenue

- This is a T-intersection with stop-control on Amador Avenue, standard crosswalks across two approaches and a crossing guard stationed during arrival and dismissal hours.
- Walk audit participants observed people driving quickly after yielding to people crossing in the crosswalks.

San Miguel Avenue / Alvarado Avenue

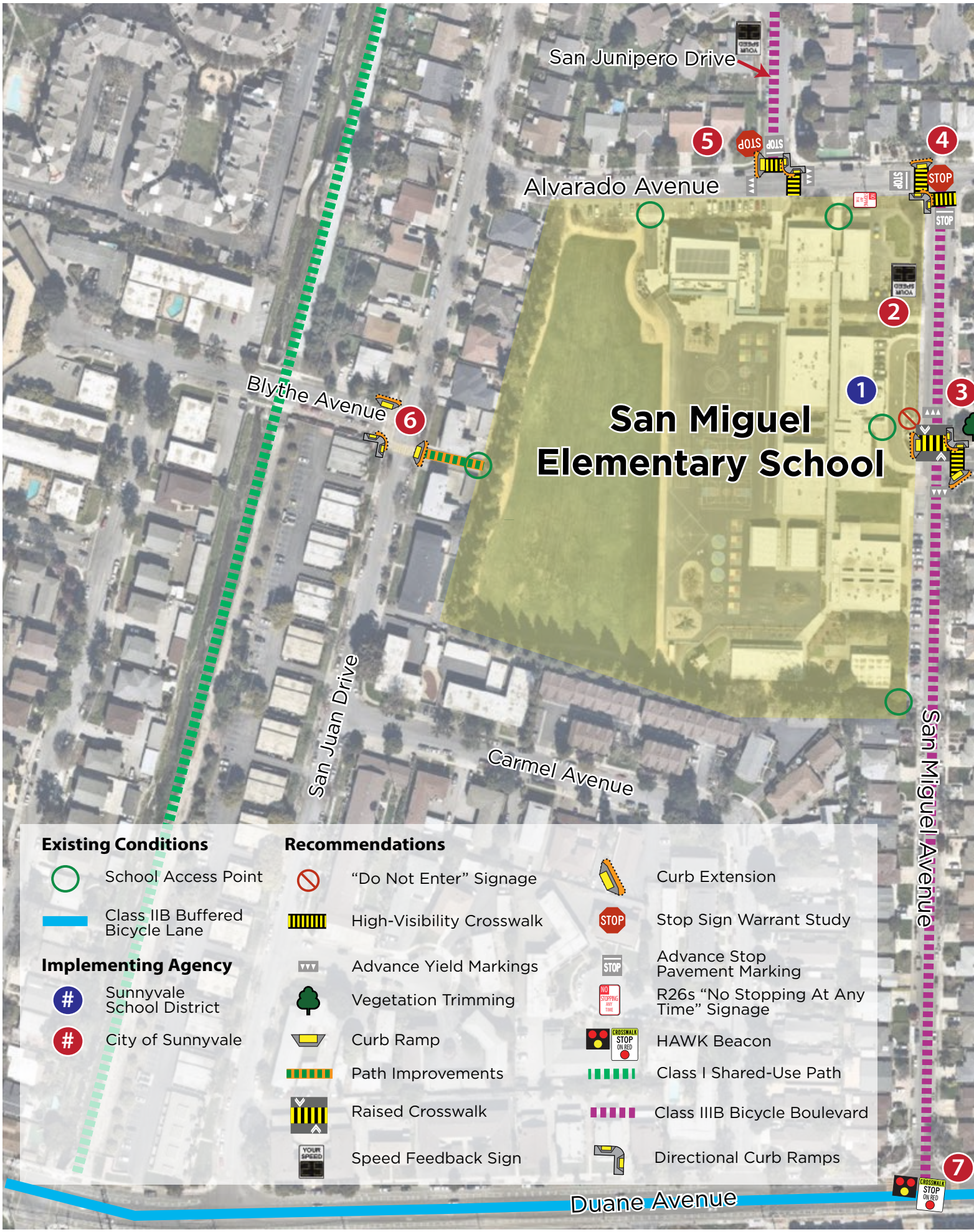
- This is a T-intersection with no crosswalks or stop control devices.
- Walk audit participants observed people driving at high speeds along Alvarado Avenue and while turning.

San Junipero Drive / Alvarado Avenue

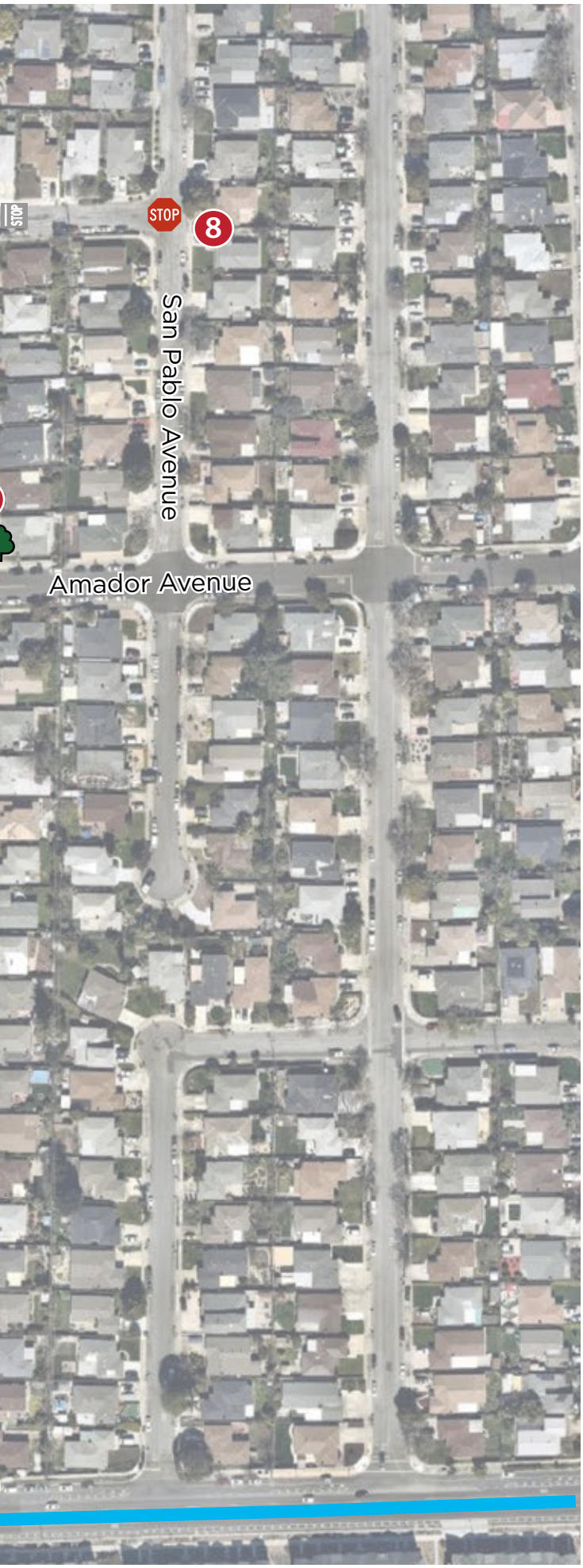
- This is a T-intersection with no stop control, standard crosswalks across two approaches, and a crossing guard stationed here during arrival and dismissal hours.
- Walk audit participants observed people parking vehicles in the bus loading zone east of San Junipero.

San Juan Drive / Blythe Avenue

- This is a T-intersection with no stop control and high-visibility crosswalks across two approaches.
- There is an access point to the school at this location.



The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of ar



Safe Routes to Schools Improvement Plan

San Miguel Elementary School
Sunnyvale

School Audit held April 2019

1 San Miguel Avenue (School Frontage)
- Replace fading "Do Not Enter" sign at the loop exit.

2 San Miguel Avenue (School Frontage)
- Install speed feedback sign for southbound traffic.

3 San Miguel Avenue/Amador Avenue
- Upgrade east leg of interesection to high visibility crosswalk.
- Install raised crosswalk on north leg of intersection across San Miguel Avenue.
- Install curb extensions on northwest and southeast corners. Install curb extension and directional curb ramps on northeast corner.
- Install advance yield markings on the north and south legs of the intersection.
- Trim the tree on the northeast corner of the intersection so it does not cover the "Yield to Pedestrians" sign.

4 San Miguel Avenue/Alvarado Avenue
- Install high visibility crosswalks on the west and south legs of intersection.
- Add curb extensions to the northwest and southwest corners.
- Conduct stop sign warrant assessment for all three legs.
  - If stop signs are warranted:
    - Install high visibility crosswalk on east leg of intersection. Install midblock curb ramp on north side of east crosswalk.
    - Install advance stop pavement markings on all approaches.
  - If stop signs are not warranted, install advance yield markings on all legs of intersection.

5 San Junipero Drive/Alvarado Avenue
- Upgrade crosswalks to high visibility crosswalks.
- Add advance yield markings to the east and west side of intersection.
- Install "School Bus Only" (R24A) signage along red curb zone on Alvarado Ave.
- Conduct a Stop or Yield sign warrant study for north leg of intersection.Install advance stop pavement markings if stop sign is warranted.
- Install curb extensions and direction ramp on northeast corner of intersection. Install curb extension on northwest corner facing San Junipero.
- Install speed feedback sign for southbound vehicular travel.

6 San Juan Drive/Blythe Avenue
- Upgrade path to ADA standards.
- Install curb extension on southeast corner.
- Install curb extension and directional ramps on southwest corner.
- Install curb extension and directional ramp on northwest corner facing Blyte Avenue.

7 San Miguel Avenue/Duane Avenue
- Install HAWK beacon on both east and west legs of intersection.

8 San Pablo Avenue/Alvarado Avenue
- Conduct warrant study for stop sign and crosswalk.

0 200 ft

N

Improvements not to scale

Sunnyvale

ny recommended improvements is the responsibility of the appropriate governing agency.

Stocklmeir Elementary School

592 Dunholme Way
Sunnyvale, CA 94087

GRADES
K-5

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
1,106

17%

ENGLISH LANGUAGE LEARNERS
(186)

4%

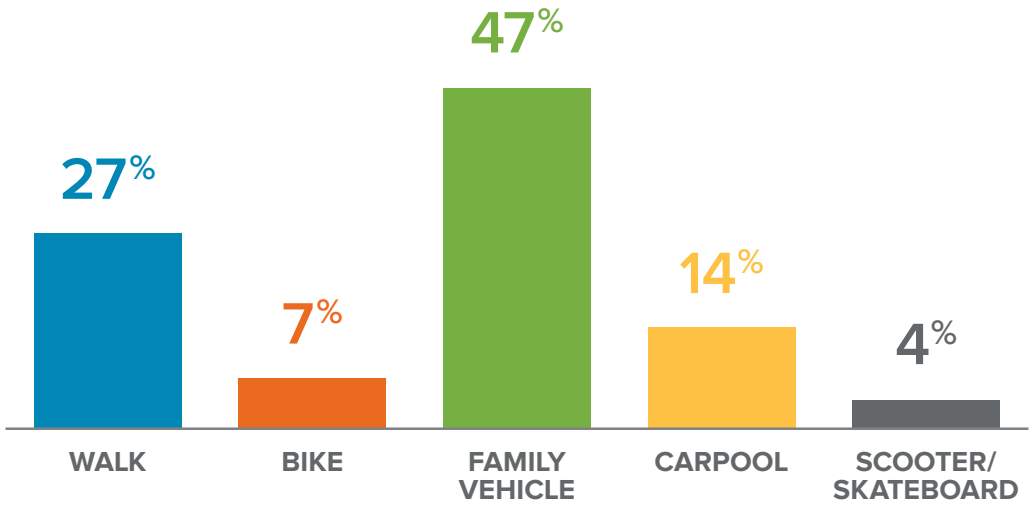
FREE/ REDUCED LUNCH
(41)

WALK AUDIT
MONDAY, MAY 6, 2019

ARRIVAL | **DISMISSAL**

Stocklmeir Elementary School is located in a suburban area of Sunnyvale in the southern portion of the city. It is on the same block as Ortega Park. The school handbook on the district webpage outlines parking and drop-off areas. Stocklmeir Elementary has hosted an annual bicycle rodeo since at least 2017. In September 2019, the school hosted the Bay Area BikeMobile in addition to the bicycle rodeo, and 20 helmets were fitted and distributed to students.

Stocklmeir Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

SUMMARY OF EXISTING CONDITIONS

Bittern Drive / Dunholme Way

- This is a four-way stop-controlled intersection with standard crosswalks across all four approaches.

Chickadee Court / Dunholme Way

- This is a T-intersection with stop control on Chickadee Court and high-visibility crosswalks across two approaches.
- Walk audit participants observed parents parking on Chickadee Court to drop-off and pick-up students, requiring students to cross Dunholme Way.

Chukar Court / Dunholme Way

- This is a T-intersection with no stop control and no crosswalks.
- Walk audit participants observed parents parking on Chukar Court to drop-off and pick-up students, requiring students to cross Dunholme Way.

Blackhawk Drive / Dunholme Way

- This is a four-way intersection with stop control on Blackhawk Drive and high-visibility crosswalks crossing Blackhawk Drive.
- Parents driving to the loop on Dunholme Way queue in the eastbound lane, which causes congestion on Blackhawk Drive.

West Parking Lot

- Over 50 students and over 20 parents were observed using a faded crosswalk to access the school from the northwest side of campus.

The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of ar

Safe Routes to Schools Improvement Plan

Stocklmeir Elementary School
Sunnyvale

School Audit held May 2019

1 Bittern Drive/Dunholme Way
- Upgrade to high visibility crosswalks on all four legs of intersection.
- Install advance stop lines on all four legs of intersection .

2 Chickadee Court/Dunholme Way
- Install advance yield lines across Dunholme Way ahead of intersection to increase yield rates for the crosswalk.
- Install curb extensions on southwest and northwest corners.

3 Chukar Court/Dunholme Way
- Widen sidewalks on school frontage from Chukar to Condor Way in order to support the greater foot traffic this area receives.

4 Blackhawk Drive /Dunholme Way
- Consider installing centerline striping along Dunholme Way between Bittern Drive and Blackhawk Drive.

5 Floyd Avenue/Dunholme Way
- Install raised crosswalk on east leg of intersection.

6 Condor Way /Dunholme Way
- install curb extensions on the southeast and southwest corners of intersection.
- Upgrade south crosswalk to high visibility.
- Conduct a stop sign warrant analysis for south leg of intersection.

7 Floyd Avenue/Dublin Way
- Conduct a stop sign warrant analysis for the west leg of intersection.

8 School Frontage
- Repaint red curb along school frontage in front of drop-off loop.

9 School Drop-Off Loop
- Convert drop-off loop to one-way-in, one-way-out during drop-off/pick-up in front of school.
- Install “Do Not Enter” and Right-Turn signage at eastern driveway of school drop-off loop.

10 West Parking Lot
- Repaint crosswalk inside staff parking lot to increase visibility.

0 200 ft N

Improvements not to scale

Sunnyvale

ny recommended improvements is the responsibility of the appropriate governing agency.

Sunnyvale Middle School

1080 Mango Ave.
Sunnyvale, CA 94087

GRADES
6-8

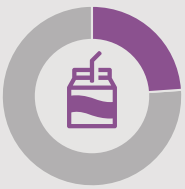
SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
1,211

14%

ENGLISH LANGUAGE LEARNERS
(165)

24%



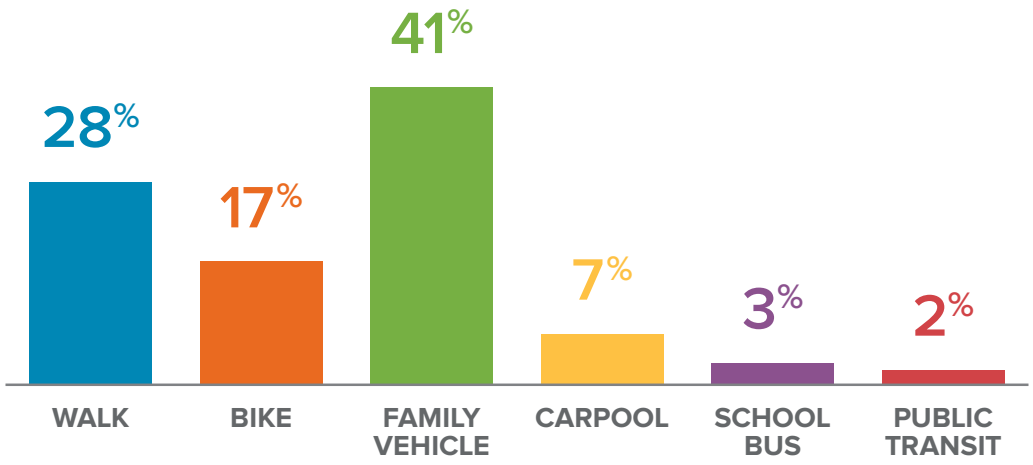
FREE/ REDUCED LUNCH
(295)

WALK AUDIT
THURSDAY, MAY 30, 2019

ARRIVAL | **DISMISSAL**

Sunnyvale Middle School is located in a residential neighborhood in the southwestern section of the city. Bicycle parking is available on the north side of the school campus, accessible via Mango Avenue, and is often highly used. There is an active SRTS team at the school comprised of school administration, teachers, parents, students, and bicycling advocates. This group published a “Sunnyvale Middle School Walking and Biking Guide,” which is distributed to families and includes a route map and tips for safe bicycling, walking, skating, and driving. This team also prepares SRTS tips for students and parents, distributed via e-newsletter and the in-school TV channel. In 2017, the school hosted a Family Fun Bike Night. The school hosted a helmet fitting and distribution event in June 2019. In October 2019, the school hosted the Bay Area BikeMobile, and fitted and distributed helmets to 15 students.

Sunnyvale Middle School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

SUMMARY OF EXISTING CONDITIONS

Mango Avenue

- Mango Avenue is the primary pick-up/drop-off location for Sunnyvale Middle School students and families arriving by private car.
- There is a curbside loading zone on Mango Avenue that is inefficiently used by parents due to lack of lane striping.

Mango Avenue / W. Knickerbocker Drive

- This is a four-way, all-way stop controlled intersection with two crossing guards stationed at this intersection. Each crossing guard meters students walking and bicycling across two approaches.
- The majority of school-related traffic (all modes) passes through this intersection.

S. Mary Avenue

- Students who bicycle to/from campus use a path on the northern side of campus to enter/exit the school via S. Mary Avenue.
- Students were observed bicycling on the sidewalk along S. Mary Avenue before entering the S. Mary Avenue / W. Knickerbocker Drive intersection to reach the east side of S. Mary Avenue to continue riding north.

Mango Avenue / W. Remington Drive

- This is a T-intersection with stop control on Mango Avenue, two high-visibility crosswalks, and pedestrian-actuated in-road warning lights across W. Remington Drive.
- There are two VTA bus stops on W. Remington Drive (one at Mango Avenue and one at S. Mary Avenue) for Line 53. The stop at Mango Avenue blocks visibility of students waiting to cross.

The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of ar

Safe Routes to Schools Improvement Plan

Sunnyvale Middle School, Sunnyvale

School Audit held May 2019

1 Mango Avenue
- Install R3-4 "No U-turn" signage along the eastern sidewalk.
- Restripe the yellow centerline as with a Detail 22 yellow stripe to discourage encroachment into opposing travel lanes.

2 Mango Avenue/W. Knickerbocker Drive
- Install curb extensions and directional ramps at all four corners.

3 S. Mary Avenue/Knickerbocker Drive
- Place new crossing guard at intersection.

4 Mango Avenue/W. Remington Drive
- Upgrade the existing IRWL to an RRFB.
- Install curb extensions at the northwest, northeast, and southeast corners.
- Work with VTA to consolidate/relocate the bus stops on Remington Drive to increase visibility of the northeast corner.
- Install directional ramps at northeast corner.

5 S. Mary Avenue/W. Remington Drive
- Install protected intersection.

6 School Campus
- Install a curb ramp at the southern side of the crosswalk near the parking lot entry driveway.
- Delineate a path for bicycles from the bicycle parking area through the exit driveway to separate uses.
- Update the driveways along the school frontage to meet current city standards.

0 200 ft

N

Improvements not to scale

Sunnyvale

ny recommended improvements is the responsibility of the appropriate governing agency.

Vargas Elementary School

1054 Carson Dr.
Sunnyvale, CA 94086

GRADES
K-5

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
484

46%
ENGLISH LANGUAGE LEARNERS
(220)

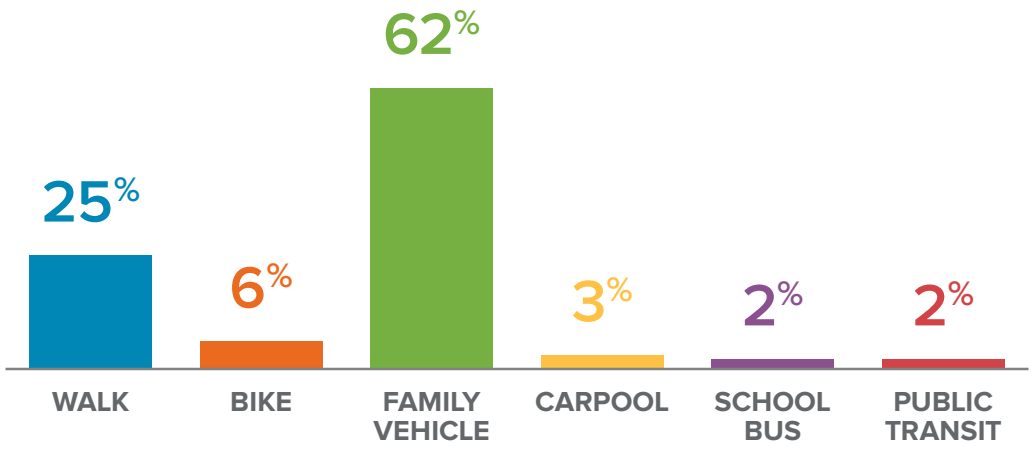
47%
FREE/ REDUCED LUNCH
(229)

WALK AUDIT
TUESDAY, MAY 7, 2019

ARRIVAL DISMISSAL

Vargas Elementary School is located in the central-west section of the city. Bicycle parking is provided, but it is not secured and is over capacity. Some students leave their bikes against a nearby shed due to lack of bicycle parking space. Previous SRTS activities at Vargas Elementary have included Kindergarten in-class education and a bike repair event hosted by the Bay Area BikeMobile.

Vargas Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

SUMMARY OF EXISTING CONDITIONS

Mary Avenue / Carson Drive

- This is a four-way intersection with stop control on Carson Drive and two high-visibility crosswalks across Carson Drive.
- Large radii at all corners of this intersection allow for fast vehicle turns.

Carson Drive near Back Entrance / School Bus Stop

- Some families use the front-in angled parking at this location for drop-off, while other families park behind them and cause congestion and confusion.

Leota Avenue / Carson Drive

- This is a four-way stop-controlled intersection with standard crosswalks across all approaches and a crossing guard stationed during arrival and dismissal hours.
- Large radii at all corners of this intersection allow for fast vehicle turns.

Leota Avenue / Driveway Loop

- Walk audit participants observed people driving above safe speeds along Leota Avenue.
- Many parents were observed turning left out of the driveway loop, despite the posted Right Turn Only sign.

Leota Avenue / Washington Avenue

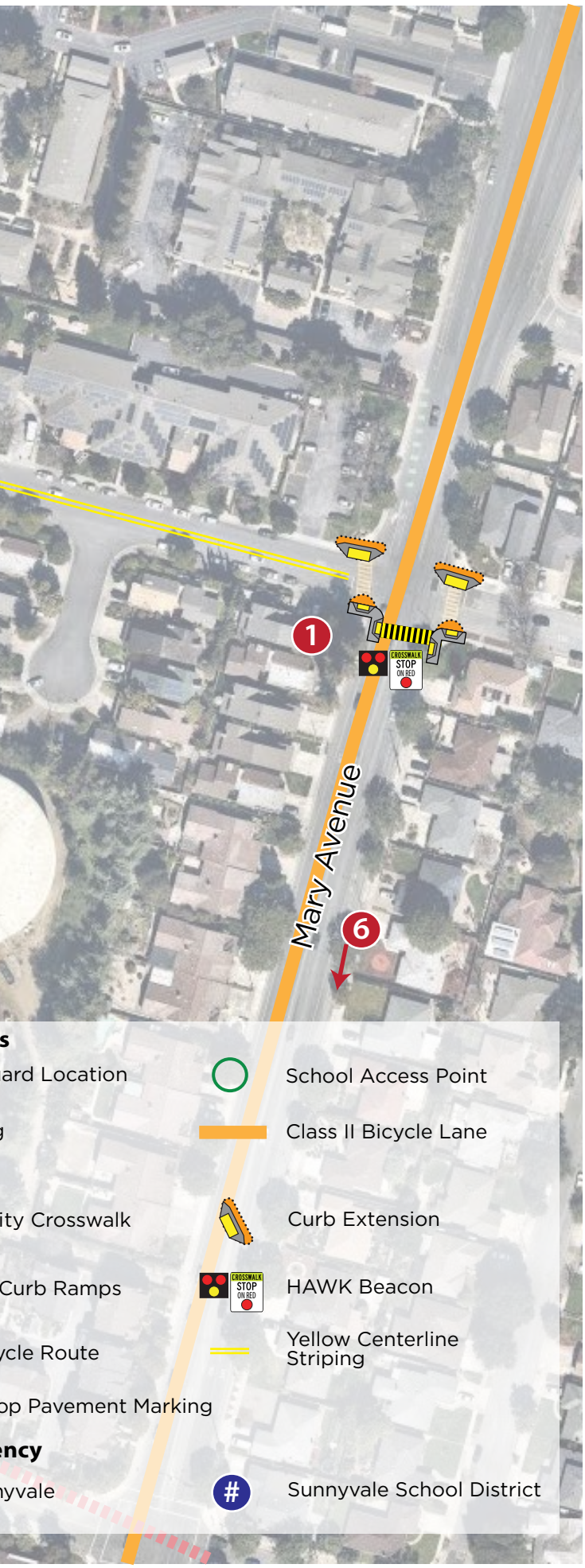
- This is a four-way stop-controlled intersection with standard crosswalks across all approaches and a crossing guard stationed during arrival and dismissal hours.
- Skewed intersection geometry and large corner radii promote fast turns.

