City of

Monte Sereno

BICYCLE & PEDESTRIAN MASTER PLAN

APRIL, 2023

Acknowledgements

City of Monte Sereno

Bryan Mekechuk, Mayor

Evert Wolsheimer, Vice Mayor

Burton Craig, Councilmember

Javed I. Ellahie, Councilmember

Rowena Turner, Councilmember

Steve Leonardis, City Manager

Don Wimberly, City Engineer (current Project Manager)

Jessica Kahn, City Engineer (former Project Manager)

Better Streets Commission (2022)

Barry Chaffin, Chair

Doreen Nelson, Vice Chair

Shalini Saxena

Bob Lapcevic

Better Streets Commission (2023)

Liz Lawler, Chair

Barry Chaffin, Vice Chair

Bob Lapcevic

Natalia Nazarova

KTUA

Joe Punsalan, Principal

Alex Samarin, Associate, Project Manager

Jacob Leon, Associate Planner

Nicole Rogge, Planner

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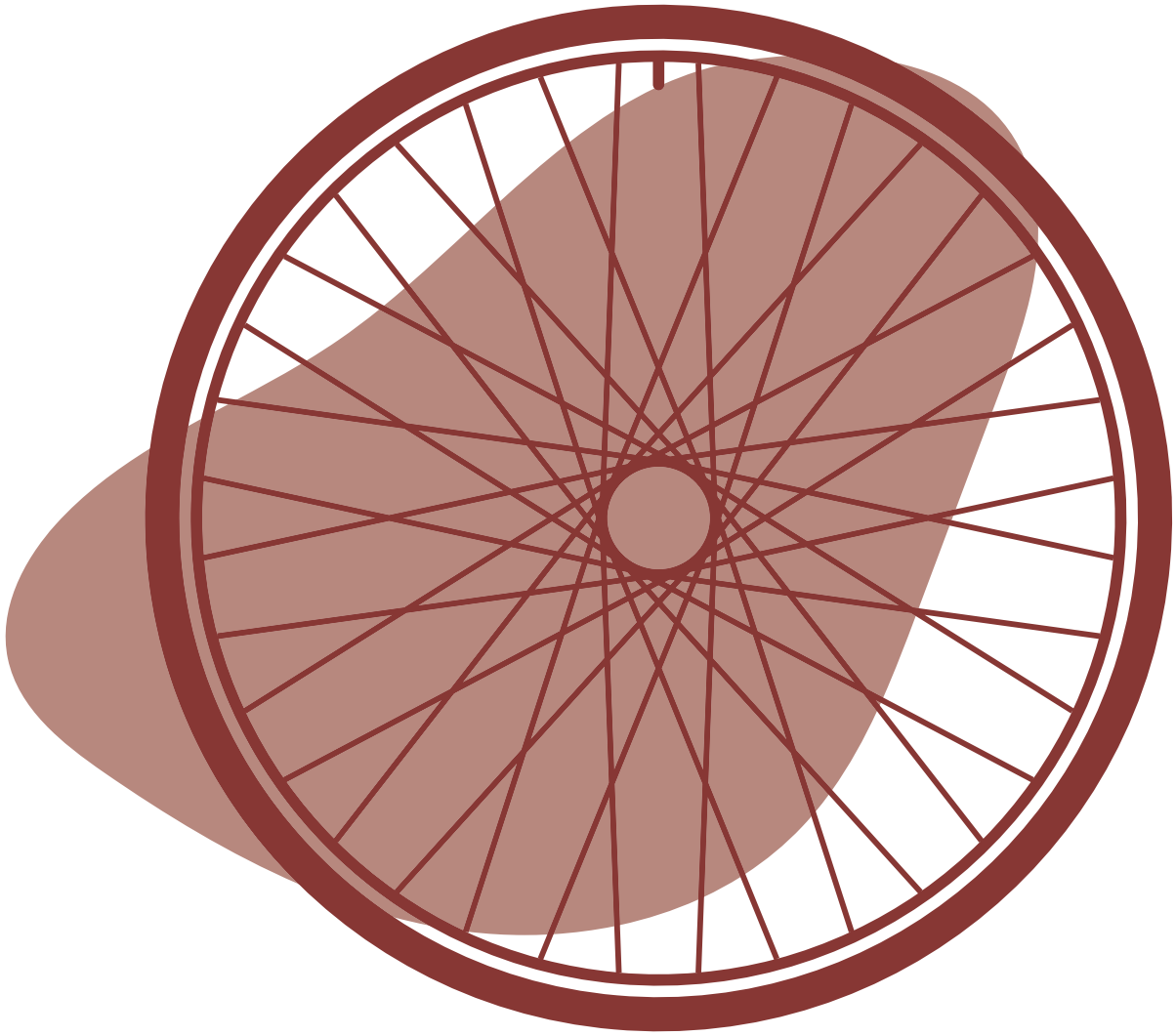
INTRODUCTION



1.1 Purpose

This Bicycle and Pedestrian Master Plan (BPMP) will assist the City of Monte Sereno on their mission to provide safer and enjoyable streets for all residents and visitors. Special attention is placed on improving the existing infrastructure for people that are dependent on active transportation modes like walking or biking to meet their daily travel needs.

The recommended projects in this BPMP are meant to support Monte Sereno's short, mid, and long-term goals as they relate to transportation and roadway safety. This BPMP includes an existing conditions and community outreach summary, and a list of recommended projects and funding sources that will support future project development and grant applications for implementation. This plan has already been instrumental in the Daves Avenue Improvement Project One Bay Area Grant (OBAG) application in July 2022.

1.2 Setting

Monte Sereno is a residential city in Santa Clara County nestled against the eastern slopes of the Santa Cruz Mountains. Roughly twelve miles west of downtown San Jose, the city is accessed regionally by Highway 9 and Highway 17, state highways that intersect one-half mile southwest of city boundaries. (Figure 1-1) The city character is rural-suburban, with large residential lots and landscaped homes set back from the road.

Goals

1. ### Safety

Identity, design and construct active transportation infrastructure to improve safety and comfort.

2. ### Access

Close bicycle and pedestrian infrastructure gaps within and adjacent to the City to ensure equitable and convenient access to local destinations. Improve existing conditions of the road and complete a non-vehicular circulation network along Highway 9, i.e., sidewalks, curb ramps, crosswalk.

3. ### Connectivity

Develop a network that creates multiple possible routes to destinations.

4. ### Feasibility

Develop projects that are implementable and cost effective to ensure they get constructed in a realistic timeframe.

5. ### Encourage Healthy, Active Living

Improve the safety and quality of life for residents by providing safe, convenient, and comfortable routes for walking and cycling.

6. ### Environmental Quality & Sustainability

Improve air quality, increase energy conservation, and reduce greenhouse gas emissions by reducing motor vehicle miles traveled.

FIGURE 1-1: Project Vicinity

1.3 Circulation

Figure 1-2 shows the Caltrans functional roadway classifications within Monte Sereno. Functional classification categories are based on the concepts of *mobility* and *accessibility*.

Highway 9 serves as a principal arterial and bisects the city running southeast to northwest.

South of Highway 9, hilly and circuitous local roads have few outlets or connections, the primary exception being Hernandez Avenue leading to the southeast (Figure 1-3).

Along and north of Highway 9, the city is more integrated with surrounding communities, notably the town of Los Gatos. Winchester Boulevard (minor arterial) and University Avenue (minor collector) parallel the eastern city boundary and provide access to businesses, schools, and recreation in and near downtown Los Gatos.

Though infrastructure for bikes and pedestrians - like sidewalks, curb ramps, crosswalks, and bike lanes - exists along Highway 9, Winchester Boulevard, and University Avenue, the non-vehicular circulation network is incomplete.

Daves Avenue serves as a minor connector between Winchester Boulevard and Highway 9, and is one of the few non-arterial roads in Monte Sereno that has pedestrian and bicycle infrastructure.

Monte Se[illegible] and Pedestrian Mas[illegible]

Mobility refers to the ability to travel a distance along a roadway corridor with few interruptions from travelers entering and exiting. *Accessibility* references the number or density of entries and exits along a roadway corridor, indicating a greater number of destinations served, a higher degree of integration into the transportation network, or both. Roadways that have higher accessibility also have more opportunity for travel interruptions from travelers entering and exiting. In Caltrans' spectrum of functional classification, interstate highways provide high mobility and low accessibility, whereas freeways, expressways, arterials, and local roads provide decreasing degrees of mobility but increasing degrees of accessibility.

FIGURE I-2: Caltrans Road Classification Map

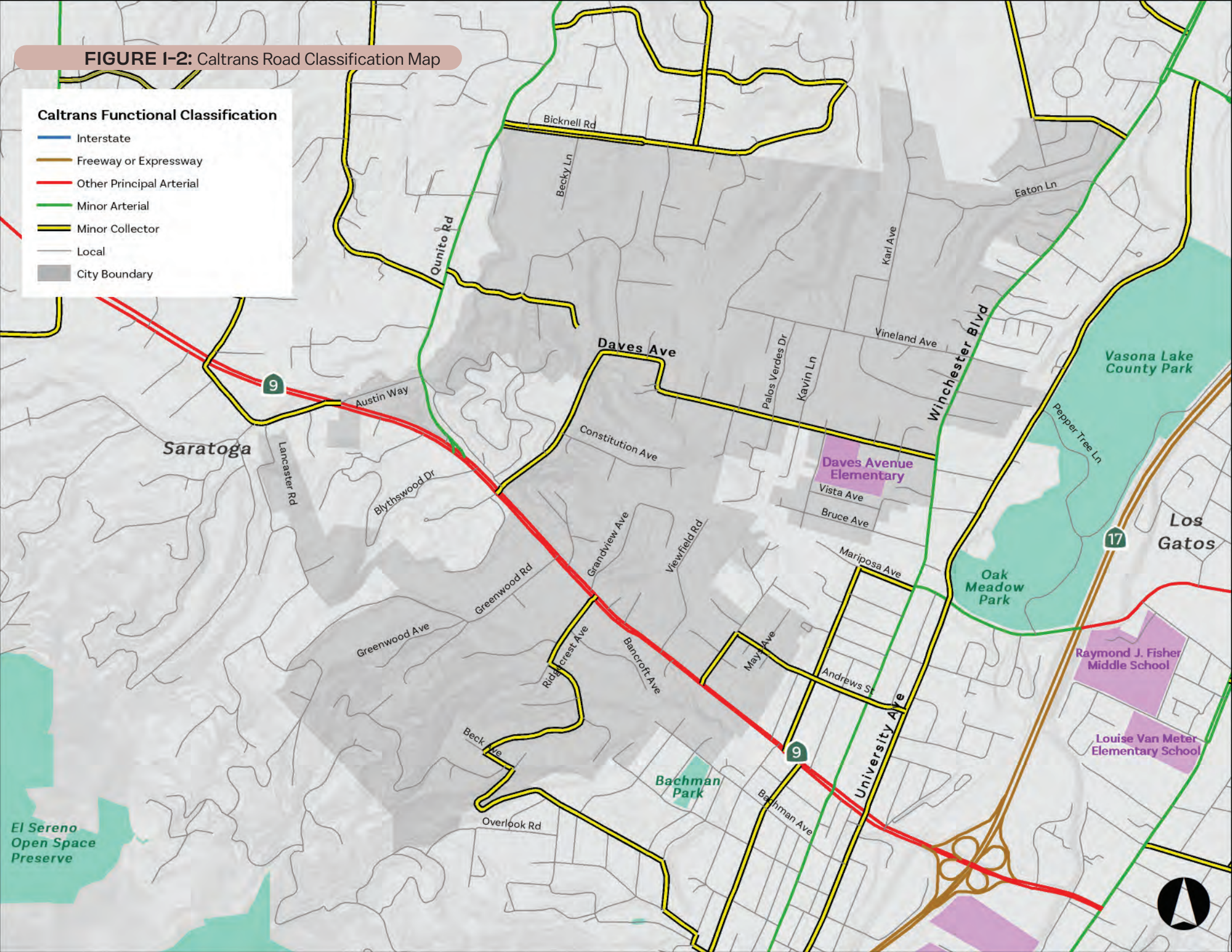
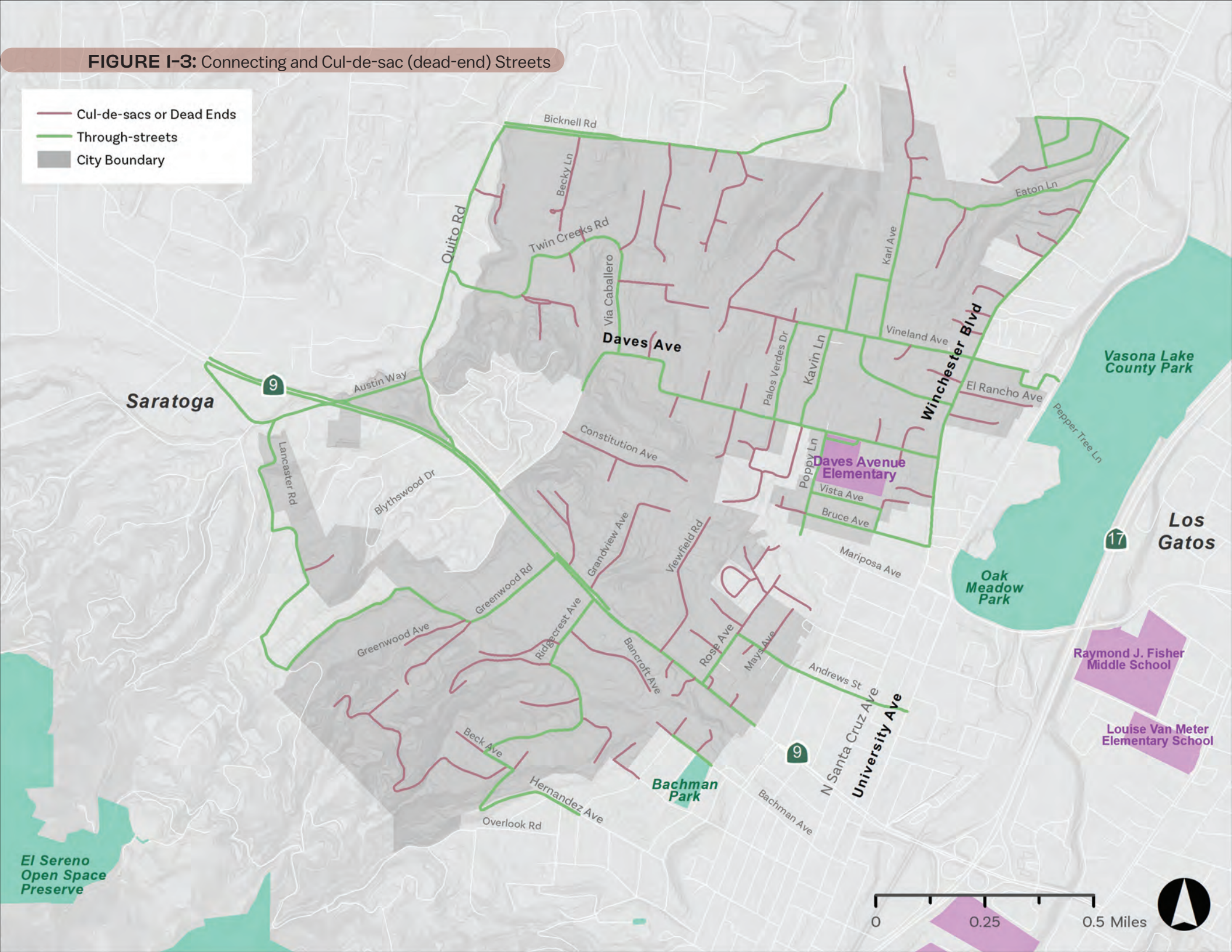


FIGURE I-3: Connecting and Cul-de-sac (dead-end) Streets



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1.4 Land Use and Destinations

Within Monte Sereno, a school, churches, a fire station and City Hall are the only non-residential land uses (Figure 1-4). Daves Avenue Elementary School serves approximately 450 students from kindergarten through fifth grade. Vasona Lake County Park is accessible along University Avenue at Pepper Tree Lane. The park is also accessible via the Los Gatos Creek Trail, a regional Class 1 multi-use path that runs for 9.7 miles from Meridian Avenue near downtown San Jose to Lexington Reservoir southwest of Los Gatos. Also across city boundaries in Los Gatos, Bachman Park provides easy access to playgrounds and open space for residents south of Highway 9, though travel on Highway 9 would be necessary for most.

