



CITY OF DESERT HOT SPRINGS Bicycle & Pedestrian Master Plan

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Acknowledgments

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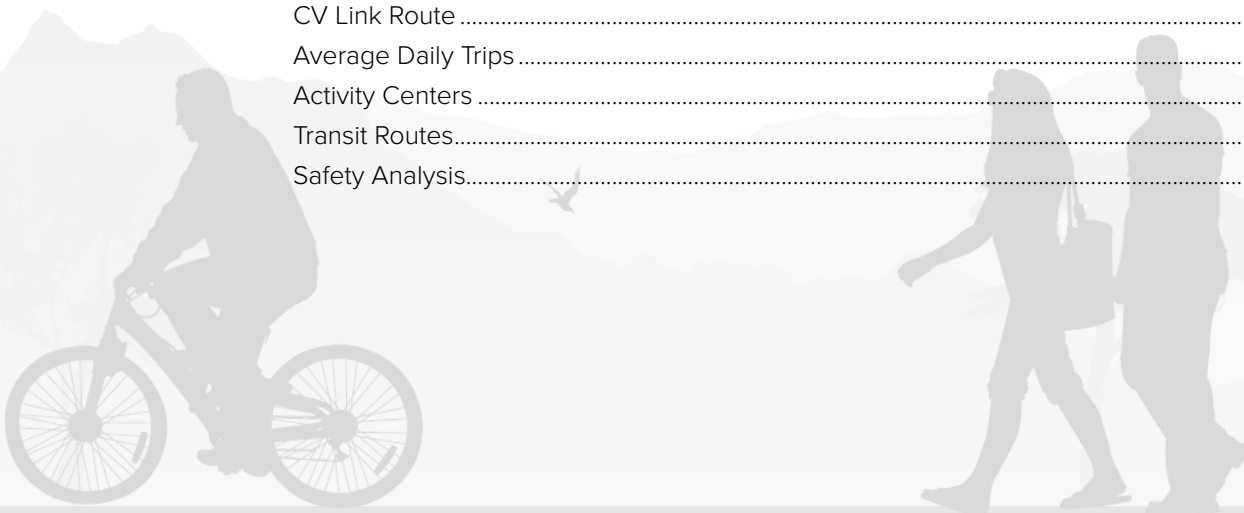
Caltrans

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CHAPTER 1

Introduction



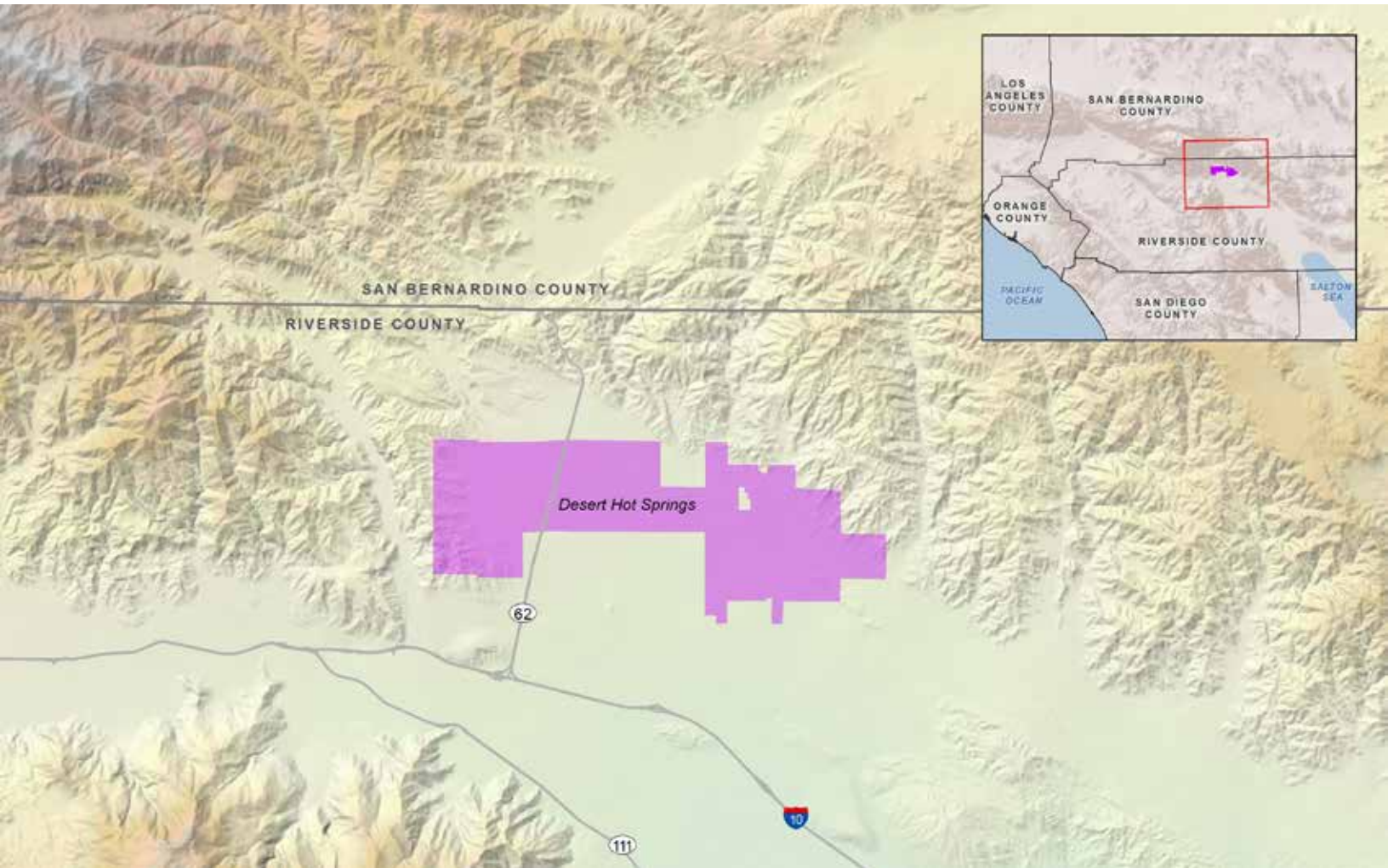
Project Scope

This Bicycle and Pedestrian Master Plan, funded by Caltrans, was developed to provide the City of Desert Hot Springs a guide to improve bicycling and walking activity throughout the City. This year-long project included two workshops to gather residents' feedback on issues the improvements they would like to see now and in the future. A series of priority complete street projects were developed through the outreach process as well as the development of a connected bicycle network.

Study Area

The City of Desert Hot Springs is located in the northwestern portion of the Coachella Valley in Riverside County. The City lies at the foot of the San Bernardino Mountains near the gateway to Joshua Tree National Park.

Relatively isolated from surrounding development of other communities, the City of Desert Hot Springs is a transitional area between a more intense tourist commercial base to the south and southeast and the more rural and industrial development to the west. Due to its strategic location, the City has sufficient open space to allow for significant growth. It is now a fast growing city that houses a significant Coachella Valley workforce. The City has mostly a traditional street grid pattern and is relatively flat. As of 2012, the City's population was 27,383. The City has a substantial and growing youth and Hispanic population, comprising 52.6% of its total population.



Existing Plans Summary

This Bicycle and Pedestrian Master Plan finds support for its facilities and program recommendations in existing adopted plans. The plans included in the research and summary most relevant to the Bicycle and Pedestrian Master Plan can be found in Appendix C:

City of Desert Hot Springs

- Safe Routes to School
- General Plan Elements
- Park and Recreation Master Plan
- Vortex Specific Plan

Coachella Valley Association of Governments

- Coachella Valley Non-motorized Transportation Plan
- CV Link Draft Plan



Understanding User Needs

Where the residents and visitors choose to go and how they move about Desert Hot Springs will be influenced by the perceived completeness and safety of bicycle and pedestrian facilities. While walking is more likely to occur for shorter distance trips, improved connections with the overall regional bicycle network will become increasingly valuable as more people chose to cover longer distances and commute by bicycle.



Bicycle and Walking Benefits

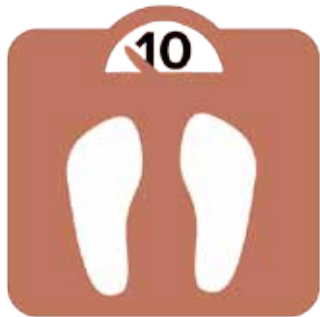
Numerous environmental, health and economic benefits are attributable to cycling and walking, especially as a substitute for driving a vehicle. This section summarizes these benefits from research by the Pedestrian and Bicycle Information Center (PBIC).

Environmental Benefits

Increased cycling and walking reduces fossil fuel emissions. In California, 40 percent of carbon dioxide (CO₂) emissions are produced by the transportation sector. While CO₂ is not the most harmful greenhouse gas, it is the most abundant. Even after accounting for the global warming potentials of other greenhouse gases (comparing them in terms of CO₂), 95 to 99 percent of vehicle emissions are CO₂. The Environmental Protection Agency (EPA) found that the average vehicle emits 0.95 pounds of CO₂ per mile. Therefore, almost 10 pounds of carbon dioxide emissions could be avoided each day if an individual with a five mile (each way) commute switched from driving to an active transportation mode like cycling or walking.



Health Benefits

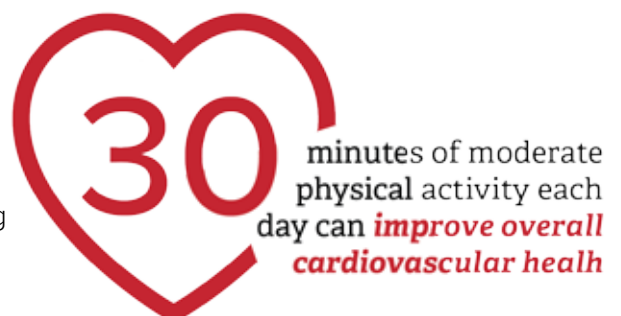


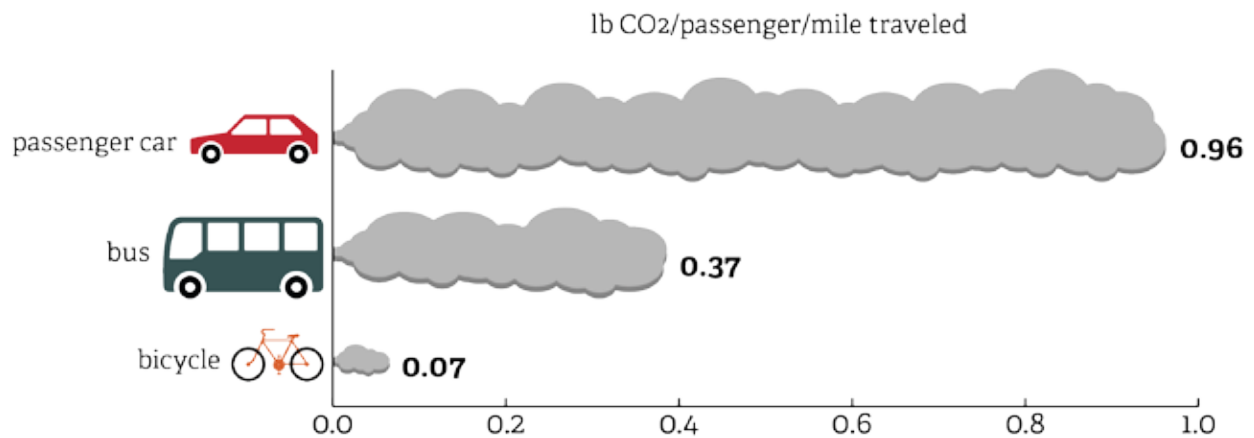
The average resident of a walkable community *weighs 6-10 lbs less* than someone who lives in a car-dependent community

Despite dramatic strides in recent decades through regulations and technological improvements, vehicle emissions still pose a significant threat to air quality and human health. Vehicle generated air pollution contains harmful greenhouse gas emissions including carbon dioxide, carbon monoxide, methane, nitrous oxide and volatile organic compounds. These pollutants and irritants can cause asthma, bronchitis, pneumonia and decreased resistance to respiratory infections. Taking steps to reduce these emissions is particularly important in the United States, which leads the world in petroleum consumption. The conversion of vehicular trips to cycling or walking trips offers a great opportunity to reduce emissions and improve public health.

In addition to the universal public health benefit, such as improved air quality described above, cycling and walking have the potential to positively impact personal health. A significant percentage of Americans are overweight or obese and recent projections indicate that 42 percent of the population will be obese by 2030. To combat this trend and prevent a variety of diseases and their associated societal costs, the Center for Disease Control (CDC) suggests a

minimum of 30 minutes of moderate intensity physical activity five days per week. Not only does cycling and brisk walking qualify as “moderate intensity activity,” they can also be seamlessly integrated into daily routine, especially if chosen for utilitarian purposes like commuting or running errands.





Other health benefits associated with moderate activity, such as cycling or walking, include improved strength and stamina through better heart and lung function. Regular exercise reduces the risk of high blood pressure, heart attacks and strokes. In addition to heart disease, regular exercise can also help to prevent other health problems such as non-insulin dependent diabetes, osteoarthritis and osteoporosis. Lastly, exercise has been shown to improve mental health by relieving symptoms of depression, anxiety and stress.

Economic Benefits



Houses with **above average levels of walkability** ask for **\$4,000 to \$34,000 more** than houses with average levels

Cycling infrastructure and programs has increasingly been shown to deliver economic benefit to both individuals and society at large. The benefits of cycling may, in fact, outweigh its costs. Cycling, and utilitarian cycling in particular, offers somewhat obvious cost savings to individuals. Beyond the up-front cost of operating a vehicle are additional maintenance, insurance and often parking costs. According to the American Automobile Association, the annual cost of owning a car and driving 15,000 miles a year is now just over \$9,000.

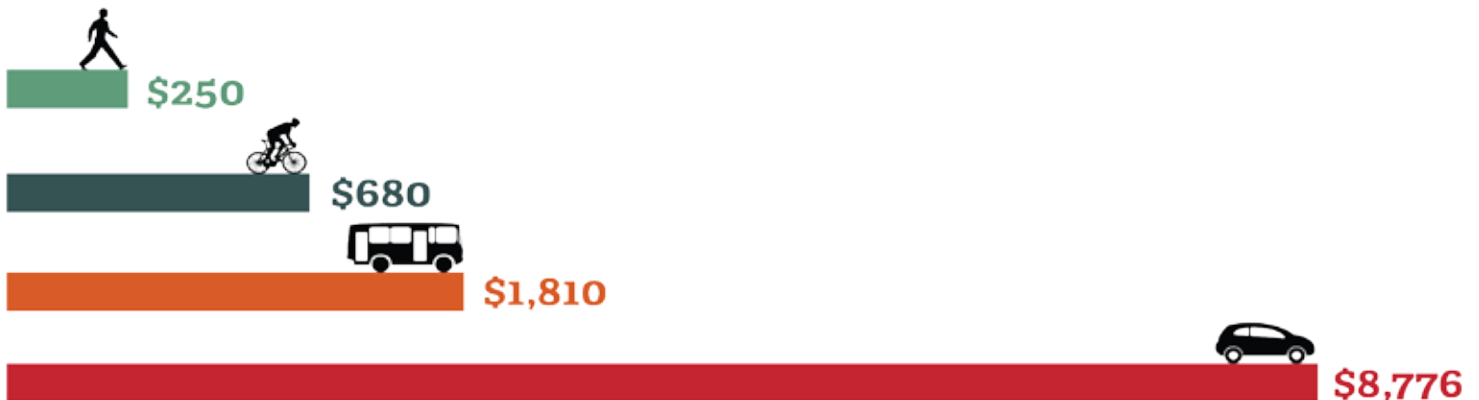
Converting even a fraction of automobile trips to cycling or walking trips can create significant transportation-related savings as a result of reduced vehicle traffic congestion. Increased cycling also translates to health-related savings, for both individuals and taxpayers, in the form of less need for preventative care. More cycling and walking have also been tied to increases in commercial and residential property values and retail sales. Shoppers who reach their destination by bicycle have been shown to make smaller purchases, but shop more often and spend more money overall. Shoppers who arrive by bicycle or on foot, by virtue of their more limited range, are also more likely to support local businesses, and do not require a vehicle parking spot.

Perhaps more compelling than reducing GHG emissions or combating the obesity epidemic is the benefits bicycling has to offer in terms of quality of life. Bicycling, and especially utilitarian bicycling, is increasingly seen as a fun, low-cost, healthy and sustainable way of getting around. How then, can we make it easier for any person to choose a bicycle for his or her daily trips?

In an effort to re-position bicycling as a safe and common mode of transportation and increasing the number of people bicycling, attention needs to be shifted away from creating “cyclists” and toward making it easier for any person to choose bicycling for their everyday trips. Research shows a strong latent interest in bicycling among those who identify as “interested, but concerned.” These individuals do not identify themselves as “cyclists,” but they do not necessarily need to do so to benefit from programs to encourage bicycling. While all segments of the population may be encouraged to ride, it is through the encouragement of this “interested, but concerned” segment of the population the greatest gains in mode share will be made. The field of bicycle planning is being redefined toward this end.



THE COST OF TRANSPORTATION



Average annual cost of operation

Bikeway Facility Types

This plan includes three low-stress bikeway facility categories: off-street, on-street and shared street. These broad categories include more specific bikeway types. The category and facility type recommended depends on the context, including street type and its vehicle traffic speed and volume.

Off-Street Facilities

Off-street bicycle facilities include open space, shared used paths (i.e. Caltrans Class I facilities) and roadside shared use paved paths or “urban trails.” These facilities are recommended where a recreational experience is desired, where a route is desired and no street exists, and where exceedingly high speed and volume vehicular traffic warrants substantial separation.



Figure 1-1: Off-Street Bicycle Facilities



Paths in Active Railroad Corridors



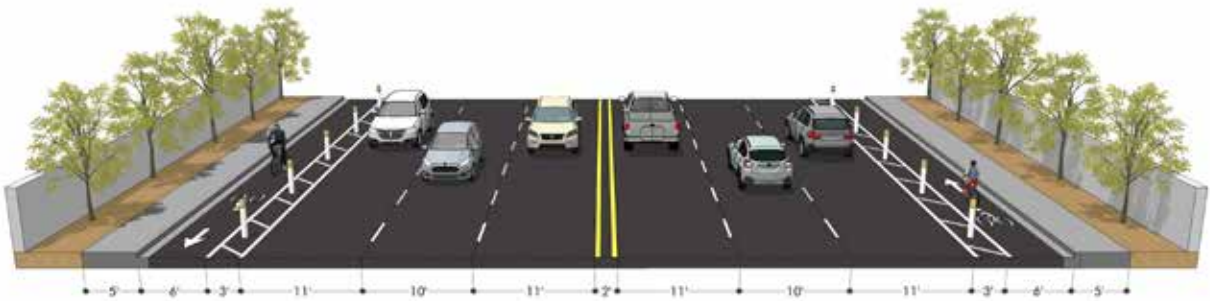
Paths in Abandoned Railroad Corridors



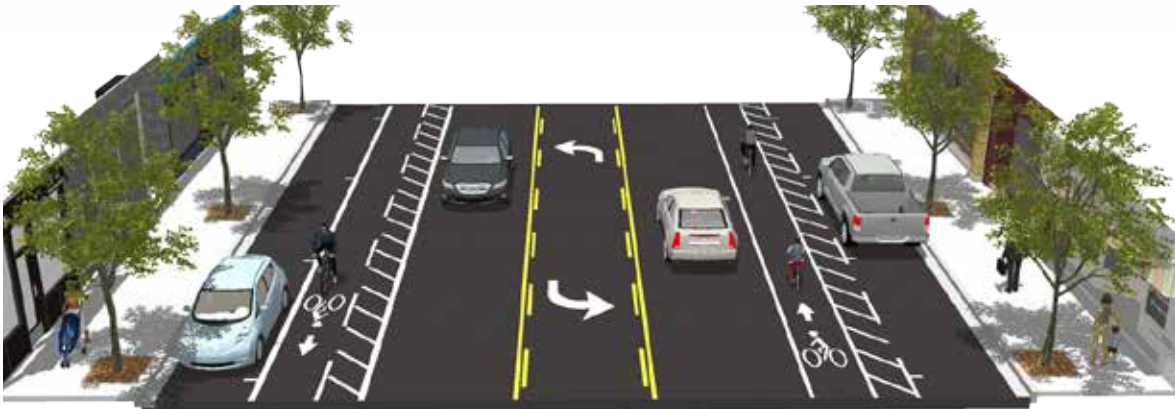
Local Neighborhood Access to Paths

On-Street Facilities

On-street facilities include striped bike lanes (i.e. Caltrans Class II facilities), buffered bike lanes and protected bike lanes (i.e. Class IV facilities). These facilities are recommended where the desired bicycling route follows an existing street and where traffic speeds and volumes are low enough to permit an adjacent facility, but high enough to preclude a “shared” facility. As a simple rule for low-stress bike lanes, the greater the separation from vehicle traffic, the better. Buffered bike lanes are recommended anywhere roadway space allows. Protected bike lanes, separated from vehicle lanes by vertical physical barriers, are recommended where vehicle speeds and volumes are high.



Protected Bike Lanes



Buffered Bike Lanes



Striped Bike Lanes

Figure 1-2: On-Street Bicycle Facilities

Shared-Street Facilities

Shared-street facilities include bicycle routes (i.e. Caltrans Class III facilities) and bicycle boulevards or “neighborhood greenways.” These facilities are recommended only where vehicle speeds and volumes are low enough for bicyclists and motorists to truly “share the road.” In the case of bicycle boulevards, traffic calming and bicyclist priority measures may be included.



Bike Route



Neighborhood Greenway

Figure 1-3: Shared Street Facilities

Pedestrian Facility Types

With a grid street system, and a relatively flat terrain, Desert Hot Springs has the framework for a bicycle and pedestrian-friendly environment. Many of the streets already have sidewalks, especially through the older neighborhoods. While many of the intersections are signalized and crosswalks exist, there are some segments with long blocks without places to cross. Providing crossing treatments will help reduce the jaywalking and mid-block crossings.

Pedestrian Refuge

Refuge islands provide pedestrians and bicyclists a refuge area within intersection and mid-block crossings. Refuge islands provide a location for pedestrians or bicyclists to wait partially through their crossing.



Figure 1-4: Pedestrian Refuge

Mid-block Crossings

Mid-block crossings provide convenient locations for pedestrians to cross urban thoroughfares in areas with infrequent intersection crossings or where the nearest intersection crossing creates substantial out-of-direction travel.



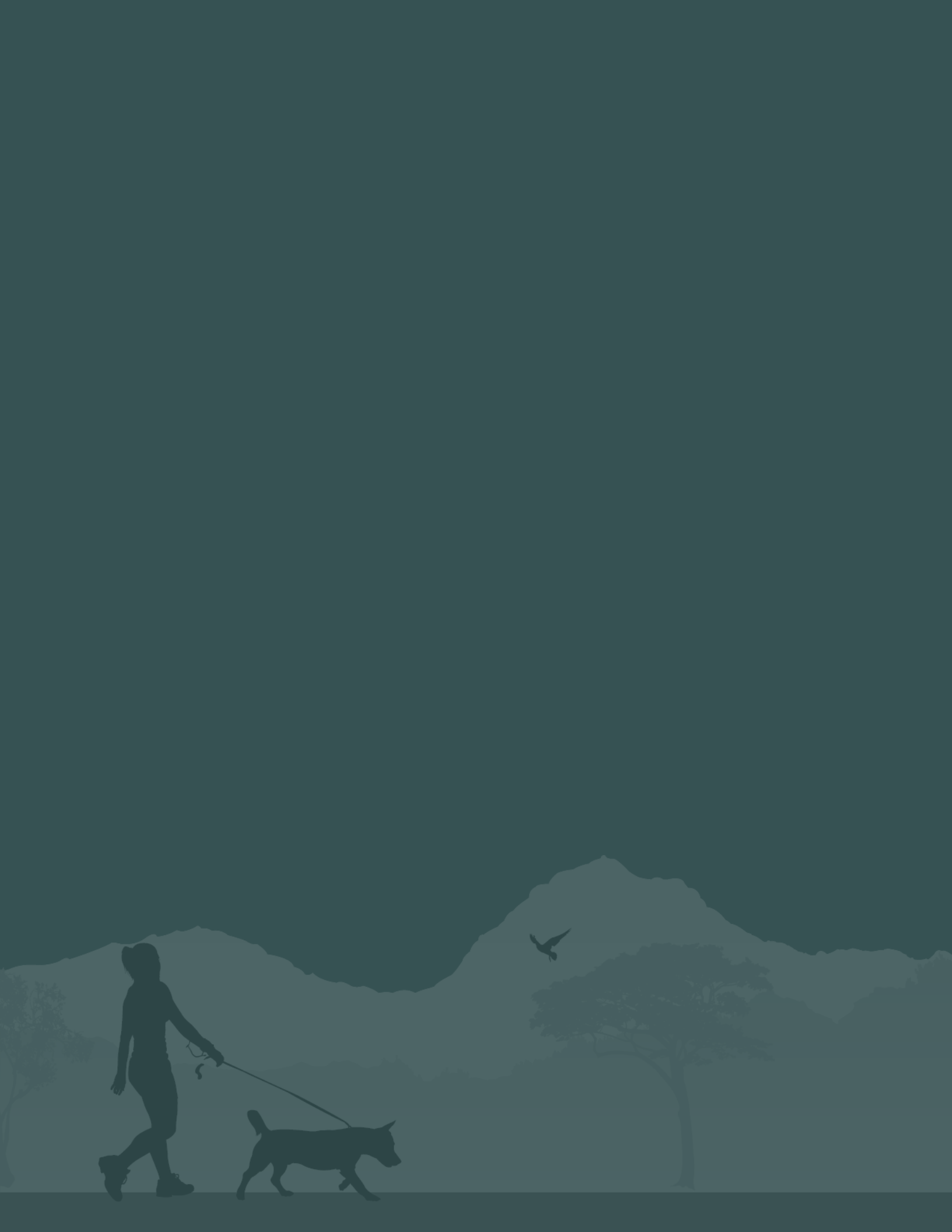
Figure 1-5: Mid-block Crossing

Curb Extensions

Also called bulb-outs or neck-downs, curb extensions extend the line of the curb into the travel way, reducing the width of the street. Typically occurring at intersections, they reduce the length a pedestrian has to cross.



Figure 1-6: Curb Extension



Chapter 2

State of Practice



Over the past five years the state of practice for bicycle facilities in the United States has undergone a significant transformation. Much of this may be attributed to bicycling's changing role in the overall transportation system. Once viewed as an "alternative" mode, it is increasingly viewed as a legitimate transportation mode and one that should be actively promoted as a means of achieving environmental, social and economic goals. (Due to a long history of routine accommodation for pedestrians, such as sidewalks, crosswalks, dedicated signals, etc., there are relatively few innovations in pedestrian facilities.)

While connectivity and convenience remain essential bicycle facility quality indicators, recent research indicates the increased acceptance and practice of daily bicycling will require "low-stress" bicycle facilities. Facility types and specific design interventions intended to encourage ridership among the "interested, but concerned" demographic tend to be those that provide separation from high volume and high speed vehicular traffic.

Just as the state of practice has bicycle facilities has evolved, so has technical guidance. While bikeway design guidance in California has traditionally come from the State, especially Caltrans and the California Manual on Uniform Traffic Control Devices (CA MUTCD), cities are increasingly turning to national organizations for guidance on best practices. Primary organizations include the American Association of State Highway and Transportation Officials (AASHTO), the National Association of City Transportation Officials (NACTO) and the Federal Highway Administration (FHWA).

Fortunately for California cities, there is increased flexibility in design guidance offered by both Caltrans and the FHWA. In 2014, Caltrans officially endorsed the NACTO Urban Street Design Guide and Urban Bikeway Design Guide as valuable toolkits for designing and constructing safe, attractive local streets. California cities may also apply for experimental designation from the FHWA for projects not in conformance with the CA MUTCD.

The guidance provided by these manuals support the creation of more Complete Streets. The guidance is also supported by several pieces of important legislation. The following section provides a review of the state of practice for bicycle facilities, drawing on the AASHTO and NACTO guides. It also includes a discussion on Complete Streets/Routine Accommodation and as well as summaries of relevant legislation at the local, regional, State and national levels.



Primary Guidance

AASHTO Guide to Bikeway Facilities

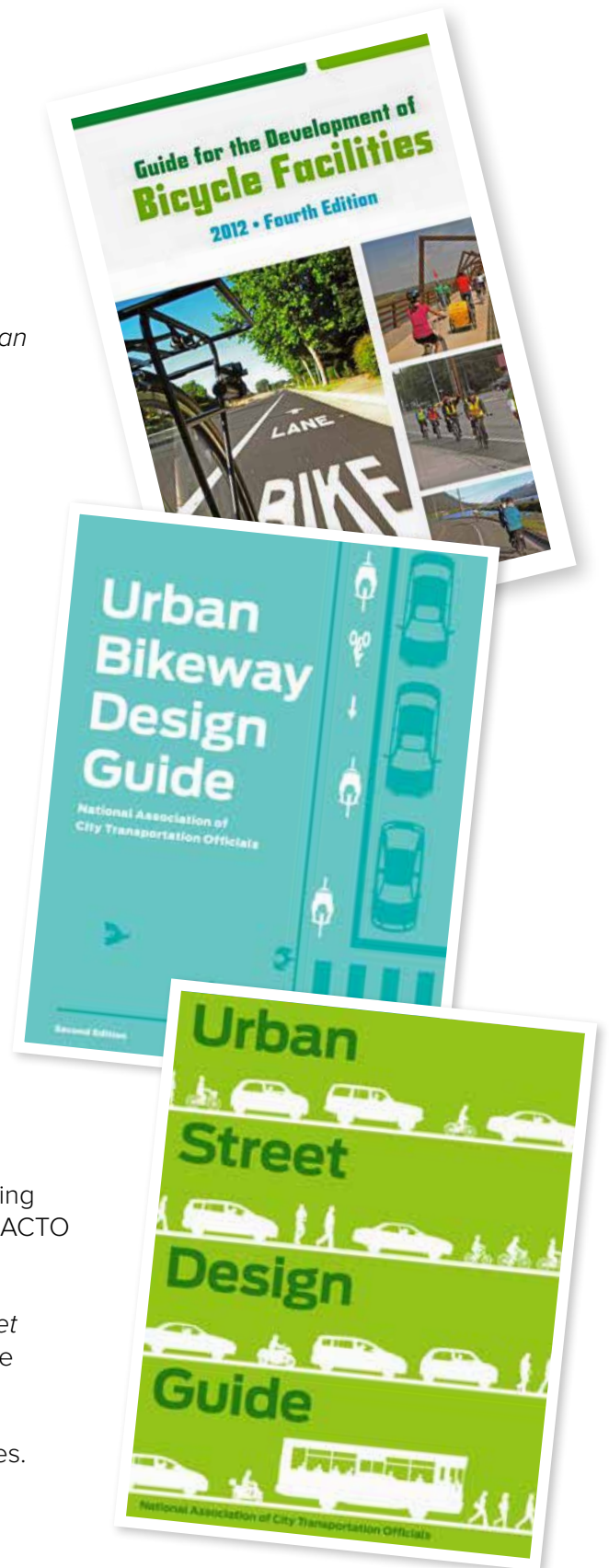
This memorandum expresses the Federal Highway Administration's (FHWA) support for taking a flexible approach to bicycle and pedestrian facility design. The AASHTO bicycle and pedestrian design guides are the primary national resources for planning, designing, and operating bicycle and pedestrian facilities. The NACTO *Urban Bikeway Design Guide* and the Institute of Transportation Engineers (ITE) *Designing Urban Walkable Thoroughfares* guide builds upon the flexibilities provided in the AASHTO guides, which can help communities plan and design safe and convenient facilities for pedestrians and cyclists. FHWA supports the use of these resources to further develop non-motorized transportation networks, particularly in urban areas.

NACTO Urban Bikeway and Urban Street Design Guides

The NACTO guides represent the industry standard for innovative bicycle and streetscape facilities and treatments in the United States. In 2014, Caltrans followed AASHTO and officially endorsed the NACTO *Urban Bikeway Design Guide*. It is important to note that virtually all of its design treatments (with two exceptions) are permitted under the Federal MUTCD. The NACTO *Urban Street Design Guide* is the more generalized of the two guides and organized into six sections. Each section is further subdivided, depending on topic. The NACTO *Urban Bikeway Design Guide* is also organized into six sections, but its information is bicycle-specific. For each section, it offers three levels of guidance: Required Features, Recommended Features and Optional Features. The following section introduces the broad facility types included in the NACTO *Urban Bikeway Design Guide*.

In 2014, Caltrans officially endorsed the NACTO *Urban Street Design Guide and Urban Bikeway Design Guide* as valuable toolkits for designing and constructing safe, attractive local streets. At the time, Caltrans was only the third State Department of Transportation to officially endorse the Guides.

Further categorization and design details are included in Appendix A: Design Guidelines.



Complete Streets and Routine Accommodation

An adopted Bicycle and Pedestrian Master Plan provides a roadmap to support planning and implementing a bicycle and pedestrian network, can help to integrate bicycle and pedestrian planning into broader planning efforts and is required for State funding of bikeway projects.

For many cities, however, a bicycle and pedestrian plan alone is not enough to ensure the implementation of the plan's goals and projects. A hurdle many cities face is that their various plans are not well integrated. Despite many cities' attempts to support a "Complete Streets approach," entrenched and often contradictory policies can make implementation difficult. For instance, a Bicycle and Pedestrian Master Plan, an ADA transition plan and a specific plan may address the same area, but ignore each other's recommendations. One plan may identify a certain project, but it may not be implementable due to prevailing policies and practices that prioritize vehicular flow and parking over other modes.

An adopted Complete Streets policy has the potential to address these shortcomings through the designation of some important corridors as Complete Streets, accommodating all roadway users, and other corridors as priority corridors for a certain modes. A system that assigns priority for different modes to specific corridors, offset from one another, is referred to as a layered network.

Efforts to implement Complete Streets policy often highlight other significant obstacles, chief among them documents defining "significant impacts" to traffic, acceptable vehicular "Level of Service" thresholds and parking requirements. Drafting a Complete Streets policy often means identifying roadblocks like these and ultimately mandating increased flexibility to allow for the creation of a more balanced transportation system. In the case of a Bicycle and Pedestrian Master Plan, the network



Enhanced Crosswalks and Painted Bicycle Crossings
Wauwatosa, WI



Dedicated Bicycle Signal
Denver, CO

identified could become the bicycle and pedestrian layers. Identification in such a plan, reiteration within a Complete Streets policy framework and exemption from traditional traffic analyses can make implementation more likely and much more affordable.

Legislative support for Complete Streets can be found at the State level (AB-1358) and is being developed at the national level (HR-2468). As explained in further detail in the following section on applicable legislation, AB-1358 requires cities and counties to incorporate Complete Streets in their general plan updates and directs the State Office of Planning Research (OPR) to include Complete Streets principles in its update of guidelines for general plan circulation elements. Examples of best practices in Complete Streets Policies from around the United States can be found at: <http://www.smartgrowthamerica.org/complete-streets-2013-analysis>.



Wayfinding Signage
San Clemente, CA

Applicable Legislation

Several pieces of legislation support increased bicycling and walking in the State of California. Much of the legislation addresses greenhouse gas (GHG) reduction and employs bicycling and walking as means to achieve reduction targets. Other legislation highlights the intrinsic worth of bicycling and walking and treats the safe and convenient accommodation of cyclists and walkers as a matter of equity. The most relevant legislation concerning bicycle and pedestrian policy, planning, infrastructure and programs are described in the following sections.

State Legislation and Policies

AB-32 calls for the reduction of greenhouse gas emissions and codifies the 2020 emissions reduction goal. This act also directs the California Air Resources Board to develop specific early actions to reduce greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit.

SB-375 Redesigning Communities to Reduce Greenhouse Gases

This bill seeks to reduce vehicle miles traveled through land use and planning incentives. Key provisions require the larger regional transportation planning agencies to develop more sophisticated transportation planning models, and to use them for the purpose of creating “preferred growth scenarios” in their regional plans that reduce greenhouse gas emissions. The bill also provides incentives for local governments to incorporate these preferred growth scenarios into the transportation elements of their general land use plans.

AB-1358 Complete Streets Act

AB-1358 requires the legislative body of a city or county, upon revision of the circulation element of their general plan, to identify how the jurisdiction will provide for the routine accommodation of all users of the roadway including drivers, pedestrians, cyclists, individuals with disabilities, seniors and public transit users. The bill also directs the OPR to amend guidelines for general plan circulation element development so that the building and operation of local transportation facilities safely and conveniently accommodate everyone, regardless of their travel mode.



