# GoShasta

## Regional Active Transportation Plan

DRAFT January 2018

Exhibit A

# ACKNOWLEDGMENTS


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# How to use this Plan

This Plan was designed for use by practitioners, SRTA staff, jurisdictional partners, and the general public. The table below offers a quick reference for some of the topics that may be of most interest to readers:

| Topic | Page |
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| Support Programs and Recommendations | 15-25 |
| Wayfinding | 19-20 |
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# Introduction

The GoShasta Regional Active Transportation Plan (ATP) presents a visionary, yet implementable plan that will strategically guide the development of programs and infrastructure for walking, bicycling, and connecting to transit in the Shasta Region. This ATP builds upon the public's support and enthusiasm for developing a connected network of active transportation facilities throughout the Shasta Region.

Improving bicycle and pedestrian connections throughout the region supports active transportation, links to transit, and provides people with viable means to travel longer distances without using a car. Improved connections also provide more opportunities for recreational riding, walking for exercise, and building a healthy, more economically competitive community. In addition to infrastructure recommendations, this plan also provides recommendations for support programs and initiatives to encourage people to walk, bike, and ride transit.

This ATP presents projects and action lists for Shasta County and the incorporated cities of Anderson and Shasta Lake. The GoShasta ATP and the City of Redding ATP (2018) were developed jointly to maximize regional connectivity and to coordinate on active transportation policies and programs. The GoShasta ATP provides a regional vision and recommendations developed with local jurisdictions. The COR ATP, borne out of the same planning effort, hones in on a vision unique to the city's needs. It relies on city-specific goals and actions to realize the city's vision. Both plans reference and support each other.

The funding for this ATP was provided by the California Transportation Commission's Active Transportation Program.

# Chapter 1: Policy and Action Framework

This chapter provides a summary of the current status of active transportation in the Shasta Region, a vision for the future, and a blueprint to achieve this vision. The vision of a connected and attractive regional active transportation network will be fulfilled through collaborative effort between the Shasta Regional Transportation Agency (SRTA), local jurisdictions, Caltrans, and other partners who are focused on expanding transportation and recreational options for a healthy and economically vibrant Shasta Region. The regional active transportation network is made up entirely of routes owned, operated, and maintained by partner agencies. Key routes interconnecting the region will be designated as Trunk Lines—a network of high quality facilities for all ages and abilities that connect to activity centers throughout the region (see page 5).

## Where We Are Today

### Bicycle and Pedestrian Data

The following section provides a snapshot of the data around walking and biking within the Shasta Region, both for recreational and utilitarian trips. This data provides an understanding of current conditions and is a basis for evaluation.

According to the 2015 5-Year American Community Survey, two percent of residents in the Shasta Region walk to work, and one percent bicycle to work. The American Community Survey also found that seven percent of residents do not own vehicles.

The following table provides an overview of the existing bikeways by mileage and facility type in the incorporated cities of Anderson, Shasta Lake, and Redding as well as Shasta County.

While Table 1.1 demonstrates that there have been significant investments in bicycle infrastructure in the Shasta Region, these facilities are generally not well-connected, which diminishes their utility as a transportation network. There has also been substantial investment in the pedestrian network, including sidewalks, curb ramps, shared-use paths, paved shoulders and other features that facilitate walking. However, like with the bikeway network, the pedestrian network is incomplete with gaps in sidewalks and walkways. A need also exists for safer street crossings and features, such as sidewalk buffers and street trees, to make walking more comfortable.