Private residential lots are primarily single-family homes, though there is a new multi-family housing development on Highway 9 at Montalvo Oaks Circle. Resulting from recent changes to statewide policy, future accessory dwelling units on single-family residential lots may increase population density.

Residential land uses surround much of the city. Community-serving commercial areas outside of the city are centered on the intersection of Santa Cruz Avenue (Winchester Boulevard) at Highway 9, and Main Street in Los Gatos.

Downtown Los Gatos

Bachman Park

FIGURE 1-4: Destinations

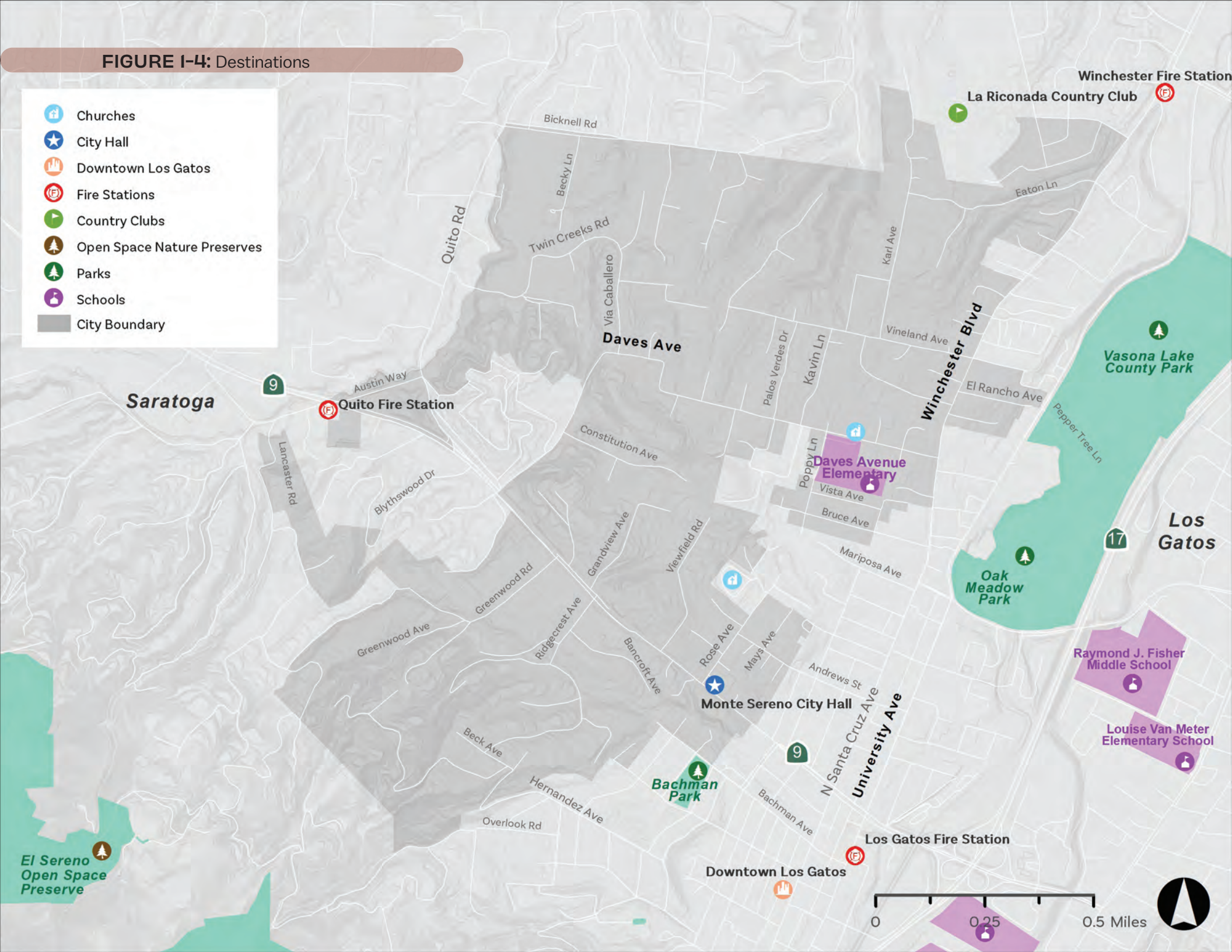
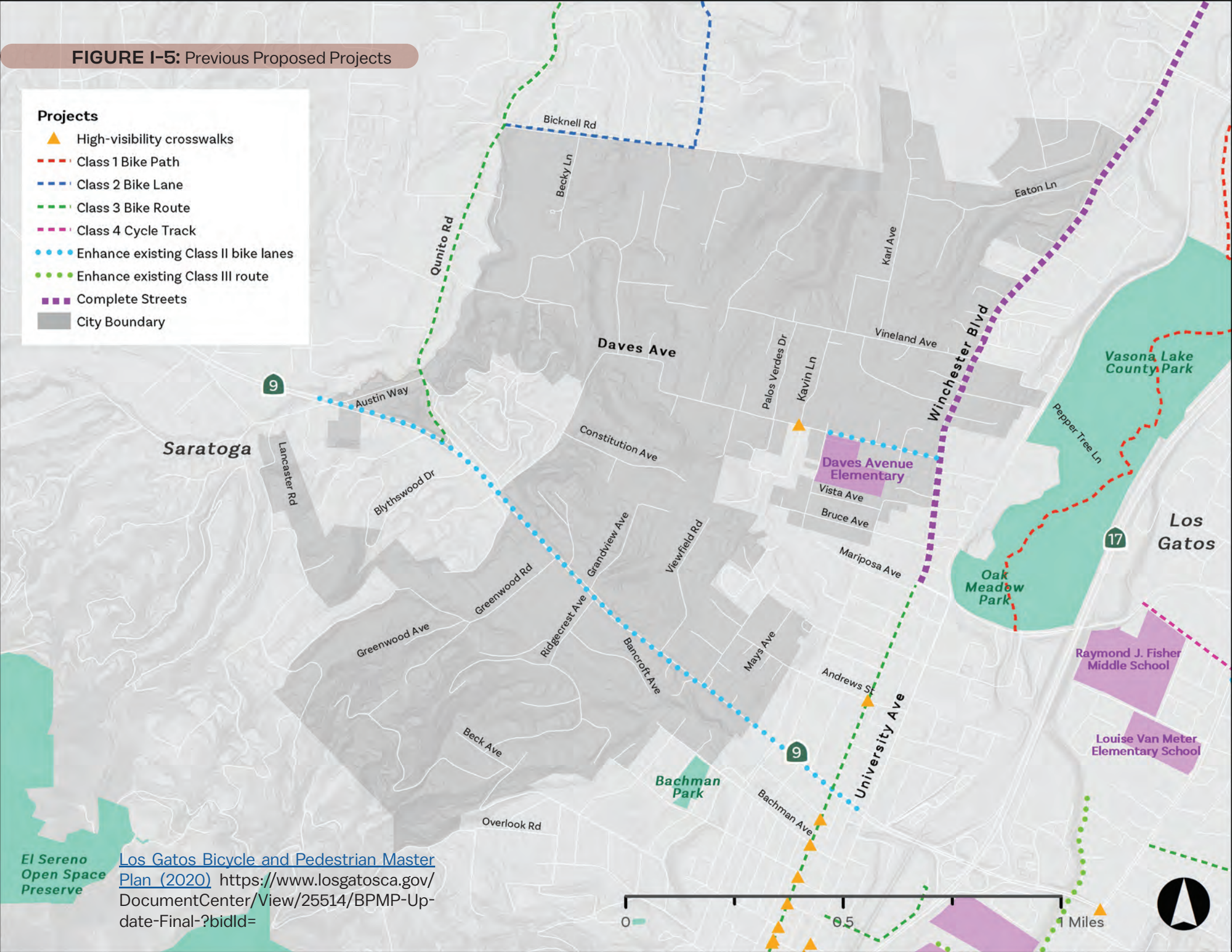


FIGURE I-5: Previous Proposed Projects



[Los Gatos Bicycle and Pedestrian Master Plan (2020)](https://www.losgatosca.gov/DocumentCenter/View/25514/BPMP-Update-Final-?bidId=) https://www.losgatosca.gov/DocumentCenter/View/25514/BPMP-Update-Final-?bidId=

1.5 Previous Plans and Projects

The following documents provide context and related information for this BPMP.

Town of Los Gatos Bicycle and Pedestrian Master Plan

The Los Gatos Bicycle and Pedestrian Master Plan guides the development of a comprehensive community-wide network of bicycle, pedestrian and trail facilities within the City of Los Gatos. Recommendations were included for Monte Sereno (Figure 1-5). This plan proposes an enhanced bicycle and pedestrian network that expands safe access to key community destination points. The Plan's proposed bicycle and pedestrian network provides key connections for Los Gatos and Monte Sereno residents to connect to regional bikeways, pedestrian infrastructure and transit. These connections support and expand sustainable transportation options, simultaneously improving public health and maximizing available public infrastructure.

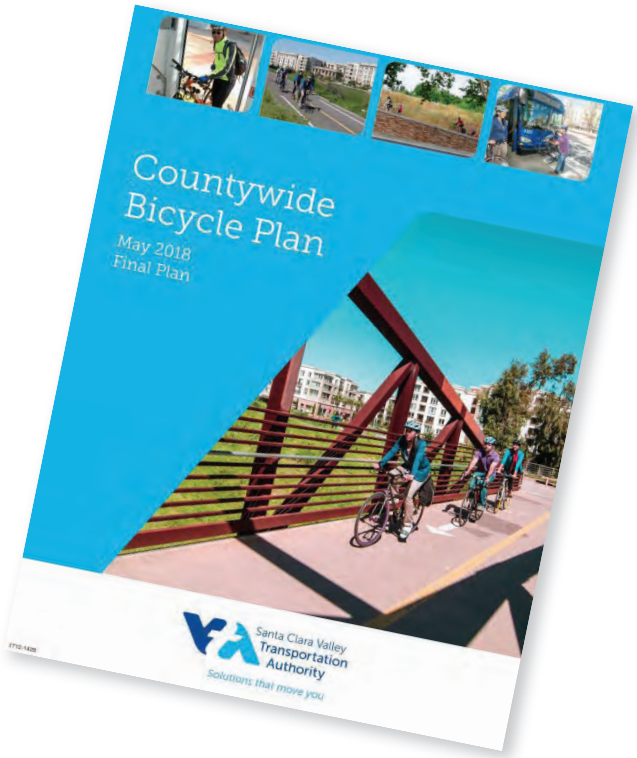
The most significant of these proposed projects is a Class 4 separated bike lane on Winchester Boulevard from Knowles Drive to Blossom Hill Road, which has been built from Albright Way to Blossom Hill Road as of Fall 2022. As a result, the entire eastern boundary of Monte Sereno has a safe bike facility for north-south travel.

Monte Sereno General Plan (2008)

The General Plan's goals, policies, and actions seek to improve road safety, reduce traffic congestion, minimize traffic on residential streets, promote public transportation, and to provide for safe pedestrian and bicycle routes in appropriate locations. In particular, the Plan seeks to promote safety around Daves Avenue, Daves Elementary School, and to reconfigure Highway 9 to safely accommodate people walking and bicycling.

Santa Clara Countywide Bicycle Plan (Santa Clara Valley Transportation Authority (VTA)

The Countywide Bicycle Plan identifies key bikeway projects to provide new regional connections, close network gaps, improve intermodal access, and provide new connectivity where there is an existing access barrier such as a freeway, railway, or natural element. The Plan also provides a policy and implementation framework for enhancing bicycling convenience and safety, and for promoting bicycling as a healthy, attractive choice.



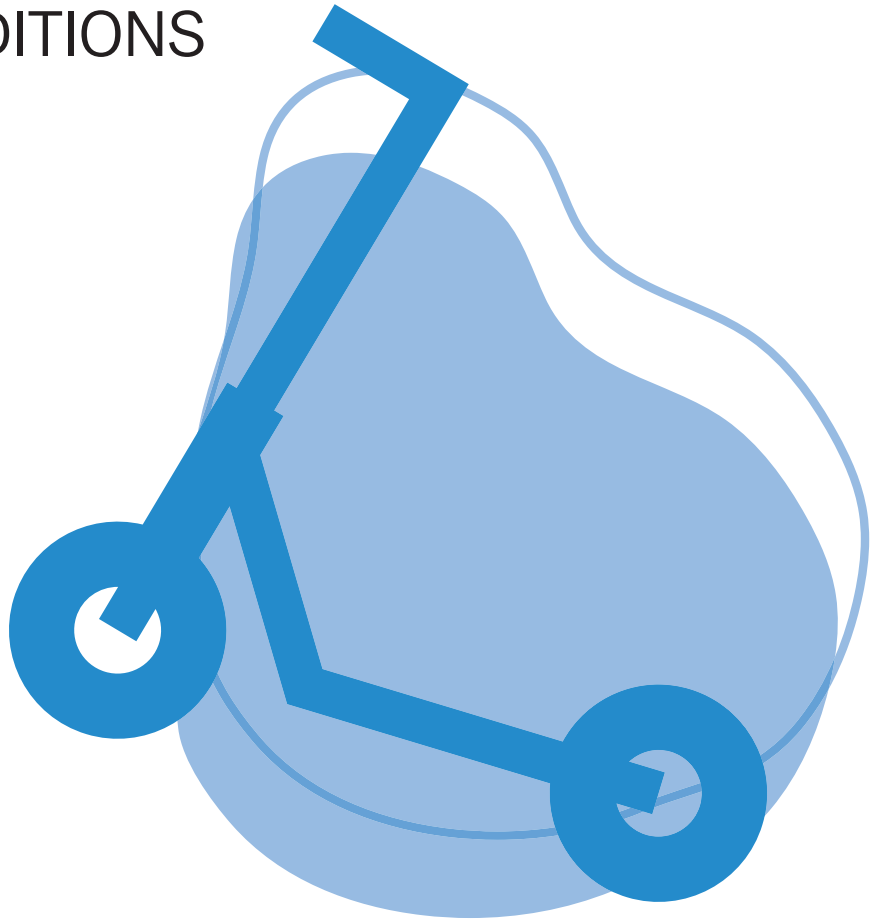
City of Saratoga General Plan Circulation Element

The City of Saratoga's General Plan helps guide the growth and land development of the community, while preserving open space areas and enhancing the quality of life for residents. The Saratoga 2040 General Plan seeks to maintain the predominantly small-town residential character of Saratoga, while encouraging the economic viability of the City's established commercial and office areas. It also strives to encourage healthy, active living, reduce traffic congestion and fossil fuel use, and improve the safety and quality of life of residents by providing safe, convenient, and comfortable routes for walking, bicycling, and public transportation. The Circulation Element's Vision is to preserve and further Saratoga's character through the Circulation Element's goals, policies and implementation measures such as:

- Improve the transportation system by balancing the needs of bicyclists, pedestrians, and transit users with considerations for safer vehicular travel
- Promote a healthy and active community by providing transportation opportunities for bicyclists and pedestrians

Chapter 2

EXISTING CONDITIONS



2.1 Demographics Overview

1,211 Households

2,174 people per square mile

50 years median age

>$250,000 median annual income

Source: US Census, American Community Survey, 2020 5-year estimates: Demographic Profile, *Selected Social Characteristics*; Table S0101, *Age and Sex*; Table S1901, *Income in the last 12 months*

Total Population and Population Density

Monte Sereno has 3,479 residents living in 1,211 households. This population is spread over 1.6 square miles, resulting in a population density of 742 people per square mile. The predominance of single-family residential land use in the city means that population density is relatively homogeneous.