Smart Growth America
Downtown West Jefferson, NC

AB-1581 Bicycle and Motorcycle Traffic Signal Actuation

This bill defines a traffic control device as a traffic-actuated signal that displays one or more of its indications in response to the presence of traffic detected by mechanical, visual, electrical or other means. Upon the first placement or replacement of a traffic-actuated signal, the signal would have to be installed and maintained, to the extent feasible and in conformance with professional engineering practices, so as to detect lawful bicycle or motorcycle traffic on the roadway. Caltrans has adopted standards for implementing the legislation.

AB-1371 Passing Distance/Three Feet for Safety Act

This statute, widely referred to as the “Three Foot Passing Law,” requires drivers to provide at least three feet of clearance when passing cyclists. If traffic or roadway conditions prevent drivers from giving cyclists three feet of clearance, they must “slow to a speed that is reasonable and prudent” and wait until they reach a point where passing can occur without endangering the cyclist. Violations are punishable by a \$35 base fine, but drivers who collide with cyclists and injure them in violation of the law are subject to a \$220 fine.

SB-743 CEQA Reform

Just as important as the aforementioned pieces of legislation that support increases in bicycling and walking infrastructure and accommodation is one that promises to remove a longstanding roadblock to them. That roadblock is vehicular Level of Service (LOS) and the legislation with the potential to remove it is SB-743.

For decades, vehicular congestion has been interpreted as an environmental impact and has often stymied on-street bicycle projects in particular. Projections of degraded Level of Service have, at a minimum, driven up project costs and, at a maximum, precluded projects altogether. SB-743 could completely remove LOS as a measure of vehicle traffic congestion that must be used to analyze environmental impacts under the California Environmental Quality Act (CEQA).

This is extremely important because adequately accommodating cyclists, particularly in built-out environments, often requires reallocation of right-of-way and the potential for increased vehicular congestion. The reframing of Level of Service as a matter of driver inconvenience, rather than an environmental impact, allows planners to assess the true impacts of transportation projects and will help support bicycling projects that improve mobility for all roadway users.

CEQA for Bicycle and Pedestrian Plans

Planning projects such as this are exempt from CEQA analysis since they are planning and conceptual recommendations. As individual recommendations move forward toward further design and implementation, the City will then need to determine if there are environmental impacts in which and EIR may be necessary.

15262. Feasibility and Planning Studies

A project involving only feasibility or planning studies for possible future actions which the agency, board, or commission has not approved, adopted, or funded does not require the preparation of an EIR or Negative Declaration but does require consideration of environmental factors. This section does not apply to the adoption of a plan that will have a legally binding effect on later activities. Association of Environmental Professionals 2014 CEQA Guidelines 229

Note: Authority cited: Section 21083, Public Resources Code; Reference: Sections 21102 and 21150, Public Resources Code.

AB-1193 Bikeways

This act amends various code sections, all relating to bikeways in general, specifically by recognizing a fourth class of bicycle facility, cycle tracks. However, the following may be even more significant to future bikeway development:

Existing law requires Caltrans, in cooperation with county and city governments, to establish minimum safety design criteria for the planning and construction of bikeways, and requires the department to establish uniform specifications and symbols regarding bicycle travel and traffic related matters. Existing law also requires all city, county, regional and other local agencies responsible for the development or operation of bikeways or roadways to utilize all of those minimum safety design criteria and uniform specifications and symbols.

This bill revises these provisions to require Caltrans to establish minimum safety design criteria for each type of bikeway by January 1, 2016, and also authorizes local agencies to utilize different minimum safety criteria if adopted by resolution at a public meeting.



Caltrans' Deputy Directive 64-R1

Deputy Directive 64-R1 is a policy statement affecting Caltrans mobility planning and projects requiring the agency to: "...provide for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State highway system. The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system."

The directive goes on to mention the environmental, health and economic benefits of more Complete Streets.

Federal Legislation

Safe Streets Act (S-2004/HR-2468)

HR2468 encourages safer streets through policy adoption at the state and regional levels, mirroring an approach already being used in many local jurisdictions, regional agencies and states governments. The bill calls upon all states and metropolitan planning organizations (MPOs) to adopt Safe Streets policies for federally funded construction and roadway improvement projects within two years. Federal legislation will ensure consistency and flexibility in road-building processes and standards at all levels of governance.





“...provide for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State highway system. The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system.”

- Caltrans' Deputy Directive 64-R1



CHAPTER 3

Outreach Summary



Public Process

The Desert Hot Springs Bikeway and Pedestrian Master Plan is intended to create a more walkable, bikeable and livable Desert Hot Springs. The first Bicycle and Pedestrian Master Plan Kick-Off meeting took place on March 27, 2015, four weeks prior to the community workshops. The project was introduced to city staff, stakeholders and council members who shared their vision for the community. Members were encouraged to contact their constituents and promote the workshops. An outreach strategy was introduced to capture people's comments, ideas, and visions for improvements in Desert Hot Springs.

Three weeks prior to the workshop, a flyer in English and Spanish with talking points was sent to all key community stakeholders to assist in reaching their constituents and encouraging participation.

Community Workshops

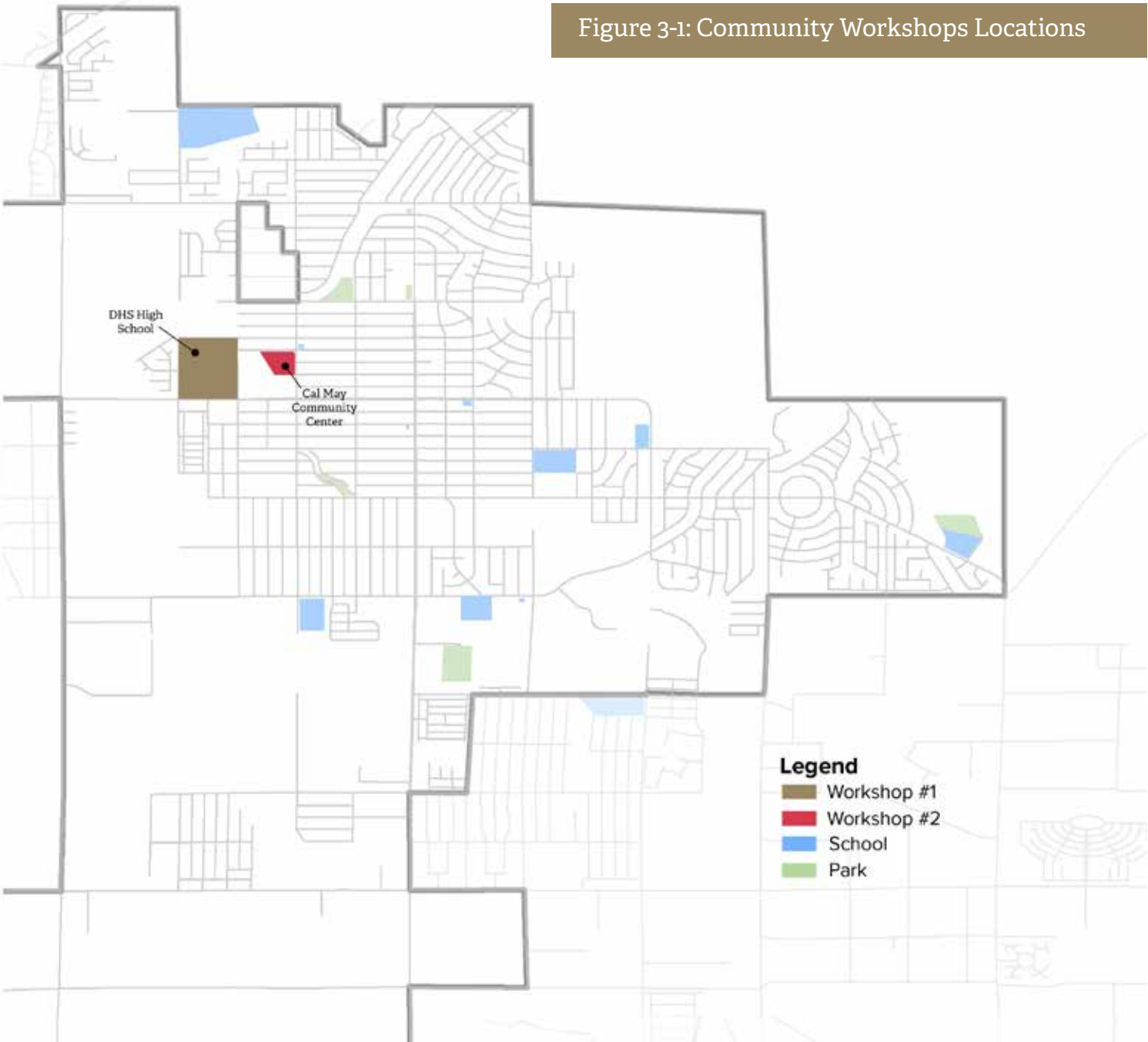
Two community workshops were undertaken to encourage community members and other stakeholders to provide feedback. These workshops were held at two different locations using the same format to reach a wider audience, resulting in a bigger sample of issues and concerns.



The following key messages were delivered:

- Walking and bicycling around Desert Hot Springs can be safe and fun! You can make it happen!
- The project will explore improvements that can make it easier to get from one destination to another by foot, bus or bike;
- It is important to connect destinations such as schools, workplaces, shopping, dining and other places of interest so that they are accessible by walking or bicycling;
- Balancing improvements that enhance conditions and options for people who walk and bike - with the need to drive in Desert Hot Springs - will be a primary focus;
- Improvements can also elevate the attractiveness of the community and promote the cultural, economic and artistic qualities of the neighborhoods and businesses.

Figure 3-1: Community Workshops Locations



Community Workshop #1

The first community workshop took place on Wednesday, May 27, 2015 at Desert Hot Springs High School. A total of twenty-five community members attended this workshop and were divided into three different groups. At each table, a project site map containing the proposed bike paths was provided. Participants gave their comments by attaching different colored post-it notes or by writing directly on the map.

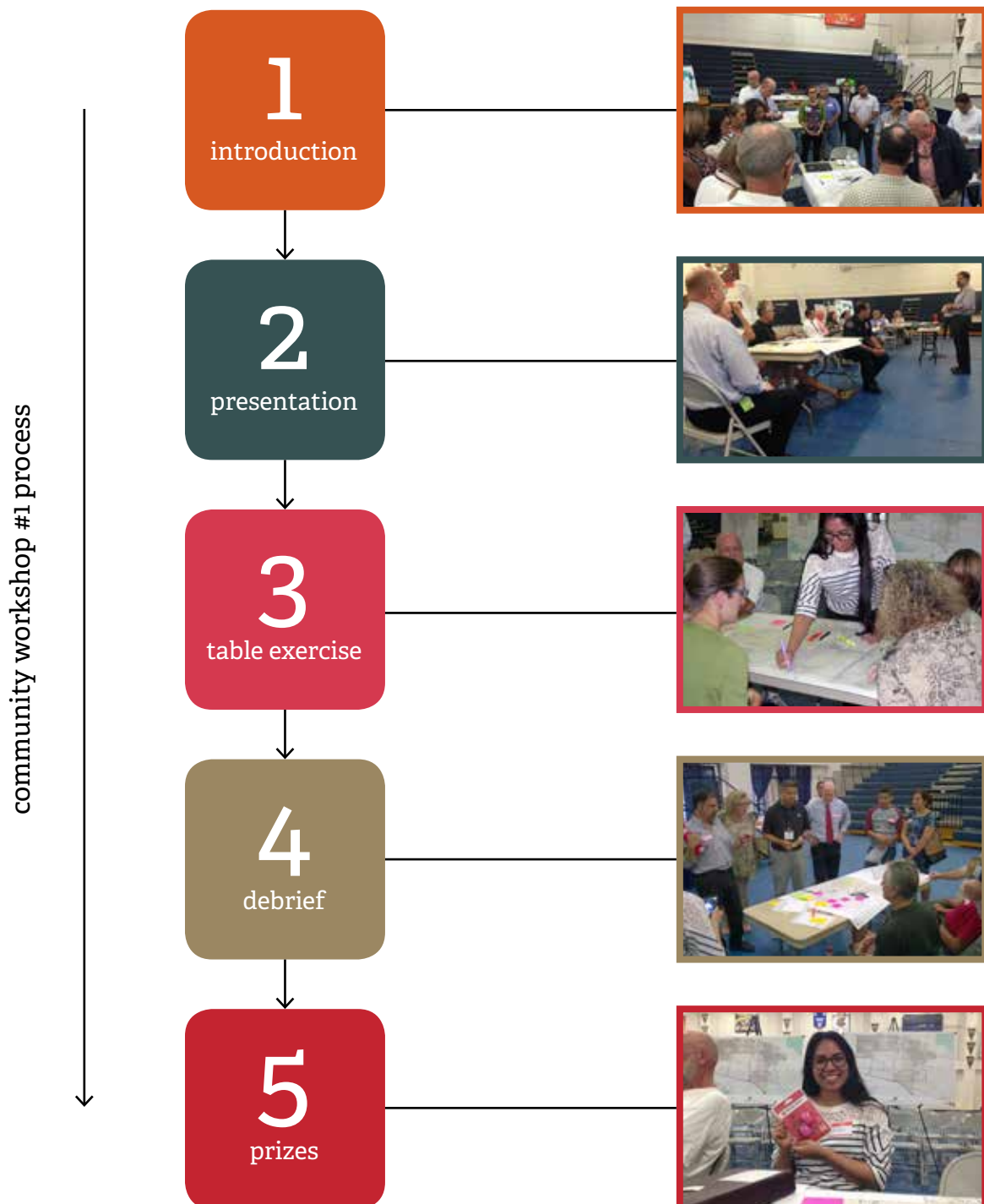


Figure 3-2: Community Workshops #1 Process



Community Workshop #1 Presentation



Community Workshop #1 Table Exercise



Community Workshop #1 Debrief

Community Workshop #2

Because of the success of the first community workshop, a second was scheduled. The second community workshop took place on Thursday, July 23, 2015 and was held at the Carl May Community Center. This workshop identified stakeholders and project captains to participate in facilitator training and lead table exercises in order to garner community support for the Bicycle and Pedestrian Master Plan.

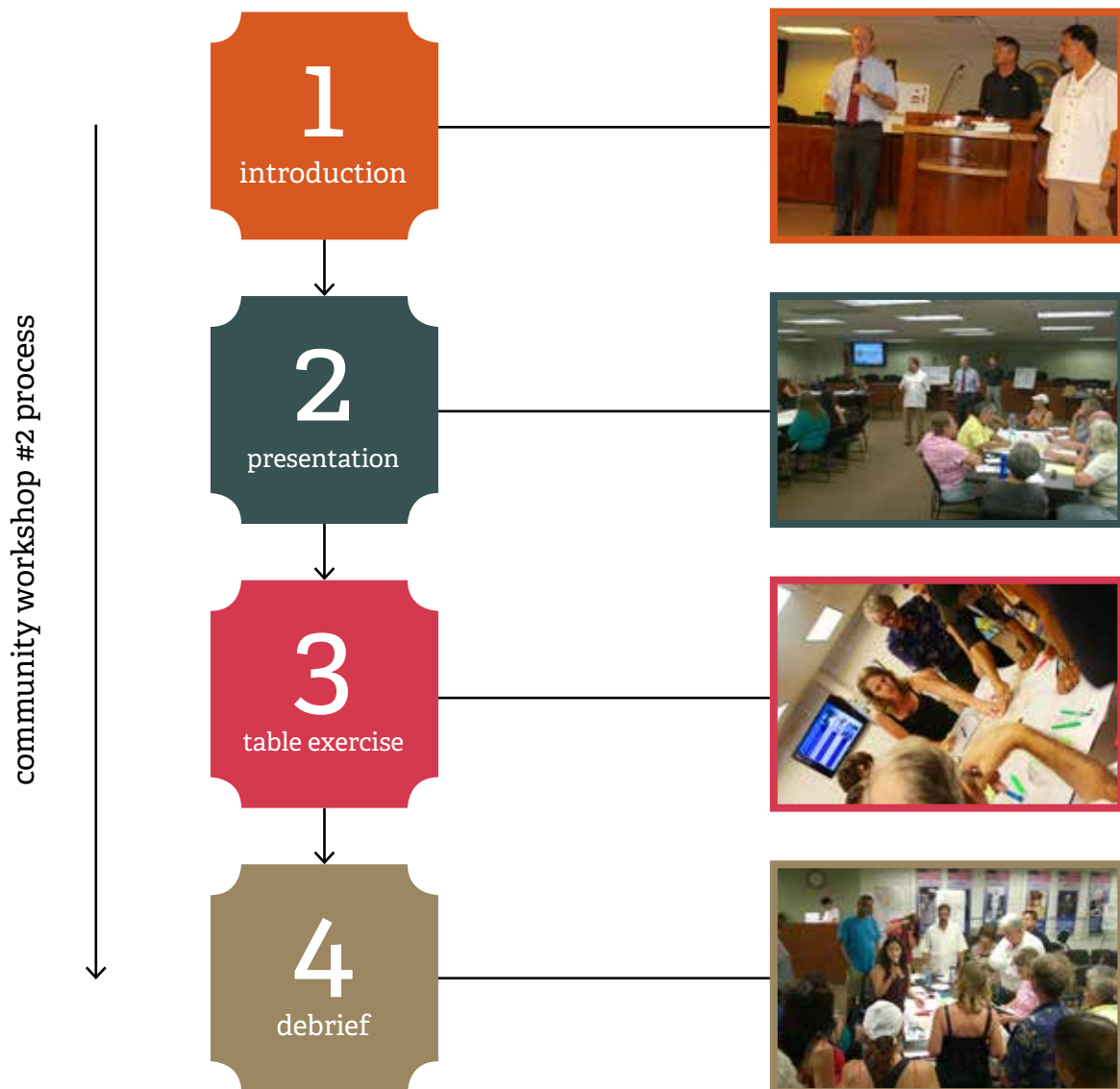


Figure 3-3: Community Workshop #2 Process



Community Workshop #2 Presentation



Community Workshop #2 Exercise

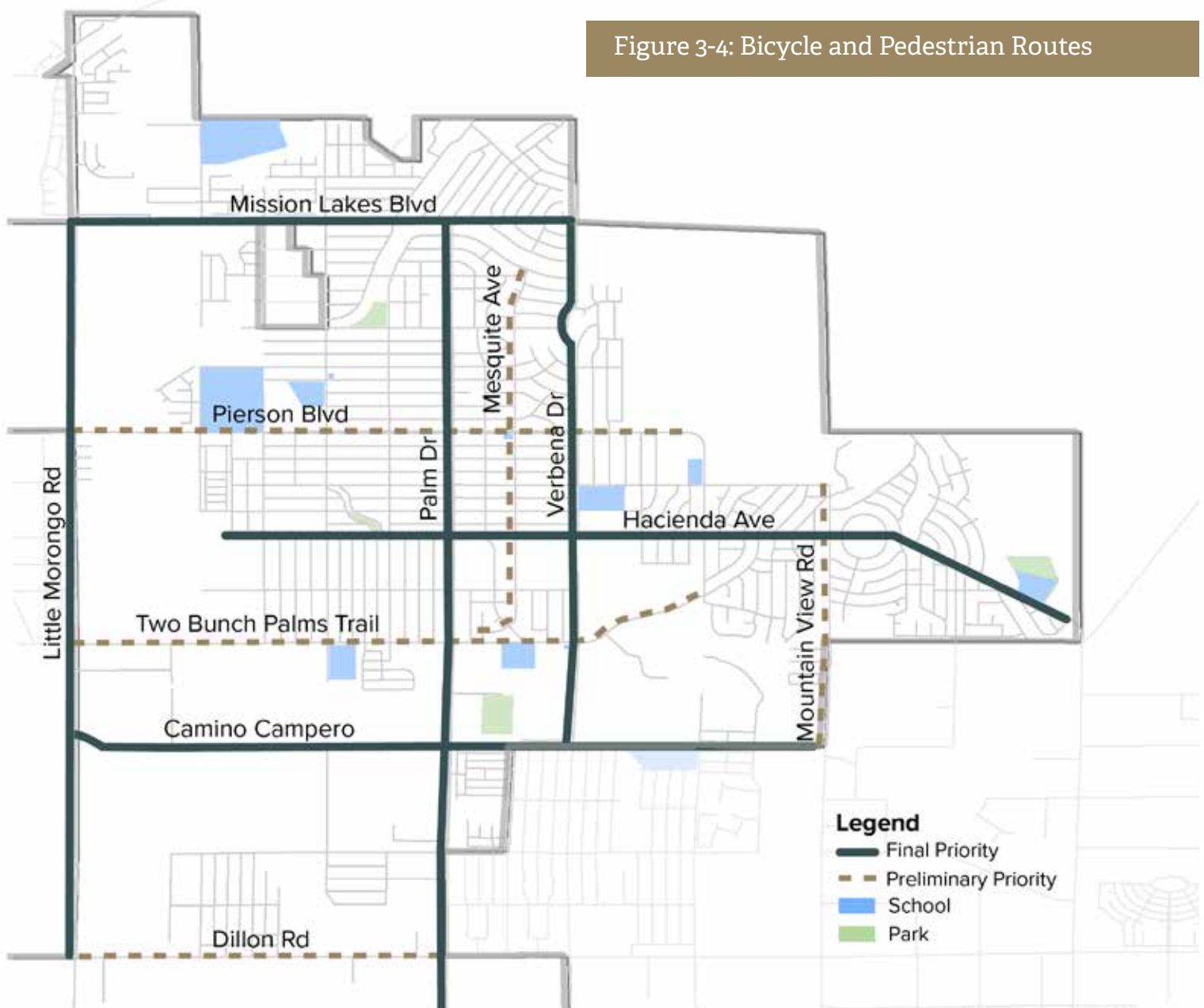


Community Workshop #2 Input

Workshop Summary

Exercises from the two public workshops allowed participants to collaborate on what they felt was the most important improvements for bicycle and pedestrian. As each table marked up the maps and provided feedback, they were asked which street or corridor they walked or biked on the most. These streets were Dillon Road, Hacienda Avenue, Mesquite Avenue, Mountain View Road, Pierson Boulevard and Two Bunch Palms Trail. Additional discussion about these corridors led to participants noting that while these were corridors are where they currently frequent, they would like to see improvements on other streets that either provided better connections to destinations or were more convenient if the bicycle and pedestrian environment was improved. Each table was asked to select two priority projects they felt was important to their table, and report back to the entire group. These corridors were identified as Palm Drive, Mission Lakes Boulevard, Little Morongo Road, Hacienda Avenue, Verbena Drive and Camino Campanero. As a result, these projects moved forward as Priority Projects and have been developed with design schematics found in Chapter 5, Recommendations.

Figure 3-4: Bicycle and Pedestrian Routes





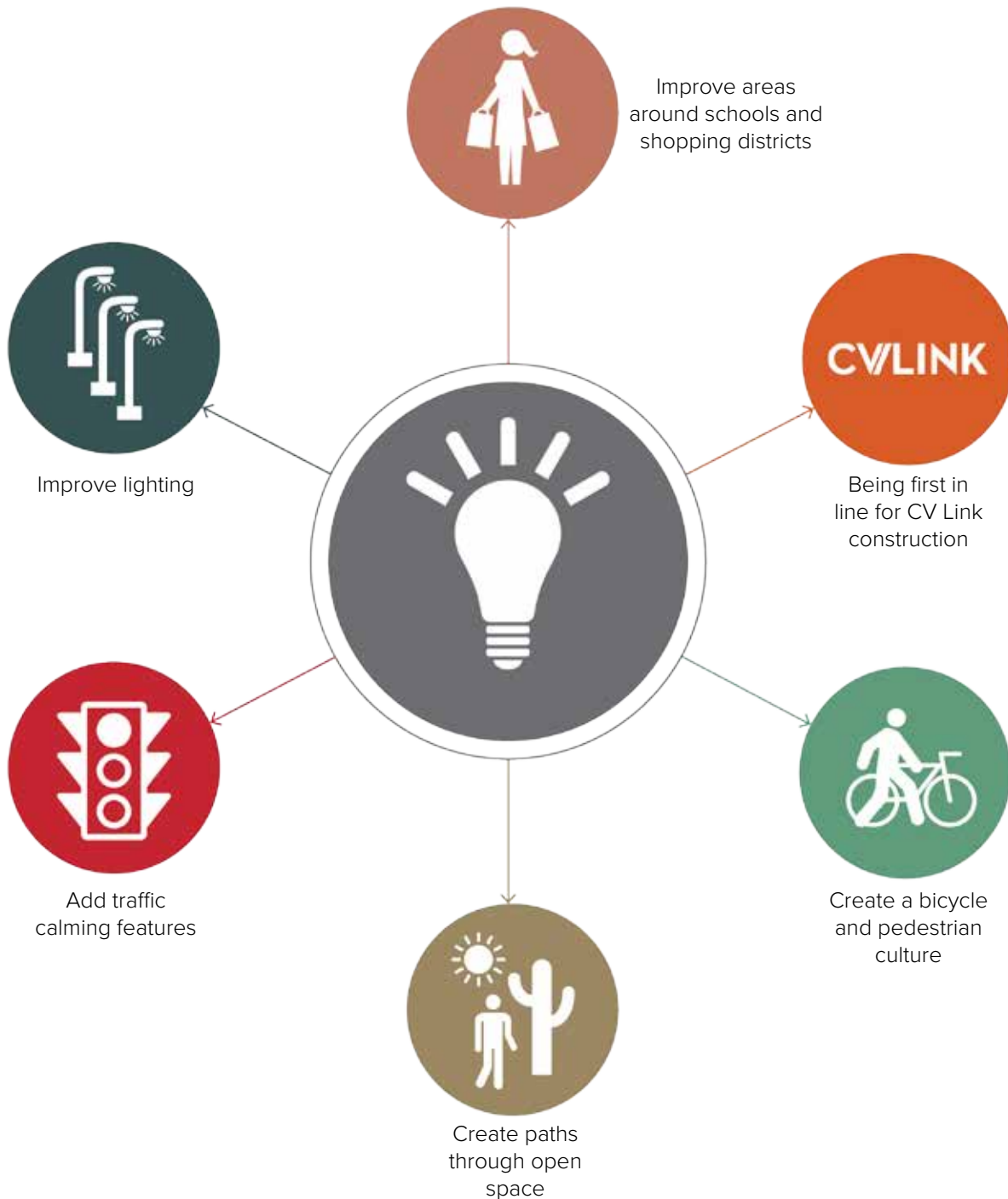
According to the survey, the biggest issues in the City for walking and biking are the lack of sidewalks and bike lanes, poor lighting and high vehicle speeds. Other important issues include accessibility (ADA), lack of paving and poor pavement quality.

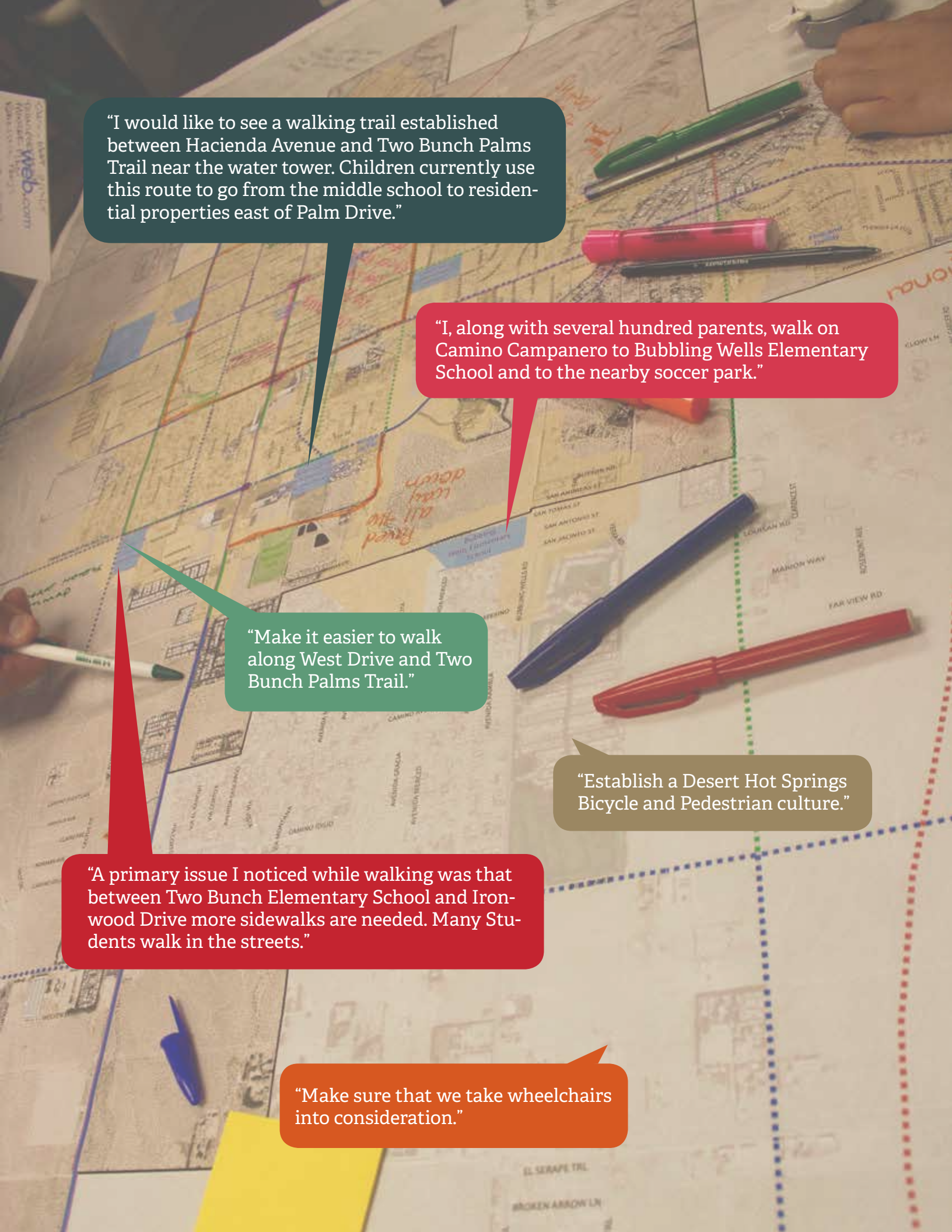


Schools were listed as the most important destination in the City, followed by shopping, parks and recreation, and churches. Most people would walk or bike to these destinations if facilities were improved.

Great ideas abound for bicycle and pedestrian projects in Desert Hot Springs. Improving the areas around schools and shopping areas for walking and biking are popular. Other, specific recommendations include: Creating “walk and bike loops;” being first in line for CV Link construction; establishing a bicycle and pedestrian culture in Desert Hot Springs; creating paths through the open space, desert areas; and traffic calming and lighting for the eastern City.

Figure 3-5: Ideas for Bicycle and Pedestrian Projects





"I would like to see a walking trail established between Hacienda Avenue and Two Bunch Palms Trail near the water tower. Children currently use this route to go from the middle school to residential properties east of Palm Drive."

"I, along with several hundred parents, walk on Camino Campanero to Bubbling Wells Elementary School and to the nearby soccer park."

"Make it easier to walk along West Drive and Two Bunch Palms Trail."

"Establish a Desert Hot Springs Bicycle and Pedestrian culture."

"A primary issue I noticed while walking was that between Two Bunch Elementary School and Ironwood Drive more sidewalks are needed. Many Students walk in the streets."

"Make sure that we take wheelchairs into consideration."



CHAPTER 4

Analysis



Analysis Overview

Analysis – of existing and future conditions, as well as latent demand – is an essential step in any transportation project planning process. For this project, analysis included spatial (GIS) analysis, fieldwork and community and stakeholder input. This multi-pronged approach allowed for maximal data capture and cross-referencing of findings. For example, bicycle and pedestrian safety concerns were analyzed through collision data, including locations, frequencies and causes. Cross-referencing these collision data with public input helped to confirm safety issues and identify areas for new or improved facilities.

This chapter is primarily concerned with explanations and discussions of the various spatial analyses employed in this project. Brief discussions of the role of fieldwork and community/stakeholder input are provided below, while the remainder of the chapter is devoted to spatial analysis.

Fieldwork

The project team conducted fieldwork, using measuring tools and georeferenced photos, on several occasions. Fieldwork was conducted at project kick-off (to better understand existing conditions) and during project development (to verify data obtained from GIS and community/stakeholder input).

Community/Stakeholder Input

Community and stakeholder input played a very important role in developing facility and program recommendations. A summary of community and stakeholder input obtained and its impact on project recommendations is included in Chapter 3, “Outreach Summary.”

Spatial (GIS) Analysis

Spatial analysis included simple, data-driven analyses and more complex analyses, requiring evaluations of layered information and multiple inputs. Data-driven topics include existing bicycle facilities, proposed bicycle facilities, CV link route, average daily trips, activity centers, transit routes, safety analysis and bicycle-pedestrian suitability. Topics requiring more complex analysis (safety/collisions and bicycle-pedestrian routing) are discussed in more detail in their respective sections.



Existing Bicycle Facilities

Desert Hot Springs has relatively few bicycle facilities distributed evenly throughout the City. It has Class III bike routes on portions of Little Morongo Road, West Drive, Palm Drive, and Two Bunch Palms Trail and Class II bike lanes on portions of Pierson Boulevard, West Drive, Palm Drive, Two Bunch Palms Trail and Hacienda Avenue. The City does not currently have any Class I multi-use paths. What is most noteworthy about existing bicycle facilities in Desert Hot Springs is not their location or facility class, but their disjointed nature. Bicycle facilities start and stop and alternate between facility classes, resulting in poor network connectivity. The bicycle facilities and (lack of) network described above provided a foundation for this plan to build upon.

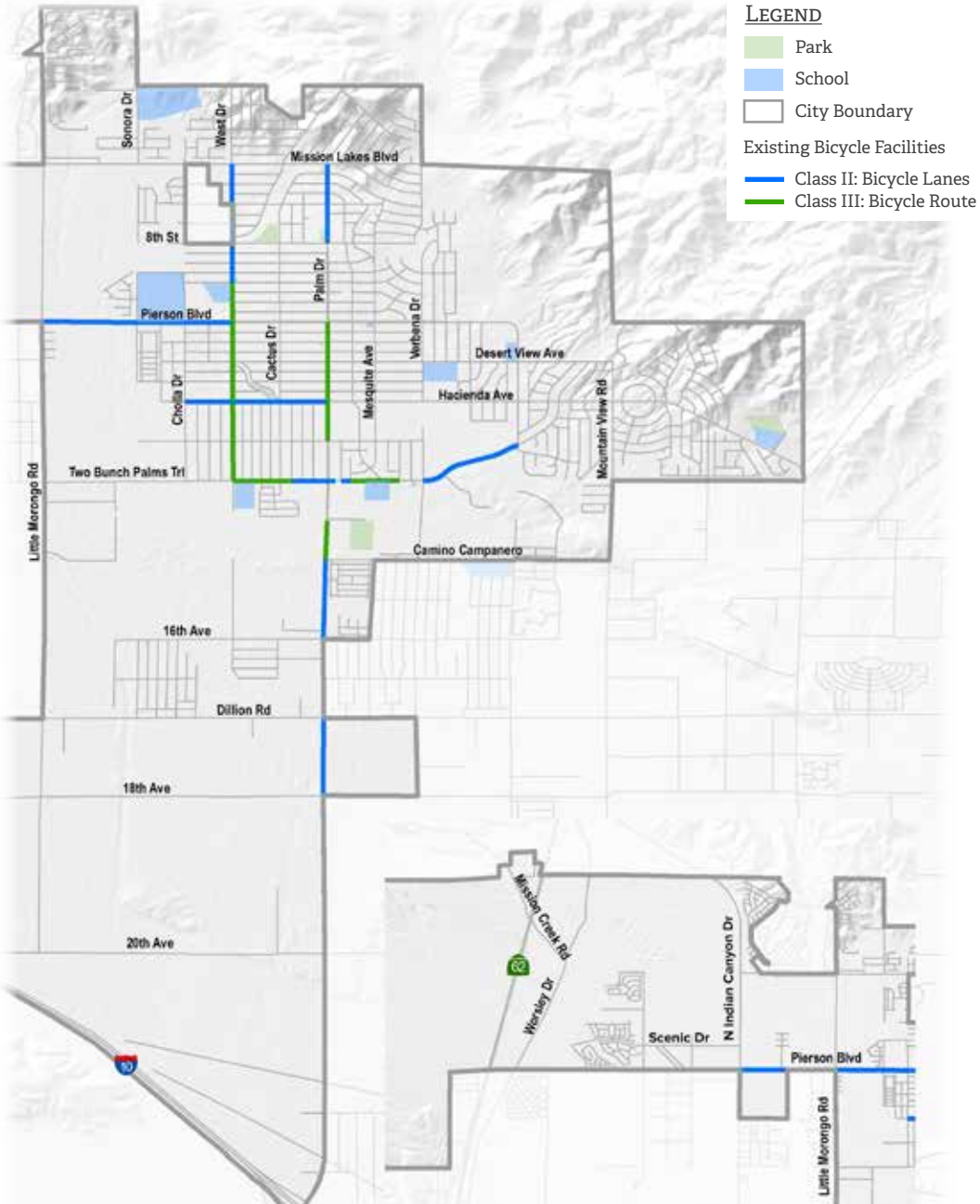


Figure 4-1: Existing Bicycle Facilities

Proposed Bicycle Facilities

The previously proposed bicycle facilities were documented in the CVAG Non-Motorized Transportation Plan and were the basis of the recommended bicycle network of this plan. This network was analyzed for connectivity and presented at the public workshops to gather additional input on routes they felt were important and which should move forward as recommendations. While many of these proposed routes remain, they may change in terms of facility types due to existing conditions, city and public input and best practices.