Table 1.1. Existing Mileage of Bikeway Facilities by Community

| Bikeway Facility | Anderson | Shasta Lake | Redding | Shasta County | Total |
|---|---|---|---|---|---|
| Shared-Use Path | 1.59 | 0.93 | 32.09 | 17.89 | 52.50 |
| Buffered Bike Lane | – | – | 5.83 | – | 5.83 |
| Bike Lane | 4.23 | 10.85 | 29.41 | 7.70 | 52.20 |
| Bike Route | 1.06 | 4.21 | 46.48 | 15.21 | 66.96 |
| **Grand Total** | **6.88** | **15.98** | **113.82** | **40.80** | **177.49** |

The California Highway Patrol collects and organizes data about traffic crashes into a database called the Statewide Integrated Traffic Records System (SWITRS). This data can be used by communities to better understand the locations and types of collisions that are occurring. According to the 2012 SWITRS Annual Report, the Shasta Region had the highest bicycle and pedestrian fatality rates per 100,000 people in the 20 northern-most counties in California.

The state of California supports investment in biking and walking by funding programs such as the Active Transportation Program and the Affordable Housing and the Sustainable Communities Program. Because many California communities are interested in implementing active transportation projects, there is strong competition for these funds.

SRTA plans to continue to support its partners' efforts to build a connected and safe active transportation network while also being more purposeful and strategic in how it allocates its limited resources. Such an approach will allow the region to be more competitive in seeking state funding as well as to achieve the greatest impact to the safety, accessibility, and appeal of active transportation.

# Where We Want to Be

## Active Transportation Vision

Healthy, appealing, and a competitive alternative to driving: This is the vision for active transportation and recreation in the Shasta Region. High quality bicycle and pedestrian facilities, combined with a range of support programs, will provide low-cost mobility options and equitable access to economic opportunities and physical activity.

Active transportation policy, actions, and investments will be strategic tools in establishing more vibrant, sustainable, people-centered communities. Active transportation will contribute to local economies, and the Shasta Region will be viewed as a destination for active transportation enthusiasts and entrepreneurs. Community advocacy groups will work side-by-side with local, regional, and state agencies to advance bicycling and walking in the Shasta Region.

## Active Transportation Values

SRTA and its partners will strive for solutions that embody the following values in every program, policy, and action:

- Equitable access, for people of all ages and abilities, to comfortable, low-stress, connected bikeways and walkways
- Equitable access to low-cost physical and economic mobility via bicycles, support programs, education, and employment
- Integration of active transportation into everyday life
- Reduction of transportation-induced impacts, including air pollution, roadway runoff, and climate change
- Investment in active transportation and people-centered development as a reflection of where the region wants to be
- Vibrant, engaging communities
- Protection of and respect between users of all modes of transportation
- Active transportation as a source and tangible symbol of community pride

# How We Will Get There

Getting the Shasta Region from where it is today to where we want it to be requires vision, planning, coordination, partnership, investment, and resolve. Until recently, the region has had an incremental and reactive approach to active transportation project implementation. For example, most new safety projects were initiated after collisions occurred that resulted in serious injuries or fatalities.

Recently, local jurisdictions have taken more proactive steps to expanding the active transportation network. Examples include:

- Implementing active transportation improvements through routine resurfacing projects
- Slowing down vehicle speeds by redesigning streets
- Partnering with SRTA and private developers to include the construction of high quality separated bikeways with the approval of mixed-use developments

Parallel to state and local agency efforts to maintain and expand the active transportation network, SRTA will continue to offer these partners technical support and strategically invest its resources on high-impact projects. Through partner agency implementation of regional Trunk Lines, locally-focused connectivity projects and targeted action lists, SRTA and its local partners will create a safe, intuitive, and appealing active transportation network that prevents active transportation-related traffic fatalities and serious injuries.

### Regional Trunk Line System

SRTA is working with partner agencies on a project-by-project basis to identify a system of Trunk Lines which are intended to be high quality active transportation facilities that provide a high comfort experience for walking and bicycling between communities and activity centers (see Figure 1.1). Trunk Lines will serve people of all ages and physical abilities, and in doing so are expected to attract higher numbers of people who choose to walk or bike for all trip purposes.