Age

The median age in Monte Sereno is 50.1 years old, which is older than the median age in Santa Clara County (37.2 years old) and the State of California (36.7 years old). The proportion of residents in younger and older age brackets is higher than the County and State (Figure 2-1). The 55 to 59-year age bracket is the largest percentage of the Monte Sereno population, followed by the 70 to 74 year and 60 to 64 year age brackets. The City has a higher percentage population than the County and State in each 5-year age bracket from age 5 to 19. This age distribution of older and younger residents emphasizes the importance of safe pedestrian and bicycle facilities for all ages.

Income

The median income in Monte Sereno is greater than $250,000, and nearly 60% of Monte Sereno households have an income of greater than $200,000 (Figure 2-2). This is nearly double the percentage of high-income households than Santa Clara County, and over four times greater than the State of California. Monte Sereno has a smaller percentage of households than the County and State in every other household income bracket except for the $15,000 to $24,999 income bracket.

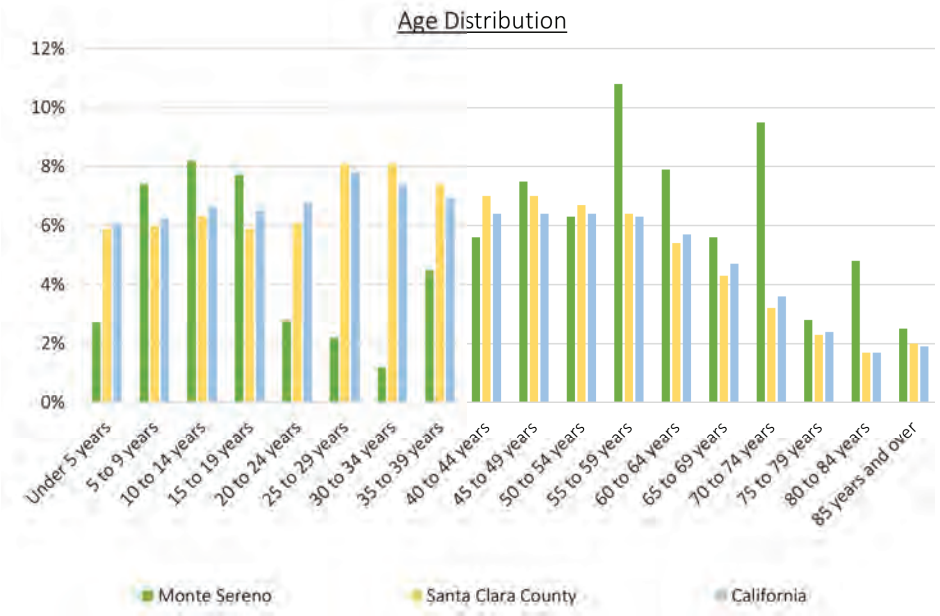


FIGURE 2-1: Age distribution

US Census, American Community Survey, 2020 5-year estimates: Table S0101, *Age and Sex*

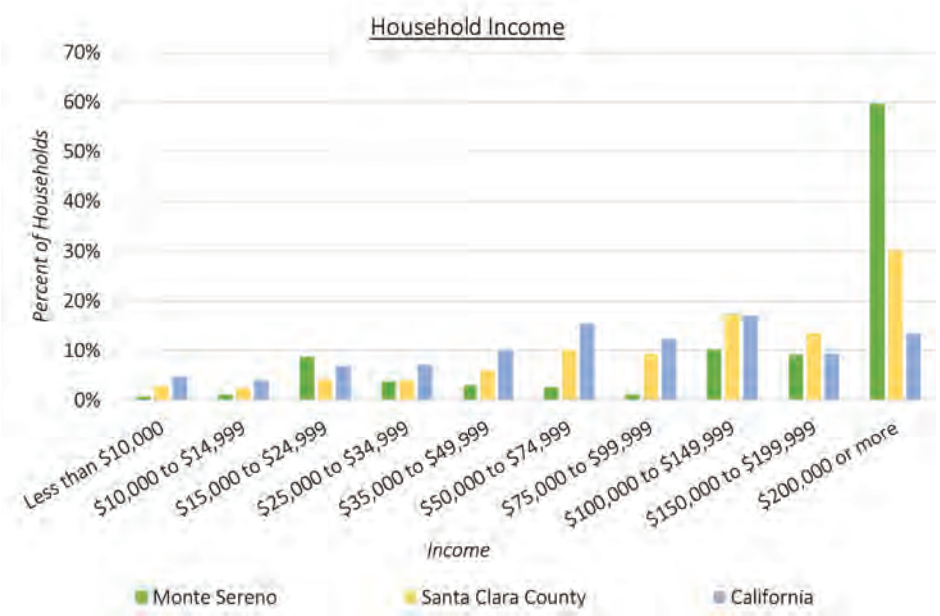


FIGURE 2-2: Household income

US Census, American Community Survey, 2020 5-year estimates: Table S1901, *Income in the last 12* months

Commute Characteristics

Compared to Santa Clara County and the State of California, Monte Sereno has a higher percentage of workers who drive alone to work (Figure 2-3). For all other commute modes, Monte Sereno has a lower mode share than both the County and State.

Compared to the County and State, Monte Sereno has a higher percentage of workers who drive less than ten minutes to work (Figure 2-4). Monte Sereno has a lower percentage of commuters than the County and State in all commute time brackets from 10 to 24 minutes, and comparable or higher percentages than the County or State for commute times 25 minutes or longer.

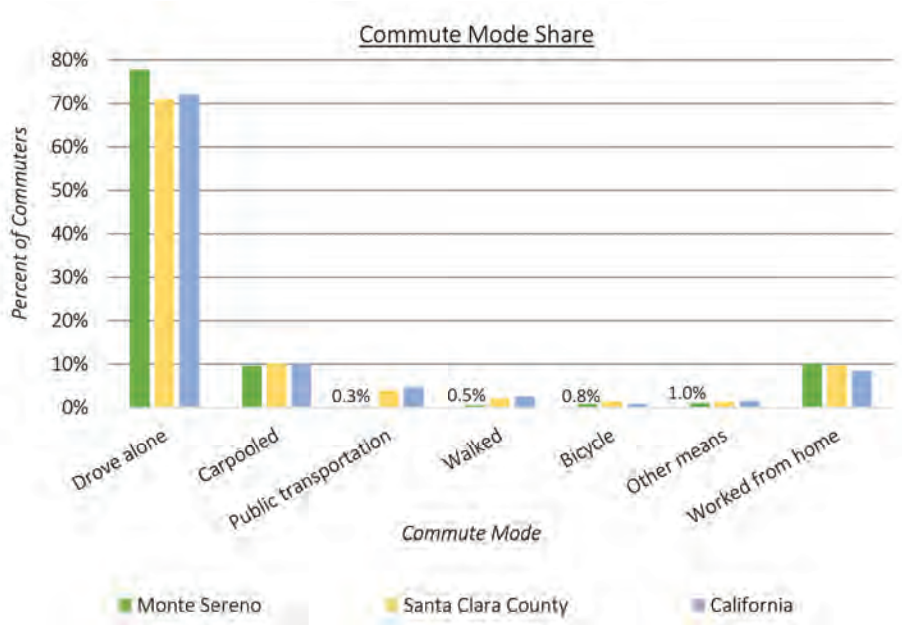


FIGURE 2-3: Commute mode share

US Census, American Community Survey, 2020 5-year estimates: Table S0801, *Commuting Characteristics by Sex*

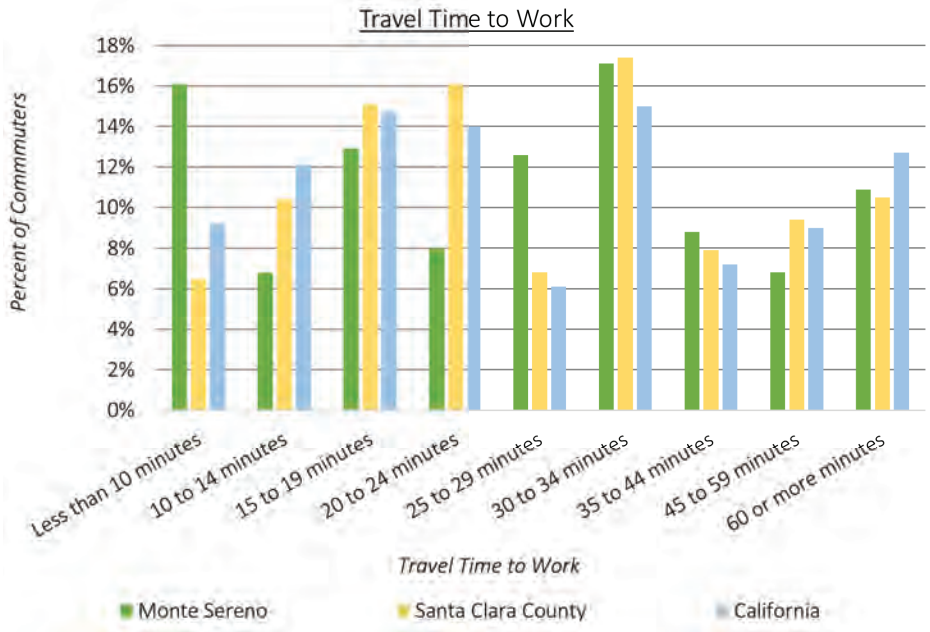


FIGURE 2-4: Travel time to work

US Census, American Community Survey, 2020 5-year estimates: Table S0801, *Commuting Characteristics by Sex*

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2.2 Existing Pedestrian Facilities

Existing Pedestrian Facilities

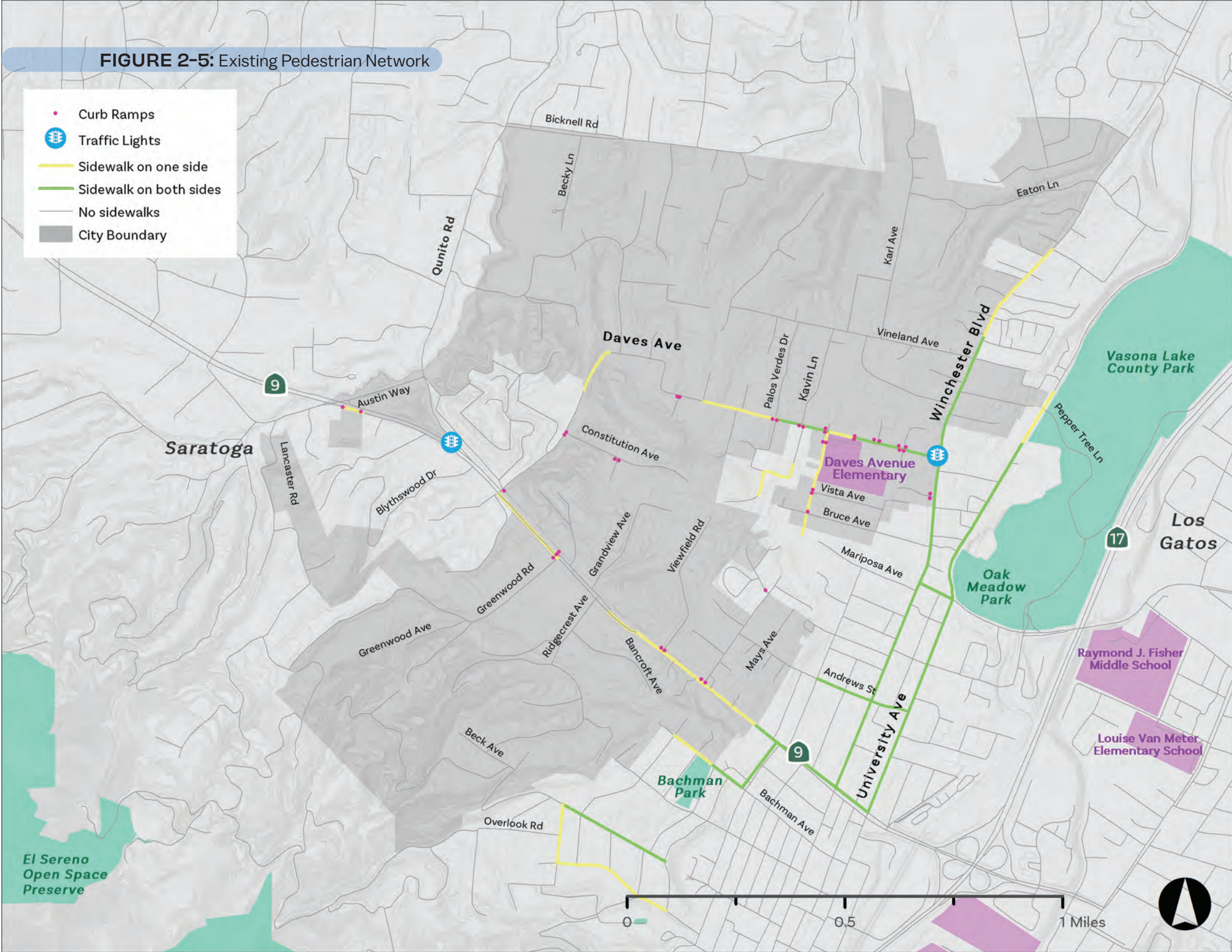
Pedestrian facilities in Monte Sereno do not create a connected network. Sidewalks occur on both sides of only two roads - Winchester Boulevard and Daves Avenue. Roads with sidewalks on only one side include Poppy Lane, Kavin Lane, Daves Avenue, and Highway 9. Along Highway 9 from Greenwood Road to Toyon Drive, and Daves Avenue west of Via Caballero, sidewalks are constructed of rough asphalt, and the slope, cross-slope, and width of these sidewalks may not meet ADA requirements. Curb ramps exist for most pedestrian crossings, though crosswalks are not as common.

Crosswalk across Poppy Lane to Daves Avenue Elementary School.

Shoulder Path on Daves Avenue.

Road with no sidewalks.

FIGURE 2-5: Existing Pedestrian Network



Existing Pedestrian Facilities

Pedestrian Crossing on Highway 9.

Neighborhood street with sidewalk and curb-ramp.

End of sidewalk on Daves Avenue.

High-visibility cross-walk with bulb-out and refuge island across Winchester Avenue.

