central santa ana complete streets plan

FINAL REPORT
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Acknowledgments

City of Santa Ana
Cory Wilkerson, Project Manager
Melanie McCann
Zed Kekula

KTUA
Mike Singleton, Principal
Joe Punsalan, Project Manager
Diana Smith
Jacob Leon
Juan Alberto Bonilla
Kristin Killackey

KOA Corporation
Roger Pelayo
Frank Barrera

Katherine Padilla & Associates (KPA)
Sam Genneway
Thelma Herrera

Latino Health Access (LHA)
Rosario Galeas
Nancy Mejia
Daniel Cortes

Santa Ana Active Streets (SAAS)
Lynnete Guzman
Kris Fortin

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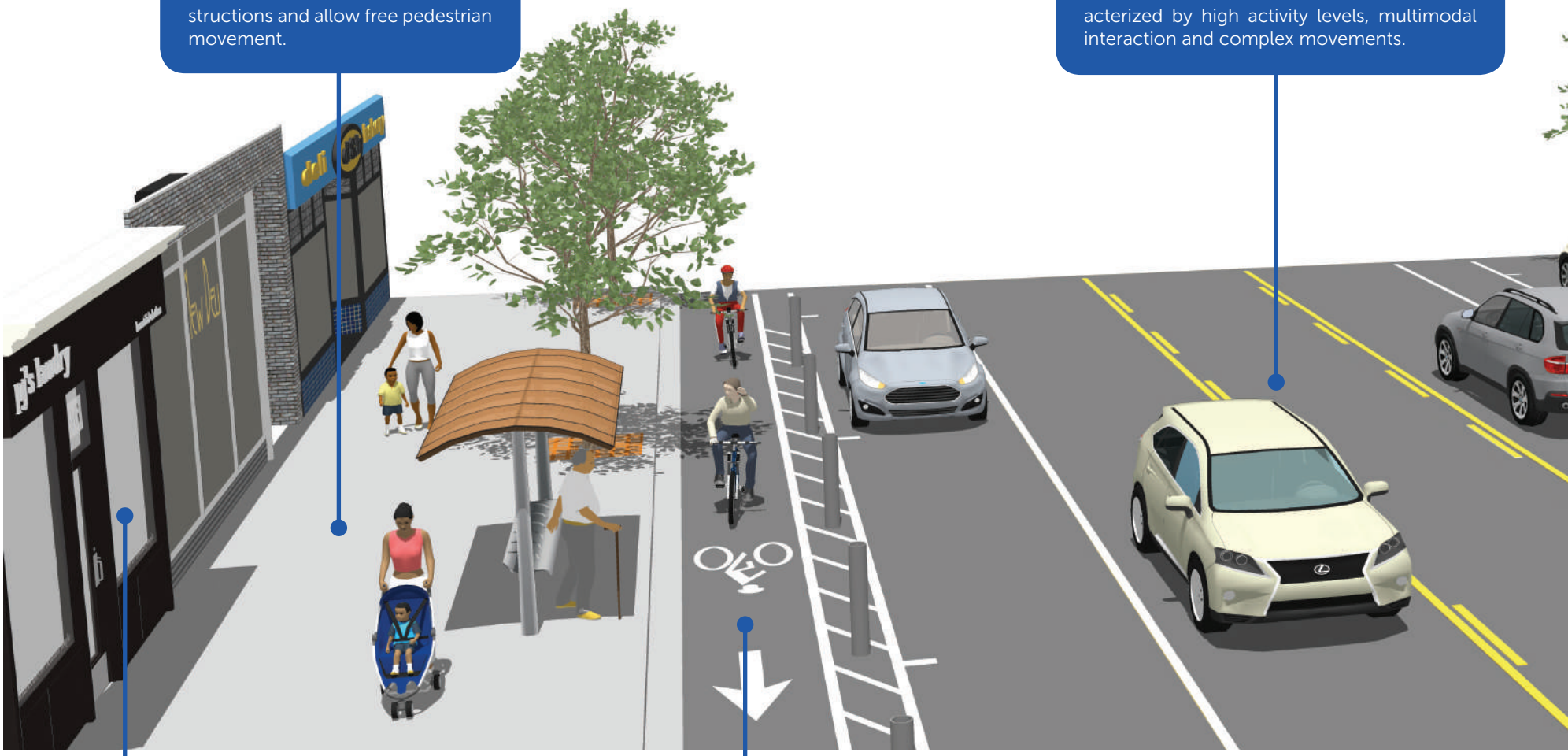
01

Introduction

What Are Complete Streets?

Pedestrian Zone
Area of the sidewalk corridor that is specifically reserved for pedestrian travel. Must be free from obstructions and allow free pedestrian movement.

Travel Zone
Public right of way between curbs that includes parking lanes, travel lanes, bicycle facilities and transit. Intersections are characterized by high activity levels, multimodal interaction and complex movements.



Building Fronts
Building fronts along Complete Streets are encouraged to be pedestrian and bicyclist friendly. Outdoor cafe seating, sidewalk sales, merchandise displays and bicycle racks attract people.

Bicycle Facilities
The bicycle facilities within travel zones can vary from protected bikeways to shared bikeways. Many factors determine the right facility for the travel way such as adjacent land use, speed, vehicule traffic volumes and available right of way.

Furnishing Zone
The area between the curb and the Pedestrian Zone. This zone is where items such as street trees, street lights, signage, hydrants, benches, bicycle racks, public art, trash, recycling receptacles, parking meters, transit stops, signals and lighting are located.

Greenscape
Greenscape areas can provide numerous environmental benefits by reducing sewer overflow and absorbing stowmwater. These areas may include stormwater catchment, bioswales, tree box filters, and permeable paving.

Placemaking
Parklets can help redistribute space at intersections and enliven the public realm. They can be designed as permanent or modular for street sweeping and maintenance.

What are Complete Streets?

Complete Streets are roadways that are designed for everyone. They enable safe, comfortable and attractive access for users of all ages and abilities. Complete Streets make it easy to walk to:

- Walk to schools, shops and restaurants or work;
- Bicycle to work or nearby community destinations;
- Bicycle or walk to recreation and health; and
- Access transit stations by bicycling or walking

Not only do Complete Streets create safer and more attractive spaces, they naturally improve social interaction and the community's economic and environmental health

Conventional Bicycle Facility Types

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

Class 1: Multi-Use Paths

Class 1 multi-use paths (frequently referred to as "bicycle paths") are physically separated from motor vehicle routes, with exclusive rights-of-way for non-motorized users like bicyclists and pedestrians.

Class 2: Bicycle Lanes

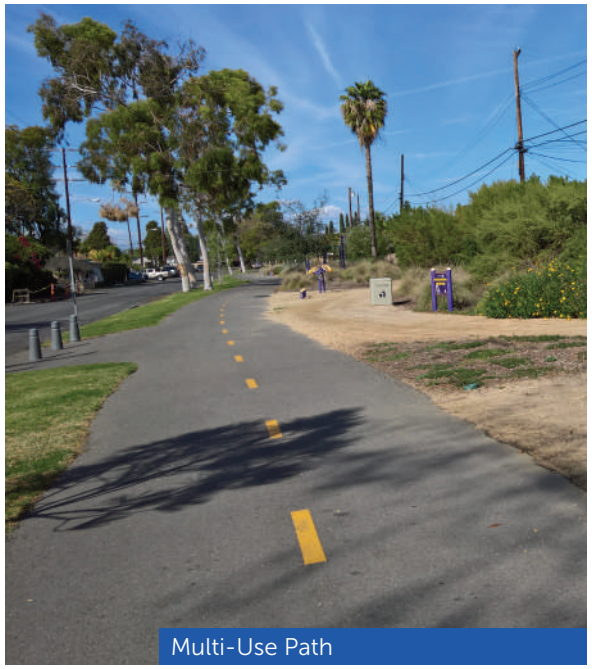
Bicycle lanes are one-way facilities that carry bicycle traffic in the same direction as the adjacent motor vehicle traffic. They are typically located along the right side of the street, between the adjacent travel lane and curb, road edge or parking lane.

Class 3: Bicycle Routes

A bicycle route is a suggested bicycle route marked by signs designating a preferred route between destinations. They are recommended where traffic volumes and roadway speeds are fairly low (35 mph or less).

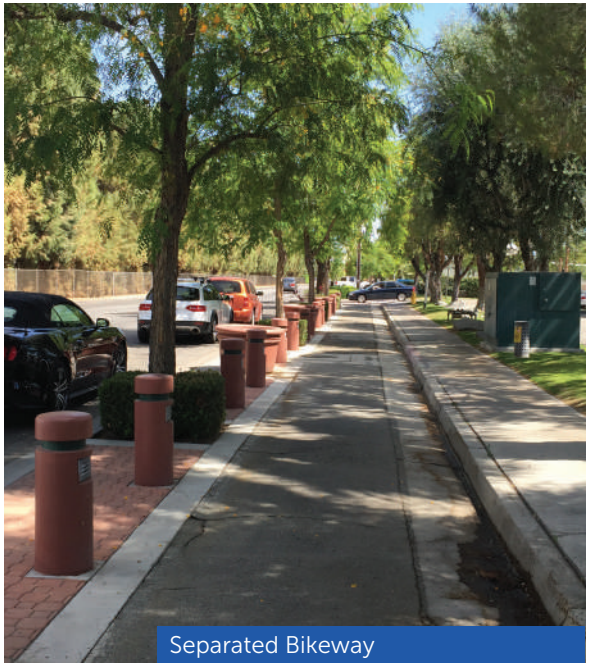
Class 4: Separated Bikeways

A protected bikeway is an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. They can be either one-way or two-way depending on the street network, available right-of-way and adjacent land use. A separated bikeway is physically separated from motor traffic and distinct from the sidewalk. There are a variety of physical protection measures that range from reflective bollards to parked vehicles.

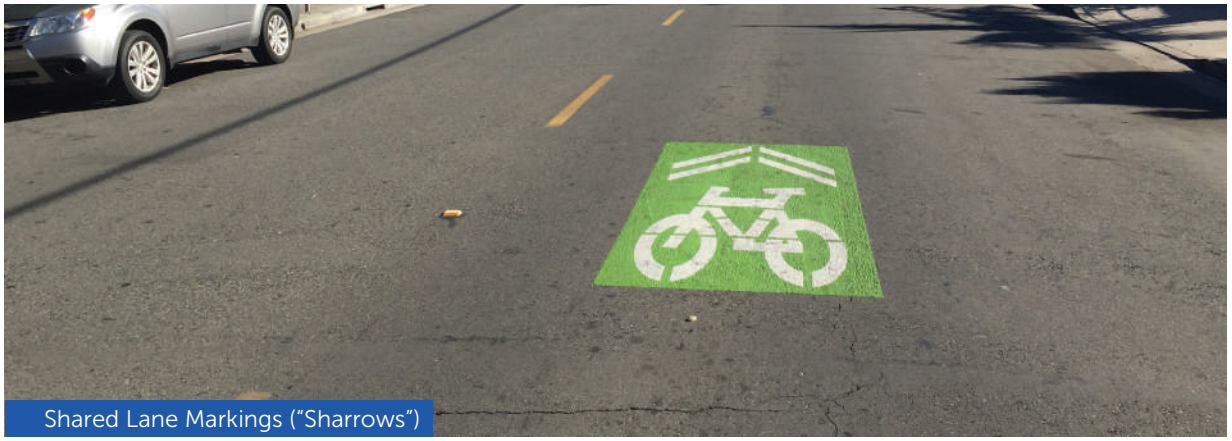

Multi-Use Path

Bicycle Lane

Bicycle Route


Separated Bikeway

Buffered Bicycle Lanes


Shared Lane Markings ("Sharrows")


Bike Boxes

Enhanced Bicycle Facility Types

While the conventional bicycle facility types can be found throughout the country, there has been a shift towards enhancing these facilities. The CA MUTCD has approved the installation of buffered bicycle lanes, while Shared Lane Markings or "Sharrows" have been around since 2008.

These enhancements are low cost, easy to install, and provide additional awareness to the location of cyclists. In many instances, installation of these bicycle facility enhancements can be coordinated with street resurfacing projects. The use of green paint has also become a simple and effective way to communicate the presence of bicyclists.

Buffered Bicycle Lanes

Buffered bicycle lanes are additional space between the bicycle lane and traffic lane, parking lane or both provide a more protected and comfortable space for cyclists than a conventional bicycle lane.

Shared Lane Markings ("Sharrows")

The shared lane marking is commonly used where parking is allowed adjacent to the travel lane. It is now common practice to center them within the typical vehicular travel route in the rightmost travel lane to ensure adequate separation between cyclists and parked vehicles.

Bike Boxes

A bike box is a designated area at the head of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase.

Low Stress Bicycle Facility Types

There are a number of other non-conventional facilities that the City may find useful in specific situations. In many cases, the conventional bicycle facilities may not meet the safety perceptions of the bicycling community. Protected bicycle lanes, low-stress streets, bicycle prioritized routes are an ever-evolving, ever-improving state of practice.

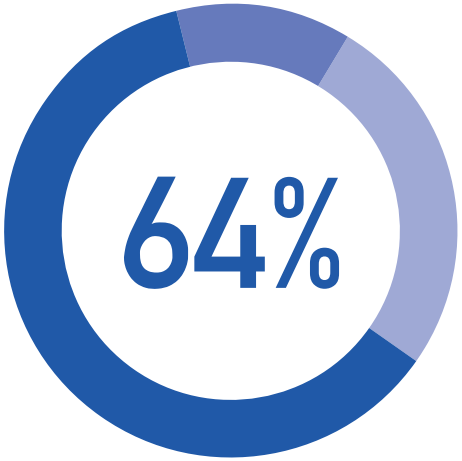
The facilities in this section have been implemented in other countries with great success and are quickly being implemented in the US. Bicycle boulevards can be found throughout California since they are proven to improve bicycling safety and increase bicycle mode share.

Details of these facilities and other treatments can be found in the NACTO Urban Bikeway Design Guide or AASHTO Guide of the Development of Bicycle Facilities.

Bicycle Boulevards

Bicycle boulevards provide a convenient, low-stress cycling environment for people of all ages and abilities. They are installed on streets with low vehicular volumes and speeds and often parallel higher volume, higher speed arterials as an alternative. Bicycle boulevard treatments use a combination of signs, pavement markings, traffic calming measures that discourage through trips by motor vehicles and create safe, convenient bicycle crossings of busy arterial streets.

Bicycle Boulevard



"Of people who would like to bike more say that protected bike lanes would make a difference to their transportation choices."

***PeopleForBikes Program, 2015**

Signage and Wayfinding

The purpose to signage and wayfinding on bicycle boulevards is to identify routes to both bicyclists and motorists, provide destination information, branding and inform about changes in road conditions and users of the street.

Colored Bike Facilities

Colored pavement increase the visibility of bicycle facilities, identifying potential areas of conflict, and reinforcing priority to bicyclists in these areas. Colored pavement can be used as a corridor treatment, along the length of a bike lane or protected bikeway. Additionally, it can be used as a spot treatment, such as crossing markings at particularly complex intersections where the bicycle path may be unclear. Consistent application of color across a bikeway corridor is important to promote a clear understanding for all users.

Signage and Wayfinding


Colored Pavement

Green Intersection Conflict Striping

Intersection crossing markings indicate the intended path of bicyclists. Colored striping should be used to highlight conflict areas between bicycle lanes and turn lanes, especially where bicycle lanes merge across motor vehicle turn lanes or where existing lanes for motor vehicles cross bike through movements.

Protected Intersections

Protected intersections maintain integrity (low-stress experience) of their adjoining separated bike lanes leading by fully separating bicyclists from motor vehicles. Hallmark features of these protected intersections include a two-stage crossing supported by an advance queueing space, protective concrete islands, special bike-cross markings (alongside crosswalks), and special signal phasing.

Green Intersection Conflict Striping


Protected Intersection

Two-Stage Turn Queue Box

Two-stage turn queue boxes can provide a more comfortable crossing for many bicyclists since they entail two simple crossings, rather than one complex one. They also provide a degree of separation from vehicular traffic, since they do not require merging with traffic to make left turns.

Bike Signals

This category includes all types of traffic signals that are directed at bicyclists. These can include traffic style green, yellow, and red lightings with signage indicating what the light controls are, or special bike-way icons displayed in the signage light itself. New-side bicycle signals may incorporate a "countdown to green" display, as well as a "countdown to red."

Bicycle Detection

Bicycle detection is used at intersections with traffic signals to alert the signal controller that a bicycle crossing event has been requested. Bicycle detection occurs either through the use of push buttons or by automated means.

Bicycle Detection

Two-Stage Turn Queue Box

Bike Signal

Traffic Calming

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

The following examples identify traffic calming measures that apply to the many areas of Santa Ana.

Traffic Circle

A traffic circle is an example of a traffic calming measure on bicycle boulevards. They slow traffic on each approach and reduce right-of-way conflicts, and tends not to divert traffic to nearby streets. They are appropriate for usage on low volume local residential streets with alternative access points.

Signals and Warning Devices

Pedestrian Hybrid Beacons (PHB) and Rectangular Rapid Flashing Beacons (RRFB) are a special signals and warning devices used to warn and control traffic at an unsignalized location to assist pedestrians in crossing a street or highway at a marked crosswalk

Speed Tables/Raised Crosswalk

Speed tables, are flat-topped road humps, often constructed with brick or other textured materials on the flat section. Speed tables and raised crosswalks reduce vehicle speeds and enhance pedestrian safety.

Traffic Circle

Signal and Warning Devices

Speed Table

Speed Displays

Speed display contribute to increased traffic safety. Speed displays measure speed of approaching vehicles by radar and inform drivers of their speeds using a LED display. They are particularly effective in reducing the vehicular speeds traveling ten or more miles-per-hour over the speed limit.

Chicanes

Chicanes are a series of narrowing or curb extensions that alternate from one side of the street to the other forming S-shaped curves.

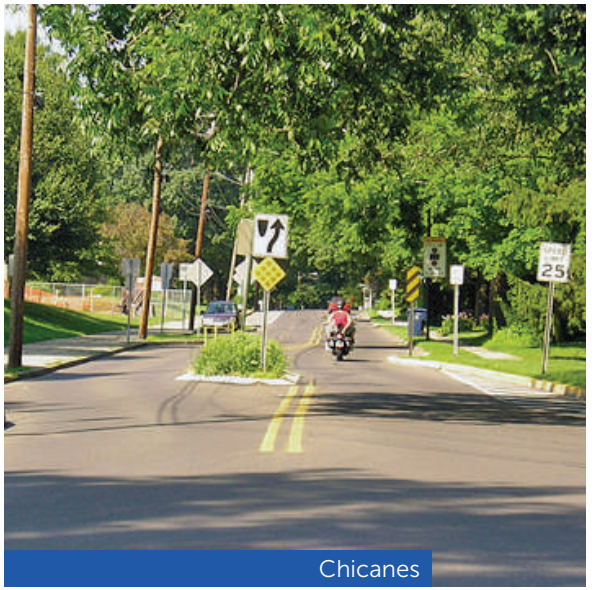
On-Street Edge Friction

A combination of vertical elements such as on-street parking, bicycle facilities, chicanes, site furnishings, street trees and shrubs that reduce the apparent width of the street.

Traffic Diverters

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

Speed Display


Chicanes


On-Street Edge Friction


Traffic Diverter

Pedestrian Facility Enhancements

The pedestrian environment is critical in Central Santa Ana. With a grid street system, urban forestry and land use and demographics that support walking, enhancing this form of transportation will only increase safety and accessibility throughout the area. Many of the streets already have sidewalks, especially through the neighborhoods and commercial areas.

However, major streets such as Bristol Street and Edinger Avenue where many of the intersections are signalized and crosswalks exists, have some segments with long blocks without places to cross. Providing crossing treatments will help reduce the jaywalking and mid-block crossings occurring in the area.

The following examples identify crossing treatments can be applied throughout the City of Santa Ana.

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.

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.

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.

Mid-block Crossing

Curb Extension

Lighting

Pedestrian Scramble

Pedestrian Refuge

Placemaking

The inclusion of urban elements such as parklets, and community gardens encourage walking and provide usable space for all ages. These elements can range in cost depending on the extent of the design and materials. In many cities, these urban elements have helped transform urban villages and downtowns into world-class cities and destinations. Coordinating with local business and organizations already present in Santa Ana can provide collaborative design and funding efforts between the City, its businesses and residents.

Parklets

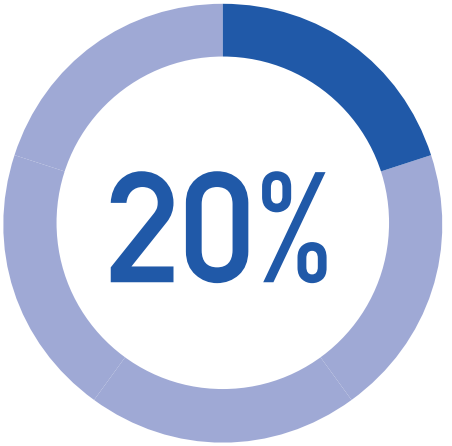
Parklets are small, outdoor seating areas that often take over one or two existing parking spots, temporarily reclaiming the space for pedestrians and improving the aesthetics and streetscape of the urban environment.

Community Gardens

Community gardens provide fresh produce, plants and inherently assist in neighborhood improvement, sense of community and connection to the environment. They are typically managed by local governments or non-profit associations.

Furnishings and Public Art

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



"Owners reported a 20 percent increase in sales in the two weeks following a parklet installation."

***University City District, 2015**

Parklet

Community Garden

Furnishings and Public Art


Please start here
Por favor comience aquí
Workshop Schedule

02

Project Scope

What Are We Doing? What's the Plan?

Project Scope

The Central Santa Ana Complete Streets Plan (CSACS) was developed to provide the City of Santa Ana a guide to establish a network of Complete Streets to improve bicycling and walking throughout central Santa Ana. The City identified five corridors as candidates for improvements based on multiple criteria and previous planning efforts, see Figure 2-1. These corridors, which are distributed geographically throughout central Santa Ana, represent a variety of street types and were chosen due to the lack of safe access and mobility for pedestrians and bicyclists. Furthermore, six additional corridors were selected, including Standard Avenue, an ongoing project, and five other corridors that were chosen during the community workshops.

This Complete Streets Plan will analyze the connections between the selected corridors and other existing or planned Complete Streets corridors, creating a network.

The corridors were identified based on the following criteria: community input, high vehicle speeds, excess lane width, lack of bicycle lanes, missing bicycle connections, presence of schools, uncontrolled pedestrian crossings, missing connections to regional trails, safety analysis and potential for improved access to transit and shopping.

Issues include high vehicle speeds and traffic volumes, wide roadway crossings, a lack of dedicated bicycle facilities and a large number of uncontrolled pedestrian crossings.

Opportunities this plan takes advantage of includes:

- Increasing safe routes to school
- Improving access to transit
- Providing healthy and safe mobility options

To address these challenges, the City envisioned this Complete Streets Plan in central Santa Ana. The goal is to improve access and mobility for all modes including: walking, bicycling, transit and motor vehicles. The plan looks at Complete Streets methods and designs to improve these modes within and around central Santa Ana.

A large public outreach component included surveys, community advisory meetings and a series of community workshops. These workshops consisted of a consecutive four-day workshop where walking and biking tours and a bus tour were conducted to gather input and experience central Santa Ana. The results were many grass roots ideas and priorities that included recommendations for physical changes to streets, sidewalks and intersections that support safe, active transportation. Through the public input process, stakeholder collaboration and the community workshops, ten priority projects were identified. Additionally, Standard Avenue, a project currently in development was added because it intersects with three of the top ten corridors, creating a network of complete streets for Central Santa Ana. These can be found in Chapter Six. The concepts include planning level designs, 3D illustrations and costs estimates. Preliminary designs can be found in Appendix C.

These projects will be the basis for grant funding applications that the City will pursue to create engineering plans that supports implementation.