The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of ar

Safe Routes to Schools Improvement Plan

Vargas Elementary School
Sunnyvale

School Audit held May 2019



1 Mary Avenue/Carson Drive
- Install curb extensions across Carson drive on the east and west legs of intersection. Install directional ramps across Mary Ave on the southwest and southeast corners.
- Install high-visibility crosswalks on south leg of intersection.
- Install HAWK beacon on south leg of intersection.
- Trim vegetation on southwest corner.

2 Carson Drive near Back Entrance/Bus Stop
- Conduct traffic calming warrant study along Carson Drive. Install traffic calming if warranted.
- Install double yellow centerline along Carson Drive.

3 Leota Avenue/Carson Drive
- Convert crosswalks to high-visibility crosswalks.
- Install curb extensions and directional ramps at all four corners of intersection.

4 Leota Avenue/Drop-Off Loop
- Conduct traffic calming warrant study along Leota Avenue. Install traffic calming if warranted.
- Install double yellow centerline along Leota Avenue.

5 Leota Avenue/Washington Avenue
- Convert crosswalks to high-visibility crosswalks.
- Install curb extensions on northeast and southwest corners of intersection. Install directional curb ramps on all corners.
- Install advance stop pavement markings on all legs.

6 Mary Avenue/Washington Avenue (see insert)
- Install directional curb ramps at all four corners and reduce turning radii at all corners.
- Upgrade existing crosswalks to high-visibility.

7 School Campus
- Upgrade and expand bike parking areas.

0 200 ft

N

Improvements not to scale

Sunnyvale

ny recommended improvements is the responsibility of the appropriate governing agency.

West Valley Elementary School

1635 Belleville Way
Sunnyvale, CA 94087

GRADES
K-5

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
554

13%

ENGLISH LANGUAGE LEARNERS
(73)

3%

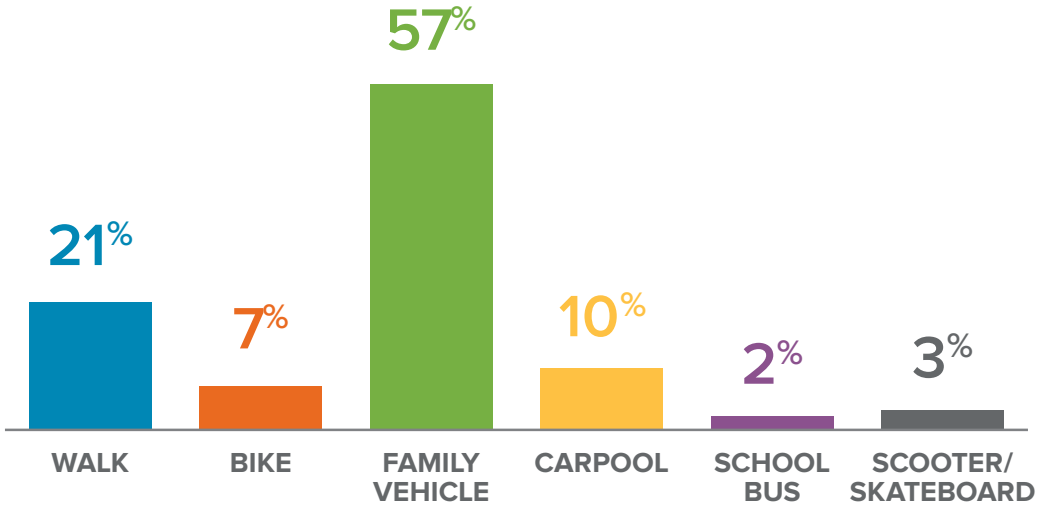
FREE/ REDUCED LUNCH
(16)

WALK AUDIT
MONDAY, MAY 13, 2019

ARRIVAL DISMISSAL

West Valley Elementary School is located in the southeast corner of the city next to Stevens Creek Trail. It is located near the Sunnyvale/ Los Altos city border, and serves students from both cities. There is a shared-use path off of Fallen Leaf Lane that connects students who live on the west side of the creek to the back side of the elementary school. State Route 85 runs to the east of West Valley Elementary School, cutting it off from the rest of Sunnyvale.

West Valley Elementary School Hand Tallies, Spring 2018



Hand tally data was collected for the following modes: walk, bicycle, family vehicle, carpool, school bus, public transit, and other (scooter, skateboard, etc.) Only values above 2% are listed above, with the exception of including bicycling regardless of value.

SUMMARY OF EXISTING CONDITIONS

Belleville Way / Driveway Loop Entrance

- Parents pull into the driveway loop; waiting parents queue along Belleville Way.

Belleville Way / Driveway Loop Exit

- Students and families walk north on Belleville Way to reach the school, crossing both the driveway loop exit and entrance.

Fallen Leaf Lane / Louise Lane

- There are no sidewalks on Fallen Leaf Lane at this location.

Fallen Leaf Lane Pedestrian Pathway

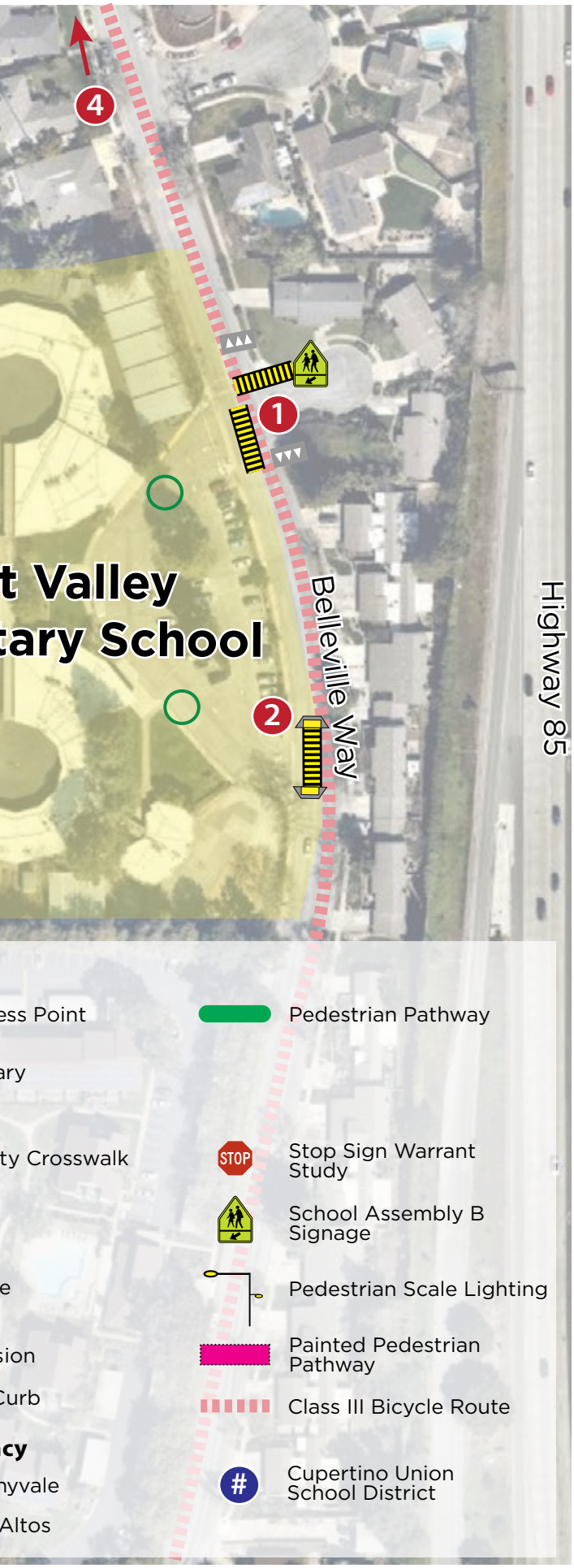
- This pathway connects Fallen Leaf Lane to the school campus and is often used by students both walking and bicycling.
- In the morning during the walk audit, the lighting was poor and dense foliage blocked parts of the path.

The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of a

Safe Routes to Schools Improvement Plan

West Valley Elementary School, Sunnyvale

School Audit held May 2019



1 Belleville Way/Parking Lot Entrance
- Upgrade crosswalks to high visibility.
- Install advance yield markings.
- Install School Assembly B signage.

2 Belleville Way and Outbound School Driveway
-Install curb ramps and high-visibility crosswalk across driveway

3 Fallen Leaf Lane/Louise Lane
- Install painted pedestrian walkway with flexible delineators on southeast corner of intersection; design bollards so that they will not be hit by right-turning vehicles and to be clear of existing driveway access at the corner.

4 Belleville Way/The Dalles
- Install curb ramp at the west side exit of pedestrian bridge.
- Install curb extensions and directional ramps on all four corners of intersection.
- Please refer to Cupertino Middle School Recommendation map for additional improvements to east side of pedestrian bridge.

5 Belleville Way/Barton Drive
- Consider promoting this as a bicycle entrance and ensuring that gates are open and unlocked during school drop-off and pick-up hours.

6 Fallen Leaf Lane Pedestrian Pathway
- Increase width of pathway entrance at Fallen Leaf Lane by modifying the spacing of existing gates.
- Install additional lighting along pathway.

0 200 ft N

Improvements not to scale

Sunnyvale

ny recommended improvements is the responsibility of the appropriate governing agency.

Wilcox High School

3250 Monroe St.
Santa Clara, CA 95051

GRADES
9-12

SCHOOL TYPE
NEIGHBORHOOD

ENROLLMENT
1,961

16%

ENGLISH LANGUAGE LEARNERS
(306)

37%

FREE/ REDUCED LUNCH
(734)

WALK AUDIT
THURSDAY, MAY 23, 2019

ARRIVAL | **DISMISSAL**

Wilcox High School is located in a residential neighborhood in the City of Santa Clara. It serves both Sunnyvale and Santa Clara students. Wilcox High is serviced by VTA Bus 21.

SUMMARY OF EXISTING CONDITIONS

Calabazas Boulevard / Monroe Street

- This is a three-way signalized intersection with two standard crosswalks.
- The southwest and southeast corners of the intersection have large radii, allowing for fast vehicle turns.
- Many students walking and bicycling were observed turning left from Calabazas Boulevard to travel west on Monroe Street.

Meadowbrook Drive / Monroe Street

- This is a four-way intersection with the exit of the school driveway loop on the south leg.
- There is a high-visibility crosswalk across Monroe Street with a HAWK beacon present, and there is a standard crosswalk across Meadowbrook Drive.

Chromite Drive / Monroe Street

- This is a signalized T-intersection with standard crosswalks across two approaches.

Calabazas Boulevard / Georgetown Place

- This intersection connects to a campus access point with on-campus bicycle parking. Many students riding bicycles cross Calabazas Boulevard to reach this location.
- This intersection is also the school bus loading area. At times, the bus can block visibility of the crosswalk.

Glade Drive / Monroe Street

- This is a T-intersection with stop control on Glade Drive.
- There is a high-visibility crosswalk across Monroe Street with a HAWK beacon present, and there is a standard crosswalk across Glade Drive.

Monroe Street

- School staff reported that people driving above safe speeds on Monroe Street is a longstanding issue for the school.

The above items are recommendations only and based on Safe Routes to Schools site assessment best practices. Feasibility determination, final design, accessibility, funding, and implementation of ar

Safe Routes to Schools Improvement Plan

Wilcox High School, Santa Clara

School Audit held May 2019

1 Calabazas Boulevard/Monroe Street
- Install directional curb ramp and curb extension on southeast corner of intersection and reduce turning radii.
- Upgrade crosswalks to high visibility.
- Upgrade existing curb ramps to be ADA-compliant.

2 Marchese Way/Monroe Street
- Upgrade north leg of crosswalk to high visibility.
- Upgrade existing curb ramps to be ADA-compliant.

3 Meadowbrook Drove/Monroe Street
- Upgrade crosswalk across Meadowbrook Drive to high visibility.
- Upgrade northeast curb ramp to be ADA-compliant.

4 Calabazas Boulevard/Georgetown Place
- Reconfigure intersection to widen northern median and tighten turning radius on northwest and southwest corners.
- Widen refuge space in median.
- Install crosswalk across Georgetown and upgrade curb ramps.
- Move bus loading zone to north of crosswalk only.
- Install advance yield markings and RRFB at crosswalk.
- Paint 20' of red curb south of crosswalk.
- Install crossbike markings for people on bikes traveling southbound on Calabazas.

5 Calabazas Boulevard School Entry
- Allow for bicycle access onto school south of crosswalk.

Note: All recommended improvements are within the City of Santa Clara's City Limits.

ons

ng

School Access Point

HAWK Beacon

ons

ility Crosswalk

Stop Sign Warrant Study

Intersection

Advance Yield Markings

l Curb Ramps

Rectangular Rapid Flash Beacon (RRFB)

ared-Use Path

Class II Bicycle Lane

nsion

ADA-Compliant Curb Ramp

gency

nta Clara

Santa Clara Unified School District

0 200 ft

N

Improvements not to scale

Sunnyvale

y recommended improvements is the responsibility of the appropriate governing agency.

Programmatic Recommendations

SRTS programs are more than simply improving infrastructure around schools. A true SRTS program cannot be successful without using additional strategies to create enthusiasm among students and caregivers for walking and bicycling to school.

Coordination Recommendations

A SRTS program is only as effective as its coordination between members and partners. The coordination recommendations below offer suggestions to improve coordination and communication between key stakeholders.

Recommendation 1.1: Continue holding biannual SRTS Task Force meetings with school stakeholders. The Task Force should continue to coordinate activities, discuss implementation challenges, identify new opportunities, and provide support to the SRTS Program Coordinator.

Recommendation 1.2: Work with school districts to identify a SRTS coordinator for each district at the district level. These coordinators should be a paid staff member whose job description clearly includes coordinating with the City SRTS Coordinator, promoting the SRTS curriculum, connecting teachers with SRTS resources, and supporting education and encouragement activities led by teachers and community volunteers.

Recommendation 1.3: Create a formalized "School Champion" volunteer position at each school and ensure the role is filled at the beginning of each school year. This could be an assigned role within the PTA, or it could be someone outside of the school community, such as a grandparent or retired senior.

Equity Recommendations

The equity recommendations below encompass actions that could have been listed under many of the other subheadings in this chapter. However, by bringing them together under the framework of equity, the plan ensures that the SRTS program reaches all populations by including communities of various ethnicities, addressing the needs of all children, and reaching low-income communities.

Recommendation 2.1: Produce outreach materials in Spanish, and other languages as needed, and provide to schools with a high percentage of students who speak these languages, such as at Bishop Elementary, San Miguel Elementary, and Vargas Elementary.

Recommendation 2.2: Continue to distribute free helmets as grant funding allows.

Recommendation 2.3: Focus enforcement efforts on the most risky behaviors and high-collision locations as identified in the Sunnyvale Vision Zero Plan. By focusing enforcement efforts on these behaviors and locations, it reduces the likelihood of equity disparities in enforcement.

EQUITY RESOURCES

Metropolitan Transportation Commission (MTC) and Bay Area Air Quality Management District Spare the Air Youth "Inclusion & Equity in School Commute Programs." Includes detailed strategies for communicating with families, addressing personal safety concerns, and increasing access for children with disabilities. Accessed Jan. 2020: https://sparetheairyouth.org/inclusion-and-equity-in-school-commute-program-guidebook/

Education Recommendations

Education classes and activities inform families about transportation choices, teach walking and biking safety skills, promote driver safety campaigns near schools, and communicate the benefits of active transportation.

Recommendation 3.1: Identify and pursue funds to support traffic safety education in schools. Grant programs such as the Office of Traffic Safety (OTS) Grants fund Pedestrian and Bicycle Safety programs (see page 255 for more information on funding).

Recommendation 3.2: Continue providing existing education programs such as Bicycle and Pedestrian Safety Assemblies and Bike Rodeo, and increase the number of schools participating in these programs. Target schools that have not received education programming in the past. Work with the principal, PTA, or other school stakeholders to determine the barriers to implementing education at these schools.

Recommendation 3.3: Explore programming ideas for middle school-aged students and high school-aged students. These might include:

- Drive Your Bike curriculum: Multiple groups in the Bay Area offer "Drive Your Bike" education aimed at middle school and high school students. The Drive Your Bike program teaches students to bicycle safely to school and around their neighborhoods, and encourages them to start riding more often. It includes a classroom component, a blacktop component, and ends with an off-campus neighborhood bike ride. This program is typically held during a PE class.
- Bike maintenance education through a Bike Shed program: Organizations such as the YMCA provide bicycle maintenance courses to a select group of students during or after the school day. The participating school can install a bike shed that provides space to hold bikes, maintenance tools, and workstations.
- Student-developed biking and walking campaigns: A select group of middle or high school students (such as members of an environmental club) can develop a video or social media campaign to educate and encourage peers to use active transportation modes. Videos can be shown as part of morning announcements or general assemblies, or be incorporated as part of a health-related class.
- SRTS Middle and High School Task Force: The City can convene a task force of middle and high school students to share ideas for SRTS events and encouragement at their schools. This can provide a platform for coordinating efforts around events such as Bike to School Day, Earth Day, and Cocoa to Carpool days.
- Encourage participation at Youth for the Environment and Sustainability (YES) Conference: The YES Conference is a free, annual event that brings together middle- and high-school students from the nine San Francisco Bay Area counties to discuss solutions to the climate change crisis. The young adults' goal is to raise awareness of how our transportation choices affect our families, our communities, our air and our planet.

Recommendation 3.4: Explore hiring a contractor to provide SRTS programming at schools, pending availability.

Encouragement Recommendations

Encouragement activities must serve the unique needs of the school community, providing age-appropriate, safe, community-specific, and inclusive opportunities for youth and families to get involved and celebrate transportation options. Many of the following activities are already being done by some of the schools discussed in this plan. When possible, specifics of existing efforts are described in the individual school summaries. The below activities are suggestions for schools without encouragement activities to begin implementation, or are suggestions to expand encouragement activities at already-participating schools.

Recommendation 4.1: Implement ongoing (weekly or monthly) Walk and Roll Days at all schools, including ongoing messaging to the school community about the events. Continue coordinating existing encouragement programs, such as school participation in national events such as Walk and Roll to School Week, Walk to School Day, Bike Month, and Bike to School Day.

Recommendation 4.2: Consider implementing additional encouragement activities, such as a Golden Sneaker Award contest. The contest encourages students to compete for who can bike or walk to school most often, with the winning classroom winning a sneaker spray-painted gold and mounted on a piece of wood. This activity requires minimal, one-time cost to implement.

Recommendation 4.3: Explore low-cost incentives that can be implemented in the classroom, such as 'front of the line' and 'no homework' passes to children who walk and bicycle to school.

ENCOURAGEMENT RESOURCES:

Walk & Bike to School website. Includes ideas for both Walk to School Day/Week/Month, and ongoing Walk and Roll events.

http://www.walkbiketoschool.org/

San Mateo County Office of Education "SRTS Parent and Community Empowerment Toolkit." Includes many additional encouragement activities.

https://www.menlopark.org/DocumentCenter/View/23521/SMCOE-Parent-and-Community-Empowerment-Toolkit

Alameda County SRTS Golden Sneaker Contest. Includes program description, toolkit, and worksheets for various grade levels. Accessed Jan. 2020: http://alamedacountysr2s.org/our-services/plan-an-event/golden-sneaker-contest/

Enforcement Recommendations

Enforcement activities aim to deter unsafe behaviors from everyone traveling near schools and encourage all road users to obey traffic laws and share the road safely around schools.

Recommendation 5.1: Continue to conduct focused traffic enforcement at specific school-related locations. This will include coordinating with individual schools and school districts.

Recommendation 5.2: Direct public safety staff to focus enforcement efforts on the High Injury Network and on driver actions that are most likely to cause a severe injury or fatality, including failure to yield right of way.

Evaluation Recommendations

Evaluating the projects and programs of each of the other "E's" tracks progress and determines which activities, events, and projects are most effective at accomplishing the overall program goals.

Recommendation 6.1: Continue to conduct travel tallies twice year.

EVALUATION RESOURCES

Metropolitan Transportation Commission and Bay Area Air Quality Management District Spare the Air Youth "Evaluating School Commute Programs." Includes detailed instructions for hand tallies, parent surveys, and formalized activity and event tracking, and suggested outcomes and measures for success to use when evaluating a SRTS program. Accessed Jan. 2020: https://sparetheairyouth.org/evaluating-school-commute-programs

SRTS Implementation

Engineering Recommendations Prioritization

The prioritization framework helps the City understand where to start when implementing the engineering recommendations in this plan. The projects listed in the SRTS Plan have been included in the Pedestrian Plan prioritization process. This process assigned a number value to all recommendations. Projects near schools will automatically receive one additional point.

Nevertheless, there are some steps the City can take to expedite key recommendations from this Plan, namely, focusing on the "low-hanging fruit" and areas of high need. The following sections offer a simpler version of the Pedestrian Plan prioritization process to highlight key areas of priority for this Plan.

COST PRIORITIZATION

Many of the proposed engineering improvements around schools in Sunnyvale can be implemented easily and inexpensively using existing Department of Public Works paving, signage, and striping budgets. In order to facilitate the expeditious implementation of this plan, it is recommended that the following types of projects are implemented first as soon as they can be fit into existing Department of Public Works workloads:

- Crosswalk markings, including high-visibility crosswalks and standard crosswalks
- Curb paint, including parking restrictions (red) and loading zones (white)
- Signage
- Striping, such as advance yield/stop lines, paint and post curb extensions, and other street markings
- Vegetation maintenance

EQUITY PRIORITIZATION

Higher-cost projects should be prioritized at schools in areas of equity concerns. Two schools in Sunnyvale are in MTC Communities of Concern: Braly Elementary and Columbia Middle. The prioritization of improvements at these schools serves students and families living in disadvantaged communities.

SAFETY PRIORITIZATION

Finally, higher-cost projects should be prioritized at schools with a history of fatal collisions. Two schools in Sunnyvale are near pedestrian-or bicyclist-related collisions with a fatality. Between 2014-2018, two bicycle-related fatalities and one pedestrian-related fatality occurred near Peterson Middle. Near Fremont High one bicycle-related fatality and one pedestrian-related fatality took place. The prioritization of improvements at these schools serves students and families walking and bicycling in areas of high safety concern.