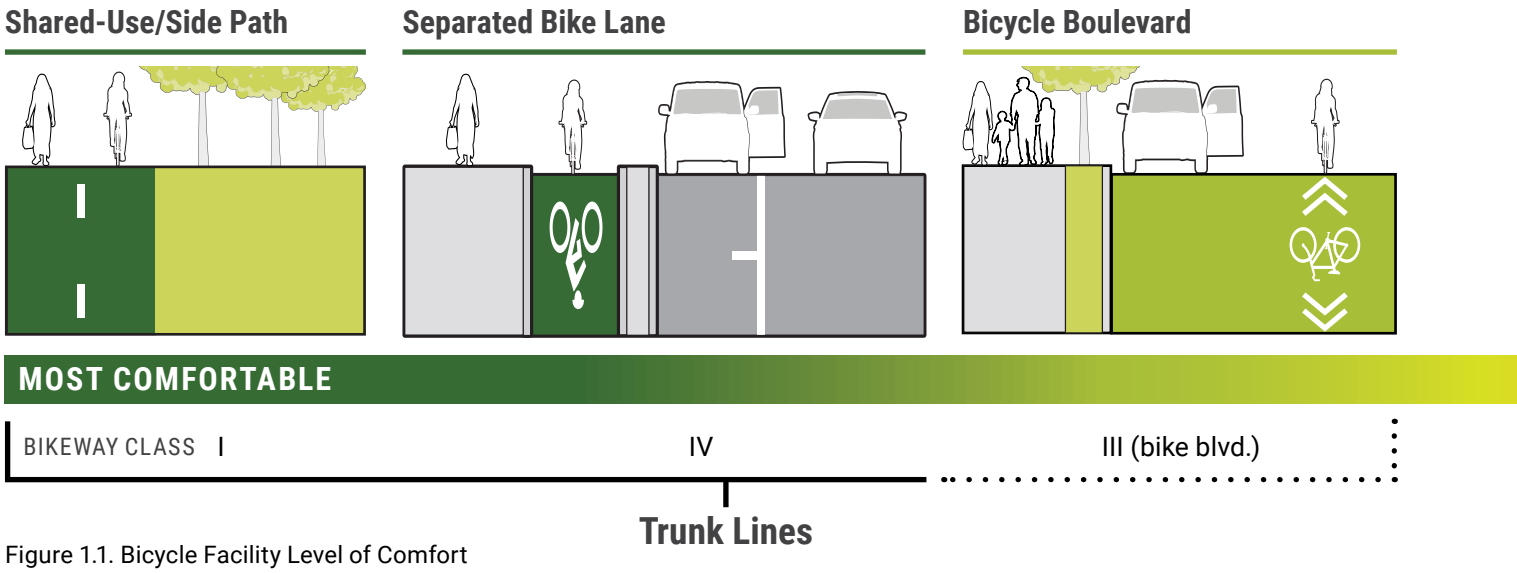



Figure 1.1. Bicycle Facility Level of Comfort

Figure 1.2 illustrates the conceptual Trunk Lines that will extend throughout Shasta County. These lines depict the general connections between Strategic Growth Areas[1] and activity centers. Destinations outside of the region are also shown; SRTA envisions that, in the future, these Trunk Lines will connect other regions as well.

Rough conceptual trunk line alignments have been approved by local agencies, and active transportation advisory groups involved in the development of this ATP. Local agencies, in consultation with neighboring jurisdictions and SRTA, will determine the most suitable precise alignment of each trunk line as implementation of projects progresses. Projects identified in the project lists (see Chapter 4) may comprise a Trunk Line; however, different projects may be substituted if local jurisdictions determine that new conditions warrant a change. Trunk Line facilities are expected to be more expensive than traditional biking and walking facilities. SRTA will prioritize its funding for local agencies to implement this trunk line system and direct connections to this system. Regional dollars can also be leveraged and used as a match for state and federal funding. See Chapter 4 for more about funding.