Complete Streets Objectives

- Identify conditions within the study area that make it unsafe or uncomfortable for users including pedestrians, bicyclists, transit users and motorists.
- Identify locations within the study area that are challenging to walk or ride a bicycle.
- Identify streets that are difficult to cross as a pedestrian.
- Identify locations where high speed traffic creates stressful or unsafe use by pedestrians and bicyclists.
- Identify primary routes to school and methods for improving safety.
- Recommend infrastructure and aesthetic treatments to improve conditions for walking (e.g. separated sidewalks, curb extensions, crosswalks, art, etc.) in the study area.
- Recommend bicycle facilities and treatments in the study area that can increase neighboring connections.
- Identify short and long-term projects for implementation.
- Utilize Street Guidelines that are relevant to Santa Ana including the Institute of Transportation Engineers' *Recommended Practice for Designing Walkable Urban Thoroughfares*, the National Association of City Transportation Officials' (NACTO) *Urban Street Design Guide and Urban Bikeway Design Guide*; and LA County's *Model Design Manual for Living Streets.*

Outreach Objectives

- Engage the residents and stakeholders through a series of meetings, workshops, open street events and surveys.
- Meet the needs of the varying demographics within and around the study area by providing different input strategies and options.
- Collect and summarize the needs of the residents, visitors and business owners and integrate this input into the design.

Study Area

The study area is located in central Santa Ana and is bounded by 10th Street and West Civic Center Drive to the north, Warner Avenue on the south, Standard Avenue to the east and the Santa Ana River to the west. The study area has an approximate area of 8 square miles and an estimated population of 136,100. Estimated employment population is 60,400.

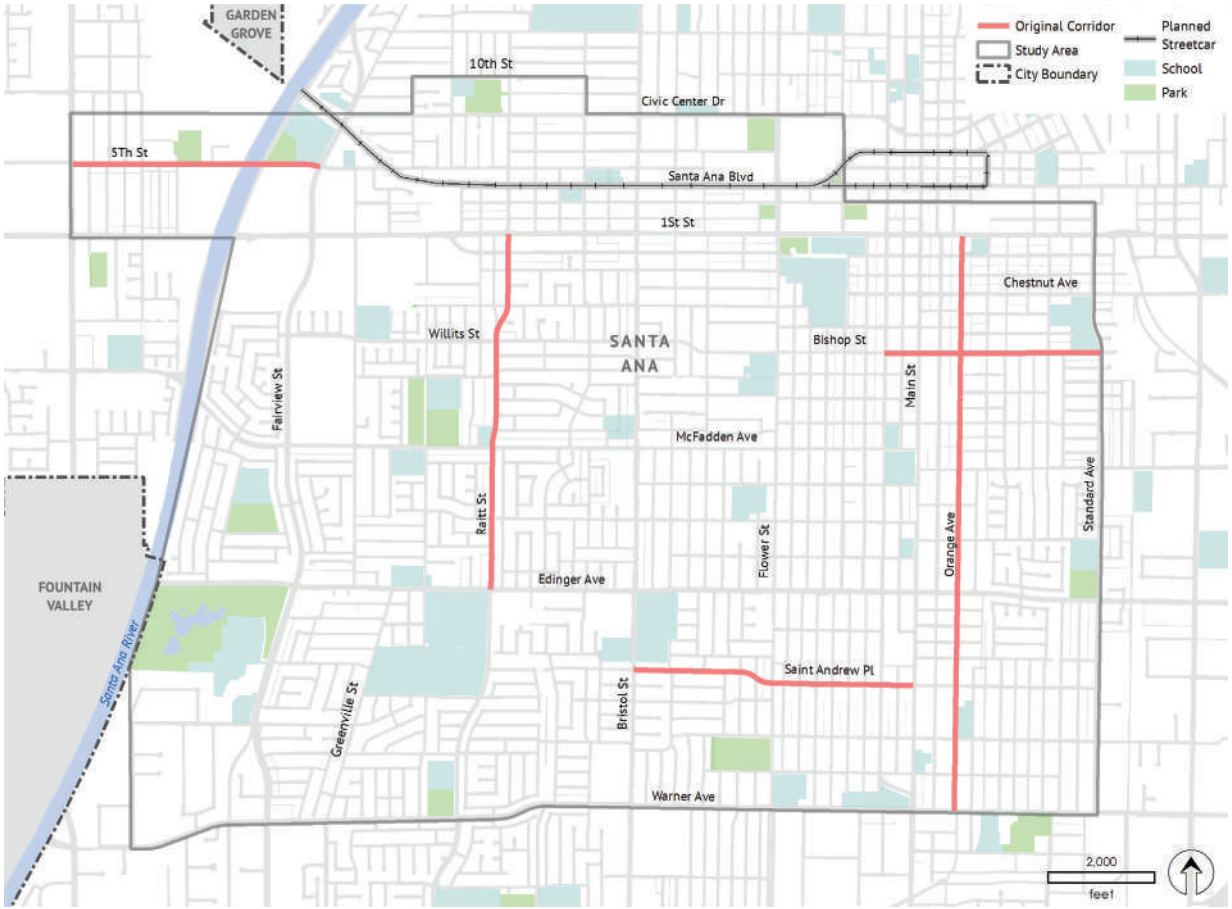


Figure 2-1: Study Area and the Initial Five Corridors Selected

03

Existing Conditions

Where Do We Start?

Document Summary

A review of several documents was completed to make sure previous efforts were built upon and conditions better known. Previous studies provided guidance on street design, future development and transportation corridors. The following is a list of the documents that were reviewed. Summaries of these documents can be found in Appendix X.

- **General Plan**
  1. Circulation Element
  2. Growth Management Element
  3. Land Use Element
  4. Open Space, Parks and Recreation Element
  5. Urban Design Element
- **Transit Zoning Code**
- **SCAG**
  1. Regional Transportation Plan
  2. Sustainable Communities Strategy
  3. Active Transportation Plan
- **OCTA**
  1. OCTA Commuter Bikeways Strategic Plan (CBSP)
  2. Districts 1 and 2 Bikeways Strategy
  3. Guidance for Administration of the Orange County Master Plan of Arterial Highways
  4. OCTA MetroLink
- **OCCOG**
  1. Complete Street Initiative
- **Santa Ana Regional Transportation Center (SARTC) Master Plan**
- **Santa Ana and Garden Grove Fixed Guideway Corridor EIR**
- **Santa Ana Strategic Plan 2014-15 to 2018-19**
- **Citywide Speed Surveys**
- **Average Daily Trips from 2015**
- **Downtown Santa Complete Streets Plan**
- **Safe Mobility Santa Ana Plan**

Land Use and Activity Centers

Santa Ana is a built-out city. A complete street approach is key to sustain the demand of new development and for providing travel mode choices. Within the study area, there are many different existing and proposed land uses. Streets are laid out as a more traditional grid system that is conducive to make multi-modal connections to these various destinations.

There are 37 schools in the study area, including 31 public schools, 4 private schools and 2 continuation schools. For the most part, these schools are evenly dispersed throughout the study area. The proximity of these schools to the residential and commercial districts has been analyzed to ensure that connections and improvements are made.

The City's General Plan Land Use Element identified a vision for further growth and development in the City. The following land use designations are included in the study area (see Figure 3-1).

Low Density Residential

The Low Density Residential designation applies to those areas which are developed with lower density residential land uses. Development in this category is characterized primarily by single-family homes. This land use designation applies to a large proportion of the study area.

Low-Medium Density Residential

The Low-Medium Density Residential designation applies to those sections which are developed with residential uses at permitted densities of up to 11 units per acre. This land use designation is typically characterized by mobile home parks, a mixture of duplexes, single-family homes and small lot subdivisions. This type of residential development can be found on the western edge of the study area, along 1st Street.

Medium Density Residential

The Medium Density Residential designation applies to those section which are developed with residential uses at densities of up to 15 units per acre. This designation is characterized by duplexes, apartments, or a combination of both.

Urban Neighborhood

This land use designation applies to primarily residential areas with pedestrian oriented commercial uses, schools and small parks.

The Urban Neighborhood allows for a mix of residential uses and housing types, such as mid to low rise multiple family, townhouses and single family dwellings; with some opportunities for live-work, neighborhood serving retail and service, public spaces and use, and other amenities. Either vertical or horizontal integration of

uses is permitted based on zoning standards, with an emphasis on tying together the uses with pedestrian linkages and street frontages.

Street connectivity is desirable, allowing for a high degree of walkablity, transit options, and other forms of transportation including pedestrian and bicycle travel.

General Commercial

The General Commercial designation applies to commercial corridors including those located along Main Street, Bristol Street and 1st Street. These commercial districts are key components in the economic development of Santa Ana. They provide highly visible and accessible commercial development along arterial transportation corridors. Furthermore, they provide important neighborhood services and facilities, such as shopping, recreation, cultural and entertainment activities, employment and education. Additionally, the General Commercial designation provides support facilities for industrial areas, offices, retail and other services.

Industrial

The industrial designation applies to areas developed with manufacturing and industrial uses. This land use designation, which is predominantly industrial in character, can be found along the western edge of the study area. Like the General Commercial districts, Industrial districts are vital to Santa Ana's economy because they provide employment opportunities and generate revenues for the City. This land use designation is typically characterized by light and heavy product manufacturing, as well as commercial uses that provide support to other industrial uses.

Institutional

The Institutional designation includes the governmental and City facilities, public institutions, and schools. Only public properties of approximately five acres or more are designated as Institutional. Most development in this designation are state, federal, and local government facilities that are not subject to local development regulations.

Open Space

The Open Space designation is applied to parks, water channels, cemeteries and other open space uses. There are several parks within the study area, including Centennial Park, Windsor Park, and Jerome Park, as well as the railroad right-of-way. Smaller linear parks can be found along Bristol Street.

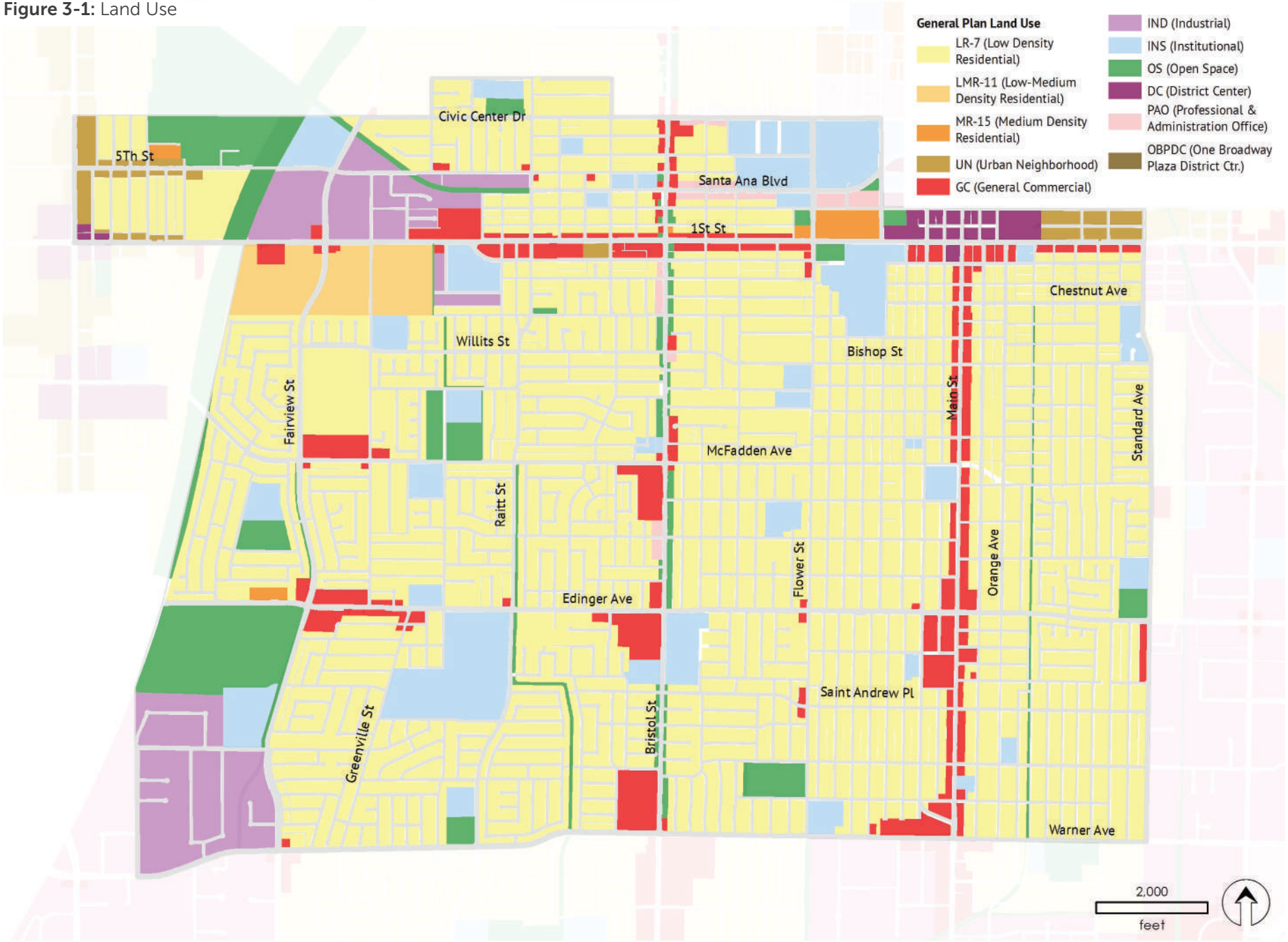
District Center

District Center is a land use designation designed to serve as an anchor to the City's commercial corridors, and to accommodate major development activity. Buildings within the District Center are to be developed with an urban character that includes a mixture of high-rise office, commercial, and residential uses, including mixed-use development. This type of development provides shopping, business, cultural, education, recreation, entertainment, and housing opportunities. This area serves as major retail and employment centers that support the downtown neighborhoods as well as the broader region. Projects in these areas should include development which promotes the City as a regional activity center while creating an environment conducive to business on a regional scale.

Professional and Administration Office

This land use designation applies to those areas where professional and/or administrative offices are dominant, or where such development is being encouraged. Within the study area, this land use designation is found along Santa Ana Boulevard. The purpose of this designation is to provide a unique environment for office development in order to encourage major employment centers at locations that significantly lessen the impact to Santa Ana's local street system.

Figure 3-1: Land Use

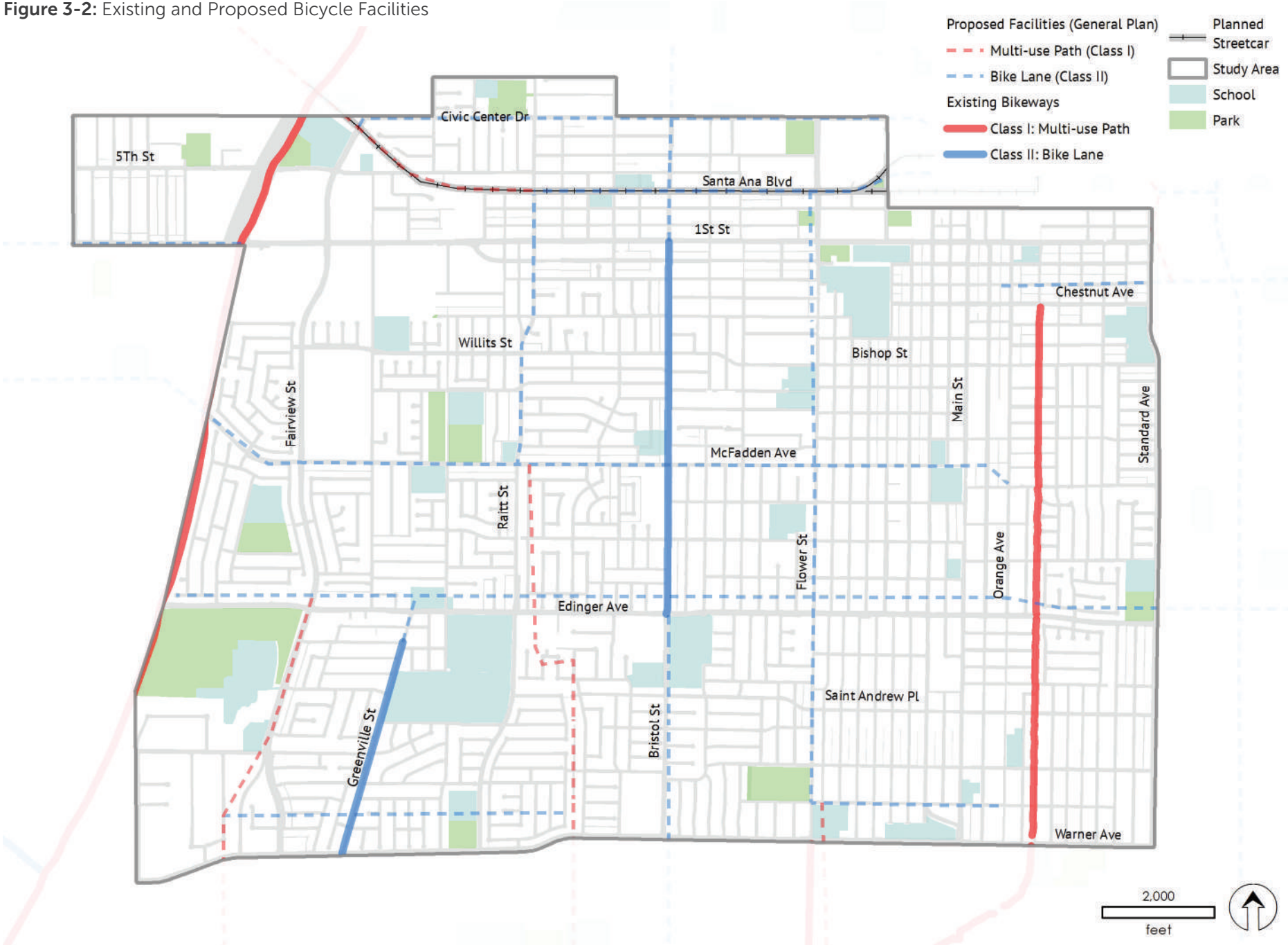


Existing and Proposed Bicycle Facilities

The City of Santa Ana currently has only a few bicycle facilities dispersed throughout the study area, including two Class II bike lanes and one Class I multi-use path, as shown in Figure 3-2. The bike lanes are located on Greenville Street (from Warner Avenue to West Pomona Street) and Bristol Street (from Edinger Avenue to 1st Street). The multi-use path runs along the western edge of the study area, parallel to Maple Street (between Warner Avenue and Chestnut Avenue).

The previously proposed bicycle facilities were document in the General Plan and provided a foundation for the recommended Complete Streets 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 3-2: Existing and Proposed Bicycle Facilities



Street Classifications

The City's Master Plan of Streets and Highways (MPSH) is illustrated in Figure 3-3. This functional classification serves to categorize roadways based upon their use and identifies the existing circulation system, and the circulation related issues for the various modes of transportation. Furthermore, the Orange County Transportation Authority (OCTA) designates in its Master Plan of Arterial Highways (MPAH) roadways are:

"Countywide transportation plan administered by the Authority defining the ultimate number of through lanes of arterial streets, and designating the traffic signal synchronization street routes in Orange County."

The MPAH establishes a system of countywide arterial highways: a key factor in defining Orange County's long-range transportation planning and policy objectives. OCTA's role as the administrator of the MPAH is to coordinate with cities and the County to develop a consensus-based, consistent, and inter-community arterial highway system that effectively balances regional mobility and local access for existing and future land uses. Within the study area, Santa Ana Boulevard, 1st Street, Fairview Street, Edinger Avenue, Bristol Street and Warner Avenue are identified as major arterials. 5th Street, Raitt Street, McFadden Avenue, Flower Street, Main Street, Greenville Street and Standard Avenue are identified as secondary arterials. These have been designated to accommodate their Average Daily Trips (ADTs) respectively and cannot have their capacity reduced without OCTA approval.

Major Arterial

This generally consists of six-travel lanes divided roadways. Typically, the right-of-way width for this type of roadway is 120 feet. A major arterial is designed to accommodate between 33,900 and 50,600 vehicle trips daily.

Primary Arterial

This generally consists of a four-lane, divided roadway. Typically, the right-of-way width is 100 feet. A primary arterial is designed to accommodate between 22,500 and 33,800 vehicle trips daily.

Secondary Arterial

This generally is a four-lane, undivided roadway. The typical right-of-way width for this category of roadway is 80 feet. A secondary arterial is typically designed to accommodate between 15,000 and 22,500 vehicle trips daily.

Commuter Street

A two-lane, undivided roadway carrying less than 10,000 vehicle trips per day. The right-of way width for this roadway classification is 60 feet. Collectors are also two-lane undivided roadways with a right-of-way width of 56 feet.

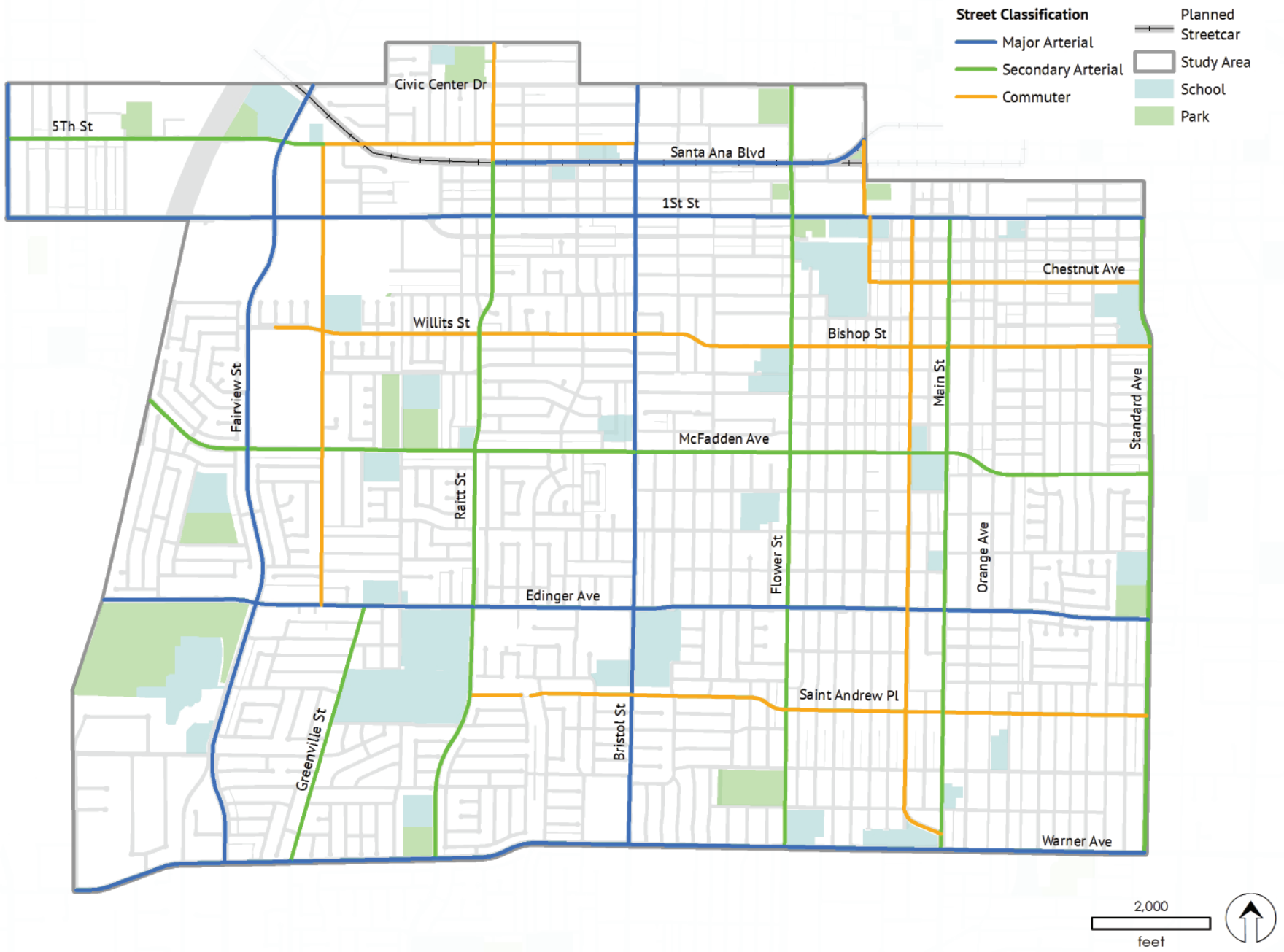
Local Commercial Street

A two-lane, undivided roadway carrying up to 6,000 vehicle trips per day. Parking may be allowed on both sides of the street, businesses are located on both sides of the street. The right-of-way width for this roadway classification is 60 feet.