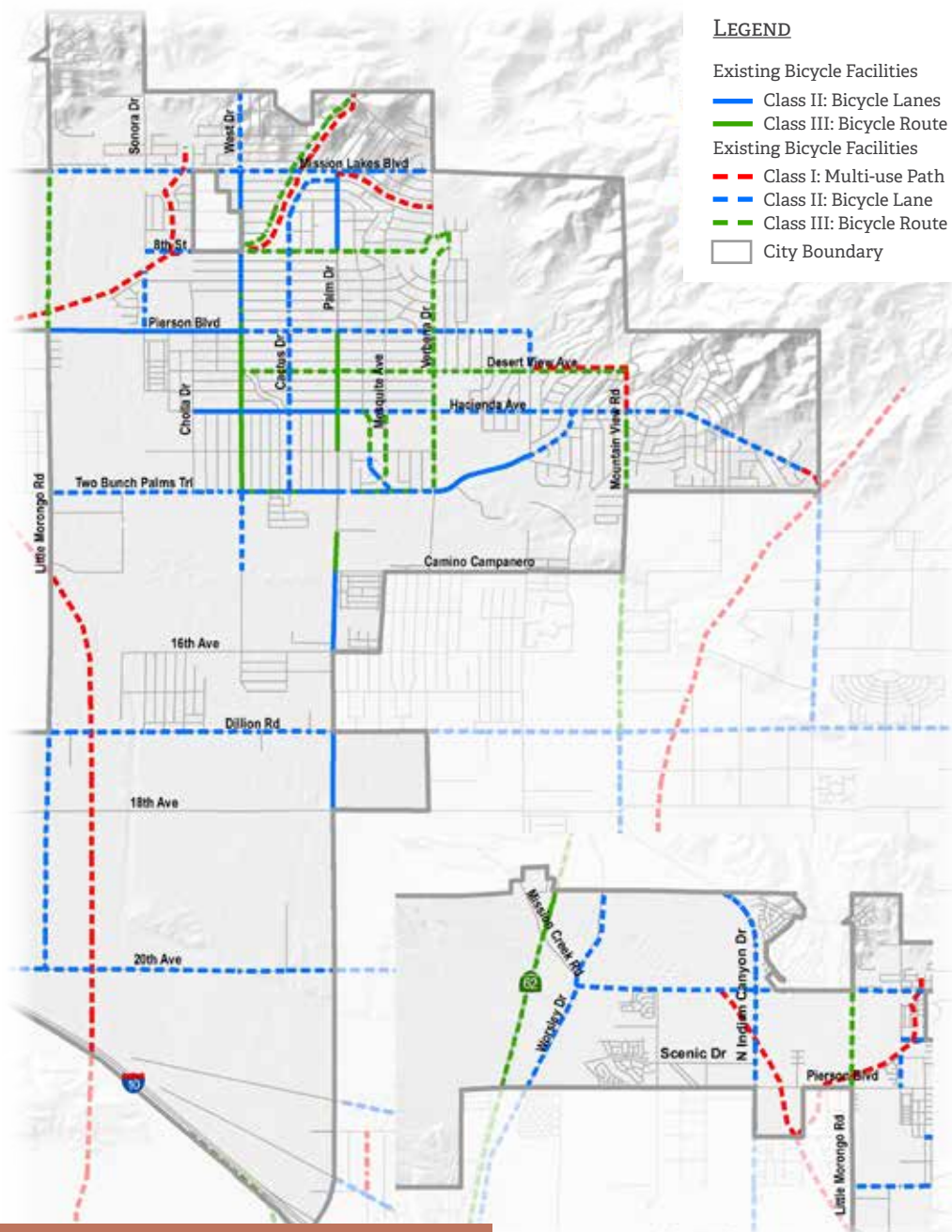


Figure 4-2: Proposed Bicycle Facilities

CV Link Route

The CV Link is a 50-mile bicycle, pedestrian and low-speed electric vehicle pathway that is planned to be constructed along the Whitewater River between Palm Springs and Coachella. It will provide a continuous alternative transportation route for Coachella Valley cities with future route connections to Desert Hot Springs, Mecca and the Salton Sea. The route in Desert Hot Springs is being proposed under Phase Two and has been identified for “near-term action to find funding for preliminary planning and engineering”. The route will connect people from the Gene Autry Trail and I-10 via Class II bicycle lanes connecting to Palm Drive and Dillon Road. A Class I trail will be constructed along the unimproved flood-control channel to Twentynine Palms via SR-62.



Figure 4-3: CV Link Route

Average Daily Trips

Average Daily Vehicular Trips was analyzed to identify the high volume streets for inclusion or exclusion of bicycle facility types and enhanced amenities for pedestrians. Studies show that most cyclists and pedestrians tend to prefer roadways with relatively low motor vehicle traffic volumes and speeds. Within the context of bicycle and pedestrian facility planning, the FHWA defines high traffic volumes as more than 12,000 vehicles per day. Palm Drive is a major arterial with the highest vehicular volumes, with segments exceeding 30,000 daily trips. Other secondary arterials such as Mountain View Road, N Indian Canyon Drive and Two Bunch Palms Trail contain segments with 10,000-20,000 daily trips.

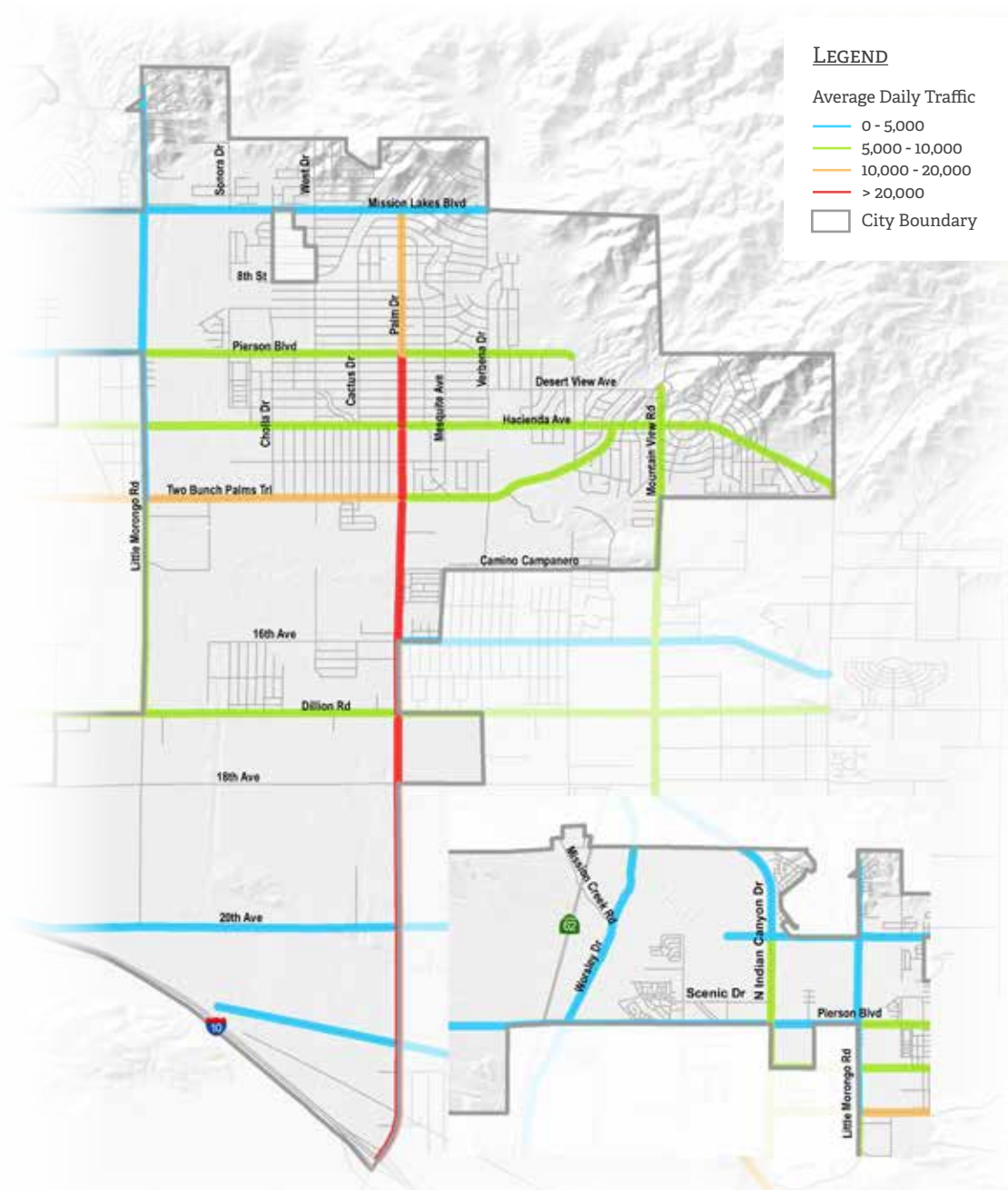


Figure 4-4: Average Daily Trips

Activity Centers

Activity centers include employment hubs, industrial sites, government sites, retail centers, hospitals, schools, colleges, parks, open spaces and other attractions. (Most of these activity centers are required to be considered under California’s bicycle planning enabling legislation.) Identifying these centers, and their draw for the community, is essential to creating useful bicycle pedestrian networks. It is important to create facilities that connect the places people actually want to frequent, rather than where convenient, as is often the case.

Primary activity centers in the city of Desert Hot Springs include public facilities, commercial/retail facilities, parks and schools. The City also benefits greatly from their hospitality industry. The City’s world-class mineral hot springs make it a destination city, attracting and employing people throughout Southern California. The City is also a gateway into the renowned Joshua Tree National Park and the Sand to Snow National Monument. Notable attractions include Cabot’s Pueblo Museum, Mission Springs Park and the Health and Wellness Center.

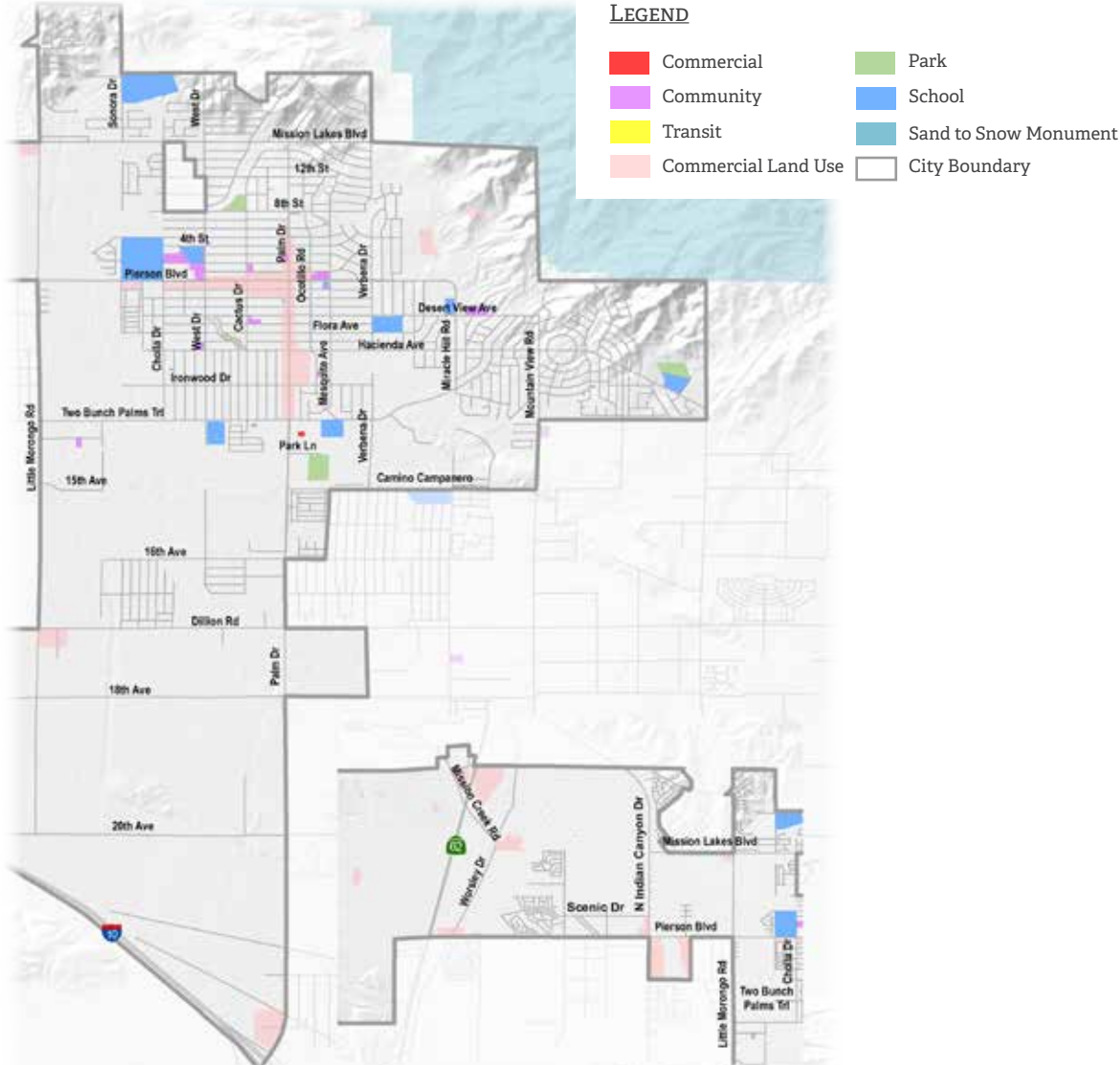


Figure 4-5: Activity Centers

Transit Routes

Desert Hot Springs' transit system is limited, but centrally located. Transit service is provided by the SunLine Transit Agency, which offers two bus routes and seven bus stops within the study area. Primary routes run along Palm and Hacienda Drives and are supported by minor routes along West Drive, Cactus Drive, Pierson Boulevard and 4th Street. Transit in these locations supports nearby shopping and schools, as well as regional access into and out of Desert Hot Springs. Active transportation facilities and transit service are known to support one another (with bicycling and walking helping to make “first mile/last mile” connections and transit helping to cover longer distances) and should be co-located to maximize the use of both.

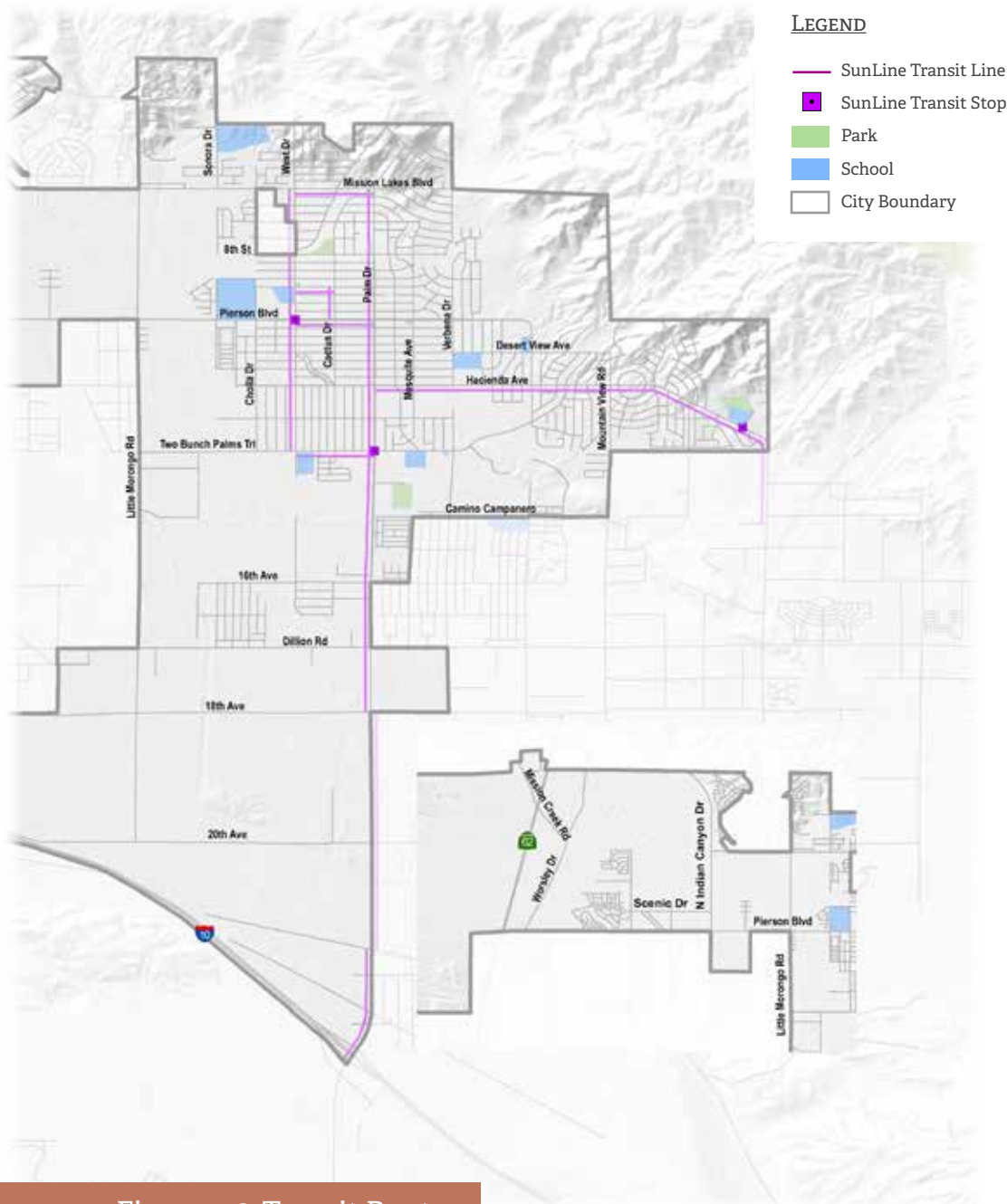


Figure 4-6: Transit Routes

Sand to Snow National Monument

The Sand to Snow National Monument was inspired by The Wildlands Conservancy’s twenty-year-old Sand to Snow Wilderness Interface Project that included more than 60,000 acres of privately-funded land acquisition. This project entailed the acquisition of private properties threatened with development in order to safeguard wildlife corridors and landscape linkages between the San Gorgonio Wilderness, Joshua Tree National Park and Bighorn Mountain Wilderness. The project also laid ground for additional linkages between the San Bernardino and San Jacinto Mountains through additional acquisitions. The Sand to Snow National Monument brings a higher level of protection to these non-wilderness wildlife corridors.

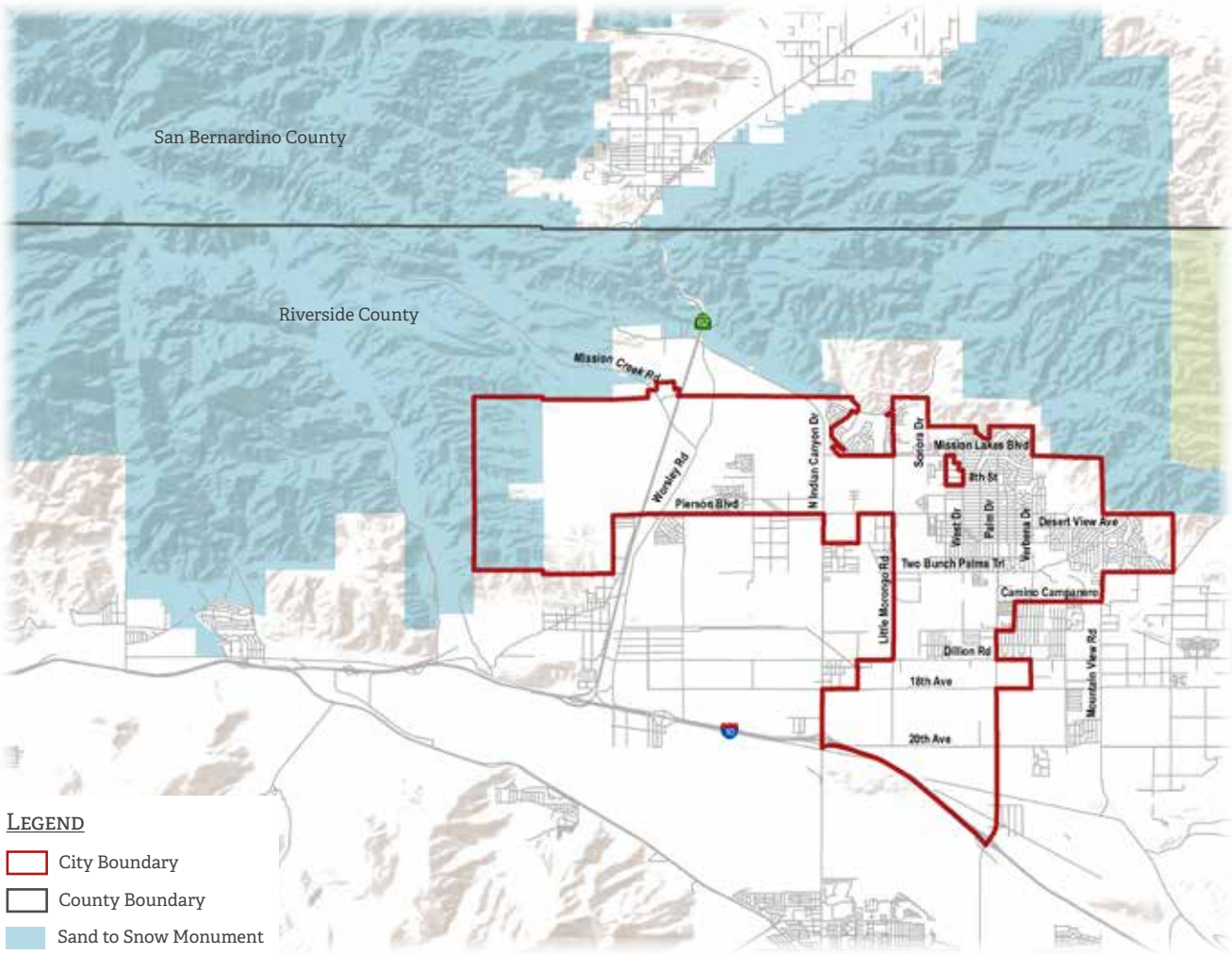


Figure 4-7: Sand to Snow National Monument

Safety Analysis

Safety analysis entails the use of bicycle and pedestrian collision data to better understand collisions, including where they occur, why they occur and how they might be prevented. Bicycle and pedestrian collision data were obtained from the Statewide Integrated Traffic Records System (SWITRS) data sets of reported bicycle/vehicle, pedestrian/vehicle and bicycle/pedestrian collisions in Desert Hot Springs from 2003 through 2012. Summaries of collision data – by year, severity, location and vehicle code violation – are provided in the following section. These data were used to identify trends, develop project recommendations, and help prioritize recommended projects. The data do include the following limitations:

- Collisions on off-street paths are not included in the data.
- Collisions involving cyclists, whether they involve vehicles, other cyclists, or pedestrians, are generally under-reported, so bicycle collisions are likely to have occurred that were not included as part of this data - some estimates are as high as two unreported incidents for each reported incident.

In addition to limitations of data itself, it is important to note limitations of the data in drawing conclusions. The collision data are not normalized by rates of bicycling and walking. Furthermore, small sample sizes and possible variables preclude any determination of causality. Still, the collision data provide relative information (fewer collisions in 2007 and 2008, more collisions on Palm Drive, etc.) and merit further study.

Bicycle and Pedestrian Collisions by Year

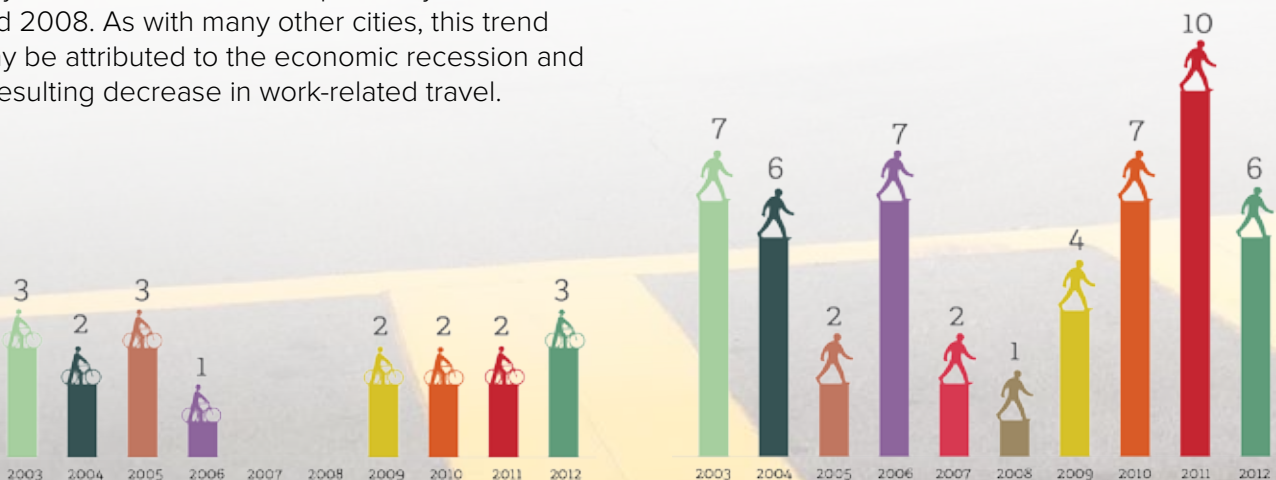
Between the years 2003 and 2012 there were 18 bicycle and 52 pedestrian collisions. (As discussed above, the higher number of pedestrian collisions is likely due to a greater number of people walking than biking rather than a greater inherent risk for walking.) Neither bicycle nor pedestrian collisions demonstrate a strong trend by year, but both exhibit a dip in the years 2007 and 2008. As with many other cities, this trend may be attributed to the economic recession and a resulting decrease in work-related travel.

18

bicycle collisions
from 2003-2012

52

pedestrian collisions
from 2003-2012

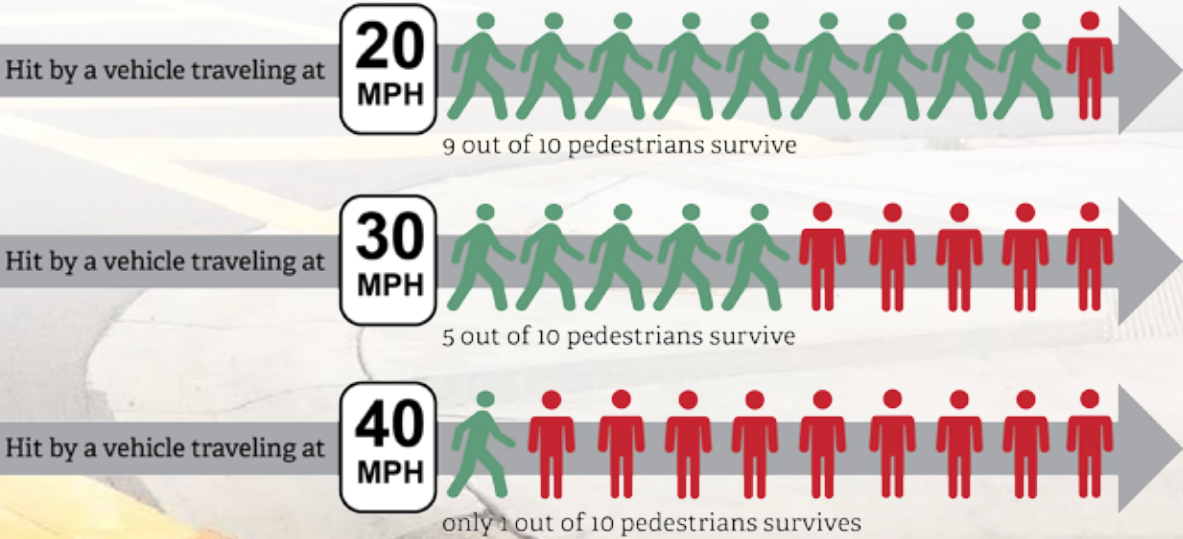
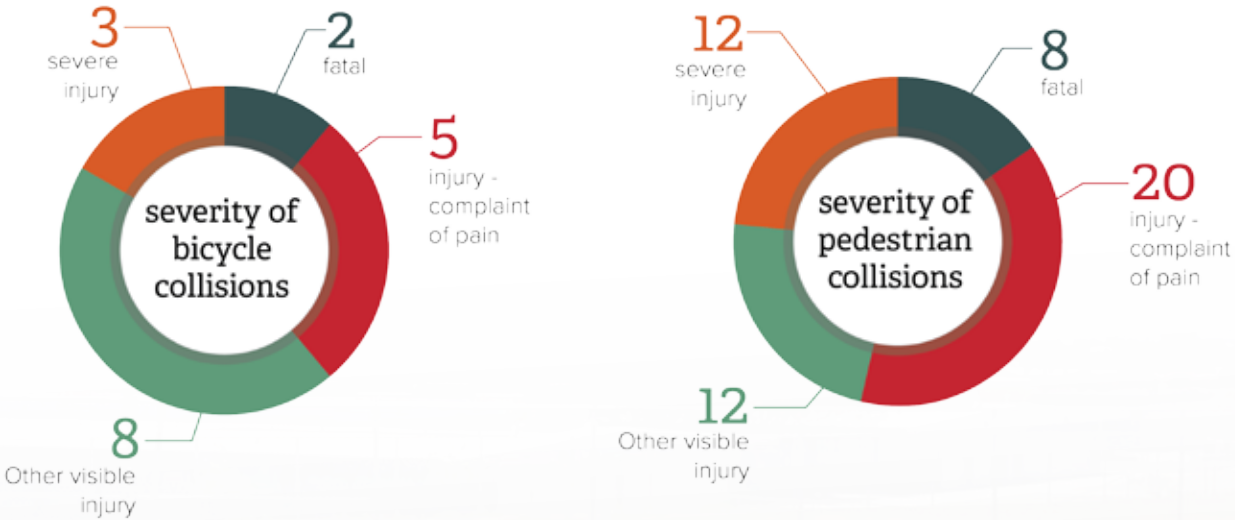


bicycle collisions per year

pedestrian collisions per year

Bicycle and Pedestrian Collisions by Severity

A relatively high percentage of bicycle and pedestrian collisions resulted in severe injury or death. Of the 18 bicyclists involved in collisions, nearly 30% resulted in severe injury or death while over 70% resulted in mild-moderate injury. Of the 52 pedestrians involved in collisions, nearly 40% resulted in severe injury or death while over 60% resulted in mild-moderate injury. The high percentage of severe collisions indicates high vehicle speeds (nine in ten pedestrians survive a collision at 20 mph, whereas only one in ten pedestrians survive a collision at 40 mph).

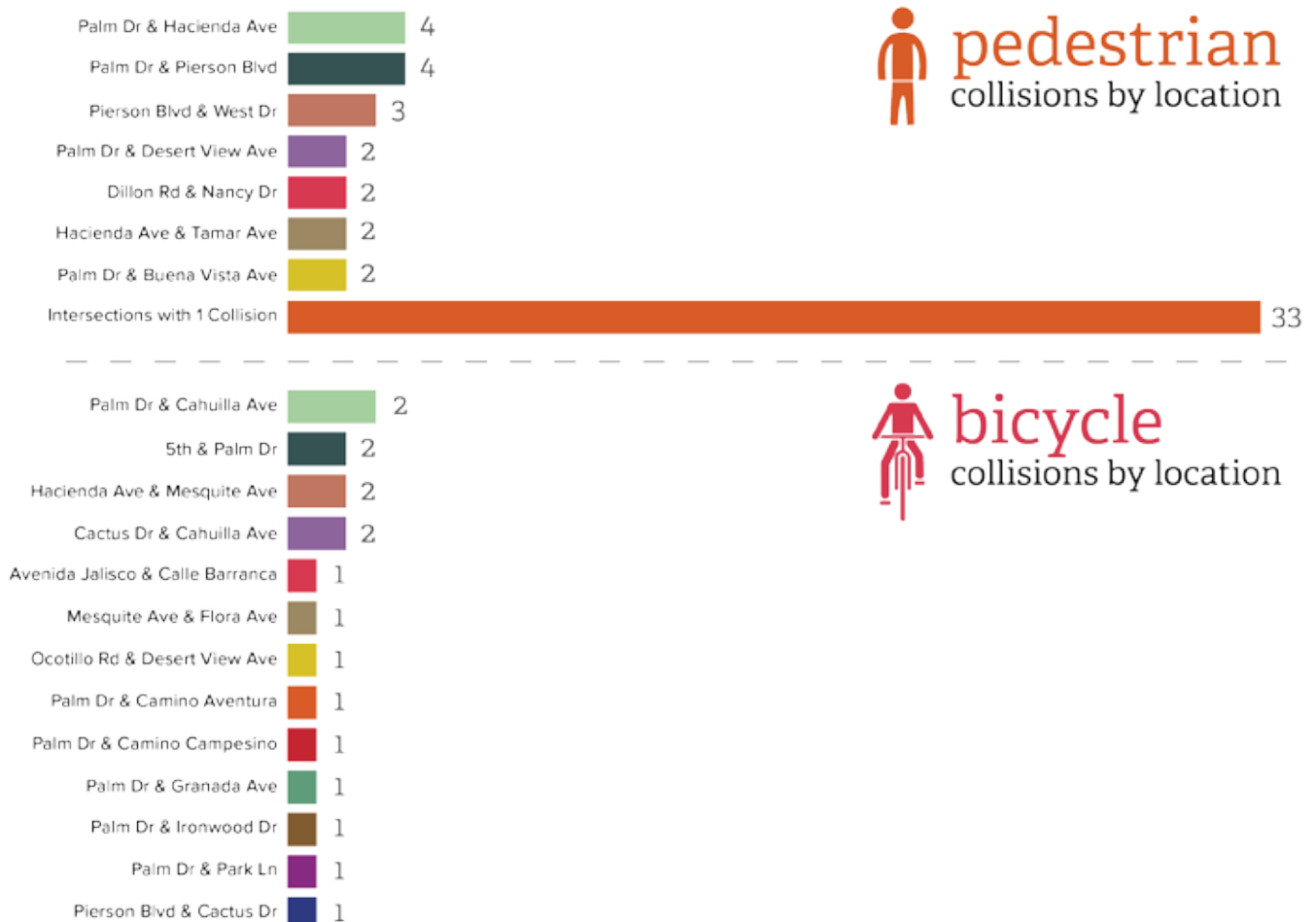


Source: allroadsleadtoryan.com

Bicycle and Pedestrian Collisions by Location

Both bicycle and pedestrian collisions occurred most frequently at central locations, particularly along Palm Dr. Over 55% of bicycle collisions and 46% of pedestrian collisions occurred on Palm Dr. Top intersections for bike collisions included the following: Palm Dr and Cahuilla Ave (17%); 5th St and Palm Dr (11%); Hacienda Ave and Mesquite Ave (11%); and Cactus Dr and Cahuilla Ave (11%). Top intersections for pedestrian collisions included: Palm Dr and Hacienda Ave (8%); Palm Dr and Pierson Blvd (8%); Pierson Blvd and West Dr (6%); Palm Dr and Desert View Ave (4%); Dillon Rd and Nancy Dr (4%); Hacienda Ave and Tamar Dr (4%); and Palm Dr and Buena Vista Ave (4%).