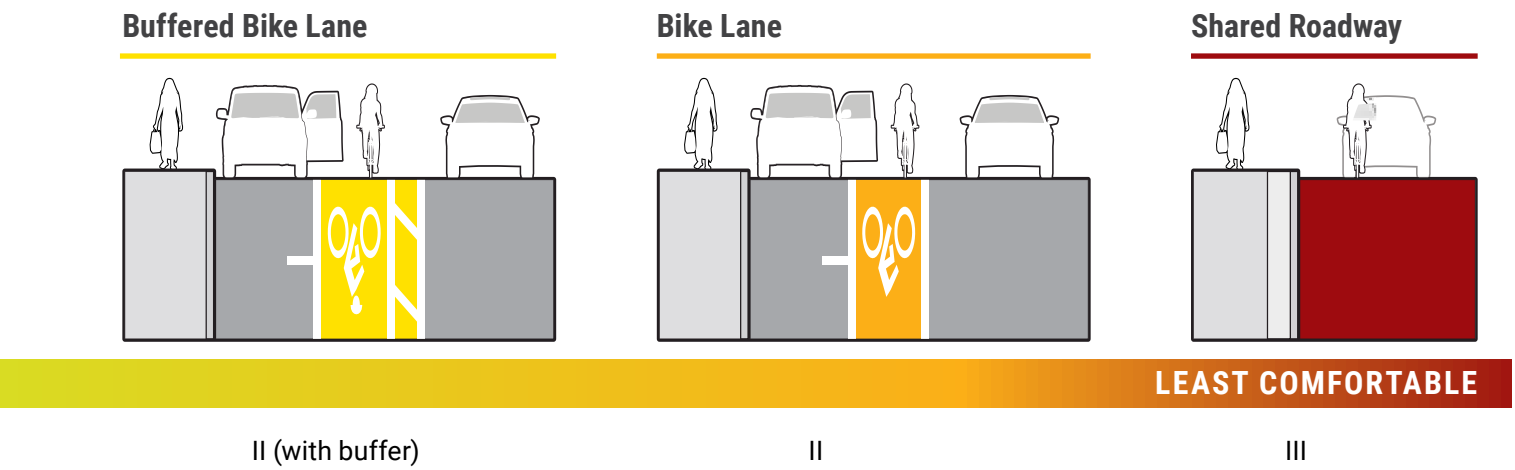
## What does a trunk line look and feel like?

The exact designs and treatments for Trunk Lines will be context-dependent; however, all Trunk Lines will be high quality, comfortable facilities. A Trunk Line will typically have horizontal and vertical separation between vehicles and active transportation modes (such as grade separations, curbs, planters, and other treatments), such as with a Class I Shared-Use Path or a Class IV Separated Bikeway. If necessary, due to insufficient right-of-way, geometric configuration limitations, or other area characteristics, a Trunk Line could also be an environment for active transportation users to share the road with low-speed motor vehicles, such as Bicycle Boulevard, which is a Class III (bike route) with additional features that heighten a sense of safety and comfort for pedestrians and bicyclists.

Examples of Trunk Lines can be seen in Figures 1.3-1.5.

At locations where potential conflicts with motor vehicles cannot be avoided, such as at uncontrolled intersections, Trunk Lines will be highly visible to reinforce that drivers must yield to people walking and biking. Where a Trunk Line intersects a road with high vehicle volumes and speeds, dedicated bicycle and pedestrian signals or active warning devices will be installed. At intersections, pedestrians and bicyclists should have minimal wait time and maximum shade protection. If two Trunk Lines intersect, the intersection should include directional signs and seek to incorporate artistic, historical, and cultural features.

1 Strategic Growth Areas (SGAs) are identified in the Sustainable Communities Strategy portion of the 2015 Regional Transportation Plan. SGAs are areas planned for higher population and employment densities that support a range of practical mobility alternatives, thus reducing vehicle miles traveled and associated greenhouse gas emissions.




* The scale of comfort shown assumes a less confident person riding a bicycle on a bike facility on a street with higher motor vehicle speeds and traffic volume.