Local Street

A typical local street primarily travels through residential neighborhoods with lower vehicle trips per day and slower speeds. They are two-lane undivided roadways with varying right-of-way widths between 40-60 feet, depending on the adjacent residential land use.

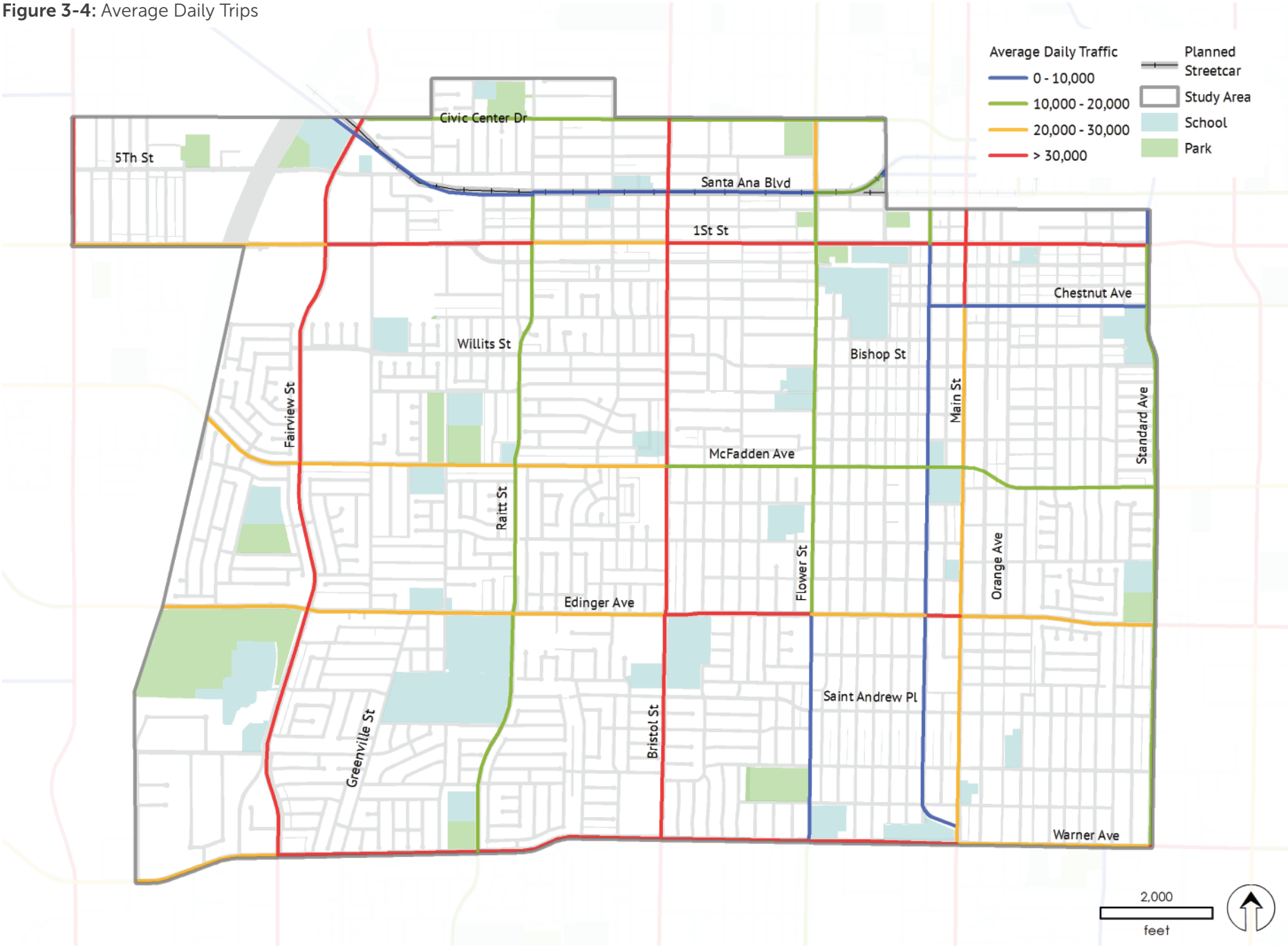
Figure 3-3: Street Classification



Average Daily Trips (Vehicles)

Average Daily Trips were analyzed to identify the high volume streets for inclusion or exclusion of bicycle facility types and enhanced amenities for pedestrians (see Figure 3-4). Major arterials such as First Street, Fairview Street, Bristol Street and Warner Avenue have the highest vehicular volumes with over 30,000 daily trips. Many of the other secondary arterials have volumes between 10,000-30,000 daily trips. Some of these secondary arterials are being considered for road diets such as Santa Ana Boulevard and Standard Avenue. For the most part, there has been a decrease in traffic between 2007 and 2013.

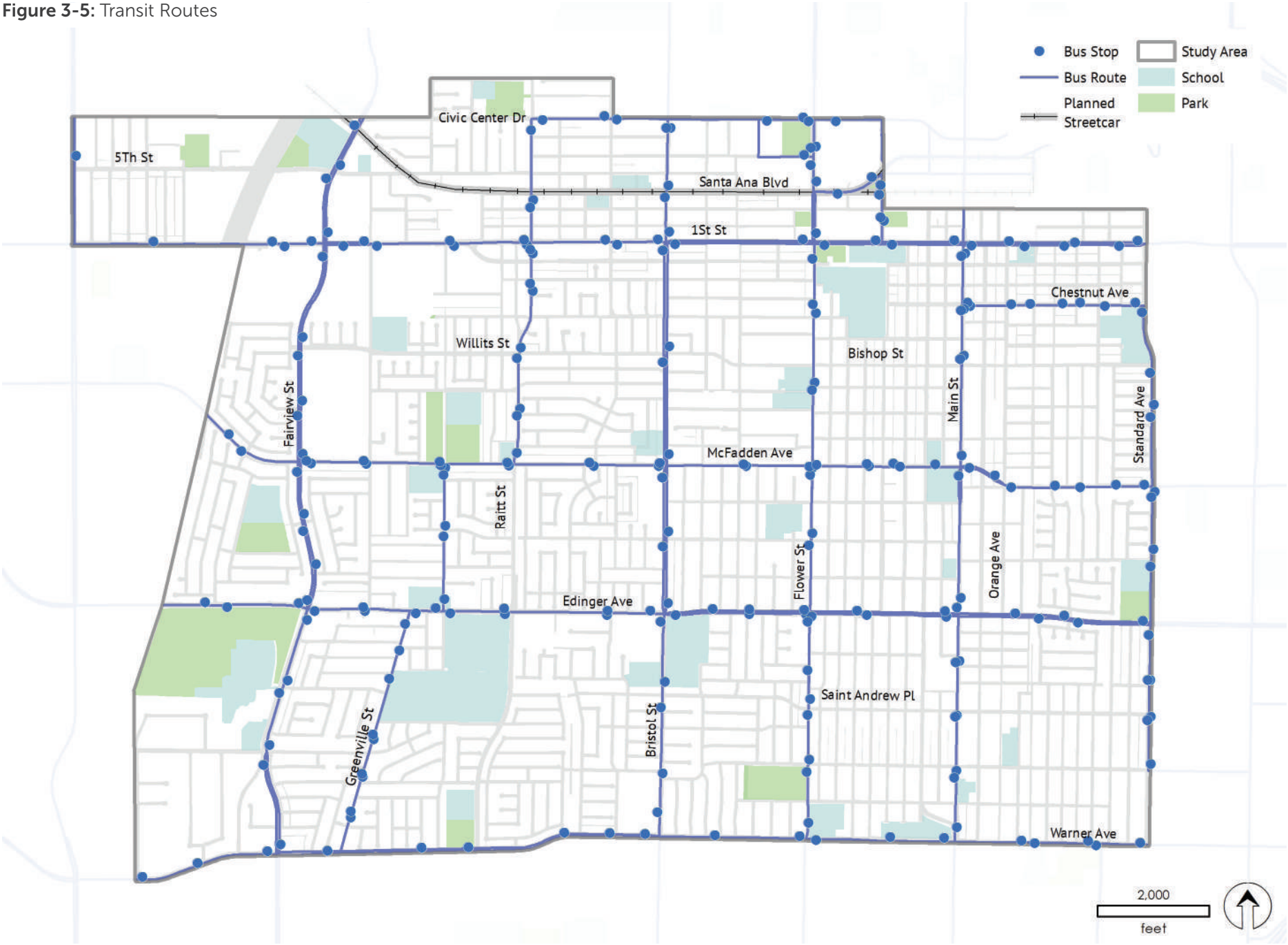
Figure 3-4: Average Daily Trips



Transit Routes

There are 14 bus routes and 231 bus stops within the study area, as shown in Figure 3-5. The transit services include Fixed Routes, Community Shuttles, Intracounty Express Routes, and Metrolink Feeder Routes. As part of the analysis, these routes and stops were collected to ensure improving access to them was integrated into the plan as major destinations.

Figure 3-5: Transit Routes



Safety Analysis

Collision data is typically analyzed for the most recent five-year span. Data used for this study was provided by the City of Santa Ana. This dataset represents all reported bicycle/vehicle, pedestrian/vehicle, and bicycle/pedestrian related collisions between 2011 and 2015. Collisions involving bicyclists, whether they involve vehicles, other bicyclists, or pedestrians, are generally under-reported, so bicycle collisions are likely to have occurred that were not included as part of this data. During this five-year period, there were 445 bicycle/vehicle-related collisions and 316 pedestrian related collisions. Of these reported collisions, there were 3 bicycle fatalities and 25 pedestrian fatalities. The data was reviewed in terms of volume of collisions that occurred at intersections and on road segments.

Bicycling and walking collisions were also summarized to identify other trends that may help to determine where and what kind of physical treatment can be recommended.

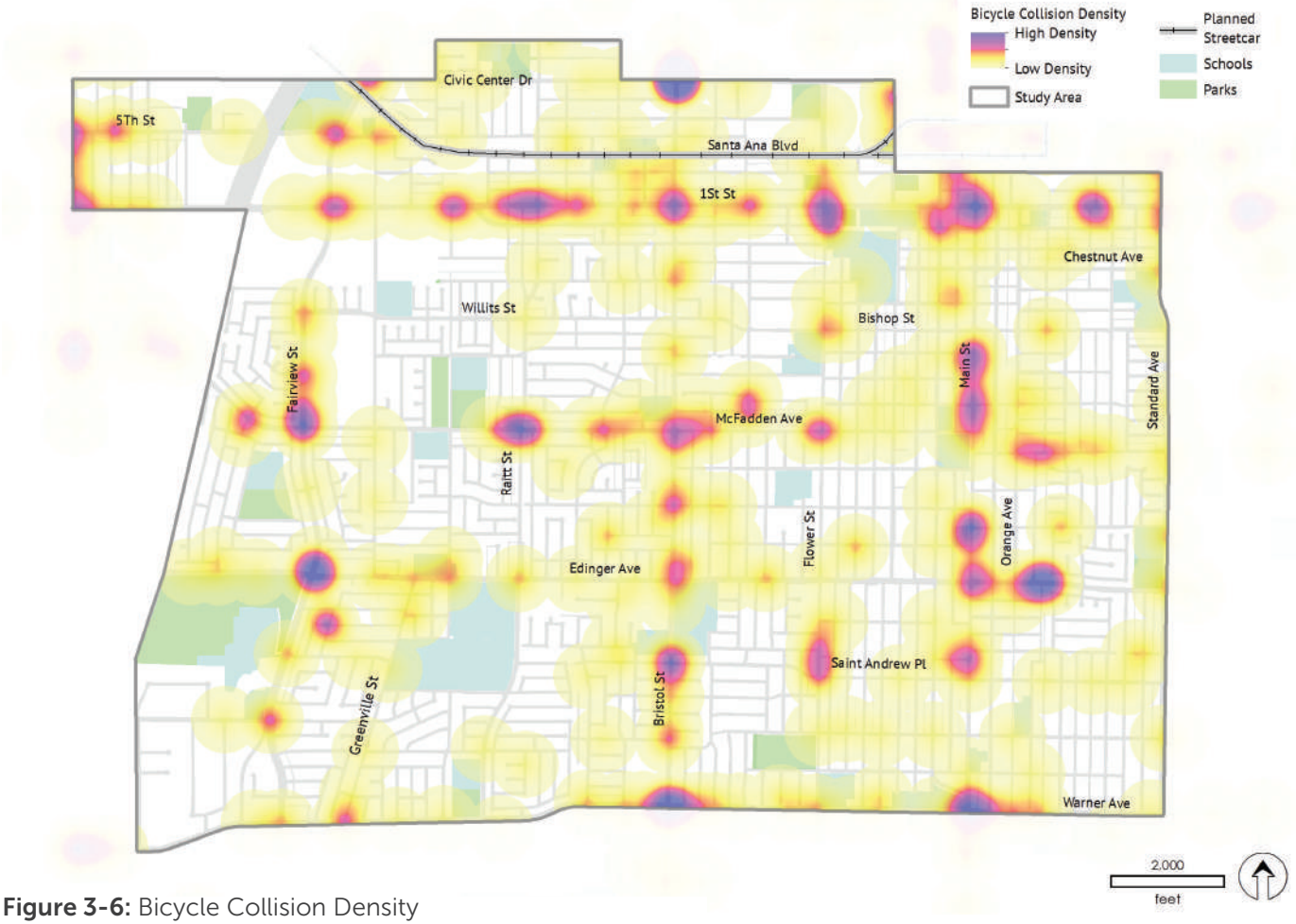


Figure 3-6: Bicycle Collision Density

Bicycle Collisions

Bicycle collisions were more evenly distributed within the study area, likely due to the ability to travel greater distances by bicycle. The highest concentrations of bicycle related collisions occurred on First Street, Main Street, McFadden Avenue and Warner Avenue (see Figure 3-6).

Pedestrian Collisions

Pedestrian collisions primarily concentrated on the northeastern quadrant of the study area. The highest incidents of pedestrian related collisions occurred along Main Street, McFadden Avenue and 1st Street (see Figure 3-7).

Figure 3-7: Pedestrian Collision Density


FREE!
CONFIDENT CYCLING CLASSES

04

Outreach Plan

Who Is This For?

Outreach Overview

The outreach process for the CSACS Plan was designed as a comprehensive and collaborative approach to engage residents and stakeholders. To achieve this, a Community Outreach Plan was developed to highlight the strategies needed to encourage participation and create a genuine sense of ownership among community members and stakeholders. The complete Community Outreach Plan can be found in Appendix B.

According to the 2015 US Census, Santa Ana's population is 49.7%White, 9.2% Non-Hispanic White, 1.0% African American, 0.1% Native American, 10.6% Asian, 0.2% Pacific Islander, and 35.9% from other races. Additionally, 78.2% are Hispanic or Latino. Because of these demographics, illustrative outreach materials were created in both English and Spanish.

Many of the residents in and around Central Santa Ana rely on walking, bicycling and using public transit due to lack of car ownership and lower incomes. Their input on non-motorized transit routes to school, work or local businesses was essential for identifying priority corridors.

As part of the Community Outreach Plan, the City and consultant team reached out to stakeholders, local businesses and residents, encouraging them to become project champions and part of the Community Advisory Committee (CAC). Santa Ana Active Streets (SAAS), a community-based coalition that promotes community participation and safe and accessible active transportation, helped facilitate the community outreach events. The following project goals were shared with stakeholders:

- The project will focus on improving street conditions and creating options that balance the need to drive with walking, bicycling and using public transit.
- Connect destinations such as schools, workplaces, shopping, dining and other places of interest so they can be accessed by walking or bicycling.
- Develop improvements that will elevate the attractiveness of the community and promote the cultural, economic and artistic qualities of neighborhoods and businesses.
- Walking and bicycling around Central Santa Ana can be safe and fun. You can make it happen!

Stakeholders included residents, local advocacy and health organizations such as Kidworks, Orange County Transportation Authority, County of Orange Health Care Agency, Caltrans, Santa Ana Building Healthy Communities, and the Santa Ana Business Council.

Community Advisory Committee (CAC)

The Community Advisory Committee was comprised of local agency representatives, City staff, stakeholders and residents. This group was the driving force behind the outreach activities, project selection and design process. They provided valuable insight on the day-to-day issues within the study area and became a voice for the community.

The CAC meetings were regularly attended by 12-16 CAC members. The CAC group included members from the following organizations:

- City of Santa Ana
- Bike It
- Eastside NA
- Heininger Park NA
- Kennedy Commission
- KidWorks
- Latino Health Access
- OCTA Better Commute
- Orange County Health Care Agency (OCHCA)
- Orange County Labor Federation (OCLF)
- Orange County Transportation Authority (OCTA)
- Santa Ana Collaborative for Responsible Development (SACRED)
- Santa Ana Building Healthy Communities (SABHC)
- UC Irvine
- Windsor Village NA/West End Community Oriented Policing

The Community Workshops

The four-day Community Workshop was identified as the primary input opportunity for this project. To ensure diverse city participation, the Community Workshop was advertised to as many constituents throughout the City and region as possible. The Project team used flyers, posters, phone calls, social media, e-mail blasts, and even went door-to-door to advertise the workshop. The organizations that were contacted included:

- City of Santa Ana
- Community Action Partnership of Orange County (CAPOC)
- Orange County Communities Organized for Responsible Development (OCCORD)
- Orange County Republican Party
- Santa Ana Business Council
- The Bicycle Tree
- Residents
- All CAC members

Outreach Planning Process

CAC Meetings

The three CAC meetings were strategically scheduled throughout the outreach process to provide feedback on the outcome of events and guidance on how to move forward.

CAC #1: Project Introduction

The purpose of the first CAC meeting was to introduce the CAC members to the team and to get acquainted with the project. The project team provided an overview of Complete Streets and outlined the Community Outreach Plan and schedule. The meeting concluded with a discussion of next steps.

The project team received valuable feedback from this first CAC meeting, while understanding that the community affected by this plan had undergone several planning efforts and were eager to see project implementation. The CAC also offered insights on the accessibility of the outreach materials and the outreach approach itself. The CAC also advised the team to schedule the workshops during dates and times convenient for working people and those with families. Lastly, they cautioned against calling the three day event a "Charrette," as it is less approachable than "workshop."

Four-Day Community Workshop (Summer 2016)

The four-day Community Workshop was held from June 2-5, 2016. The Workshop collaborated with residents, businesses, and other key stakeholders to develop a community-driven plan for improving access and mobility within the study area. The Workshop included two walking audits, two bike tours, a bus/walk tour and design exercises to identify implementable complete street projects in Central Santa Ana.

Recommendations Workshop (Summer 2016)

This follow up workshop was scheduled a two weeks after the Community Workshop. The project team collected, summarized and developed recommendations based on the input provided from the Community Workshop to present back to the public. At this workshop, participants were asked to review the 19 projects developed, provide any additional comments but more importantly, vote on their favorite ten.

CAC Meeting #2 (Summer 2016)

This second CAC meeting reviewed the events and recommendations that were derived from the Community Workshop.

CAC Meeting #3 (Winter 2017)

The final CAC meeting was the review of preliminary designs for the Top Projects. Participants were able to review detailed designs and provide additional feedback.

Four-Day Community Workshop


Recommendations Workshop


CAC Meeting #2


CAC Meeting #3

Outreach Materials

As part of the outreach process, flyers, post cards, surveys and social media hashtags were developed to inform the public of the workshops and CAC meetings. All outreach materials were produced in Spanish and English, and distributed throughout the study area and adjacent neighborhoods.

05

Participation

How Do We Get There?

Complete Streets Development

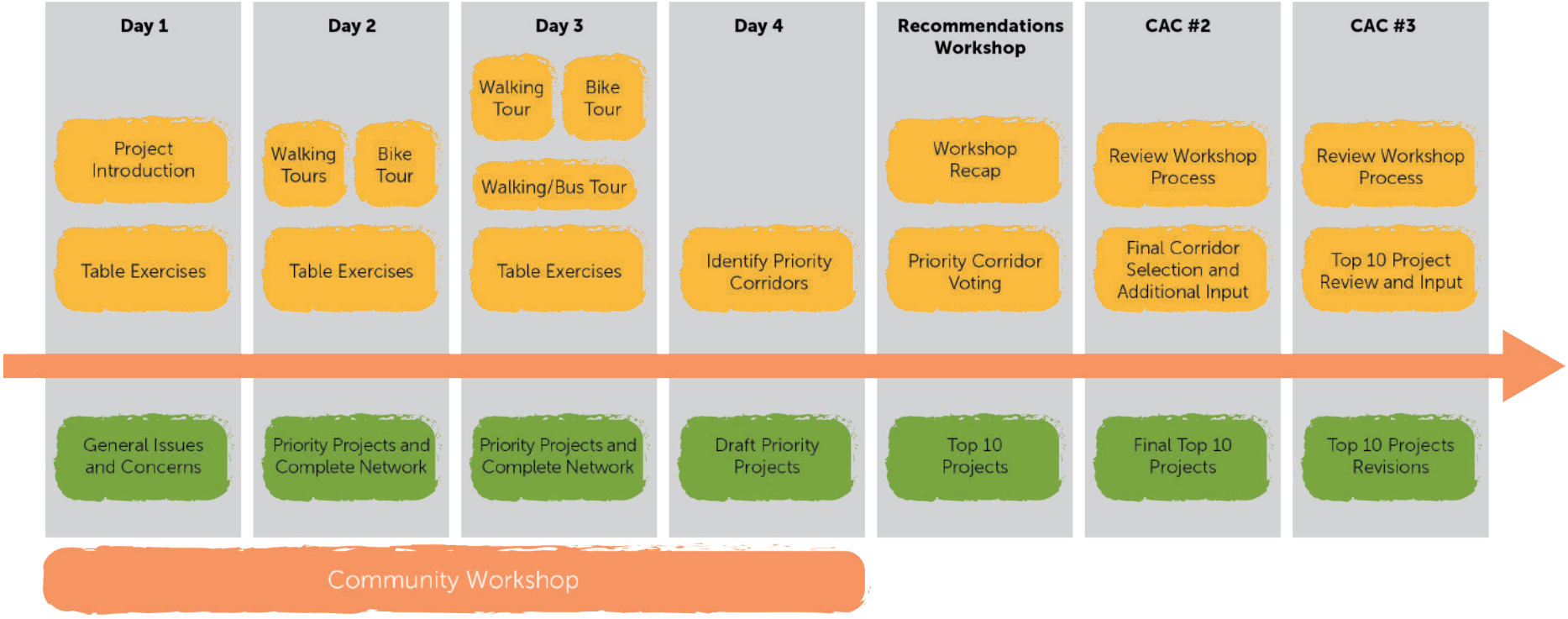
Collaboration with the community was integral to this planning process. As discussed in Chapter 4, input from the public was solicited and integrated at specific points in the planning process. This chapter serves to summarize and highlight the various input events, including those with the general public and the CAC.

Community Workshops

The Community Workshops provided much of the input used to develop this plan's project recommendations. All subsequent project developments and refinements can ultimately be traced to these early outreach events. The four-day workshop was held at the Southwest Senior Center and was attended by 40-50 people daily. A handful of residents and stakeholders attended all four days. In order to accommodate families with children, kid-friendly activities – such as coloring and mapping exercises – were provided. A computer station was available for attendees to fill out the online survey and hardcopy versions were also provided. Summaries and highlights from each of the four days follow. Additionally, a temporary cycle track and parklet were installed in front of the Senior Center to demonstrate the potential benefits of dedicated bicycle facilities and open spaces in Central Santa Ana.