Table 24. Cost Prioritization

Juris.	Location	School	Improvement				
			Crosswalk	Curb Paint	Signage	Striping	Vegetation
City	E. Maude Ave. Frontage	Bishop Elementary School			x		
City	N. Sunnyvale Ave. / E. Maude Ave.	Bishop Elementary School		x		x	
City	N. Bayview Ave. / E. Maude Ave.	Bishop Elementary School	x	x			
City	N. Sunnyvale Ave. / Hazelton Ave.	Bishop Elementary School	x			x	
City	Borregas Ave. / E. Maude Ave.	Bishop Elementary School	x				
City	N. Bayview Ave. Frontage	Bishop Elementary School			x		
City	N. Bayview Ave. / Hazelton Ave.	Bishop Elementary School	x				
City	Gail Ave. Frontage	Braly Elementary School	x	x		x	
City	Gail Ave. / Iris Ave.	Braly Elementary School	x				
City	Gail Ave. / Daffodil Ct.	Braly Elementary School	x	x	x		
City	Gail Ave. Segment	Braly Elementary School	x	x	x		
City	S. Bernardo Ave. / Heatherstone Wy.	Cherry Chase Elementary School	x	x			
City	Heatherstone Wy. Frontage	Cherry Chase Elementary School		x	x	x	
City	Grape Ave. / Heatherstone Wy.	Cherry Chase Elementary School	x	x			
City	Grape Ave. / Hudson Wy.	Cherry Chase Elementary School		x	x		
City	Grape Ave. / W. Knickerbocker Dr.	Cherry Chase Elementary School					
City	Morse Ave. / Glendale Ave.	Columbia Middle School		x			
City	Morse Ave. / E. Ferndale Ave.	Columbia Middle School	x	x		x	
City	San Diego Ave. / Del Norte Ave.	Columbia Middle School	x	x			
City	Cumberland Dr. Frontage	Cumberland Elementary School		x			
City	Quetta Ave. / Cumberland Dr.	Cumberland Elementary School					
City	Quetta Ave. / Danforth Dr.	Cumberland Elementary School	x				
City	Piper Ave. / Cumberland Dr.	Cumberland Elementary School	x			x	
City	Quetta Ave. / Harvard Ave.	Cumberland Elementary School	x				

Juris.	Location	School	Improvement				
			Crosswalk	Curb Paint	Signage	Striping	Vegetation
City	Harvard Ave. / Hollenbeck Ave.	Cumberland Elementary School	x		x	x	
City / Caltrans	El Camino Real / Hollenbeck Ave. / S. Pastoria Ave.	Cumberland Elementary School	x				
City	Bernardo Ave. / The Dalles Ave.	Cupertino Middle School	x				
City	Bernardo Ave. / Helena Dr.	Cupertino Middle School	x				
City	Wright Ave. / Helena Dr.	Cupertino Middle School	x				
City (Sunnyvale and Cupertino)	Bernardo Ave. / Homestead Rd.	Cupertino Middle School	x				
City	Bernardo Ave.	Cupertino Middle School	x		x		
City	Mary Ave. / Helena Dr.	Cupertino Middle School	x				
City	Kennewick Dr. / Helena Dr.	Cupertino Middle School	x				
City	Central Ave.	Ellis Elementary School		x	x		
City	Central Ave. / E. Olive Ave.	Ellis Elementary School	x	x		x	
City	Kenmore Ave. / E. Olive Ave.	Ellis Elementary School	x				
City	Wilson Ave. / E. Olive Ave.	Ellis Elementary School	x	x			
City	S. Fair Oaks Ave. / E. Olive Ave.	Ellis Elementary School		x			
City	E. Olive Ave.	Ellis Elementary School			x		
District	School Parking Lot & Pull-in Areas	Ellis Elementary School			x		
District	Sandia Ave.	Fairwood Elementary School					x
City	Fairwood Ave. / Sandia Ave.	Fairwood Elementary School	x			x	
City	Fairwood Ave.	Fairwood Elementary School				x	
City	Fairwood Ave. / Redrock Ct.	Fairwood Elementary School	x	x	x	x	
City	Fairwood Ave. / John W. Christian Greenbelt	Fairwood Elementary School	x		x	x	
City	Sydney Dr. / W. Fremont Ave.	Fremont High School	x				
City	Sunnyvale Saratoga Rd. / Fremont Ave.	Fremont High School			x		
City (Cupertino)	Samedra St. / Homestead Rd.	Homestead High School	x				x
City (Sunnyvale and Cupertino)	Mary Ave. / Homestead Rd.	Homestead High School	x				

Juris.	Location	School	Improvement				
			Crosswalk	Curb Paint	Signage	Striping	Vegetation
City (Sunnyvale and Cupertino)	Kennewick Dr. / Homestead Rd.	Homestead High School	x				
District	Drop-Off / Pick-Up Loop	Homestead High School			x	x	
City	Lakechime Dr. / School Parking Lot	Lakewood Elementary School				x	
City	Meadowlake Dr. / Lakechime Dr.	Lakewood Elementary School	x				
City	Meadowlake Dr. / Lakefair Dr.	Lakewood Elementary School	x				
City	Meadowlake Dr. / John W. Christian Greenbelt Crossing	Lakewood Elementary School	x		x	x	
City	Meadowlake Dr. / Lakehaven Dr.	Lakewood Elementary School	x				
City	Silverlake Dr. / John W. Christian Greenbelt Crossing	Lakewood Elementary School	x		x	x	
City	Silverlake Dr. / Lakechime Dr.	Lakewood Elementary School	x				
District	Drop-Off / Pick-Up Area	Lakewood Elementary School			x	x	
City	Teal Dr. / Dunford Wy.	Laurelwood Elementary	x	x		x	
City	Teal Dr. / Lochinvar Ave. / Inverness Wy.	Laurelwood Elementary	x	x			
City	Lochinvar Ave. / Kerry Ave. / Kensington Ave.	Laurelwood Elementary	x				
City (Santa Clara)	Teal Dr. School Frontage	Laurelwood Elementary				x	
City (Santa Clara)	Teal Dr. / Thrush Wy.	Laurelwood Elementary			x	x	
City (Santa Clara)	Swallow Dr. / Lochinvar Ave.	Laurelwood Elementary	x				
City	Revelstoke Dr. / Cheyenne St.	Nimitz Elementary				x	
City	Saskatchewan Dr. / Cheyenne St.	Nimitz Elementary	x			x	
City	Valcartier Dr. / Cheyenne St.	Nimitz Elementary				x	
City	Richelieu Pl. / Alberta Ave.	Nimitz Elementary	x				
City	Los Arboles Ave. / Cascade Dr.	Nimitz Elementary	x	x			
City	Selo Dr. / Cascade Dr.	Nimitz Elementary	x	x			
City	Sydney Dr. / Cascade Dr.	Nimitz Elementary	x				
City / Caltrans	Poplar Ave. / El Camino Real	Peterson Middle School	x			x	

Juris.	Location	School	Improvement				
			Crosswalk	Curb Paint	Signage	Striping	Vegetation
City / Caltrans	Henderson Ave. / El Camino Real	Peterson Middle School	x			x	
City	Henderson Ave. / Bryant Wy.	Peterson Middle School	x				
City	Poplar Ave. / Bryant Wy. / Rosalia Ave.	Peterson Middle School	x		x		x
District	Rosalia Ave.	Peterson Middle School				x	
City	Sequoia Dr. / Iris Ave.	Ponderosa Elementary School	x			x	
City	Ponderosa Ave. / Iris Ave.	Ponderosa Elementary School	x				
City	Ponderosa Ave. / Lantana Dr.	Ponderosa Elementary School	x	x	x	x	
City	Henderson Ave. / Iris Ave.	Ponderosa Elementary School	x				
City	San Miguel Ave. / Amador Ave.	San Miguel Elementary School	x			x	x
City	San Miguel Ave. / Alvarado Ave.	San Miguel Elementary School	x			x	
City	San Junipero Dr. / Alvarado Ave.	San Miguel Elementary School	x		x	x	
District	San Miguel Ave. School Frontage	San Miguel Elementary School			x		
City	Bittern Dr. / Dunholme Wy.	Stocklmeir Elementary School	x			x	
City	Chickadee Ct. / Dunholme Wy.	Stocklmeir Elementary School				x	
City	Blackhawk Dr. / Dunholme Wy.	Stocklmeir Elementary School				x	
City	Floyd Ave. / Dunholme Wy.	Stocklmeir Elementary School	x				
District	School Drop-Off Loop	Stocklmeir Elementary School			x		
District	West Parking Lot	Stocklmeir Elementary School	x				
City	Mango Ave.	Sunnyvale Middle School			x	x	
City	S. Mary Ave. / Knickerbocker Dr.	Sunnyvale Middle School				x	
District	On-Campus Improvements	Sunnyvale Middle School			x		
City	Mary Ave. / Carson Dr.	Vargas Elementary School	x				x
City	Carson Dr. near Back Entrance / School Bus Stop	Vargas Elementary School				x	
City	Leota Ave. / Carson Dr.	Vargas Elementary School	x				
City	Leota Ave. / School Drop Off Loop	Vargas Elementary School				x	
City	Leota Ave. / Washington Ave.	Vargas Elementary School	x				
City	Mary Ave. / Washington Ave.	Vargas Elementary School	x				

Juris.	Location	School	Improvement				
			Crosswalk	Curb Paint	Signage	Striping	Vegetation
City	Belleville Wy. / Parking Lot Entrance	West Valley Elementary School	x		x	x	
City	Belleville Wy. and Outbound School Driveway	West Valley Elementary School	x				
City (Santa Clara)	Calabazas Boulevard / Monroe St.	Wilcox High School	x				
City (Santa Clara)	Marchese Wy. / Monroe St.	Wilcox High School	x				
City (Santa Clara)	Meadowbrook Dr. / Monroe St.	Wilcox High School	x				
City (Santa Clara)	Chromite Dr. / Monroe St.	Wilcox High School	x				
City (Santa Clara)	Calabazas Blvd. / Georgetown Pl.	Wilcox High School				x	

Juris.	Location	School	Improvement
EQUITY PRIORITIZATION			
City	Gail Ave. Frontage	Braly Elementary School	Curb extensions
City	Gail Ave. / Iris Ave.	Braly Elementary School	Curb extensions
City	Gail Ave. / Goldenrod Ct.	Braly Elementary School	Crosswalk and stop warrant study
City	Gail Ave. / Daffodil Ct.	Braly Elementary School	Curb extensions
City	Iris Ave. / Jackpine Ct.	Braly Elementary School	New school entrance point; park and walk location
City	Gail Ave. Segment	Braly Elementary School	Curb extensions
District	On-Campus Improvements	Braly Elementary School	Secure bike parking
City	Morse Ave. / Glendale Ave.	Columbia Middle School	Curb extensions, curb ramps
City	Morse Ave. / E. Ferndale Ave.	Columbia Middle School	Curb extensions; speed feedback signs; curb ramps
City	San Diego Ave. / Del Norte Ave.	Columbia Middle School	Curb ramp; curb extension; move curb
City	San Diego Ave. / E. Hemlock Ave.	Columbia Middle School	Make gate in parking lot ADA accessible
SAFETY PRIORITIZATION			
City	Sunnyvale Saratoga Rd.	Fremont High School	Upgrade Class II bicycle lane to Class IV
City	Sydney Dr. / W. Fremont Ave.	Fremont High School	Upgrade RRFB to HAWK; curb extension
City	Sunnyvale Saratoga Rd. / Fremont Ave.	Fremont High School	Upgrade timing and consider adding signal phasing; curb extension and directional curb ramps; protected intersection
District	On-Campus Improvements	Fremont High School	Explore bicycle parking options, possible path upgrade
City / Caltrans	Poplar Ave. / El Camino Real	Peterson Middle School	Curb extensions; sharrows; modify vehicular flow
City / Caltrans	Henderson Ave. / El Camino Real	Peterson Middle School	Curb extensions; sharrows; modify vehicular flow
City	Bryant Wy. / Poplar Ave. / Rosalia Ave.	Peterson Middle School	Consider installing missing sidewalk
City	Marion Wy. / Norman Dr. / Oriole Wy.	Peterson Middle School	Fill in sidewalk gap
District	Rosalia Ave.	Peterson Middle School	Construct sidewalk; curb ramps

Cost Estimates

Planning-level cost estimates were developed for many of the infrastructure improvements recommended in the school improvement plans. The estimates are based on the design and construction costs for comparable projects in nearby jurisdictions. Additionally, estimated program costs were developed through consultation with program service providers. Program costs assume hiring a contractor to implement the activities and do not reflect City or school staff time. A list of cost estimates is shown in Table 25.

These estimates do not include maintenance and operations costs. The City will have to budget funding for annual maintenance and electricity costs, as well as replacement costs every 6-15 years.

For any of the roadway design recommendations (not including parking restrictions), the City will evaluate opportunities for including green stormwater infrastructure as part of the overall implementation. The GSI Plan identifies preliminary planning level typical costs of $276,000-$539,000 per acre for green streets. Specific costs need to be evaluated on a project-by-project basis and, therefore, are not included in the estimates provided in Table 25.

Table 25. Cost Estimates

Acronyms **EA** Each **LF** Linear Foot **LS** Lump Sum

			Construction		Design (15%)	
Improvement	Notes	Unit	Low	High	Low	High
ROADWAY DESIGN						
Curb Extension / Modify Skewed Intersection	Per corner. No utility relocations. Assumed 30 percent contingency for storm drainage relocation to include green stormwater infrastructure included in cost. Cost depends on size of intersection, drainage requirements and whether regrading of intersection is required.	**EA**	$65,000	$390,000	$9,750	$58,500
Curb Radius Reduction	Per corner. No utility relocations. Assumed 30 percent contingency for storm drainage relocation to include green stormwater infrastructure included in cost. Cost depends on size of intersection, drainage requirements and whether regrading of intersection is required.	**EA**	$65,000	$390,000	$9,750	$58,500
Parking Restrictions	Red paint at curb	**LF**	$5	$20	$1	$3
Right-Turn Slip Lane Removal(s)	No utility relocations. Assumed 30 percent contingency for storm drainage relocation to include green stormwater infrastructure included in cost.	**EA**	$65,000	$390,000	$9,750	$58,500
Protected Intersection	Per intersection. No utility relocations. Assumed 30 percent contingency for storm drainage relocation to include green stormwater infrastructure included in cost. Cost depends on size of intersection, drainage requirements and whether regrading of intersection is required.	**EA**	$520,000	3,000,000	$78,000	$585,000
Sidewalk	Low construction cost is the base cost of $10/square foot for a five foot wide sidewalk and high construction cost is a ten foot wide sidewalk.	**LF**	$50	$100	$7.50	$15

			Construction		Design (15%)	
Improvement	Notes	Unit	Low	High	Low	High
CROSSING IMPROVEMENTS						
High Visibility Crosswalk Marking(s)	Cost varies by length of crosswalk and color	LF	$15	$25	$2	$4
Advance Yield/ Stop Line(s)	Thermoplastic paint	LF	$8	$20	$1	$3
Curb Ramp(s)	No utility relocations. Assumed 30 percent contingency for storm drainage relocation to include green stormwater infrastructure included in cost.	EA	$4,550	$13,000	$683	$1,950
Pedestrian Refuge Island(s)	Cost varies with size of island.	EA	$10,000	$50,000	$1,500	$7,500
SIGNS, SIGNALS, AND SIGNAL TIMING						
RRFB	Assumes solar installation. Does not include electrical connection or ongoing electricity costs.	EA	$60,000	$100,000	$9,000	$15,000
HAWK Beacon	Does not include ongoing electricity costs.	EA	$500,000	$800,000	$75,000	$120,000
Traffic and Pedestrian Signal Changes	Per intersection. Costs vary by type of change and can include a pedestrian countdown timer, accessible pedestrian signal, leading pedestrian interval , and/ or protected left-turn phasing. Low cost assumes a single technician reprogramming a controller with no new equipment installed. High cost includes all new equipment including poles and controller cabinet.	LS	$2,500	$1,000,000	$375	$150,000
Signage	New sign with foundation and pole	EA	$375	$500	$56	$75
Speed feedback sign	Assumes solar installation. Does not include electrical connection or ongoing electricity costs.	EA	$14,000	$25,000	$2,100	$3,750

Notes: All costs are shown in 2019 dollars. Design cost estimates assume 10 to 15 percent of construction costs.

Improvement	Notes	Unit	Low	High
EDUCATION				
Bicycle and Pedestrian Skills Training (K-6)	Interactive in-class presentations teach valuable walking and bicycling skills. Each presentation lasts 30-50 minutes (depending on time available) and involves one classroom of students. Customized based on grade level.	**Per school day, assuming four classes at one school**	$600	$1,200
Bicycle and Pedestrian Rodeo (K-6)	On the blacktop, students will have the opportunity to practice safe pedestrian and bicycling behaviors learned during the in-class lessons. Customized based on grade level.	**Per event**	$510	$1,005
Family Bike Night (K-8)	Students and parents come together on campus after school to learn more about biking for transportation, improve bicycling skills, learn proper helmet fit. Attendees can also participate in interactive displays and activities such as bike blender, stationary bike race, and bicycling skills courses. Local bike shops or mobile bike repair may be invited to provide bicycle safety checks, bike repairs, and offer maintenance tips. Typical event can serve up to 400 participants and last 2-3 hours.	**Per event**	Elements of Family Bike Night can be integrated into other school events at lower cost	$1,800
Mobile Bike Repair Workshop (K-12)	This mobile program brings experienced mechanics to schools to perform repairs and replace worn-out parts.	**Per event**	$650	--
After School Bike Club	Students receive bike safety instruction, learn basic bike maintenance, and practice riding in a group. Culminates in on-street group ride(s) planned by students. Sessions are intended to last up to 2 hours.	**Per event**	$425	Depends on number of sessions and frequency
Drive Your Bike Year-Long Program (6-12)	This program aims to increase helmet usage and safe bicycling practices among middle school and high school students. Includes certified instructors teaching “Drive Your Bike” curriculum and administration of pre- and post-instruction tests to evaluate program.	**Per year-long program**	$15,000	$30,000
Parent/Teachers/ Volunteer Workshops	Aimed at educating parents about traffic and pedestrian safety, these workshops provide resources and training necessary to lead walking school buses, bike trains, and other activities.	**Per event**	--	$500

Improvement	Notes	Unit	Low	High
ENCOURAGEMENT				
Walk and Bike to School Days	Events that put the skills students and parents have learned into practice. Can be ongoing (e.g. recurring "Walk & Roll Fridays") or semi-annual (e.g. "International Walk and Bike to School Week"). Requires participation of an active school site volunteer.	**Per event, depending on scope**	$450	$2,000
EVALUATION				
Student Travel Tallies	Hand tallies gather information about how students get to school on select dates. Surveys administered at the beginning and throughout the program will help track changes in walking and bicycling behavior. Includes distribution and collection of the forms, teacher training on their use, and data analysis facilitation.	**Per hour**	$85	$125
Parent Travel Surveys	These take-home or online surveys ask for information about factors that affect whether parents allow their children to walk or bike to school, the presence of key safety-related conditions along routes to school, and related background information. Includes coordination with the school to have the surveys distributed and collected, and data entry facilitation.	**Per hour**	$85	$125

Funding Sources

LOCAL AND REGIONAL GRANT PROGRAMS

2016 Measure B

Santa Clara voters approved a half-cent sales tax in 2016 to fund transportation infrastructure investments. Measure B is expected to raise $6.3 billion (2017 dollars) over 30 years to fund nine program categories; $250 million has been allocated towards the Bicycle and Pedestrian Program. Within the Bicycle and Pedestrian Program, funds are divided between capital projects (80 percent), education and encouragement programs (15 percent) and planning studies (5 percent). The education and encouragement funds will be allocated to cities based on a population formula with a $10,000 annual minimum allocation per city; $250,000 will be reserved for countywide programs.

Funds are programmed by VTA.

Transportation Fund for Clean Air County Program Manager Fund

The Bay Area Air Quality Management District (BAAQMD) administers funds to the VTA for projects that reduce vehicle emissions including bicycle projects. These funds come from a $4 vehicle registration surcharge in Bay Area counties and can be used as a match for competitive state or federal programs.

Funds are programmed by VTA.

One Bay Area Grant

The One Bay Area grant program (OBAG) emphasizes funding for projects within Priority Development Areas (PDAs) in the region that are in-line with housing and land-use goals. Projects that are within or provide access to these PDAs could qualify for OBAG grants.

Funds are programmed by the Metropolitan Transportation Commission (MTC) and the Santa Clara Valley Transportation Authority (VTA).

Transportation Development Act Article 3

Transportation Development Act Article 3 (TDA 3) provides funding annually for bicycle and pedestrian projects. Two percent of TDA funds collected within the county are used for TDA 3 projects. MTC policies require that all projects be reviewed by a Bicycle and Pedestrian Advisory Committee or similar body before approval.

Funds are programmed by VTA.

Transportation for Livable Communities Program

Designed to support community-based transportation projects that bring “new vibrancy” to downtown areas, commercial cores, neighborhoods, and transit corridors. The projects resulting from these grants are intended to provide for a range of transportation choices including bicycling, should support connections between transportation and land use, and should be developed through an inclusive community planning process.

Funds are programmed by MTC.

Vehicle Emissions Reduction Based at Schools Program

The Vehicle Emissions Reduction Based at Schools (VERBS) program receives funds from MTC's Climate Initiative SRTS Program. The goals of this include reducing greenhouse gases by promoting walking, biking, transit, and carpooling to school. These federal CMAQ funds are allocated to each county based on school enrollment. The VERBS Program places an additional focus on safety and reducing collisions.

Funds are programmed by VTA.

Bicycle Facilities Grant Program

Throughout the nine-county Bay Area, the Bicycle Facilities Grant program strives to reduce emissions from on- road vehicles and improve air quality by helping residents and commuters shift to bicycling and walking as alternatives to driving for short distances and first- and-last mile trips.

The Bay Area Air Quality Management Distict (BAAQMD) has grant programs that fund both on-street facilities and bicycle parking facilities. Funding comes from the BAAQMD's Transportation Fund for Clean Air.

Funds are programmed by BAAQMD or the VTA.

Climate Initiatives Innovative Grants Fund

MTC's Climate Initiatives Program promotes innovative ways to reduce greenhouse gas emissions in the Bay Area; and taps federal funding for a pair of competitive grant programs. Innovative grants of $1 million and up are used to support high-impact projects that can be replicated around the region.

Funds Programmed by MTC

Lifeline Transportation Program

Uses both state and federal funds to provide Lifeline grants for projects that meet mobility and accessibility needs in low-income communities across the Bay Area. MTC establishes new guidelines for each cycle of Lifeline grants,but the goal is the same each time: fund community-based transportation projects developed through a collaborative and inclusive process. Lifeline projects must address transportation gaps or barriers identified in community-based transportation plans or other local planning efforts in low-income neighborhoods.

Funds programmed by MTC

STATE AND FEDERAL GRANT PROGRAMS

Active Transportation Program (ATP) Grant

Approximately every two years, Caltrans offers grant funding for active transportation infrastructure projects. Some SB 1 funds are used to help fund ATP projects. Applicants can include non-infrastructure (programmatic) projects as part of their application including SRTS activities. These include conducting walk audits, developing and implementing Walking School Buses, and "train the trainer" classes. Funding is highly competitive and mainly focuses on communities of concern. The city will need to work directly with the school district(s) and schools to be eligible for this grant application.

Funds are programmed by the California Transportation Commission (CTC).

Affordable Housing and Sustainable Communities Program

The Affordable Housing and Sustainable Communities Program (AHSC) funds land-use, housing, transportation, and land preservation projects that support infill and compact development that reduces greenhouse gas (GHG) emissions. Projects must fall within one of three project area types: transit-oriented development, integrated connectivity project, or rural innovation project areas. Fundable activities include affordable housing developments, sustainable transportation infrastructure, transportation-related amenities, and program costs.

Funds are programmed by the Strategic Growth Council and implemented by the Department of Housing and Community Development.

Urban Greening Grants

Urban Greening Grants support the development of green infrastructure projects that reduce GHG emissions and provide multiple benefits. Projects must include one of three criteria, most relevantly: reduce commute vehicle miles traveled by constructing bicycle paths, bicycle lanes or pedestrian facilities that provide safe routes for travel between residences, workplaces, commercial centers, and schools. Eligible projects include green streets and alleyways and non-motorized urban trails that provide safe routes for travel between residences, workplaces, commercial centers, and schools.

Funds are programmed by the California Natural Resources Agency.

Highway Safety Improvement Program

Caltrans offers Highway Safety Improvement Program (HSIP) grants every one to two years. Projects on any publicly owned road or active transportation facility are eligible, including bicycle and pedestrian improvements. HSIP focuses on projects that explicitly address documented safety challenges through proven countermeasures, are implementation-ready, and demonstrate cost-effectiveness.

Funds are programmed by Caltrans.

Office of Traffic Safety Grant

The Caltrans Office of Traffic Safety (OTS) makes grants available to local and state public agencies for programs that help them enforce traffic laws, educate the public in traffic safety, and provide varied and effective means of reducing fatalities, injuries, and economic losses from collisions. Funding can be used for safety trainings, bike helmets, and traffic safety campaigns, among other activities.

Funds are programmed by OTS.

OTHER STATE PROGRAMS

Local Partnership Program

This program provides SB1 funds to local and regional agencies that have passed sales tax measures, developer fees, or other transportation-imposed fees to fund road maintenance and rehabilitation, sound walls, and other transportation improvement projects. Jurisdictions with these taxes or fees are eligible for a formulaic annual distribution of no less than $100,000. These jurisdictions are also eligible for a competitive grant program. Local Partnership Program funds can be used for a wide variety of transportation purposes including roadway rehabilitation and construction, transit capital and infrastructure, bicycle and pedestrian improvements, and green infrastructure.

Funds are programmed by the CTC.

Road Maintenance and Rehabilitation Program

Senate Bill 1 (SB1) created the Road Maintenance and Rehabilitation Program (RMRP) to address deferred maintenance on state highways and local road systems. Program funds can be spent on both design and construction efforts. On-street active transportation related maintenance projects are eligible if program maintenance and other thresholds are met. Funds are allocated to eligible jurisdictions.

Funds are programmed by the State Controller's Office with guidance from the CTC.

Implementing Safe Routes to School Improvements

Packaging multiple recommended projects together may help the City bundle low-cost projects or create a competitive submission for a grant funding application. Securing funding for multiple projects at once can help the City of Sunnyvale deliver this Plan's recommendations in a more comprehensive, accelerated manner. Aggregating projects also helps the City meet minimum funding request requirements from larger grant funding applications.

This includes the following packages:

- **Cost prioritization:** To address all low cost improvements recommended at all schools.
- **Equity prioritization:** The City can focus on improvements surrounding schools in disadvantaged areas, including Braly Elementary and Columbia Middle.
- **Safety prioritization:** To address historic collisions near schools, recommendations at Peterson Middle and Fremont High can be implemented.

SRTS projects can be quite competitive on their own as many grant programs in California score grant funding applications competitively if they can demonstrate that they directly increase the safety and comfort for students to walk or bike to school. Grant programs like ATP will score grant funding applications more competitively if they help to address the needs of disadvantaged communities; in Sunnyvale, the competitive schools would be Braly Elementary and Columbia Middle. Additional projects identified in the Bicycle Plan and the Pedestrian Plan could be bundled with improvements around these schools. Table 26 shows the cost of bundling the prioritized SRTS improvements.