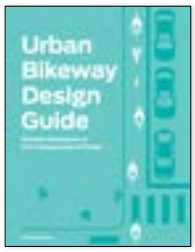
Figure 1.2. Potential Trunk Line Alignments.

Figure 1.3. Example of a shared-use path in Minneapolis, MN.

Designs for active transportation infrastructure are quickly evolving. Design guidance for these types of facilities can be found in the following documents:

**Federal Highway Administration (FHWA)'s Separated Bike Lane Planning and Design Guide**

Read Guide

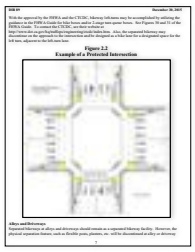



**National Association of City Transportation Officials (NACTO)'s Urban Street Design Guide, Transit Street Design Guide, Urban Bikeway Design Guide, and Urban Street Stormwater Guide**

Read Guides

**Massachusetts Department of Transportation (MassDOT) Separated Bike Lane Planning and Design Guide**

Read Guide



**Caltrans' Design Information Bulletin 89 Class IV (Separated Bike Lane) Bikeway Guidance**

Diagram of a protected intersection

Read Guide

## Trunk Line Characteristics

Due to their nature as high quality, premium bicycle and pedestrian facilities, Trunk Lines should exceed the minimum standards referenced in the aforementioned design manuals; doing so will make these projects more competitive for regional non-motorized funding.

Potential characteristics of Trunk Lines include the following design elements.

- Vertical separation between motor vehicles and active transportation users
  - » Grade separation between modes (vehicles, bicyclists, pedestrians, equestrians [if applicable])
  - » Intermittent planter barriers, curbs, or K-rails
  - » Plastic bollards

Figure 1.4. Example of a high quality bicycle facility in Indianapolis, IN.

- Buffer between open car doors and moving vehicles in an adjacent lane
- Intersection shading for cyclists and pedestrians (tree canopy, structure, canvas sail, solar grid, etc.)
- Path lighting
- Traffic control devices including signals with active transportation phases or prioritized movements
- Reduced wait times for pedestrians and bicyclists at signals
- Enhanced active transportation detection at signals (video, embedded detection, curbside crossing buttons) to trigger traffic control devices, warning lights, and visibility lighting
- Automated traffic enforcement at high risk intersections
- Single lane roundabouts
- Conflict zones marked with green paint
- Enhanced mid-block crossings (rectangular rapid flashing beacons or pedestrian hybrid beacons)
- Cycling traffic separated from transit traffic and pedestrian queuing using transit passenger islands
- Wayfinding signs
- Adequate secure bicycle parking
- Drinking fountains, waste bins, public restrooms, benches at key junctions
- Integration of artistic, cultural, and/or historical elements unique to the region

Trunk Lines should, wherever appropriate, include "green street" features. These features may be found along sidewalks, as horizontal and vertical separation between transportation modes, and in medians, chicanes, curb extensions, planting strips, and other treatments as a way to slow stormwater and filter contaminants before entering waterways. Examples include:

- Street trees (systematic planting for the development of tree canopies)
- Bioswales
- Infiltration basins
- Permeable pavement
- Plantings

Figure 1.5. Example of a shared-use path in Davis, CA.

Where a Trunk Line section includes a Class III Bicycle Boulevard, traffic calming and other design elements should be introduced to enhance comfort and safety. Examples include:

- Chicanes
- Raised crosswalks or speed tables
- Diagonal, median, or full diverters
- Curb extensions
- Neighborhood traffic circles
- Mid-block chokers
- Pavement markings
- Median crossing islands

## Local Connectivity Routes

Because Trunk Lines will not serve all destinations within the region, connections to and from the Trunk Line system will be provided through local connectivity routes. Local connectivity routes may consist of a range of facility types. For bicycles, these routes may be bike lanes, buffered bike lanes, separated bike lanes, shared-use paths, or shared roadways with low vehicle volumes and speeds. For pedestrians, these routes may consist of sidewalks, shared-use paths, or paved shoulders in less developed parts of the region. Local connectivity routes that directly link to a trunk line and maximize the level of comfort to the extent feasible will be better candidates for receiving regional funding.