Figure 5-1 highlights the activities for this event.

Figure 5-1: Community Workshop Schedule



Day 1: Issues and Opportunities

Day one of the Community Workshop was a brief evening event that provided an overview of Complete Streets and a table top exercise to gather initial comments. Attendees were asked for information regarding general issues and opportunities, but were not dissuaded from making location specific comments.

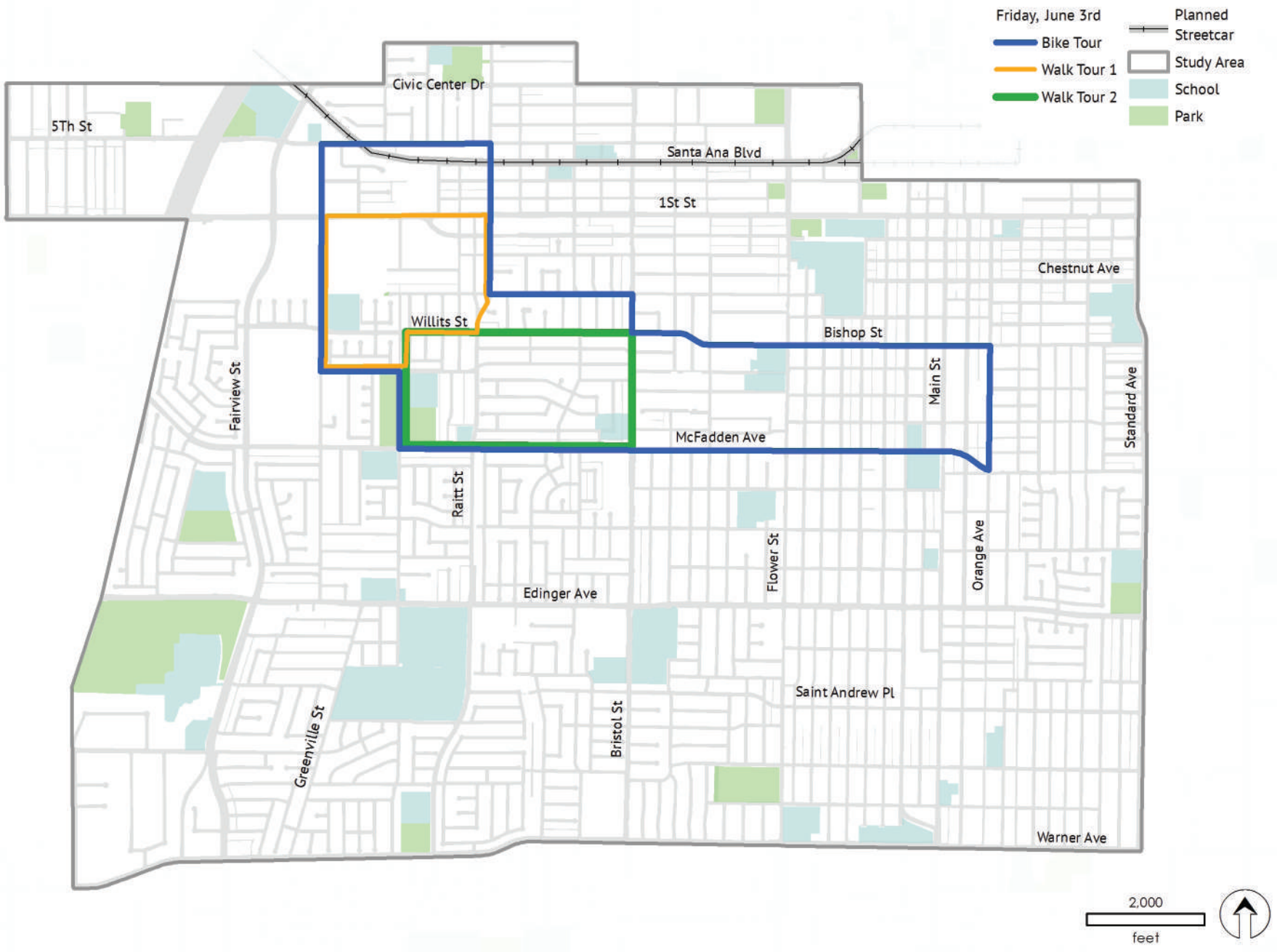
Highlights from the evening included many ideas and a high degree of consensus on issues and opportunities for the City of Santa Ana. The community spoke in favor of traffic calming, protected bikeways, safer pedestrian crossings, shade trees and reclaiming underused asphalt for higher public uses (e.g. plazas, parks, and sports facilities for community youth).

Day 2: Priority Routes

Day two consisted of two walking tours and one 6-mile bike tour to experience and collect data on existing conditions and opportunities in the Central Santa Ana area. Routes were determined by reviewing the previous day's map comments. Primarily to cover the neighborhoods north of McFadden Avenue. The bike tour consisted of on-street biking on both high and low-volume roads, including McFadden Avenue, Orange Avenue and Bishop Street. Due to slower travel speed, walking tours were split into two groups, each covering a different neighborhood. In contrast, the single bike tour covered most of the area surrounding the Senior Center and stopped at specific intersections to discuss issues and potential solutions.

Once the groups returned, table top exercises were then conducted to pick the top priority corridors and complete the network. Groups discussed about the various bicycle and pedestrian issues that were observed during the walking and biking tours. This helped identify specific corridors that could be improved to better pedestrian and bicycle circulation in Central Santa Ana.

Figure 5-2: Day 2 Priority Routes

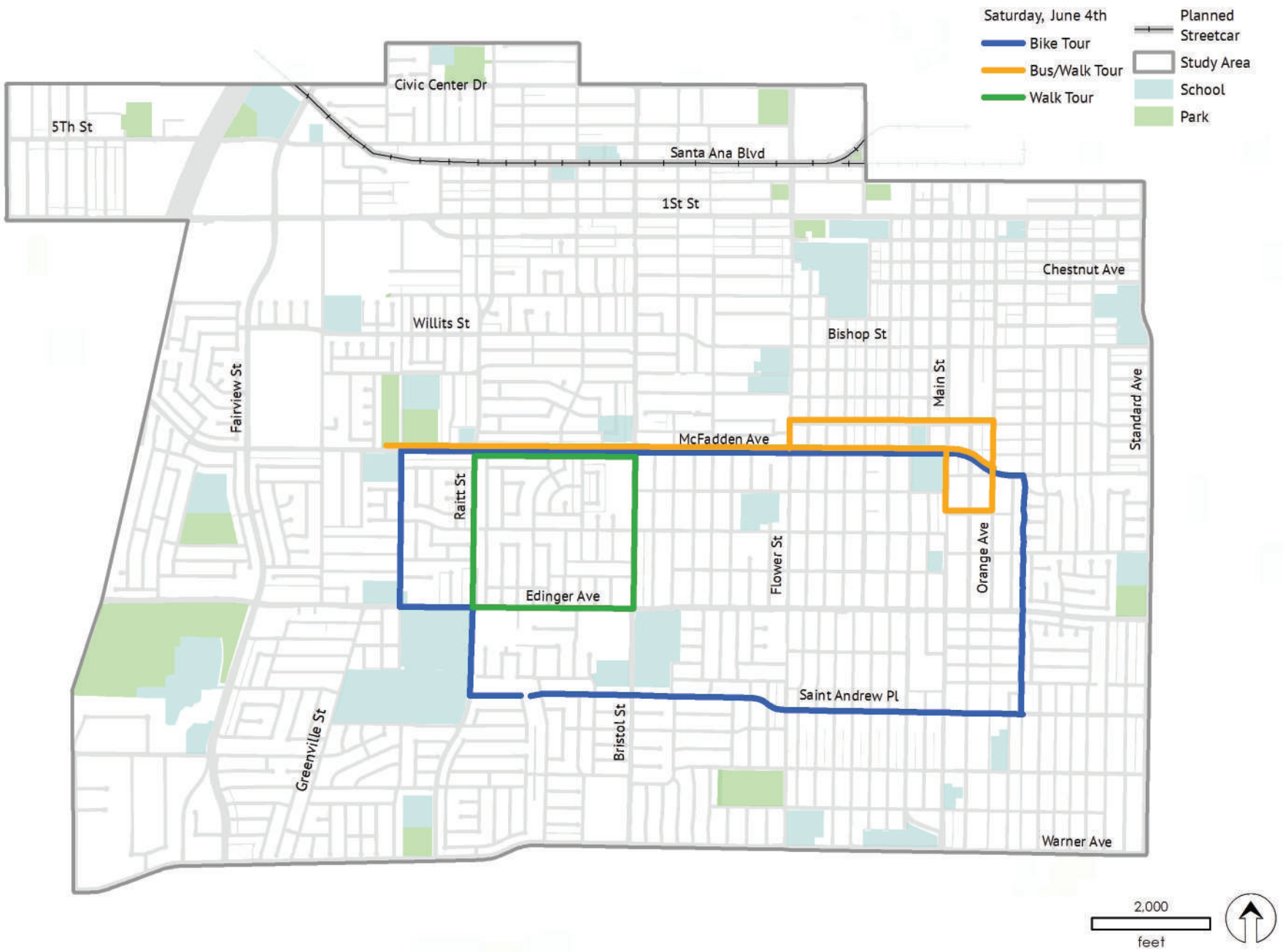


Day 3: Priority Routes

Day three consisted of one more walking tour, a 5.5-mile bike tour and a bus/walking tour. This allowed to further experience the existing conditions and opportunities in Central Santa Ana, collect additional data, and walk the Madison neighborhood on the east side of the study area. Similar to the previous tours, routes were determined by reviewing the first day's map comments, primarily to cover neighborhoods south of McFadden Avenue. This time, the bike tour consisted of on-street biking, as well as riding a section of the Pacific Electric Bicycle Trail. The walking tour included the area northeast of the senior center, which was not covered in the past tours. Additionally, the City provided some workshop attendees with bus passes for a bus/walking tour. This tour allowed them to see the connections between public transit and other modes of transportation and experience the pedestrian environment around bus stations.

Similar table top exercises relating to specific issues and concerns regarding pedestrians and bicyclists were then conducted to pick the top corridors and complete the network.

Figure 5-3: Day 3 Priority Routes



Day 4: Priority Project Recommendations

Day four involved further development of the top corridors identified on days two and three. Specifically, attendees were asked to identify improvements for the selected routes. Through the process of developing actual projects, attendees started to see the potential for several corridors to serve multiple modes. The priority projects listed (in no particular order), were summarized, reformulated and presented to the community as draft recommended projects, at the recommendations workshop two weeks later.

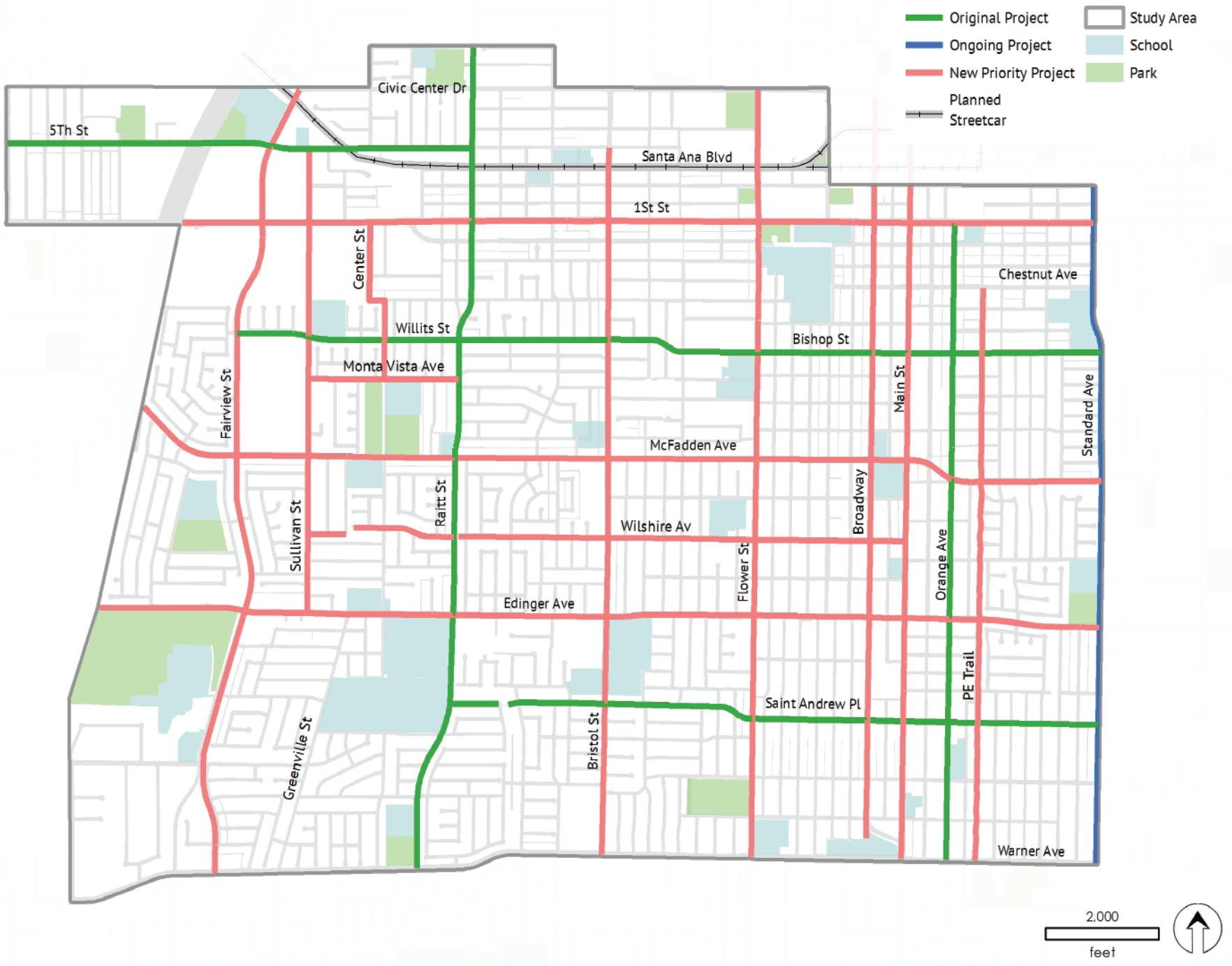
Original Projects

1. Bishop/Willits
2. Raitt
3. Orange
4. 5th Street
5. St. Andrews
6. Standard (Ongoing)

Proposed

7. Edinger
8. McFadden
9. 1st Street
10. Flower
11. Sullivan
12. Fairview
13. Main
14. Bristol
15. Center
16. Broadway
17. Wilshire
18. PE Trail
19. Monta Vista

Figure 5-4: Top 19 Projects



Recommendations Workshop: Top Projects Selection Process

The purpose of the Recommendations Workshop was to summarize the results of the Community Workshop, present the 19 top corridors and vote on projects, to pare the 19 down to 11.

The Top Projects selected by the community were as follows:

Original Projects

1. Bishop Street/Willits Street
2. Raitt Street
3. Orange Avenue
4. 5th Street
5. St. Andrews Place
6. Standard Avenue (Ongoing)

Proposed

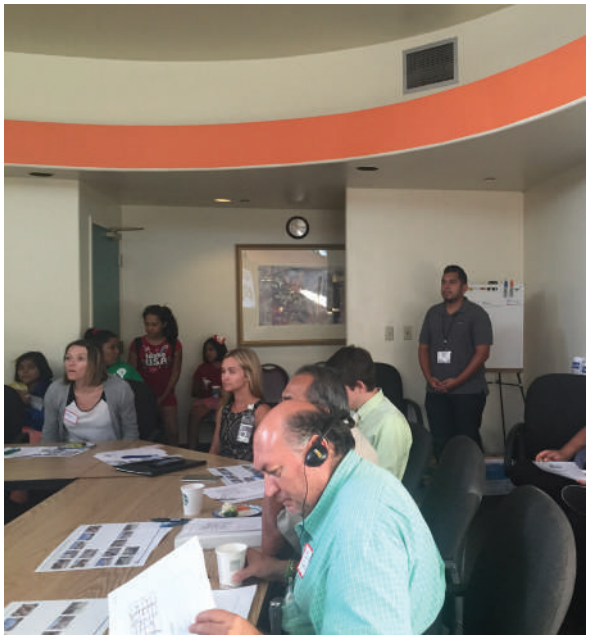
7. Edinger Avenue
8. McFadden Avenue
9. Flower Street
10. Fairview Street
11. 1st Street

Figure 5-5: Top 11 Projects

CAC #2: Top Projects Finalization and Recommendations

The purpose of this second CAC meeting was to summarize the Community and Recommendations Workshops, provide an overview of project progress to date, and receive further input. The project team explained how the community helped select the Top Projects.

The project team sought CAC member assistance to confirm the ten top projects that were selected. These Top Projects would be ultimately designed at the preliminary engineering level. Due to the physical proximity of some of the Top Projects, a few were combined. The meeting concluded with a discussion of next steps and planning for CAC #3.

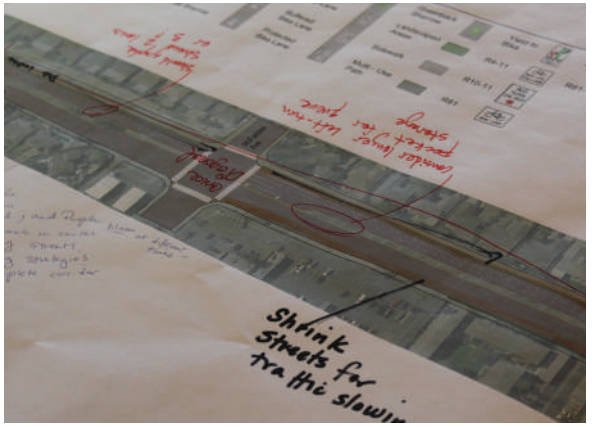


CAC #3: Top Projects Review and Input

The purpose of the third CAC meeting was to provide an update on project progress, in particular, the Top Projects. Due to the high attendance and community participation, this session evolved from a CAC meeting to a community workshop where the public was allowed to participate and share any additional ideas and concerns. By this third meeting, the exact extent of each project, as well as the preferred design elements, had been determined. The project team solicited input from the CAC members and public on the general approaches and treatments before finalizing detailed preliminary concept designs. The meeting concluded with next steps, which included a final public review opportunity and the preparation cost estimates and a draft report.

This final outreach event was presented as an occasion to celebrate the project and community accomplishments and to submit any final comments for inclusion in the report.

The meeting concluded with the project team giving thanks to the CAC and the community for being true champions of the project and with the community thanking the team for employing a truly collaborative planning process.



Displacement Concerns

During the Community Advisory Committee meetings and workshops for the Central Santa Ana Complete Streets plan, community members expressed concern about how the potential investments in their community could eventually lead to their displacement. The community members that brought this up are supporters of making their streets safer, but the recent influx of money into the city, especially in the downtown area, has also led to gentrification and displacement of long-time businesses. Residents are wary of investment like bike lanes and sidewalk improvements because it also makes the area more desirable to outsiders. Residents want investments that will make it safer for them and their family members to ride a bike or walk in their neighborhood, but not at the cost of increasing rent.

Community members asked how they can work with the relevant City departments to ensure that there is a law or ordinance that prohibits property owners from raising their rent after the streets are improved. It was also mentioned that they want Public Works Agency, Planning and Building Agency, and City Council to be aware that the improvement of the streets, new amenities and bicycle lanes are contributing to the displacement of residents. Concerned residents want to know how these and other relevant entities are working on preventing this from happening, how they plan to protect people who are at risk of being displaced by forces caused from gentrification, and if they are looking at success stories around the country on how to prevent displacement due to transit development.

Note: While this plan brings up residents' concerns about displacement and gentrification, it is not intended to develop policies or solutions to these matters.

06

Recommendations

What Do We Build?

Priority Projects Summary

After numerous workshops, public comments and meetings, the priority projects were selected. These projects represent the corridors the community recognized would best establish a network of complete streets that would improve the comfort and safety for people using any mode of transportation.

The following sections highlight each of the corridors existing conditions as well as summarize their complete street recommendations. Design concepts, cost estimates and characteristics are included for each corridor. Schools, parks and demographics were derived from data a quarter-mile from the corridor. Collisions are shown as a rate, collisions per mile. CalEnviroscreen highlights the average from the census tracts that the corridor travels through. MPAH identifies whether the corridor is part of the MPAH network and the type of roadway within the system. Standard Avenue was being designed at the time of this plan and was added to this list since it lies within the study area. Design details and in-depth cost estimates can be found in Appendix C.