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2.3 Existing Bike Facilities

Existing Bike Facilities

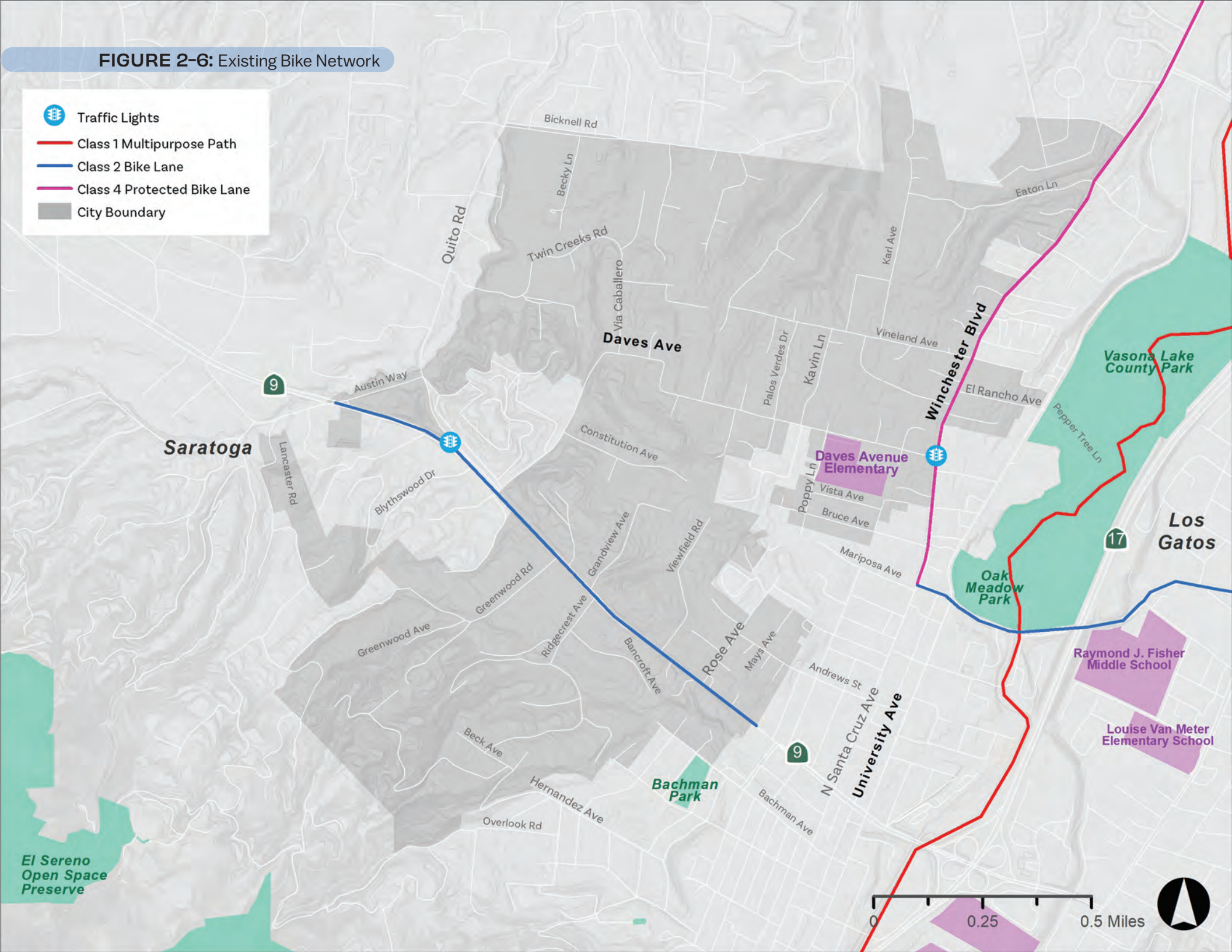
Existing bike facilities in Monte Sereno do not create a connected network. A Class 4 separated bike lane on Winchester Boulevard is the newest facility, and sufficiently addresses safety concerns along the four-lane roadway. Posted speeds are between 25 MPH and 35 MPH on Winchester Boulevard, though observed speeds are often higher and traffic volumes are high. Similar conditions exist along Highway 9, where posted speeds are between 35 MPH and 45 MPH, and bicyclists are provided a Class 2 bike lane.

Class 2 bike lane on Highway 9.

No bike facilities on Quito Road.

Bike crossing on Winchester Boulevard and Daves Avenue.

FIGURE 2-6: Existing Bike Network



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Chapter 3

COMMUNITY OUTREACH

3.1 Community Engagement Overview

Community outreach took a hybrid approach with in-person and online engagements.

The three primary community engagement strategies that were utilized for the ATP were:

- Better Streets Commission (BSC) Meetings
  - Two online meetings
  - Two site visits
- One community pop-up event at annual city picnic
- Needs assessment survey
  - Online and hard-copy

Better Streets Commission Meeting #1

April 14th, 2022

Topics: Improving connectivity, pedestrian safety, and sidewalk infill.

Better Streets Commission Meeting #2

August 17th, 2022

Topics: Proposed pedestrian and bike, feedback on recommendations.

City Picnic Pop-up

August 20th, 2022

Topics: Proposed projects.

3.2 Better Streets Commission

The City of Monte Sereno Better Streets Commission (BSC) is a group of five appointed residents that advise the City Manager on the design, operations and maintenance of the Monte Sereno street system. The BSC may advise on issues concerning pedestrians, bicyclists, transit, traffic controls, lighting, vehicular circulation, parking, underground utilities, street trees, and stormwater management. Two BSC meetings were held to discuss the Bicycle and Pedestrian Master Plan.

BSC Meeting #1:

An April 14, 2022 presentation to the BSC focused on the goals of the BPMP and existing conditions in the city. Commission members provided input on priorities for the project, such as providing better connectivity through neighborhoods, and increasing safety around Daves Avenue Elementary and along Highway 9. In field visits with Committee members, a desire was expressed for sidewalk infill along Daves Avenue, increasing the number and safety of pedestrian crossings across Highway 9 and Winchester Boulevard, and slowing vehicle speeds

BSC Meeting #2:

A second presentation to the BSC on August 17, 2022 focused on preliminary survey results and draft project recommendations. The presentation included an overview of the types of pedestrian and bicycle improvements and proposed locations for each within a connected bicycle and pedestrian network. Committee members gave feedback on project recommendations.

Current BSC Members:

- Doreen Nelson
- Barry Chaffin
- Shalini Saxena
- Bob Lapcevic
- Seat #5 vacant

3.3 Community Pop-up Workshop

City Picnic

Community input was gathered at the annual City picnic at Vasona Lake County Park. The picnic was held on August 20, 2022 and drew approximately 150 people. A table map and corresponding photo board of draft recommendations were available for review and comment. Approximately 30 people gave input over four hours.

Special concern was heard about pedestrian safety along Highway 9 and Winchester Boulevard, and the aesthetics of the new separated bike lane along Winchester Boulevard. Though the need for safety for all road users was recognized, a desire was expressed for improvements that fit the rural suburban character of the city.

3.4 Survey Results

Survey Distribution

A survey was distributed online through the city's communication and social media channels, as well as through community groups such as the Daves Avenue Home and School Club. The survey was also available in hard copy at City Hall. From July 15 to September 22, 2022, 132 responses were received. 125 of these responses were from Monte Sereno residents, and seven were from residents of Los Gatos, Saratoga, or Campbell. The respondents represented all areas from Monte Sereno, with 38.2% living between Highway 9 and Daves Avenue, 22.9% south of Highway 9, and 21.4% north of Daves Avenue. A small portion of survey respondents (9.1%) live in Monte Sereno east of Winchester Boulevard.

Age of Survey Respondents

The age distribution of survey respondents roughly reflects the older demographics of the City. 50% of the respondents were age 55 or older, and 45.38% were between the ages of 35 and 54. Six responses were from young adults age 18 to 34, and none were 17 and under.

School-based Travel

Though younger demographics were not explicitly represented, 46 respondents (34.9%) had K-12 students in their household, or were high school students over the age of 18. Daves Avenue Elementary was best represented with 23 parents responding, followed by 11 parents from Fisher Middle School, and 11 respondents (parents or students) from Los Gatos High School.

Among these school-based surveys, 26.7% drove to school and an additional 1.5% carpooled, for a total of 28.2% car-based school travel. 6.9% walked to school, and 6.1% biked to school (Figure 3-1). Open-ended responses from respondents with school-based travel indicate that distance, time, convenience, and safety were all factors in deciding to drive, though some respondents living near schools were comfortable walking.

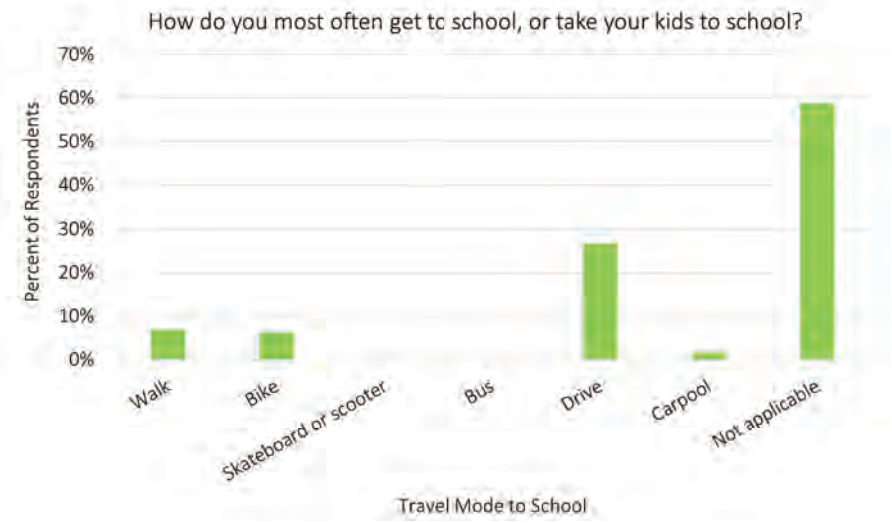

FIGURE 3-1: School-based travel survey question

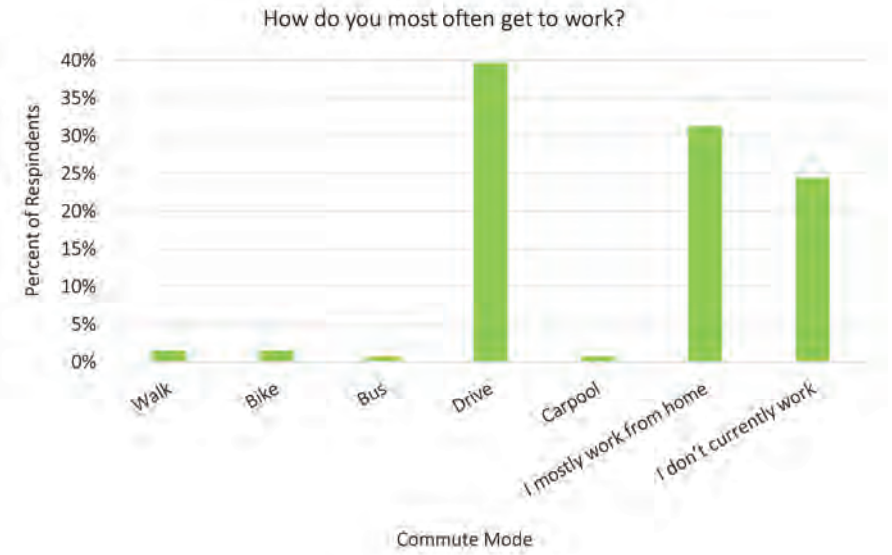

FIGURE 3-2: Commute mode survey question

Commute Mode

Car travel was the most common commute mode among survey respondents, with 39.7% driving alone and less than 1% carpooling. (Figure 3-2) Work from home was the second-most common commute mode (31.3%). Walking and biking commuters were each 1.5% of respondents, and less than 1% commute via bus.

Frequently-cited reasons for driving to work were:

- Travel distance and time to work
- Convenience of personal vehicles for multi-purpose trips
- Route safety
- Lack of a public transportation alternatives

Frequency and Purpose of Active Transportation Trips in Monte Sereno

Walking

Other than brief walks from a car to a final destination, most survey respondents (90%) indicate walking in Monte Sereno at least once a week, with 40.1% walking every day (Figure 3-3). Recreation was the most common walk trip purpose (93.9%), followed by errands (25.8%), travel to recreational activities (18.2%), and school trips (9.1%). (Figure 3-4) Though driving (68.9%) was indicated as the dominant mode for trips to parks or community centers, 59.9% of respondents indicated walking.

'Other' walking trip purposes were indicated by 15.1% of respondents. Connections to downtown Los Gatos were a common theme of these respondents.

Biking

Over half (55.7%) of respondents indicated that they "Never" or "Not often" rode bikes in Monte Sereno (32.1% and 23.7%, respectively). Most bicyclists rode one to three days a week, and only 6.1% rode every day. (Figure 3-5) Similar to walking, most bike trips (77.2%) were for recreational purposes, followed by errands (23.5%), travel to recreational activities (22.7%). (Figure 3-6) 41.7% indicated biking to parks or community centers.

FIGURE 3-3: Walking frequency survey question

FIGURE 3-4: Walking purpose survey question

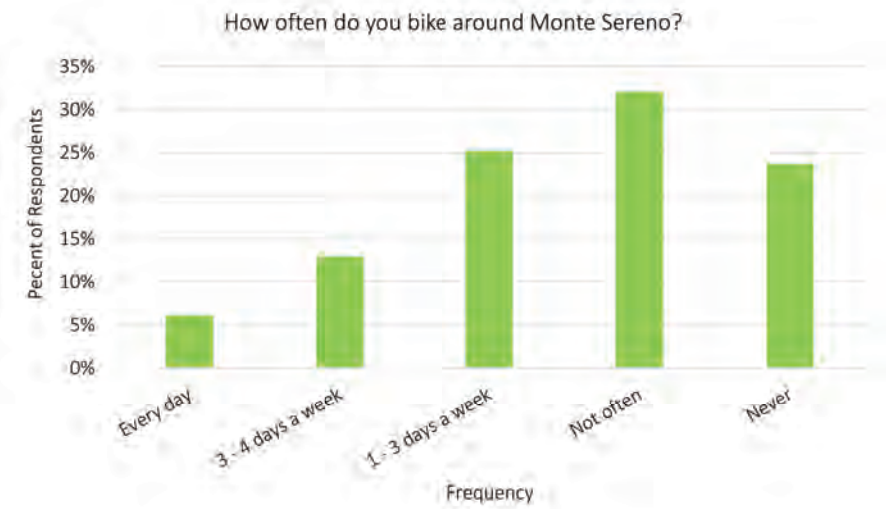

FIGURE 3-5: Biking frequency survey question

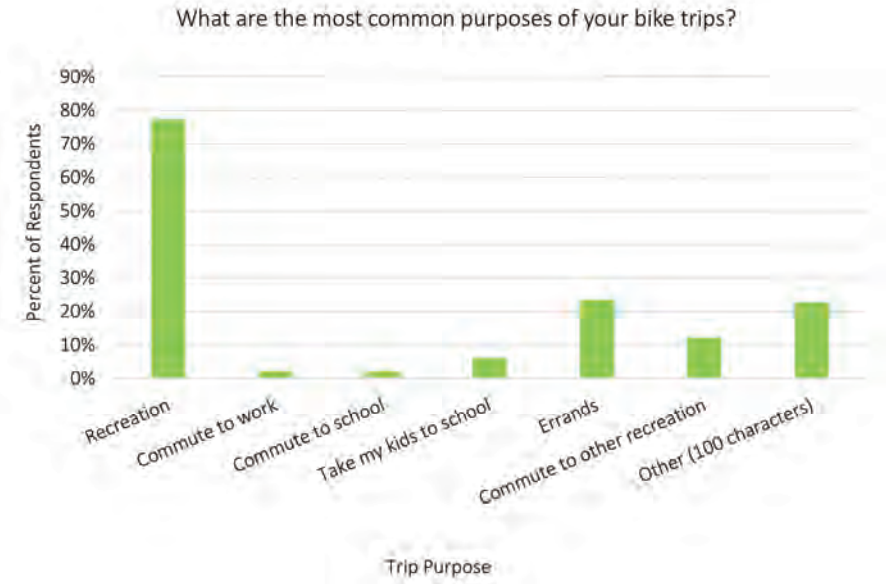

FIGURE 3-6: Biking purpose survey question

'Other' biking trip purposes were indicated by 22.7% of respondents. The need for safe routes to schools and safe crossings of major roads were common themes of these respondents.

Active Transportation Issues

Respondents were asked to select their reasons in agreement with the following statement:

"I avoid walking or biking across major roads such as Winchester Boulevard, University Avenue, or Highway 9 because..."