Table 26. Implementation Packages by Prioritization

Improvement	Qty.	Unit	Unit Cost Low	Unit Cost High	Construction Total Low	Construction Total High	Design (15%) Design Low	Design (15%) Design High
COST PRIORITIZATION - LOW COST IMPROVEMENTS AT ALL SCHOOLS								
High Visibility Crosswalk (assumes 40 foot crosswalk length)	6720	LF	$15	$25	$100,800	$168,000	$15,120.00	$25,200.00
Red Curb Paint	600	LF	$5	$20	$3,000	$12,000	$450.00	$1,800.00
Signage	27	EA	$375	$500	$10,125	$13,500	$1,518.75	$2,025.00
Striping	1152	LF	$8	$20	$9,216	$23,040	$1,382.40	$3,456.00
Vegetation (varies by project, costs unknown)	-	SF	-	-	-	-		
Total					**$123,141**	**$216,540**	**$18,471.15**	**$32,481.00**
EQUITY PRIORITIZATION - IMPROVEMENTS AT BRALY ELEMENTARY AND COLUMBIA MIDDLE								
Curb extension	20	EA	$65,000	$390,000	$1,300,000	$7,800,000	$195,000.00	$1,170,000.00
Speed feedback sign	2	EA	$14,000	$25,000	$28,000	$50,000	$4,200.00	$7,500.00
Curb ramp	3	EA	$4,550	$13,000	$13,650	$39,000	$2,047.50	$5,850.00
Move curb	1	EA	$65,000	$390,000	$65,000	$390,000	$9,750.00	$58,500.00
Total					**$1,406,650**	**$8,279,000**	**$210,997.50**	**$1,241,850.00**
SAFETY PRIORITIZATION - IMPROVEMENTS AT PETERSON MIDDLE AND HOMESTEAD HIGH								
Curb extension	8	EA	$65,000	$390,000	$520,000	$3,120,000	$78,000.00	$468,000.00
HAWK	1	EA	$500,000	$800,000	$500,000	$800,000	$75,000.00	$120,000.00
Signal changes	1	EA	$2,500	$1,000,000	$2,500	$1,000,000	$375.00	$150,000.00
Curb ramp	3	EA	$4,550	$13,000	$13,650	$39,000	$2,047.50	$5,850.00
Protected intersection	1	EA	$520,000	$3,000,000	$520,000	$3,000,000	$78,000.00	$450,000.00
Sidewalk	170	LF	$50	$100	$8,500	$17,000	$1,275.00	$2,550.00
Total					**$1,564,650**	**$7,976,000**	**$234,697.50**	**$1,196,400.00**

APPENDIX A

Bicycle Recommendations

St.	Start	End	Proposed Facility Class	Miles
5th St. (Private St.)	Mathilda Ave.	Bordeaux Dr.	1	0.2
Ahwanee Ave.	Mathilda Ave.	Borregas Ave.	2	0.5
Ahwanee Ave.	Borregas Ave.	Fair Oaks Ave.	2	0.6
Ahwanee Ave.	Fair Oaks Ave.	San Juniper Dr.	3	0.3
Ahwanee Ave.	San Junipero Dr.	San Rafael St.	3	0.4
Alberta Ave.	Hollenbeck Ave.	Sunnyvale Saratoga Rd.	3	0.5
Alberta Ave. - Norland Dr. - Endicott Dr. - Saskatchewan Dr. - Cheyenne Dr.	Hollenbeck Ave.	Sunnyvale Saratoga Rd.	3B	0.5
Almanor Ave.	Vaqueros Ave.	Mathilda Ave.	2	0.2
Almanor Ave.	Mary Ave.	Vaqueros Ave.	2B	0.3
Alt Route North of Tasman Dr. Connector	East Java Dr.	Persian Dr.	1	0.1
Aster Ave.	Evelyn Ave.	Barberry Terr.	2	0.2
Bay Trail Connector	Mathilda Ave.	Bay Trail	1	0.1
Bayview Ave.	Evelyn Ave.	Old San Francisco Rd.	3B	0.6
Belleville Wy.	Fremont Ave.	Homestead Rd.	3B	1.0
Bernardo Ave.	El Camino Real	Blair Ave.	2B	0.1
Bernardo Ave.	Blair Ave.	Brookfield Ave.	2B	0.1
Bernardo Ave.	Brookfield Ave.	Heatherstone Wy.	2B	0.2
Bernardo Ave.	Ayala Dr.	Olive Ave.	3	0.6
Bernardo Ave. (Stevens Creek Trail segment)	Fremont Ave.	Homestead Rd.	1	1.1
Bernardo Ave. (Stevens Creek Trail segment)	Remington Dr.	Fremont Ave.	2	0.5
Bike/Ped Bridge	Mountain View	Steven's Creel Trail	1	0.1
Bittern Dr.	Inverness Wy.	Harwick Dr.	3	0.1
Blackhawk Dr.	Dunholme Wy.	Locksunart Wy.	3B	0.4
Blair Ave.	Quetta Ave.	Bernardo Ave.	3B	0.9
Blue Jay Dr.	Blackhawk Dr.	Homestead Rd.	3B	0.1
Bobwhite Ave.	Fremont Ave.	Bobolink Cir.	3B	0.0
Bobwhite Ave. - Floyd Ave.	Bobolink Cir.	Dunholme Wy.	3B	0.5
Borregas Ave.	Caribbean Dr.	Java Dr.	2	0.4
Borregas Ave.	Java Dr.	Gibraltar Dr.	2	0.1
Borregas Ave.	Gibraltar Dr.	Moffett Park Dr.	4	0.4
Borregas Ave.	Maude Ave.	Ahwanee Ave.	2B	0.6
Borregas Ave.	Weddell Dr.	Persian Dr.	2B	0.4
Britton Ave.	Duane Ave.	East Channel Trail	3B	0.1
Bryant Wy.	Eleanor Wy.	Sage Hen Wy.	3B	0.5
Calabazas Creek Trail	Central Expy.	Monroe St.	1	0.8
Calabazas Creek Trail	Existing Trail	Central Expy.	1	1.2
California Ave.	Mary Ave.	Sunnyvale Ave.	2	1.0
California Ave.	Sunnyvale Ave.	Fair Oaks Ave.	2	0.5
Caribbean Dr.	Moffett Park Dr.	Bordeaux Dr.	1	1.6

St.	Start	End	Proposed Facility Class	Miles
Carlisle Wy.	Bobwhite Ave.	Mallard Wy.	3B	0.7
Cascade Dr.	Bernardo Ave.	Cordilleras Ave.	3	1.2
Caspian Ct.	West Channel Trail	Geneva Dr.	4	0.4
Central Expy. Undercrossing	Bernardo Ave.	Bernardo Ave.	1	0.1
Cezanne Dr. - Cumulus Dr. - Azure St.	El Camino Real	Remington Dr.	3B	0.7
Cordilleras Ave.	Cascade Dr.	Fremont Ave.	3B	0.2
Crawford Dr.	Spinosa Dr.	Sunnyvale Saratoga Rd.	3B	0.3
Crescent Ave.	Sunnyvale Saratoga Rd.	Picasso Dr.	3	0.5
Crescent Ave.	Picasso Dr.	Rembrandt Dr.	3	0.0
D St. (Private St.)	Mary Ave.nue Bridge	5th St.	4	0.4
Danforth Dr.	Quetta Ave.	Russett Dr.	3B	0.2
Dartshire Wy.	Flamingo Wy.	Wolfe Rd.	3B	0.4
Duane Ave.	Borregas Ave.	Fair Oaks Ave.	3	0.6
Dunford Wy.	Oriole Ave.	Teal Dr.	3B	0.4
Dunholme Wy.	Blackhawk Dr.	Flamingo Wy.	3B	0.4
East Channel Trail	Carribbean Dr.	Inverness Wy.	1	5.0
El Camino Real	City Limit	City Limit	4, 1 (Based on ROW)	3.7
Eleanor Wy.	Bryant Wy.	Wolfe Rd.	3B	0.1
Elmira Dr.	Hanover Ave.	Quetta Ave.	3B	0.1
Evelyn Ave.	Bernardo Ave.	Deodar Wy.	2B, 4	1.9
Fair Oaks Ave.	Ahwanee Ave.	Balsam Ave.	2	0.4
Finch Wy. - Londonderry Dr.	Inverness Wy.	Londonderry Dr.	3B	0.3
Flamingo Wy.	Dartshire Wy.	Durholme Wy.	3B	0.1
Flicker Wy. - Heron Ave. Route	East Channel Trail	Homestead Rd.	3B	1.2
Fremont Ave.	Belleville Wy.	SR 85 On/Off Ramps	4	0.1
Fremont Ave.	SR 85 On/Off Ramps	SR 85 On/Off Ramps	4	0.1
Fremont Ave.	Bernardo Ave.	Wright Ave.	4	0.2
Fremont Ave.	Wright Ave.	Mary Ave.	4	0.2
Fremont Ave.	Oxbow Ct.	Rembrandt Dr.	4	0.6
Fremont Ave.	Rembrandt Dr.	Sunnyvale Saratoga Rd.	4	0.5
Fremont Ave.	Rembrandt Dr.	Rousseau Dr.	4	0.1
Fremont Ave.	Rousseau Dr.	Arleen Ave.	4	0.1
Fremont Ave.	Arleen Ave.	Kingfisher Wy.	4	0.1
Fremont Ave.	Kingfisher Wy.	Wolfe Rd.	4	0.1
Fremont Ave.	Wolfe Rd.	El Camino Real	4	0.1
Fremont Ave.	Oxbow Ct.	Sunnyvale Saratoga Rd.	4	0.4
Garner Dr. - Bradford Dr. - Ross Dr.	John W. Christian Greenbelt	Weddell Dr.	3B	0.2
Gibraltar Dr.	Borregas Ave.	Innsbruck Dr.	4	0.3

St.	Start	End	Proposed Facility Class	Miles
Gibraltar Dr.	Moffett Park Dr.	Java Dr.	2B	0.2
Hanover Ave.	Heatherstone Wy.	Elmira Dr.	3B	0.2
Harwick Wy.	Bittern Dr.	Alberta Ave.	3	0.1
Heatherstone Wy.	Stevens Creek Trail	Hanover Ave.	3B	1.0
Helena Dr.	Bernardo Ave.	Wright Ave.	3B	0.3
Helena Dr.	Mary Ave.	Lewiston Dr.	3B	0.4
Helena Dr.	Wright Ave.	Samedra St.	3B	0.2
Helena Dr.	Samedra St	Mary Ave.	3B	0.1
Henderson Ave.	Lily Ave.	Bryant Wy.	3	0.8
Hollenbeck Ave.	Alberta Ave.	The Dalles Ave.	2	0.1
Homestead-Bernardo Connector	Homestead Rd.	Bernardo Ave.	1	0.1
Hyde Park Dr.	Russet Dr.	Spinosa Dr.	3B	0.2
Indian Wells Ave.	Santa Real Ave.	Duane Ave./Stewart Ave.	2	0.4
Innovation Wy.	Moffett Park Dr.	Bordeaux Dr.	4	0.6
Innsbruck Dr.	Gibraltar Dr.	Java Dr.	1	0.2
Inverness Wy.	Bittern Dr.	Teal Dr.	3	1.5
Iowa Ave.	Mathilda Ave.	Sunnyvale Ave.	2B	0.3
Iris Ave.	Fair Oaks Ave.	Gail Ave.	3	0.3
Java Dr.	Crossman Ave.	Mathilda Ave.	4	0.9
Kifer Rd.	Commercial St.	Lawrence Expy.	2B	0.7
Kifer Rd.	Lawrence Expy.	Uranium Dr.	2B	0.7
Kifer Rd.	East Channel Trail	Commercial St.	2B	0.4
Kinnewick Dr.	The Dallas Ave.	Homestead Ave.	3B	0.6
La Conner Dr.	Sunnyvale Saratoga Rd.	Tenaka Pl.	3B	0.1
Lakedale Wy.	Silverlake Dr.	Lakedale Wy. Crossing	2	0.2
Lawrence Expy.	Arques Ave.	Reed Ave.	1	1.0
Lime Dr.	Remington Dr.	Yorktown Dr.	3B	0.5
LSAP Trail	Knifer Rd.	Trail	1	0.2
LSAP Trail	Trail	Sonora Ct.	1	0.5
LSAP Trail	Corvin Dr.	Uranium Dr.	1	0.8
LSAP Trail	Kifer Rd.	Trail	1	0.1
LSAP Trail	Sonora Ct.	Aster Ave.	1	0.1
Lynn Wy.	Mango Ave.	Ramona Ave.	3	0.0
Mallard Wy.	Carlisle Wy.	Dartshire Wy.	3B	0.1
Manet Dr.	Crescent Ave.	Fremont Ave.	3	0.2
Mango Ave.	Remington Dr.	Lynn Wy.	3	0.6
Marion Wy.	Wolfe Rd.	Oriole Ave.	3B	0.3
Mary Ave. Overcrossing	Mary Ave.	D St.	4	0.5
Mary Ave.	Almanor Ave.	Becenia Ave.	4	0.3
Mary Ave.	Benecia Ave.	Maude Ave.	4	0.2
Mary Ave.	Maude Ave.	Central Expy.	4	0.5
Mary Ave.	Central Expy.	California Ave.	4	0.1

St.	Start	End	Proposed Facility Class	Miles
Mary Ave.	California Ave.	Evelyn Ave.	4	0.2
Mathilda Ave.	Olive Ave.	El Camino Real	1	0.2
Mathilda Ave.	Iowa Ave.	Olive Ave.	2B	0.1
Mathilda Ave.	Washington Ave.	Iowa Ave.	2	0.2
Mathilda Ave.	5th Ave.	Innovation Wy.	4	0.2
Mathilda Ave.	5th Ave.	1st Ave.	2	0.4
Mathilda Ave.	Innovation Wy.	Moffett Park Dr.	4	0.2
Mathilda Ave.	Del Rey Ave.	Almanor Ave./ Ahwanee Ave.	2B	0.3
Maude Ave.	City Boundary	Mathilda Ave.	2B	1.0
Maude Ave.	Mathilda Ave.	San Angelo Ave.	2B	0.1
Maude Ave.	Bayview Ave.	Wolfe Rd.	2B	0.4
Moffett Park Dr.	Ellis St.	East Channel Trail	1	2.6
Morse Ave.	California Ave.	Maude Ave.	3B	0.4
Neighborhood Path	Londonderry Dr.	Homestead Rd.	1	0.1
Nettle Pl.	Poplar Ave.	Ponderosa Ave.	3B	0.1
New Roadway	Lawrence Expy.	New Roadway	2	2.0
New St.	Kifer Rd	LSAP Trail	2	0.2
New Trail	Mathilda Ave.	Sunnyvale Saratoga Rd.	1	0.2
Norman Dr.	Dunford Wy.	Bryant Wy.	3B	0.4
Old San Francisco Rd.	Sunnyvale Ave.	Wolfe Rd.	4	1.0
Parking Lot between Motel 6 and Applied Chemicals	Vaqueros Ave.	Mathilda Ave.	1	0.1
Pastoria Ave.	Olive Ave.	El Camino Real	2	0.1
Pastoria Ave.	Evelyn Ave.	Olive Ave.	3	0.7
Persian Dr.	East Java Dr.	Quality Inn Parking Lot	2	0.7
Pome Ave.	Sheraton Dr.	Fremont Ave.	3B	0.4
Ponderosa Ave.	Nettle Place.	Iris Ave.	3B	0.2
Poplar Ave.	Bryant Wy.	Nettle Pl.	3B	0.6
Quail Ave.	Dunford Wy.	Homestead Rd.	3	0.5
Quetta Ave.	Pear Ave.	Elmira Dr.	3B	0.2
Ramona Ave.	Lynn Wy.	Blair Ave.	3	0.2
Reed Ave.	Evelyn Ave.	Willow Ave.	2B	0.3
Reed Ave.	Wolfe Rd.	Evelyn Ave.	2B	0.6
Rembrandt Dr.	Crescent Ave.	Fremont Ave.	3	0.2
Remington Dr.	Bernardo Ave.	Sunnyvale Saratoga Rd.	2B	1.5
Remington Dr.	Sunnyvale Saratoga Rd.	El Camino Real	2B	0.5
Robin Way.	Bernardo Ave.	Knickerbocker Dr.	3B	0.5
Russet Dr.	Danforth Dr.	Hyde Park Dr.	3B	0.3
Sage Hen Wy. - Castleton Wy.	Teal Dr.	Bryant Wy.	3B	0.2
San Junipero Dr.	Alvardo Ave.	Ahwanee Ave.	3B	0.1
San Miguel Ave.	Alvardo Ave.	Ahwanee Ave.	3B	0.3
San Rafael St.	Ahwanee Ave.	Duane Ave.	3	0.3

St.	Start	End	Proposed Facility Class	Miles
San Zeno Wy.	Kifer Rd.	Sonora Ct.	2	0.2
Santa Vittoria Ter.	Kifer Rd.	Sonora Ct.	2	0.2
Sequoia Dr. - Bluebonnet Dr. - Pin Oak Dr.	Iris Ave.	Evelyn Ave.	3B	0.6
Shared-Use Path	Belleville Wy.	Stevens Creek Trail	1	0.2
Sheraton Dr.	Pome Ave.	Spinosa Dr.	3	0.5
Silverlake Dr.	Lakedale Wy.	JWC Greenbelt	3B	0.1
Sonora Ct.	Tunnel	Willow Ave.	2	0.3
Spinosa Dr.	Torrington Dr.	Crawford Dr.	3B	0.7
Stevens Creek Trail	City Limits	Heatherstone Wy.	1	1.4
Sunnyvale Ave.	Maude Ave.	Hendy Ave.	2B	0.7
Sunnyvale Ave.	Hendy Ave.	Evelyn Ave.	2B.4	0.1
Sunnyvale Ave.	Evelyn Ave.	Washington Ave.	4	0.1
Sunnyvale Ave.	Washington Ave.	McKinley Ave.	2B	0.1
Sunnyvale Ave.	McKinley Ave.	Iowa Ave.	2B	0.1
Sunnyvale Ave.	Iowa Ave.	El Camino Real	2B	0.3
Sunnyvale Saratoga Rd.	El Camino Real	Mathilda Ave.	2B	0.3
Sunnyvale Saratoga Rd.	Mathilda Ave.	Homestead Rd.	4	1.8
Taaffe St.	Iowa Ave.	Alstair Wy.	3	0.3
Taaffe St.	El Camino Real	Iowa Ave.	3B	0.3
Tasman Dr. (Westbound)	Reamwood Ave.	Calabezas Creek Trail	4	0.1
Teal Dr.	Dunford Wy.	Castleton Wy.	3B	0.3
Tenaka Pl.	Alberta Ave.	La Conner Dr.	3B	0.2
The Dallas Ave.	Bernardo Ave.	Hollenbeck Ave.	3	1.0
The Dalles Ave.	Belleville Way.	Bernardo Ave.	3	0.1
Ticonderoga Dr.	Bernardo Ave.	Pome Ave.	3B	0.8
Washington Ave.	Bernardo Ave.	Mathilda Ave.	3	1.1
West Channel Trail	Bordeaux Dr.	Carl Rd.	1	0.9
Willow Ave.	Aster Ave.	Lawrence Expy.	2	0.1
Willow Ave.	Aster Ave.	Private Dr.iveway	2B	0.1
Willow Ave.	Private Dr.iveway	Reed Ave.	2B	0.2
Wolfe Rd.	Fair Oaks Ave.	Britton Ave.	4	0.1
Wolfe Rd.	Britton Ave.	Kifer Rd.	4	0.6
Wolfe Rd.	Kifer Rd.	Old San Francisco Rd.	4	0.6
Wolfe Rd.	Fremont Ave.	El Camino Real	4	0.1
Wright Ave.	Fremont Ave.	Homestead Rd.	3B	1.0
Wright Ave.	Yorktown Dr.	Fremont Ave.	3B	0.0
Yorktown Dr.	Lime Dr.	Wright Ave.	3B	0.1
Yukon Dr.	Alberta Ave.	Cascade Dr.	3B	0.4

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APPENDIX B

Bicycle Prioritization

Street	Start	End	Proposed Facility Class	Commun Identifie Need	
El Camino Real	City Limit	City Limit	4, 1 (Based on ROW)	●	1
Remington Dr.	Bernardo Ave.	El Camino Real	2B	●	1
Sunnyvale Saratoga Rd.	Homestead Rd.	El Camino Real	2B, 4	●	1
Borregas Ave.	Maude Ave.	Carribean Dr.	2B, 4	●	1
Evelyn Ave.	Bernardo Ave.	521 feet west of Mary Ave.	4	●	1
Fremont Ave.	Belleville Wy.	El Camino Real	4	●	1
Maude Ave.	City Boundary	Wolfe Rd.	2B	●	1
Moffett Park Dr.	Ellis St.	East Channel Trail	1	●	1
Old San Francisco Rd. - Reed Ave.	Sunnyvale Ave.	Lawrence Expy.	4	●	1
Sunnyvale Ave.	El Camino Real	Maude Ave.	2B, 4	●	1
Almanor Ave.	Mary Ave.	Mathilda Ave.	2B, 2	○	0
Bernardo Ave.	Heathersone Wy.	Ayala Dr.	2B, 3	○	0
Bernardo Ave. - Homestead-Bernardo Connector	Fremont Ave.	Homestead Rd.	1	●	1
Caribbean Dr.	Moffett Park Dr.	Bordeaux Dr.	1	●	1
Cezanne Dr. - Cumulus Dr. - Azure St.	El Camino Real	Remington Dr.	3B	●	1
East Channel Trail	Ahwannee Ave.	Central Expy.	3B, 1	●	1
East Channel Trail	Evelyn Ave.	El Camino Real	1	●	1
East Channel Trail	El Camino Real	Homestead Rd.	1, 3B	○	0
Fair Oaks Ave.	Ahwanee Ave.	Wolfe Rd.	2	●	1
Kifer Rd.	East Channel Trail	Uranium Dr.	2B	●	1
Mathilda Ave.	El Camino Real	Washington St.	1, 2B, 2	●	1
Steven's Creek Trail	City Limits	Heatherstone Wy.	1	●	1
The Dalles Ave. - Alberta Ave. - Bittern Dr.- Inverness Wy.	Belleville Wy.	Teal Dr.	3, 2	●	1
Wolfe Rd.	Fremont Ave.	El Camino Real	4	○	0
Ahwanee Ave.	Mathilda Ave.	San Rafael St.	2, 3	○	0
Bernardo Ave.	Fremont Ave.	Remington Dr.	2	●	1
Birdland Bike Routes - Quail Ave. - Teal Dr. - Sage Hen Wy. - Castleton Wy. - Bryant Wy. - Eleanor Wy.	Homestead Rd.	Bryant Rd.	3, 3B	●	1
Blue Jay Dr. - Blackhawk Dr. - Dunholme Wy. - Bobwhite Ave.- Floyd Ave.- Manet Dr.	Homestead Rd.	Crescent Ave.	3B, 3	●	1
Calabazas Creek Trail	Central Expy.	Monroe St.	1	○	0
Calabazas Creek Trail	Existing Trail	Central Expy.	1	○	0
California Ave.	Mary Ave.	Fair Oaks Ave.	2	○	0
Duane Ave.	Borregas Ave.	Fair Oaks Ave.	3	○	0
East Channel Trail	Caribbean Dr.	Lakehaven Ter.	1	●	1
Heatherstone Ave. - Hanover Ave. - Elmira Dr.	Stevens Creek Trail	Quetta Ave.	3B	●	1
Helena Dr. - Kinnewick Dr.	Bernardo Ave.	Lewiston Dr.	3B	●	1

ity ed	Collision Reduction - Proximity	Collision Reduction - HIN	Equity	Access to Key Destinations	Cross-Town Connections	Total	Priority
	● 1	● 1	● 1	● 1	● 1	6	High
	● 1	● 1	● 1	● 1	● 1	6	High
	● 1	● 1	● 1	● 1	● 1	6	High
	● 1	○ 0	● 1	● 1	● 1	5	High
	● 1	● 1	○ 0	● 1	● 1	5	High
	● 1	● 1	○ 0	● 1	● 1	5	High
	● 1	○ 0	● 1	● 1	● 1	5	High
	● 1	● 1	○ 0	● 1	● 1	5	High
	● 1	● 1	● 1	● 1	○ 0	5	High
	● 1	○ 0	● 1	● 1	● 1	5	High
	● 1	● 1	● 1	● 1	○ 0	4	High
	● 1	● 1	○ 0	● 1	● 1	4	High
	● 1	○ 0	○ 0	● 1	● 1	4	High
	● 1	○ 0	○ 0	● 1	● 1	4	High
	● 1	○ 0	● 1	● 1	○ 0	4	High
	● 1	○ 0	● 1	● 1	● 1	4	High
	○ 0	○ 0	● 1	● 1	● 1	4	High
	● 1	○ 0	● 1	● 1	● 1	4	High
	● 1	● 1	● 1	○ 0	○ 0	4	High
	● 1	○ 0	● 1	○ 0	● 1	4	High
	● 1	● 1	○ 0	● 1	○ 0	4	High
	● 1	○ 0	○ 0	● 1	● 1	4	High
	● 1	● 1	○ 0	● 1	○ 0	4	High
	● 1	● 1	● 1	● 1	○ 0	4	High
	● 1	○ 0	● 1	● 1	○ 0	3	Medium
	● 1	○ 0	○ 0	● 1	○ 0	3	Medium
	○ 0	● 1	○ 0	● 1	○ 0	3	Medium
	○ 0	● 1	○ 0	● 1	○ 0	3	Medium
	○ 0	○ 0	● 1	● 1	● 1	3	Medium
	○ 0	○ 0	● 1	● 1	● 1	3	Medium
	○ 0	● 1	● 1	○ 0	● 1	3	Medium
	● 1	○ 0	● 1	○ 0	● 1	3	Medium
	○ 0	○ 0	○ 0	● 1	● 1	3	Medium
	● 1	○ 0	○ 0	● 1	○ 0	3	Medium
	○ 0	● 1	○ 0	● 1	○ 0	3	Medium