1. Edinger Avenue
2. McFadden Avenue
3. Raitt Street
4. Willits-Bishop Street
5. Flower Street
6. Saint Andrew Place
7. 5th Street
8. 1st Street
9. Orange Avenue
10. Fairview Street
11. Standard Avenue

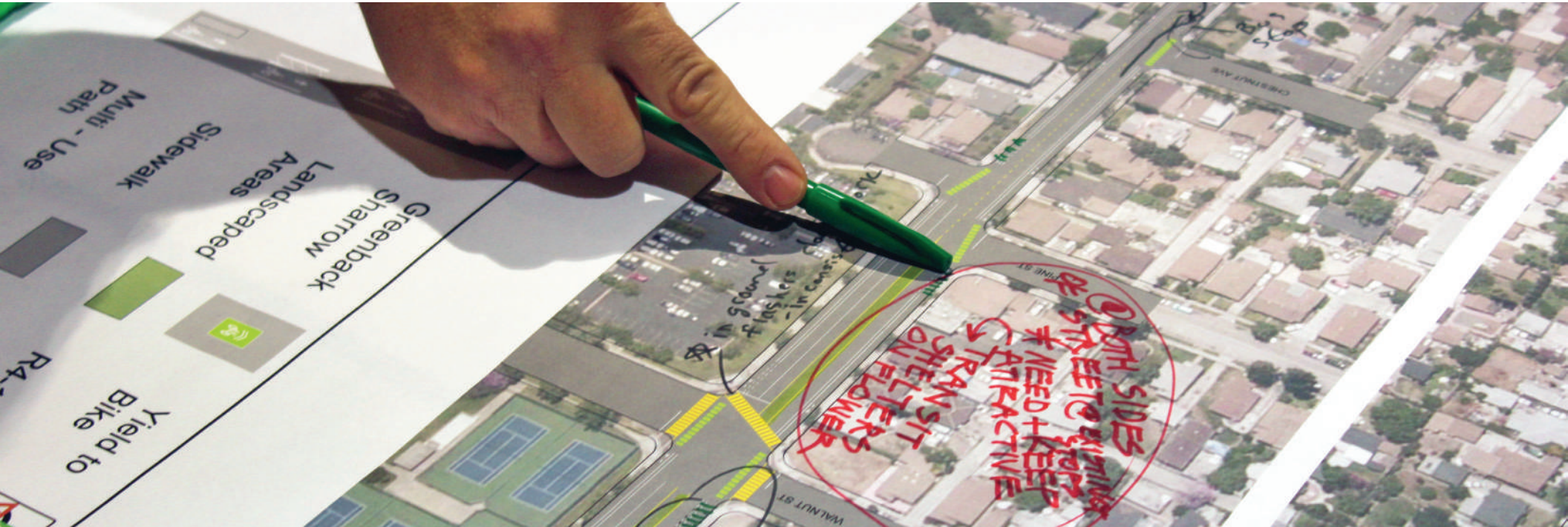
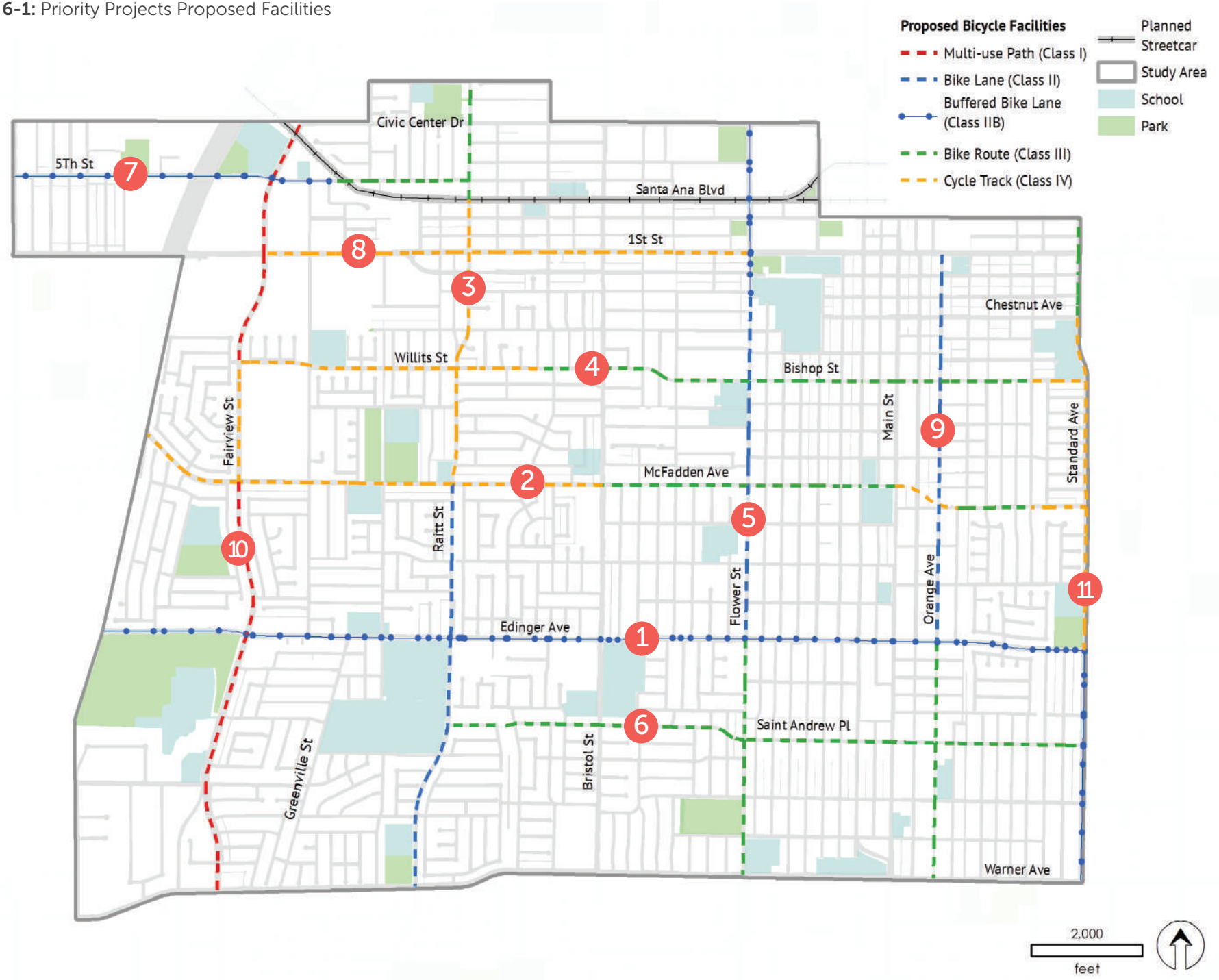


Figure 6-1: Priority Projects Proposed Facilities



Edinger Avenue

Existing Conditions

Edinger Avenue is a high-volume arterial fronted primarily by residential and commercial land uses. The section between Fairview Street and Bristol Street is characterized by heavy vehicular traffic, lack of sidewalks, street trees, and numerous driveways. The section between Bristol Street and Standard Avenue is characterized by the planted center median, and frontage roads that provide direct access to the residential neighborhoods.

Pedestrian and bicycle collisions have been reported at several intersections throughout the corridor. Intersections with reported collisions such as Fairview Street and Raitt Street are surrounded by parks and school, meaning there are high numbers of pedestrians and bicyclists during peak hours. Many of the blocks are long and lack pedestrian crossings. Most of the sidewalks lack parkways which provide no physical separation between pedestrians and the street. The entire corridor lacks bicycle facilities and bus shelters.

The Safe Mobility Santa Ana Plan (SMSA) also identifies Edinger Avenue as a priority corridor. The Segment Demand and Infrastructure analysis conducted in this study resulted that Edinger Avenue has a High Demand, Low Supply section between Harbor Drive and Raitt Street. Statistics such as high pedestrian and bicycle collisions at several intersections, lack of infrastructure, and land use support both plans' recommendations.

6
Schools

2
Parks

42
Bus Stops

2,971
# of Boardings

Arterial
MPAH

Length
3 miles

3,105
# of Kids <14 yrs.

857
# of Seniors >65 yrs.

18
Pedestrian Collision Rate

21
Bicyclist Collision Rate

74
CalEnviroScreen

School crossings without enhanced crosswalks

Missing curb ramps

Bus stop with no shelter

Multiple lanes and long blocks without crossings

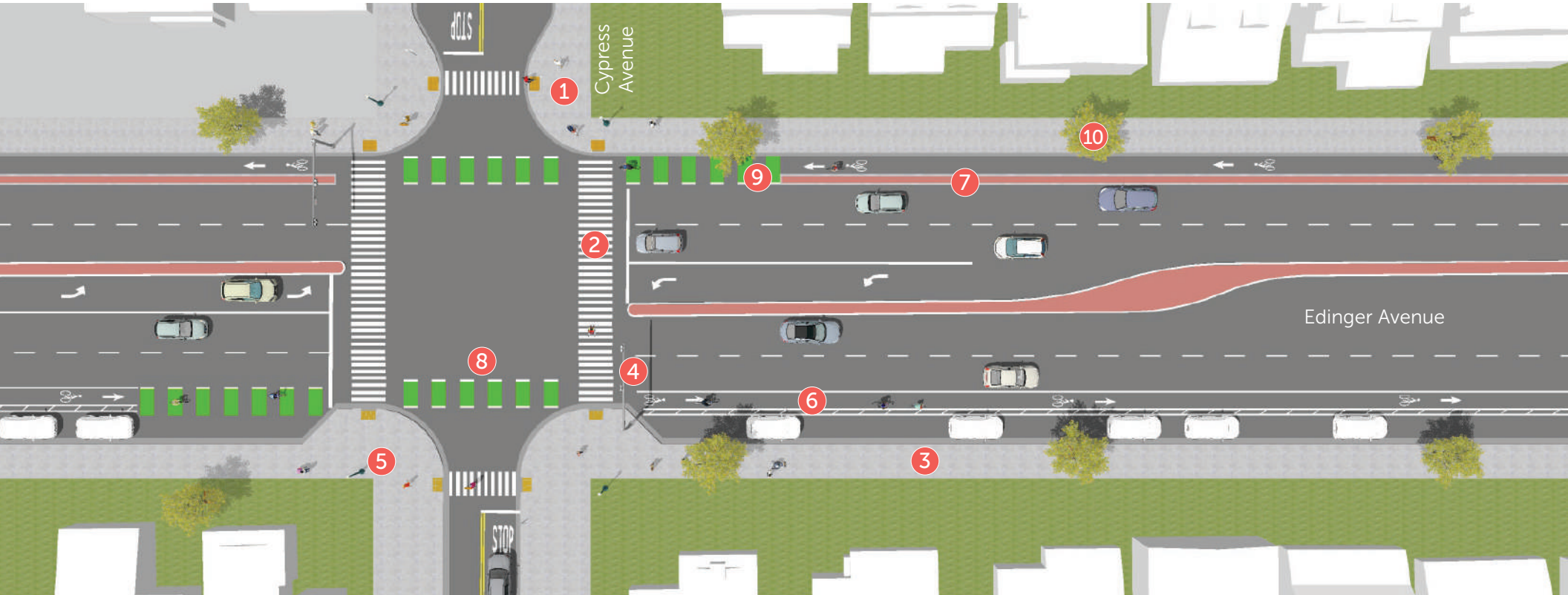
Edinger Avenue Recommendations

The Edinger Avenue corridor was ranked by the community, as the top corridor to receive complete street improvements. This project focuses on improving pedestrian, bicycle and transit infrastructure. Pedestrian improvements include installing missing sidewalks, widening narrow sidewalks, installing parkways where possible, striping enhanced crosswalks, improving traffic signal timing, and lighting. Edinger Avenue is a major school corridor and pedestrian enhancements will be proposed at high volume intersections such as Center Street.

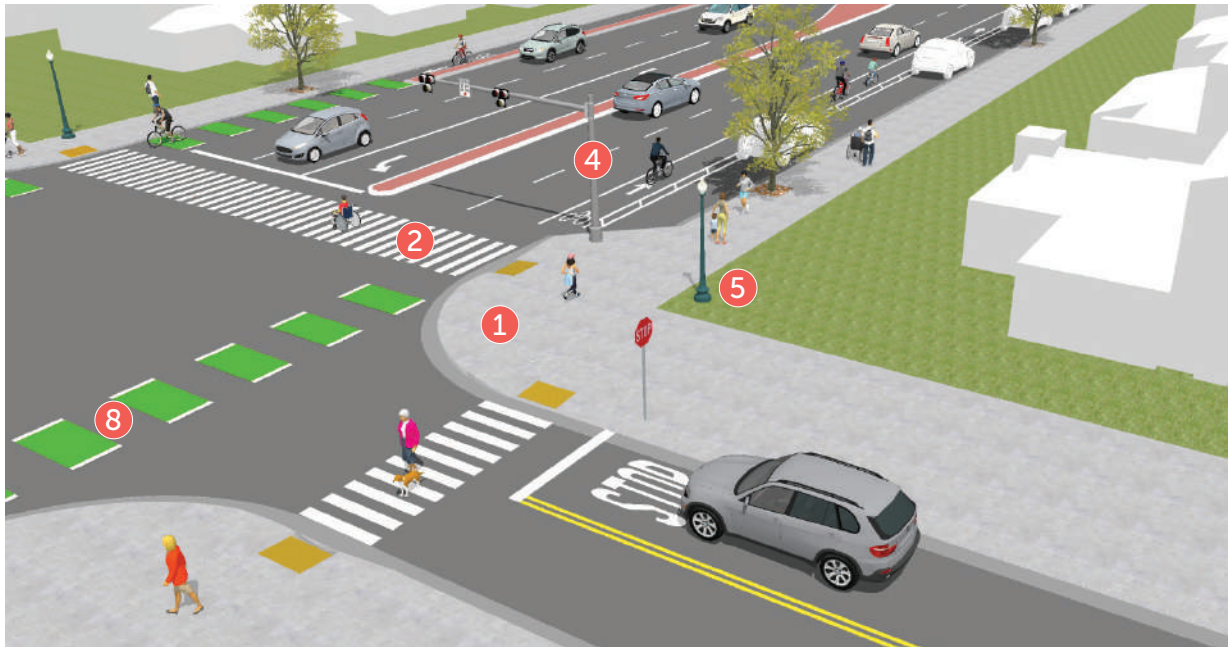
Protected bicycle lanes and conflict striping are proposed along the corridor to encourage bicycling. The project also recommends adding bus shelters. Existing trees are to be protected in place and new street trees added where appropriate.

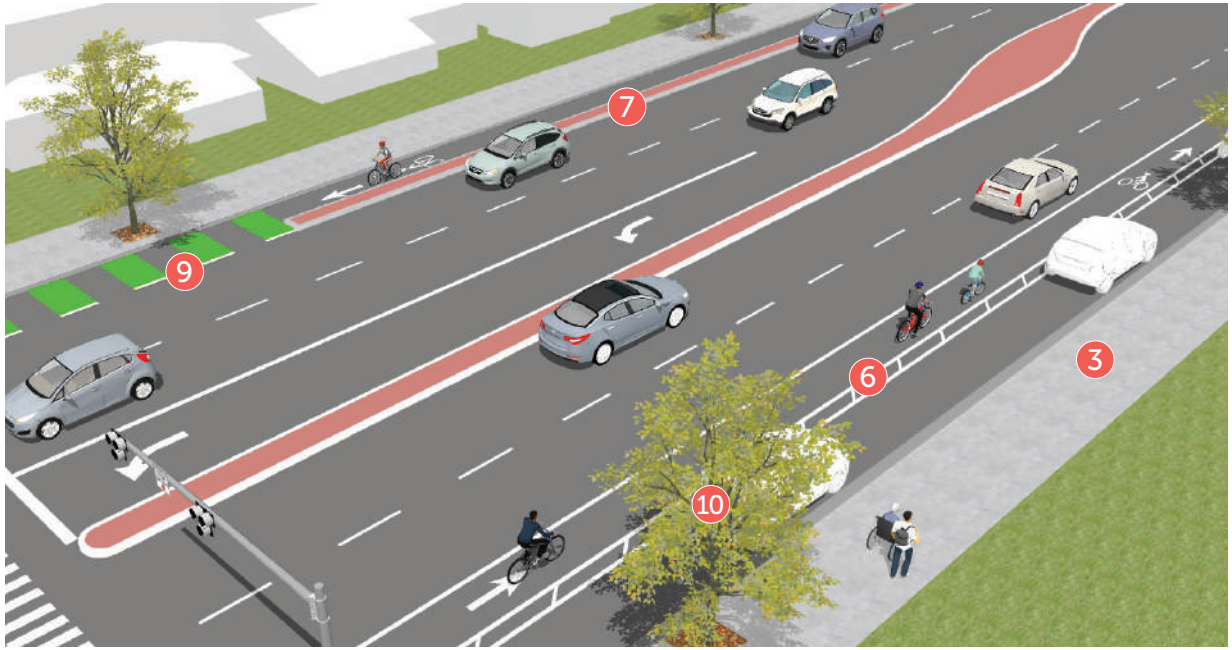
The buffered bicycle lanes, protected bicycle lanes, traffic calming, missing sidewalk installation, and improved pedestrian timing at traffic signals are in accordance with the SMSA.

Cost Estimate: $5,076,057



1. Curb Extensions
2. Enhanced Crosswalks
3. Widened Sidewalks
4. Pedestrian Hybrid Beacon (PHB)
5. Pedestrian Lighting
6. Buffered Bicycle Lane
7. Separated Bicycle Lane
8. Intersection Crossing Markings
9. Conflict Striping
10. Street Trees





Examples of recommendations at Edinger Avenues and Cypress Avenue

McFadden Avenue

Existing Conditions

McFadden Avenue is a major east-west corridor that experiences heavy use from all modes of travel. The section between Fairview Street and Bristol Street is characterized by heavy vehicular traffic, lack of street trees, a wide right-of-way, and is fronted primarily by multi-family residential and commercial land use. The section between Bristol Street and Standard Avenue is characterized by narrow right-of-ways, larger street trees and single family residential homes.

The entire corridor experiences high speeds, narrow sidewalks, and lacks bicycle facilities. The recommendations for this project address the high number of pedestrian and bicycle collisions at several intersections as well as encouraging more walking and bicycling to destinations.

The SMSA also identified McFadden Avenue as a priority corridor. The SMSA analysis resulted that four intersections and two sections would benefit greatly from complete street improvements. The SMSA also described that the majority of collisions occurred at unsignalized intersections. This information is essential in order to determine the best improvements at key intersections.

7
Schools

1
Parks

44
Bus Stops

5,340
# of Boardings

Secondary
MPAH

Length
3 miles

4,875
# of Kids <14 yrs.

920
# of Seniors >65 yrs.

19
Pedestrian Collision Rate

26
Bicyclist Collision Rate

71
CalEnviroScreen

Narrow sidewalk and excess right of way

Bus stop with no shelter

Narrow sidewalk, with street trees

Bicyclists ride on sidewalks, heavy vehicular traffic and speeding

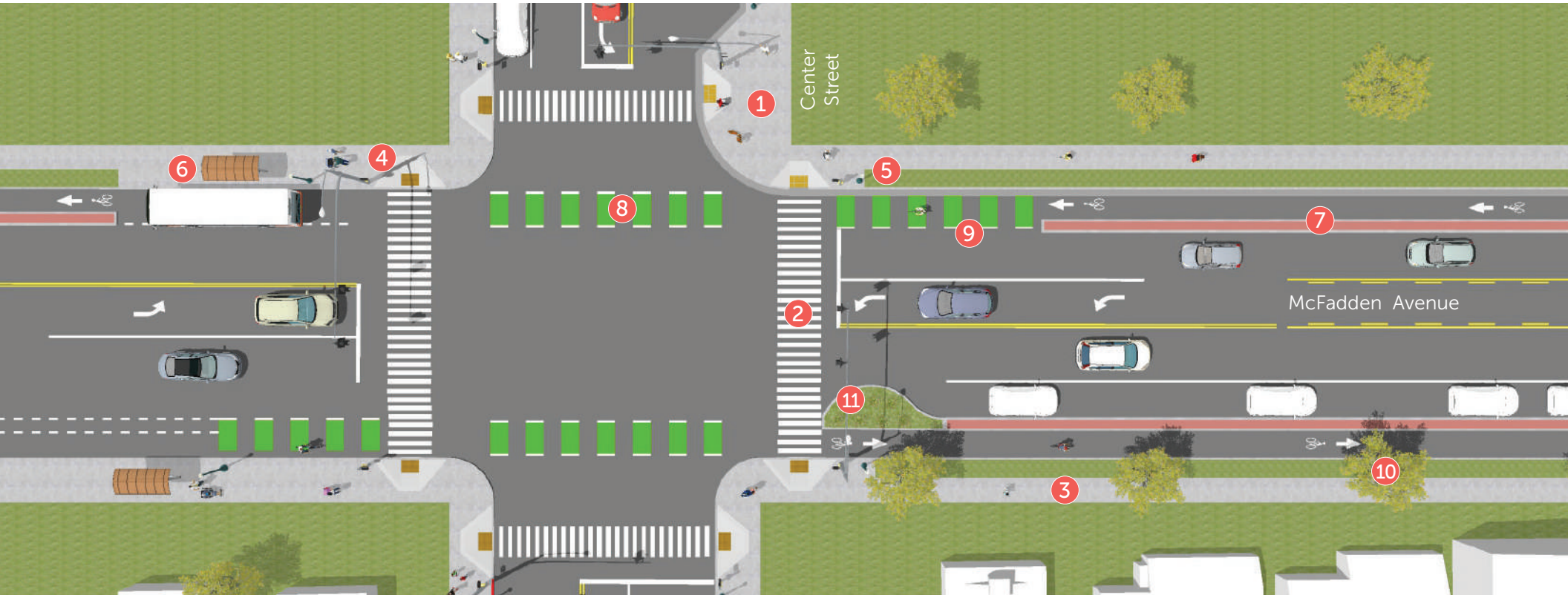
McFadden Avenue Recommendations

Pedestrian improvements include curb extensions, striping enhanced crosswalks, pedestrian-actuated Rectangular Rapid Flashing Beacons at key intersections, a pedestrian scramble, improving traffic signal timing, lighting and public art.

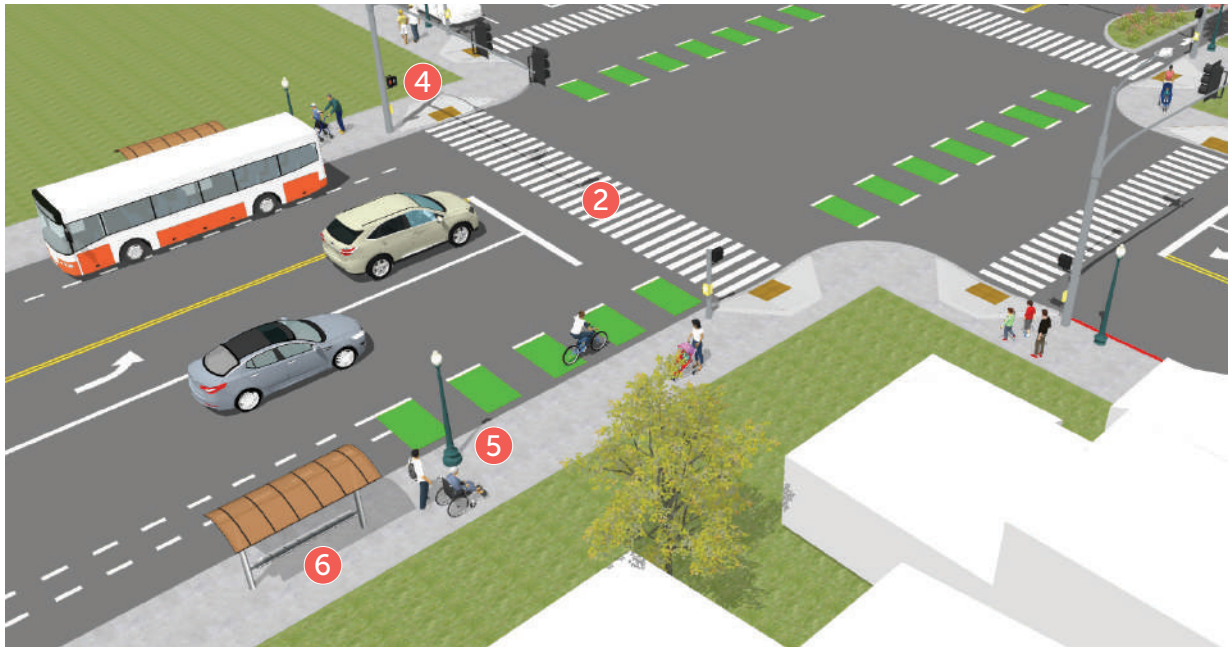
Separated bicycle lanes, green-back sharrow markings and conflict striping are proposed along the corridor. The project also recommends adding shelters to all bus stops. Existing trees are to be protected in place and new street trees added where appropriate.

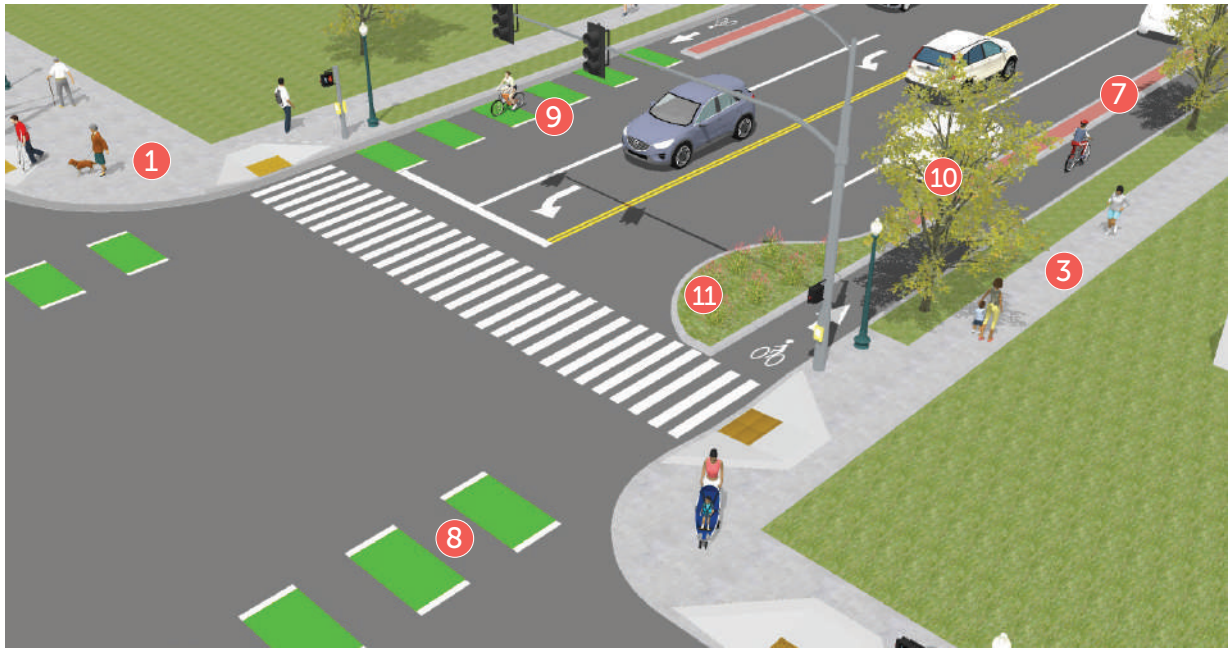
The separated bicycle lanes proposed throughout the corridor are in accordance with the SMSA.