The preponderance of collisions on Palm Dr, and similarly high speed streets (Hacienda Ave, Pierson Blvd and Dillon Rd), further supports the hypothesis and lends further credence to the idea that high speed is responsible for bicycle and pedestrian collision severity in Desert Hot Springs. These findings indicate the need for enhanced facilities (e.g. separated bicycle facilities along “Arterial/Collector” streets and traffic calming along “Local” streets) and targeted education and enforcement efforts.



Bicycle and Pedestrian Collisions by Vehicle Code Violation

Bicycle and pedestrian collisions can also be understood from the perspective of fault or “vehicle code violation.” In the city of Desert Hot Springs, most bicycle and pedestrian collisions were attributed to bicyclists and pedestrians violating automobile right-of-way (39% and 46%, respectively). For bicycle collisions, the next most common violation categories were “traffic signals and signs” (17%) and “unknown” (11%). For pedestrian collisions, the next most common violation categories were “unknown” (13%), “violating pedestrian right of way” (12%) and “unsafe speed” (10%). High percentages of collisions attributed to “right-of-way violation” and “traffic signals and signs” point primarily to a need for increased education and enforcement. Collisions resulting from “unsafe speeds” suggests the need for education, enforcement and re-engineering (traffic calming).



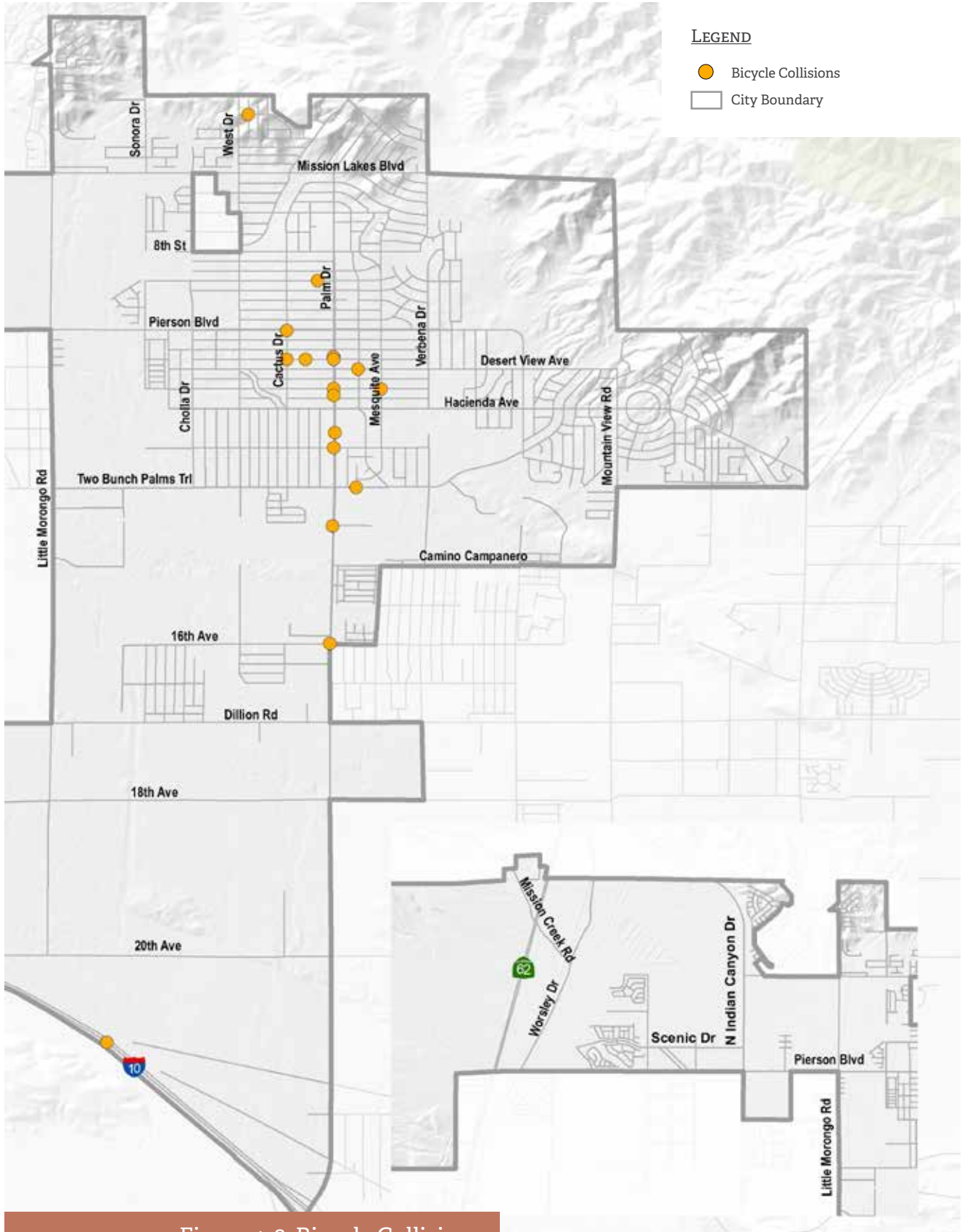


Figure 4-8: Bicycle Collisions

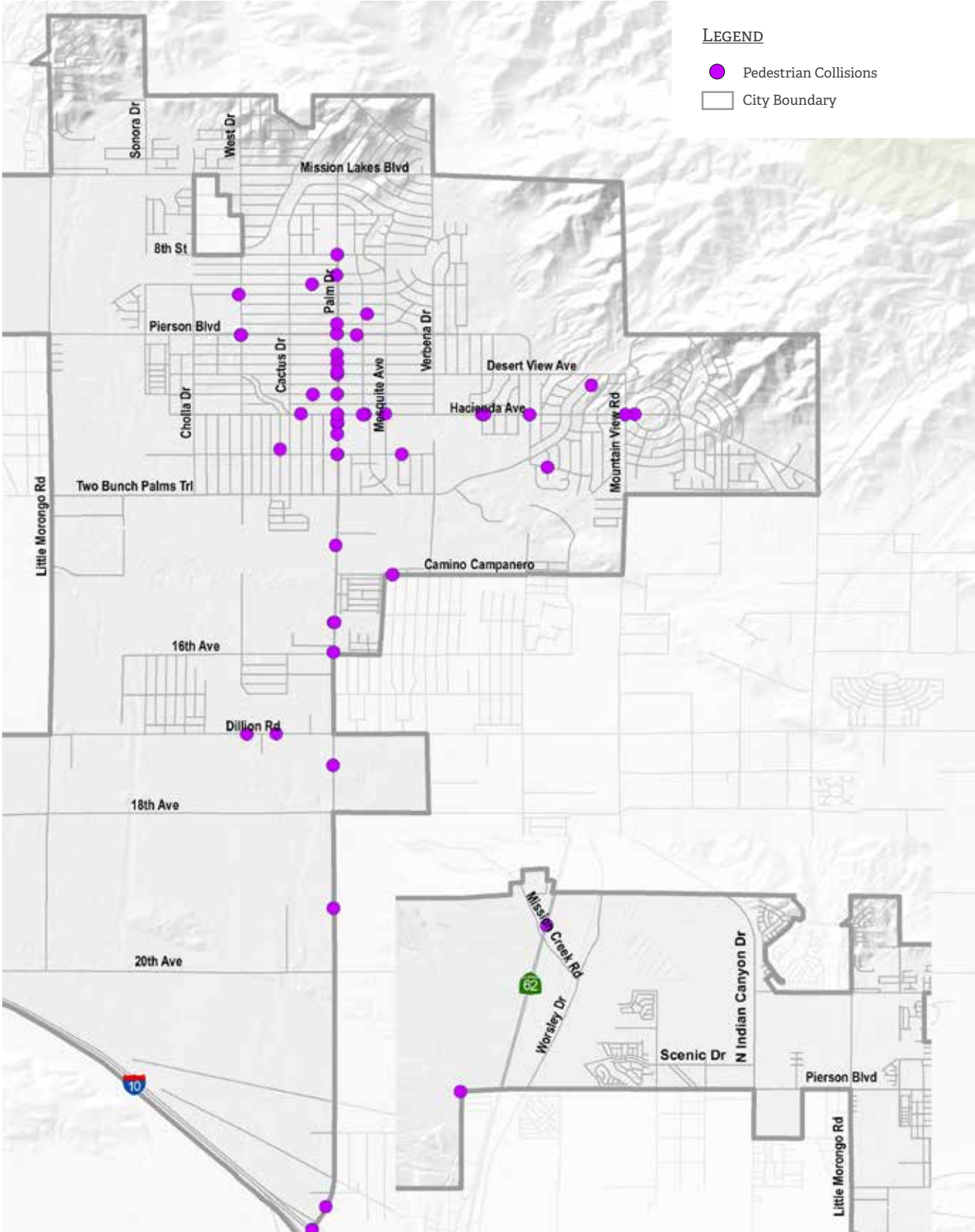


Figure 4-9: Pedestrian Collisions

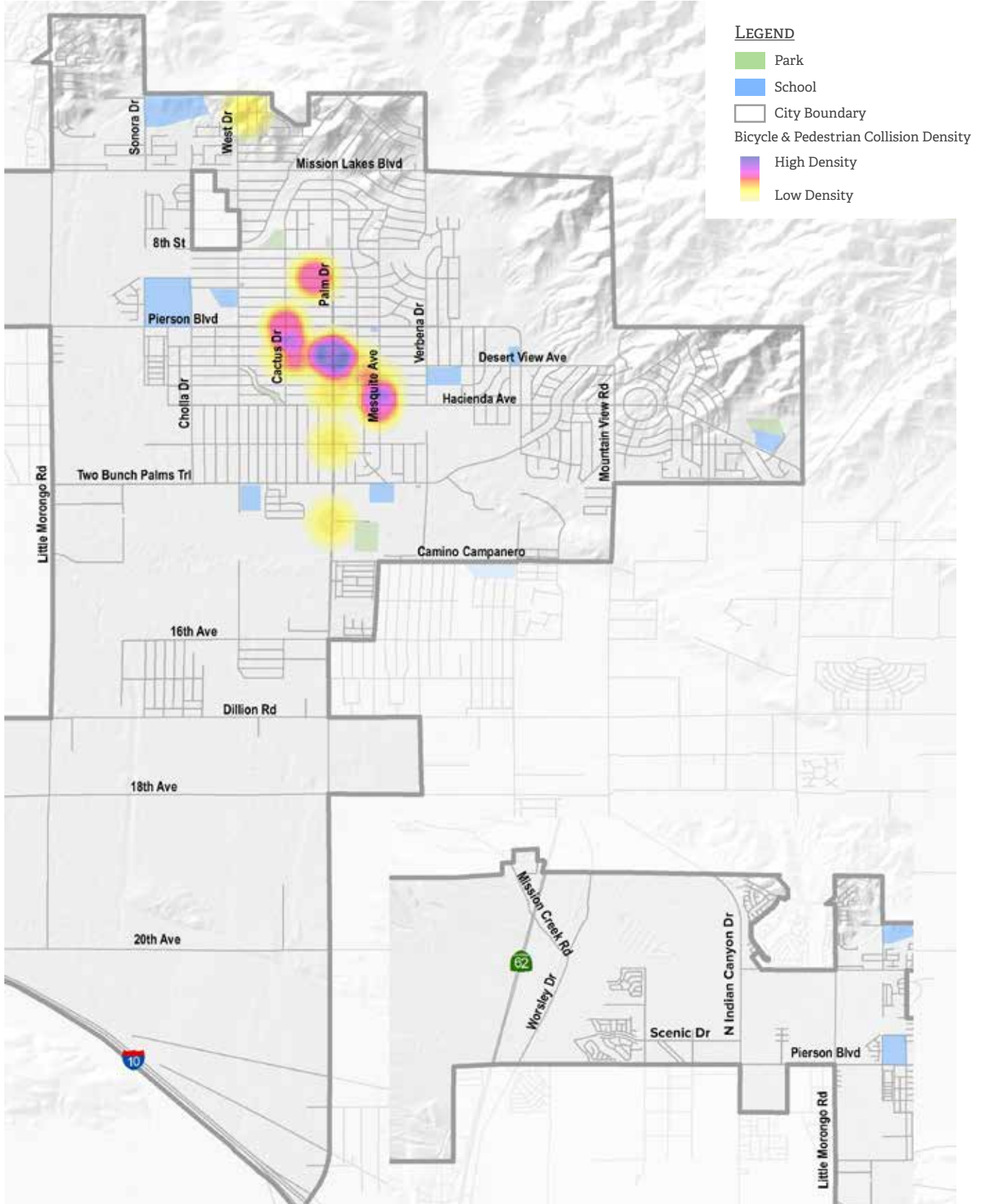


Figure 4-10: Bicycle and Pedestrian Collision Density

Bicycle-Pedestrian Suitability Model

The Bicycle-Pedestrian Suitability Model was developed to determine the areas within the City where cyclists and pedestrians are most likely to be, either currently or if improvements were made. The model was created to first prioritize areas to visit during field work and consider for projects and later to assist with ranking project implementation. The Bicycle-Pedestrian Suitability Model identifies existing and potential bicycle activity areas citywide based on existing data within an extensive GIS (Geographic Information Systems) database.

The overall model comprises three basic models: the Attractor, Generator and Barrier Models. When these three interim models are combined, they create the Bicycle-Pedestrian Suitability Model.

Attractors: These are cycling-related geographic features likely to attract cyclists. Examples of these features are schools, transit and shopping centers.

Generators: These are demographic data indicating potential cyclist volume based on how many people live and work within the cycling activity areas identified in the Attractor Model. Examples of generators are population and employment density, age density and primary mode of transportation to work.

Barriers: These are features likely to discourage or detract people from cycling. These are generally physical limitations such as areas with high numbers of bicycle related collisions, limited lane widths or high posted speed limits.

Figure 4-10 displays the results of the model. For details on the inputs and methodology of the model, see Appendix B: Prioritization Criteria.

Results

Not surprisingly, the model revealed the central portion of Desert Hot Springs – south of 8th St, north of Two Bunch Palms, east of Little Morongo Rd and west of Mountain View Rd – to be the most “suitable” for walking and cycling. This area has the greatest density of people, attractors and streets, making walking and biking convenient choices. This area also contains the majority of pedestrian and bicycle collisions (“detractors”). The results of this analysis suggest targeted safety improvements within the “high priority area” to encourage more and safer walking and cycling.



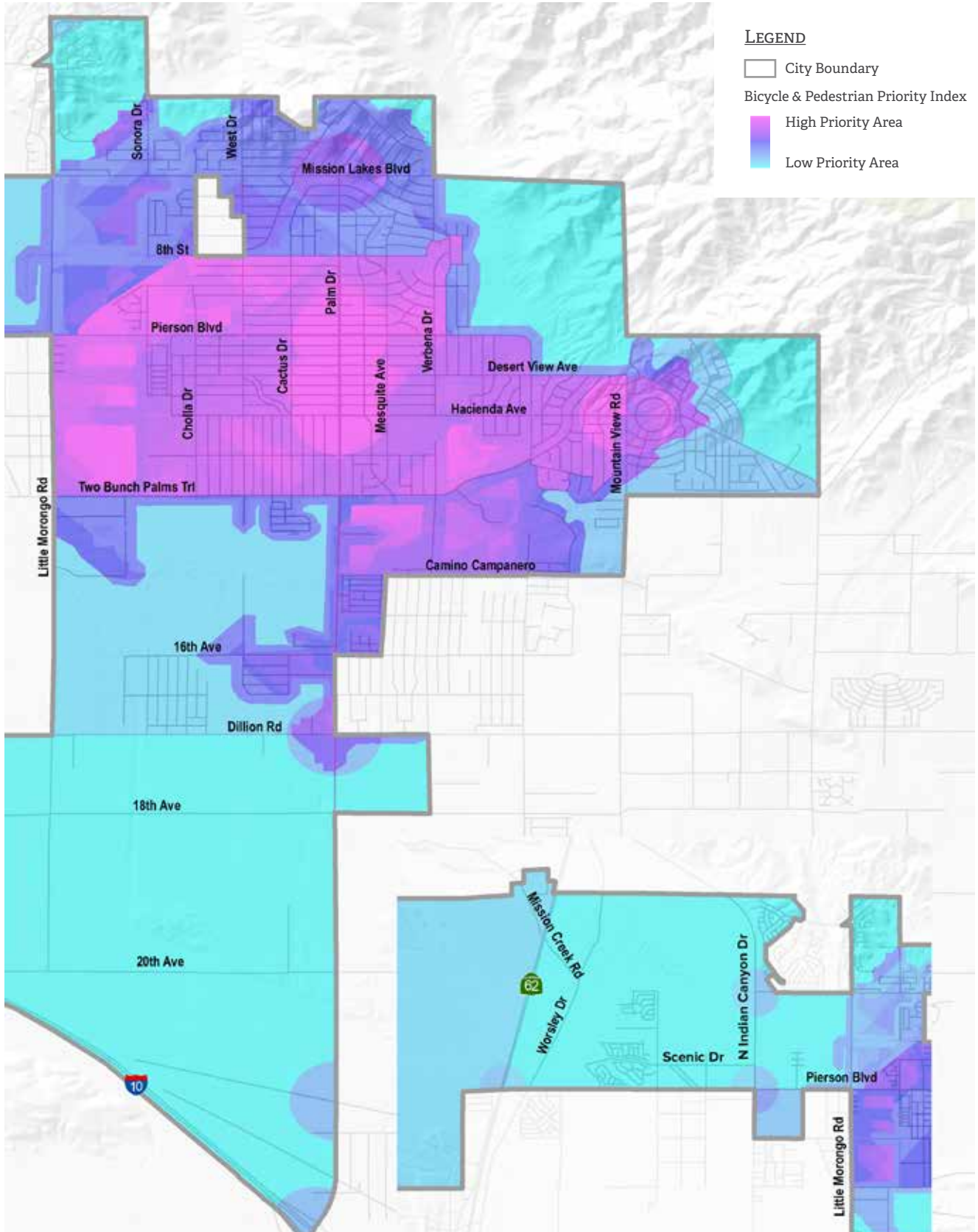


Figure 4-11: Bicycle-Pedestrian Suitability Model





CHAPTER 5

Recommendations



Recommendations

This chapter identifies recommended projects and improvements to existing cycling and pedestrian systems.

These projects will have a significant impact, such as closing major gaps and extending or developing multi-use paths, bicycle lanes or routes along major transportation corridors and through neighborhoods. The numbering used to identify projects within each facility class in the following sections does not necessarily imply priority beyond which of the three tiers in which they occur. Facility implementation has no specific time line, since the availability of funds for implementation is variable and tied to the priorities of the City's capital projects.

This chapter's tables list recommended projects and the associated figures identify their locations and project ranking. During the outreach process of this plan, six bicycle and pedestrian priority corridors were identified by the public. These six Priority Projects went into further preliminary design for improvements and with planning level cost estimates. The remaining projects were also identified through the outreach process, analysis and City input. While the projects are primarily bicycle related, recommendations to the pedestrian environment were taken into consideration on these routes. The inclusion of pedestrian recommendations enables the City to make comprehensive improvements for both bicyclists and pedestrians. Numerous pedestrian improvements have already been identified through the City's Safe Routes to School and Parks and Recreation Master Plan so in order to reduce duplicative efforts, those improvements were identified where needed.

If desired, proposed projects can be re-ranked within the State's mandated five year bicycle master plan update cycle, or at whatever interval best fits funding cycles, or to take into consideration the availability of new information, new funding sources, updated crash statistics, updated CIP lists, etc. Facility ranking and implementation should be fine-tuned and adjusted accordingly based on future circumstances. Cost estimates for these projects are included in Chapter 7.

Recommended Project - Criteria Analysis and Feasibility

A list of proposed projects was developed with the goal of improving connectivity and generally expanding the dedicated bicycle and pedestrian network. Existing conditions, field observations and public input were all considered. The proposed facilities were then assessed for feasibility and split into four categories.



Class 1 Multi-use Paths

The typical width and horizontal clearance were measured using high-resolution aerial photos for segments where there appeared to be constraining factors. This data collection was then supplemented with on-site field work. The minimum width for a multi-use path was considered to be 10 feet for this plan, with at least two feet of clearance from obstructions on each side for a total of 14 feet.

Typical costs per mile can vary a great deal due to potential right-of-way acquisition, bridges and other possible major expenses such as grading due to hilly topography and facility width.

Riverside County Flood District has historically been open to multi-use paths along their channels such as those along the Santa Ana River and nearby Whitewater River channel for the planned CV Link. Coordination between the City and Riverside County Flood Control is important for implementation of these facilities.



Class 1 Multi-Use Path

Class 2 Bicycle Lanes and Cycle Tracks

Feasibility was determined by comparing the actual curb-to-curb roadway width with the minimum width necessary to support the current number of lanes plus five-foot bicycle lanes or eight-foot cycle tracks in each direction. Painted medians and two-way left turn lanes were considered to be through/turn lanes in most cases. Raised medians and curb lines were considered to be static. Through this comparison, it was determined whether bicycle lanes could be installed along a roadway segment without decreasing the number of lanes or eliminating any parking. The analysis typically broke proposed segments into smaller segments depending on changes in layout or physical characteristics.

Protected bicycle lanes are physically separated from vehicular traffic, combining the experience of a separated path with the on-street infrastructure of a traditional bicycle lane. As a result, protected bicycle lanes provide a greater degree of comfort and safety for cyclists. Since costs and maintenance can be an issue, phasing of bicycle facility is recommended, as seen on Figure 5-1. Phase 1 consists of adding painted buffers to delineate the bicycle lanes. During Phase 2, safety bollards are installed to create an additional visual barrier for drivers, ensuring efficient bicycle flow. Phase 3 consist of installing permanent planting strips, which may be cost prohibitive, but also yields the best results. This phasing of cycle tracks can coincide with additional maintenance funding procurement and bicycling education.



Bicycle Lane



Buffered Bicycle Lane



Cycle Track with Safety Bollards



Cycle Track with Planters

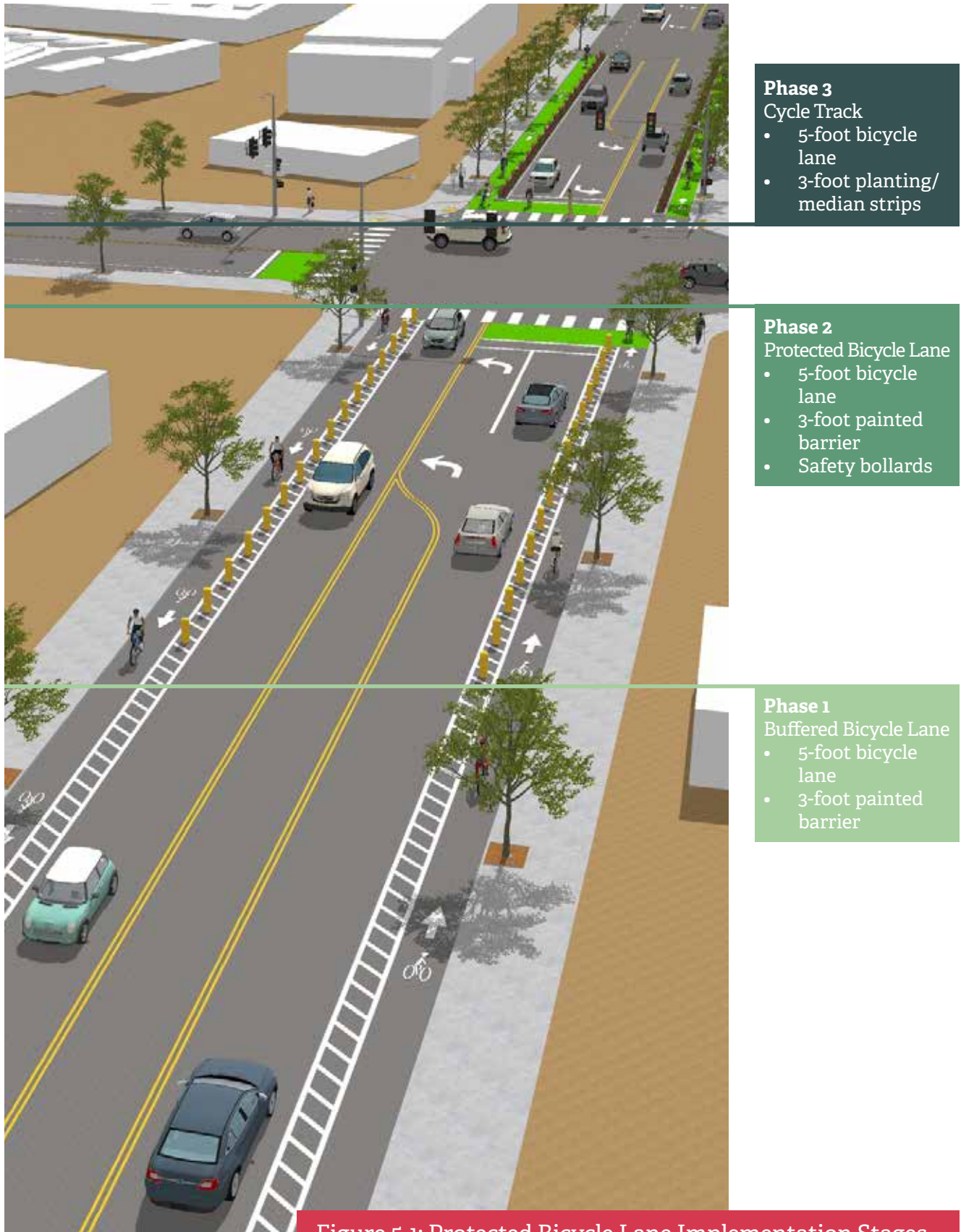


Figure 5-1: Protected Bicycle Lane Implementation Stages

Class 3 Bicycle Routes

Bicycle routes are recommended as additional gap closures and connections where traffic speed, vehicular volumes and roadway geometry allow cyclists to safely and comfortably share the road with vehicles. Bicycle routes were only recommended where existing traffic volumes and speeds were low. In all cases, the gap closures are short segments that schools, parks and other attractors in low volume, low speed residential streets. Best practices recommend traffic calming measures to keep speeds down.

Shared Lane Markings or “Sharrows” can be installed along these routes with a maximum speed limit installation of 35 MPH. However, other considerations such as adjacent land use, on-street parking, connecting bicycle facilities and traffic volumes should be considering factors. While speed limit is a primary criteria, installation of Sharrows on streets above 25 MPH have not proven to be effective unless education and encouragement campaigns are conducted with the installation. While the presence of Sharrows does provide a visual cue that bicyclists can take the lane, bicyclists still will ride where they feel most comfortable, away from the center of lane, where the Sharrows are typically located. On streets that have lower speed limits and/or have traffic calming features, Sharrows would be more appropriate and can be converted to bicycle boulevards/neighborhood greenways.



Bicycle Route

Bicycle Boulevards/Neighborhood Greenways

Bicycle boulevards, sometimes called “Neighborhood Greenways,” require additional planning and engineering prior to implementation. Impacts to vehicular traffic flow, bicycle and pedestrian safety improvements at intersections and crossings, right-of-way acquisition, traffic calming, signage and utilities are examples of associated items that would require in-depth analysis. Education and enforcement of these facilities is also recommended to assist the community in correctly utilizing them following implementation.

Feasibility was assessed primarily on the basis of minimal out-of-direction travel and the “comfort level” of existing streets. Calm, neighborhood streets that parallel busier arterial streets are natural bicycle boulevard candidates. Since it is assumed that all bicycle boulevards would be considered Class 3 facilities, roadway width was only studied to ensure it was sufficiently narrow, to encourage the safe and comfortable sharing of the roadway.

Several bicycle boulevard projects were converted to bicycle routes because of speeds considered excessive for bicycle boulevards (>25 mph). On such streets, if traffic calming measures are added in the future, speed surveys should be conducted to verify speed reduction. If speed has been reduced, and all other warrants are met, reduction of the posted speed limit (to 25 MPH) is recommended. At that point, further identification of the route as a bicycle boulevard may be pursued to reduce the posted speed limit to 25 MPH and potentially convert the existing bike route to a bicycle boulevard.



Bicycle Boulevard



Bicycle Boulevard
San Luis Obispo, CA

Recommended Bicycle Projects

While recommendations are often assessed in silos, such as bicycle lanes only compared to each other, all projects recommended in this plan were assessed against the same criteria. This was done intentionally to better portray the trade-offs, particularly “comfort level,” between the different facility types. The criteria are described in the follow sections.

The projects in this chapter are a combination of previously planned (but not yet implemented) and newly recommended bicycle facilities, all subjected to the same ranking criteria and implementation plan. All projects were ranked according to cumulative scores derived from the following criteria:

Demographics:

- Population Density
- Employment Density
- Under 14 years old
- Over 65 years old
- Walk to Work
- Bike to Work
- Public Transit to Work

Median Income

Barriers (freeway crossings, etc)

Average Daily Trips
 Connections to CV Link
 Bicycle-Pedestrian Suitability Model
 Gap Closure
 Reported Collisions
 Economic Efficiency

(More information on the aforementioned inputs can be found in Appendix B.) Once ranked, projects were sorted by rank and divided into three tiers to assist in implementation.

The following section first highlights the six Priority Projects with schematic improvements to assist the City with grant ready improvements. These projects, selected through the outreach process, still went through the ranking process with all the other recommendations for plan consistency. The Priority Projects were then prioritized by their ranking within the top six.

Recommended projects are presented in the following pages, are organized by tier (and rank within each tier). For each tier, there is a map highlighting the projects contained and a table providing helpful, supplemental information. Items included in the table include project rank, project length, project extent, “Delta” values (for a separated bike lane/cycle track and standard “Class II” bike lane) and additional notes. The Delta values provide an indication of available right-of-way (ROW) to install a given facility type (i.e. a positive Delta value, color-coded green, indicates a ROW surplus; a negative Delta value, color-coded red, indicates a ROW deficit; and a neutral Delta value, color-coded blue, indicates sufficient ROW). The “Notes” column provides additional information (e.g. constraints, best practices and the need for inter-agency coordination).

Improvements to Existing Bicycle Facilities

Based on public input and field review, the following are improvements recommended for existing bicycle facilities.

Multi-use Paths

Add distance markers. Also, along heavily used segments, a centerline stripe is recommended to identify right-of-way travel for all users.

Potential Cycle Tracks

The Governor signed Assembly Bill-1193 (Bikeways) in September 2014, which designates cycle tracks as an official bikeway type. Statewide guidelines are to be made available by January 1, 2016. These facilities will be officially designated as Class 4 bikeways.

Bicycle Lanes

Whenever repaving projects or traffic signal upgrades occur, install bicycle detector loops per CA MUTCD requirements.

Wherever width is available, add a buffer between the bicycle lane and parked cars or between adjacent travel lane and bicycle lane, where on-street parking is not present.

6	Green = Feasible
-3	Red = Infeasible
2	Blue = Value within four feet of minimum
N/A	N/A = Not applicable for this recommendation

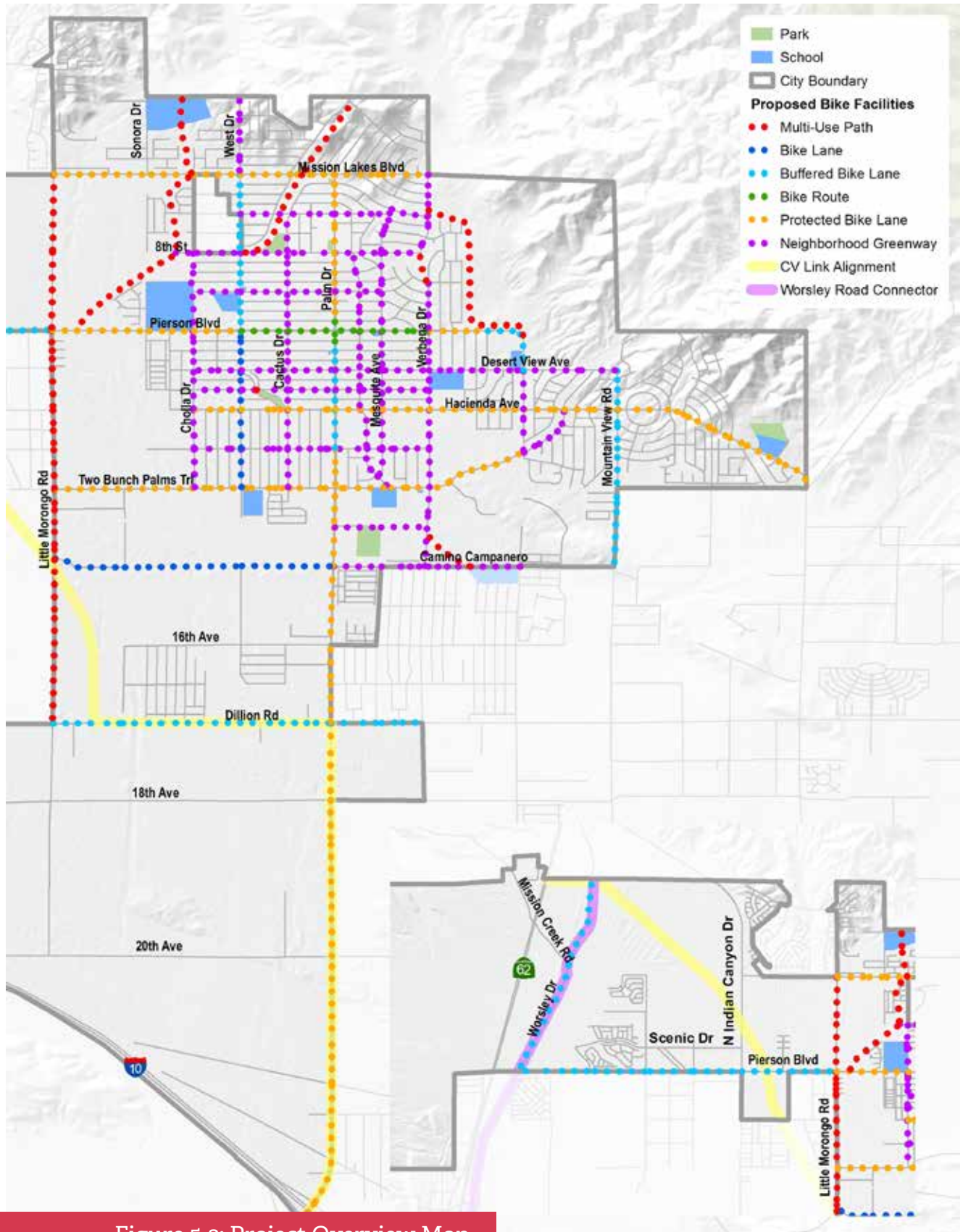


Figure 5-2: Project Overview Map

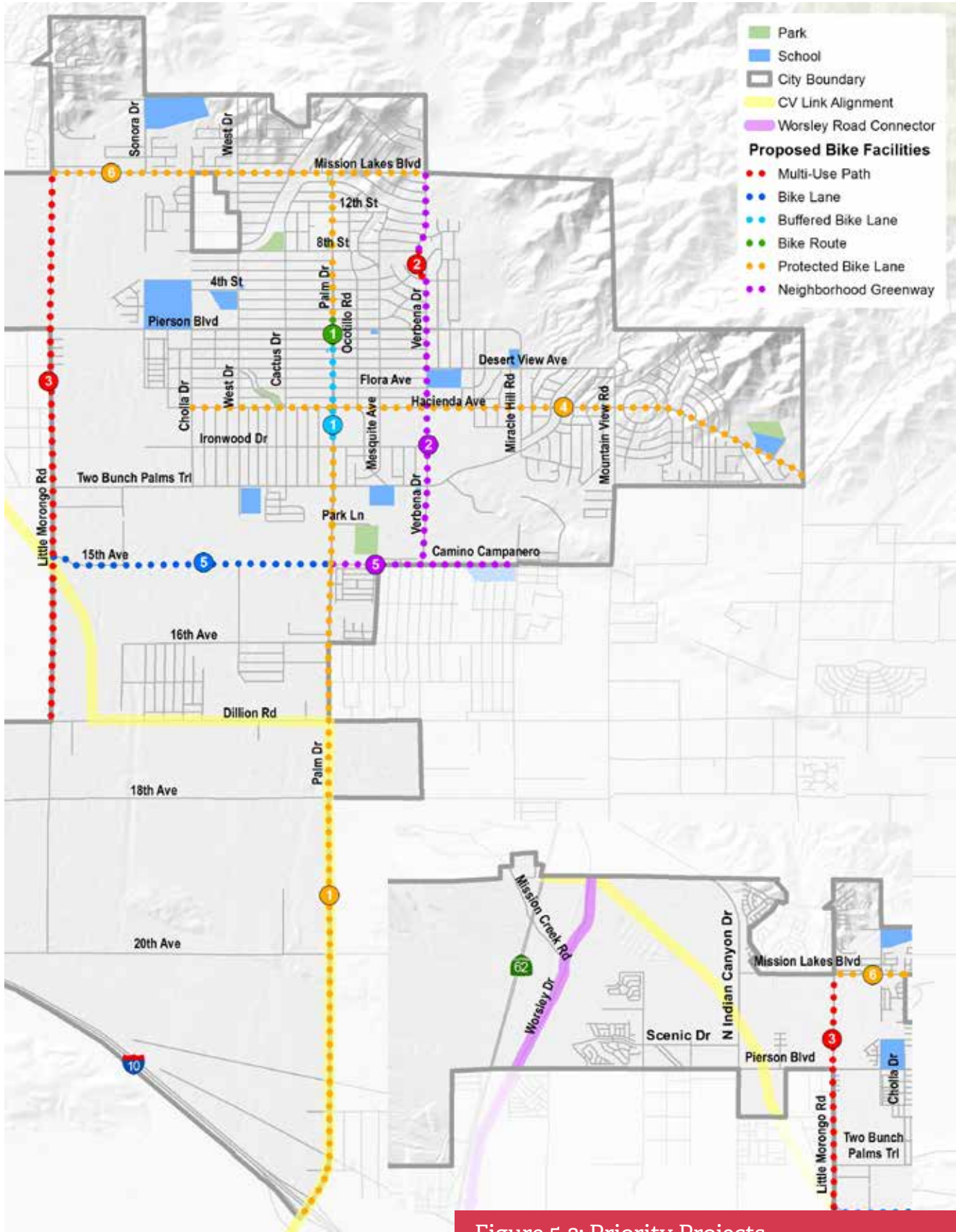
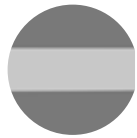
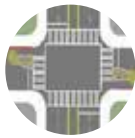