Street	Start	End	Proposed Facility Class	Commun Identifie Need	
Henderson Ave.	Lily Ave.	Bryant Wy.	3	○	0
Lawrence Area Station Plan Trails	Various	Various	1	○	0
Lawrence Station Area Plan Bikeways - San Zeno Wy.- Aster Ave. - Sonora Ct. - Santa Vittoria	Kifer Rd.	LSAP Trail	2	●	1
Mary Ave.	Evelyn Ave.	Almanor Ave.	4	○	0
Mathilda Ave.	Del Rey Ave.	Ahwanee Ave.	2B	○	0
Pastoria Ave.	Evelyn Ave.	El Camino Real	2, 3	●	1
Poplar Ave. - Nettle Pl. - Ponderosa Ave. - Sequoia Dr. - Bluebonnet Dr. - Pin Oak Dr.	Bryant Wy.	Evelyn Ave.	3B	●	1
Taaffe St.	El Camino Real	Sunnyvale Station	3, 3B	○	0
Washington Ave.	Bernardo Ave.	Mathilda Ave.	3	○	0
West Channel Trail	Bordeaux Dr.	Carl Rd.	1	○	0
Wolfe Rd.	Fair Oaks Ave.	Old San Francisco Rd.	4	○	0
Wright Ave.- Yorktown Dr.- Lime Dr. - Mango Ave. - Lynn Wy. - Ramona Ave.	Homestead Rd.	Blair Ave.	3B, 3	●	1
Blair Ave. - Quetta Ave.	Bernardo Ave.	Elmira Dr.	3B	○	0
Cascade Dr. - Cordilleras Ave.	Bernardo Ave.	Fremont Ave.	3, 3B	○	0
Caspian Ct.	West Channel Trail	Geneva Dr.	4	○	0
Central Expy Undercrossing	Bernardo Ave.	Bernardo Ave	1	○	0
East Channel Trail	Central Expy.	Evelyn Ave.	1	●	1
Evelyn Ave.	Bernardo Ave.	Deodar Wy.	2B, 4	○	0
Garner Dr. - Bradford Dr. - Ross Dr.	John W. Christian Greenbelt	Weddell Dr.	3B	○	0
Innovation Wy.	Moffett Park Dr.	Bordeaux Dr.	4	○	0
Java Dr.	Crossman Dr	Mathilda Ave.	4	○	0
Mary Ave. Overcrossing	Mary Ave.	D St.	4	○	0
Mathilda Ave.	5th Ave.	Moffett Park Dr.	4	○	0
Mathilda Ave.	5th Ave.	1st Ave.	2	○	0
Morse Ave.	California Ave.	Maude Ave.	3B	○	0
Parking Lot between Motel 6 and Applied Chemicals	Vaqueros Ave.	Mathilda Ave.	1	○	0
Torrington Dr. - Spinosa Dr. - Crawford Dr.	Hollenbeck Ave.	Sunnyvale Saratoga Rd.	3B	○	0
Willow Ave.	Reed Ave.	Lawrence Expy	2, 2B	○	0
5th St. (Private Street)	Mathilda Ave.	Bordeaux Dr.	1	○	0
Alberta Ave. - Norland Dr. - Endicott Dr. - Saskatchewan Dr. - Cheyenne Dr.	Hollenbeck Ave.	Sunnyvale-Saratoga Rd.	3B	○	0
Bay Trail Connector	Mathilda Ave.	Bay Trail	1	○	0
Belleville Wy.	Fremont Ave.	Homestead Rd.	3B	○	0
Bike/Ped Bridge	Mountain View	Stevens Creek Trail	1	○	0
Bike/Ped Bridge	Fremont Ave.	Stevens Creek Trail	1	○	0

ity ed	Collision Reduction - Proximity	Collision Reduction - HIN	Equity	Access to Key Destinations	Cross-Town Connections	Total	Priority
	● 1	● 1	○ 0	● 1	○ 0	3	Medium
	○ 0	○ 0	● 1	● 1	● 1	3	Medium
	● 1	○ 0	○ 0	● 1	○ 0	3	Medium
	● 1	○ 0	○ 0	● 1	● 1	3	Medium
	● 1	○ 0	● 1	● 1	○ 0	3	Medium
	● 1	○ 0	○ 0	● 1	○ 0	3	Medium
	○ 0	● 1	○ 0	● 1	○ 0	3	Medium
	● 1	● 1	○ 0	● 1	○ 0	3	Medium
	● 1	● 1	○ 0	● 1	○ 0	3	Medium
	● 1	○ 0	○ 0	● 1	● 1	3	Medium
	● 1	● 1	○ 0	○ 0	● 1	3	Medium
	● 1	○ 0	○ 0	● 1	○ 0	3	Medium
	● 1	○ 0	○ 0	● 1	○ 0	2	Medium
	● 1	○ 0	○ 0	● 1	○ 0	2	Medium
	○ 0	○ 0	○ 0	● 1	● 1	2	Medium
	● 1	● 1	○ 0	○ 0	○ 0	2	Medium
	○ 0	○ 0	○ 0	○ 0	● 1	2	Medium
	● 1	● 1	○ 0	○ 0	○ 0	2	Medium
	● 1	○ 0	○ 0	● 1	○ 0	2	Medium
	● 1	○ 0	○ 0	● 1	○ 0	2	Medium
	○ 0	○ 0	○ 0	● 1	● 1	2	Medium
	● 1	○ 0	○ 0	● 1	○ 0	2	Medium
	● 1	○ 0	○ 0	● 1	○ 0	2	Medium
	● 1	○ 0	● 1	○ 0	○ 0	2	Medium
	○ 0	○ 0	● 1	● 1	○ 0	2	Medium
	● 1	○ 0	○ 0	● 1	○ 0	2	Medium
	● 1	○ 0	○ 0	● 1	○ 0	2	Medium
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	○ 0	○ 0	○ 0	○ 0	● 1	1	Low
	○ 0	○ 0	○ 0	○ 0	● 1	1	Low

Street	Start	End	Proposed Facility Class	Commun Identifie Need	
Carlisle Wy. - Mallard Wy.	Bobwhite Ave.	Dartshire Wy.	3B	○	0
D St. (Private Street)	Mary Ave. Bridge	5th St.	4	○	0
Danforth Dr. - Russet Dr. - Hyde Park Dr.	Quetta Ave.	Spinosa Dr.	3B	○	0
Flamingo Wy. - Dartshire Wy.	Dunholme Wy.	Wolfe Rd.	3B	○	0
Flicker Wy. - Heron Ave.- Rembrandt Dr. - Crescent Ave.	Homestead Rd.	Sunnyvale Saratoga Rd.	3B, 3	●	1
Gibraltar Dr.	Borregas Ave.	Innsbruck Dr.	4	○	0
Innsbruck Dr.	Moffett Park Dr.	Java Dr.	2B, 1	○	0
Iowa Ave.	Mathilda Ave.	Sunnyvale Ave.	2B	○	0
Iris Ave.	Fair Oaks Ave.	Gail Ave.	3	○	0
La Conner Dr. - Tenaka Pl. - Yukon Dr.	Sunnyvale Saratoga Rd.	Cascade Dr.	3B	○	0
New Trail	Mathilda Ave.	Sunnyvale Saratoga Rd.	1	○	0
Persian Dr.	East Java Dr.	Quality Inn Parking Lot	2	○	0
Robin Wy.	Bernardo Ave.	Knickerbocker Dr.	3B	○	0
San Junipero Dr. - San Miguel Ave.	Duane Ave.	Ahwanee Ave.	3B	○	0
San Rafael St. - Indian Wells Ave.	Ahwanee Ave.	Duane Ave.	3, 2	○	0
Silverlake Dr. - Lakedale Wy.	Lakedale Wy. Crossing	John W. Christian Greenbelt	3B, 2	○	0
South Bayview Ave.	Evelyn Ave.	Old San Francisco Rd.	3B	○	0
Tasman Dr.	Reamwood Ave.	Calabazas Creek Trail	4	○	0
Ticonderoga Dr. - Pome Ave. - Sheraton Dr.	Bernardo Ave.	Spinosa Dr.	3B, 3	○	0
Alt Route North of Tasman Dr. Connector	East Java Dr.	Persian Dr.	2	○	0

ity ed	Collision Reduction - Proximity	Collision Reduction - HIN	Equity	Access to Key Destinations	Cross-Town Connections	Total	Priority
	● 1	○ 0	○ 0	○ 0	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	● 1	○ 0	○ 0	○ 0	○ 0	1	Low
	○ 0	○ 0	○ 0	○ 0	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	● 1	○ 0	○ 0	○ 0	○ 0	1	Low
	○ 0	○ 0	● 1	○ 0	○ 0	1	Low
	● 1	○ 0	○ 0	○ 0	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	● 1	○ 0	○ 0	○ 0	○ 0	1	Low
	● 1	○ 0	○ 0	○ 0	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	● 1	○ 0	○ 0	○ 0	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	○ 0	○ 0	● 1	○ 0	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	○ 0	○ 0	○ 0	● 1	○ 0	1	Low
	○ 0	○ 0	○ 0	○ 0	○ 0	0	Low

Intersection Street 1	Intersection Street 2	Design	Community Identified Need	Collisio Reduc Proxim
Borregas Ave.	Maude Ave.	Crossing Improvement	●1	●1
Fair Oaks Ave.	El Camino Real	Crossing Improvement	●1	●1
Sunnyvale Ave.	Maude Ave.	Crossing Improvement	●1	●1
Cezanne Dr.	El Camino Real	Crossing Improvement and Traffic Control	○0	●1
Mary Ave.	Evelyn Ave.	Crossing Improvement	●1	●1
Mathilda Ave.	Maude Ave.	Crossing Improvement and Traffic Control	●1	○0
Mathilda Ave.	Moffett Park Dr.	Crossing Improvement	●1	●1
Pastoria Ave.	El Camino Real	Crossing Improvement and Traffic Control	●1	●1
Sunnyvale Saratoga Rd.	Fremont Ave.	Crossing Improvement	●1	●1
Bernardo Ave.	Evelyn Ave.	Crossing Improvement	●1	●1
Bernardo Ave.	Fremont Ave.	Crossing Improvement	●1	●1
Bernardo Ave.	El Camino Real	Crossing Improvement	○0	●1
Borregas Ave.	Duane Ave.	Crossing Improvement and Traffic Control	●1	●1
East Channel Trail	El Camino Real	Crossing Improvement and Grade Separation	○0	○0
East Channel Trail	Fremont Ave.	Crossing Improvement and Traffic Control	●1	●1
East Channel Trail	Duane Ave.	Crossing Improvement	○0	●1
El Camino Real	Fremont Ave.	Crossing Improvement	○0	●1
Murphy Ave.	Evelyn Ave.	Crossing Improvement	○0	●1
Mary Ave.	Fremont Ave.	Crossing Improvement	●1	●1
Mary Ave.	Remington Dr.	Crossing Improvement and Traffic Control	●1	●1
Mary Ave.	Central Expy.	Crossing Improvement and Traffic Control	○0	●1
Mathilda Ave.	Ahwanee Ave.	Crossing Improvement	●1	○0
Sunnyvale Ave.	Evelyn Ave.	Crossing Improvement	●1	●1
Wolfe Rd.	Kifer Rd.	Crossing Improvement	●1	●1
Wolfe Rd.	Fremont Ave.	Crossing Improvement	●1	○0
Bernardo Ave.	Ayala Dr.	Crossing Improvement and Traffic Control	○0	●1
Borregas Ave.	Carribean Dr.	Crossing Improvement	○0	●1
East Channel Trail	Old San Francisco Rd.	Crossing Improvement	○0	○0
East Channel Trail	John W. Christian Greenbelt	Crossing Improvement	○0	○0
Hollenbeck Ave.	Fremont Ave.	Crossing Improvement	●1	○0
Lawrence Expy.	Kifer Rd.	Crossing Improvement and Grade Separation	●1	○0
Manet Dr.	Fremont Ave.	Crossing Improvement	○0	●1
Manet Dr.	Remington Dr.	Crossing Improvement	○0	●1

on tion - ity	Collision Reduction - HIN	Equity	Access to Key Destinations	Cross-Town Connections	Total	Priority
	●1	●1	●1	●1	6	High
	●1	●1	●1	●1	6	High
	●1	●1	●1	●1	6	High
	●1	●1	●1	●1	5	High
	●1	○0	●1	●1	5	High
	●1	●1	●1	●1	5	High
	●1	○0	●1	●1	5	High
	●1	○0	●1	●1	5	High
	●1	○0	●1	●1	5	High
	●1	○0	○0	●1	4	High
	●1	○0	○0	●1	4	High
	●1	○0	●1	●1	4	High
	○0	●1	○0	●1	4	High
	●1	●1	●1	●1	4	High
	●1	○0	○0	●1	4	High
	●1	○0	●1	●1	4	High
	●1	○0	●1	●1	4	High
	●1	○0	●1	●1	4	High
	●1	○0	○0	●1	4	High
	●1	○0	○0	●1	4	High
	●1	○0	●1	●1	4	High
	●1	●1	●1	○0	4	High
	●1	○0	○0	●1	4	High
	●1	○0	○0	●1	4	High
	●1	○0	●1	●1	4	High
	●1	○0	○0	●1	3	Medium
	○0	○0	●1	●1	3	Medium
	●1	●1	○0	●1	3	Medium
	●1	○0	●1	●1	3	Medium
	○0	○0	●1	●1	3	Medium
	○0	●1	○0	●1	3	Medium
	●1	○0	○0	●1	3	Medium
	●1	○0	○0	●1	3	Medium

Intersection Street 1	Intersection Street 2	Design	Community Identified Need	Collisi Reduc Proxim
Mary Ave.	Knickerbocker Dr.	Crossing Improvement	●1	●1
Mary Ave.	Olive Ave.	Crossing Improvement and Traffic Control	○0	●1
Mathilda Ave.	Ross Dr.	Crossing Improvement	●1	●1
Stevens Creek/SR 85 on- and off-ramps	Fremont Ave.	Grade Separation	○0	●1
Sunnyvale Saratoga Ave.	Alberta Ave./Harwick Wy.	Crossing Improvement	○0	●1
Sunnyvale-Saratoga Ave.	Cheyenne Dr.	Crossing Improvement and Traffic Control	●1	○0
Borregas Ave.	John W. Christian Greenbelt	Crossing Improvement	○0	○0
East Channel Trail	Carribean Dr.	Crossing Improvement and Grade Separation	○0	○0
East Channel Trail	Iris Ave.	Crossing Improvement and Traffic Control	○0	○0
East Channel Trail	Tasman Dr.	Crossing Improvement	○0	○0
East Channel Trail	Evelyn Ave.	Crossing Improvement and Traffic Control	○0	○0
East Channel Trail	Central Expy.	Crossing Improvement and Grade Separation	○0	○0
East Channel Trail	Kifer Rd.	Crossing Improvement and Traffic Control	●1	○0
East Channel Trail	Wolfe Rd.	Crossing Improvement and Grade Separation	○0	●1
Fair Oaks Ave.	Evelyn Ave.	Crossing Improvement and Traffic Control	○0	●1
Fair Oaks Ave.	Weddell Dr.	Crossing Improvement	●1	○0
Fieldfair Dr.	Fremont Ave.	Crossing Improvement and Traffic Control	○0	○0
Lawrence Expy.	Arques Ave.	Crossing Improvement and Grade Separation	○0	○0
Lawrence Expy.	Reed Ave.	Crossing Improvement and Grade Separation	○0	○0
Mary Ave.	Maude Ave.	Crossing Improvement	○0	○0
Mathilda Ave.	Innovation Wy.	Crossing Improvement	○0	●1
Sunnyvale Saratoga Rd.	Mathilda Ave.	Crossing Improvement	○0	○0
Sunnyvale Ave.	Hendy Ave.	Crossing Improvement	●1	○0
Wolfe Rd.	Maude Ave.	Crossing Improvement	○0	●1
East Channel Trail	Persian Dr. / SR 237	Crossing Improvement and Grade Separation	○0	○0
East Channel Trail	Blythe Ave.	Crossing Improvement and Traffic Control	○0	○0
East Channel Trail	Ahwanee Ave.	Crossing Improvement	○0	○0

on tion - nity	Collision Reduction - HIN	Equity	Access to Key Destinations	Cross-Town Connections	Total	Priority
	●1	○0	○0	○0	3	Medium
	●1	○0	●1	○0	3	Medium
	●1	○0	○0	○0	3	Medium
	●1	○0	○0	●1	3	Medium
	●1	○0	○0	●1	3	Medium
	●1	○0	○0	●1	3	Medium
	○0	○0	●1	●1	2	Medium
	○0	○0	●1	●1	2	Medium
	○0	●1	○0	●1	2	Medium
	○0	○0	●1	●1	2	Medium
	●1	○0	○0	●1	2	Medium
	●1	○0	○0	●1	2	Medium
	○0	○0	○0	●1	2	Medium
	○0	○0	○0	●1	2	Medium
	●1	○0	○0	○0	2	Medium
	●1	○0	○0	○0	2	Medium
	●1	○0	○0	●1	2	Medium
	○0	●1	○0	●1	2	Medium
	○0	○0	●1	●1	2	Medium
	○0	○0	●1	●1	2	Medium
	○0	○0	●1	○0	2	Medium
	●1	○0	○0	●1	2	Medium
	○0	○0	○0	●1	2	Medium
	○0	○0	○0	●1	2	Medium
	○0	○0	○0	●1	1	Low
	○0	○0	○0	●1	1	Low
	○0	○0	○0	●1	1	Low

Intersection Street 1	Intersection Street 2	Design	Community Identified Need	Collisi Reduc Proxim
East Channel Trail	Carlisle Wy.	Crossing Improvement and Traffic Control	○0	○0
East Channel Trail	Dunholme Wy.	Crossing Improvement and Traffic Control	○0	○0
East Channel Trail	Arques Ave.	Crossing Improvement and Grade Separation	○0	○0
Kennewick Dr.	Homestead Rd.	Traffic Control	●1	○0
Lakedale Expressway Bridge	Lakedale Wy.	Crossing Improvement	○0	○0
Mary Ave Overcrossing	Hwy 101	Grade Separation	○0	○0
Mary Ave.	Homestead Rd.	Crossing Improvement and Traffic Control	●1	○0
Mary Ave.	Washington Ave.	Traffic Control	○0	●1
Pome Ave.	Fremont Ave.	Crossing Improvement and Traffic Control	○0	○0
The Dalles Ave.	85 Overcrossing	Crossing Improvement and Grade Separation	○0	○0
Bernardo Ave.	Ticonderoga Dr.	Crossing Improvement and Traffic Control	○0	○0
Crawford Dr.	Las Palmas Park	Crossing Improvement	○0	○0
Hollenbeck Dr.	Sheraton Ave.	Traffic Control	○0	○0
Mandarin Dr.	Yorktown Dr.	Crossing Improvement	○0	○0
Mary Ave.	Helena Dr.	Crossing Improvement and Traffic Control	○0	○0
Reed Ave.	Evelyn Ave.	Crossing Improvement	○0	○0

on tion - nity	Collision Reduction - HIN	Equity	Access to Key Destinations	Cross-Town Connections	Total	Priority
	○0	○0	○0	●1	1	Low
	○0	○0	○0	●1	1	Low
	○0	○0	○0	●1	1	Low
	○0	○0	○0	○0	1	Low
	●1	○0	○0	○0	1	Low
	○0	○0	○0	●1	1	Low
	○0	○0	○0	○0	1	Low
	○0	○0	○0	○0	1	Low
	○0	○0	○0	●1	1	Low
	○0	○0	○0	●1	1	Low
	○0	○0	○0	○0	0	Low
	○0	○0	○0	○0	0	Low
	○0	○0	○0	○0	0	Low
	○0	○0	○0	○0	0	Low
	○0	○0	○0	○0	0	Low
	○0	○0	○0	○0	0	Low

APPENDIX C

Pedestrian Recommendations

Spot Location	Crossing Typology	Recommended Improvements
Bernardo Ave. / El Camino Real	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility
Bernardo Ave. / Evelyn Ave.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility, Provide enhanced signage and markings for channelized right turn crossing (Right Turn Yield to Pedestrians sign, advanced yield markings), Consider eliminating the channelized right turn lanes
Bernardo Ave. / Fremont Ave.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility for all approaches, Confirm pedestrian crosswalk signals and activation push buttons meet current standards, Ensure pedestrian crossing timing meets current national standards, Remove vegetation that may obstruct sight-distance
Bernardo Ave. / Ticonderoga Dr.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Remove vegetation that may obstruct sight-distance
Borregas Ave. / Ahwanee Ave.	Other Signalized Intersection	Curb extension (facing Borregas) at the SE and SW corners. Ensure curb ramps meet ADA standards. Evaluate intersection lighting and illumination.
Borregas Ave. / Del Norte Ave.	Other Signalized Intersection	Curb extension at NW, SW, NE, and SE corners. Realign crosswalks on the north leg and the south leg to the newly installed curb extensions. Ensure curb ramps meet ADA standards. Evaluate intersection lighting and illumination.
Borregas Ave. / Duane Ave.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Remove vegetation or other objects that may obstruct sight-distance, Consider adding traffic control along Borregas Ave.
Borregas Ave. / Hemlock Ave.	Other Signalized Intersection	Install high visibility crosswalks and curb extensions on the north and south legs of the intersection. Ensure curb ramps meet ADA standards. Evaluate intersection lighting and illumination.
Cezanne Dr. / El Camino Real	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination (especially east side of Cezanne Dr.), Install curb extensions/bulb outs at northwest and northeast corners, Improve signal head visibility
Commercial St. / Arques Ave. / Deguigne Dr.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility for NB/SB approaches
El Camino Real / Fremont Ave.	Major Road Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination on south side of El Camino Real, Remove vegetation that may obstruct sight-distance, New traffic signal for NB right turn and left turn.

Spot Location	Crossing Typology	Recommended Improvements
Fair Oaks Ave. / Caliente Dr.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility for EB/WB traffic, Curb extension on east leg
Fair Oaks Ave. / El Camino Real	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Push back stop bars on all intersection approach legs, Improve signal head visibility, Provide enhanced signage and markings for channelized right turn crossing (Right Turn Yield to Pedestrians sign, advanced yield markings), Consider eliminating the channelized right turn lane
Fair Oaks Ave. / Evelyn Ave.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility, Provide enhanced signage and markings for channelized right turn crossing (Right Turn Yield to Pedestrians sign, advanced yield markings), Consider eliminating the channelized right turn lanes
Fair Oaks Ave. / Iris Ave.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Install curb extensions/bulb outs on Iris Ave.,
Fair Oaks Ave. / Maude Ave.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Remove vegetation or other objects that may obstruct sight-distance
Fair Oaks Ave. / Tasman Dr.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Confirm pedestrian crosswalk signals and activation push buttons meet current standards, Ensure pedestrian crossing timing meets current national standards
Fair Oaks Ave. / Weddell Dr.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Refresh high-visibility crosswalk markings, Improve signal head visibility, Remove vegetation that may obstruct sight distance
Florence Ave. / Evelyn Ave.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination for south leg, Remove vegetation that may obstruct sight-distance, Consider installing RRFB crossing for east leg
Florence St. / Washington Ave.	Other Unsignalized Intersection	Evaluate intersection meets all-way stop controls or signal warrant. Ensure lighting and illumination meets City standards. Evaluate high visibility crosswalks across Washington Ave.. Install red curb 15-25 feet from corner.
Frances St. / California Ave.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination

Spot Location	Crossing Typology	Recommended Improvements
Frances St. / Evelyn Ave.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Confirm pedestrian crosswalk signals and activation push buttons meet current standards, Ensure pedestrian crossing timing meets current national standards, Consider adjusted signal timing to include pedestrian-only phase.
Frances St. / Washington Ave.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination on south side, Perform all-way stop warrant
Grape Ave. / El Camino Real	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility for all approaches, Confirm pedestrian crosswalk signals and activation push buttons meet current standards, Improve overall intersection signal timing, Ensure pedestrian crossing timing meets current national standards
Helen Ave. / El Camino Real	Major Road Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination
Heron Ave. / Homestead Rd.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility
Hollenbeck Ave. / Alberta Ave.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Install curb extensions or bulb outs on Alberta Ave. Provide additional pedestrian crossing signage and marking, Remove vegetation that may obstruct sight distance
Hollenbeck Ave. / Cascade Dr.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination on southeast corner, Improve signal head visibility for east and west legs, Remove vegetation that may obstruct sight-distance
Hollenbeck Ave. / Cheyenne Dr.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination on south or east leg, Remove vegetation that may obstruct sight-distance
Hollenbeck Ave. / Danforth Dr.	Other Signalized Intersection	Install curb extensions on northwest, northeast, and southeast corners of intersection, Install high visibility crosswalks on all legs of intersection, Evaluate intersection lighting and illumination, Improve signal head visibility, Remove vegetation that may obstruct sight distance
Hollenbeck Ave. / The Dalles Ave.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination on north leg, Remove vegetation that may obstruct sight-distance, Consider installing RRFB at intersection or midblock, south of The Dalles Ave.