Cost Estimate: $6,999,396



1. Curb Extensions
2. Enhanced Crosswalks
3. Widened Sidewalks
4. Improved Traffic Signal Timing
5. Pedestrian Lighting
6. Bus Shelters
7. Separated Bicycle Lane
8. Intersection Crossing Markings
9. Conflict Striping
10. Street Trees
11. Rain Garden Curb Extensions





Examples of recommendations at McFadden Avenue and Center Street

Raitt Street

Existing Conditions

Raitt Street is a north-south corridor that is fronted primarily by residential land uses. This arterial street experiences heavy use from all modes of travel and connects users to both residential neighborhoods and other arterial streets. Raitt Street is particularly important because several schools and parks within Central Santa Ana can be accessed through this street. Intersections such as Edinger Avenue, McFadden Avenue, Willits Street and 1st Street have high collision rates, bringing special attention to the existing infrastructure and proposed improvements.

Throughout the community workshops, residents communicated the lack of lack sidewalks, curb ramps, crosswalks and lighting along several sections of Raitt Street. People ride bicycles on the sidewalks because there are no existing bicycle facilities. Although the posted speed limit is 35 MPH, people do not feel comfortable sharing the road because of speeding drivers. The excess right-of-way throughout Raitt Street is apparent as vehicular speeding is a common concern. Community members have discussed the need for traffic calming, especially because Raitt Street is fronted primarily by residential neighborhoods and several schools.

A transit line services Raitt Street, but the bus stops lack amenities such as bus shelters.

5
Schools

3
Parks

21
Bus Stops

540
# of Boardings

Secondary
MPAH

Length
3 miles

2,753
# of Kids <14 yrs.

726
# of Seniors >65 yrs.

7
Pedestrian Collision Rate

13
Bicyclist Collision Rate

71
CalEnviroScreen

Missing sidewalk and excess right of way

Missing sidewalk and excess right of way

Bus stop with no shelter

Lack of bicycle routes, excess right of way

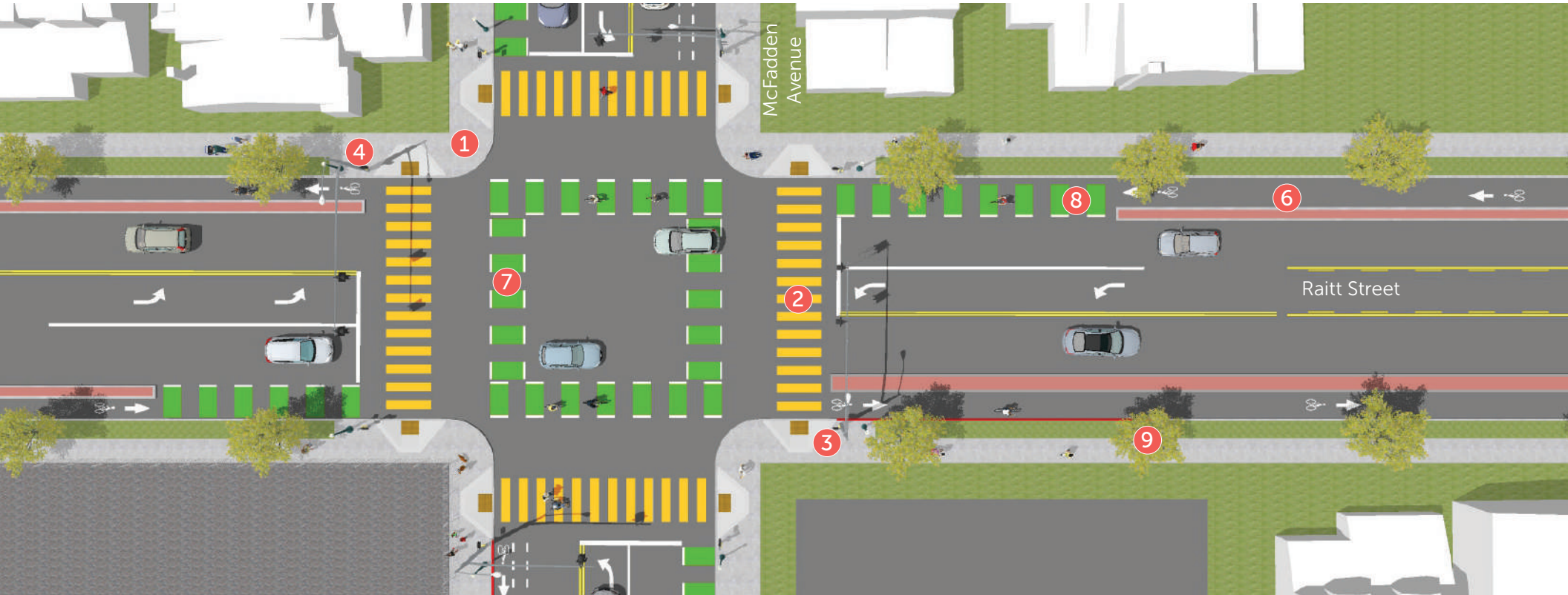
Raitt Street Recommendations

Pedestrian improvements include curb extensions, striping enhanced crosswalks, pedestrian-actuated Rectangular Rapid Flashing Beacons at key intersections, improving traffic signal timing, lighting and public art. The project also proposes to analyze existing traffic signals and determine whether dedicated left-turn signals can be installed. In addition, the project proposes the installation of a traffic signal at the intersection of Willits Street. This was a recurring request from the community members at all workshops because drivers do not respect the posted stop sign and the right-of-way is excessive, making crossing the street difficult for many people.

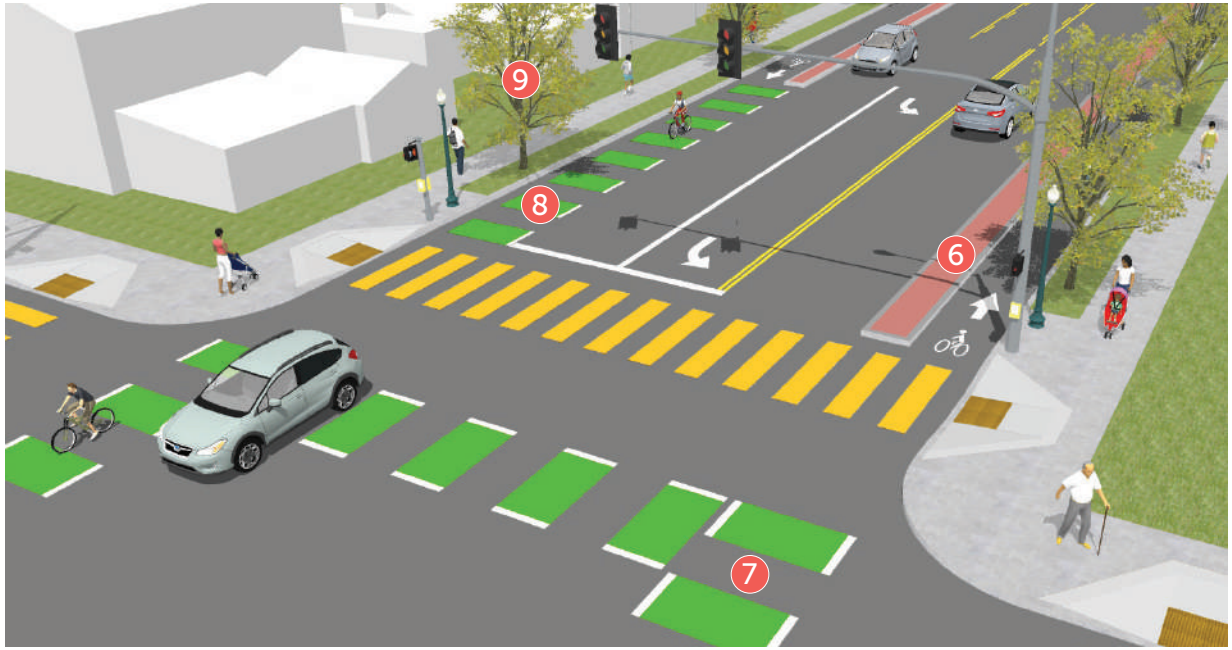
Bicycle lanes, separated bicycle lanes, green-back sharrow markings and conflict striping are proposed along the entire corridor. The project also recommends adding shelters to all bus stops. Existing trees are to be protected in place and new street trees added where appropriate.

Green infrastructure improvements are also recommended at key intersections where flooding occurs. Curb extensions can be designed with rain gardens and existing parkways can be converted to bioswales to capture and filter water. The project also identified a potential pocket park at the intersection of Franklin Street. The irregular intersection can be reconfigured for a safer walking, biking and driving experience while reallocating the excess right-of-way to a pocket park to serve the community.

Cost Estimate: $5,012,489



1. Reduced Curb Radii
2. Enhanced Crosswalks
3. Improved Traffic Signal Timing
4. Pedestrian Lighting
5. Bus Shelters
6. Separated Bicycle Lane
7. Intersection Crossing Markings for Bicyclists
8. Conflict Striping
9. Street Trees



Examples of recommendations at Raitt Street and McFadden Avenue

Willits Street-Bishop Street

Existing Conditions

Willits Street-Bishop Street is an east-west corridor that is fronted primarily by residential land use. This corridor experiences moderate use from all modes of travel and connects users to both residential neighborhoods and busy arterial streets. Intersections near schools such as Flower Street, have experienced high rates of collisions.

The right-of-way between Fairview Street and Bristol Street is extremely wide, making crossing the street difficult and unsafe at busy intersections. Traffic signal timing and lack of enhanced crosswalks, near schools and busy arterial streets with access to transit, is an issue. The right-of-way between Bristol Street and Standard Avenue is narrow, especially with the parked cars. Pedestrian and bicyclist visibility is a key issue along this section of the corridor.

The entire corridor experiences high speeding, contains narrow sidewalks, and lacks bicycle facilities.

During the planning stages of this project, traffic circles were installed on Willits Street at Pacific Avenue and on West Bishop Street at Baker Street. These traffic circles enhances this corridor for bicycle travel and traffic calming.

6
Schools

1
Parks

12
Bus Stops

327
# of Boardings

N/A
MPAH

Length
3 miles

5,029
# of Kids <14 yrs.

919
# of Seniors >65 yrs.

11
Pedestrian Collision Rate

9
Bicyclist Collision Rate

74
CalEnviroScreen

Excess right of way and lack of parkways

Multiple travel lanes, faded crosswalks

Traffic Circle on Willits Street and Pacific Avenue

Excess right of way, missing crosswalks and bicycle routes

Willits Street-Bishop Street Recommendations

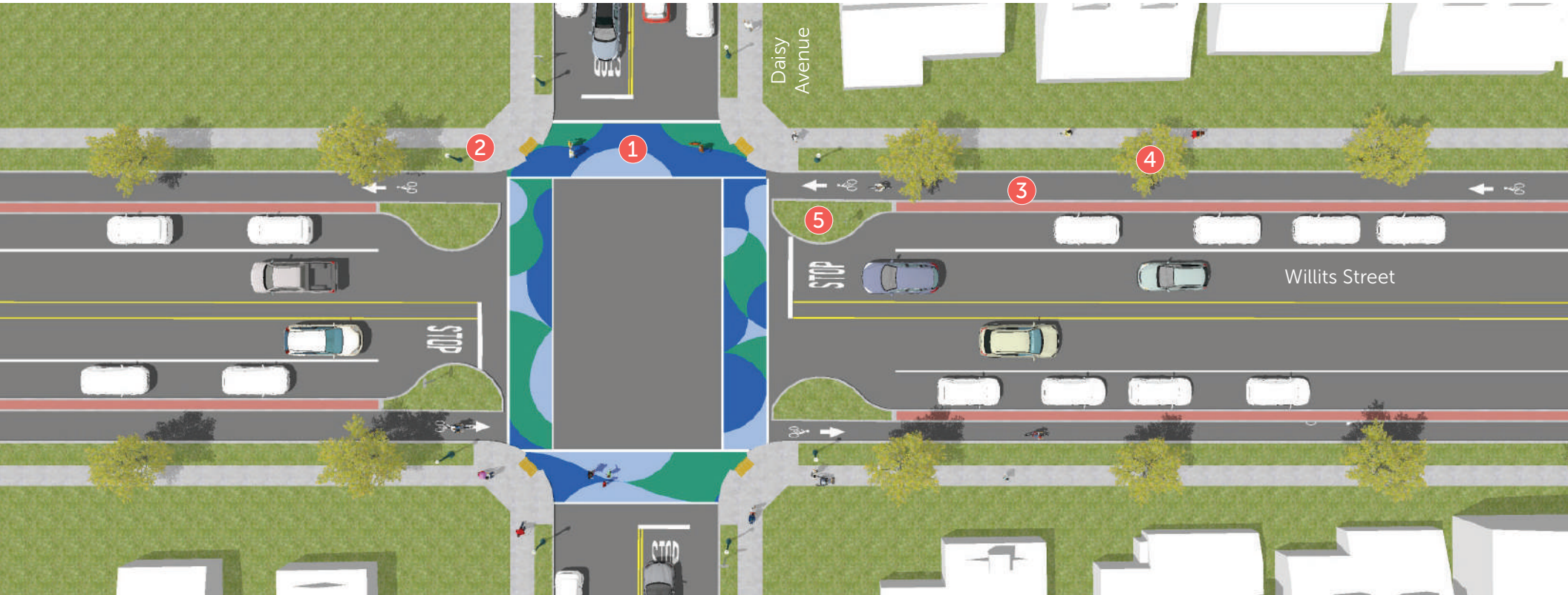
The Willits Street-Bishop Street proposed improvements are designed to transform this corridor into a neighborhood greenway (bicycle boulevard).

Pedestrian improvements include curb extensions, striping enhanced crosswalks with public-driven art designs, pedestrian-actuated Rectangular Rapid Flashing Beacons at key intersections, improving traffic signal timing and lighting. The project also proposes to install a traffic signal and several mini traffic circles at key intersections to improve traffic calming and safety.

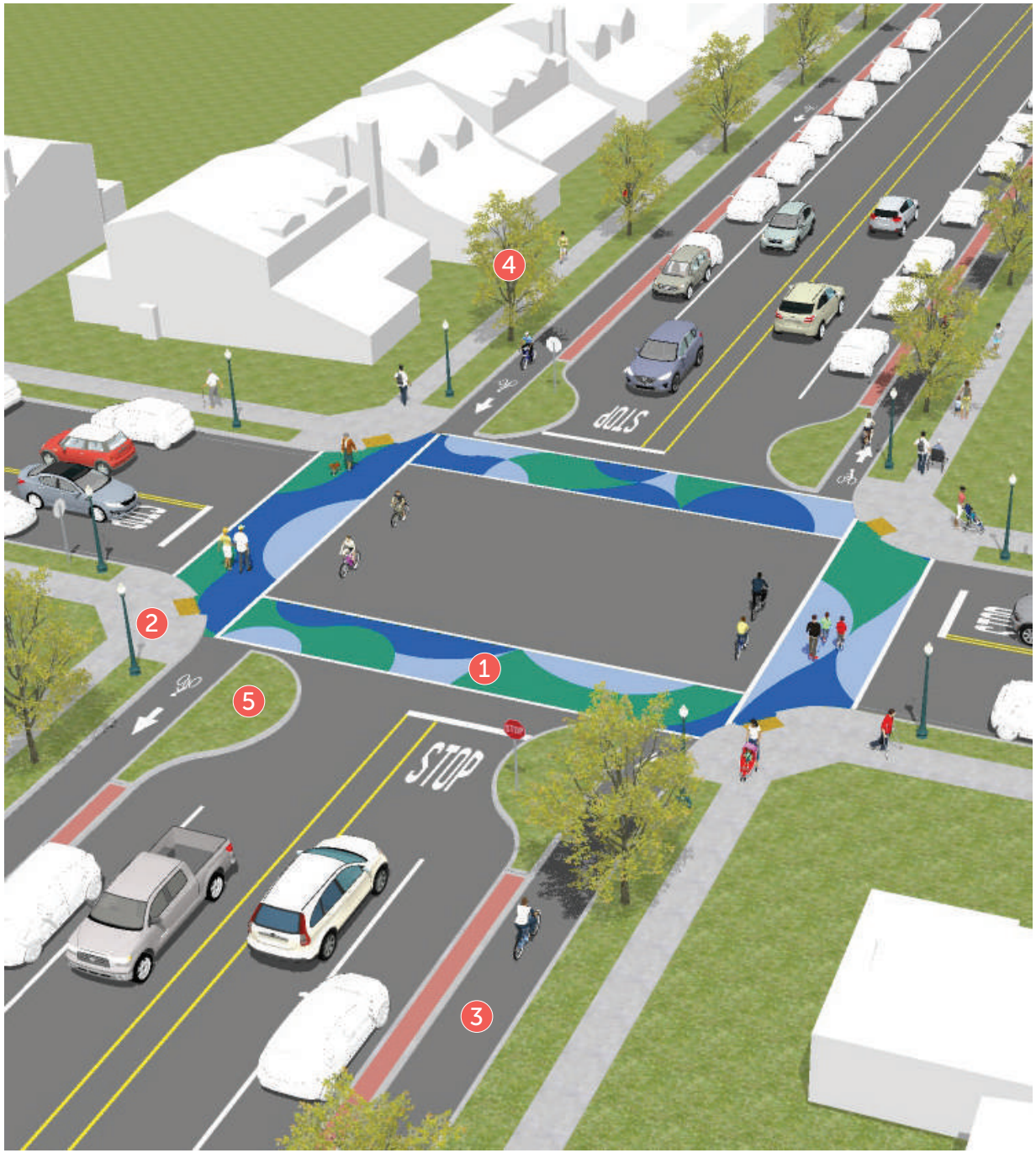
The project proposes extending the already-planned separated bicycle lanes and conflict striping along the entire corridor.

Existing trees are to be protected in place and new street trees added where appropriate. Green infrastructure improvements are also recommended at key intersections where serious flooding occurs. Curb extensions can be designed with rain gardens and existing parkways can be converted to bioswales to capture and filter water.

Cost Estimate: $6,293,462



1. Crosswalk Art
2. Pedestrian Lighting
3. Separated Bicycle Lane
4. Street Trees
5. Rain Garden Curb Extensions



Examples of recommendations at Willits Street and Daisy Avenue

Flower Street

Existing Conditions

Flower Street is a north-south corridor that is fronted by residential and civic land uses. This corridor experiences heavy use from all modes of travel and connects users to both residential neighborhoods and other busy arterial streets. This corridor is popular for travel because several schools and parks are adjacent to the street and the northern segment of this corridor services Downtown and the Civic Center of Santa Ana.

Collision data reveals that intersections with busy arterial streets such as McFadden Avenue and 1st Street experience high levels of collisions. Average daily traffic data reports that Flower Street has low traffic rates, making this a convenient north-south corridor.

Flower Street has a significant urban canopy, providing much-needed shade, traffic calming and comfort for people that travel along this corridor. In addition, a parkway is present throughout the majority of the corridor.

6
Schools

4
Parks

37
Bus Stops

1,070
# of Boardings

Secondary
MPAH

Length
2 miles

3,384
# of Kids <14 yrs.

763
# of Seniors >65 yrs.

11
Pedestrian Collision Rate

20
Bicyclist Collision Rate

72
CalEnviroScreen

Bus stop with no shelter

School crossing without enhanced crosswalks

Missing parkways and street trees

Improve traffic signal timing for pedestrians, lack of enhanced crosswalks

Flower Street Recommendations

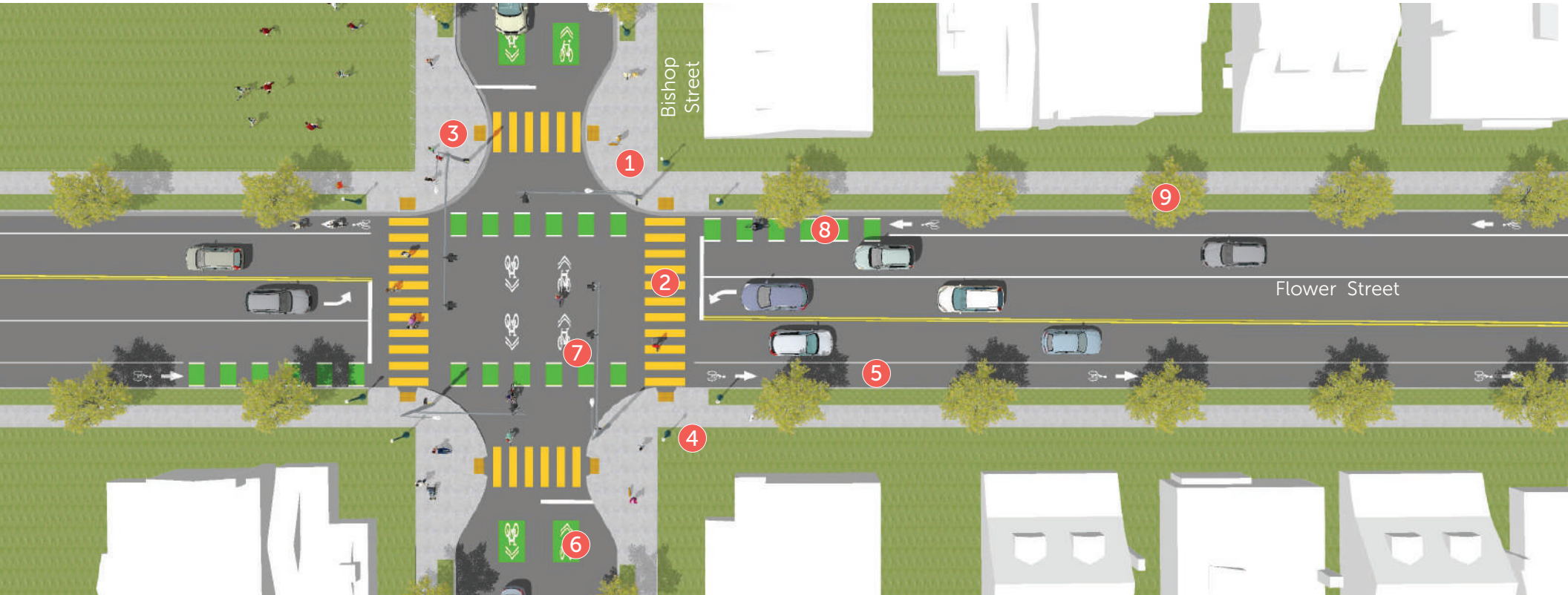
The Flower Street recommendations are designed to transform this corridor into a neighborhood greenway. The lower traffic volumes, existing tree canopy, and access to several schools and parks make this corridor an ideal neighborhood greenyway.

Pedestrian improvements include curb extensions, striping enhanced crosswalks, public-driven crosswalk art, improving traffic signal timing and lighting.