Multiple responses could be selected. The top three issues with bicycle or pedestrian crossings of major roads are as follows:

1. *"...drivers go too fast or don't see bikes and pedestrians."* (57.8% of respondents)
2. *"...safe crossings are too far apart."* (44%)
3. *"...there aren't enough sidewalks on or leading to these roads."* (42.4%)

20% of respondents chose to provide additional information. Several responses mentioned avoiding Highway 9, and supporting the type of improvements seen on Winchester Boulevard (Class 4 separated bike lanes). Others chose to indicate that they find these locations to be acceptable and do not avoid major roads while walking or biking. Several comments also mentioned the need for attentive, respectful, and law-abiding behavior by both bicyclists and drivers alike.

Desired Active Transportation Improvements

Walking

Over half of surveyed respondents indicated a desire for more sidewalks (52.3%) and slowing cars down (50.8%). Multi-use paths were preferred improvements by 43.9% of respondents, followed by flashing pedestrian crossing indicators (36.4%), and marked crosswalks (35.6%). (Figure 3-7)

Biking

Multi-use paths and improvements to slow cars down were equally desired by survey respondents (44.7%), followed by bike lanes (34.9%).

Specific locations and active transportation improvements mentioned in open-ended comments were:

- Kid-friendly sidewalk and bike lane on Highway 9 between Monte Sereno City Hall and Daves Avenue
- Safety improvements along Daves Avenue 'S' curves
- Speeding on Highway 9, especially where the roadway divides
- Bruce Avenue at Poppy Lane: lack of a safe crossing for students who use a bicycle and pedestrian path through El Sombroso Oaks retirement community
- Lack of sidewalks, and safe crossings of Highway 9
- Vehicles speeding and ignoring stop signs on Daves Avenue
- Bike safety improvements on Quito Road
- Vehicles speeding on Ridgecrest Avenue
- Lack of sidewalks near Montalvo Oaks (new multi-family residential development)
- Lack of street sweeping in new separated bike lane on Winchester Boulevard creates a hazard and forces bicyclists into vehicle lanes
- Abrupt end to separated bike lane at Winchester Boulevard and Blossom Hill Road feels unsafe to bikers
- Sidewalk on Highway 9 from the vicinity of Lexington Drive/Grandview Drive to east of Highway 9 lane-merge (near Viewfield Road)
- A path connecting Grandview Drive to Viewfield Road
- Crossing of Highway 9 near Austin Way and Montalvo Oaks
- A desire to balance improved safety brought about by active transportation improvements with the rural characteristics and aesthetics of Monte Sereno.

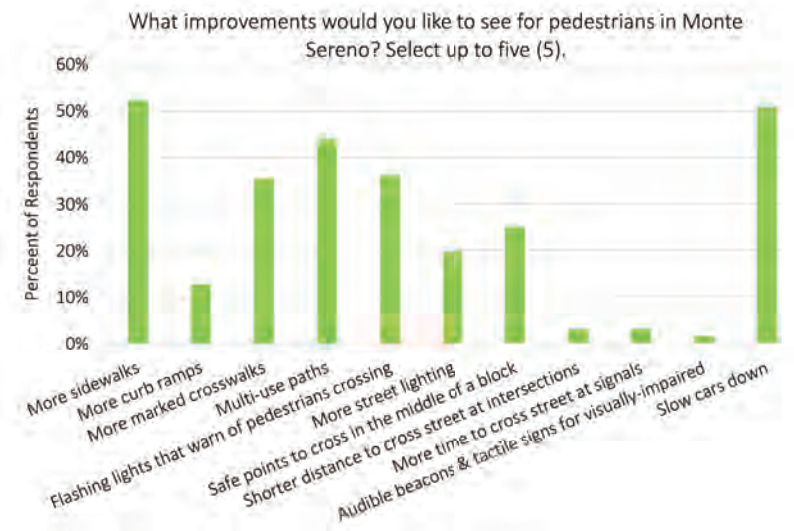

FIGURE 3-7: Pedestrian improvements survey question

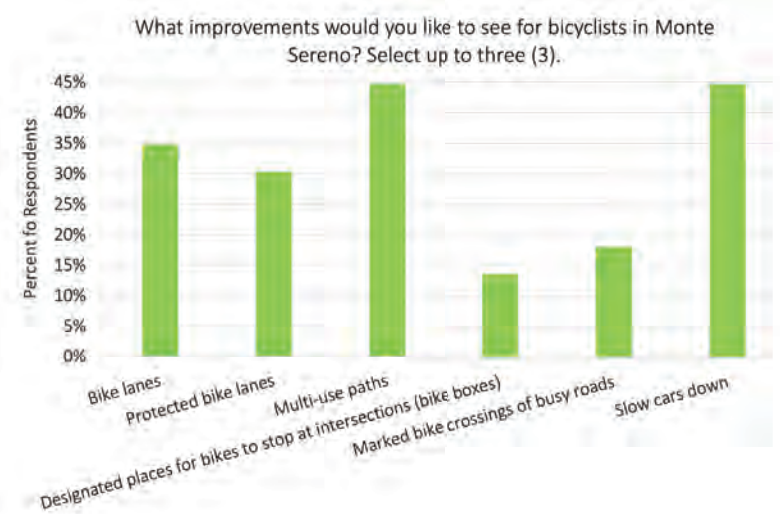

FIGURE 3-8: Bike improvements survey question

Strong public input was received concerning the construction of sidewalks along Highway 9, particularly between Grandview Drive and Viewfield Road

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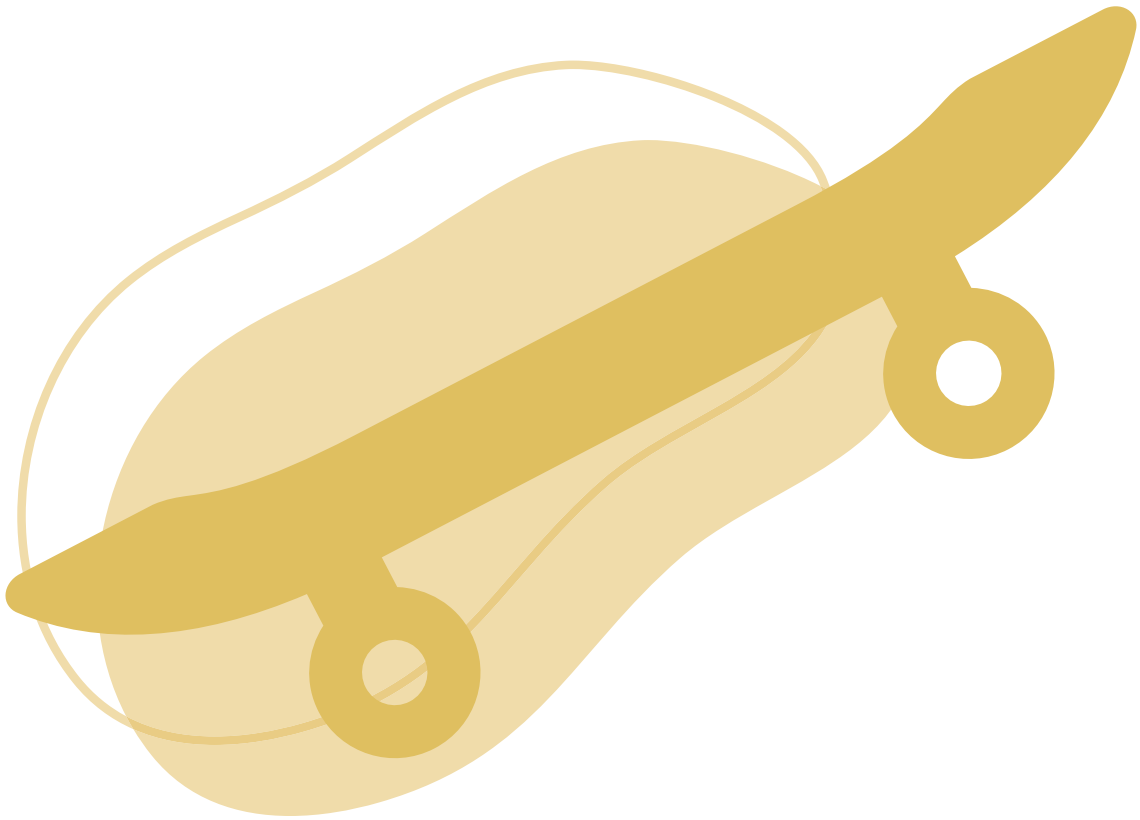
Chapter 4

RECOMMENDATIONS



4.1 Bicycle and Pedestrian Infrastructure Recommendations

This section presents the project recommendations for the City of Monte Sereno based on the facility types presented in the Active Transportation Toolkit (Appendix). A map, project list, and cost estimate is provided for citywide pedestrian and bicycle recommendations. The citywide map includes recommendations from an OBAG grant proposal submitted in July 2022.

Proposed projects are also prioritized based on short-term and long-term feasibility, and proximity to community destinations like Daves Avenue Elementary and Vasona Lake County Park.

4.2.1 Project Prioritization & Cost

Prioritization

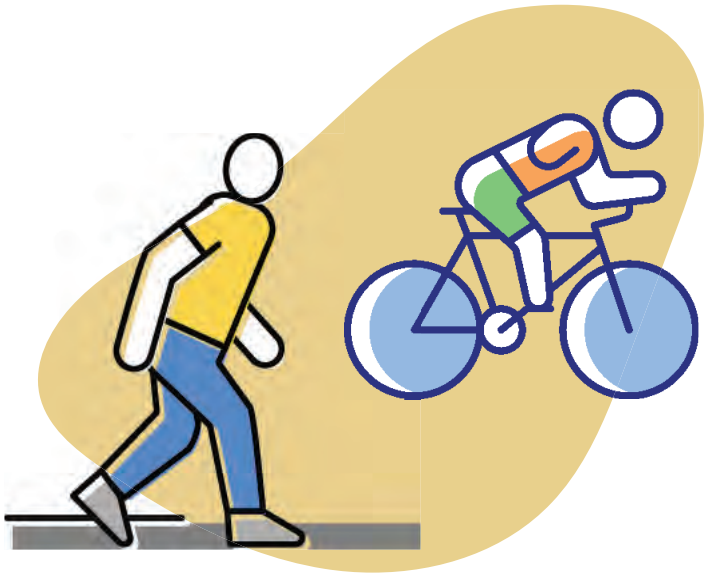
Projects prioritization takes into feasibility of implementation based on cost and time required for design. **In table 4-1 and table 4-2 ,short-term projects are denoted with an 'S' and long-term projects with an 'L.'** Within each grouping, prioritization was given to projects in those areas that received the most public input, like projects that address safety concerns near Daves Avenue Elementary, Vasona Lake Park, and major roads.

Cost Assumptions

Unit costs for planning cost estimates are derived from the latest estimates in providing planning and engineering services.

Project costs are estimated to reflect actual cost of construction as accurately as possible, based on 2022 dollars. While the state of the economy is currently in flux, these costs can be used as a starting point for refinement when projects are slated for implementation.

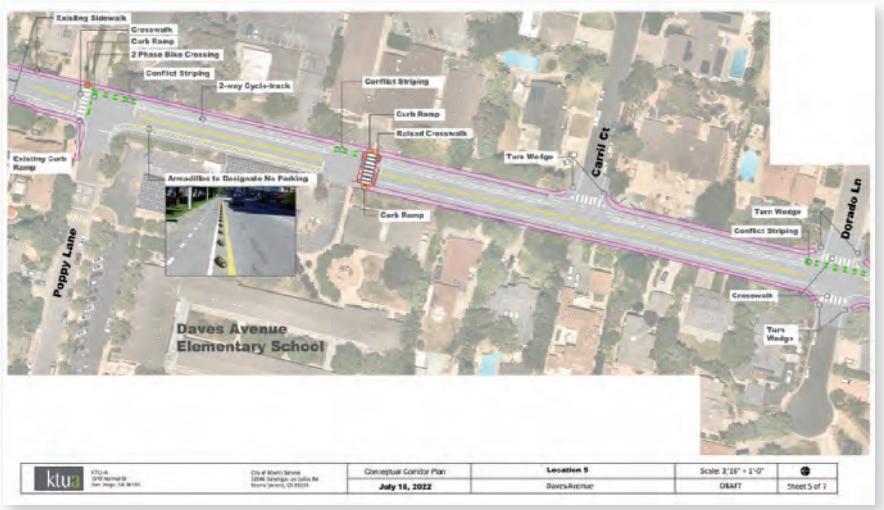
Cost assumptions include considerations for design, environmental, construction management, mobilization, and traffic control in order to provide as accurate a cost for implementation as possible. As the City pursues funding for these projects, it should be noted that construction costs may fluctuate based on when funding actually becomes available.

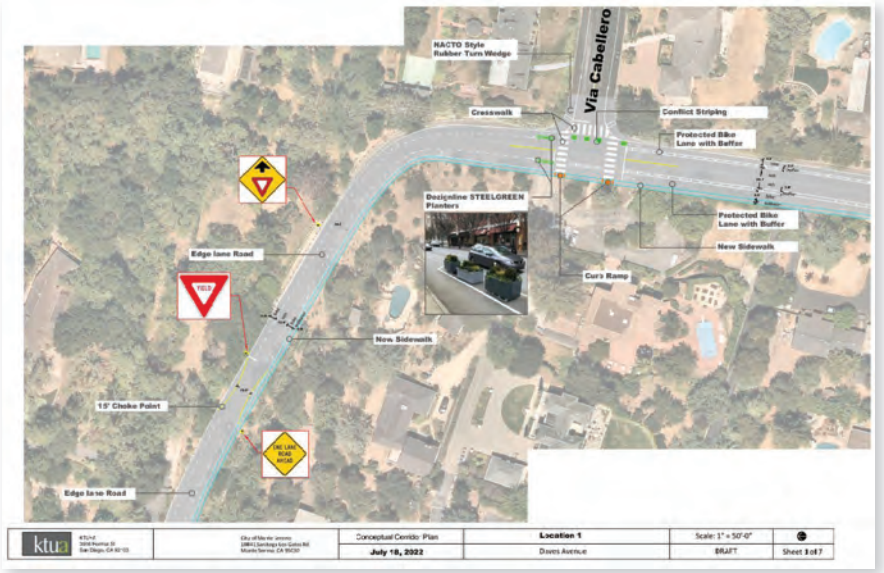


4.2 Possible Solutions

Daves Avenue OBAG Grant Overview

In July 2022, the City submitted a grant application to the One Bay Area Grant 3 (OBAG 3) grant program for Daves Avenue. The purpose of the grant was to fund the final engineering design and implementation of the concept plan on Daves Avenue from the Winchester Blvd intersection to the City limits with the County, just past Via Caballero. This project would continue the recently modified Class IV separated bike lane project by the Town of Los Gatos. The funding for the this project was not awarded through the OBAG 3 grant effort.





The improvements developed as part of this grant included:

- Sidewalk gap closure on the south side of street from Equestrian Way to the pavement pathway near Via Caballero
- ADA modifications required for the existing sidewalk
- Enhanced pedestrian crossings
- Enhanced bicycle facilities for the entirety of the project length, but particularly from Winchester to the school site and the S-curve area
- Pavement rehabilitation

Possible Pedestrian Recommendations

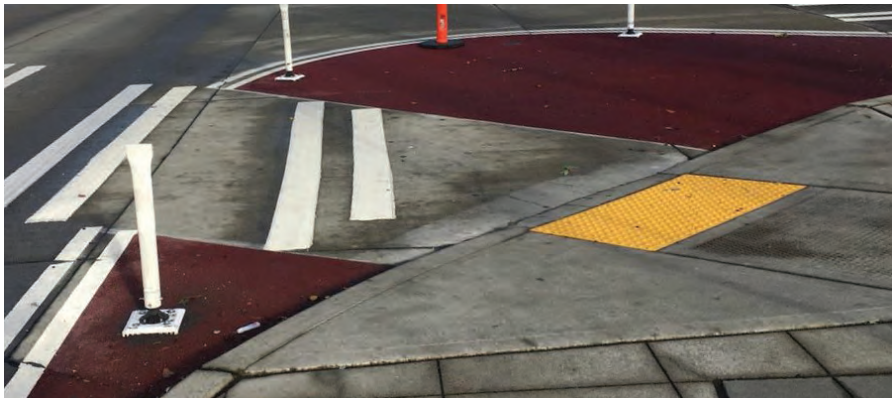
Pedestrian improvements in Monte Sereno are proposed for road segments and intersections. Road segment improvements such as sidewalks are considered high-cost, while improvements like edge lane roads that only require pavement striping are considered low-cost. Similarly, low-cost intersection improvements can require only striping or simple vertical elements, and high-cost intersection improvements involve constructed elements curbs, bulb-outs, and sturdy vertical elements.