Figure 5-3: Priority Projects

Legend



Sidewalk



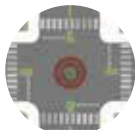
Protected Intersection



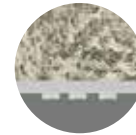
Enhanced Crossing



Class I Facility



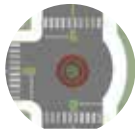
Roundabout



Linear Park



Bike Box



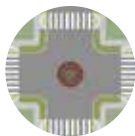
3-Legged Roundabout



Pedestrian Hybrid Beacon



Green-backed Sharrow



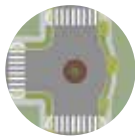
Neighborhood Traffic Circle



Rapid Flashing Beacon



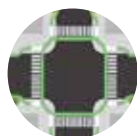
Bike Entrance at School



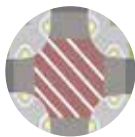
3-Way Traffic Circle



Jug-Handle Striping



Queue Box



Enhanced Intersection



Street Light



Recommended SRTS Project



Palm Drive

Length: 6.7 Miles

ADTs: 13,671 - 34,005

Proposed Improvements: Cycle Track, Buffered Bike Lanes and Bike Route

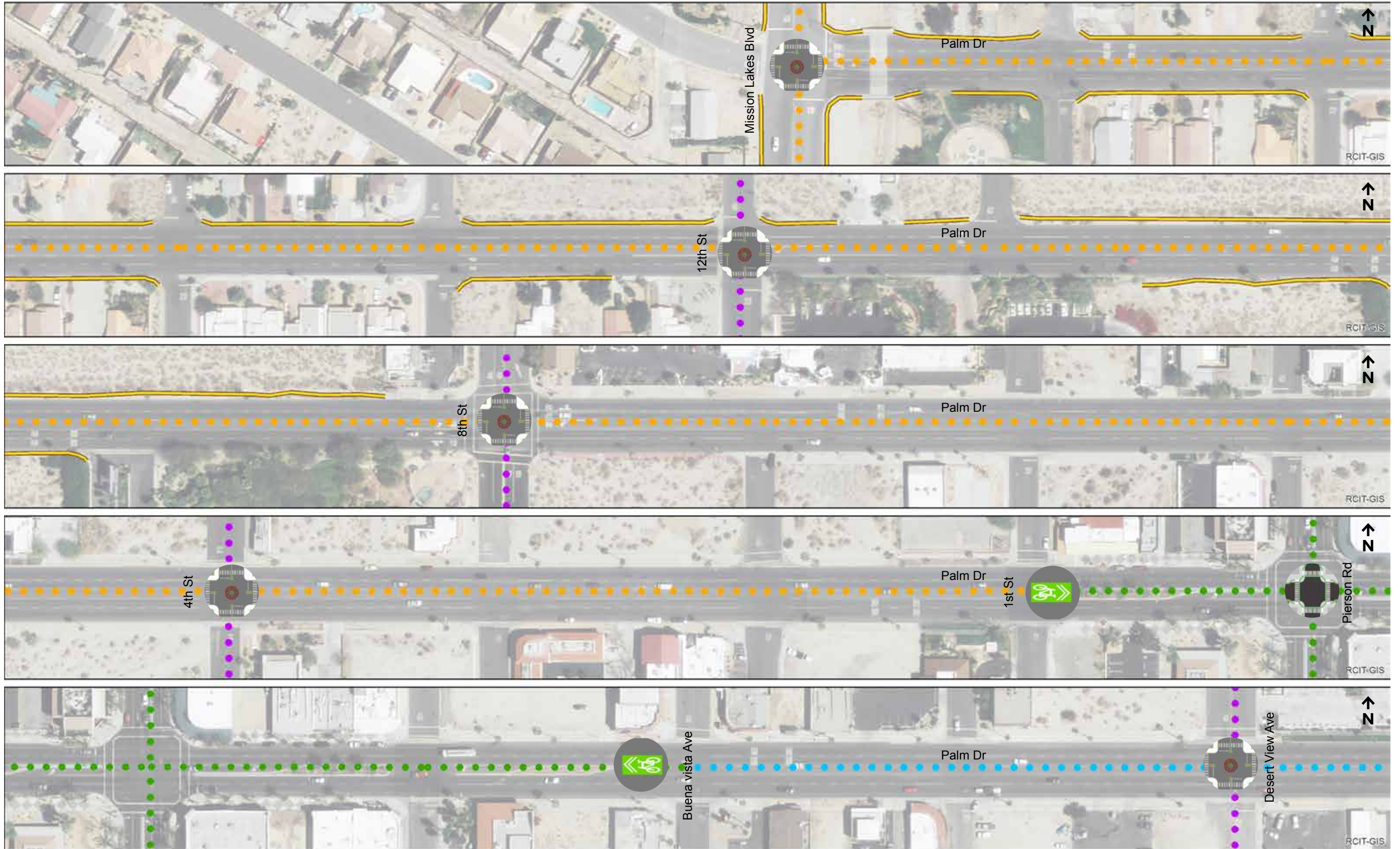
Description: Palm Drive is the primary north-south arterial that connects I-10 to the central part of the City. While the southern half of Palm Drive is largely undeveloped, the north end contains retail, housing, spas and resorts. This four-lane arterial has the highest traffic volumes in the City as well as the pedestrian related collisions. The traditional grid street layout of the city allows many adjacent streets to connect to Palm Avenue to access I-10 and retail. Currently, there is a combination of bike lanes and bike routes on Palm Drive which is largely disconnected. Bike lanes connect I-10 to 15th Street/Camino Campanero then a bike route begins intermittently from here to Pierson Boulevard. Bike lanes then start again from 8th Street to Mission Lakes Boulevard. Recommendations for Palm Drive include upgrading the bike lanes and bike route to cycle tracks or buffered bike lanes and installing these where bike facilities currently do not exist. In order to slow down traffic and provide better crossing along Palm Drive, it's recommended to enhance high volume intersections for pedestrians and bicyclists with high visibility crosswalks, bike boxes and roundabouts. As part of the overall non-motorized network, proposed bicycle boulevards that connects with Palm Drive have additional treatments such as roundabouts and/or traffic circles.

Estimated Cost: \$3,112,054 (double check cost)

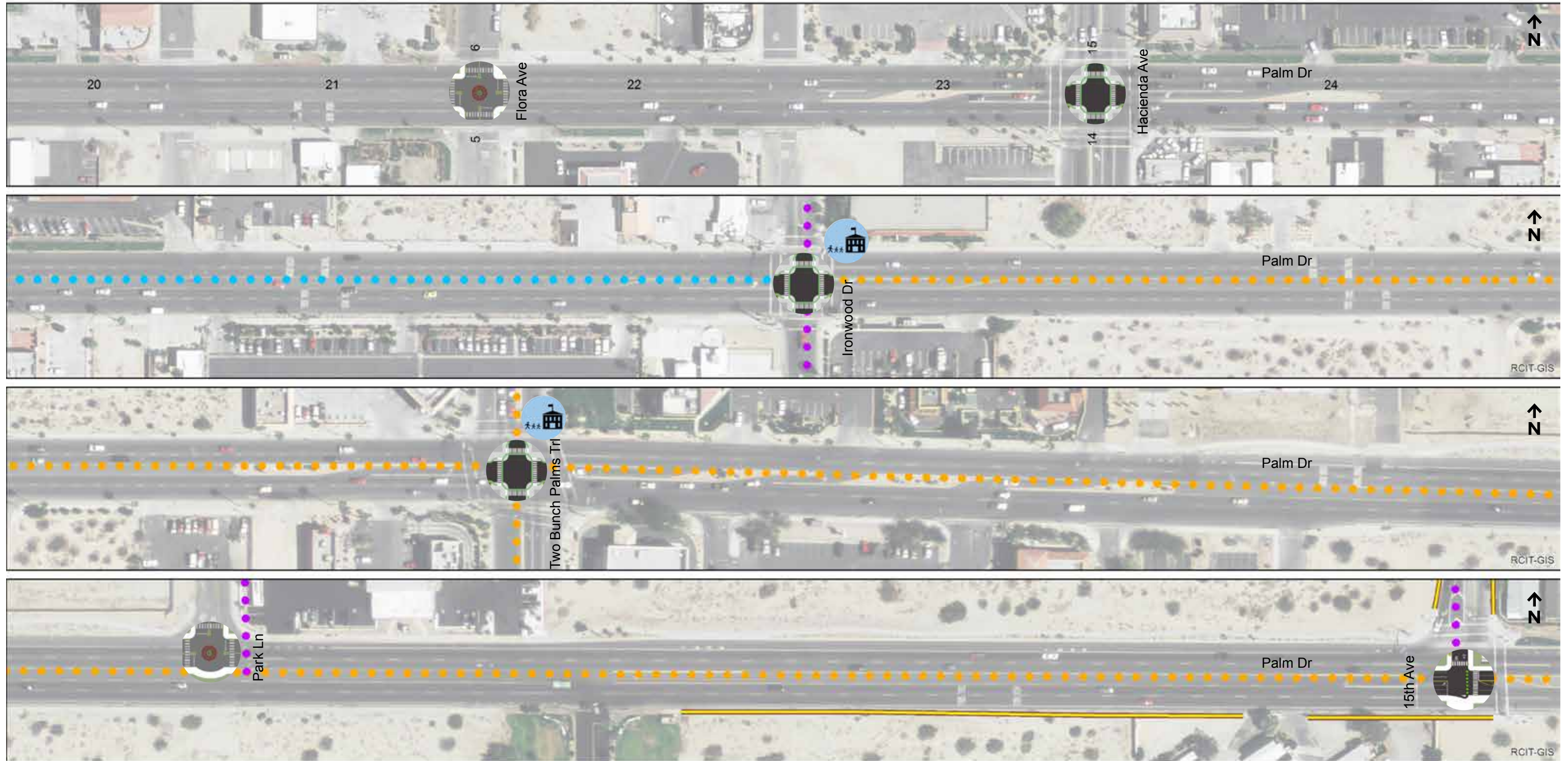


Table 5-1: Palm Drive

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
1	6.73	Palm Dr	Cycle Track	Mission Lakes Blvd	San Diego Dr	-2	Segment could support wider bike lanes through a possible road diet. Add sidewalks and median treatments as per Palm Drive Median Corridor Conceptual Beautification Master Plan from Mission Lakes Blvd to Varner Rd.
				San Diego Dr	8Th St	2	Sidewalk present at Hot Springs Park; Segment could support wider bike lanes through a possible road diet
				8Th St	1St St	3	Segment could support wider bike lanes through a possible road diet
			Bike Route	1St St	Acoma Ave	-14	Shared Green Lane
				Acoma Ave	Buena Vista Ave	4	Shared Green Lane
			Buffered Bike Lane	Buena Vista Ave	Ironwood Dr	2-4	Upgrade from existing bicycle facility
			Cycle Track	Ironwood Dr	Two Bunch Palms Trl	5	
				Two Bunch Palms Trl	Park Ln	12	
				Park Ln	Camino Campesino	7	Upgrade from existing bicycle facility
				Camino Campesino	Camino Idilio	12	Upgrade from existing bicycle facility
				Camino Idilio	Dillon Rd	5	Upgrade from existing bicycle facility
				Dillon Rd	Thornton Rd	13-15	Upgrade from existing bicycle facility
				Thornton Rd	Paul Rd	9	Upgrade from existing bicycle facility
				Paul Rd	I-10 WB On Ramp	11	Upgrade from existing bicycle facility
I-10 WB On Ramp	I-10 EB On Ramp	13	Upgrade from existing bicycle facility				



Project 1b: Palm Dr



Verbena Drive

Length: 2.5 Miles

Proposed Improvements: Bicycle Boulevard, Multi-Use Path, Safe Routes to School

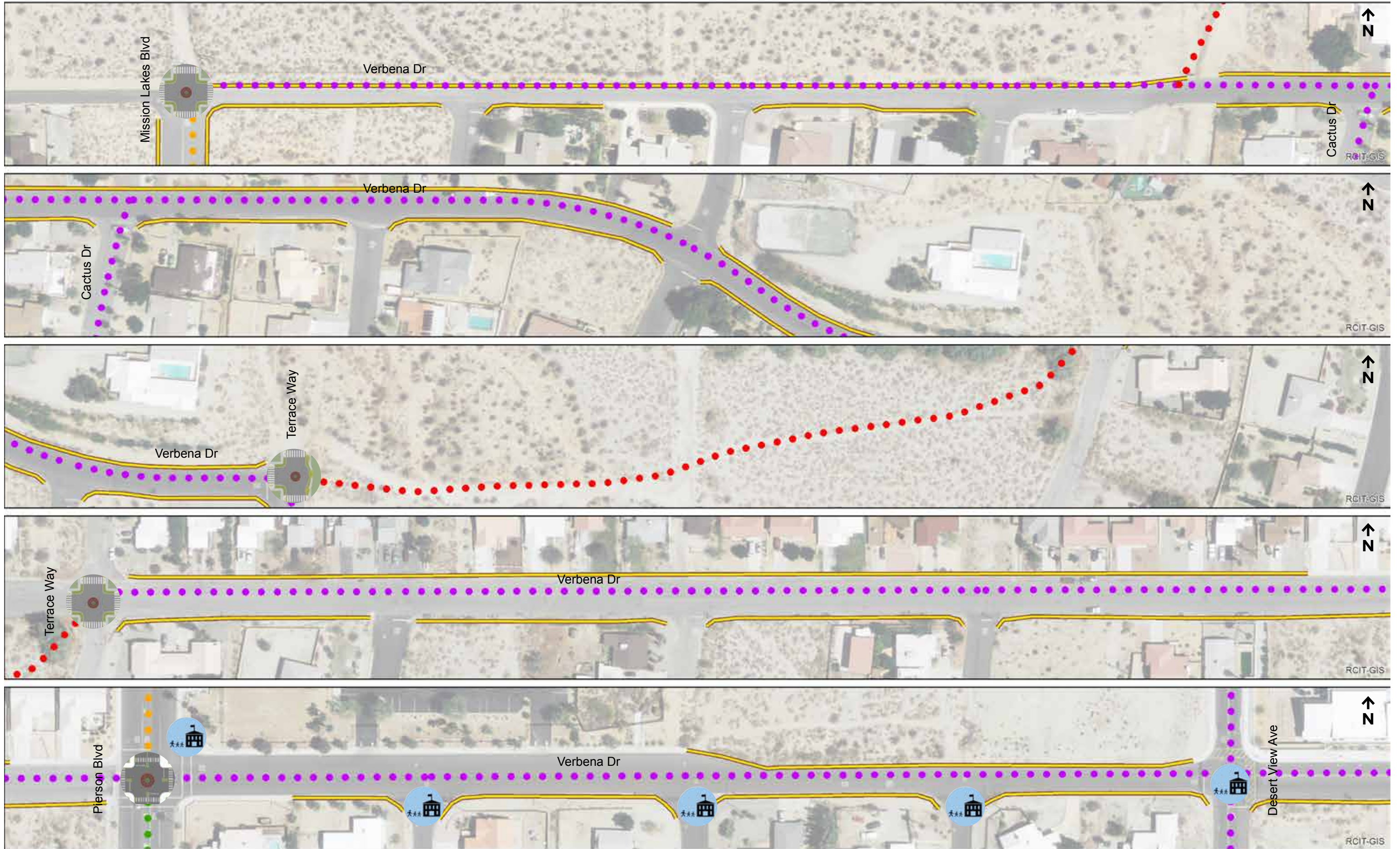
Description: Verbena Avenue is a north-south neighborhood connector that connects to Cabot Yerxa Elementary and Desert Springs Middle School. Sections of Verbena Avenue are not complete and do not connect at this time. Recommendations include paving some of the dirt roads or adding a multi-use path to complete the connections. Because Verbena Avenue is not wide enough for bike lanes with on-street parking, a bicycle boulevard is recommended for the on-street sections and multi-use paths for the gaps. At intersections traffic circles are recommended and a Pedestrian Hybrid Beacon (PHB) at Two Bunch Palms Trail.

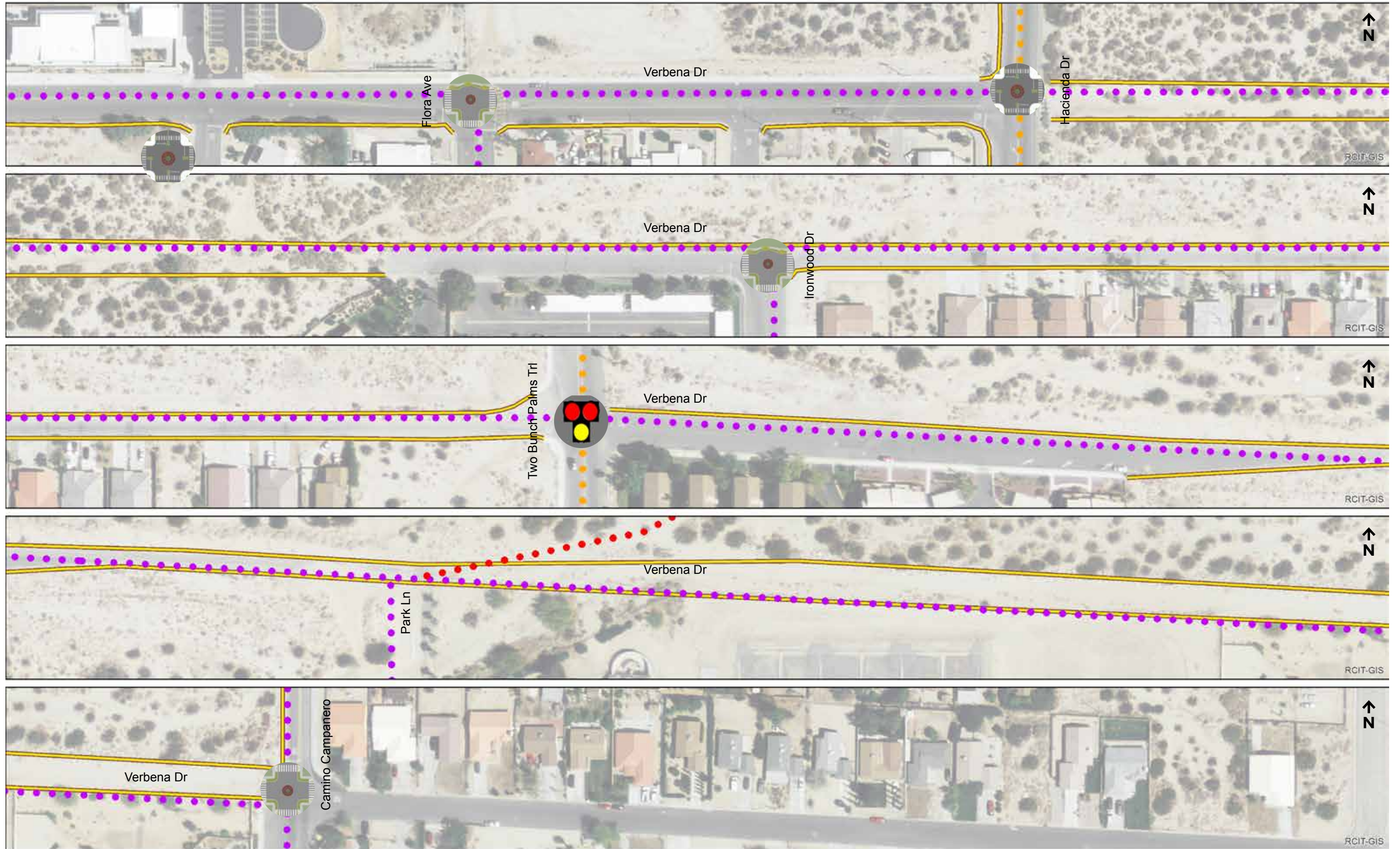
Estimated Cost: \$353,011



Table 5-2: Verbena Drive

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
2	2.54	Verbena Ave	Bike Blvd	Mission Lakes Blvd	San Carlos Rd	-4	
				San Carlos Rd	San Felipe Rd	-5	Partial sidewalk on one side
				San Felipe Rd	San Rafael Rd	-15	ROW varies
				San Rafael Rd	Yucca Dr	-10	Partial sidewalk on one side
				Yucca Dr	8Th St	-16	
			Multi-use Path	8Th St	Terrace Way	-10	Road does not exist, private property. Class 1 bike path connection
			Bike Blvd	Terrace Way	3Rd St	-3	
				3Rd St	Pierson Blvd	-3	Small strip of sidewalk on east side
				Pierson Blvd	Acoma Ave	-1	Only half of west side sidewalk present
				Acoma Ave	Buena Vista Ave	-1	
				Buena Vista Ave	Desert View Ave	-18	
				Desert View Ave	Estrella Ave	-3	
				Estrella Ave	Granada Ave	-13	
				Granada Ave	Hacienda Dr	-10	
				Hacienda Dr	Midblock	-10	Paved road does not exist
				Midblock	Ironwood Dr	-18	Paved road does not exist
				Ironwood Dr	Two Bunch Palms Trl	-3	
Two Bunch Palms Trl	Midblock	-20		ROW varies			
Midblock	Camino Campanero	-10	Paved road does not exist				





Little Morongo Road

Length: 3.54 Miles

ADTs: 3,719 – 6,294

Proposed Improvements: Multi-Use Path

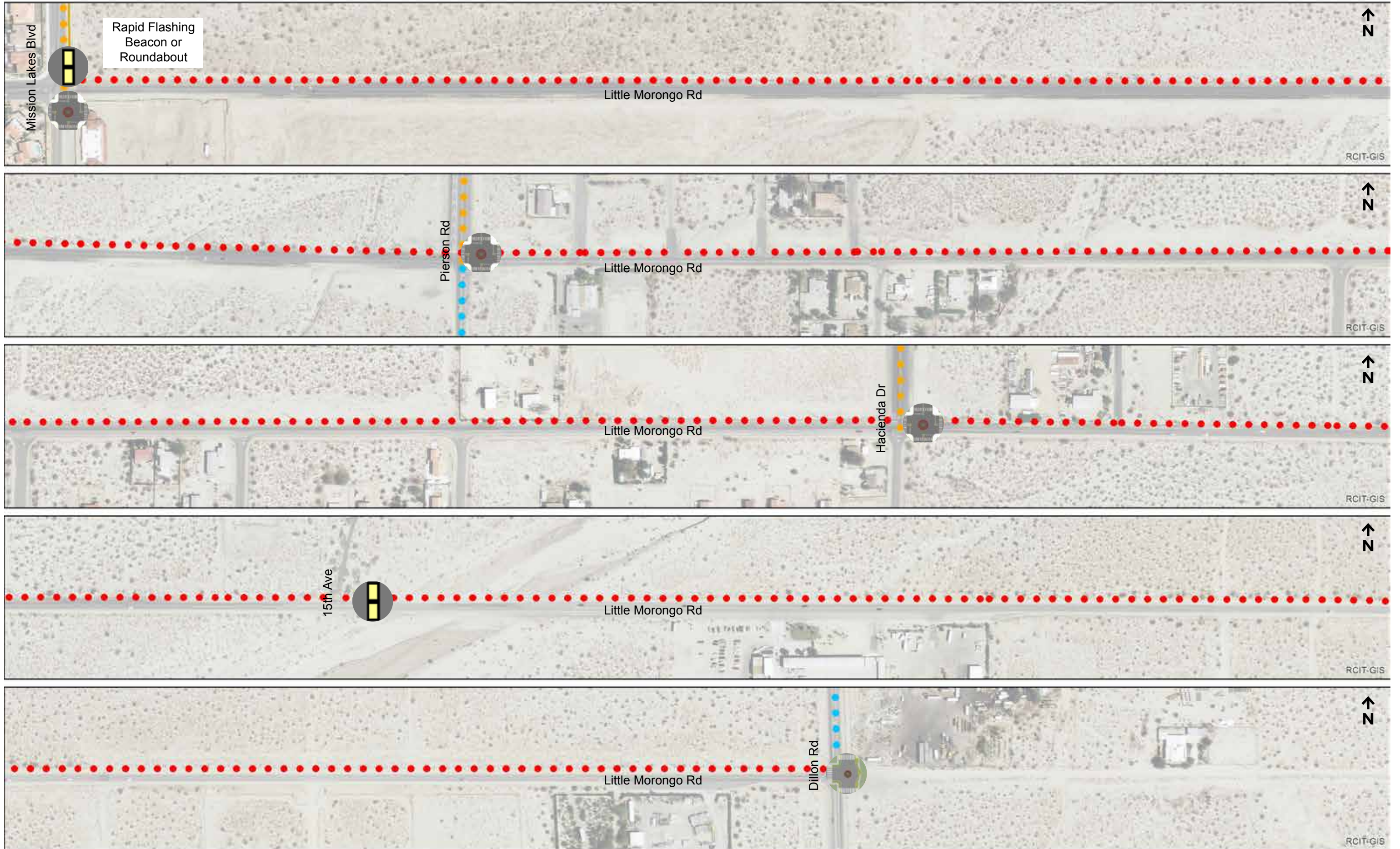
Description: Little Morongo Road is a north-south connector on the western side of the City. While there are currently very few destinations along this route, it plans to connect to the proposed CV Link, Desert Hot Springs High School and provides access to the Big Morongo Canyon Preserve and the Sand to Sea National Monument. Bicycle and pedestrian crossing improvements include traffic circles and/or Rectangular Rapid Flashing Beacons (RRFB).

Estimated Cost: \$5,637,575



Table 5-3: Little Morongo Road

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
3	3.54	Little Morongo Rd	Multi-use Path	Mission Lakes Blvd	Pierson Blvd	-10	Existing road not wide enough, but does not seem constrained
				Pierson Blvd	Buena Vista Ave	-10	Upgrade from existing bicycle facility
				Buena Vista Ave	15Th Ave	-10	Upgrade from existing bicycle facility
				15Th Ave	Midblock	-10	Upgrade from existing bicycle facility
				Midblock	Dillon Rd	-10	



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Hacienda Avenue

Length: 3.5 Miles

ADTs: 5,021 – 8,881

Proposed Improvements: Cycle Tracks, Sidewalks, Lighting, Bicycle Left-Turn Pocket, Safe Routes to School, Bike Boxes

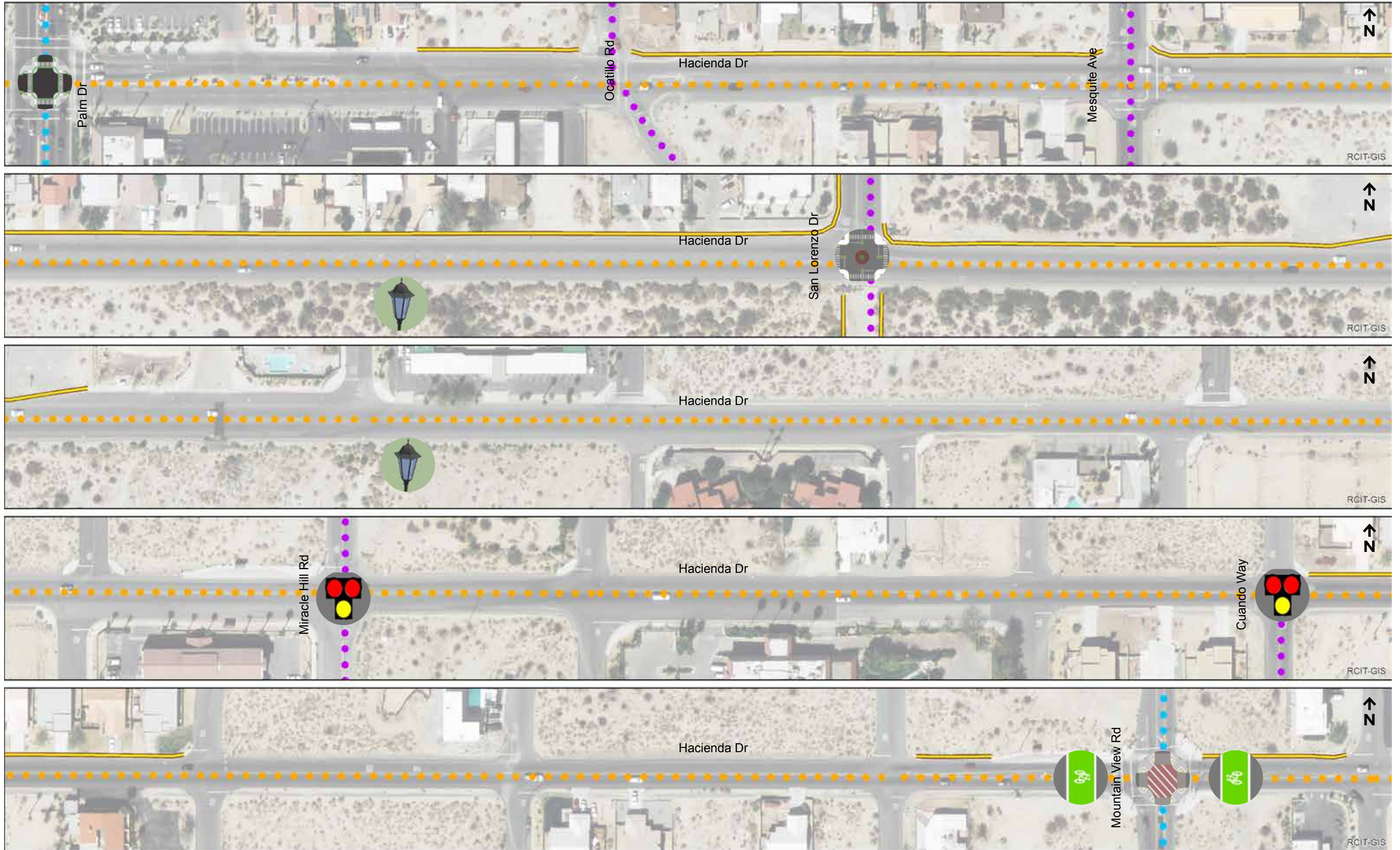
Description: This east-west connection travels through residential neighborhoods, retail, resorts, Julius Corsini Elementary School and is also a main transit route through the City. Hacienda Avenue lacks sidewalks and adequate street lighting in many sections east of Palm Drive. Safe Routes to School improvements have been identified east of Club Circle Drive for pedestrian connections to Julius Corsini Elementary Schools. Pedestrian Hybrid Beacons are recommended on Miracle Hills Road and Cuando Way. An enhanced intersection with bike boxes is recommended at Mountain View Road. It's also recommended to provide shade shelters with adequate lighting at all the bus stops along Hacienda Avenue.

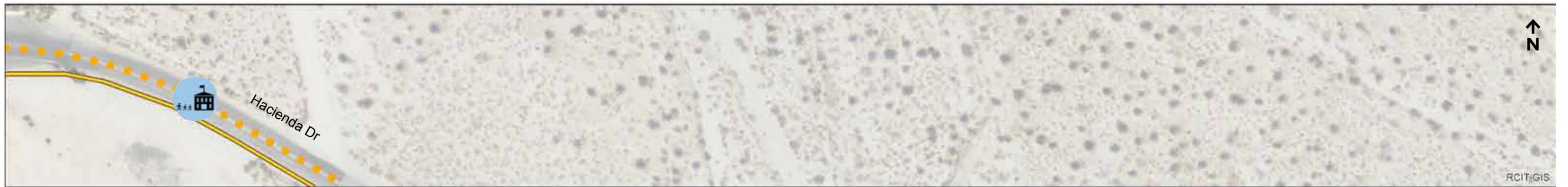
Estimated Cost: \$1,797,942



Table 5-4: Hacienda Avenue

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
4	3.46	Hacienda Dr	Cycle Track	Cholla Dr	West Dr	-4	Upgrade from existing bicycle facility
				West Dr	Santa Ysabel Dr	16	Upgrade from existing bicycle facility
				Santa Ysabel Dr	La Mesa Dr	8-14	Westbound bike lanes exists. Upgrade from existing bicycle facility
				La Mesa Dr	Alley	6-8	Westbound bike lanes exists. Upgrade from existing bicycle facility
				Alley	Palm Dr	-2	Westbound bike lanes exists. Upgrade from existing bicycle facility
				Palm Dr	Ocotillo Rd	6	Improve street lighting throughout.
				Ocotillo Rd	Mesquite Ave	14	School drop-off/pick-up exists. Additional pedestrian lighting needed.
				Mesquite Ave	Augua Cayendo Rd	8-22	School drop-off/pick-up exists. Additional pedestrian lighting needed. Provide shade structure at bus stops
				Augua Cayendo Rd	Quinta Way	4	Sidewalks need maintenance and sweeping.
				Quinta Way	Club Circle Dr	-6	Sidewalks need maintenance and sweeping.
				Club Circle Dr	Avenida La Vista	4	Sidewalks in disrepair between Club Circle Dr & Ave La Vista
				Mccarger Rd	Hacienda Heights Dr	14	Provide shade structure at bus stops
				Hacienda Heights Dr	Starlight Way	22	Provide shade structure at bus stops
				Starlight Way	Long Canyon Rd	-6	Constrained right-of-way





15th Avenue / Camino Campanero

Length: 2.5 Miles

Proposed Improvements: Bike Lanes and Bicycle Boulevard

Description: Camino Campanero provides an east-west connection on the southern end of the City that connects Palm Drive with Bubbling Wells Elementary School. Mission Springs Park is also nearby and this proposed project is the terminus of the Verbena Drive bicycle boulevard project. The right-of-way varies throughout but typically not wide-enough for bike lanes except between Avenida Descanso and Verbena Dr/Avenida Manzana. Due to the housing development in this section, an additional ~26' of roadway fronting this residential development. An opportunity to reclaim the space is to install a linear park to provide additional park space and keep the roadway at its current dimension for the bicycle boulevard. An enhanced intersection is recommended at Palm Drive, especially when 15th Street is completed. Traffic circles are recommended at Avenida Descanso, Avenida Manzana and at Bubbling Wells Road. Safe Routes to School improvements have been recommended on the south side of the street from Avenida Manzana to Bubbling Wells Elementary School.