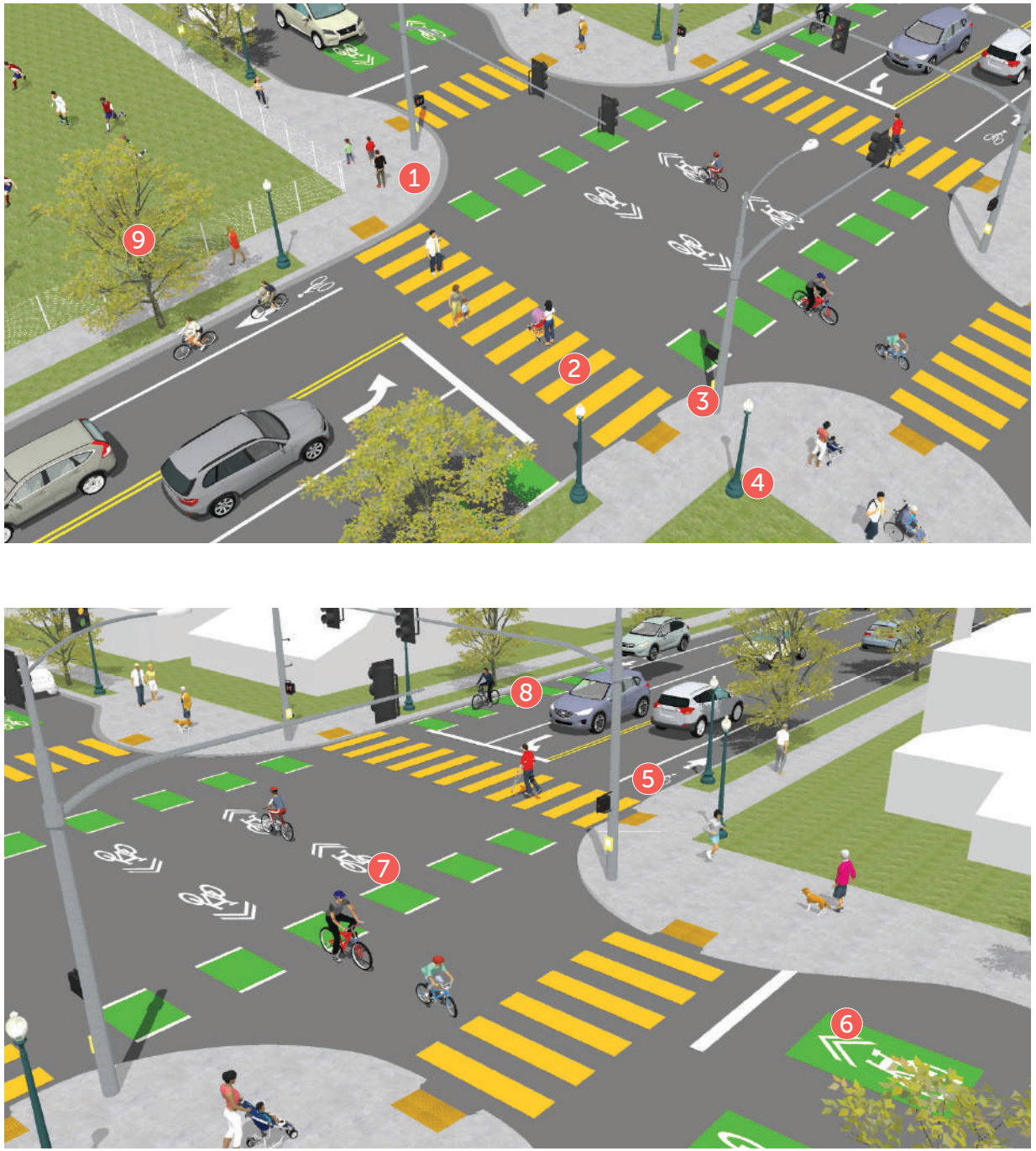
The project proposes bicycle lanes, green-back sharrow markings and conflict striping along the entire corridor. Existing trees are to be protected in place and new street trees added where appropriate.

The project also recommends adding attractive shelters to all bus stops.

Cost Estimate: $2,075,569



1. Curb Extensions
2. Enhanced Crosswalks
3. Improved Traffic Signal Timing
4. Pedestrian Lighting
5. Bicycle Lane
6. Greenback Sharrows
7. Intersection Crossing Markings for Bicyclists
8. Conflict Striping
9. Street Trees



Examples of recommendations at Flower Street and Bishop Street

Saint Andrew Place

Existing Conditions

Saint Andrew Place is an east-west corridor that travels primarily through residential land use. This corridor experiences moderate use from all modes of travel and connects users to both residential neighborhoods and busy arterial streets.

Collision data reveals that intersections with busy arterial streets such as Bristol Street and Main Street experience high levels of collisions. The intersection at Bristol Street received many comments during the community at the workshops which include, excessive street width and lack of a full-stop controlled traffic, especially for the students that cross the street here daily.

The entire corridor lacks bicycle routes and enhanced crosswalks at major intersections.

6
Schools

0
Parks

11
Bus Stops

179
# of Boardings

N/A
MPAH

Length
2 miles

2,132
# of Kids <14 yrs.

612
# of Seniors >65 yrs.

5
Pedestrian Collision Rate

15
Bicyclist Collision Rate

75
CalEnviroScreen

Pedestrian and bicycle bridge

Lack of bicycle facilities

Lack of bicycle routes and crosswaks

Lack of bicycle routes, excess right of way

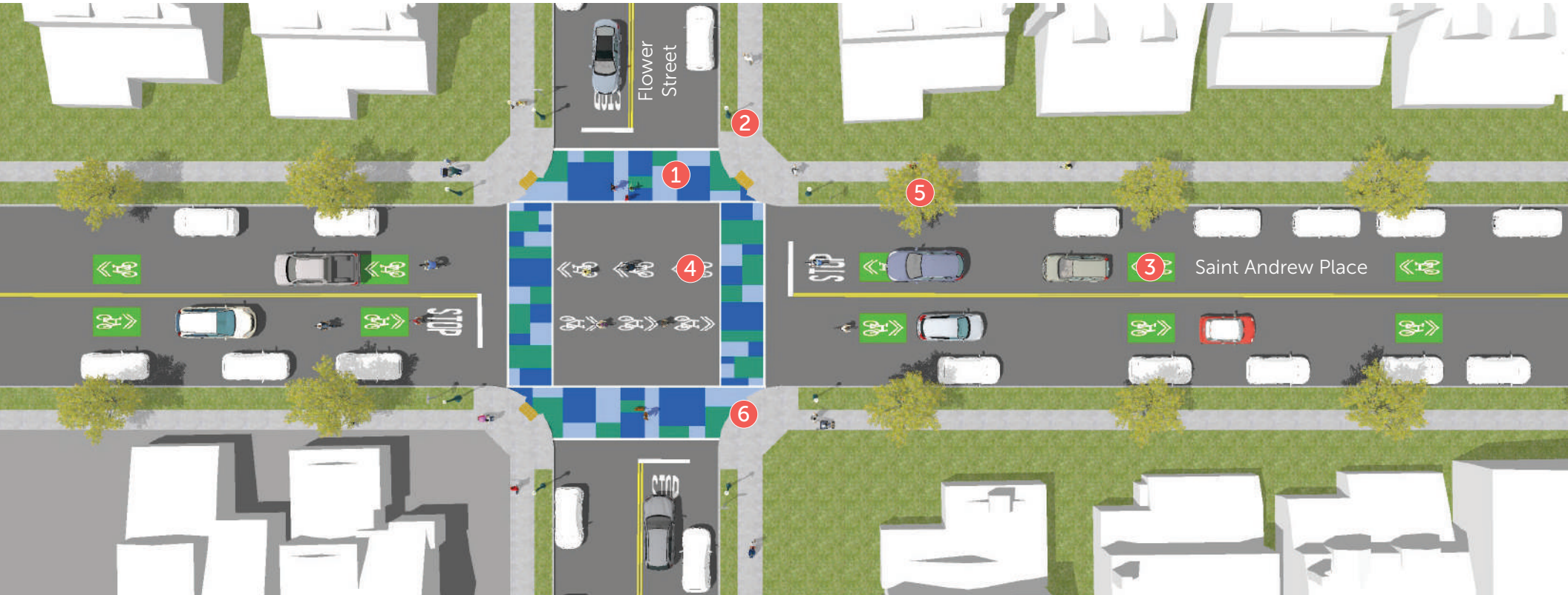
Saint Andrew Place Recommendations

The Saint Andrew Place proposed improvements are designed to transform this corridor into a neighborhood greenway (bicycle boulevard).

Pedestrian improvements include striping enhanced crosswalks, public-driven crosswalk art, pedestrian-actuated Rectangular Rapid Flashing Beacons at key intersections, improving traffic signal timing and lighting.

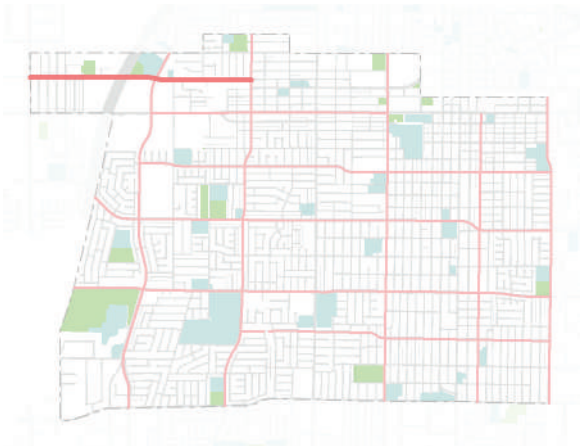
The project proposes green-back sharrow markings and conflict striping along the entire corridor. Existing trees are to be protected in place and new street trees added where appropriate. The project also proposes to install several mini traffic circles at key intersections to improve traffic calming and safety.

Cost Estimate: $2,072,021



1. Crosswalk Art
2. Pedestrian Lighting
3. Greenback Sharrows
4. Intersection Markings
5. Street Trees
6. Reduced Curb Radii

Examples of recommendations at
St Andrew Place and Flower Street



5th Street

Existing Conditions

5th Street is a major east-west corridor that is fronted by a mix of industrial and commercial land uses and small parcels of residential. Cesar Chavez Campesino Park, Spurgeon Park and Spurgeon Intermediate School are also on 5th Street. The recommendations for this high-volume, auto-oriented corridor aim to improve the comfort and safety of pedestrians and bicyclists. The right-of-way varies between four lanes to two lanes with segments of on-street parking and missing sidewalks.

This corridor also makes connections to the planned streetcar and the Santa Ana River Trail, just west of Fairview Street.

Length
2 miles

2
Schools

2
Parks

6
Bus Stops

224
# of Boardings

N/A
MPAH

1,552
# of Kids <14 yrs.

457
# of Seniors >65 yrs.

9
Pedestrian Collision Rate

15
Bicyclist Collision Rate

73
CalEnviroScreen

Missing sidewalk

Obstructions in the sidewalk

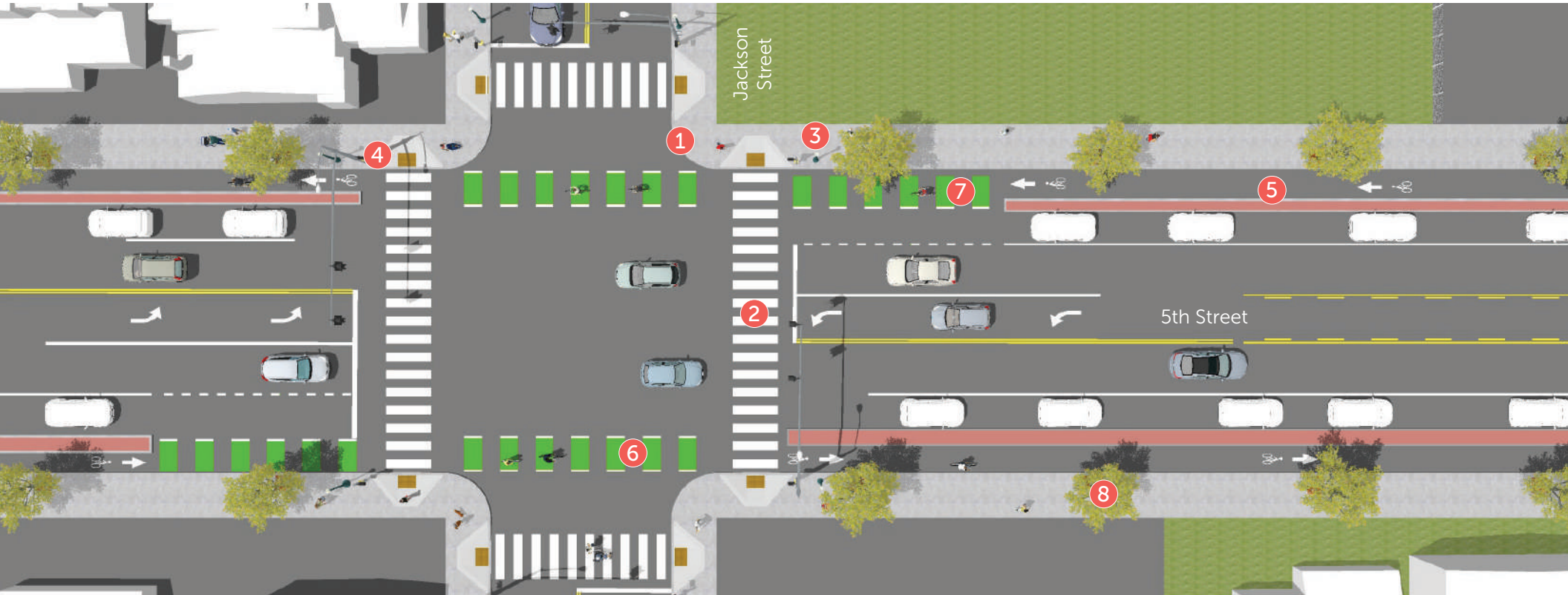
Missing sidewalk and excess right of way

Lack of bicycle routes, excess right of way, no parkways and street trees

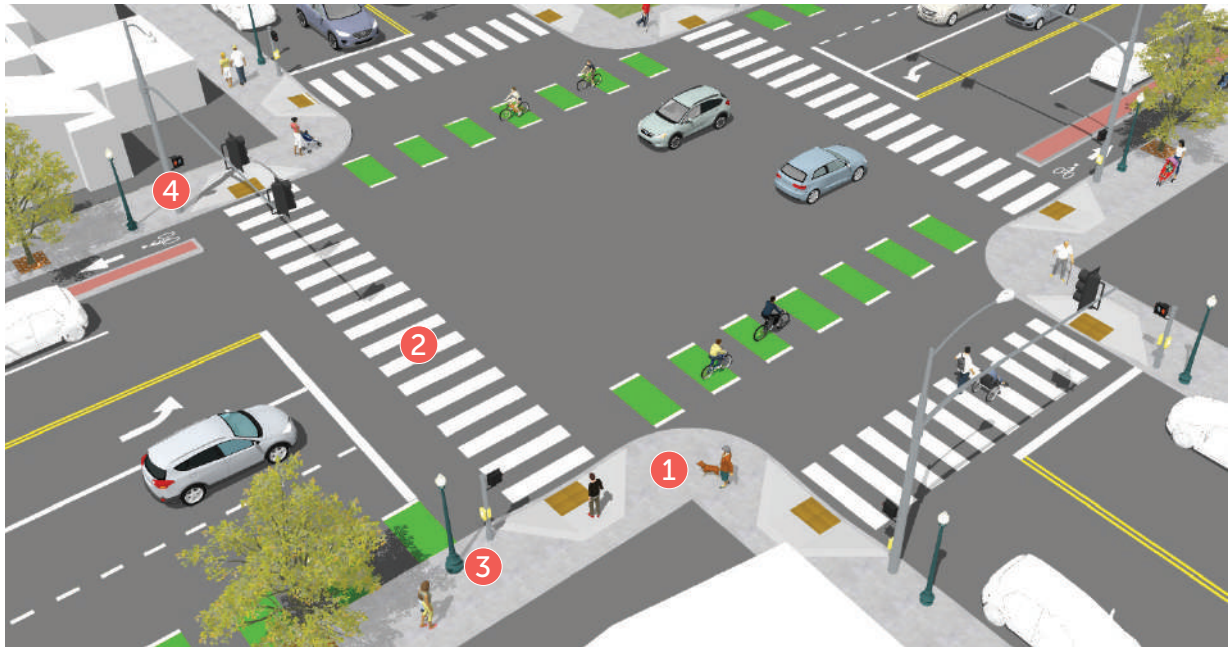
5th Street Recommendations

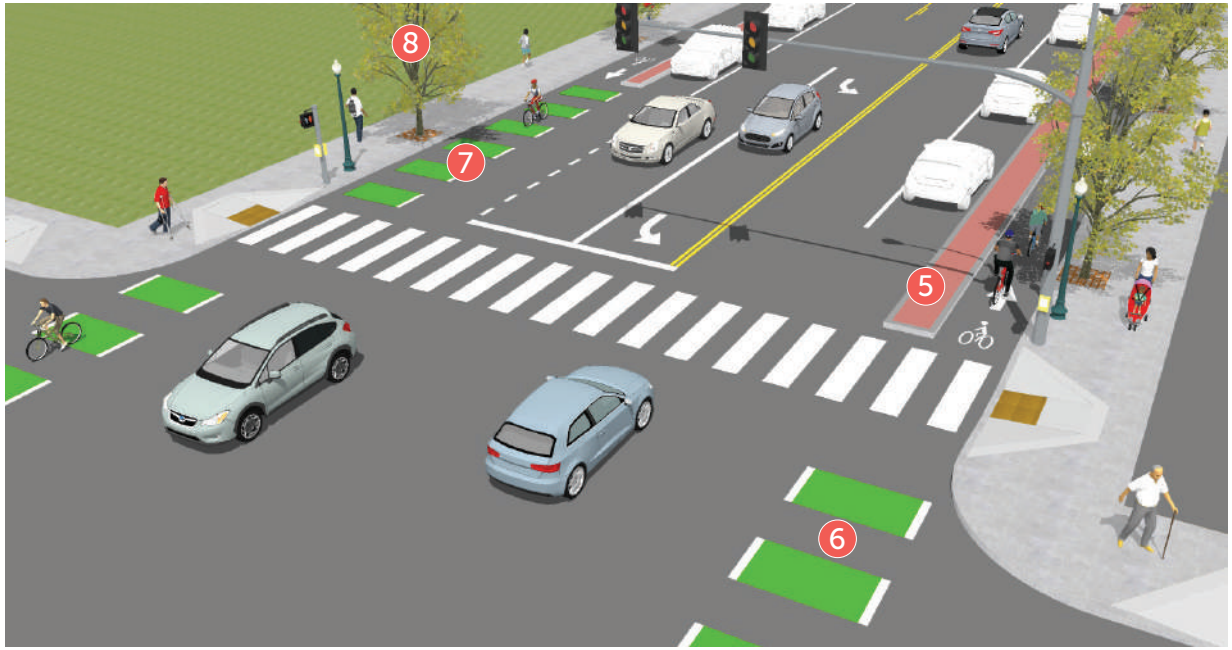
Pedestrian improvements include installing missing sidewalks and curb ramps, striping enhanced crosswalks, improving traffic signal timing and lighting. Separated bicycle lanes, green-back sharrow markings and conflict striping are proposed along the corridor. Existing trees are to be protected in place and new street trees added where appropriate.

Cost Estimate: $4,813,845

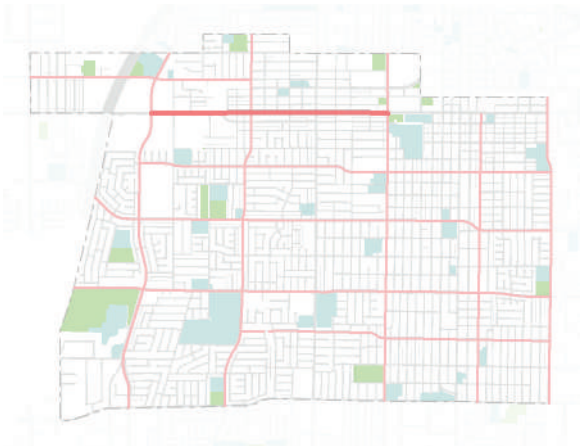


1. Reduced Curb Radii
2. Enhanced Crosswalks
3. Pedestrian Lighting
4. Improved Traffic Signal Timing
5. Separated Bicycle Lane
6. Intersection Crossing Markings
7. Conflict Striping
8. Street Trees





Examples of recommendations at
5th Street and Jackson Street



1st Street

Existing Conditions

First Street is a major east-west corridor that is fronted by industrial, commercial, and residential land uses and is a continuation of the improvements recommended in the Downtown Complete Streets Plan and SMSA.

Through analysis and public input, issues were brought up that includes difficulty in crossing due to the width of 1st Street and long blocks between intersections. Jaywalking is prevalent throughout 1st Street. In addition the high volume, high speeds and lack of bicycle lanes make it a deterrent for bicycle travel. Many bicyclists are seen riding on the sidewalks. First street also has high rates of bicycle and pedestrian collisions particulary at Flower Street and mid-blocks throughout. As a major transit route, many of the bus stops lack shelters.

Length
2 miles

3
Schools

2
Parks

25
Bus Stops

3,175
# of Boardings

Arterial
MPAH

2,525
# of Kids <14 yrs.

671
# of Seniors >65 yrs.

19
Pedestrian Collision Rate

34
Bicyclist Collision Rate

75
CalEnviroScreen

Missing sidewalk and excess right of way

Missing sidewalk and excess right of way

Bus stop with missing shelter

Lack of bicycle routes, excess right of way

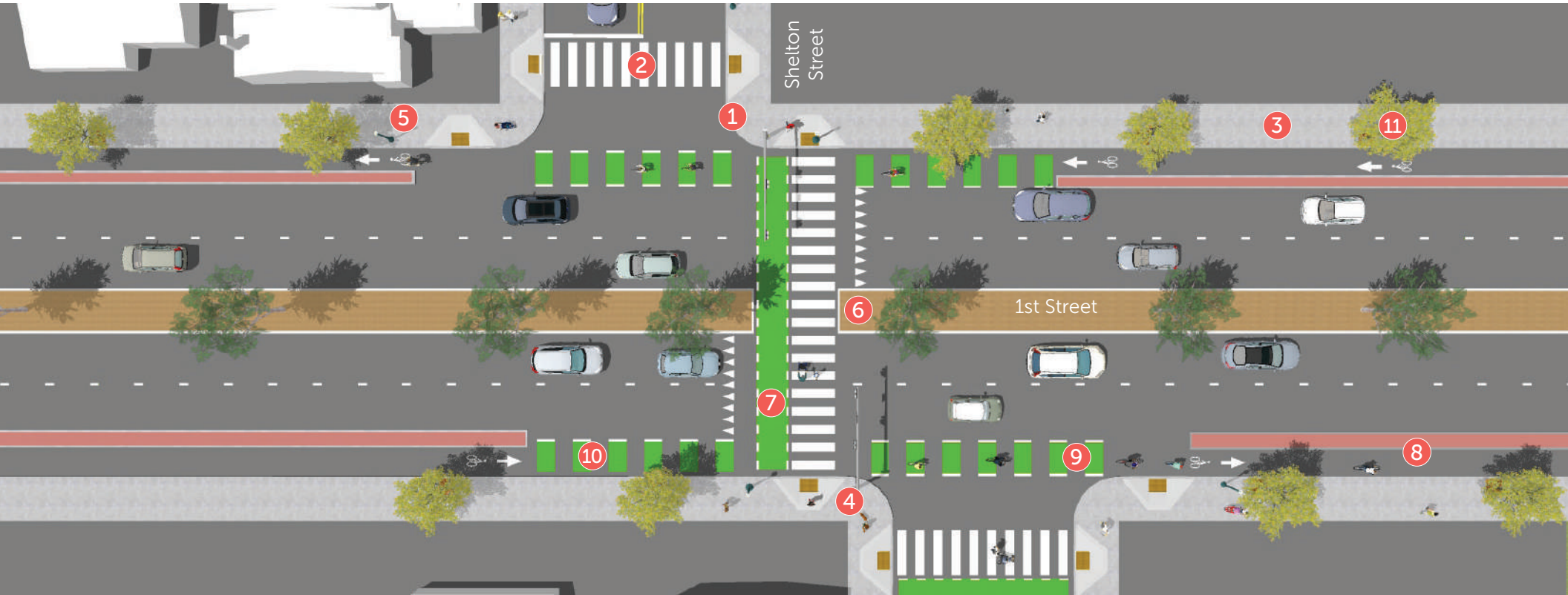
1st Street Recommendations

The recommendations for this high-volume, auto-oriented corridor aim to improve the comfort and safety of pedestrians, bicyclists and transit users.