The photos on the right give examples of high-cost and low-cost pedestrian improvements.

The total cost of pedestrian improvements in Figure 4-1 is $2.36 million.

Low cost edge land road

High-cost mid-block crossing



Low-cost curb extension

High-cost curb extension, sidewalk, and crosswalk improvements

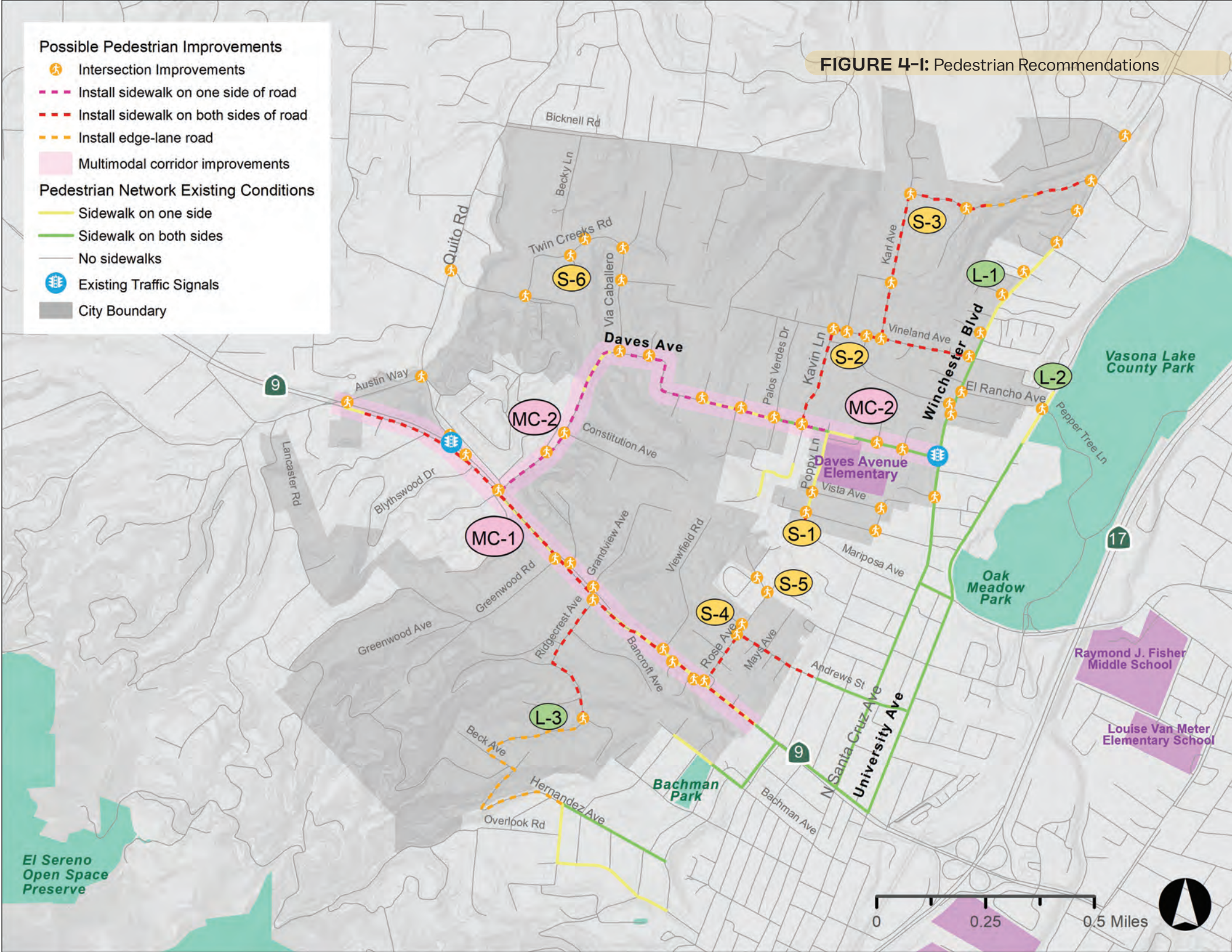


FIGURE 4-1: Pedestrian Recommendations

Short-term pedestrian projects (ordered by priority, highest to lowest)										
Project Name	Priority	Sidewalks or edge lane road		Ehances Safety	Improves Access to Key Destinations	Closes Network Gaps	Improves Safe Routes to School	Improve Existing Infrastructure	Provides Safe Crossing of Major Road	Estimated Cost
		From	To							
Poppy Lane	S-1	Poppy Ln, south of Bruce Ave		X	X	X	X	X		$38,400
Vineland Ave & Kavin Ln	S-2	1. Winchester Blvd 2. Kavin Ln	1. Kavin Ln 2. Daves Ave	X	X	X	X	X		$38,400
Karl Ave & Eaton Ln	S-3	1. Vineland Ave 2. Karl Ave	1. Eaton Ln 2. Winchester Blvd	X	X	X	X	X		$223,200
Rose Ave	S-4	1. Route 9 2. Rose Ave	1. Andrews St 2. San Benito Rd	X	X	X				$105,000
Rose Ave, North	S-5	-	-	X	X					$19,200
Twin Creeks Rd	S-6	-	-	X				X		$63,000
Long-term pedestrian projects (ordered by priority, highest to lowest)										
Winchester Blvd	L-1	-	-	X	X	X	X	X	X	$414,600
El Rancho Ave	L-2	-	-	X	X	X			X	$244,200
Ridgecrest Ave	L-3	1. Route 9 2. Oakhurst Dr	1. Oakhurst Dr 2. Hernandez Ave	X	X	X				$54,000

TABLE 4-1: Pedestrian Projects

Multimodal Corridor Projects (ordered by priority, highest to lowest)											
Project Name	Priority	Bike Facility Type	Sidewalks or edge lane road		Enhances Safety	Improves Access to Key Destinations	Closes Network Gaps	Improves Safe Routes to School	Improve Existing Infrastructure	Provides Safe Crossing of Major Road	Estimated Cost
			From	To							
Route 9 (pedestrian)*	MC-1	-	City boundary	Austin Way	X	X	X	X	X	X	$811,200
Route 9 (bicycle)*	MC-1	Class 4 protected bike lane	City boundary	City boundary	X	X	X	X	X		$956,376
Daves Ave (pedestrian)	MC-2	-	Poppy Ln	Route 9	X	X	X	X	X		$327,600
Daves Ave (bicycle)	MC-2	See grant design	Entire extent		X	X	X	X	X	X	$1,327,375

*Note: MC-1 Improvements on Route 9 will require additional coordination with Caltrans

TABLE 4-2: Multimodal Corridor Projects

Possible Bicycle Recommendations

Bike improvements in Monte Sereno are proposed for arterial, connectors, and local roads. Along the high-speed Highway 9, a Class 4 separated bike lane is proposed. For some local roads with limited width, a combination of Class 2 bike lanes and Class 3 bike routes is proposed. Where road width is limited and traffic volumes are low, edge lane roads is proposed.

Though Class 1 multi-use paths were indicated as a preferred facility type in the community survey, opportunities for Class 1 facilities are limited. If desired, a Class 1 path can be built in place of the combined Class 4 separated bike lanes and sidewalk proposed along Highway 9.

The photos on the right show the proposed bicycle facilities for Monte Sereno. Edge lane roads are considered both bicycle and pedestrian facilities, and so are shown for both.

The total cost of bike improvements in Figure 4-2 is $4.09 million.

Class 4 separated bike lane with curb separation, in addition to minimal, reflective flexposts for visibility.

Class 2 bike lane

Edge lane road

Class 3 bike route

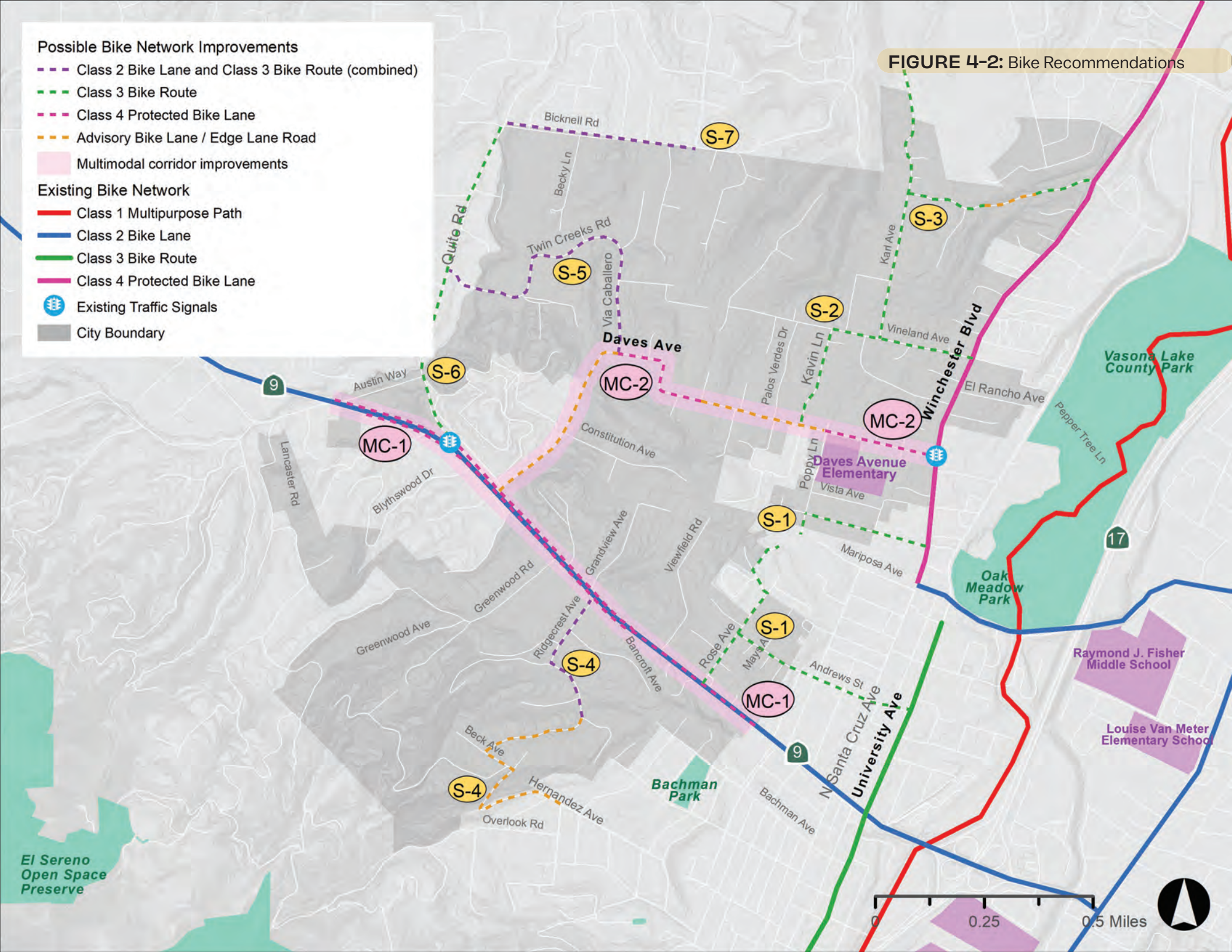


FIGURE 4-2: Bike Recommendations

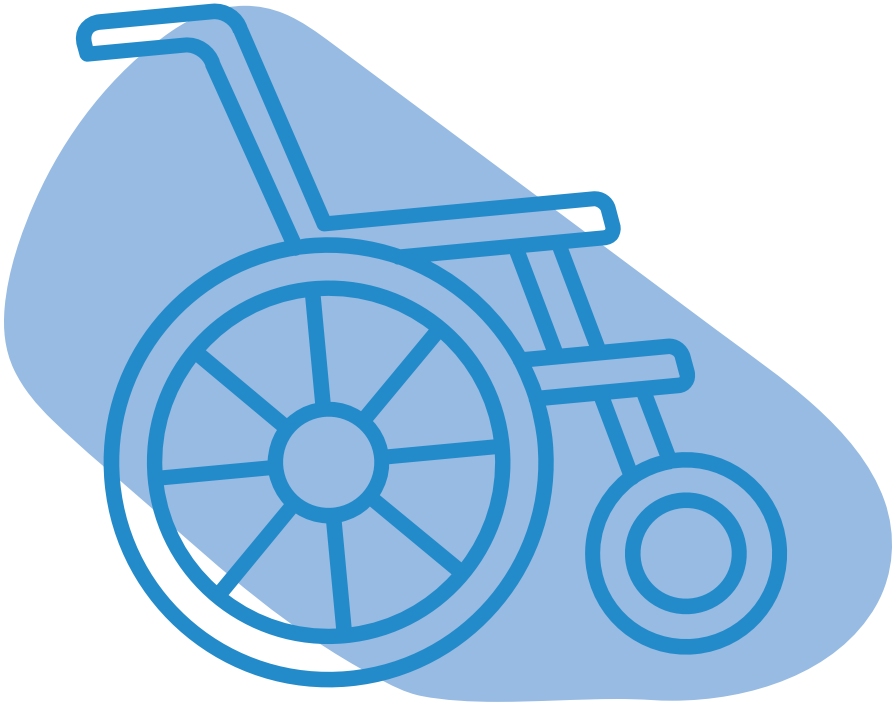
Short-term bicycle projects (ordered by priority, highest to lowest)											
Project Name	Priority	Bike Facility Type	Sidewalks or edge lane road		Ehances Safety	Improves Access to Key Destinations	Closes Network Gaps	Improves Safe Routes to School	Improve Existing Infrastructure	Provides Safe Crossing of Major Road	Estimated Cost
			From	To							
Rose Ave, Bruce Ave, & Andrews Ave*	S-1	Class 2	Entire extent		X	X	X	X			$205,200
Vineland Ave & Kavin Ln	S-2	Class 3 Bike Route	1. Winchester 2. Daves Ave	1. Kavin Ln 2. Vineland Ave	X	X	X	X			$153,936
Karl Ave & Eaton Ln	S-3	Class 2 Bike Route & Edge lane road - advisory bike lane	Entire extent		X	X	X	X			$318,216
Ridgecrest Ave	S-4	Class 2 & 3 combined & Edge Lane Road	Route 9	Wissahickon Ave	X	X					$387,138
Twin Creeks Rd & Via Caballero	S-5	Class 2 & 3 combined	Quito Rd	Daves Ave	X	X					$215,664
Quito Rd	S-6	Class 3 Bike Route	Route 9	Bicknell	X		X				$210,672
Bicknell Rd	S-7	Class 2 & 3 combined	Quito Rd	More Ave	X		X				$319,800

*Note: S-1 Improvements are currently being made on a small segment of Bruce Avenue

TABLE 4-3: Bicycle Projects

Appendices

APPENDIX



Appendix A.
Active Transportation Toolkit

This chapter addresses infrastructure improvements in recommended to enhance bicycling and walking in Monte Sereno. They include both short-term and long-term improvements and are meant to help allocate funds as they become available through various sources. The chapter begins with an overview of the different types of infrastrutur.