Spot Location	Crossing Typology	Recommended Improvements
Manet Dr. / Fremont Ave.	Other Signalized Intersection	High visibility crosswalks, Median pedestrian refuge island on Fremont Ave., Protected left turns and turn lanes on Manet Dr./ Bobwhite Ave., Leading pedestrian interval (LPI), APS improvement, Passive ped and bicycle detection, Green marking in conflict zones, Curb extension on northwest corner, Move 12" vehicle signal heads to improve visibility, Right turn on red restriction for northbound Bobwhite Ave., Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility, Construct a center median pedestrian refuge island
Manet Dr. / Remington Dr.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility, Remove vegetation that may obstruct sight-distance
Maria Ln. / El Camino Real	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility
Mary Ave. / El Camino Real /	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility for NB/SB approaches
Mary Ave. / Fremont Ave.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Confirm pedestrian crosswalk signals and activation push buttons meet current standards, Ensure pedestrian crossing timing meets current national standards, Remove vegetation that may obstruct sight-distance
Mary Ave. / Iowa Ave.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination on northwest and southeast corners, Reconfigure west leg crosswalk for better visibility for southbound traffic Remove vegetation or other objects that may obstruct sight-distance
Mary Ave. / Olive Ave.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination for whole intersection, Remove vegetation that may obstruct sight-distance, Consider installing signalized pedestrian crossing (HAWK Beacon)

Spot Location	Crossing Typology	Recommended Improvements
Mary Ave. / Ticonderoga Dr.	Other Signalized Intersection	High visibility crosswalks, Protected left turns on Mary Ave., Leading pedestrian Interval (LPI), Curb extensions on Ticonderoga Dr., Improved St. lighting, Adaptive pedestrian signal systems, Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility for EB/WB approaches, Confirm pedestrian crosswalk signals and activation push buttons meet current standards, Ensure pedestrian crossing timing meets current national standards, Remove vegetation that may obstruct sight-distance
Mathilda Ave. / California Ave.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Provide enhanced signage and markings for channelized right turn crossing (Right Turn Yield to Pedestrians sign, advanced yield markings)
Mathilda Ave. / Del Rey Ave.	Major Road Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination
Mathilda Ave. / El Camino Real	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Confirm pedestrian crosswalk signals and activation push buttons meet current standards, Ensure pedestrian crossing timing meets current national standards
Mathilda Ave. / Evelyn Ave.	Other Unsignalized Intersection	Improve lighting and illumination in underpass
Mathilda Ave. / Maude Ave.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Provide enhanced signage and markings for channelized right turn crossing (Right Turn Yield to Pedestrians sign, advanced yield markings), Consider eliminating the channelized right turn lanes
Mathilda Ave. / Ross Dr.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility, Consider pedestrian fence on north and west intersection leg
Morse Ave. / Maude Ave.	Other Unsignalized Intersection	Evaluate intersection lighting and illumination, Consider installing curb extensions on Morse Ave.
Murphy Ave. / Evelyn Ave.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination Install stop bar and advanced yield markings, Trim vegetation, Install advance yield markings, Consider modify crossing control to provide Rectangular Rapid Flashing Beacon (RRFB)
Norland Dr. / Alberta Ave.	Other Unsignalized Intersection	Evaluate intersection lighting and illumination, Remove vegetation or other objects that may obstruct sight-distance

Spot Location	Crossing Typology	Recommended Improvements
Pastoria Ave. / Iowa Ave.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Consider removing right turn lanes and install curb extensions or bulb outs on all intersection legs, Remove vegetation that may obstruct sight-distance
Pastoria Ave. / Olive Ave.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination on south and west legs, Remove vegetation that may obstruct sight-distance
Remington Dr. / Michelangelo Dr.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination
Roosevelt Ave. / Maude Ave.	Other Unsignalized Intersection	Improve intersection lighting and illumination, Consider installing high-visibility crossing marking on east leg
San Aleso Ave. / Ferndale Ave.	Mid-Block Crossing	Consider construction of pedestrian facility to connect San Aleso Ave. with SNAIL Neighborhood (Would require landowner approval and easement)
San Angelo Ave. / Maude Ave.	Other Unsignalized Intersection	Evaluate intersection lighting and illumination
San Conrado Terr. / Ferndale Ave.	Other Unsignalized Intersection	Consider construction of pedestrian facility to connect Caliente Condos and Ferndale Ave.
Sequoia Dr. / Reed Ave.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility for NB/SB approaches
Sunnyvale Ave. / California Ave.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility, Consider redesigning curb return radius
Sunnyvale Ave. / El Camino Real	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination,
Sunnyvale-Saratoga Rd. / Remington Dr.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Push back stop bars on all intersection approaches,
Sunset Ave. / Iowa Ave.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination for whole intersection, Remove vegetation that may obstruct sight-distance, Consider installing curb extensions/bulb-outs on east leg
Taaffe St. / El Camino Real	Major Road Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Consider installing a signalized midblock pedestrian crossing
Vienna Dr. / Tasman Dr.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Install additional pedestrian and light rail crossing signage and markings

Spot Location	Crossing Typology	Recommended Improvements
Wolfe Rd. / Iris Ave.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination on east and west legs, Improve signal head visibility for east and west legs, Remove vegetation that may obstruct sight-distance, Consider adjusting curb return radius
Wolfe Rd. / El Camino Real	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility, Consider adjusting curb return radius, Provide enhanced signage and markings for channelized right turn crossing (Right Turn Yield to Pedestrians sign, advanced yield markings), Consider eliminating the channelized right turn lanes
Wolfe Rd. / Fair Oaks Ave.	Other Signalized Intersection	Consider eliminating the channelized eastbound right turn lane from Fair Oaks to Wolfe. Evaluate intersections lighting and illumination. Consider converting striping at median islands to curb or vertical delineation.
Wolfe Rd. / Fremont Ave.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Improve signal head visibility for north and south legs, Confirm pedestrian crosswalk signals and activation push buttons meet current standards, Ensure pedestrian crossing timing meets current national standards, Remove vegetation that may obstruct sight-distance, Consider adjusting curb return radius
Wolfe Rd. / Gary Ave.	Other Unsignalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination on south and east legs, Remove vegetation that may obstruct sight-distance
Wolfe Rd. / Marion Wy.	Other Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Remove vegetation that may obstruct sight-distance
Wolfe Rd. / Maude Ave.	Major Road Unsignalized Intersection	Consider eliminating the channelized eastbound right turn lane, Consider constructing control crossing for Wolfe Rd.
Wolfe Rd. / Old San Francisco Rd.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Confirm pedestrian crosswalk signals and activation push buttons meet current standards, Ensure pedestrian crossing timing meets current national standards, Consider adjusting curb return radius
Wright Ave. / Fremont Ave.	Major Road Signalized Intersection	Ensure curb ramps meet ADA standards, Evaluate intersection lighting and illumination, Confirm pedestrian crosswalk signals and activation push buttons meet current standards, Ensure pedestrian crossing timing meets current national standards, Remove vegetation that may obstruct sight-distance

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APPENDIX D

Pedestrian Prioritization

Intersection Street 1	Intersection Street 2	Design	Zone/Area
Bayview Ave.	Maude Ave.	Safe Routes to School	Bishop Elementary School
Sunnyvale Ave.	Maude Ave.	Safe Routes to School	Bishop Elementary School
Bishop Elementary Frontage	Maude Ave.	Safe Routes to School	Bishop Elementary School
Borregas Ave.	Maude Ave.	Safe Routes to School	Bishop Elementary School
Fair Oaks Ave.	Old San Francisco Rd.	Safe Routes to School	Ellis Elementary School
Gail Ave.	Braly Elementary Frontage	Safe Routes to School	Braly Elementary School
Henderson Ave.	El Camino Real	Safe Routes to School	Peterson Middle School
Hollenbeck Ave. / Pastoria Ave.	El Camino Real	Safe Routes to School	Cumberland Elementary School
Poplar Ave.	El Camino Real	Safe Routes to School	Peterson Middle School
Sunnyvale Saratoga Rd.	Fremont Ave.	Safe Routes to School	Fremont High School
Wolfe Rd.	El Camino Real	Crossing Improvement	El Camino Real
Bittern Dr.	Dunholme Wy.	Safe Routes to School	Stocklmeir Elementary School
Central Ave.	Old San Francisco Rd.	Safe Routes to School	Ellis Elementary School
Cezanne Dr.	El Camino Real	Crossing Improvement	El Camino Real
Cumberland Dr.	Cumberland Elementary Frontage	Safe Routes to School	Cumberland Elementary School
Fair Oaks Ave.	Tasman Dr.	Crossing Improvement	Tasman Dr Corridor
Fair Oaks Ave.	El Camino Real	Crossing Improvement	El Camino Real
Gail Ave.	Iris Ave.	Safe Routes to School	Braly Elementary School
Gail Ave.	Goldenrod Ct.	Safe Routes to School	Braly Elementary School
Helen Ave.	El Camino Real	Crossing Improvement	El Camino Real
Mango Ave.	Remington Dr.	Safe Routes to School	Sunnyvale Middle School
Maria Ln.	El Camino Real	Crossing Improvement	El Camino Real
Mathilda Ave.	Del Rey Ave.	Crossing Improvement	SNAIL Neighborhood Zone
Mathilda Ave.	Maude Ave.	Crossing Improvement	SNAIL Neighborhood Zone
Ponderosa Ave.	Iris Ave.	Safe Routes to School	Ponderosa Elementary School
Quetta Ave.	Danforth Dr.	Safe Routes to School	Cumberland Elementary School
Richelieu Pl.	Alberta Ave.	Safe Routes to School	Nimitz Elementary
San Miguel Ave.	Duane Ave.	Safe Routes to School	San Miguel Elementary School
Sunnyvale Ave.	El Camino Real	Crossing Improvement	El Camino Real
Sunnyvale Saratoga Rd	Fremont High Frontage	Safe Routes to School	Fremont HIgh School
Sydney Dr.	Fremont Ave.	Safe Routes to School	Fremont High School
Wilson Ave.	Olive Ave.	Safe Routes to School	Ellis Elementary School
Belleville Wy.	Parking Lot Entrance	Safe Routes to School	West Valley Elementary School
Belleville Wy.	West Valley Elementary School Driveway	Safe Routes to School	West Valley Elementary School
Bernardo Ave.	El Camino Real	Crossing Improvement	El Camino Real
Bernardo Ave.	Evelyn Ave.	Crossing Improvement	None
Bernardo Ave.	Heatherstone Wy.	Safe Routes to School	Cherry Chase Elementary School
Bernardo Ave.	Helena Dr.	Safe Routes to School	Cupertino Middle School
Bernardo Ave. between N and S Parking Lot	Cupertino Middle	Safe Routes to School	Cupertino Middle School
Blackhawk Dr.	Dumholme Wy.	Safe Routes to School	Stocklmeir Elementary School
Cherry Chase Elementary Frontage	Heatherstone Wy.	Safe Routes to School	Cherry Chase Elementary School
Chickadee Ct.	Dunholme Wy.	Safe Routes to School	Stocklmeir Elementary School
Coronach Ave.	Helena Dr.	Safe Routes to School	Cupertino Middle School
Cupertino Middle School Bus Loop	Northern Parking Lot	Safe Routes to School	Cupertino Middle School
Fair Oaks Ave.	Caliente Dr.	Crossing Improvement	SNAIL Neighborhood Zone
Fair Oaks Ave.	Iris Ave.	Crossing Improvement	Braly Park Area

Community Identified Need	Collision Reduction - Proximity	Collision Reduction - HIN	Equity	Access to Key Destinations	Cross-Town Connections	Total	Priority	Also in Bike Plan
1	1	1	1	1	1	6	High	
1	1	1	1	1	1	6	High	x
1	0	1	1	1	1	5	High	
1	1	1	1	0	1	5	High	x
1	1	0	1	1	1	5	High	
1	1	0	1	1	1	5	High	
1	1	1	0	1	1	5	High	
1	1	1	0	1	1	5	High	
1	1	1	0	1	1	5	High	
1	1	1	0	1	1	5	High	x
1	1	1	1	1	0	5	High	
1	1	0	0	1	1	4	High	
1	0	1	1	0	1	4	High	
0	1	1	1	1	0	4	High	x
1	1	0	0	1	1	4	High	
1	1	1	0	1	0	4	High	
0	1	1	1	1	0	4	High	
1	1	0	1	0	1	4	High	
1	0	0	1	1	1	4	High	
0	1	1	0	1	1	4	High	
1	1	0	0	1	1	4	High	
0	1	1	1	1	0	4	High	
0	1	1	1	1	0	4	High	
0	1	1	1	1	0	4	High	x
1	1	0	0	1	1	4	High	
1	1	0	0	1	1	4	High	
1	1	1	0	0	1	4	High	
1	0	1	0	1	1	4	High	
0	1	1	1	1	0	4	High	
1	0	1	0	1	1	4	High	
1	1	0	0	1	1	4	High	
1	1	1	0	0	1	4	High	
1	0	0	0	1	1	3	Medium	
1	0	0	0	1	1	3	Medium	
0	1	1	0	1	0	3	Medium	x
1	1	1	0	0	0	3	Medium	x
1	0	1	0	0	1	3	Medium	
1	0	0	0	1	1	3	Medium	
1	0	0	0	1	1	3	Medium	
1	1	0	0	0	1	3	Medium	
1	0	0	0	1	1	3	Medium	
1	0	0	0	1	1	3	Medium	
1	1	0	0	0	1	3	Medium	
1	0	0	0	1	1	3	Medium	
0	1	1	1	0	0	3	Medium	
0	1	1	1	0	0	3	Medium	

Intersection Street 1	Intersection Street 2	Design	Zone/Area
Floyd Ave.	Dunholme Wy.	Safe Routes to School	Stocklmeir Elementary School
Frances St.	Evelyn Ave.	Crossing Improvement	Downtown
Gail Ave.	Braly Elementary Frontage	Safe Routes to School	Braly Elementary School
Gail Ave.	Daffodil Ct.	Safe Routes to School	Braly Elementary School
Gas Station Area	Cupertino Middle School	Safe Routes to School	Cupertino Middle School
Grape Ave.	Heatherstone Wy.	Safe Routes to School	Cherry Chase Elementary School
Henderson Ave.	Lily Ave.	Safe Routes to School	Ponderosa Elementary School
Hollenbeck Ave.	Alberta Ave.	Crossing Improvement	Hollenbeck Ave Corridor
Hollenbeck Ave.	Danforth Dr.	Crossing Improvement	None
Hollenbeck Ave.	Havard Ave.	Safe Routes to School	Cumberland Elementary School
Jackpine Ct.	Iris Ave.	Safe Routes to School	Braly Elementary School
Kennewick Dr.	Homstead Rd.	Safe Routes to School	Homestead High School
Knickerbocker Dr.	Mary Ave.	Safe Routes to School	Sunnyvale Middle School
Mary Ave.	El Camino Real	Crossing Improvement	El Camino Real
Mary Ave.	Olive Ave.	Crossing Improvement	Washington Park Area
Mary Ave.	Washington Ave.	Safe Routes to School	Vargas Elementary School
Meadowlake Dr.	Lakehaven Dr.	Safe Routes to School	Lakewood Elementary School
Meadowlake Dr.	John W. Christian Greenbelt Crossing	Safe Routes to School	Lakewood Elementary School
Morse Ave.	Maude Ave.	Crossing Improvement	SNAIL Neighborhood Zone
Morse Ave.	Glendale Ave.	Safe Routes to School	Columbia Middle School
Morse Ave.	Ferndale Ave.	Safe Routes to School	Columbia Middle School
Murphy Ave.	Evelyn Ave.	Crossing Improvement	None
Ponderosa Ave.	Lantana Dr.	Safe Routes to School	Ponderosa Elementary School
Quetta Ave.	Harvard Ave.	Safe Routes to School	Cumberland Elementary School
Revelstoke Dr.	Cheyenne Dr.	Safe Routes to School	Nimitz Elementary
Rosalia Ave.	Peterson Middle Frontage	Safe Routes to School	Peterson Middle School
San Angelo Ave.	Maude Ave.	Crossing Improvement	SNAIL Neighborhood Zone
San Miguel Ave.	Alvarado Ave.	Safe Routes to School	San Miguel Elementary School
Saskatchewan Dr.	Cheyenne Dr.	Safe Routes to School	Nimitz Elementary
Stocklmeir Elementary Frontage	Dunholme Wy.	Safe Routes to School	Stocklmeir Elementary School
Taaffe St.	El Camino Real	Crossing Improvement	El Camino Real
Valcartier Dr.	Cheyenne Dr.	Safe Routes to School	Nimitz Elementary
Wolfe Rd.	Fair Oaks Ave.	Crossing Improvement	SNAIL Neighborhood Zone
Wolfe Rd.	Fremont Ave.	Crossing Improvement	Fremont Ave Corridor
Bernardo Ave.	Cupertino Middle Frontage	Safe Routes to School	Cupertino Middle School
Bernardo Ave.	The Dalles Ave.	Safe Routes to School	Cupertino Middle School
Bernardo Ave.	The Dalles Ave.	Safe Routes to School	Homestead High School
Borregas Ave.	Del Norte Ave.	Crossing Improvement	SNAIL Neighborhood Zone
Borregas Ave.	Ahwanee Ave.	Crossing Improvement	SNAIL Neighborhood Zone
Borregas Ave.	Hemlock Ave.	Crossing Improvement	SNAIL Neighborhood Zone
Central Ave.	Ellis Elementary Frontage	Safe Routes to School	Ellis Elementary School
Condor Wy.	Dunholme Wy.	Safe Routes to School	Stocklmeir Elementary School
Del Norte Ave.	San Diego Ave.	Safe Routes to School	Columbia Middle School
Dunford Wy.	Lochinvar Ave.	Safe Routes to School	Laurelwood Elementary
Ellis Elementary Frontage	Olive Ave.	Safe Routes to School	Ellis Elementary School
Fair Oaks Ave.	Weddell Dr.	Crossing Improvement	None
Fair Oaks Ave.	Maude Ave.	Crossing Improvement	SNAIL Neighborhood Zone
Fair Oaks Ave.	Evelyn Ave.	Crossing Improvement	None
Fair Oaks Ave.	Olive Ave.	Safe Routes to School	Ellis Elementary School
Fairwood Ave.	Redrock Ct.	Safe Routes to School	Fairwood Elementary School

Community Identified Need	Collision Reduction - Proximity	Collision Reduction - HIN	Equity	Access to Key Destinations	Cross-Town Connections	Total	Priority	Also in Bike Plan
1	0	0	0	1	1	3	Medium	
0	1	1	0	1	0	3	Medium	
1	0	0	1	0	1	3	Medium	
0	0	1	1	0	1	3	Medium	
1	1	0	0	0	1	3	Medium	
1	0	0	0	1	1	3	Medium	
1	0	1	0	0	1	3	Medium	
1	1	1	0	0	0	3	Medium	
0	1	1	0	1	0	3	Medium	
1	0	1	0	0	1	3	Medium	
0	0	0	1	1	1	3	Medium	
1	1	0	0	0	1	3	Medium	x
1	0	1	0	0	1	3	Medium	
0	1	1	0	1	0	3	Medium	
0	1	1	0	1	0	3	Medium	x
1	1	0	0	0	1	3	Medium	
0	0	1	0	1	1	3	Medium	
0	0	1	0	1	1	3	Medium	
0	1	1	1	0	0	3	Medium	
0	0	0	1	1	1	3	Medium	
0	0	0	1	1	1	3	Medium	
0	1	1	0	1	0	3	Medium	x
1	0	0	0	1	1	3	Medium	
1	1	0	0	0	1	3	Medium	
1	0	0	0	1	1	3	Medium	
1	0	0	0	1	1	3	Medium	
0	1	1	1	0	0	3	Medium	
1	0	0	0	1	1	3	Medium	
1	0	0	0	1	1	3	Medium	
1	0	0	0	1	1	3	Medium	
0	1	1	0	1	0	3	Medium	
0	0	0	0	1	1	3	Medium	
0	1	0	0	1	1	3	Medium	
0	1	1	1	0	0	3	Medium	
0	1	1	0	1	0	3	Medium	x
1	0	0	0	0	1	2	Medium	
1	0	0	0	0	1	2	Medium	x
1	0	0	0	0	1	2	Medium	x
1	0	0	1	0	0	2	Medium	
1	0	0	1	0	0	2	Medium	
0	0	0	1	1	0	2	Medium	
0	0	0	0	1	1	2	Medium	
0	0	0	0	1	1	2	Medium	
0	0	0	1	0	1	2	Medium	
0	0	0	0	1	1	2	Medium	
0	0	0	0	1	1	2	Medium	
0	1	1	0	0	0	2	Medium	x
0	0	1	1	0	0	2	Medium	
0	1	1	0	0	0	2	Medium	x
0	0	0	0	1	1	2	Medium	
0	0	0	0	1	1	2	Medium	

Intersection Street 1	Intersection Street 2	Design	Zone/Area
Fairwood Ave.	John W. Christian Greenbelt	Safe Routes to School	Fairwood Elementary School
Fairwood Ave.	Fairwood Elementary Frontage	Safe Routes to School	Fairwood Elementary School
Fairwood Ave.	Sandia Ave.	Safe Routes to School	Fairwood Elementary School
Floyd Ave.	Dublin Wy.	Safe Routes to School	Stocklmeir Elementary School
El Camino Real	Fremont Ave.	Crossing Improvement	El Camino Real
Grape Ave.	El Camino Real	Crossing Improvement	El Camino Real
Hemlock Ave.	San Diego Ave.	Safe Routes to School	Columbia MIddle School
Heron Ave.	Homestead Rd.	Crossing Improvement	None
Hollenbeck Ave.	The Dalles Ave.	Crossing Improvement	Hollenbeck Ave Corridor
Hollenbeck Ave.	Cascade Dr.	Crossing Improvement	Hollenbeck Ave Corridor
Bernardo Ave.	Homestead	Safe Routes to School	Cupertino Middle School
Kenmore Ave.	Olive Ave.	Safe Routes to School	Ellis Elementary School
Kennewick Dr.	Helena Dr.	Safe Routes to School	Cupertino Middle School
Lakechime Dr.	Meadowlake Dr.	Safe Routes to School	Lakewood Elementary School
Lakewood Elementary School Parking Lot	Lakechime Dr.	Safe Routes to School	Lakewood Elementary School
Leota Ave.	Carson Dr.	Safe Routes to School	Vargas Elementary School
Leota Ave.	School Drop Off Loop	Safe Routes to School	Vargas Elementary School
Leota Ave.	Washington Ave.	Safe Routes to School	Vargas Elementary School
Los Arboles Ave.	Cascade Dr.	Safe Routes to School	Nimitz Elementary
Manet Dr.	Remington Dr.	Crossing Improvement	None
Manet Dr.	Fremont Ave.	Crossing Improvement	Fremont Ave Corridor
Mango Ave.	Knickerbocker Dr.	Safe Routes to School	Sunnyvale Middle School
Mango Ave.	Sunnyvale Middle Frontage	Safe Routes to School	Sunnyvale Middle School
Mary Ave.	Iowa Ave.	Crossing Improvement	Washington Park Area
Mary Ave.	Helena Dr.	Safe Routes to School	Cupertino Middle School
Mary Ave.	Homestead Rd.	Safe Routes to School	Homestead High School
Mary Ave.	Carson Dr.	Safe Routes to School	Vargas Elementary School
Mathilda Ave.	California Ave.	Crossing Improvement	Downtown
Mathilda Ave.	Evelyn Ave.	Crossing Improvement	Downtown
Mathilda Ave.	El Camino Real	Crossing Improvement	El Camino Real
Mathilda Ave.	Ross Dr.	Crossing Improvement	None
Meadowlake Dr.	Lakefair Dr.	Safe Routes to School	Lakewood Elementary School
Norland Dr.	Alberta Ave.	Crossing Improvement	None
Pastoria Ave.	Olive Ave.	Crossing Improvement	Washington Park Area
Poplar Ave. / Rosalia Ave.	Bryant Wy.	Safe Routes to School	Peterson Middle School
Remington Dr.	Michelangelo Dr.	Crossing Improvement	None
Roosevelt Ave.	Maude Ave.	Crossing Improvement	SNAIL Neighborhood Zone
Samedra St.	Homestead Rd.	Safe Routes to School	Homestead High School
San Junipero Dr.	San Alvarado Ave.	Safe Routes to School	San Miguel Elementary School
San Miguel Ave.	Amador Ave.	Safe Routes to School	San Miguel Elementary School
Selo Dr.	Cascade Dr.	Safe Routes to School	Nimitz Elementary
Selo Dr.	Nimitz Elementary Frontage	Safe Routes to School	Nimitz Elementary
Silverlake Dr.	John W. Christian Greenbelt	Safe Routes to School	Lakewood Elementary School
Sunnyvale Ave.	Hazelton Ave.	Safe Routes to School	Bishop Elementary School
Sunnyvale Ave.	Bishop Elementary Frontage	Safe Routes to School	Bishop Elementary School
Sunnyvale-Saratoga Rd.	Remington Dr.	Crossing Improvement	None
Sydney Dr.	Cascade Dr.	Safe Routes to School	Nimitz Elementary
Teal Dr.	Inverness Wy. / Lochinvar Ave.	Safe Routes to School	Laurelwood Elementary
Teal Dr.	Laurelwood Elementary Frontage	Safe Routes to School	Laurelwood Elementary
Teal Dr.	Dunford Wy.	Safe Routes to School	Laurelwood Elementary

Community Identified Need	Collision Reduction - Proximity	Collision Reduction - HIN	Equity	Access to Key Destinations	Cross-Town Connections	Total	Priority	Also in Bike Plan
0	0	0	0	1	1	2	Medium	
0	0	0	0	1	1	2	Medium	
0	0	0	0	1	1	2	Medium	
1	0	0	0	0	1	2	Medium	
0	0	1	0	1	0	2	Medium	x
0	0	1	0	1	0	2	Medium	
0	0	0	1	0	1	2	Medium	
0	1	1	0	0	0	2	Medium	
1	0	1	0	0	0	2	Medium	
0	0	1	0	1	0	2	Medium	
1	0	0	0	0	1	2	Medium	
0	0	0	0	1	1	2	Medium	
1	0	0	0	0	1	2	Medium	x
0	0	0	0	1	1	2	Medium	
0	0	0	0	1	1	2	Medium	
0	1	0	0	0	1	2	Medium	
0	0	0	0	1	1	2	Medium	
0	0	0	0	1	1	2	Medium	
1	0	0	0	0	1	2	Medium	
0	1	1	0	0	0	2	Medium	x
0	1	1	0	0	0	2	Medium	x
1	0	0	0	0	1	2	Medium	
1	0	0	0	0	1	2	Medium	
0	0	1	0	1	0	2	Medium	
1	0	0	0	0	1	2	Medium	x
1	0	0	0	0	1	2	Medium	x
1	0	0	0	0	1	2	Medium	
0	0	1	0	1	0	2	Medium	
0	0	1	0	1	0	2	Medium	
0	0	1	0	1	0	2	Medium	x
0	1	1	0	0	0	2	Medium	x
0	0	0	0	1	1	2	Medium	
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0	1	0	0	1	0	2	Medium	
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0	0	0	0	1	1	2	Medium	
1	0	0	0	0	1	2	Medium	
1	0	0	0	0	1	2	Medium	
0	1	1	0	0	0	2	Medium	
1	0	0	0	0	1	2	Medium	
0	0	0	0	1	1	2	Medium	
0	0	0	0	1	1	2	Medium	
0	0	0	0	1	1	2	Medium	