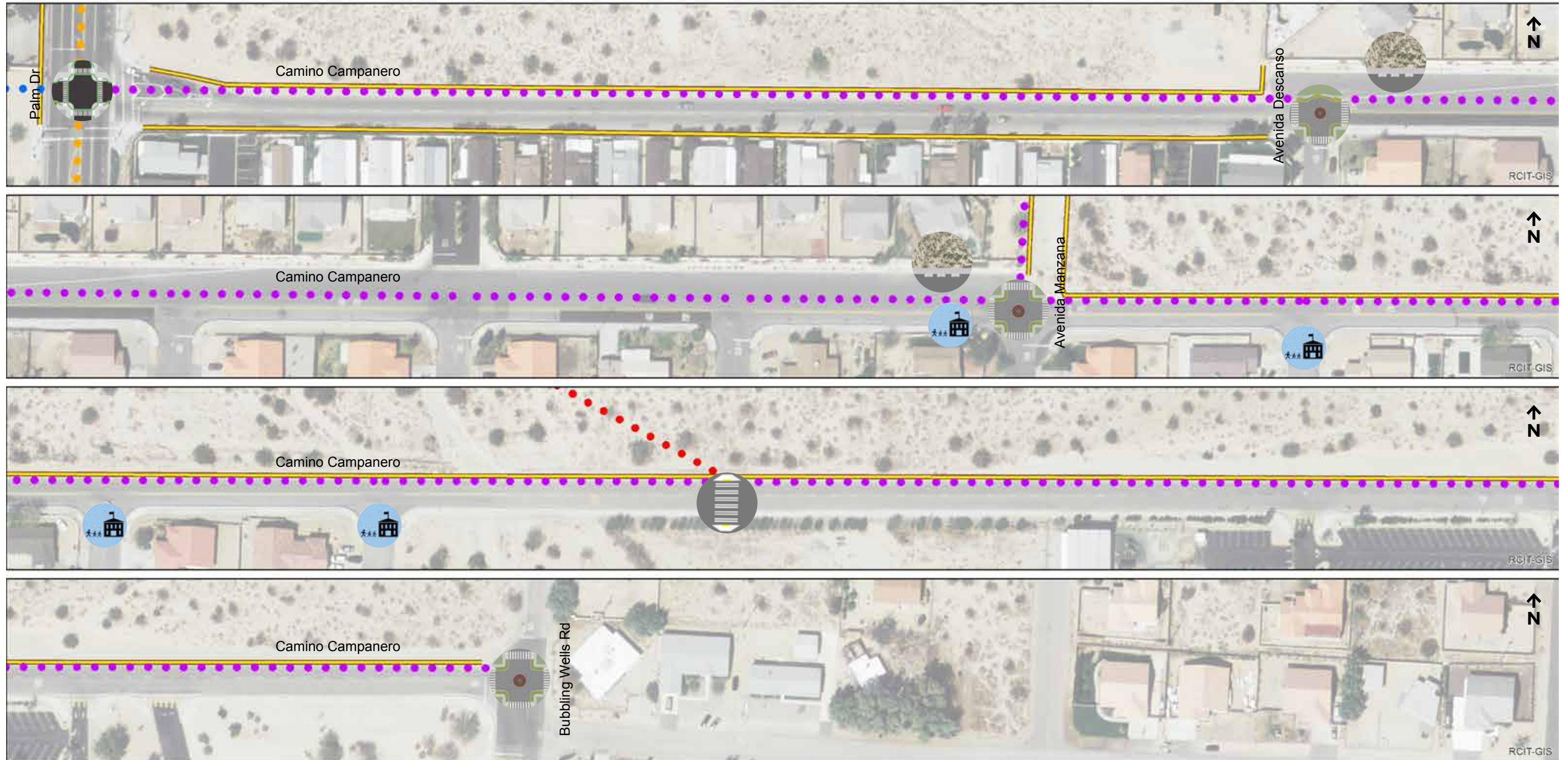
Estimated Cost: \$100,508



Table 5-5: 15th Avenue / Camino Campanero

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
5	2.5	15th Ave	Bike Lanes	Little Morongo Rd	Cabot Rd	-21	Future project
				Cabot Rd	Palm Dr	-10	Future project
		Camino Campanero	Bike Blvd	Palm Dr	Avenida Descanso	6	
				Avenida Descanso	Verbena Ave	10	ROW varies. Potential for linear park on north side of road
				Avenida Manzana	Bubbling Wells Rd	-18	

Project 5: 15th Avenue / Camino Campanero



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Mission Lakes Boulevard

Length: 2 Miles

ADTs: 2,006 – 3,917

Proposed Improvements: Cycle Tracks

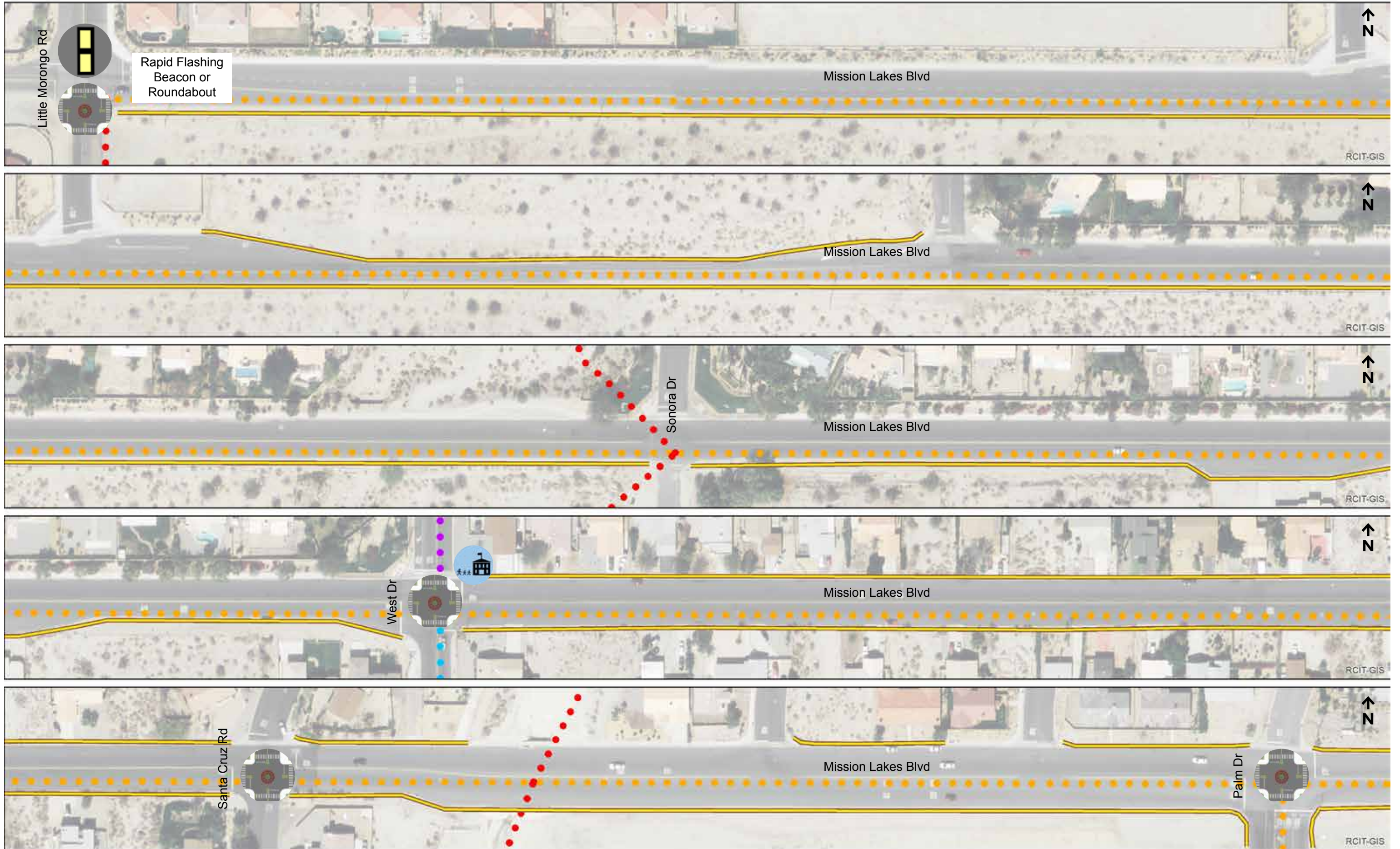
Description: Mission Lakes Boulevard is the northernmost east-west connector from the Mission Lakes Country Club to Verbena Drive. The varying right-of-way widths allow for the recommendations for cycle tracks throughout the project length. In some cases, available right-of-way was around 28', particularly at the flood control channel, where a multi-use path is also recommended. There is one bus stop on Mission Lakes Boulevard, just west of El Mirador Boulevard. It's recommended to provide a shade shelter and adequate lighting. Sidewalks are missing almost entirely on Mission Lakes Boulevard and it's recommended to install sidewalks throughout. Traffic circles or roundabouts are recommended at Little Morongo Road, West Drive, Santa Cruz Road, Palm Drive and Verbena Drive. Safe Routes to School improvements are recommended at West Drive. Improvements along this corridor will also provide access to the Sand to Snow National Monument on the eastern edge of the City.

Estimated Cost: \$1,039,316



Table 5-6: Mission Lakes Boulevard

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
6	2	Mission Lakes Blvd	Cycle Track	Little Morongo Rd	Rolling Hills Dr	8	
				Rolling Hills Dr	Sonora Dr	-8	ROW constrained condition; more ROW may be available
				Sonora Dr	West Dr	16	
				West Dr	Unnamed St	8	Extra wide lanes. Rural/striped sidewalks with cycle tracks.
				Unnamed St	Palm Dr	14	Extra wide lanes. Rural/striped sidewalks with cycle tracks.
				Palm Dr	Valencia Dr	28	Extra wide lanes. Rural/striped sidewalks with cycle tracks.
				Valencia Dr	Verbena Dr	18	Extra wide lanes. Rural/striped sidewalks with cycle tracks.



Project 6b: Mission Lakes Blvd



Table 5-7: Tier 1 Bicycle Projects

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
7	1.98	Dillon Rd	Buffered Bike Lanes	Little Morongo Rd	Ben Mar	-2	Dirt sidewalk on one side
				Ben Mar	Pacific Ave	0	Dirt sidewalk on one side, ROW varies 40'-58'
				Pacific Ave	Carol Dr	2	
				Carol Dr	Nancy Dr	0	
				Beacon Way	Tamarisk Ln	-2	Partial sidewalk on south side. ROW includes 58' turnout
				Tamarisk Ln	Palm Dr	6	
				Palm Dr	Via Corto	8	ROW varies between 40'-84'
				Via Corto	Avenida Manzana	-2	
8	1.02	4Th St	Bike Blvd	Cholla Dr	Palm Dr	-14	
				Palm Dr	Ocotillo Rd	-2	
				Ocotillo Rd	Mesquite Ave	0	
9	5.85	Pierson Blvd	Buffered Bike Lanes	Worsley Rd	Karen Ave	6	
				Karen Ave	Serendipity Rd	-6	
			Buffered Bike Lanes	Serendipity Rd	N Indian Canyon Dr	-2	
				N Indian Canyon Dr	Desert Ter	10	Upgrade from existing bicycle facility
				Desert Ter	Little Morongo Rd	-2	Upgrade from existing bicycle facility
			Cycle Track	Little Morongo Rd	Atlantic Ave	28	Upgrade from existing bicycle facility
				Atlantic Ave	Via Loreto	14	Upgrade from existing bicycle facility
				Via Loreto	Cholla Dr	10	Upgrade from existing bicycle facility
				Cholla Dr	West Dr	4-8	Upgrade from existing bicycle facility
			Bike Route	West Dr	Cactus Dr	-4	Low ADTs (~7000), Road diet candidate or Shared Green Lane
Cactus Dr	Palm Dr	-12		Low ADTs (~7000), Road diet candidate or Shared Green Lane			

Table 5-7: Tier 1 Bicycle Projects (Cont.)

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
9 (Cont.)	5.85 (Cont.)	Pierson Blvd (Cont.)		Palm Dr	Ocotillo Rd	-16	Low ADTs (~7000), Road diet candidate or Shared Green Lane
				Ocotillo Rd	Mesquite Ave	-10	Low ADTs (~7000), Road diet candidate or Shared Green Lane
			Cycle Track	Verbena Ave	Pomelo Dr	16	
				Pomelo Dr	Foxdale Dr	26	
				Foxdale Dr	Sumac Dr	12	
			Buffered Bike Lanes	Sumac Dr	Miracle Hill Rd	4	
10	1.17	Santa Cruz Bike Path	Multi-use Path	Midblock	Pierson Blvd	-10	Flood Control Channel/ Undeveloped
11	1.26	Ironwood Dr	Bike Blvd	Cholla Dr	El Rio Ln	-23	ROW varies
				El Rio Ln	Via Real	-13	Partial sidewalk on south side
				Via Real	Del Ray Ln	-13	
				Del Ray Ln	West Dr	-13	Partial sidewalk on south side
				West Dr	Cactus Dr	-23	
				Cactus Dr	Unknown	-18	
			Bike Blvd	Unknown	Palm Dr	-38	
				Palm Dr	Sarita Dr	-28	
				Sarita Dr	Mesquite Ave	-8	
				Mesquite Ave	Nahum Dr	2	Partial sidewalk on south side; Landscaping/road narrowing opportunity
Nahum Dr	San Lorenzo Dr	2	Landscaping/road narrowing opportunity				
12	1.82	Little Morongo Wash Bike Path	Multi-use Path	Casa Grande Dr	8Th St	-10	Flood Control Channel/ Undeveloped. Provides access to the Sand to Snow National Monument
13	2.94	Two Bunch Palms Trail	Cycle Track	Little Morongo Rd	Cholla Dr	8	Constrained right-of-way
				Cholla Dr	West Dr	2	Constrained right-of-way between Del Ray Ln and West Dr
				West Dr	Cuyamaca Dr	14	Upgrade from existing bicycle facility

Table 5-7: Tier 1 Bicycle Projects (Cont.)

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
13 (Cont.)	2.94 (Cont.)	Two Bunch Palms Trails (Cont.)		Cuyamaca Dr	Cactus Dr	-2	Upgrade from existing bicycle facility
				Cactus Dr	El Cajon Dr	14	Upgrade from existing bicycle facility
				El Cajon Dr	La Mesa Dr	-2	Upgrade from existing bicycle facility
				La Mesa Dr	Midblock	10-14	Upgrade from existing bicycle facility
				Midblock	Sarita Dr	16	
				Sarita Dr	Susan Way	16	Upgrade from existing bicycle facility
				Susan Way	Nahum Dr	0	Upgrade from existing bicycle facility
				Nahum Dr	Luis Dr	6	
				Luis Dr	San Lorenzo Dr	22	
				San Lorenzo Dr	Miracle Hill Rd	36	Upgrade from existing bicycle facility
		Quando Way	Bike Blvd	Miracle Hill Rd	Hacienda Dr	-14	
14	1.56	Ocotillo Rd	Bike Blvd	8Th St	6Th St	-14	
				6Th St	5Th St	-14	Both sides have half sidewalk coverage
				5Th St	1St St	-14	
				1St St	Pierson Blvd	-12	
				Pierson Blvd	Acoma Ave	-14	ROW varies between 30'-36'
				Acoma Ave	Buena Vista Ave	-14	
				Buena Vista Ave	Desert View Ave	-16	
				Desert View Ave	Hacienda Dr	-20	
				Hacienda Dr	Ironwood Dr	-18	One small segment of sidewalk
				Ironwood Dr	Joseph Way	-2	
				Joseph Way	Mesquite Ave	0	
				Mesquite Ave	Two Bunch Palms Trl	-2	

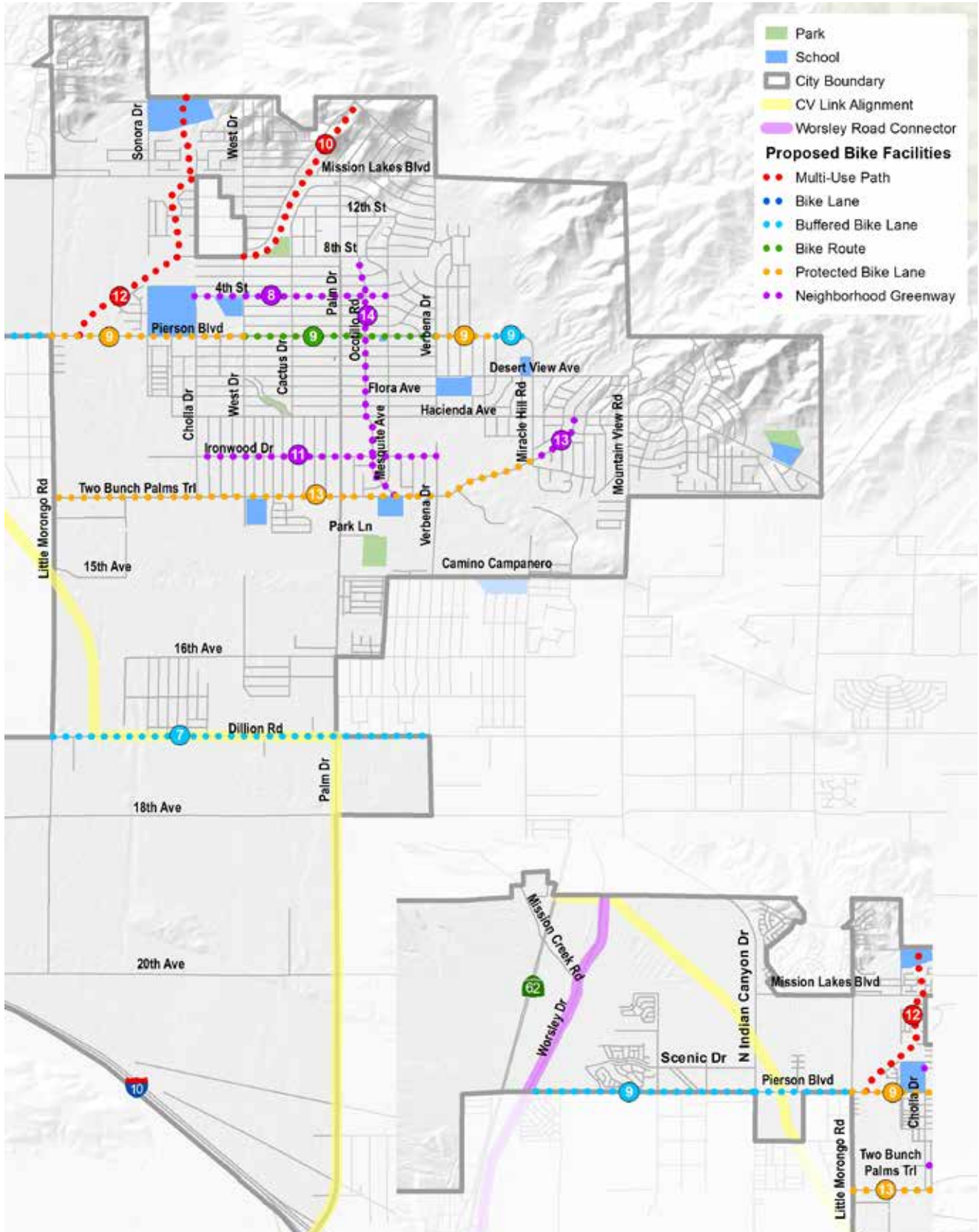


Figure 5-4: Tier 1 Bicycle Projects

Table 5-8: Tier 2 Bicycle Projects

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
15	1.7	Mesquite Ave	Bike Blvd	12Th St	San Remo Rd	-16	Add rural/striped sidewalk for lane diet
				San Remo Rd	8Th St	-13	Add rural/striped sidewalk for lane diet
				8Th St	Sunset Ave	2	Add rural/striped sidewalk for lane diet
				Sunset Ave	5Th St	-3	Add rural/striped sidewalk for lane diet
				5Th St	1St St	2	Add rural/striped sidewalk for lane diet
				1St St	Hacienda Dr	-3	Add rural/striped sidewalk for lane diet
				Hacienda Dr	Ocotillo Rd	-16	Partial sidewalk on both sides, ROW varies
16	2.51	West Dr	Bike Blvd	Dead End	Avenida Jalisco	-22	
				Avenida Jalisco	Mission Lakes Blvd	8	
			Buffered Bike Lanes	Mission Lakes Blvd	8Th St	12	Southbound bike lanes exist
				8Th St	Pierson Blvd	12	Upgrade from existing bicycle facility
				Pierson Blvd	Unknown	2	Upgrade from existing bicycle facility
			Bike Lanes	Unknown	Acoma Ave	4	Upgrade from existing bicycle facility
				Acoma Ave	Two Bunch Palms Trl	0	Upgrade from existing bicycle facility
17	0.5	Park Ln	Bike Blvd	Palm Dr	Midblock	-23	ROW varies
				Midblock	San Lorenzo Dr	-21	Road currently unpaved
18	1.21	Verbena/ Foxdale Bike Path	Multi-use Path	Verbena Dr	Miracle Hill Rd	-10	Undeveloped
19	1.31	8Th St	Bike Blvd	Golden Eagle Way	West Dr	8	Unpaved between Golden Eagle Way & Cholla Dr
				West Dr	San Miguel Rd	-8	
				San Miguel Rd	Palm Dr	8	Extended Right Turn Only Lane (RTOL)
				Palm Dr	Ocotillo Rd	0	ROW constrained condition; more ROW may be available

Table 5-8: Tier 2 Bicycle Projects (Cont.)

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
19 (Cont.)	1.31 (Cont.)	8Th St (Cont.)	Bike Blvd (Cont.)	Ocotillo Rd	Sunset Ave	8	
				Sunset Ave	Verbena Dr	0	
20	1.26	Mountain View Rd	Buffered Bike Lanes	Desert View Ave	Monterico Rd	2	
				Monterico Rd	Avenida Alta Loma	4	
				Avenida Alta Loma	Hacienda Dr	-5	
				Hacienda Dr	Via Domingo	4	Very short segments of sidewalk on west side
				Via Domingo	Whitney Ct	0	East side has partial sidewalk coverage. ROW varies
				Whitney Ct	Ava Ct	26-28	
				Ava Ct	Brunn Ln	-8	Very short segment of sidewalk on northwest side. ROW 24'-58'
21	1.03	12th St	Bike Blvd	West Dr	Santa Cruz Rd	4	
				Santa Cruz Rd	Cactus Dr	-10	
				Cactus Dr	San Miguel Rd	-12	
				San Miguel Rd	Palm Dr	-2	North side has partial sidewalk; south full sidewalk
				Palm Dr	Ocotillo Rd	-10	
				Ocotillo Rd	San Marcus Rd	-10	South side has partial sidewalk
				San Marcus Rd	Mesquite Ave	-12	
				Yucca Dr	12Th St	-14	
				Mesquite Ave	Verbena Dr	-16	

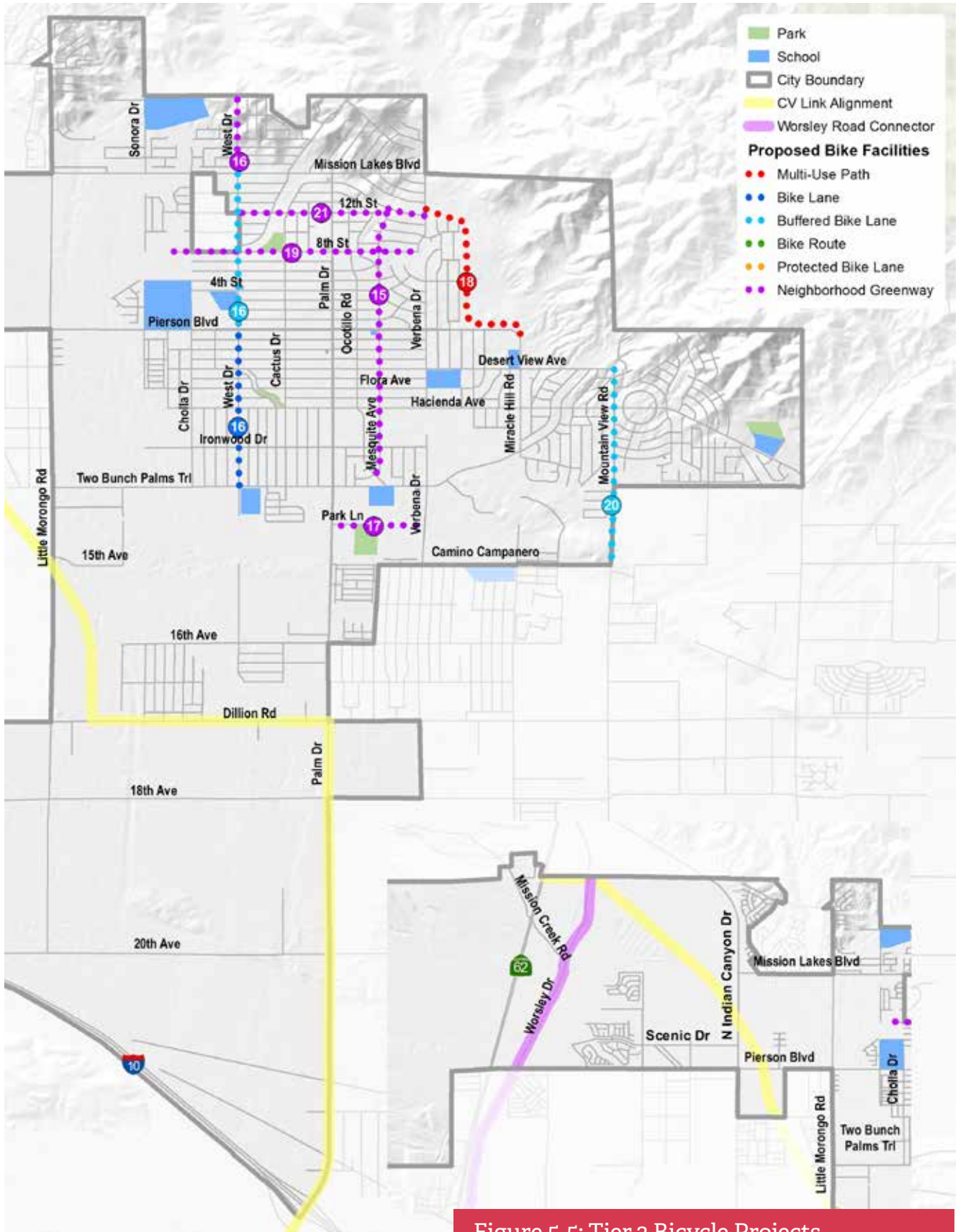


Figure 5-5: Tier 2 Bicycle Projects

Table 5-9: Tier 3 Bicycle Projects

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
22	0.77	Miracle Hill Rd	Buffered Bike Lanes	Pierson Blvd	Desert View Ave	-2	ROW varies
			Bike Blvd	Desert View Ave	Hacienda Dr	-16	
				Hacienda Dr	Midblock	2	
				Midblock	Augua Cayendo Rd	-1	
				Augua Cayendo Rd	Two Bunch Palms Trl	-12	
23	1.51	Cholla Dr	Bike Blvd	8Th St	5Th St	-10	Undeveloped
				5Th St	4Th St	-10	
				4Th St	Pierson Blvd	12	Landscaping/road narrowing opportunity
				Pierson Blvd	Buena Vista Ave	-18	
				Buena Vista Ave	Cahuilla Ave	0	East side has partial sidewalk
				Cahuilla Ave	Desert View Ave	0	
				Desert View Ave	Flora Ave	-12	
				Flora Ave	Hacienda Ave	-16	
				Hacienda Ave	Two Bunch Palms Trl	-9	
24	1.26	Flora Ave	Bike Blvd	Cholla Dr	West Dr	-10	
				West Dr	W Arroyo Dr	-12	
			Multi-use Path	W Arroyo Dr	E Arroyo Dr	-10	Improve walkway through park
			Bike Blvd	E Arroyo Dr	Cactus Dr	-14	
				Cactus Dr	Palm Dr	-26	Very degraded
				Palm Dr	Mesquite Ave	0	
		Mesquite Ave	Verbena Ave	-2			
25	2.21	Worsley Rd	Buffered Bike Lane	Midblock	Mission Creek Rd	-12	Would require roadway widening, Available ROW possible
				Mission Creek Rd	Pierson Blvd	-8	ROW varies between 24'-80'; Would require roadway widening, Available ROW possible

Table 5-9: Tier 3 Bicycle Projects (Cont.)

Rank	Length (Mi)	Street Name	Recommended Facility	Begin	End	Delta	Notes
26	2.27	Desert View Ave	Bike Blvd	Cholla Dr	West Dr	0	
				West Dr	Palm Dr	-10 - -12	
				Palm Dr	Mesquite Ave	6	Install sidewalks, close sidewalk gap
				Mesquite Ave	Eliseo Rd	-4 - -6	Install sidewalks, close sidewalk gap
				Eliseo Rd	Reposo Way	-8	Add rural/striped sidewalk for lane diet
				Reposo Way	Hidalgo St	-12	Add rural/striped sidewalk for lane diet
				Hidalgo St	Mountain View Rd	-10	Add rural/striped sidewalk for lane diet
27	0.35	Mission Springs Bike Path	Multi-use Path	San Lorenzo Dr	Camino Campanero	-10	Undeveloped
28	1.76	Cactus Dr	Bike Blvd	12Th St	8Th St	2	
				8Th St	7Th St	-2	Constrained right-of-way
				7Th St	4Th St	4	
				4Th St	Hacienda Dr	-4	
				Hacienda Dr	Two Bunch Palms Trl	-24	Street not yet paved

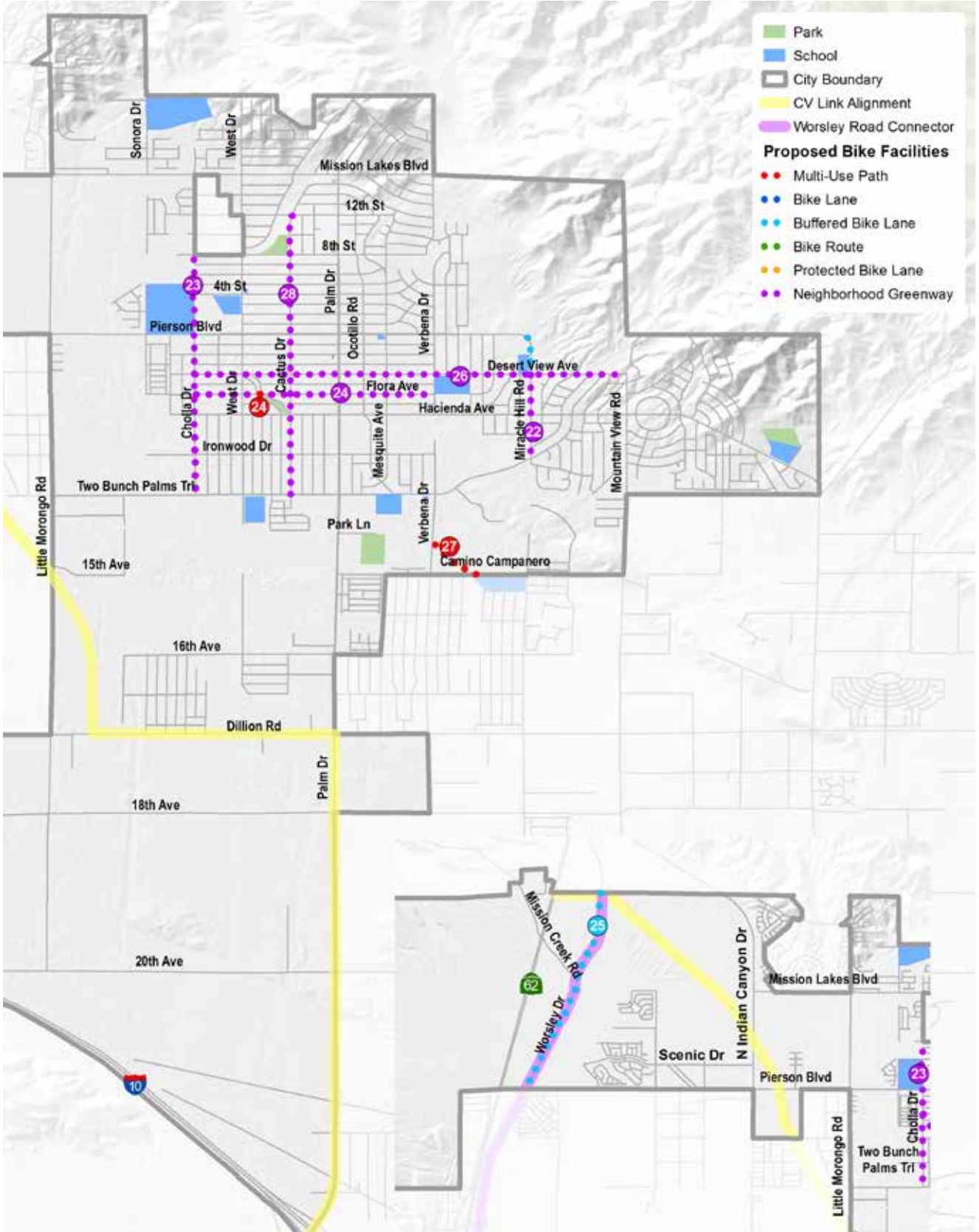


Figure 5-6: Tier 3 Bicycle Projects

Bicycle Routes

Add Shared Lane Markings or “Sharrows” to existing bicycle routes, particularly at transitions from bicycle lanes to shared travel lanes. Also install “Bikes May Use Full Lane” (CA MUTCD R4-11) signs along these routes. Whenever possible, integrate additional traffic calming measures along these routes to benefit both bicyclists and pedestrians.

Other Bicycle Facilities

Best Practices in Bicycle Access to Transit

Integration of this plan into the surrounding transportation and transit network improves the user experience by providing intuitive, safe and recognizable routes connecting active transportation and transit networks. Providing infrastructure for a broad range of users and mobility devices establishes a set of best practices for the development of a complete bicycle and pedestrian network. The overarching goal of a bicycle master plan is to safely provide active transportation infrastructure to persons at all levels of cycling ability.

Improving bicycle access to transit helps to expand the sphere of influence for both bicyclists and transit users, and can improve the transit rider and active transportation user relationship. A layered network enhancement of transit station area improvements allows for a connected multi-modal transportation network. Improvements will be guided by a set of best practices as they apply to transit stops and stations, bicycle facilities and associated pedestrian improvements.

Bicycle Access Improvements

The improvement of access for bicycles to transit stations and stops should be centered on three overall goals:

Decreasing the average travel time of bicyclists accessing transit - This is achieved by decreasing wait times at intersections and by increasing speed and capacity along bicycle routes. Bicycle prioritized signal timing improvements decrease waiting times for bicyclists and the provision of improved bicycle facilities increases the average users’ speed.



Bicycle Lane Approaching a Transit Stop
Seattle, WA

Decreasing point-to-point distances - This is achieved through the utilization of strategic short-cuts and increased street crossing opportunities. Off-street routes through utility easements and flood control channels or parks and mid-block crossings can be used to significantly reduce point to point distances.

Supporting multi-modal transfer activity – Strengthen links between modal access points, such as bus stops and stations, or bicycle share kiosks and stations, by providing easily identifiable safe and efficient access routes between modes.

Modifying the allocation of street space near transit stations and stops is another key element in encouraging access to transit by bicycle. Elements include the following:

- Reduce Lane Widths
- Enhanced Bicycle Facilities
- Signal Modifications
- Signage and Wayfinding

Bicycle Parking

Secure bicycle parking at likely destinations is an integral part of a bikeway network. Lack of secure parking is often cited as a reason people hesitate to ride a bicycle. The same consideration should be given to bicyclists as to vehicle drivers, who expect convenient and secure parking at all destinations. Bicycle parking should be located in well-lit, secure locations close to the main entrance of a building, no further from the entrance than the closest automobile parking space. Bicycle parking should not interfere with pedestrian movement.

Adequate bicycle parking should be incorporated into any new development or redevelopment project. Bicycle parking should be given a balanced level of importance when considering car parking improvements or development. In commercial areas where bicycle traffic is more prevalent, as well as parks and shopping centers, increased bicycle parking is recommended. This provides an option for individuals who need to make a short trip to the local store to ride their bicycle rather than drive a car. Increasing and providing secure bicycle parking will help promote and encourage kids to ride their bicycles to school if they know their bicycles will be safe. Bicycle parking should also be a standard amenity for existing and future parks.

Custom racks that showcase local businesses may also be encouraged to improve aesthetics as long as the racks provide adequate security and reflect local context. For example, special districts may benefit from custom racks whose design aesthetic relates to other street furniture.

A successful bicycle rack design enables proper locking, which means the user must be able to secure a typically sized U-lock around the frame and one wheel to the locking area of the rack. Racks that support the bicycle, but either provide no way to lock the frame or require awkward lifting to enable locking, are not acceptable unless security is provided by other means, such as a locked enclosure or monitoring by attendants. See the Association of Pedestrian and Bicycle Professionals (APBP) Bike Parking Guidelines for more detailed information on bicycle parking design and placement.

Bicycle racks must be designed so that they:

- Do not bend wheels or damage other bicycle parts
- Accommodate high security U-shaped bicycle locks
- Accommodate securing the frame and wheels
- Do not trip pedestrians
- Are easily accessed yet protected from vehicles
- Are covered if users will leave their bicycles for long periods

To provide real security for the bicycle (with its potentially easily removed components) and accessories (lights, pump, tools and bags), either bicycle enclosures, lockers or a check-in service is required. Bicycle parking facilities are generally grouped into two classes:

Long-term - provides complete security and protection from weather. It is intended for situations where the bicycle is left unattended for long periods of time: apartments and condominium complexes, schools, places of employment and transit stops. These are usually lockers, cages or rooms in buildings.