# Themes

This ATP framework has been guided by and organized by the following themes, shown at right.

Each theme includes an action list for SRTA and an associated action list for, and developed in coordination with, the city of Anderson, city of Shasta Lake, and Shasta County.

**Theme 1:**
Increase active transportation mode share

**Theme 2:**
Increase safety and comfort of active transportation users

**Theme 3**
Invest in healthy, vibrant, sustainable, and people-centered communities

## Regional Action List

At the regional level, SRTA will focus on funding local agency projects that have regional significance and can increase the number of people safely walking, bicycling, and connecting to transit. The action items also reference SRTA's technical assistance opportunities and partnership opportunities with agencies that promote active transportation education and encouragement.

## Local Action Lists

These action lists for city of Anderson, the city of Shasta Lake, and Shasta County have been developed by the municipalities and County in coordination with SRTA. The city of Redding developed an action list as part of the joint GoShasta Regional ATP and city of Redding ATP planning process (see the City of Redding ATP for more details).

Local agency action lists are tailored to each community and are focused on improving the walking, biking, and transit experience in that community. Improvements within communities will link with the regional active transportation network.

As progress is made, SRTA and local agencies will continue to consult, inform, and collaborate with the public. Occasionally, specific local and regional actions may require partnership and collaboration with state or federal agencies, Native American Tribes, the Union Pacific Railroad, non-profit organizations, or other private entities.

## Performance Measures

Along with completing the actions presented on the following pages, the following performance measures will be used to evaluate the progress of the ATP.

Table 1.2. ATP Performance Metrics

| Performance Measures | |
|---|---|
| Measure 1 | Active transportation modal split for the region and for Strategic Growth Areas |
| Measure 2 | Miles of active transportation facilities accessing transit stops and schools (up to ¼ walking approach-miles and ½ cycling approach-miles possible per transit stop and school on any one facility in each direction) in Strategic Growth Areas |
| Measure 3 | Miles of low-stress bike facilities (shared-use paths and separated bike lane) in Strategic Growth Areas |
| Measure 4 | Number of collisions resulting in serious injuries and fatalities in Strategic Growth Areas |
| Measure 5 | Average daily vehicle miles traveled per household in Strategic Growth Areas |

# Theme 1 - Increase Active Transportation Mode Share

## SRTA's Action List

- ❑ Amend the SRTA Non-Motorized Program guidelines to prioritize funding for local agency active transportation facilities on Trunk Lines.
- ❑ Advertise a call for projects of various sizes for local agency implementation of the GoShasta regional trunk line network (see Regional Trunk Line section).
- ❑ Support the Redding Area Bus Authority (RABA) in integrating active transportation connections to transit as part of the next short-range transit plan.
- ❑ Identify a range of potential new active transportation funding mechanisms for consideration by the SRTA Board of Directors.
- ❑ Place non-infrastructure obstacles or deterrents to active transportation on agendas for routine meetings with partner agencies and community organizations.
- ❑ Coordinate with partner agencies and organizations to provide an accessory brochure to SRTA's "Need-A-Ride" transit brochure; include information on bicycling, walking, carpooling/car-sharing, popular commuter routes, contact information for bike trains, walking school buses, rideshare, cycling clothing, etc.
- ❑ Improve and expand active transportation data collection at project locations by adding it to the regional traffic data collection program and release crowd sourcing app, as part of a pilot program, to augment traffic counts.
- ❑ Maintain an inventory of current and planned bicycle and pedestrian facilities, amenities, and safety data and strive to ensure quality of data.
- ❑ Partner with a for-profit or non-profit organization to secure grant funding for the development and contracted operation of a bike share system.
- ❑ Introduce programmatic support associated with affordable housing and Strategic Growth Area projects (e.g., free/discounted memberships with bike share and transit).
- ❑ Improve coordination of information between jurisdictions regarding transit, bicycle, and pedestrian improvements:
  - ❑ Update Social Services Transportation Advisory Council bylaws to include two new, permanent members to serve as active transportation representatives on the council.
  - ❑ Update SRTA's Non-motorized Program to include active transportation connections to/ from transit.
  - ❑ Introduce public review and prioritization of key transit stops into SRTA's unmet transit needs process to inform the transit access component of SRTA's non-motorized program.
- ❑ Implement the Five D's (see page 13 for more information on Five D's in SGAs).