Intersection Street 1	Intersection Street 2	Design	Zone/Area
Vienna Dr.	Tasman Dr.	Crossing Improvement	Tasman Dr Corridor
Wolfe Rd.	Gary Ave.	Crossing Improvement	Braly Park Area
Wolfe Rd.	Iris Ave.	Crossing Improvement	Braly Park Area
Wolfe Rd.	Old San Francisco Rd.	Crossing Improvement	Braly Park Area
Wolfe Rd.	Marion Wy.	Crossing Improvement	None
Wright Ave.	Helena Dr.	Safe Routes to School	Cupertino Middle School
Bayview Ave.	Bishop Elementary Frontage	Safe Routes to School	Bishop Elementary School
Bernardo Ave.	Fremont Ave.	Crossing Improvement	De Anza Area
Borregas Ave.	Duane Ave.	Crossing Improvement	SNAIL Neighborhood Zone
Carson Dr.	Vargas Elementary Back Entrance	Safe Routes to School	Vargas Elementary School
Central Ave.	Olive Ave.	Safe Routes to School	Ellis Elementary School
Chukar Ct.	Dunholme Wy.	Safe Routes to School	Stocklmeir Elementary School
Commercial St.	Arques Ave.	Crossing Improvement	None
Cumberland Dr.	Quetta Ave.	Safe Routes to School	Cumberland Elementary School
Fallen Leaf Lane	Louise Ln.	Safe Routes to School	West Valley Elementary School
Ferndale Ave.	San Aleso Ave.	Crossing Improvement	SNAIL Neighborhood Zone
Florence St.	Evelyn Ave.	Crossing Improvement	Downtown
Frances St.	Washington Ave.	Crossing Improvement	None
Grape Ave.	Hudson Wy.	Safe Routes to School	Cherry Chase Elementary School
Grape Ave.	Knickerbocker Dr.	Safe Routes to School	Cherry Chase Elementary School
Henderson Ave.	Bryant Wy.	Safe Routes to School	Peterson Middle School
Hollenbeck Ave.	Cheyenne Dr.	Crossing Improvement	Hollenbeck Ave Corridor
Lochinvar Ave.	Kerry Ave. / Kensignton Ave.	Safe Routes to School	Laurelwood Elementary
Los Arboles Ave.	Nimitz Elementary Frontage	Safe Routes to School	Nimitz Elementary
Mary Ave.	Ticonderoga Dr.	Crossing Improvement	De Anza Area
Mary Ave.	Fremont Ave.	Crossing Improvement	De Anza Area
Mary Ave. Bridge	Homestead High Western Parking Lot Access	Safe Routes to School	Homestead High School
Pastoria Ave.	Iowa Ave.	Crossing Improvement	Washington Park Area
Piper Ave.	Cumberland Dr.	Safe Routes to School	Cumberland Elementary School
San Conrado Terr.	Ferndale Ave.	Crossing Improvement	SNAIL Neighborhood Zone
San Juan Dr.	Blythe Ave.	Safe Routes to School	San Miguel Elementary School
San Pablo Ave.	Alvarado Ave.	Safe Routes to School	San Miguel Elementary School
Sequoia Dr.	Reed Ave.	Crossing Improvement	None
Sequoia Dr.	Iris Ave.	Safe Routes to School	Ponderosa Elementary School
Silverlake Dr.	Lakechime Dr.	Safe Routes to School	Lakewood Elementary School
Sunnyvale Ave.	California Ave.	Crossing Improvement	Downtown
Wright Ave.	Fremont Ave.	Crossing Improvement	De Anza Area
Bernardo Ave.	Ticonderoga Dr.	Crossing Improvement	De Anza Area
Florence St.	Washington Ave.	Crossing Improvement	Downtown
Frances St.	California Ave.	Crossing Improvement	Downtown

Community Identified Need	Collision Reduction - Proximity	Collision Reduction - HIN	Equity	Access to Key Destinations	Cross-Town Connections	Total	Priority	Also in Bike Plan
0	1	0	0	1	0	2	Medium	
0	0	1	1	0	0	2	Medium	
0	0	1	1	0	0	2	Medium	
0	0	1	1	0	0	2	Medium	x
0	1	1	0	0	0	2	Medium	
1	0	0	0	0	1	2	Medium	
0	0	0	0	0	1	1	Low	
0	0	1	0	0	0	1	Low	x
0	0	0	1	0	0	1	Low	x
0	0	0	0	0	1	1	Low	
0	0	0	0	0	1	1	Low	
0	0	0	0	0	1	1	Low	
0	1	0	0	0	0	1	Low	
0	0	0	0	0	1	1	Low	
0	0	0	0	0	1	1	Low	
0	0	0	1	0	0	1	Low	
0	0	0	0	1	0	1	Low	
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0	0	1	0	0	0	1	Low	
0	0	0	0	0	1	1	Low	
0	0	0	0	0	1	1	Low	
0	0	1	0	0	0	1	Low	
0	0	1	0	0	0	1	Low	x
0	0	0	0	0	1	1	Low	
1	0	0	0	0	0	1	Low	
0	0	0	0	0	1	1	Low	
0	0	0	1	0	0	1	Low	
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0	1	0	0	0	0	1	Low	
0	1	0	0	0	0	1	Low	
0	0	0	0	0	0	0	Low	x
0	0	0	0	0	0	0	Low	
0	0	0	0	0	0	0	Low	

APPENDIX E

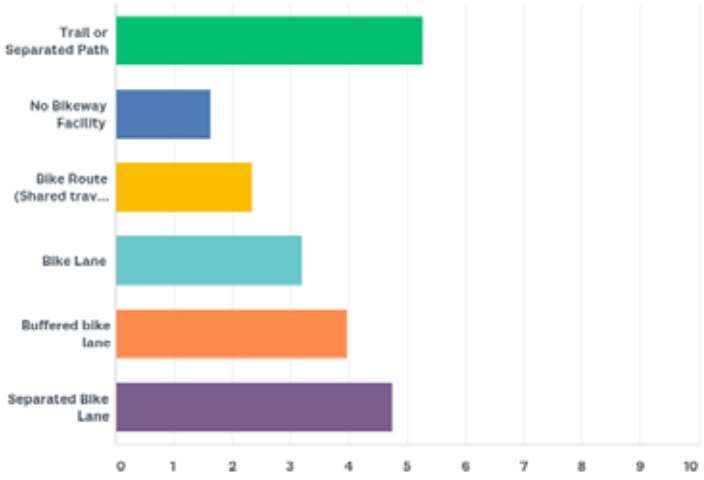
Outreach Materials

Community Survey Results

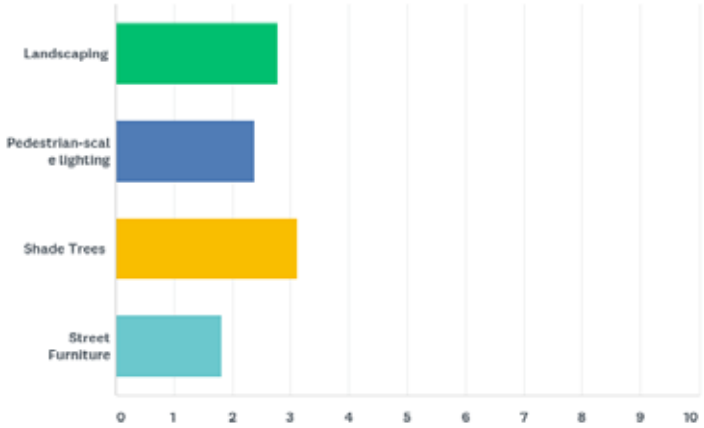
The City of Sunnyvale distributed an online survey to gather input on walking and bicycling challenges, preferences, and opportunities throughout Sunnyvale. The 21-question survey was made available online and advertised at mobile workshops and through City email notifications. The survey was open between September and October 2019. The survey received 944 responses. These responses informed the city's understanding of the public's current bicycling patterns as well as barriers to bicycling in Sunnyvale.

Charts and word clouds summarizing the response to each question have been included in this appendix document.

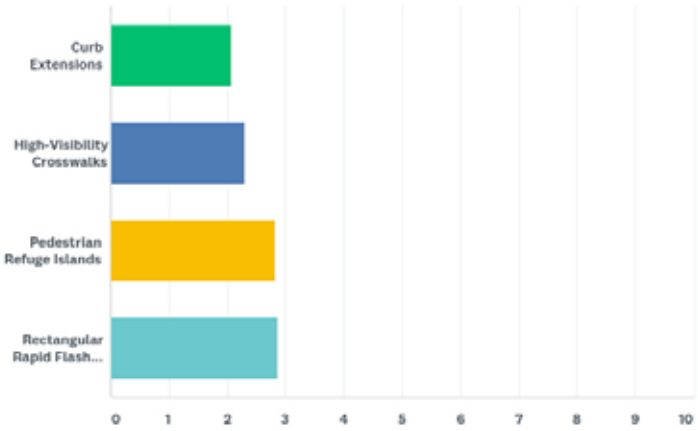
Q1 Please rank your comfort on the following bike facilities from most comfortable (1) to least comfortable (6). Each ranking can only be used once.



Q2 Please rank your preferred sidewalk features, with 1 being most preferred, and 4 being least preferred. Each ranking can only be used once.

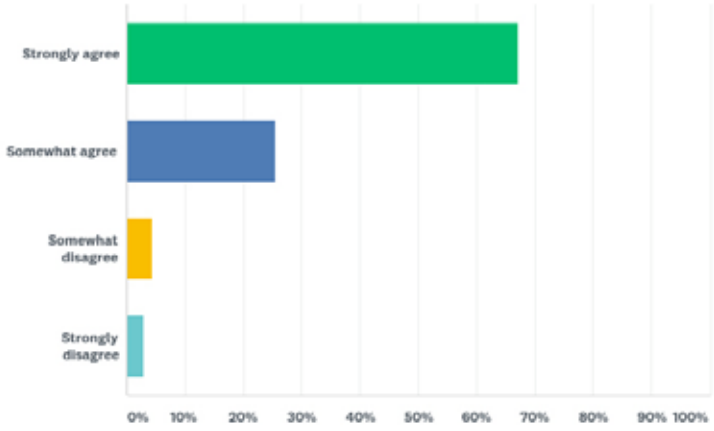


Q3 Please rank the following types of crossing features from most comfortable (1) to least comfortable (4). Each ranking can only be used once.

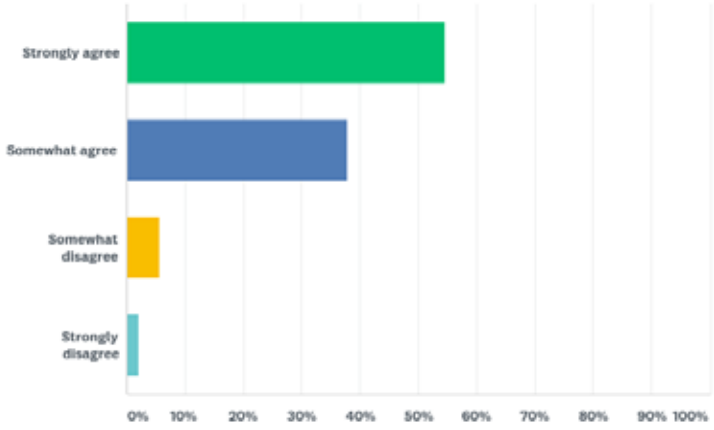


Q4 Optional: Are there other types of infrastructure or amenities that would make your walking experience more comfortable? Please describe.

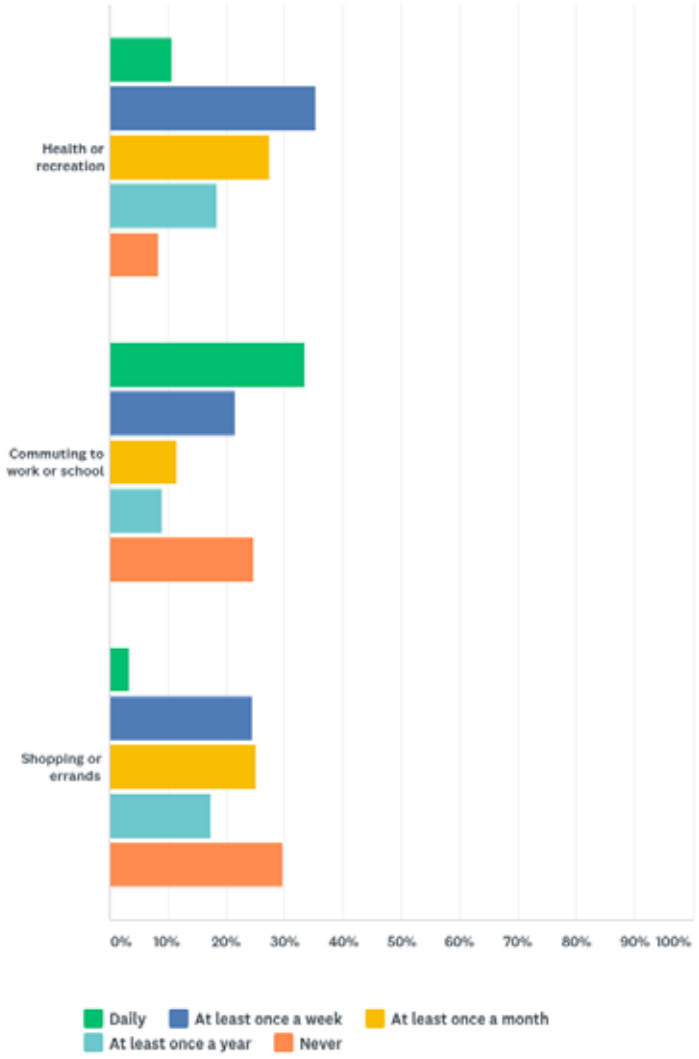
Q5 Do you agree with the following statement: "I would like to travel by bike more than I do now."



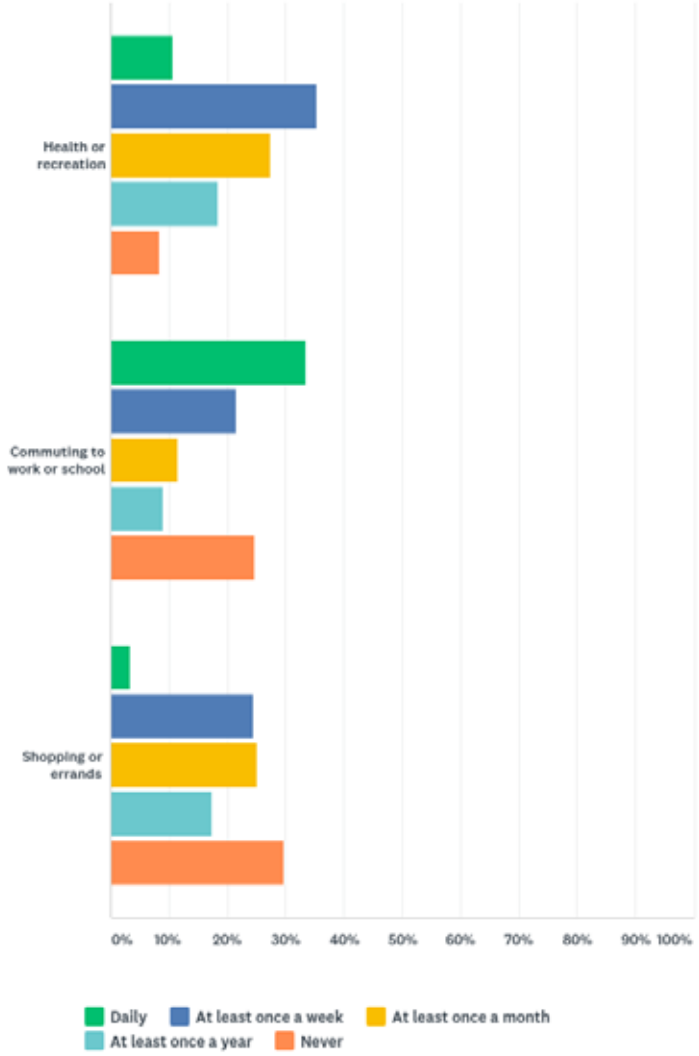
Q6 Do you agree with the following statement: "I would like to walk more than I do now."



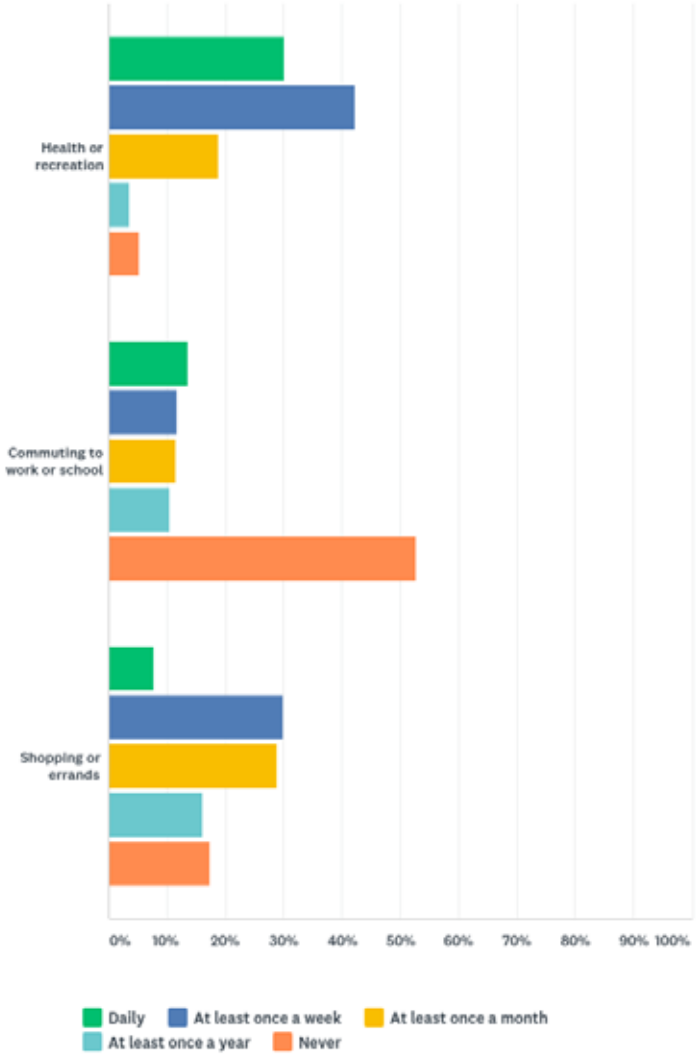
Q7 How often have you bicycled for any of the following trip purposes?



Q7 How often have you bicycled for any of the following trip purposes?

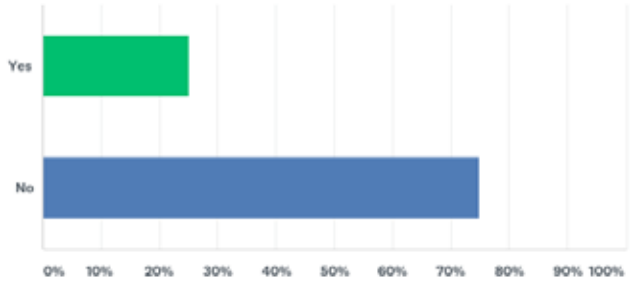


Q8 How often have you walked for any of the following trip purposes?

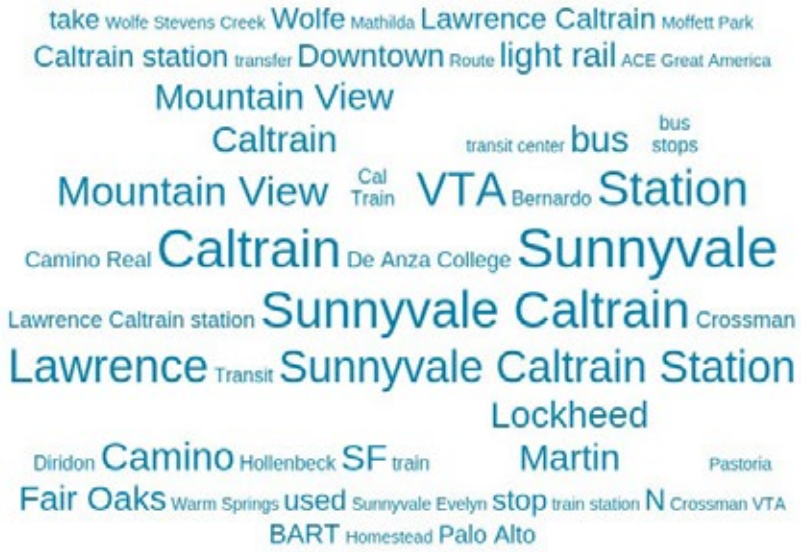


Q9 What would encourage you to walk or bicycle more often?

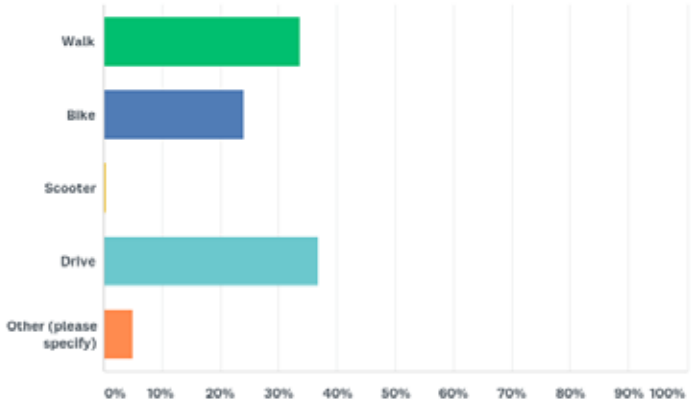
Q10 Do you regularly use public transit for transportation?



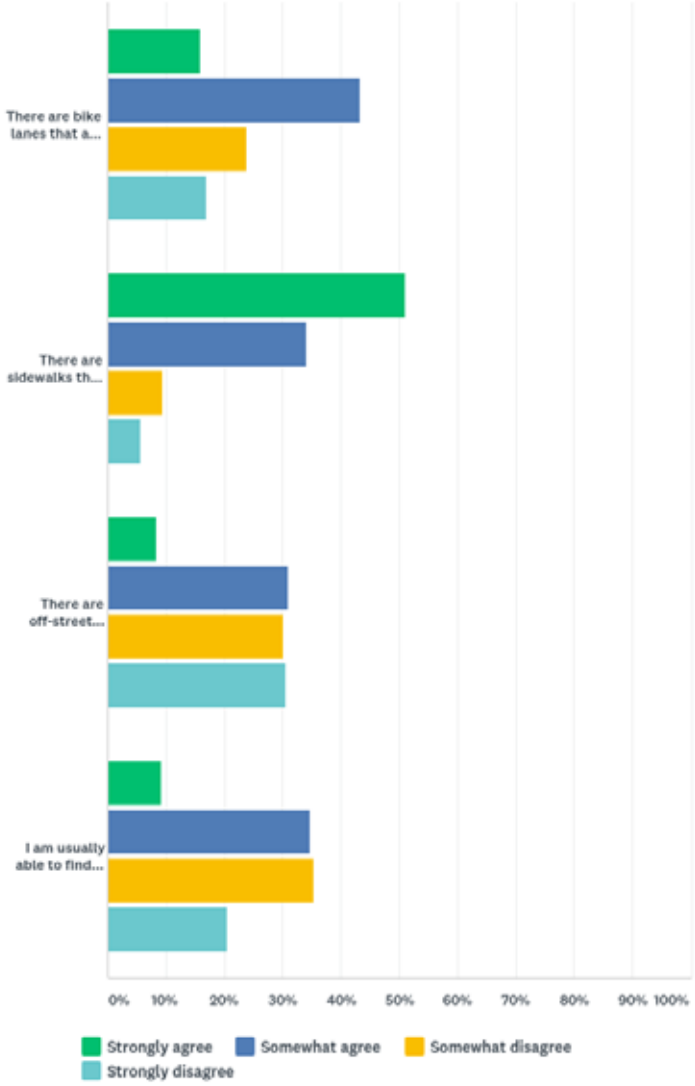
Q11 If so, which station(s) or transit stop(s) do you use most frequently?



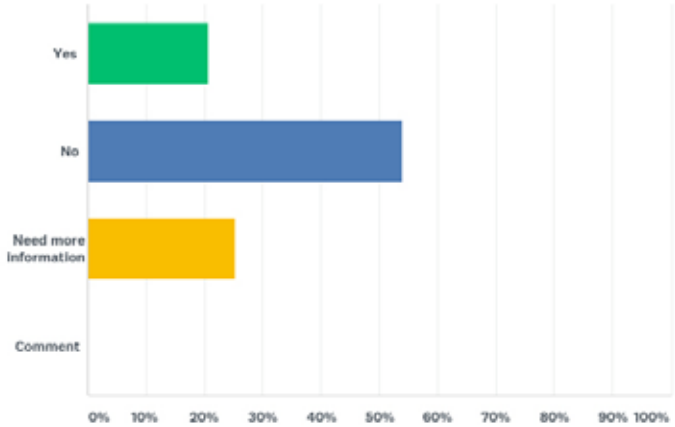
Q12 How do you most often access transit?



Q13 Please read the following statements and say whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree.

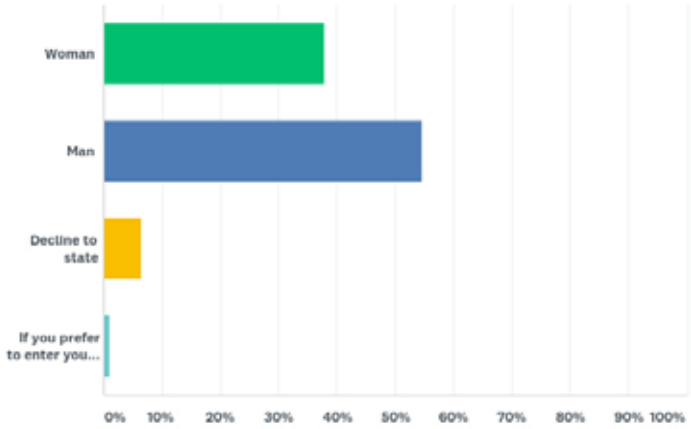


Q14 Would you or your family be interested in taking a class to ride a bicycle more confidently in traffic?