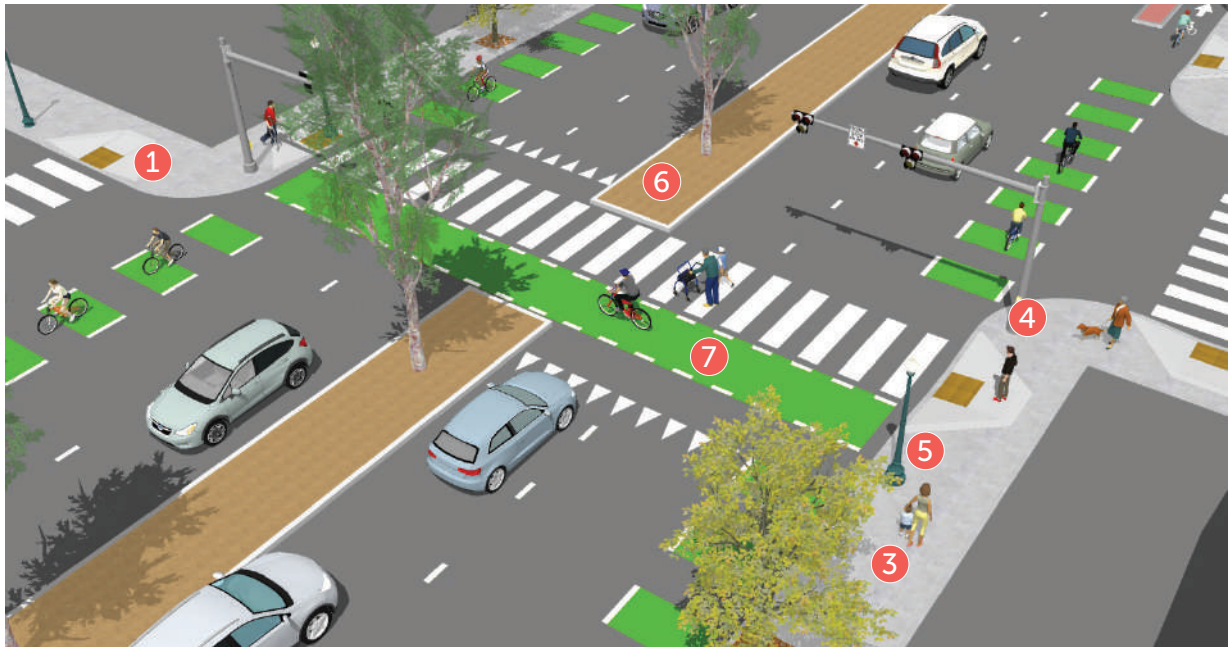
Pedestrian improvements include striping enhanced crosswalks, Rectangular Rapid Flashing Beacons at key intersections, improving traffic signal timing, lighting and crosswalk art. The project also proposes to install traffic signals at key intersections to improve traffic calming and safety.

Separated bicycle lanes, green-back sharrow markings and conflict striping are proposed along the corridor. Existing trees are to be protected in place and new street trees added where appropriate. The project also recommends adding shelters to all bus stops.

Cost Estimate: $3,663,352



1. Reduced Curb Radii
2. Enhanced Crosswalks
3. Widened Sidewalks
4. Pedestrian Hybrid Beacon (PHB)
5. Pedestrian Lighting
6. Median Refuge
7. Bike and Pedestrian Crossing
8. Separated Bicycle Lane
9. Intersection Crossing Markings for Bicyclists
10. Conflict Striping
11. Street Trees



Examples of recommendations at 1st Street and Shelton Street

Orange Avenue

Existing Conditions

Orange Avenue is a north-south corridor that is fronted primarily by residential land use. This corridor experiences moderate use from all modes of travel and connects users to residential neighborhoods and other busy arterial streets. This corridor has a dense urban tree canopy making it a popular walking route for local residents.

During the outreach process, participants noted that speeding and cut-through traffic to Downtown Santa Ana were the main issues.

Length
2 miles

4
Schools

0
Parks

14
Bus Stops

986
# of Boardings

N/A
MPAH

2,484
# of Kids <14 yrs.

574
# of Seniors >65 yrs.

16
Pedestrian Collision Rate

20
Bicyclist Collision Rate

82
CalEnviroScreen

Lack of enhanced crosswalks

School crossing without enhanced crosswalks

Lack of bicycle routes, excess right of way

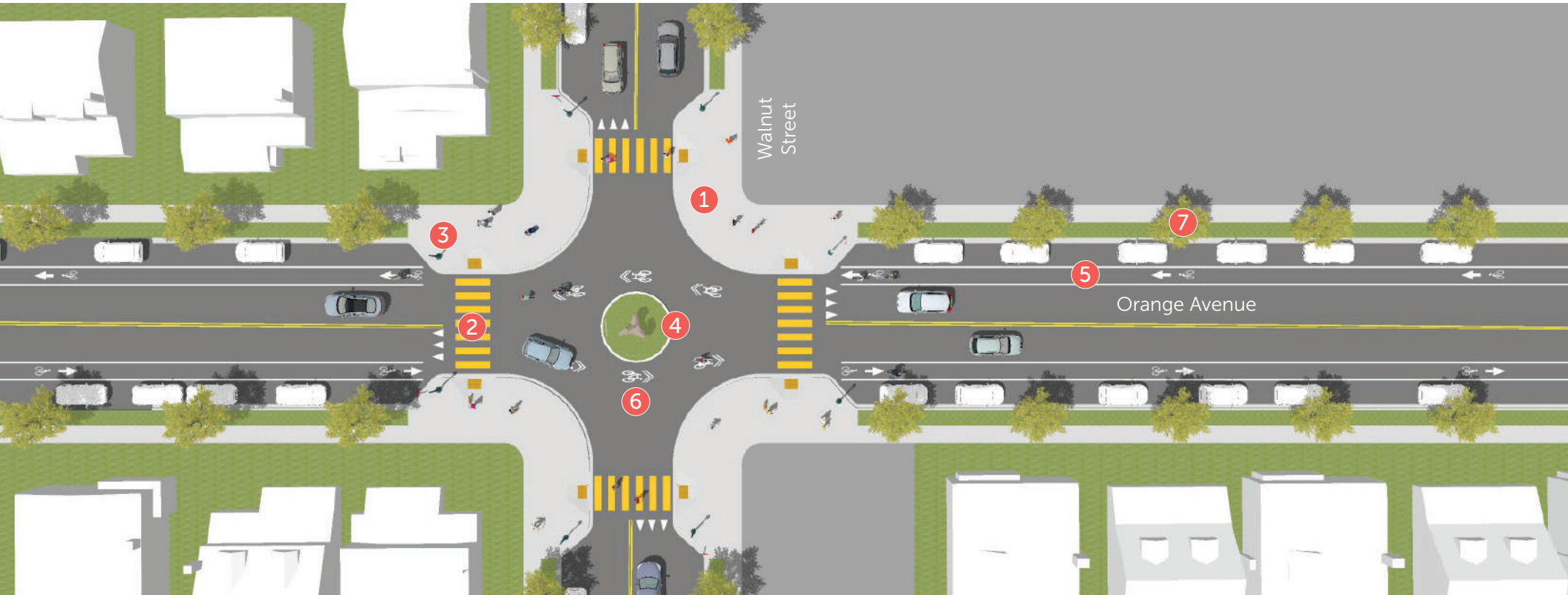
Narrow sidewalks and in need of repair, lack of parkways and street trees

Orange Avenue Recommendations

Pedestrian improvements include curb extensions, striping enhanced crosswalks, crosswalk art, improving traffic signal timing and lighting. The project proposes bicycle lanes and conflict striping along the entire corridor. The project also proposes to install several mini traffic circles at key intersections to improve traffic calming and safety.

Existing trees are to be protected in place and new street trees added where appropriate.

Cost Estimate: $5,774,398



1. Curb Extensions
2. Enhanced Crosswalks
3. Pedestrian Lighting
4. Mini Traffic Circle with Public Art
5. Bicycle Lane
6. Intersection Crossing Markings
7. Street Trees

Examples of recommendations at Orange Avenue and Walnut Street

Fairview Street

Existing Conditions

Fairview Street is a high volume arterial fronted primarily by residential and commercial land uses. There is a high number of pedestrian and bicycle collisions at several intersections, such as at McFadden Avenue. The blocks are long with some segments lacking parkways which provide little to no physical separation between pedestrians and the travel lanes. The corridor also lacks bicycle facilities and bus shelters.

Fairview Street was selected as one of the top corridors due to the bicycle and pedestrian barriers for most of the corridor. High speeds, traffic volumes, large intersections, and in some segments, a walled sidewalk, which provides little pedestrian manueverability were issues raised during the workshops. The commercial uses and bus stops along the corridor are important destinations to local residents. As a regional corridor, bicycle facilities were suggested throughout Fairview Street.

Length
3 miles

6
Schools

3
Parks

31
Bus Stops

2,627
# of Boardings

Arterial
MPAH

2,112
# of Kids <14 yrs.

620
# of Seniors >65 yrs.

10
Pedestrian Collision Rate

23
Bicyclist Collision Rate

74
CalEnviroScreen

Lack of enhanced crosswalks

Bus shelter with no shelter

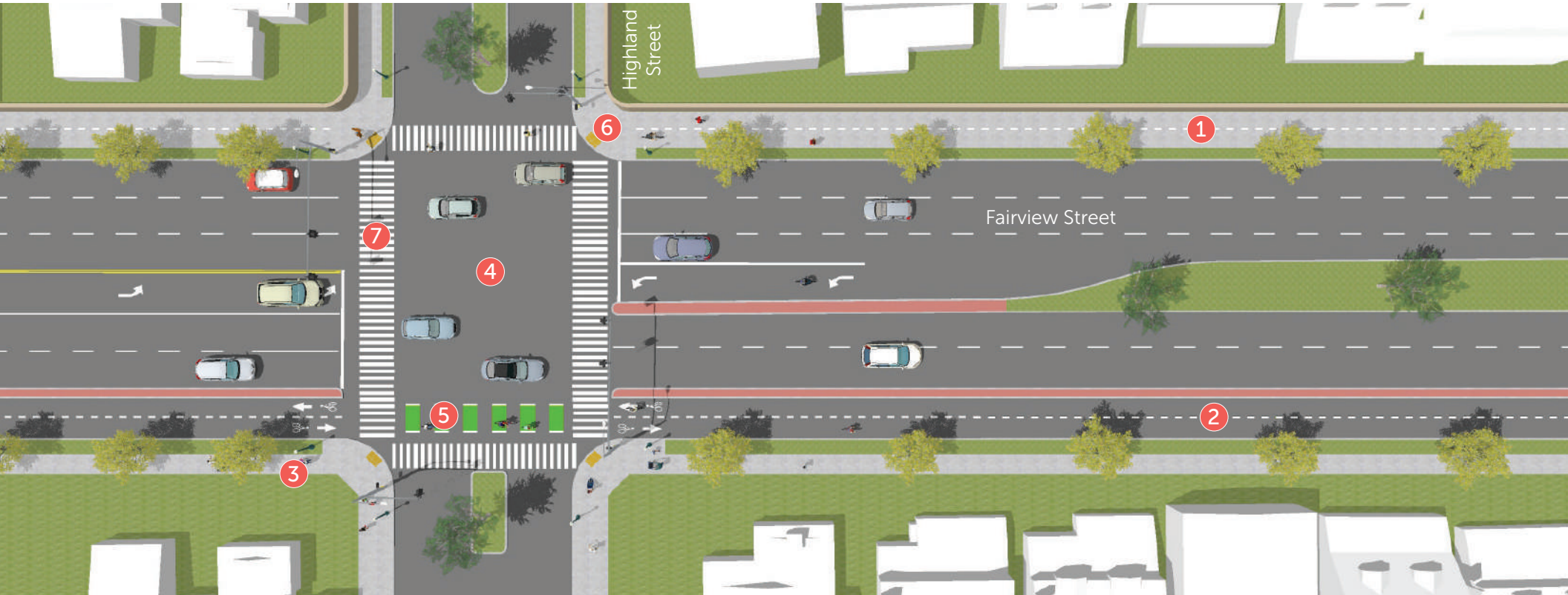
Excess right of way, vehicular speeding, lack of parkways

Improve traffic signal timing for pedestrians, lack of enhanced crosswalks

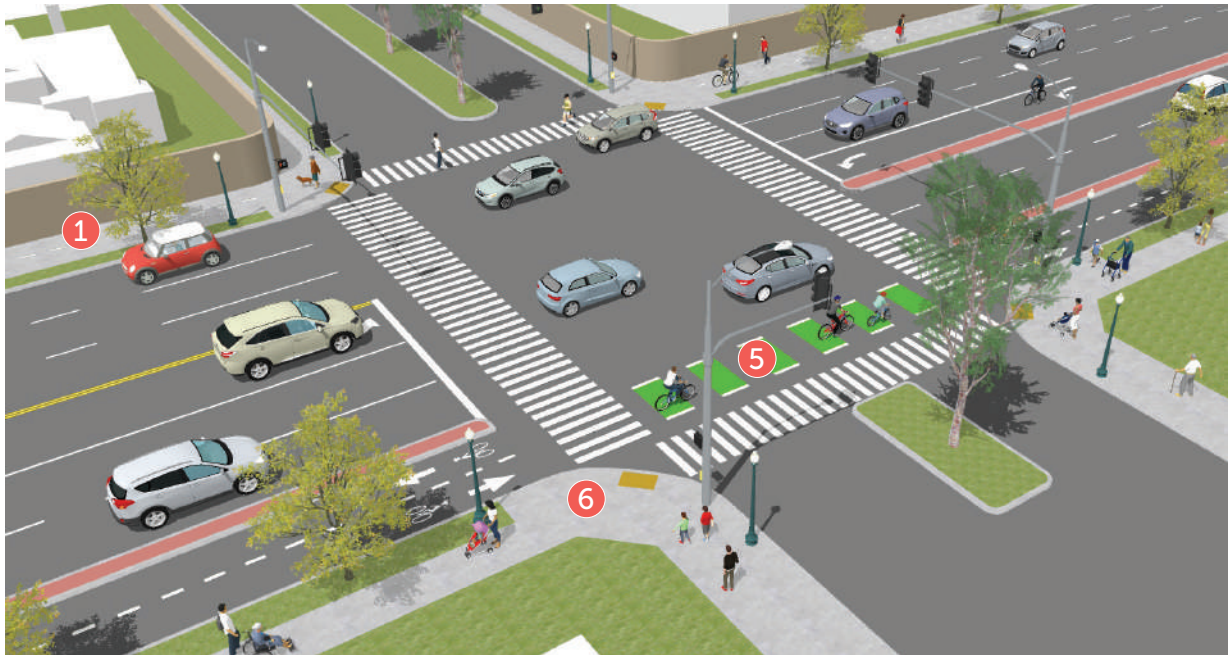
Fairview Street Recommendations

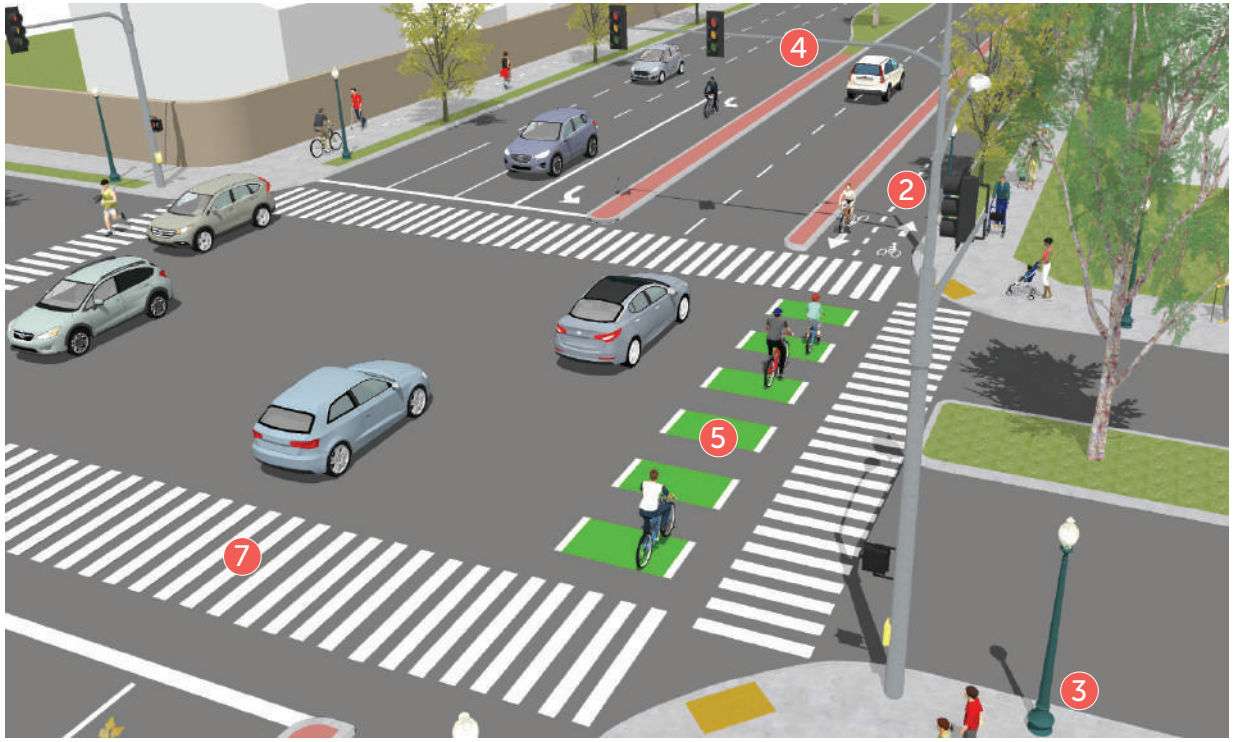
Pedestrian improvements include widening sidewalks and installing parkways where possible, striping enhanced crosswalks, improving traffic signal timing, and lighting. Separated bicycle lanes, a multi-use path and conflict striping are proposed along the corridor. The project also recommends adding shelters to all bus stops. Existing trees are to be protected in place and new street trees added where appropriate.

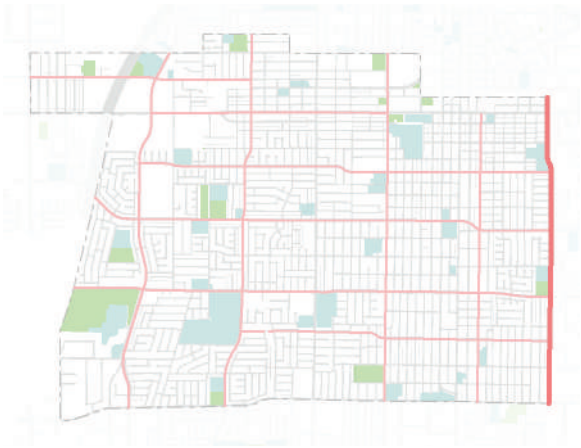
Cost Estimate: $5,227,484



1. Multi-Use Path
2. Separated Bicycle Lane
3. Pedestrian Lighting
4. New Signal
5. Intersection Crossing Markings for Bicyclists
6. Reduced Curb Radii
7. Enhanced Crosswalks







Standard Avenue

Existing Conditions

Standard Avenue is a high volume arterial fronted primarily by residential and commercial land uses and provides direct connection to Downtown. Walker, Roosevelt and Madison Elementary are all along Standard Avenue.

There is a high number of pedestrian and bicycle collisions with block size vaying depending on the adjacent land use. The multi-family and commercial blocks are much longerr than the single-family residential blocks to accommodate more on-street parking. Sidewalk design vary with some lacking parkways that provide little or no physical separation between pedestrians the travel lanes. The corridor also lacks bicycle facilities and bus shelters.

4
Schools

1
Parks

36
Bus Stops

1,076
# of Boardings

Secondary
MPAH

Length
3 miles

3,116
# of Kids <14 yrs.

526
# of Seniors >65 yrs.

17
Pedestrian Collision Rate

15
Bicyclist Collision Rate

86
CalEnviroScreen

Missing sidewalks at Edinger Avenue

Wide multi-lane crossing at McFadden Avenue

Lack of crosswalks

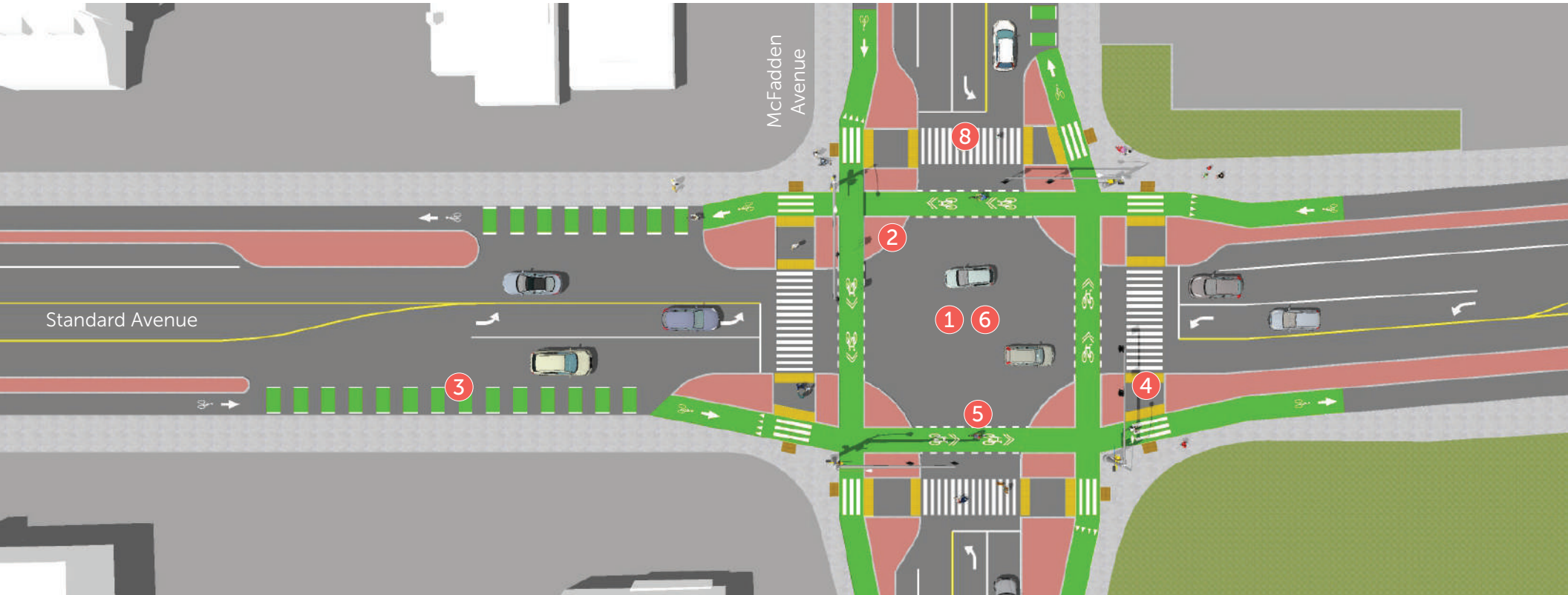
Multi-lane road with segments without parkways for additional pedestrian separation adjacent to a school.

Standard Avenue Recommendations

Pedestrian improvements include striping enhanced crosswalks and lighting. Buffered bicycle lanes, separated bicycle lanes, conflict striping, green-back sharrows and a protected intersection are proposed along the corridor. To incorporate these bicycle improvements, the road diet is planned from a four-lane road to a two-lane with center left-turn lane. The protected intersection at McFadden Avenue would allow a direct and safer travel for bicyclists and pedestrians through the intersection with curb extensions, updated signal timing and conflict striping.

The project also recommends adding shelters to all bus stops. Existing trees are to be protected in place and new street trees added where appropriate.

Cost Estimate: $6,999,999



1. Protected Intersection
2. Curb Extensions
3. Conflict Striping
4. Pedestrian Refuge
5. Intersection Crossing Markings
6. Adjust Signal Timing
7. Bike Signals
8. Enhanced Crosswalks