Short-term - provides a means of locking the bicycle frame and wheels, but does not provide accessory and component security or weather protection unless covered. It is primarily for decentralized parking where bicycles are left for short periods of time and are visible and convenient to the building entrance.

To identify the number of bicycle parking at a specific land use, some cities have used various measurement methods such as a percentage of auto parking, unit count, proportion of building square footage and even building occupancy. Determining bicycle parking demand is more appropriate when using the proportion of square footage or building occupancy. These units of measure are commonly used during plan check and can be easily integrated into the planning process.

The bicycle racks can be customized to incorporate an area's aesthetics, or designed to complement a specific building or business. For example, the City of Long Beach maintains a program funded by the American Recovery and Investment Act to help business owners install bicycle racks. Their program provides a range of rack designs, or business owners can provide their own custom designs.

Bicycle corrals are generally former vehicle parking stalls converted to bicycle parking. Most have been on-street conversions, but they are now being incorporated into shopping center parking lots as well. Corrals can accommodate up to 20 bicycles per former vehicle parking space. On-street bicycle corrals provide many benefits where bicycle use is high and/or growing:

Businesses - Corrals provide a much higher customer to parking space ratio and advertise "bicycle friendliness." They also allow more outdoor seating for restaurants by moving the bicycle parking off the sidewalk. Some cities have instituted programs that allow local businesses to sponsor or adopt a bicycle corral to improve bicycle parking in front of their business.

Pedestrians - Corrals clear the sidewalks and those installed at corners also serve as curb extensions.

Bicyclists - Corrals increase the visibility of cycling and greatly expand bicycle parking options.

Vehicle drivers - Corrals improve visibility at intersections by preventing large vehicles from parking at street corners and blocking sight lines.



Custom Bike Racks
Huntington Beach, CA



Bicycle Locker

Sidewalk Typologies

Different neighborhoods require differing levels of pedestrian improvements based on adjacent streets, levels of use, topography and land uses. The following section defines the walkway classifications and the corresponding level of infrastructure improvements needed for each type. The categories are defined by the City's existing street classifications. All walking facilities found within Desert Hot Springs fit into one of the following categories. The following figures provide detail of these classifications.

Arterial Sidewalks

Arterial sidewalks tend to have low pedestrian levels and are along roads with moderate to high average vehicular traffic. Sections of Palm Drive and Pierson Boulevard are examples of major and minor arterials. They primarily connect residential and commercial land uses to each other and within each one another. Arterial sidewalks can typically be long and, in some cases, do not have accessible land uses directly adjacent to the sidewalk.

These sidewalks may have limited pedestrians depending on adjacent land uses. For pedestrians, neighborhood streets are less difficult to cross and result in less pedestrian collisions than higher traffic streets. In some segments they have limited use and are often along high speed streets. Without the existence of these walkways, the pedestrian may be forced to walk in a high speed and high volume street.

Collector/Secondary Sidewalks

Corridor sidewalks are defined as sidewalks along roadways that support moderate density business and shopping districts with moderate pedestrian levels. In Desert Hot Springs, they are classified as low to moderate pedestrian levels. Examples of major and minor collectors include West Drive and Mission Lakes Boulevard. They can range from wide sidewalks along boulevards to small sidewalks along a heavily auto-oriented roadway, or no sidewalks at all. They connect moderate to low density commercial and residential areas, along collector streets.

Downtown Sidewalks

Downtown Street sidewalks are those along roadways that support heavier pedestrian levels in mixed-use or commercially concentrated urban areas. Usually, these core areas are within an urbanized area with special functions, such as theater districts, office parks, shopping centers, or college campuses. Downtown sidewalk types are primarily along Pierson Boulevard and Palm Drive.

Neighborhood Sidewalks

Neighborhood sidewalks are sidewalks along roads that support low to moderate density housing with low to moderate pedestrian levels. Desert Hot Springs is a primarily suburban city with a traditional street network that supports connectivity for bicyclist and pedestrians through their neighborhood streets. Neighborhood streets and their associated walkways are generally lower volume streets, with narrow to moderate widths, single lanes in each direction and posted speed limits of 25 miles per hour. However, because of the City's rural nature, many of the neighborhood streets, particularly in the older neighborhoods, lack sidewalks. Generally, neighborhood streets have relatively narrow widths and lower vehicle volumes and speeds, making these streets generally easy for pedestrians to cross. Typical street traits also make it easier for drivers to stop on short notice, if necessary, to avoid hitting pedestrians. Despite these generalities, some neighborhood streets may still experience problems of excessive speeding such as Desert View Avenue which is aberrantly wide.



Rural Sidewalks

Rural sidewalks are wide shoulders along roadways that can also function as walkways, particularly in rural areas. Local agencies sometimes consider paved or unpaved walkways and roadside shoulders used for pedestrian travel in urban areas to be interim solutions until funding permits construction of full sidewalk improvements. In rural areas, where funding for pedestrian improvements can be limited, walkways and shoulders may be acceptable as a longer-term solution, particularly if the alternative is no pedestrian facilities at all. A high visual and tactile contrast is desirable in order to clearly define the pedestrian area and discourage drivers from straying onto the shoulder. One design solution that helps delineate the shoulder walking area is the use of a contrasting paving material or color for the paved shoulder, or a contrasting strip separating the shoulder from the street.

Bicycle and Pedestrian Facilities

Bicycle and Pedestrian Facilities are facilities away from or crossing over streets such as plazas, paseos, promenades, courtyards or pedestrian bridges and stairways. Many of these facilities attract local residents and workers, generating moderate to high pedestrian use. The bike path at Ayala Park is an example of this facility.

Sidewalk Typology Treatment Levels

There should be flexibility in the specific conditions of any pedestrian facility; different sidewalk types deserve different treatments. The following table describes four treatment levels ranging from intensive (and expensive) treatments, to basic and inexpensive treatments for pedestrian facilities. Each of the treatment levels indicates the types of special circumstances that, if present, may warrant increasing the treatment up to the next level.

The treatment table also summarizes all of the pedestrian facilities, techniques, and enhancements that could be used in any particular area. The following table and the described treatment levels have been created to help guide the appropriate use of treatments and public funding.

A major premise of the “Basic Level” is that it is the minimum level that should be provided in all circumstances. In the case of certain neighborhoods and along certain connector streets, this “Basic Level” is adequate to provide the minimum level of safety, connectivity, access, and walkability.

In other areas, however, the “Basic Level” may not be enough to assure safety and walkability. In certain areas, the presence of major roadways and other detractors from pedestrian activity require a much higher level and expense associated with pedestrian treatments. In these situations, an “Enhanced Level” is recommended.

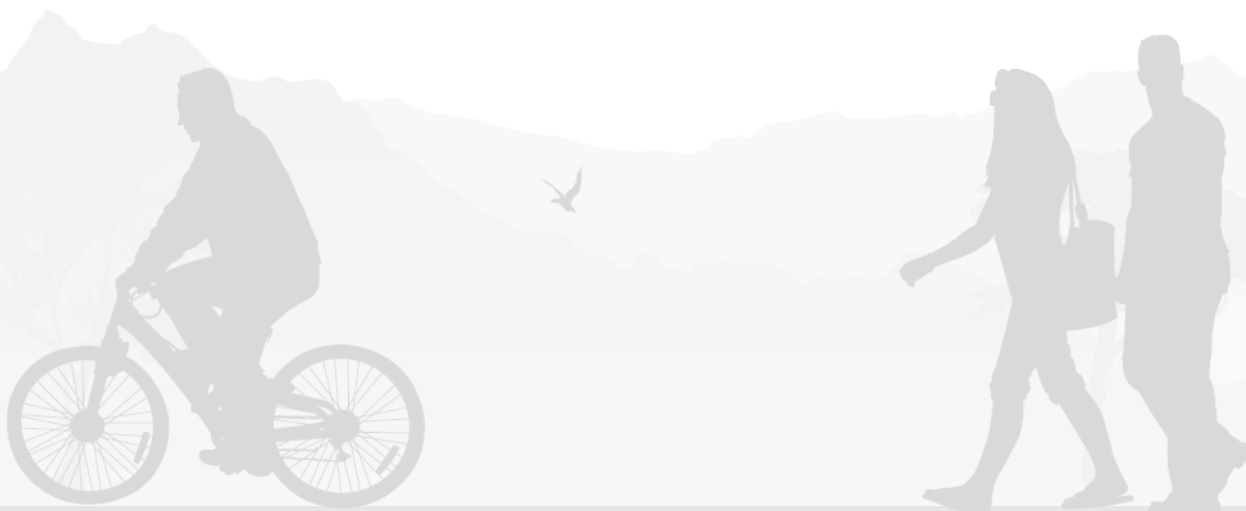
In yet other areas, the urban densities and design requirements and the presence of certain safety issues require a “Premium Level” to meet safety, connectivity, accessibility, and walkability minimums. Pedestrian amenities and proper design of facilities is required throughout the City; however, the intensity of these amenities and design treatments would be at the highest level under the “Premium Level” of treatment.

Though this guidance has been provided, it should remain the responsibility of the Planning and Engineering Departments to determine which of these treatments are appropriate for specific areas or issues.



Table 5-10: Sidewalk Typologies

Typology	Downtown Sidewalks	Arterials Sidewalks	Collector/ Secondary Sidewalks	Neighborhood Sidewalks	Rural Sidewalks	Bicycle and Pedestrian Facilities
Purpose	Sidewalks Along Roads that Support Heavy Pedestrian Levels in Mixed-use Concentrated Urban Areas	Sidewalks Along Roads that Support Moderate Density Business & Shopping Districts with Moderate Pedestrian Levels	Sidewalks Along Roads that Support Institutional, Industrial or Business Complexes with Limited Lateral Access & Low Pedestrian Levels	Sidewalks Along Roads that Support Low to Moderate Density Housing with Low to Moderate Pedestrian Levels	Sidewalks Along Roads that Support Low Density Housing with Low Pedestrian Levels	Facilities Away or Crossing Over Streets such as Plazas, Paseos, Promenades, Courtyards or Pedestrian Bridges & Stairways, Shared-use paths
Sidewalk Types	6-10' sidewalks with parkway or furnishing zone	4-8' sidewalks with parkway or furnishing zone	4-6' sidewalks and may have parkway zone	4' sidewalks and may have parkway zone	4' sidewalks and may have parkway zone. Striping may suffice as sidewalks with tactile striping or vertical barrier between road and sidewalk	Typically not associated with a street
Typical Adjacent Land Uses	Mixed-use Housing, Commercial, Office & Entertainment with Urban Densities	Multiple Land Uses but may be Separated. Often Strip Commercial or Office Complex.	Open Space, Industrial Uses, Institutional Uses or other Pedestrian Restricted Uses	Single-family and Moderate Density Multi-Family with Limited Supporting Neighborhood Commercial	Single-family and Moderate family Residential, Open Space	Adjacent Land Uses Vary



Downtown Sidewalks

Sidewalks Along Roads that Support Heavy Pedestrian Levels in Mixed-use Concentrated Urban Areas

TYPICAL EXISTING CONDITION

Adjacent Parking

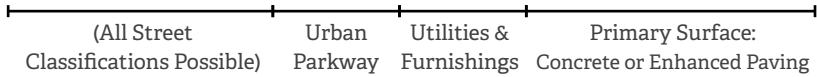


Low to High Density Residential, Commercial & Institutional Facilities



Typical Adjacent Uses

Typical Adjacent Street



Sidewalk with lighting and plant separation



Sidewalk with street trees and enhanced paving



Sidewalk with outdoor cafes (Fullerton, CA)



Walkways with clear paths (Downtown Palm Springs, CA)

Arterial Sidewalks

Sidewalks Along Roads that Support Moderate Density Business and Shopping Districts with Moderate Pedestrian Levels

TYPICAL EXISTING CONDITION

Travel, Parking or Bike Lane



Multiple Land Uses but may be Separated. Ranges from Strip Commercial to Industrial Complex to Open Space.



Typical Adjacent Uses

Typical Adjacent Street

(Major Arterial, Primary Arterial)

Primary Surface: Concrete



Arterial sidewalk along Palm Drive south of Camino Campanero



Arterial sidewalk with multiple uses with transit access along Palm Drive



Arterial sidewalk on Pierson Avenue by Desert Hot Springs High School



Lack of sidewalks on Indian Canyon Drive

Collector/Secondary Sidewalks

Sidewalks Along Roads that Support Institutional, Industrial, Open Space, Agricultural or Residential with Limited Lateral Access and Low Pedestrian Levels

TYPICAL EXISTING CONDITION



Pedestrian Restricted Uses such as Open Space, Agricultural, Industrial, Institutional and Residential of varying densities.



(Secondary Arterial, Urban Industrial Collector, Urban Residential Collector)

Primary Surface: Concrete & Asphalt

Lawn or Planter Area



Wide collector sidewalks at Cabot Yerxa Elementary



Sidewalks on West Drive



Sidewalk with parkway separation on Pierson Avenue east of Palm Drive

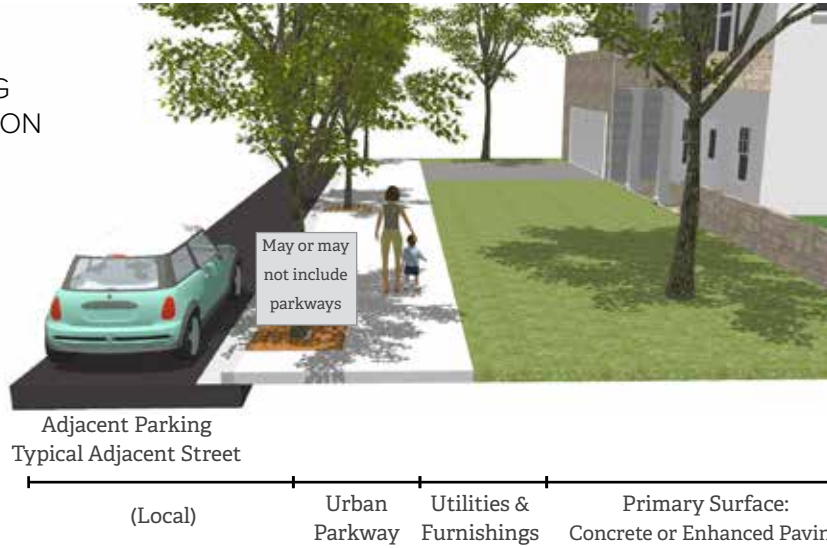


Sidewalks on Hacienda Avenue and Verbena Drive

Neighborhood Sidewalks

Sidewalks Along Roads that Support Low to High Density Housing with Low to Moderate Pedestrian Levels

TYPICAL EXISTING CONDITION



Low, Medium and High Density Residential with Limited Supporting Neighborhood Commercial, Industrial & Open Space Uses.

↔
Typical Adjacent Uses



Missing sidewalks along Cahuilla Avenue



Sidewalk on both sides of the street on Desert View Avenue



Disconnected sidewalk network on Second Street

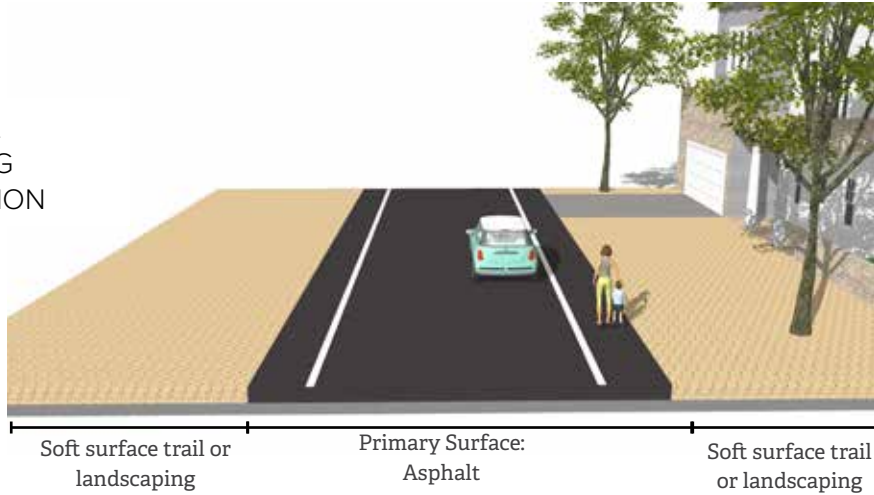


Continuous sidewalks on First Street

Rural Sidewalks

Sidewalks Along Roads that Support Low Density Single Family Residential, Open Space or Rural Land Uses with Low to Moderate Pedestrian Levels

TYPICAL EXISTING CONDITION



Low Density Land Uses. Ranges from Low Density Single Family Housing, Open Space or Industrial.



Typical DHS neighborhood without sidewalks on Granada Avenue



Example of lane striping acting as a sidewalk



Raised sidewalks along rural connector (Boise, ID - Photo Credit Kostec Planning)



Protected pedestrian lane (Boone, NC - Photo Credit Jeff Brubaker)

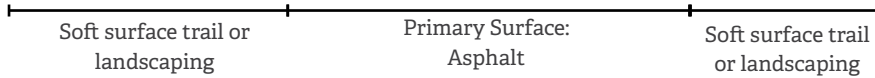
Bicycle and Pedestrian Facilities

Sidewalks Along Roads that Support Moderate Density Business and Shopping Districts with Moderate Pedestrian Levels

TYPICAL EXISTING CONDITION



Multiple Land Uses but may be Separated. Ranges from Strip Commercial to Industrial Complex to Open Space.



Protected Bike lane/Cycle Track with adjacent sidewalk (Palm Springs, CA)



Arterial sidewalk with multiple uses with access to Parks (Chino, CA)



San Juan Creek Trail (San Juan Capistrano, CA)



Pacific Electric Bike Path adjacent to roadway (Colton, CA)

Table 5-11: Typology Treatment Types

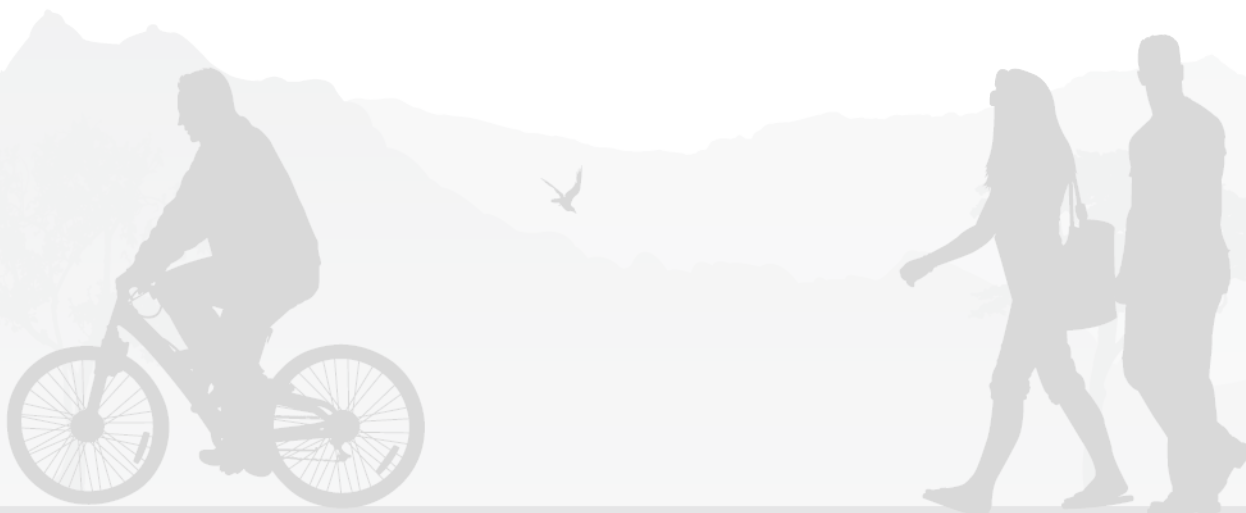
TREATMENT LEVEL:	Treatment Level 1 "Premium" Walkway Improvements	Treatment Level 2 "Enhanced" Walkway Improvements	Treatment Level 3 "Basic" Walkway Improvements	Treatment Level 4 "Special Use" Walkway Improvements
Street Typologies Receiving These Treatment Levels (Unless Special Circumstances Exist)	Main Street Sidewalks	Multi-Way / Arterial / Collector Sidewalks	Collector and Neighborhood Sidewalks	Bicycle and Pedestrian Trails
Special Circumstances that Warrant a Higher Treatment Level than Normal. Requirements in Each Column would Increase to the Column on its Left	Already Uses Highest Treatment Level	If within 1/4 mile of Transit/ School/ Ped. High Use/ Major Arterial	If within 1/4 mile of Transit/ School/ Maj. Commercial Facilities/ Maj. Arterials	Case-by-Case Basis
Provide Accessible Facilities Such As:				
Curb ramps	R	R	R	SC
Audible/visual crosswalk signals	R	R	SC	SC
Walkways & ramps free of damage or trip hazards	R	R	R	S
Pedestrian paths free of obstructions and barriers	R	R	R	S
Sidewalks with limited driveways and minimal cross-slope	R	S	S	S
Re-grade slope of walkway to meet ADA / Title 24 standards	SC	SC	SC	SC
Repair, slice or patch lifts and reset utility boxes to be flush	SC	SC	SC	SC

Provide Safety Features Such As:				
Median refuges (a safe place to stand in the street)	R	S	NA	NA
Pedestrian popouts (curb / sidewalk extensions into street)	S	S	NA	NA
High visibility crosswalk striping	R	S	NA	SC
Raised crosswalks or special paving materials to denote crosswalks	S	S	NA	SC
Advance stop bars at least 15 feet from crosswalk	S	S	NA	SC
Radar Speed Monitor & Display	SC	SC	SC	SC
Reduced curb radii	S	S	S	NA
Early pedestrian start at crossing signal (Lead Pedestrian Interval)	S	SC	NA	SC
No Turn on Red at Intersection	SC	SC	SC	SC
Mid-block crosswalks w/ ped. flashers but no traffic control	NA	NA	S	NA
Automatic pedestrian detection & signal control	S	NA	NA	SC
Mid-block crossing w/ signs, median or curb ext. & flashing lights in road	SC	SC	NA	SC
Mid-block crosswalks w/ ped. actuated traffic control device	S	SC	SC	NA
One-Lane Mid-block w/ high contrast crossings, signs & center lane marker	SC	SC	S	SC
Parkway planting for buffer between sidewalk and cars	R	R	S	SC
On-street parking for buffer between sidewalk and cars	R	S	S	NA
Adequate levels of pedestrian lighting	R	R	S	S
Various traffic calming measures	S	S	S	NA
Enforcement, education or encouragement solutions	SC	SC	SC	SC
Missing sidewalks added or provide adequate. walk width clear of obstructions	SC	SC	SC	SC
Provide enhanced crossings such as Rectangular Rapid Flashing Beacons (RRFB) or Pedestrian Hybrid Beacons (PHB)	SC	SC	SC	SC

Table 5-11: Typology Treatment Types (Cont.)

TREATMENT LEVEL:	Treatment Level 1 "Premium" Walkway Improvements	Treatment Level 2 "Enhanced" Walkway Improvements	Treatment Level 3 "Basic" Walkway Improvements	Treatment Level 4 "Special Use" Walkway Improvements
Street Typologies Receiving These Treatment Levels (Unless Special Circumstances Exist)	Main Street Sidewalks	Multi-Way / Arterial / Collector Sidewalks	Collector and Neighborhood Sidewalks	Bicycle and Pedestrian Trails
Special Circumstances that Warrant a Higher Treatment Level than Normal. Requirements in Each Column would Increase to the Column on its Left	Already Uses Highest Treatment Level	If within 1/4 mile of Transit/ School/ Ped. High Use/ Major Arterial	If within 1/4 mile of Transit/ School/ Maj. Commercial Facilities/ Maj. Arterials	Case-by-Case Basis
Improve Walkability by Providing:				
Above minimum walkway widths (> 5')	R	S	SC	SC
Trees that provide shade on walkways	R	R	S	S
Street furnishings for comfort and enjoyment	R	S	SC	S
Countdown display crosswalk signals	S	SC	SC	NA
Traffic control for crossings such as traffic signals or "All way stops"	R	S	S	S
Pedestrian scrambles (cross all directions of street)	SC	NA	NA	SC

"R"= Required, "S" = Suggested, "SC"= Suggested if conditions or standards met & "NA" = Not applicable





CHAPTER 6

Programs



Programs

This section comprises a diverse menu of programs intended to support the bicycle and pedestrian projects recommended in this plan. Due to a long history of routine accommodation for pedestrians (i.e. sidewalks, crosswalks, dedicated signals, etc.), programs targeting walking are relatively uncommon. Conversely, the historic lack of routine accommodation for cyclists has fostered confusion about the role of bicycles in the overall transportation system and has necessitated an impressive diversity and breadth of bicycle-related programs. Despite a likely emphasis on programming and less on projects, bicycle programs remain an important element of a successful bicycle plan. The following sections offer some background on the changing “state of practice” in bicycle programming, namely the increased integration of programs and projects, culminating in a comprehensive menu of bicycle and pedestrian programs.

Evolving State of Practice in Bicycle Programs

There has been a shift away from the traditional, compartmentalized “Five Es” approach developed by the League of American Bicyclists (Engineering, Education, Encouragement, Enforcement and Evaluation and Planning) and toward a fully integrated and complementary menu of initiatives. By offering a menu of initiatives, rather than a prescriptive list, active transportation programming can more accurately address the existing conditions and desired outcomes of a given context.

In addition to changes in the content and organization of active transportation programs, there has also been a shift in implementation strategies. Programs are increasingly targeted at specific project areas, in conjunction with the construction of bicycle and pedestrian facility projects. The implementation of a capital project represents a unique opportunity to promote a city’s active transportation system and cycling and walking as attractive transportation options. Projects or “Engineering” represent the most visible and perhaps most tangible evidence of a great place for bicycling. The same can be said for walking. A new bicycle facility attracts attention of cyclists and non-cyclists alike. As such, it represents a great opportunity to reach out to the “interested, but concerned” within the neighborhood. Impact to this target group will be strongest by directly linking facility improvements and supportive programs. In this way, bundling bicycle programs with projects represents a much higher return on investment for both.

The programs recommended for the City of Desert Hot Springs are organized as a menu of initiatives, each listed under a broad category:

- Education/Encouragement/Marketing
- Education/Enforcement
- Monitoring and Evaluation

These categories are not definitive. They are merely intended to offer some level of organization to the many program initiatives, the majority of which fall into at least one category.



Education/Encouragement/Marketing

Community Bicycle Programs

Community bicycle programs, also known as Bike Kitchens, are commonly formed as grass roots initiatives by community members within low income and underserved communities to provide bicycles, helmets, maintenance and safety instruction to people as a means of expanding their transportation options and providing people better access to work and services.

The City of Desert Hot Springs could support the creation of a Bike Kitchen and leverage its resources in coordination with the bicycle facilities prioritized in the bicycle and pedestrian master plan. This combination will help to encourage an increase in cycling mode share, serve as a missing link in the public transit system, reduce GHG emissions and provide additional “green” jobs related to system management and maintenance.



Educational and Promotional Materials

Street Smarts Classes and Bicycle Ambassadors



This initiative promotes safe bicycling through community-based outreach, which helps bridge the gap between people who want to start riding and the availability of opportunities to help people learn to bicycle safely. A Bicycle Ambassador program has recently been initiated by the Inland Empire Biking Alliance. The City could support this program through funding or, at least, in-kind contributions. The Bicycle Ambassadors may concentrate their efforts along corridors of existing and/or planned cycling facilities. Bicycle Ambassadors could also offer great value in areas and among populations with a high latent demand for cycling and in areas with high collision rates.

Participate in Walk and Bike to School Day

This one-day October event in more than 40 countries celebrates the many benefits of safely walking and cycling to school. Walking and rolling to school embodies the two main goals of First Lady Michelle Obama’s Let’s Move! Campaign: to increase children’s physical activity and to empower parents to make these kinds of healthy choices. The National Center for Safe Routes to School, which serves as the clearinghouse for the federal Safe Routes to School (SRTS) program, coordinates online registration efforts and provides technical support and resources for Walk to School Day. For more information, go to www.walktoschool.org.



Host a Ciclovía and Other Signature Events



A Ciclovía (also ciclovía or cyclovía in English) is a Spanish word that translates into “bicycle path” and is used to describe either a permanently designated bicycle route or a temporary event where the street is closed to vehicles for use by people and non-motorized transportation. Ciclovía events are celebrations of livable streets and communities, encouraging citizens and businesses to get out in the street and enjoy their city through active participation.

While Bogotá, Colombia is often credited with starting ciclovías, they have gained considerable popularity in the United States in the past five years.

While all Ciclovía events are alike in their creation of a people-oriented, car-free space, they are otherwise unique. In some cities, the event occurs once or twice a year, while in others it occurs every Saturday or Sunday for an entire season. Some routes are circuitous, while others are linear. Most include parks or other open public spaces. Most events include music, performance, games and other activities, some of which is scripted and some spontaneous. Ciclovías often have a theme of health, exercise and active transportation and include groups promoting free, healthy activities stationed along the route. Ciclovía routes can incorporate and highlight new bikeways and preferred routes, encouraging their use and maximizing investment.



Ciclovía events (CicLAVIA)
Los Angeles, CA

Education/Enforcement

Educate All Police Department Staff Regarding Bicycle and Pedestrian Issues and Concerns

If the ultimate aim is to promote cycling as a legitimate form of transportation, all officers should receive some form of bicycle training and should be offered LCI training, if possible. Appropriate training regarding pedestrian issues and solutions should be provided as well.



FUN WITH ENFORCEMENT

The Riverside County Sheriff's Department garnered national attention with its "Gingerbread Man" crossing enforcement sting program. Its purpose is to educate drivers about the crosswalk laws and to make them more aware of the dangers of speeding and inattention, especially near schools.

Use the following link to learn more!

<http://blog.pe.com/breaking-news/2013/09/26/moreno-valley-gingerbread-man-helps-nab-crosswalk-violators/>

Designate a Law Enforcement Liaison Responsible for Cycling Issues and Concerns

This liaison would be the main contact for Desert Hot Springs residents concerning bicycle and pedestrian related incidents. This liaison would perform the important function of communication between the law enforcement agency and cyclists and pedestrians. The liaison would be in charge of the supplemental education of fellow officers regarding bicycle and pedestrian rules, etiquette and behavior. The liaison could be the same person as the referee for the Traffic Garden and should be LCI certified, as well as ride a bicycle while on duty, as appropriate. Allocate funding for the training and support of this duty, as well as for necessary bicycle equipment.

Targeted Enforcement

Many law enforcement departments employ targeted enforcement to educate drivers, cyclists and pedestrians about applicable traffic laws and the need to share the road. These efforts are an effective way to expand mobility education. Targeted enforcement should be expanded to warn and educate drivers, cyclists and pedestrians about laws, rules of the road and safe procedures. This could be in the form of a brochure or tip card explaining each user's rights and responsibilities. Targeted enforcement may help mitigate the following traffic safety problems:

- Speeding in school zones
- Illegal passing of school busses
- Parking violations – bus zone, crosswalks, residential driveways, time zones
- Risks to cyclists during drop-off and pick-up times
- Lack of safety patrol/crossing guard operations
- Unsafe cycling and pedestrian practices
- Other school zone traffic law violations

This approach has been successful in Los Angeles where four officers, one for each Police Department Traffic Division, have been dedicated solely to bicycle safety and outreach.

Implement a Bicycle Diversion Program

A Bicycle Diversion Program allows for adult cyclists who commit traffic violations to receive reduced fines in exchange for taking a bicycle education class. On September 21, 2015, California's Governor Jerry Brown signed Assembly Bill 902 to create such a program. This legislation has been touted as a boost for both equity and encouragement in cycling. It is expected to promote equity because, in reducing fines, it effectively makes cycling more affordable. It is expected to encourage cycling by treating violations as opportunities to educate people and impart confidence and skills. AB 902 will go into effect on January 1, 2016, but it will be up to each city and its law enforcement department to adopt diversion programs

Distribute Lights and Helmets to Cyclists

If law enforcement officers observe a cyclist riding at night without the proper reflectors or lights, they may give the cyclist a light along with a note or friendly reminder about the light requirement and its importance. This provides a positive and educational interaction rather than a punitive one. This program could be funded through a safety-oriented grant. Many cities have targeted the end of daylight savings as an ideal time to perform this function.

Helmet giveaway programs are another opportunity for positive education and interaction. Law enforcement departments have conducted public events to hand out helmets, as well as distributing them in the community during the course of patrol when an officer sees a child riding helmetless.

Law Enforcement Referral Process

Design a communication process that encourages students and parents to notify the school and police of the occurrence of a crash or near-miss during school commute trips involving auto, bus, pedestrian or bicycle transportation. Include not only the Police Department, but also the Planning Department and SRTS stakeholders in this reporting system to help better use data generated. Enlist the help of law enforcement with a number of traffic safety duties:

- Enforcement of traffic and parking laws through citations and warnings.
- Targeted enforcement of problem areas – an intensive, focused effort during the first two weeks of school, as well as a strategy for the rest of the year.
- Participation in traffic safety programs: Traffic Garden, SRTS Task Force, etc.

Los Angeles has a successful program called the LA Bike Map that allows cyclists to submit incidents, see them displayed instantly, and study the overall pattern, dynamically, in one place.



Bicycle Safety Class



Helmet Giveaway
San Diego, CA



Police Bicycle Patrol
Torrence, CA



Wednesday Walks
Desert Hot Springs, CA



Wednesday Walks

Wednesday Walks are recurring community walks, led by resident Bobbi Horton, a personal trainer and fitness enthusiast. The walks begin each Wednesday at 6:00pm, in front of Ms. Horton’s studio, at 12380 Palm Drive. These well attended walks – with upwards of 50 attendees – help encourage City residents to get out of their cars and get moving. This group represents a wonderful opportunity for the City to gain input on pedestrian issues and opportunities in Desert Hot Springs. In fact, members of the Wednesday Walks group could be considered for inclusion in the Bicycle Pedestrian Advisory Committee (discussed below).

Monitoring and Evaluation

Create City Staff Bicycle Coordinator Position

The creation of an Active Transportation Coordinator position would demonstrate the City’s commitment to cycling, walking and creating more “complete streets.” A bicycle coordinator or program manager can help coordinate between City departments to ensure projects planning consistency and cooperation. An Active Transportation Coordinator would manage programs and implement projects listed in the bicycle master plan, and would be responsible for updating the plan in a timely manner. This includes maintaining a prioritized list of improvements, updating cost estimates and identifying appropriate funding sources. This investment in staff is often returned since this position usually is responsible for securing State and federal funding for bicycle projects.

Bicycle Pedestrian Advisory Committee

A Bicycle Pedestrian Advisory Committee (BPAC) assists the City with implementation of plan projects, policies and programs. The BPAC allows City staff, volunteers and advocates to continue efforts to improve cycling throughout the City. This group acts as a community liaison and addresses issues concerning local cycling and walking. The BPAC can review the implementation and regularly evaluate the progress of improvements in the Bicycle and Pedestrian Master Plan. City support is imperative for creating the committee, budgeting time and resources for City staff and elected officials to attend and to support these meetings. Some cities have developed bicycle and pedestrian or active transportation advisory committees.

Conduct Bicycle and Pedestrian Counts and Review Collision Data

Conduct regular cyclist and pedestrian counts throughout the city to determine baseline mode share and subsequent changes. Conducting counts would allow the City to collect information on where the most cycling and walking occur. This assists in prioritizing and justifying projects when funding is solicited and received. Counts can also be used to study cycling and walking trends throughout the City. Analysis that could be conducted includes:

- Changes in volumes before and after projects have been implemented
- Prioritization of local and regional projects
- Research on clean air change with increased bicycle use

Counts should be conducted at the same locations and at the same times every year. Conducting counts during different seasons within the year may be beneficial to understanding the differences in bicycle and pedestrian traffic volumes based on weather. In addition, bicycle and pedestrian counts should be collected as part of any existing traffic counts. Results should be regularly recorded for inclusion in the bicycle and pedestrian report card.

The Desert Hot Springs Police Department should collect and track collision data. Regular reports of traffic collisions should be presented at the Bicycle Pedestrian Advisory Committee. Traffic collisions involving cyclists and pedestrians should be reviewed and analyzed regularly to develop plans to reduce their frequency and severity. Any such plans should include Police Department involvement and should be monitored to determine their effectiveness. Results of the number of collisions should be recorded in the bicycle and pedestrian report card.