It is followed by location-specific recommendations.

A.I.I Conventional Bicycle Treatments

There are four conventional bikeway types recognized by the California Department of Transportation. Details of their design, associated wayfinding, and pavement markings can be found in the CA MUTCD and CA Highway Design Manual.

Class I Multi-Use Paths

Class I multi-use paths (frequently referred to as "bicycle paths") are physically separated from motor vehicle travel routes, with exclusive rights-of-way for non-motorized users like bicyclists and pedestrians. They require physical buffers to ensure safety and comfort of the user.

Class 2 Bicycle Lanes

Bicycle lanes are one-way facilities that carry bicycle traffic in the same direction as the adjacent motor vehicle traffic. They are typically located along the right side of the street (although can be on the left side) and are between the adjacent travel lane and curb, road edge, or parking lane. They are not physically separated from motor vehicle traffic.

Class 2 bike lanes can be enhanced by providing separation from traffic using a painted buffer. Buffered bicycle lanes provide additional space between the bicycle lane and traffic lane, parking lane, or both, to provide a more protected and comfortable space for bicyclists than a conventional bicycle lane. The buffer also encourages bicyclists to avoid riding too close to parked vehicles, keeping them out of the "door zone" where there is the potential danger of drivers or passengers suddenly opening doors into the bicyclists' path.

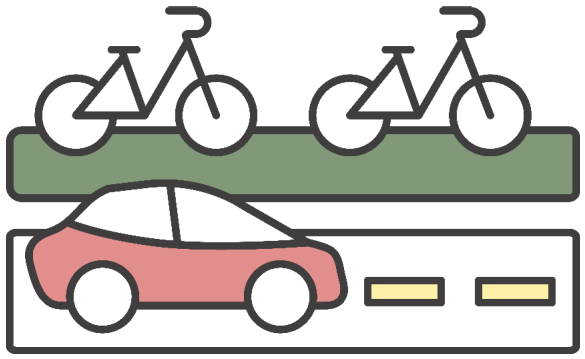
Class 3 Bicycle Routes and Shared Lane Markings

A bicycle route is a suggested bicycle corridor marked by signs designating a preferred street between destinations. They are recommended where traffic volumes and roadway speeds are low (35 mph or less). Shared Lane Markings ("Sharrows")

The shared lane marking is commonly used where parking is allowed adjacent to the travel lane. It is now common practice to center them within the typical vehicular travel route in the rightmost travel lane to ensure adequate separation between bicyclists and parked vehicles. Many cities install sharrows over a green background to enhance visibility.

Class 4 Separated Bikeways

Separated bikeways are bicycle-specific facilities that combine the user experience of a multi-use path with the on-street infrastructure of a conventional bicycle lane. Separated bikeways are physically separated from motor vehicle traffic and are designed to be distinct from any adjoining sidewalk. Physical protection measures can include raised curbs, parkway strips, reflective bollards, or parked vehicles. Separated bikeways can be either one-way or two-way, depending on the street network, available right-of-way, and adjacent land use.



Class I multi-use path

Class 4 separated bikeway

Class 2 bicycle lanes

Buffered bike lanes

Class 3 bicycle route

Sharrows

A.I.2 Additional Bicycle Treatments

Bicycle Boxes

A bicycle box is a designated area at the head of a traffic lane at a signalized intersection that provides bicyclists a safe and visible way to wait ahead of queuing traffic during the red signal phase. This positioning helps encourage bicyclists traveling straight through not to wait against the curb for the signal change.

Bike boxes

Advisory Bicycle Lanes

An advisory bicycle lane is a preferred space for bicyclists, pedestrians, and motorists to operate on narrow streets. Roads with advisory bike lanes accommodate low to moderate volumes of two-way motor vehicle traffic and provide a space for bicyclists and pedestrians with little or no widening of the paved roadway surface. Due to their reduced cross section requirements, advisory bike lanes have the potential to open up more roadways to accommodate comfortable bicycle travel.

Advisory bike lanes

Bicycle Boulevards (Neighborhood Greenways)

Bicycle boulevards provide a convenient, low stress cycling environment for people of all ages and abilities. They are installed on streets with low vehicular volumes and speeds and often parallel higher volume, higher speed arterials. Bicycle boulevard treatments use a combination of signs, pavement markings, traffic diverters, and traffic calming measures that help to discourage through trips by motor vehicle drivers and create safe, convenient bicycle crossings of busy arterial streets. They are similar to Class 3 bicycle routes but tend to include more traffic calming and diversion infrastructure.

Signage and Wayfinding

Signage and wayfinding on all streets and bicycle routes are intended to identify routes to both bicyclists and drivers, provide destination information and branding, and to inform all users of changes in roadway conditions.

Signage and wayfinding

Colored Bicycle Lanes

Colored pavement increases the visibility of bicycle routes, identifies potential areas of conflict or transition, and reinforces bicyclists' priority in these areas. Colored pavement can be used as a corridor treatment, along the length of a bicycle lane or within a separated bikeway. Additionally, it can be used as a spot treatment, such as crossing markings at particularly complex intersections where the bicycle path may be unclear. Consistent application of color across a bikeway corridor is important to promote clear understanding for all roadway users.

Colored bicycle lane

Green-Colored Transition Striping

Intersection or mid-block crossing markings indicate the intended path of bicyclists. Colored striping can be used to highlight conflict areas between bicyclists and vehicles, such as where bicycle lanes merge across motor vehicle turn lanes.

Green colored transition striping

Protected Intersections

From NACTO: At protected intersections, the bikeway is set back from motor vehicle traffic. Bicyclists are given a dedicated path through the intersection and have the right of way over turning motor vehicles. The setback between the motor vehicle lane and the bikeway makes people on bikes more easily visible to turning drivers than in a conventional intersection. The setback creates a waiting zone for turning cars, where drivers can yield to bikes after starting to turn but before crossing the path of oncoming bicycles. Protected intersections also provide shorter, safer crossings for people walking. Protected intersections create shorter, simpler crossings, more predictable movements, and better visibility between people on bikes and people driving.

Protected intersection

Two-Stage Left Turn Queue Box

Two-stage turn queue boxes can provide a more comfortable left-turn crossing for many bicyclists because they entail two low stress crossings, rather than one potentially high stress one. They also provide a degree of separation from vehicular traffic, because they do not require merging with vehicle traffic to make left turns. Bicyclists wanting to make a left turn can continue into the intersection when they have a green light and pull into the green queue box. Bicyclists then turn 90 degrees to face their intended direction and wait for the green light of a new signal phase to continue through.

Two-stage left turn queue box

Bicycle Signals

This category includes all types of traffic signals directed at bicyclists. These can include typical green/yellow/red signals with signage explaining the signal controls, or special bikeway icons displayed within the signage lights themselves. Near-side bicycle signals may incorporate a "countdown to green" display, as well as a "countdown to red."

Bicycle signals

Bicycle Detection

Bicycle detection is used at intersections with traffic signals to alert the signal controller that a bicycle crossing event has been requested. Bicycle detection can occur either through the use of push buttons or by automated means and are marked by standard pavement symbols.

Bicycle detection

A.I.3 Traffic Calming

Traffic calming involves changes in street alignment, installation of barriers, and other physical measures to reduce traffic speeds and/or cut-through motor vehicle traffic volumes. The intent of traffic calming is to alter driver behavior and to improve street safety, liveability, and other public purposes. Other techniques consist of operational measures such as police enforcement and speed displays.

Roundabouts/Traffic Circles

A roundabout is a circular intersection with yield control at its entry that allows a driver to proceed at controlled speeds in a counter-clockwise direction around a central island. Roundabouts are designed to maximize motorized and non-motorized traffic through their innovative design that includes reconfigured sidewalks, bikeway bypasses, high-visibility crosswalks, pedestrian flashing beacons, and other traffic measures. Roundabouts can be implemented on most streets but may require additional right-of-way.

A traffic circle is a small-scale traffic calming measure commonly applied at uncontrolled intersections on low volume, local residential streets. They lower traffic speeds on each approach and typically avoid or reduce right-of-way conflicts because the overall footprint is smaller compared to roundabouts. Traffic circles may be installed using simple markings or raised islands but are best accompanied with drought-tolerant landscaping or other attractive vertical elements.

Signals and Warning Devices

Traditional pedestrian signals with countdown timers remain the gold standard for high quality pedestrian crossings, although some cases warrant new signal technologies. Pedestrian Hybrid Beacons (PHBs) and Rectangular Rapid Flashing Beacons (RRFBs) are special signals used to warn and control traffic at unsignalized locations to assist pedestrians in crossing a street via a marked crosswalk. PHBs include a “red phase” requiring vehicles to come to a full stop while RRFBs are yield stops. Either of these devices should be installed at locations that have pedestrian desire lines and that connect people to popular destinations such as schools, parks, and retail. Research has shown that PHBs tend to have a 90 percent motorist compliance rate versus RRFBs, which tend to have an 80 percent motorist compliance rate. Traditional pedestrian signals with countdown timers at signalized intersections tend to have a near 100 percent compliance rate. Signals and warning devices should be paired with additional pedestrian improvements where appropriate, such as curb extensions, enhanced crosswalk markings, lighting, median refuge islands, corresponding signage, and advance yield markings to mitigate multiple threat crashes on multi-lane roadways.

Traffic circle

Signals and warning devices

Speed Tables/Raised Crosswalks

Speed tables are flat-topped road humps, often constructed with textured surfacing on the flat section. Speed tables and raised crosswalks help to reduce vehicle speeds and enhance pedestrian safety.

Speed Displays

Speed displays measure the speed of approaching vehicles by radar and inform drivers of their speeds using an LED display. Speed displays contribute to increased traffic safety because they are particularly effective in getting drivers traveling ten or more miles per hour over the speed limit to reduce their speed.

Chicanes

Chicanes are a series of narrowings or curb extensions that alternate from one side of the street to the other forming an S-shaped path. Chicanes reduce drivers' speeds by causing them to shift their horizontal path of travel.

Traffic Diverters

A traffic diverter is a roadway design feature placed in a roadway to prohibit vehicular traffic from entering into or exiting from the street, or both.

Speed tables

Speed display

Traffic diverter

A.I.4 Pedestrian Treatments

Enhanced Crosswalk Markings

Enhanced crosswalk markings are designed to both guide pedestrians and to alert drivers of a crossing location. The bold pattern is intended to enhance visual awareness. Cities in Southern California often install "Continental" style or "Ladder" style markings due to their higher contrast on a roadway.

Curb Extensions

Curb extensions extend the curb line outward into the travel way, reducing the pedestrian crossing distance. Typically occurring at intersections, they increase pedestrian visibility, reduce the distance a pedestrian must cross, and reduce vehicular delay. Curb extensions must be installed in locations where they will not interfere with bicycle lanes or separated bikeways. If both treatments are needed, additional design features such as ramps, or half-sized curb extensions should be considered.

Refuge Island

Refuge islands provide pedestrians and bicyclists a relatively safe place within an intersection and midblock crossing to pause and observe before crossing the next lane of traffic.

Mid-block Crossings

Mid-block crossings provide convenient locations for pedestrians and bicyclists to cross thoroughfares in areas with infrequent intersection crossings or where the nearest intersection creates substantial out-of-direction travel. Mid-block crossings should be paired with additional traffic-control devices such as traditional Pedestrian Signals, PHBs, RRFBs, LED enhanced flashing signs, and/or refuge islands.

Enhanced crosswalk

Curb extension

Mid-block crossing

Leading Pedestrian Intervals (LPIs)

A Leading Pedestrian Interval (LPI) is a signal timing technique that typically gives pedestrians a three to seven second head start when entering a crosswalk with a corresponding green signal in the same direction of travel. LPIs enhance the visibility of pedestrians in the intersection and reinforce their right-of-way ahead of turning vehicles, especially in locations with a history of conflict. Generally, this leads to a greater likelihood of vehicles yielding. Depending on intersection volume and safety history, a normal right-turn-on-red (RTOR) might be explicitly prohibited during the LPI phase.

Lighting

Pedestrian-scale lighting provides practical and safety benefits such as illuminating a sidewalk or multi-use path. The distance between light posts should be verified to provide optimal cover and to avoid creating dark areas on a sidewalk or path.

Pedestrian Scramble

Pedestrian scrambles, also known as all-way pedestrian phases, stop vehicular traffic flow simultaneously in all directions to allow pedestrians to cross the intersection in any direction. They are used at intersections with particularly heavy pedestrian crossing levels. Unless cycle lengths can be kept under 90 seconds, Leading Pedestrian Intervals (LPIs) are generally preferred over pedestrian scrambles.

Senior Zones

City-designated senior zones can be enhanced with street signage, increased crossing times at traffic signals, benches, bus stops with shelters, and pedestrian lighting.

Transit Stop Amenities

Transit stop amenities such as shelters with overhead protection, seating, trash receptacles, and lighting are essential for encouraging people to make use of public transit.

Lighting

Pedestrian scramble

Transit stop amenities

A.I.5 Placemaking

The inclusion of urban elements can encourage walking and provide a higher sense of comfort for a resident or visitor.

Parklets

Parklets are made by converting one or two parking stalls into spaces for outdoor seating, public art, or other outdoor amenities that improve the streetscape experience.

Community Art

Displaying community art is a great way to engage the City. Community art projects can include murals, sculptures, crosswalk art, or sidewalk chalk art.

Special Intersection Paving and Crosswalk Art

Special intersection paving and crosswalk art provide unique opportunities at intersections to highlight crossings or key civic or commercial locations, while breaking the visual monotony of asphalt. Intersection paving treatments and crosswalk art can integrate context-sensitive colors, textures, and scoring patterns.

Paving treatments and crosswalk art do not define a crosswalk and should not be seen as a safety measure. Standard transverse or longitudinal high visibility crosswalk markings are still required.

Furnishings and Public Art

Transit shelters, bicycle racks, seating, and public art provide important amenities for functionality, design, and vitality of the urban environment. They announce that the street is a safe and comfortable place to be and provide visual detail and interest.

Community art

Crosswalk art

Street furnishings

A.I.6 New Mobility / Curb Management

The following section highlights environmentally-friendly mobility options that complement a comprehensive transportation network. These clean energy transportation options can provide alternatives to gas-powered, single occupancy cars for travel and help reduce air pollution and greenhouse gas emissions. Clean mobility and shared options also help address transportation equity by providing affordable transportation choices for lower-income households and those who are unable to drive or own a car.

Electric Shuttles

Electric shuttles can help address gaps within a community by supplementing the existing transit network or by creating new transit routes where they currently don't exist. Depending on make and model, electric-powered shuttles can be used to offer transit services within a specified radius. Zero emission models reduce the carbon footprint by eliminating greenhouse gas emissions.

Electric Vanpool/Carpool

Vanpool and carpool programs have existed for several decades, but these services have evolved with the "electrification" the transportation industry is experiencing. Electric versions of typical 12 and 18-passenger vans are being welcomed as clean mobility options for communities.

Electric shuttles

Electric vanpool/carpool

Electric carsharing services

Electric Carsharing Service

An electric carsharing service could be established by purchasing a fleet of electric cars. These cars could be rented by residents to address their transportation needs, such as commuting to work, running errands, or getting to medical appointments. The City could have its own EV charging infrastructure which could be combined with other electric mobility options such as electric shuttles and electric vanpool/carpool services.

Docked Bikeshare

Docked bikeshare is a shared transport service in which bicycles or e-bicycles are made available for shared use to individuals on a short term basis for a price or for free. Docked bikeshare systems typically include electric-assist bicycles that provide extra comfort for users. Docked bikeshare systems allow people to borrow a bike from a "dock" or station and return it to another dock belonging to the same system.