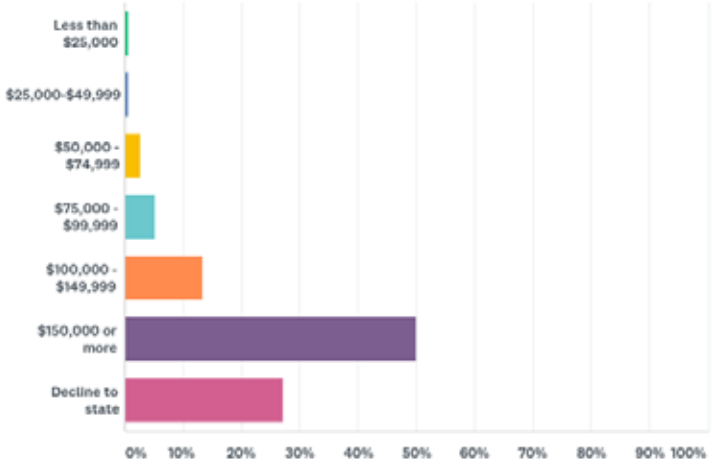


Q15 If you or your family would be interested in taking a bicycle education class, are there specific skills your family is interested in learning?

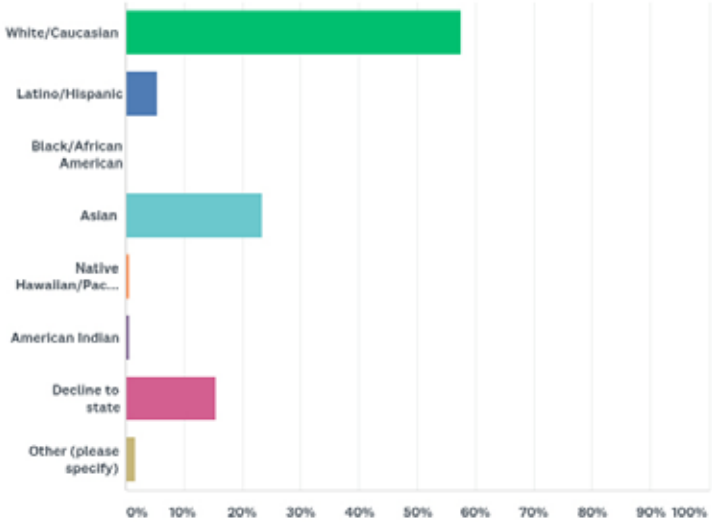
Q16 Which gender do you identify as?



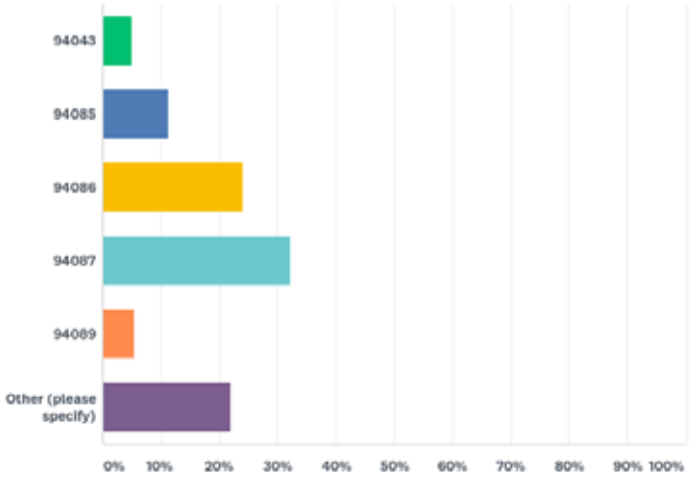
Q18 What was your total household income in the last 12 months?



Q19 What is your ethnicity? Please select one or more options that best reflect how you identify.



Q20 Where do you live? Please select your zip code.



APPENDIX F

Design Guidelines

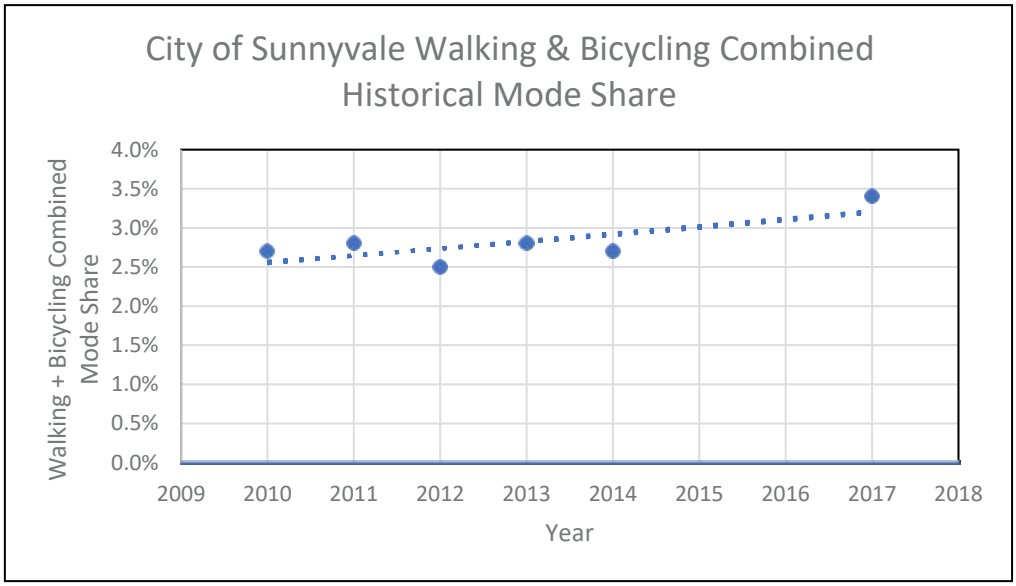
APPENDIX G

Modifications Proposed by BPAC to Final Draft ATP

Modifications Proposed by BPAC to Final Draft ATP

BPAC 1. To target a minimum of 1% increase in active transportation mode share per year (including bicycle, pedestrian, and alternative transportation such as scooter).

Staff Response: The following figure presents the historical combined mode share trend for Sunnyvale commuter ages 16 and older who commute to work by biking or walking. The data was obtained from the US Census Bureau (https://data.census.gov/cedsci/) and the Santa Clara County Health Department.



Based on historical data (Year 2010-2017), the change in the combined mode share for Sunnyvale commuters who walk or bike to work ranges from -0.3% to +0.23% each year. Staff feel that the Year 2030 goal of achieving a 5% bicycle mode share is more aggressive than our historical trend but could be achievable. BPAC's proposed 1% increase in active transportation mode share per year is not a realistic goal given that the mode share has increased less than 1% in the past seven years.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 2. To recommend an adoption of a lightweight change program for the Active Transportation Plan (ATP).

Staff Response: The BPAC refers to a "lightweight" process as a way to make changes to the APT relatively quickly. As staff continues to update specific plans and area plans, the individual plan will take a closer look at each of the specific plan/area plan area to determine the most appropriate street cross section, sidewalk width, bicycle facility types, etc. based on the proposed land use and density. Therefore, there is already a mechanism to continually refine the proposed improvements as staff focus on individual specific/area plan area, and this modification is not included in the Staff Recommendation. Additionally, changes to the ATP will require public outreach, commission review and recommendation and City Council approval

which cannot happen in a “lightweight” process.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 3. To fill in the gaps for the following high priority locations:

BPAC 3a. Kifer Road – extend the proposed Class IIB buffered bicycle lane from Commercial Street to the proposed East Channel Trail.

Staff Response: Staff has evaluated the feasibility of this modification and has determined that we are able to extend the proposed Class IIB buffered bicycle lane on Kifer Road from Commercial Street to the proposed East Channel Trail.

This modification as proposed by BPAC is included in the Staff Recommendation.

BPAC 3b. Wolfe Road – extend the proposed bicycle low-stress spine network from Evelyn Avenue to Old San Francisco Road.

Staff Response: Staff has evaluated the feasibility of this modification and has determined that we are able to extend the proposed Class IV Separated Bikeway from Evelyn Avenue to Old San Francisco Road/Reed Avenue.

This modification as proposed by BPAC is included in the Staff Recommendation.

BPAC 3c. Mary Avenue – extend the proposed bicycle low-stress spine network from Evelyn Avenue to Blair Avenue.

Staff Response: Per the ATP, a low-stress spine network is made up of Class I trails, Class IIB buffered bikeways, and Class IV separated bikeways. Staff has evaluated the feasibility of this modification and has determined that the segment of Mary Avenue between Evelyn Avenue and Blair Avenue does not have enough available right-of-way to continue the proposed Class IV separated bikeway from the north.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 3d. Sunnyvale Avenue – implement Class I shared-used path along Bishop Elementary School frontage between Maude Avenue and Hazelton Avenue.

Staff Response: Currently, there is an existing Safe Routes to School (SRTS) project where staff is evaluating the implementation of a Class IIB buffered bicycle lane on both sides on Sunnyvale Avenue between Maude Avenue and Hendy Avenue.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 3e. Marion Way – install sidewalk along the north side of Marion Way between Oriole Avenue and Norman Drive.

Staff Response: In reviewing the recent collision analysis, there was no pedestrian- or bicycle-

related collision history at this location in the five-year of collision period (2014-2018). However, given this segment of Marion Way is in close proximity to Peterson Middle School and it is along the routes to and from school, as part of the Staff Recommendation for the Safe Routes to School Spot Improvements, Staff will include this location as a Pedestrian Spot Improvement, which might consist of roadway shoulder improvements, or implementation of a permanent sidewalk improvement.

This modification is included in the Staff Recommendation.

BPAC 3f. Borregas Avenue – install high-visibility crosswalk at every intersection between Maude Avenue and State Route (SR) 237, with priority near the Guadalajara Market.

Staff Response: Currently, staff is working on an Active Transportation Program grant funded project where staff plans to implement crossing improvements on Borregas Avenue at Ahwanee Avenue and at Del Norte Avenue, which are on the routes to school for Columbia Middle School students. Per BPAC's recommendation, staff has taken another look on the Borregas Avenue corridor, and determined that high-visibility crosswalks and curb extensions would be included as Safe Routes to School recommendations on the north and south legs of the intersection of Borregas Avenue/E. Hemlock Avenue to provide safer crossing for students to and from Columbia Middle School.

This modification is included in the Staff Recommendation at three intersections along the Borregas Avenue corridor.

BPAC 3g. Tasman Drive – install sidewalk on the north side of the street where sidewalk is currently missing; implement low-stress bicycle network along Tasman Drive, and reduce vehicle travel speed.

Staff Response: Staff has evaluated the feasibility of this modification and has determined that there is currently not enough right-of-way to install sidewalk on the north side of the street nor to implement a low street bicycle network along the entire Tasman Drive corridor without eliminating a through travel lane or buying many mobile homes that back onto the corridor and removal of existing mature trees.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 3h. At the intersection of Tasman Drive and Lawrence Expressway – install bulbouts at all corners to slow right-turning vehicles and/or to restrict right turn on red.

Staff Response: The intersection of Tasman Drive and Lawrence Expressway is a County of Santa Clara owned and operated intersection under the Congestion Management Program (CMP), which is monitored by Santa Clara Valley Transportation Authority (VTA) every two years. The County and Sunnyvale needs to ensure the CMP intersections do not degrade below the acceptable thresholds for delay. The installation of bulbouts (necessitates the removal of a travel lane) and/or adding a restriction for right turn on red would likely reduce capacity at this intersection, which might impact the operations of the light rail as well as degrade the traffic level of service to below the acceptable thresholds. Therefore, this modification is not included

in the Staff Recommendation. Staff can work with County staff to see if reducing the curb radius can be implemented.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 3i. In the Lakehaven and Lakewood neighborhoods – staff to contact property owners to create better walkability to Columbia Middle School by obtaining easement through residential complexes and create walking path where wall exits surrounding each individual residential complex.

Staff Response: Prior to when a development was approved, the City could request a public easement from developers. However, as there is no anticipated or pending redevelopment, the City could only purchase land/easement right or obtain land through eminent domain. This modification is not included in the Staff Recommendation.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 4. To implement the following aspiration routes for low-stress bicycle spine network (either a Class IIB or Class IV) in addition to what is currently proposed in the Final Draft ATP:

BPAC 4a. Mary Avenue – between Evelyn Avenue to Homestead Road

Staff Response: This corridor currently has an existing Class II bike lane on both sides of the streets. Staff has evaluated the feasibility of this modification and has determined that the segment of Mary Avenue between Evelyn Avenue and Blair Avenue does not have enough available right-of-way to implement a low-stress bicycle spine network without eliminating a through travel lane, and the segment of Mary Avenue between Blair Avenue and Homestead Road does not have enough available right-of-way to implement a low-stress bicycle spine network without eliminating the center two-way turn lane.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 4b. Hollenbeck Avenue/Pastoria Avenue – between Evelyn Avenue and Homestead Road

Staff Response: Staff has evaluated the feasibility of this modification and has determined that the segment of Hollenbeck Avenue/Pastoria Avenue between Evelyn Avenue and Homestead Road does not have enough available right-of-way to implement a low-stress bicycle spine network along this corridor without eliminating existing on-street parking.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 4c. Wolfe Road – between Evelyn Avenue and Homestead Road

Staff Response: Staff has evaluated the feasibility of this modification and has determined that the segment of Wolfe Road between Old San Francisco Road/Reed Avenue and Homestead Road does not have enough available right-of-way to implement a low-stress bicycle spine network along this corridor. For the segment between Evelyn Avenue and Old San Francisco Road/Reed Avenue, staff will include a Class IV Separated Bikeway as the proposed

improvement in the Staff Recommendation. However, the segment of Wolfe Road between Old San Francisco Road/Reed Avenue and Homestead Road does not have enough available right-of-way to implement a low-street bicycle spine network without eliminating a through travel lane or existing on-street parking.

Part of this modification is included in the Staff Recommendation.

BPAC 4d. Homestead Road – within Sunnyvale City Limits

Staff Response: Staff has evaluated the feasibility of this modification and has determined that Homestead Road within the city limits does not have enough available right-of-way to implement a low-stress bicycle spine network without eliminating a through travel lane.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 4e. Maude Avenue – from Bayview Avenue to Wolfe Road

Staff Response: The City Council approved installing a Class IIB buffered bicycle lane on Maude Avenue from Bayview Avenue to Fair Oaks Avenue as part of the Maude Ave Streetscape project and has been temporarily installed as a Class II bicycle lane pending a parking study 6 months after project completion. Staff has also evaluated the feasibility of extending the Class IIB buffered bicycle facility to Wolfe Avenue and has determined this improvement would be feasible.

This modification as proposed by BPAC is included in the Staff Recommendation.

BPAC 4f. Evelyn Avenue – from Mathilda Place to Reed Avenue

Staff Response: In the current Final Draft ATP, Staff is recommending to implement a two-way Class IV separated bikeway on Evelyn Avenue between Bernardo Avenue and Mathilda Place, and a Class IIB buffered bike facility between Mathilda Place and Carroll Street. Staff has evaluated the feasibility of extending the Class IIB buffered bike facility to Reed Avenue and has determined there is currently not enough available right-of-way to implement a Class IIB buffered bike facility for this segment.

Part of this modification is already included in the original ATP. However, Staff is not able to include this entire modification in the Staff Recommendation.

BPAC 4g. California Avenue – between Mary Avenue and Sunnyvale Avenue

Staff Response: Staff has reviewed the Complete Bikeway Network and determined that an additional east-west bicycle corridor would be a great addition to the bicycle network recommendations. Staff has evaluated the feasibility of implementing a Class II bicycle lane on California Avenue between Mary Avenue and Sunnyvale Avenue and concluded that this improvement would be feasible by reducing the travel lane and parking lane widths in conjunction with removing on-street parking along the industrial commercial property frontages, where there are ample on-site parking. Additional studies and outreach will be performed, and it will be brought to City Council for project approval prior to construction of the

project.

This modification as proposed by BPAC is included in the Staff Recommendation. Staff further recommends extending the Class II bicycle lane to Fair Oaks Avenue.

BPAC 4h. Arques Avenue – between Fair Oaks Avenue and Lawrence Expressway

Staff Response: Staff has evaluated the feasibility of this modification and has determined that Arques Avenue between Fair Oaks Avenue and Lawrence Expressway does not have enough available right-of-way to implement a low-stress bicycle spine network without eliminating a through travel lane.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 5. To fill in the gaps in the Complete Bikeway Network for the following locations:

BPAC 5a. The Dalles Avenue/Alberta Avenue/Inverness Way/Lochnviar Avenue – implement Class IIIB bicycle boulevard

Staff Response: Class IIIB bicycle boulevard typically includes the implementation of traffic calming features, providing bicyclists more comfort to travel on the corridor. The Dalles Avenue, Alberta Avenue, Inverness Way, and Lochnivar Avenue are classified as Residential Collectors, which are designed for the mobility of traffic onto major roadways and do not qualify for conventional traffic calming measures. Implementing traffic calming measures on these roadways can result in traffic diversion onto other local residential streets. Furthermore, collectors are often preferred routes for emergency response vehicles. While most measures cause only a moderate discomfort and delay for normal passenger vehicles, because of the heavy weight of fire engines and the delicate instruments and patients within ambulances these vehicles must come to nearly a complete stop when maneuvering over or around any physical barriers; thus delaying emergency response. Therefore, staff is not able to implement Class III B bicycle boulevard on these streets.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 5b. Duane Avenue – from Stewart Drive to Lawrence Expressway – implement Class IIB Buffered Bicycle Lane

Staff Response: Staff has evaluated the feasibility of this modification and has determined that Duane Avenue between Stewart Drive and Lawrence Expressway does not have enough available right-of-way to implement a low-stress bicycle spine network without eliminating a travel lane.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 5c. Reed Avenue – between Evelyn Avenue and Lawrence Expressway – implement Class IIB Buffered Bicycle Lane

Staff Response: Staff has evaluated the feasibility of this modification and has determined that it

is feasible to upgrade the existing Class II bicycle lane on Reed Avenue between Evelyn Avenue to Willow Avenue to Class IIB Buffered Bicycle Lane; the segment between Willow Avenue and Lawrence Expressway will remain as Class II bicycle lane as there is not enough available right-of-way to implement a low-stress bicycle spine network on this segment without eliminating a through travel lane.

Part of this modification is included in the Staff Recommendation.

BPAC 5d. Java Drive / Fair Oaks Avenue – from Crossman Avenue to John W. Christian Greenbelt – implement Class IV Separated Bikeway

Staff Response: Staff has evaluated the feasibility of this modification and has determined that Java Drive/Fair Oaks Avenue between Crosswalk Avenue and John W. Christian Greenbelt does not have enough available right-of-way to implement a Class IV separated bikeway without eliminating a through travel lane.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 6. To modify the following ATP Actions:

BPAC 6a. Action 1.4 in the Bicycle Plan Chapter – change from "*Reconfigure roadways with excess vehicle capacity to accommodate bicycle facilities*." to match Sunnyvale General Plan Land Use and Transportation Element (LUTE) Policy LT-3.22 "*Provide safe access to city streets for all modes of transportation. Safety considerations of all transport modes shall take priority over capacity considerations for any one transport mode*."

Staff Response: This modification as proposed by BPAC is included in the Staff Recommendation.

BPAC 6b. Action 1.6 in the Bicycle Plan Chapter – change from "*Evaluate opportunity to remove underutilized on-street parking to create or expand bicycle facilities*." to match LUTE Policies LT-3.8 "*Prioritize safe accommodation for all transportation users over non-transport uses*…" and LT-3.9 "*As parking is the temporary storage of transportation vehicles, do not consider parking a transport use of public streets*."

Staff Response: Staff has evaluated this modification and has included the following changes in the Staff Recommendation:

Bicycle Plan Chapter
Action 1.6:

- Change to match LUTE Policy LT3-8.
- Change to match LUTE Policy 3-10 "*Prioritize street space allocated for transportation over parking when determining the appropriate future use of street space*." – staff believes this LUTE Policy would be more appropriate than LUTE Policy LT3-9

A modified version of this modification is included in the Staff Recommendation.

BPAC 6c. To review all actions in ATP and replace them with the LUTE transportation policies, where appropriate.

Staff Response: Staff has evaluated this modification and has included the following changes in the Staff Recommendation:

Bicycle Plan Chapter:
Action 1.7: Change from "*Overcome bicycling barriers, such as highways, with overcrossings or undercrossings to reduce out of way travel*" to match LUTE Policy LT-1.5c "*Work with adjacent cities to eliminate barriers and facilitate ways to get across barriers to travel such as discontinuous streets, trails, bike lanes, sidewalks, and paths*."

Action 3.3: Change from "*Work with employers and business districts within the City of Sunnyvale to increase the effectiveness of employer-based Transportation Demand Management (TDM) programs*" to match LUTE Policy LT-3.4 "*Require large employers to develop and maintain Transportation Demand Management (TDM) programs to reduce number of vehicle trips generated by their employees*."

This modification as proposed by BPAC is included in the Staff Recommendation.

BPAC 7. To implement the following:

BPAC 7a. As part of the annual Slurry Seal process, create a short-term task force consisting of a subset of BPAC commissioners to review the annual slurry seal list for possible restriping improvements to implement as complete street "best practice" upgrades.

Staff Response: Currently, as part of the annual Slurry Seal process, staff reviews the adopted plans to identify opportunities to implement improvements through restriping as indicated in the bicycle plan. This process involves evaluating the available right-of-way, as well as developing engineering improvement plans per the latest design guidelines, therefore this progress is considered operational rather than policy related. Streets that need additional studies, outreach and approval by City Council are handled separately. This is typical where on-street parking would need to be eliminated to provide bike lanes. Staff will continue to implement this process on an annual basis.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 7b. Develop and implement a Quick Build and Pilot Implementation process by end of 2021.

Staff Response: The City has been implementing quick build improvements when opportunities arise, including the new Class IV Bikeway on northbound Mary Avenue between Maude Avenue and Almanor Avenue, intersection improvements at the northeast corner of Blair Avenue/Grape Avenue, green bike box at the intersection of Crossman Avenue and Moffett Park Drive, and green bike lane at conflicting zones on various streets throughout the city. Therefore, there is no need to develop a pilot implementation process for this implementation. The draft ATP provides estimates and examples for implementation of improvements through quick build measures. However, quick build processes are not appropriate when significant community outreach is needed or when site specific safety studies are required before implementing a change.

This modification as proposed by BPAC is not included in the Staff Recommendation as it is an

ongoing practice.

BPAC 7c. Replace the text in the ATP to match the text in the city's Complete Street Policy and other relevant LUTE transportation policies, where appropriate.

Staff Response: Staff has reviewed the policies and actions in the ATP to match the city's existing policies, where appropriate.

This modification as proposed by BPAC is included in the Staff Recommendation.

BPAC 7d. Compile a list of arterial and collector streets with their Complete Streets status and deficiencies; for any streets which do not have a project in the next five years, provide shareable vehicle/bike space (i.e. bicycle lanes, wide curb lanes or shoulders", and install "Bikes May Use Full Lane" signs.)

Staff Response: Per the City's adopted Complete Streets policy, it does not require the implementation of bicycle facilities on every arterial and collector streets within the city, but rather, it states "*As feasible, City shall incorporate Complete Streets infrastructural into existing streets to improve the safety and convenience of users, with the particular goal of creating a connected network of facilities accommodating each category of users*..." As most of the city arterials in Sunnyvale are near capacity and available right-of-way is limited, staff is not able to implement bicycle improvements on every arterial. Staff does, however, ensure that there are alternative north/south or east /west parallel options for bicyclists to travel across town.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 7e. Include a list of all City-owned off-street paths and bike/pedestrian overcrossing bridges. The list should include whether they are classified as a Class I bike path per Caltrans Highway Design Manual Chapter 1000. In addition, Figure 11 in the ATP should include these facilities.

Staff Response: Existing pedestrian bridges (where bicyclists are required to walk their bicycles) are shown graphically in Map 2 Existing Bicycle Network and in Map 11 Complete Bikeway Network. For overcrossings where bicyclists do not have to dismount, these locations are shown as Class I Shared Use Path (i.e. the bridges at Borregas Avenue over US 101 and SR 237).

As part of the Staff Recommendation, all relevant maps in the ATP will be updated to include existing pedestrian neighborhood cut-through paths. Staff will also evaluate these pedestrian neighborhood cut-through paths and identify improvements to ensure they are ADA compliant. These locations will also be included in all the Pedestrian Recommendations maps.

A modified version of this modification is included in the Staff Recommendation.

BPAC 7f. Review the Santa Clara County 2018 Bicycle Master Plan and include all future bicycle improvements on County facilities (i.e. Lawrence Expressway, Central Expressway, etc.)

Staff Response: As the ATP is a planning document for the City of Sunnyvale, it only shows the proposed improvements within the City. Staff has coordinated with VTA, Santa Clara, Mountain

View, and Los Altos and Cupertino staff to ensure all facilities tie in across City boundaries.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 7g. Work with Santa Clara Valley Transportation Authority (VTA) and other neighboring jurisdictions to develop wayfinding sign standards for bicycle routes that cross city boundaries.

Staff Response: In the future, when VTA upgrades its Bicycle Technical Guidelines to include wayfinding sign standards for bicycle routes, Sunnyvale will participle and provide comments as a member agency. Participation and coordination with VTA and other Santa Clara County agencies is a continuous role that Sunnyvale staff participates in as a VTA member agency.

This modification as proposed by BPAC is not included in the Staff Recommendation.

BPAC 7h. Work with VTA to add bicycle parking at light rail stations.

Staff Response: Staff will coordinate with VTA Staff and provide them with input from the residents. However, since VTA has their own bicycle parking policy and standards at their transit stations and the light rail stations are within VTA's right-of-way, it will be up to VTA to determine if additional bicycle parking is needed at light rail stations.

This modification as proposed by BPAC is not included in the Staff Recommendation.

This plan was created by

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Sunnyvale