Develop a Bicycle Report Card

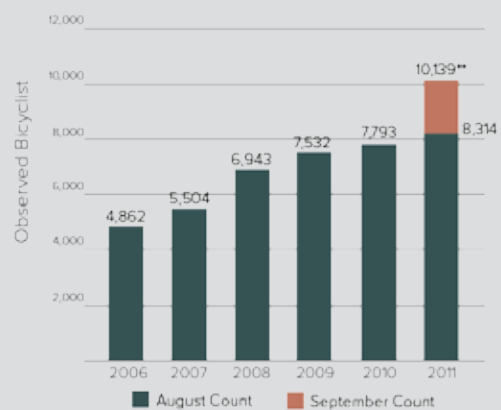
The City could develop a bicycle and pedestrian report card, a checklist used to measure the success of plan implementation, as well as effort made, within the City. The report card could be used to identify the magnitude of accomplishments in the previous year and general trends. The report card could include, but not be limited to, keeping track of system completion, travel by bicycle or on foot (counts) and safety.

The City can use the report card to track trends, placing more value on relative than absolute gains (in system completion, mode share and safety). For

Key Findings in San Francisco Bicycling for 2011

- Since 2006, counts have increased an impressive 71% and are up 7% since 2014.
- A sample of 10,139 riders (September) were manually counted in the peak 90 minutes; approximately 75,000 bike trips occur each day out of 2.2 million total trips across all modes
- SFMTA survey data in 2011 indicate that 3.5% of all trips in San Francisco are made by bicycle, a 75% increase in share mode since 2000 when bicycling was 2% of daily trips
- Late September has 18% more riders than early August
- 94% of riders use bicycle facilities as designated

Total Manual Counts



Since 2006, counts have increased an impressive 71% and are up 7% since 2014.

The count trend since 2006 during the 5:00 p.m. – 6:30 p.m. peak continues to rise.

*These counts represent a sample, not total, of daily ridership

**Approximately 18% of the 2011 increase (shown in red) is attributed to shifting the count from early August to late September

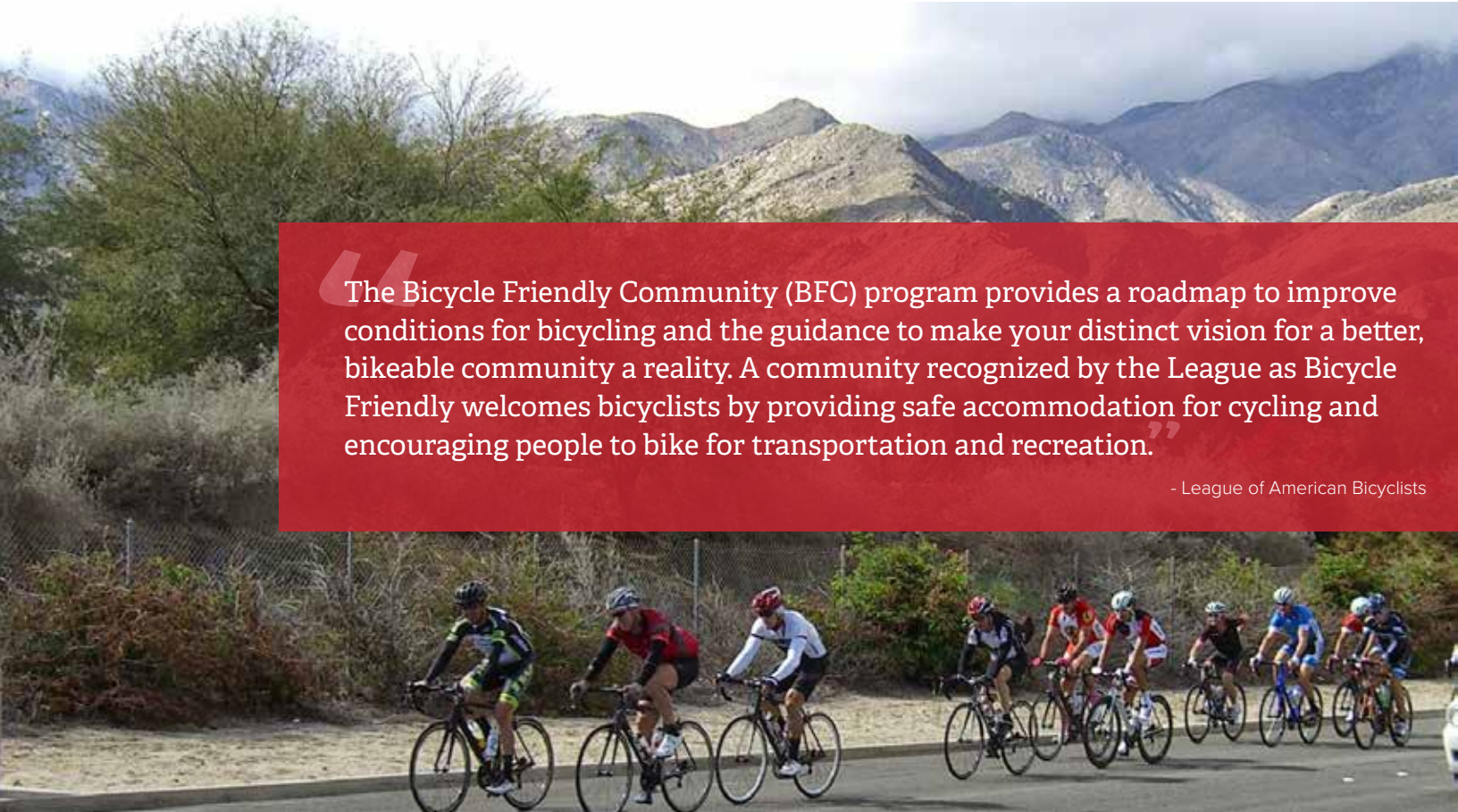
example, an upward trend in travel by bicycle or on foot would be viewed as a success, regardless of the specific increase in the number of cyclists or walkers. Safety should be considered relative to the increase in cyclists and walkers. Sometimes crash numbers go up simply because cycling and walking increases, at least initially. Instead, measure crashes as a percentage of an estimated overall mode share count.

A major portion of the report card would be an evaluation of system completion. An upward trend would indicate that the City is progressing in its efforts to complete the bicycle and pedestrian network identified in this document. The report card could be developed to utilize information collected as part of annual and on-going evaluations, as discussed in the previous sections. The report card is not intended to be an additional task for City staff, but rather a means of documenting and publicizing the City's efforts related to bicycle and pedestrian planning. If a Bicycle Pedestrian Advisory Committee is appointed, it can be a task of the committee to review the report cards and adjust future plans and goals accordingly.

In addition to quantifying accomplishments related to the bicycle plan, the City should strive to quantify its efforts. These may be quantified as money spent, staff hours devoted or other in-kind contributions. The quantified effort should be submitted as a component of the bicycle and pedestrian report card. Some cities publish their report cards online.

Apply for Bicycle Friendly Community/Neighborhood Designation

Bicycle Friendly Community/Neighborhood Designation is part of an official program offered by the League of American Bicyclists intended to provide communities with guidance on becoming more bicycle friendly and to offer recognition for their achievements. Like the report card described above, applying for Bicycle Friendly Community/Neighborhood Designation provides a standard by which the City of Desert Hot Springs can measure its progress.



“The Bicycle Friendly Community (BFC) program provides a roadmap to improve conditions for bicycling and the guidance to make your distinct vision for a better, bikeable community a reality. A community recognized by the League as Bicycle Friendly welcomes bicyclists by providing safe accommodation for cycling and encouraging people to bike for transportation and recreation.”

- League of American Bicyclists



CHAPTER 7

Implementation



Cost Estimates

Class 1 Multi-use Path Costs

Unlike Class 2 and 3 facilities, Class 1 paths are separate from roadways, meaning that planning level cost estimation requires an average per-mile cost to be applied based on local conditions. Actual cost for a particular facility should be determined as part of project implementation. Depending on a number of factors, Class 1 path costs in the last few years have ranged between \$750,000 and \$2,800,000 per mile. For this plan, an average per-mile cost of \$1,600,000 was used.

Class 2 Bicycle Lane Costs

Class 2 bicycle lane cost can fall within a range of potential conditions. At the low end, it assumes that adequate space exists within the roadway to simply add bicycle lane striping and markings without modifying the roadway further that the roadway is in good condition and does not require maintenance or rehabilitation as part of the striping project, and no modifications to intersection signal equipment are assumed.

The high end in terms of cost occurs where the curb-to-curb width is not sufficient to install bicycle lanes and the roadway would need to be widened by at least 10 feet to accommodate them. This could therefore include widened pavement sections, new curb, gutter and sidewalk, and street light relocation. Intersections may also need to be modified to move signal equipment and install new curb returns. Proposed bicycle lanes were assigned an average per-mile cost of \$58,080.

Class 3 Bicycle Route Costs

This category assumes signage and shared-use pavement markings (“Sharrows”) only along the length of the route at intervals of 0.25 miles in each direction and at intersections, and that the roadway does not require rehabilitation or pre-construction maintenance. Class 3 bicycle routes were assigned an average per-mile cost of \$13,200.

Cycle Tracks/Protected Bike Lane Costs

Cycle tracks can vary in costs due to the various segment and intersection treatments associated with them. Segment protection can range from raised curbs to simple treatments such as striping with on-street parking or reflective bollards. If curbs are built, stormwater utilities would also need to be considered.

At intersections, additional striping, and paint and in some cases, dedicated bicycle signals are needed. For planning costs, the assigned per-mile cost for cycle tracks use is \$520,000.

Bicycle Boulevard Costs

Bicycle boulevards are essentially Class 3 route facilities that may feature physical roadway modifications such as traffic calming measures or changes in intersection priority or access. Bicycle boulevard projects can therefore vary widely in cost, primarily due to the level of physical construction designed into them.

Because bicycle boulevards need to be evaluated in more detail to determine the extent of desired modification, this plan assumes that their costs are equivalent to those of typical Class 3 facilities employing signage and pavement markings only, to be revised as needed in final design prior to implementation.

Table 7-1: Project Cost Estimates

Rank	Project	Facility Type	Cost
1	Palm Dr	Buffered Bicycle Lane, Bicycle Route, Cycle Track	\$3,112,054
2	Verbena Ave	Multi-use Path, Bicycle Boulevard	\$353,011
3	Little Morongo Rd	Multi-use Path	\$5,637,575
4	Hacienda Ave	Cycle Track	\$1,797,942
5	15th Ave/ Camino Campanero	Bicycle Lane, Bicycle Boulevard	\$100,508
6	Mission Lakes Blvd	Cycle Track	\$1,039,316
7	Dillon Rd	Buffered Bicycle Lane	\$114,811
8	4th St	Bicycle Boulevard	\$13,411
9	Pierson Blvd	Buffered Bicycle Lane, Bicycle Route, Cycle Track	\$905,562
10	Santa Cruz Multi-use Path	Multi-use Path	\$1,876,344
11	Ironwood Dr	Bicycle Boulevard	\$16,601
12	Little Morongo Wash Multi-Use Path	Multi-use Path	\$2,908,107
13	Two Bunch Palms Trl	Cycle Track, Bicycle Boulevard	\$1,338,154
14	Ocotillo Rd	Bicycle Boulevard	\$20,647
15	Mesquite Ave	Bicycle Boulevard	\$22,395
16	West Dr	Buffered Bicycle Lane, Bicycle Lane, Bicycle Boulevard	\$123,455
17	Park Ln	Bicycle Boulevard	\$6,564
18	Verbena/Foxdale Multi-use Path	Multi-use Path	\$1,939,842
19	8th St	Bicycle Boulevard	\$17,344
20	Mountain View Rd	Buffered Bicycle Lane	\$73,108
21	12th St-20th St/ Mesquite Ave/ Yucca Dr	Bicycle Boulevard	\$13,646
22	Miracle Hill Rd	Buffered Bicycle Lane, Bicycle Boulevard	\$20,884
23	Cholla Dr	Bicycle Boulevard	\$19,966
24	Flora Ave	Multi-use Path, Bicycle Boulevard	\$86,611
25	Worsley Rd	Buffered Bicycle Lane	\$128,356
26	Desert View Ave	Bicycle Boulevard	\$29,903
27	Mission Springs Multi-use Path	Multi-use Path	\$567,859
28	Cactus Dr	Bicycle Boulevard	\$23,234

Potential Funding Sources

Federal, State and local government agencies invest billions of dollars every year in the nation's transportation system. Only a fraction of that funding is used in development projects, policy development and planning to improve conditions for cyclists. Even though appropriate funds are limited, they are available, but desirable projects sometimes go unfunded because communities may be unaware of a fund's existence, or may apply for the wrong type of grants. Also, the competition between municipalities for the available bikeway funding is often fierce.

Whenever federal funds are used for bicycle projects, a certain level of State and/or local matching funding is generally required. State funds are often available to local governments on the similar terms. Almost every implemented bicycle program and facility in the United States has had more than one funding source and it often takes a good deal of coordination to pull the various sources together.

According to the publication by the Federal Highway Administration (FHWA), *An Analysis of Current Funding Mechanisms for Bicycle and Pedestrian Programs at the Federal, State and Local Levels*, where successful local bicycle facility programs exist, there is usually a full time bicycle coordinator with extensive understanding of funding sources. Cities such as Seattle, Washington, Portland, Oregon and Tucson are prime examples. Bicycle coordinators are often in a position to develop a competitive project and detailed proposal that can be used to improve conditions for cyclists within their jurisdictions. Some of the following information on Federal and State funding sources was derived from the previously mentioned FHWA publication.



Federal Sources

In late 2015, Congress passed a five year, \$305 billion transportation bill, called the Fixing America's Surface Transportation (FAST) Act, which President Obama signed into law. It will replace MAP-21 as the latest Transportation Bill. It is the first law enacted in over 10 years that provides longterm funding certainty for surface transportation, meaning States and local governments can move forward with critical transportation projects. Notably, the bill requires all design for National Highway System roadways to take into account access for all modes of transportation. It also makes NACTO's Urban Design Guide one of the U.S. Department of Transportation's roadway design standards, as well as permits local governments to use their own adopted design guides if they are the lead project sponsor, even if it differs from their state guidelines.

There remains some uncertainties regarding the details and interpretations of these changes. The Federal levels of funding and scope have been set, yet it remains to be defined how the State and local programs will individually implement these funding mechanisms. Also, the latest reauthorization period is nearing its end, setting the stage for the next chapter of reauthorization.

Safe Routes to School Programs

There are two separate Safe Routes to School Programs administered by Caltrans. There is the State-legislated program referred to as SR2S and there is the Federal Program referred to as SRTS. Both programs are intended to achieve the same basic goal of increasing the number of children walking and cycling to school by making it safer for them to do so. The differences between the two programs are as follows:

Legislative Authority

SR2S - Streets & Highways Code Section 2330-2334

SRTS - Section 1404 in SAFETEA-LU

Expires

SR2S - AB-57 extended program indefinitely

SRTS - Pending SAFETEA-LU reauthorization

Eligible Projects

SR2S - Infrastructure projects

SRTS - Stand-alone infrastructure or non-infrastructure projects

Eligible Applicants

SR2S - Cities and counties

SRTS - State, local, and regional agencies experienced in meeting federal transportation requirements; Non-profit organizations, school districts, public health departments, and Native American Tribes must partner with a city, county, MPO, or RTPA to serve as the responsible agency for their project

Local Match

SR2S - 10 percent minimum required

SRTS - None

Project Completion Deadline

SR2S - Within 4 ½ years after project funds are allocated to the agency

SRTS - Within 4 ½ years after project is amended into FTIP

Restriction on Infrastructure Projects

SR2S - Must be located in the vicinity of a school

SRTS - Infrastructure projects must be within 2 miles of a grade school or middle school

Targeted Beneficiaries

SR2S - Children in grades K-12

SRTS - Children in grades K-8

Funding

SR2S - \$24.25M annual funding

SRTS - \$23M annual funding

The Safe Routes to School Program funds nonmotorized facilities in conjunction with improving access to schools through the Caltrans Safe Routes to School Coordinator. For more information visit the following link: <http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm>.

Rivers, Trails, and Conservation Assistance Program (RTCA)

The Rivers, Trails and Conservation Assistance Program is the community assistance arm of the National Park Service. RTCA provides technical assistance to communities in order to preserve open space and develop trails. The assistance that RTCA provides is not for infrastructure, but rather building plans, engaging public participation and identifying other sources of funding for conversation and outdoor recreation projects.

Other Bicycle Infrastructure Funding Options

Additionally, states received a one-time appropriation of \$53.6 billion in state fiscal stabilization funding under the American Recovery and Reinvestment Act (ARRA) in 2009. States must use 18.2 percent of their funding – or \$9.7 billion – for public safety and government services. An eligible activity under this section is to provide funding to K-12 schools and institutions of higher education to make repairs, modernize and make renovations to meet green building standards. The Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the U.S. Green Building Council (USGBC), addresses green standards for schools that include bicycle and pedestrian facilities and access to schools.

Another \$5 billion is provided for the Energy Efficiency and Block Grant Program. This provides formula funding to cities, counties and states to undertake a range of energy efficiency activities. One eligible use of funding is for bicycle and pedestrian infrastructure.

State Sources

State Highway Account

Section 157.4 of the Streets and Highways Code requires Caltrans to set aside \$360,000 for the construction of non-motorized facilities that will be used in conjunction with the State highway system. The Office of Bicycle Facilities also administers the State Highway Account fund. Funding is divided into different project categories. Minor B projects (less than \$42,000) are funded by a lump sum allocation by the CTC and are used at the discretion of each Caltrans District office. Minor A projects (estimated to cost between \$42,000 and \$300,000) must be approved by the CTC. Major projects (more than \$300,000) must be included in the State Transportation Improvement Program and approved by the CTC. Funded projects have included fencing and bicycle warning signs related to rail corridors.

Caltrans Active Transportation Program (ATP)

The Active Transportation Program was created by Senate Bill 99 (Chapter 359, Statutes 2013) and Assembly Bill 101 (Chapter 354, Statutes 2013) to encourage increased use of active modes of transportation, such as biking and walking. The ATP consolidates existing Federal and State transportation programs, including the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and State Safe Routes to School (SR2S), into a single program with a focus to make California a national leader in active transportation. The ATP is administered by the Division of Local Assistance, Office of Active Transportation and Special Programs. This is a competitive program to:

- Increase biking and walking trips
- Increase safety
- Increase mobility
- Support regional agency GHG reduction
- Enhance public health
- Benefit disadvantaged communities (25 percent)
- Include a broad spectrum of projects
- Streets and Highways Code Bicycle Transportation Account (BTA)

The Bicycle Transportation Account (BTA) funds non-motorized facilities and access to cities and counties that have adopted bikeway master plans. Section 2106 (b) of the Streets and Highways Code transfers funds annually to the BTA from the revenue derived from the excise tax on motor vehicle fuel. The Caltrans Office of Bicycle Facilities administers the BTA. For a project to be funded from the BTA, the project shall:

1. Be approximately parallel to a State, county, or city roadways, where the separation of bicycle traffic from motor vehicle traffic will increase the traffic capacity of the roadway; and
2. Serve the functional needs of commuting cyclists; and
3. Include but not be limited to:
 - New bikeways serving major transportation corridors;
 - New bikeways removing travel barriers to potential bicycle commuters;
 - Secure bicycle parking at employment centers, park and ride lots and transit terminals;
 - Bicycle carrying facilities on public transit vehicles;
 - Installation of traffic control devices to improve the safety and efficiency of bicycle travel;
 - Elimination of hazardous conditions on existing bikeways serving a utility purpose;
 - Project planning
 - Preliminary and construction engineering

Maintenance is specifically excluded from funding and allocation takes into consideration the relative cost effectiveness of the proposed project.

Transportation Development Act Article 3 (Senate Bill 821)

TDA funds are based on a ¼ percent State sales tax, with revenues made available primarily for transit operating and capital purposes. By law, the Riverside County Auditor's office estimates the apportionment for the upcoming fiscal year.

TDA Article 3 funds may be used for the following activities related to the planning and construction of bicycle and pedestrian facilities:

- Engineering expenses leading to construction
- Right-of-way acquisition
- Construction and reconstruction
- Retrofitting existing bicycle facilities to comply with ADA requirements
- Route improvements, such as signal controls for cyclists, bicycle loop detectors and rubberized rail crossings
- Purchase and installation of bicycle facilities such as improved intersections, bicycle parking, benches, drinking fountains, rest rooms, showers adjacent to bicycle paths, employment centers, park-and-ride lots, and/or transit terminals accessible to the general public

Local Sources

Developer Impact Fees

As a condition for development approval, municipalities can require developers to provide certain infrastructure improvements, which can include bikeway projects. These projects have commonly provided Class 2 facilities for portions of on-street, previously planned routes. They can also be used to provide bicycle parking or shower and locker facilities. The type of facility that should be required to be built by developers should reflect the greatest need for the particular project and its local area. Legal challenges to these types of fees have resulted in the requirement to illustrate a clear nexus between the particular project and the mandated improvement and cost.

New Construction

Future road widening and construction projects are one means of providing on-street bicycle facilities. To ensure that roadway construction projects provide bicycle lanes where needed, it is important that the review process includes input pertaining to consistency with the proposed system. Future development in the City will contribute only if the projects are conditioned.

Other Sources

Local sales taxes and fees may be implemented as new funding sources for bicycle projects. However, either of these potential sources would require a local election. Volunteer programs may be developed to substantially reduce the cost of implementing some routes, particularly multi-use paths. For example, a local college design class may use such a multi-use route as a student project, working with a local landscape architectural or engineering firm. Work parties could be formed to help clear the right of way for the route. A local construction company may donate or discount services beyond what the volunteers can do. A challenge grant program with local businesses may be a good source of local funding, in which the businesses can “adopt” a route or segment of one to help construct and maintain it.

Private Sources

Private funding sources can be acquired by applying through the advocacy groups such as the League of American Bicyclists and the Bikes Belong Coalition. Most of the private funding comes from foundations wanting to enhance and improve bicycle facilities and advocacy. Grant applications will typically be through the advocacy groups as they leverage funding from Federal, State and private sources.

Tables 7.1 to 7.4 on the following pages summarize many of the numerous funding sources available.



Table 7-2: Federal Funding Sources

Grant Source	Annual Total	Agency	Funding Cycle	Match	Remarks
Land and Water Conservation Act of 1965 (LWCF)	\$450 million federal; \$3.6 million CA (2012)	National Parks Service/California Department of Parks and Recreation	Dec-Jan	50% + 2-6% admin. surcharge	Funding subject to north/south split (60% for Southern California). Fund provides matching grants to state and local governments for land acquisition and development for outdoor recreation use. Individual project awards are not available.
Surface Transportation Program (STP)	\$10 billion Federal; \$888 million CA (pre-set-aside, pre-penalty)	FHWA/Caltrans	June 1	20%	STP funds wide variety of bicycle and pedestrian improvements, including on-street bicycle facilities, off-street trails, sidewalks, crosswalks, bicycle and pedestrian signals, parking and other ancillary facilities. May be exchanged for local funds for non-federally certified local agencies. No match required if project improves safety.
Transportation Alternatives Program (TAP) Includes Trails and SRTS Programs	\$820 million Federal; \$72.5 million CA	FHWA/SANDAG	Annual	20%	Funds construction, planning and design of facilities for pedestrians, bicyclists and other non-motorized forms of transportation.
Recreational Trails Program	\$5.75 million guaranteed (set aside from TAP)	FHWA, Regional agency may also contribute	Annual	Federal & Regional must not exceed 95%	Percentage of TAP funding allocated to Recreational Trails Program at discretion of State.
National Highway Performance Program	\$1.9 billion (pre-set-aside, pre-penalty)	FHWA/Caltrans	Not available	Federal 80%-100%; State 0%-20%	Program provides funding for construction and maintenance projects located on newly expanded National Highway System (NHS), including those related to bicycle and pedestrian infrastructure. Certain safety projects may have a federal cost share of up to 100%.

Table 7-2: Federal Funding Sources (Cont.)

Grant Source	Annual Total	Agency	Funding Cycle	Match	Remarks
Highway Safety Improvement Program (HSIP)	\$2.4 billion Federal; \$197 million CA (pre-set-aside, pre-penalty)	FHWA/Caltrans		Federal 90%; State 10%	Projects must address safety issues and may include education and enforcement programs. Program includes Railroad-Highway Crossings and High Risk Rural Roads programs. Bicycle projects must provide high degree of safety.
Congestion Mitigation and Air Quality (CMAQ)	\$464 million CA (pre-set-aside, pre-penalty)	FHWA/Caltrans	April	20%	Amount of CMAQ funds depends on state's population share and on degree of air pollution
Safe Routes to School Program (SRTS)	\$21 million (2012 Funding; see remarks section for more information)	Federal Highway Administration (FHWA) Caltrans and then MPO (SANDAG)		80% Federal; 20% State	Caltrans proposed funding SRTS from a \$21 million set aside in STP, approved by CTC as one year policy. Future funding for SRTS will be determined through the MAP-21 implementation process.
Rivers, Trails and Conservation Assistance Program (RTCA)		National Park Service	August		Expenditures include bikeway plans, corridor studies and trails assistance
Energy Efficiency and Block Grant Program	\$3 million	Department of Energy			Provided formula funding for cities, counties and states to take part in energy efficient activities
Community Development Block Grants (CDBG)	\$3 million	HUD & CA Dept of Housing & Com. Dev.	Ongoing	10%	Funds improve land use and transportation infrastructure in low-income neighborhoods or citywide for accessibility improvements.
Federal Lands Highway Program	\$611 million 2008-10	FLH/FHWA	Ongoing	Varies	May be used to build bicycle and pedestrian facilities in conjunction with roads and parkways at discretion of grantee.
Land and Water Conservation Fund (LWCF)	\$30 million in 2010	NPS/California Department of Parks and Recreation	Annual	50%	LWCF grants may be used for statewide outdoor recreational planning and for acquiring and developing recreational parks and facilities, especially in urban areas.

Table 7-2: Federal Funding Sources (Cont.)

Grant Source	Annual Total	Agency	Funding Cycle	Match	Remarks
Pilot Transit-Oriented Development Planning Program	\$10 million	Federal Transit Administration	Not Available	Not available	Provides funding to advance planning efforts that seek to increase access to transit hubs for pedestrian and bicycle traffic.
Partnership for Sustainable Communities	\$409 million in grants and/or assistance in 2010	HUD/DOT/EPA	Ongoing	Not available	Funding for preparing or implementing regional plans for sustainable development.
Community Transformation Grants (CTG)	\$35 million in 2012	Regional health and planning agencies	Not Available	N/A	Funds to implement broad, sustainable strategies to reduce health disparities and expand preventive health care services.
Associated Transit Improvements	1% of the Urbanized Area Formula Grant; for FY2014 that would be 1% of 4.5 Billion (~ \$45 million)	Federal Transit Administration/MPO	Not Available	80% Federal Assistance (Capital); 50% Federal Assistance (Operational)	Recipients of Section 5307 (Urbanized Area Formula Grants) must certify they are spending no less than 1 percent of their federal transit funds on associated transit improvements (formerly transit enhancements). Typical projects have included bicycle lockers and parking near transit stations and stops.
Community Transformation Grants (CTG)	\$35 million in 2012	Regional health and planning agencies	Not Available	N/A	Funds to implement broad, sustainable strategies to reduce health disparities and expand preventive health care services.

Table 7-2: Federal Funding Sources (Cont.)

Grant Source	Annual Total	Agency	Funding Cycle	Match	Remarks
Transportation Investment Generating Economic Recovery Program (TIGER)	\$474 million Federal;\$31 Million CA (2013)	US DOT	October	80% Federal; 20% State	Can be used for innovative, multi-modal and multi-jurisdictional transportation projects (including bicycle and pedestrian projects) that promise significant economic and environmental benefits to an entire metropolitan area, region or the nation. Minimum project cost is \$10 million.
Bus and Bus Facilities Program: State of Good Repair	\$2.17 billion Federal (2014)	Federal Transit Administration	March	80% Federal; 20% State	Can be used for projects to provide bicycle access to public transportation facilities. More specifically, funds are used for shelters for people, bicycle parking amenities and accommodating bicycles on transit.
Bus Livability Initiative	\$125 million (2012)	Federal Transit Administration	March	90% Federal; 10% State	Can be used for bicycle and pedestrian support facilities, such as bicycle parking, bicycle racks on buses, pedestrian amenities and educational materials.
Federal Lands Transportation Program, Category 3, "Alternative Transportation" (see remarks)	Pacific West Region was awarded \$3.38 million (2013)	FHWA	Varies, generally October; programmed through 2017	None	Funds transportation modes that reduce congestion and pollution in parks and public lands. Formerly the Paul S. Sarbanes Transit in Parks Grant Program (repealed upon enactment of MAP-21).
Local Highway Bridge Program	\$300 million	FHWA/Caltrans	Ongoing	88.53% Fed. Match for Local Highways; 100% for Fed. Highways	Funds to replace or rehabilitate public highway bridges over waterways, other topographical barriers, other highways, or railroads.
Section 5310	\$20-\$35 annually	Federal Transit Administration	Annually	11.47%	Funds that provide transportation services to meet needs of seniors and persons with disabilities for whom public transportation services are otherwise unavailable, insufficient or inappropriate.
Recreational Trails Program (RTP)	\$65 million (2013)	FHWA	Annually	Varies	Provides funds to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses.

Table 7-3: State Funding Sources

Grant Source	Annual Total	Agency	Funding Cycle	Match	Remarks
State Highway Account (SHA): Bicycle Transportation Account (BTA)	Varies	Caltrans	March application deadline. Consult Local Assistance Office	10%	Must have an adopted Bicycle Transportation Plan. Funding available for all phases of projects.
Active Transportation Program	\$124 million/year	Caltrans	Two-year cycle	12%	Consolidates BTA, Transportation Alternatives and Safe Routes to School funding. 60% awarded by State, 40% by MPOs.
Transportation Development Act (TDA) Section 99234	\$149 in 2014	Local MPO or CTC	Annually	None	2% of TDA total, funds for bicycle and pedestrian projects.
Regional Improvement Program (STIP)	\$3.4 billion over 5-years	Caltrans	Every two years		Capital improvement projects (planning and rideshare activities).
AB-2766 Vehicle Registration Funds	\$30 million in 2010	SCAQ	February	None	Competitive program for projects that benefit air quality.
Vehicle Registration Surcharge Fee (AB-434) RCF		APCB	July	None	Competitive program for projects that benefit air quality.
Vehicle Registration Surcharge Fee (AB-434) PMF	40% from grant source	APCB	April	None	Funds distributed to county communities based on population.
Developer Fees or Exactions	Project-specific	Cities	Ongoing	None	Mitigation required during land use approval process.
State Gas Tax (local share)		Allocated by State Auditor-Controller	Monthly allocation	None	Major Projects, >\$300,000.
State and Local Transportation Partnership Program (SLPP)	Est. \$200 million/yr. state-wide	Caltrans	Summer	50%	Road projects with bicycle lanes are eligible, requires developer or traffic fee match.

Table 7-3: State Funding Sources (Cont.)

Grant Source	Annual Total	Agency	Funding Cycle	Match	Remarks
Caltrans Minor Capital Program	Varies	Caltrans	Ongoing after July 1	None	Projects must be on state highways; such as upgraded bicycle facilities.
Environmental Enhancement and Mitigation Program (EEM)	\$10 million/yr. state-wide	State Resources Agency	October annually	None required, but favored	Individual grants limited to \$350K.
Petroleum Violation Escrow Account (PVEA)	Varies	Caltrans, CA Community Services and Development, Air Resources Board	March	None	Projects must save energy, provide public restitution and be approved by CA Energy Commission and US DOE.
Community Based Transportation Planning Demonstration Grant Program	\$3 million annually	Caltrans	November	20%	Projects must have a transportation component or objective.
Habitat Conservation Fund Grant Program (HCF)	\$2 million	CA Dept of Park and Recreation	October	50%	Available until July 1, 2020.
Office of Traffic Safety Program (OTS)	Varies	Office of Traffic Safety	January	None	Goal to reduce vehicle fatalities and injuries through safety program to include education, enforcement and engineering.
Safe Routes to School Program (SR2S)	\$24 million in 2009*	Caltrans	April	10%	Eligible for projects in vicinity of a school and grades K-12.
State Transportation Improvement Program (STIP)	Varies	Caltrans	Every 4 years	None	Gives metropolitan regions more control over state transportation fund investment.
California Conservation Corps (CCC)		California Conservation Corps			CCC provides emergency assistance and public service conservation work.

Table 7-3: State Funding Sources (Cont.)

Grant Source	Annual Total	Agency	Funding Cycle	Match	Remarks
Environmental Justice (EJ) Planning Grants	\$9 million in 2010	Caltrans	Annually	10%	Engage low-income and minority communities in transportation projects to ensure equity and positive social, economic and environmental impacts.
California River Parkways	Varies	CA Natural Resources Agency	October	None	Create or expand trails for walking, bicycling and/or equestrian activities compatible with other conservation objectives.
Safe Routes to School (AB-1475)	\$21-25 million annual	Caltrans	June	10%	Increase the number of children who walk or bicycle to school through funding of programs that remove barriers from doing so
"Land and Water Conservation Fund"	"\$2.3 million in CA in 2009"	"NPS, CA Department of Parks and Recreation"	March	"50% + 2-6% administration surcharge"	Provides funding for the development of river-adjacent bicycle facilities.
"Environmental Enhancement and Mitigation Program"	\$10 million	"California Natural Resources Agency"	October	None	"Support projects that offset environmental impacts of modified or new public transportation facilities. "
"Tire-Derived Product Grant Program"	Varies	"CA Department of Resources Recycling and Recovery (CalRecycle)"	Varies	Not applicable	"Funds to purchase materials for bicycle and pedestrian projects, including sidewalks/pathways, accessibility ramps, and traffic safety products"

Table 7-4: Local Funding Sources

Grant Source	Annual Total	Agency	Funding Cycle	Match	Remarks
Parking Meter Districts		City	Annual Budget	N/A	Parking Meter Districts can use parking meter revenues for streetscape improvements such as pedestrian facilities, landscaping and lighting.
Transient Occupancy Tax (TOT)		City	Annual Budget	None	Created to cover expenses and improvements related to tourism and to encourage more tourists to visit. Fund may be appropriate in areas of heavy tourism such as along waterfronts, major parks and historic neighborhoods.
SB-821	Varies	Riverside County Transportation Commission (RCTC)	Annually	Up to 25%	Eligible projects include sidewalks, bicycle paths, lanes and routes, and access ramps or curb cuts.
SCAG Sustainability Program	Varies	SCAG	Annually	None	Direct funding of innovative planning initiatives for member agencies through Compass Blueprint Demonstration Projects.
SCAG Active Transportation	Varies	SCAG	Annually	11.47%	New division intended to assist bicycle and pedestrian planning efforts. Program will focus on voluntary efforts to meet local needs and contribute to implementing SCS, reducing greenhouse gas (GHG) emissions.

Table 7-5: Private Funding Sources

Grant Source	Annual Total	Agency	Funding Cycle	Match	Remarks
Surdna Foundation	Project-specific	Surdna Foundation	Ongoing		Surdna Foundation makes grants to nonprofit organizations in areas of environment, community revitalization, effective citizenry, arts, and the nonprofit sector.
Bikes Belong	\$180,000 annually	Bikes Belong Coalition	Three times a year	50%	Community grants focus on funding facilities and programs. www.bikesbelong.org
Kaiser Permanente Community Health Initiatives	\$54 million annually	Kaiser Permanente	Ongoing	None	Numerous programs to support Healthy Initiatives.
Health Foundations		Various foundations	Ongoing		Focus active transportation improvements for an obesity prevention strategy. Examples include California Wellness Foundation, Kaiser and California Endowment.
Rails to Trails Conservancy		Rails to Trails Conservancy			Provides technical assistance for converting abandoned rail corridors to use as multi-use trails.
Donations nature of project		Depends on nature of project	Ongoing		Corporate or individual donations, sponsorships, merchandising or special events.
In-kind Services nature of project		Depends on nature of project	Ongoing		Donated labor and materials for facility construction or maintenance such as tree planting programs or trail construction and maintenance.
People for Bikes Community Grant Program	Up to \$10,000	People for Bikes	Twice a year	None	Focuses most grant funds on bicycle infrastructure projects such as bicycle paths, lanes, trails and bridges, mountain bike facilities, bike parks and pump tracks, BMX facilities, end-of-trip facilities such as bicycle racks, parking and storage.