E-Scootershare

Scootershare programs are popular forms of shared transportation services that involve the rental of electric motorized scooters for short trips. These programs involve the use of a mobile app to look for, rent, pay, and park the rented scooter. Scootershare programs provide a high degree of flexibility for the individual user and can be an effective method for closing mobility gaps. Short trips to visit family members and access to schools, parks, commercial areas, and transit stops are all possible with a scootershare program.

Docked bikeshare

Scootershare

Appendix B.
Possible Bicycle & Pedestrian Infrastructure Solutions & Cost Estimates

Proposed Pedestrian Projects											
#	Project	Priority	Total # of Inter-section Projects	Total # of Low-cost curb ex-tension	Total # of High-cost curb ex-tension	Total # of Rectangu-lar rapid flashing beacon	Total # of Pedestrian flashing beacon	Total # of High-vis-ibility crosswalk	Sidewalks or edge lane road		Cost Estimate
									From	To	
1	Ridgecrest Avenue	L-4	1	1	1	0	0	1	-	-	$54,000
2	Rose Avenue	S-4	2	1	2	0	0	2	1. Highway 9 2. Rose Avenue	1. Andrews St 2. San Benito Road	$105,000
3	Rose Ave-nue, North section	S-3	2	2	0	0	0	2	-	-	$19,200
4	Quito Road	S-8	2	4	0	0	0	2	-	-	$25,200
5	Twin Creeks Road	S-7	5	10	0	0	0	5	-	-	$63,000
6a	Vineland Avenue	S-5	4	4	0	0	0	4	Kavin Lane	Winchester Blvd	$38,400
6b	Kavin Lane sidewalk								Daves Avenue	Vineland Ave-nue	$38,400
7	Elementary School	S-2	4	4	0	0	0	4	Poppy Lane, south of Bruce Avenue	-	$38,400
8	Karl Avenue & Eaton Lane	S-6	3	2	4	0	0	6	1. Vineland Avenue 2. Karl Avenue	1. Eaton Lane 2. Winchester Blvd	$223,200
9	Winchester Blvd	L-2	12	13	6	1	0	12	-	-	$414,600
10	El Rancho Avenue	L-3	1	0	0	0	1	1	-	-	$244,200

TABLE 5-I: Pedestrian Projects

Proposed Bicycle Projects						
#	Project Name	Priority	Bike Recommendation Type	Bike Facility		Cost Estimate
				From	To	
1	Bicknell Road	S-8	Class 2 & 3 combined	Quito Road	More Avenue	$319,800
2	Quito Road	S-7	Class 3 Bike Route	Highway 9	Bicknell Road	$210,67
3	Twin Creeks Road & Via Caballero	S-5	Class 2 & 3 combined	Quito Road	Daves Avenue	$215,664
4	Karl Avenue & Eaton Lane	S-6	Class 2 Bike Route & Edge lane road - advisory bike lane	Entire extent		$318,216
5	Vineland Avenue & Kavin Lane	S-3	Class 3 Bike Route	1. Winchester 2. Daves Avenue	1. Kavin Lane 2. Vineland Avenue	$153,936
6	Rose Avenue & Bruce Avenue	S-2	Class 2 Bike Route	Entire extent		$205,200
7	Ridgecrest Avenue	S-4	Class 2 & 3 combined & Edge Lane Road	Highway 9	Wissahickon Avenue	$387,138

TABLE 5-2: Bicycle Projects

Proposed Multimodal Projects											
#	Project Name	Priority	Bike Recommendation Type	Total # of Intersection Projects	Total # of Low-cost curb extension	Total # of High-cost curb extension	Total # of Rectangular rapid flashing beacon	Total # of Pedestrian flashing beacon	Total # of High-visibility crosswalk	Bike Facility, Sidewalks or edge lane road		Cost Estimate
										From	To	
1	Route 9 (Bicycle)	MC-1	Class 4 separated bike lane							City boundary	City boundary	$956,376
2	Route 9 (Pedestrian)	MC-2		11	9	10	1	1	11	City Boundary	Austin Way	$811,200
3	Daves Avenue (Bicycle)	MC-3	See grant design							Entire extent		$1,327,375
4	Daves Avenue (Pedestrian)	MC-4		1	23	3	0	0	19	See design		$327,600

TABLE 5-3: Multimodal Projects

Highway 9 and Quito Road Intersection Bike and Ped Improvements

Proposed Intersection:

- Square up the intersection to improve sight line
- Allow (new) Hwy 9 left turns to Quito Rd
- Reduce turning radii and sppeds of turning vehicle
- Shorten crossing walk distance
- Add protected bike lanes on both sides
- Install sidewalks on both sides
- Install sidewalks on both sides
- Add high-visibility crosswalk
- Construct protected intersection for bike and pedestrain
- Create open green space for cyclist to socialize and rest

FIGURE 5-I: Hwy 9 and Quito Rd Intersection Bike and Ped Improvements

City of Monte Sereno

Hwy 9 and Quito Road Intersection Bike and Ped Improvements

OPINION OF PROBABLE CONSTRUCTION COSTS
(Planning Level)

SUMMARY

A.	ROAD WORK	$923,229
B.	DEMOLITION WORK	$154,533
C.	UTILITY WORK	$70,000
D.	DRAINAGE WORK	$150,000
E.	SIGNING, STRIPING and SIGN	$5,500
F.	TRAFFIC	$1,000,000
G.	STRUCTURAL	$0
H.	MISCELLANEOUS WORK	$270,300
SUBTOTAL		$2,573,562
MINOR ITEMS (10% of Subtotal)		$257,356
CONSTRUCTION CONTINGENCY (20% of Subtotal)		$514,712
TOTAL CONSTRUCTION COST		$3,350,000
(ROUNDUP TO THE NEAR $10K)		

General Notes:

1) This Opinion of Probable Construction Costs is an estimate of the possible improvements associated at proposed Hwy 9 and Quito Rd Intersection only.

2) Information regarding existing conditions was taken from site visiting performed by City Engineers.

3) City Engineers makes no warranty, either expressed or implied, that actual costs will not vary from amounts indicated, and assumes no liability for such variances.

4) For the limits of the work, see proposed intersection design conceptually plan

5) Cost Inflation, permitting, and professional services may or may not included in this Opinion of Probable Construction Costs.

6) Assumed the new Right-of-Way is not required based on the conceptually intersection design from the master plan

7) Assumed no impact on the existing culvert headwalls on both side of the Hwy 9

Appendix C.
Funding Sources

Table 5-1 outlines various funding sources for various state and federal funding programs in terms of their goals, purpose, frequency, and supported project types.

Notes:
INF - Infrastructure
NI - Non-infrastructure
PLAN - Planning

Funding Sources Table

	Funding Source	Purpose/Description	Funding Cycle	Funding Cycle*			Project Examples	Website
				INF.	NI	PLAN		
1	**Safe Streets and Roads for All (SS4A) Grant Program**	The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. There are two types of SS4A grants: Action Plan Grants and Implementation Grants. • Action Plan Grants assist in developing or complete an Action Plan or to conduct supplemental planning activities. • Implementation Grant includes infrastructure, behavioral, and operational safety activities identified in an Action Plan	Annual, $1B for the next five years starting in 2022	X	X	X	• Safety analysis • Engagement & Collaboration • Planning structure • Transforming a roadway corridor • Installing pedestrian safety enhancements and closing network gaps • Supporting the development of bikeway networks • Evaluating and improving the safety of intersections	https://www.transportation.gov/grants/SS4A onment/air_quality/cmaq/
2	**Congestion Mitigation and Air Quality Improvement (CMAQ) Program**	The purpose of the CMAQ program is to provide a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. The program supports surface transportation projects and other related efforts that contribute air quality improvement and provide congestion relief.	Unavailable	X			• Travel Demand Management to promote clean commute • Public Education and Outreach • Bicycle amenities; Class I, II, III, & IV bike lanes	https://www.fhwa.dot.gov/envir onment/air_quality/cmaq/

FIGURE 5-1: Funding Sources Table

	Funding Source	Purpose/Description	Funding Cycle	Funding Cycle*			Project Examples	Website
				INF.	NI	PLAN		
3	**Highway Safety Improvement Program (HSIP)**	The Program funds work on any public road or publicly owned bicycle or pedestrian pathway or trail, or on tribal lands for general use of tribal members, that improves the safety for its users. Project maximum funding- $10M. Solicitation varies from annually to semi-annually.	Unavailable	X		X	• Install hybrid pedestrian signals • Improve pedestrian and bicycle safety at locations with uncontrolled crossings	https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/highway-safety-improvement-program
4	**Enhanced Mobility of Seniors and Individuals with Disabilities**	"The goal of this program is to improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options."	Unavailable	X	X		• Mobility management programs • Building an accessible path to a bus stop • Improving signage, or way-finding technology	https://www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310
5	**Public Transportation Innovation - 5312**	Provides funding to develop innovative products and services assisting transit agencies in better meeting the needs of their customers.	Unavailable	X			• Research, development, demonstration and deployment projects	https://www.transit.dot.gov/funding/grants/public-transportation-innovation-5312
6	**Rural Transportation Assistance Program - 5311(b)(3)**	Provides funding to states for developing training, technical assistance, research, and related support services in rural areas. The program also includes a national program that provides information and materials for use by local operators and state administering agencies and supports research and technical assistance projects of national interest.	Annual			X	• Training, technical assistance, research, and related support services	https://www.transit.dot.gov/funding/grants/rural-transportation-assistance-program-5311b3
7	**Safety Research and Demonstration Program**	The Safety Research and Demonstration (SRD) Program is part of a larger safety research effort at the U.S. Department of Transportation that provides technical and financial support for transit agencies to pursue innovative approaches to eliminate or mitigate safety hazards. The SRD program focuses on demonstration of technologies and safer designs.	Annual			X	• Operational safety programs	https://www.transit.dot.gov/research-innovation/safety-research-and-demonstration-program

	Funding Source	Purpose/Description	Funding Cycle	Funding Cycle*			Project Examples	Website
				INF.	NI	PLAN		
8	**Zero Emission Research Opportunity (ZERO)**	On November 22, 2016, FTA announced the opportunity for nonprofit organizations to apply for funding to conduct research, demonstrations, testing, and evaluation of zero emission and related technology for public transportation applications.	Unavailable			X	• Research, innovation and development, demonstration, deployment, and evaluation	https://www.transit.dot.gov/zero-emission-research-opportunity-zero
9	**Accelerating Innovative Mobility**	Accelerating Innovative Mobility (AIM) will highlight FTA's commitment to support and advance innovation in the transit industry.	Unavailable			X	• Research and technology programs and plans	https://www.transit.dot.gov/AIM
10	**Enhanced Mobility of Seniors & Individuals with Disabilities - Section 5310**	Formula funding to states for the purpose of assisting private nonprofit groups in meeting transportation needs of the elderly and persons with disabilities.	Annual			X	• Planning program to meet the special transportation needs of seniors and individuals with disabilities	https://www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310
11	**Flexible Funding Programs - Congestion Mitigation and Air Quality Program - 23 USC 149**	CMAQ provides funding to areas in nonattainment or maintenance for ozone, carbon monoxide, and/or particulate matter. States that have no nonattainment or maintenance areas still receive a minimum apportionment of CMAQ funding for either air quality projects or other elements of flexible spending. Funds may be used for any transit capital expenditures otherwise eligible for FTA funding as long as they have an air quality benefit.	Annual			X	• Mobility projects	https://www.transit.dot.gov/funding/grants/grant-programs/flexible-funding-programs-congestion-mitigation-and-air-quality
12	**Formula Grants for Rural Areas - 5311**	Provides capital, planning, and operating assistance to states to support public transportation in rural areas with populations less than 50,000, where many residents often rely on public transit to reach their destinations.	Annual			X	• Planning, capital, operating, job access and reverse commute projects, and the acquisition of public transportation services.	https://www.transit.dot.gov/rural-formula-grants-5311
13	**Grants for Buses and Bus Facilities Formula Program - 5339(a)**	Provides funding to states and transit agencies through a statutory formula to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. In addition to the formula allocation, this program includes two discretionary components: The Bus and Bus Facilities Discretionary Program and the Low or No Emissions Bus Discretionary Program.	Annual	X			• Projects to replace, rehabilitate and purchase buses, vans, and related equipment, and to construct bus-related facilities	https://www.transit.dot.gov/funding/grants/busprogram

	Funding Source	Purpose/Description	Funding Cycle	Funding Cycle*			Project Examples	Website
				INF.	NI	PLAN		
14	**Low and No-Emission Component Assessment Program (Lo-No-CAP)**	On September 29, 2016, FTA announced the opportunity for eligible institutions of higher education to apply for funding to conduct testing, evaluation, and analysis of low or no emission (LoNo) components intended for use in LoNo transit buses used to provide public transportation. The deadline for applications is November 28, 2016.	April	X			• Programs that have zero-emission and low emission transit buses	https://www.transit.dot.gov/research-innovation/lonocap
15	**Mobility for All Pilot Program Grants**	This funding opportunity seeks to improve mobility options through employing innovative coordination of transportation strategies and building partnerships to enhance mobility and access to vital community services for older adults, individuals with disabilities, and people of low income.	January			X	• Transportation projects with a focus on employing mobility management strategies, vehicle purchase, IT purchase, leasing equipment or a facility for use in public transportation etc	https://www.transit.dot.gov/funding/grants/grant-programs/mobility-all-pilot-program-grants
16	**Mobility on Demand (MOD) Sandbox Demonstration Program - 5312**	Funds projects that promote innovative business models to deliver high quality, seamless and equitable mobility options for all travelers.	Annual			X	• Private for-profit and not-for-profit organizations, including shared use mobility providers, and technology system suppliers • Operators of transportation services, such as employee shuttle services, airport connector services, university transportation systems, or parking and tolling authorities • State or local government entities • Other organizations that may contribute to the success of the project team including consultants, research consortia or not-for-profit industry organizations, and institutions of higher education"	https://www.transit.dot.gov/research-innovation/mobility-demand-mod-sandbox-program

	Funding Source	Purpose/Description	Funding Cycle	Funding Cycle*			Project Examples	Website
				INF.	NI	PLAN		
17	**One Bay Area Grant (OBAG)**	The One Bay Area Grant, now in its third iteration, guides how MTC distributes federal transportation funding from the Federal Highway Administration to projects and programs that improve safety, spur economic development and help the Bay Area meet climate change and air quality improvement goals.	Four-Year Cycle	X			• Projects that support Priority Development Areas (PDAs) — places near public transit planned for new homes, jobs, and community amenities	https://www.sfcta.org/funding/one-bay-area-grant-program#panel-open-call
18	**2016 Measure B Bicycle and Pedestrian Program**	The 2016 Measure B Bicycle & Pedestrian program funds bicycle and pedestrian projects of countywide significance identified by the cities, County and VTA. The program intends to connect to schools, transit, and employment centers; fill gaps in the existing bike and pedestrian network; safely cross barriers to mobility; and make walking or biking a safer and more convenient means of transportation for all county residents and visitors.	Two-Year Cycle			X	• Projects that eliminate gaps in the bicycle and pedestrian network and improve mobility connections to be safer and more convenient • Bicycle and pedestrian education and encouragement, such as Safe Routes to School programming • Capital projects and planning studies	https://www.vta.org/sites/default/files/2022-08/BikePed_ProgramGuidelines_Approved_Aug2022.pdf
19	**2016 Measure B Local Streets & Road Program**	This funding is to be used to repair and maintain the street system.	Two-Year Cycle	X			• Projects that apply Compete Streets best practices in order to improve bicycle and pedestrian elements of the street system • Agencies with a Pavement Condition Index (PCI) of 70 or higher may include congestion relief projects and programs. Those with a PCI lower than 70 is limited to projects that repair and maintain the street system	

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