## City of Shasta Lake's Action List

- ❑ Collaborate with SRTA and Shasta County Public Health to develop and implement a Multimodal Awareness Program (to increase awareness and respect among users of the road).
- ❑ Inventory complete street needs (infrastructure and right-of-way):
  - SR 151 – for circulation, emergency routes, and routes to infrastructure (water, dam, electric grid, and waste water treatment plant)
  - Circulatory Streets
  - Streets accessing public uses – schools, parks, public building, public services (clinic, etc.)
  - Neighborhood through streets
  - Determine right-of-way needs for complete streets
  - Assess associated drainage infrastructure limiting complete street construction
  - Identify gaps in right-of-way, infrastructure, and funding
- ❑ Inventory off- street bike and walking paths.
- ❑ Coordinate data collection, including use with other partners.

- ❑ Create a GIS map inventory of improvements and lack of improvements noted above.
- ❑ Prioritize needs for access by residents, visitors, and commercial/industrial users.
- ❑ Determine partners for improvements and matching needs/funds.
- ❑ Review possible resources (financial and soft cost) to provide complete streets including project adjacency, regional, and emergency needs.
- ❑ Assess bus route use compared to user needs.
- ❑ Hold public workshops to provide complete street and bus information and identify public' needs compared to gaps in inventory.
- ❑ Provide technical assistance and support of Caltrans local funding for SR 151 and roads intersecting and/or accessing SR 151.

## City of Anderson's Action List

- ❑ Collaborate with SRTA and Shasta County Public Health to develop and implement a Multimodal Awareness Program (to increase awareness and respect among users of the road).
- ❑ Identify opportunities to incorporate GoShasta implementation into local agency development review process and impact fee programs, for consideration by respective council/board.
- ❑ Avoid physical barriers (waterways, railways, highways, and extreme topography) or, if need be, address them when they intersect with the active transportation network.
- ❑ Fill gaps in the regional trunk line system and the wider active transportation network.
- ❑ Coordinate with SRTA on the collection of bicycle and pedestrian data.

## Shasta County's Action List

- ❑ Partner with local organizations/agencies to implement campaigns, challenges, and strategies that encourage more people to utilize walking and bicycling for transportation. (Public Health)
- ❑ Develop and implement a Multimodal Awareness Program (to increase awareness and respect among users of the road) in collaboration with SRTA and partner agencies. (Public Health)
- ❑ Identify opportunities to incorporate GoShasta implementation into local agency development review process and impact fee programs, for consideration by Board of Supervisors. (Dept. of Public Works (DPW) and Planning)
- ❑ Mitigate physical barriers (waterways, railways, highways) where intersecting with active transportation network. (DPW)
- ❑ Fill gaps in the regional trunk line system and the wider active transportation network. (DPW)
- ❑ Coordinate with SRTA on the collection of bicycle and pedestrian data. (DPW)
- ❑ Partner with SRTA to build more bicycle and pedestrian facilities. (DPW)

# Theme 2 - Increase Safety and Comfort of Active Transportation Users

## SRTA's Action List

- ❑ Provide planning funds and/or technical assistance to local agencies to address collision-prone locations on Trunk Lines (see Regional Trunk Line section) and throughout the active transportation network in a manner that minimizes potential conflicts.
- ❑ Coordinate with local agencies on developing a regional, online tool for tracking safety concerns reported directly from the public or routed from similar tools used by local agencies.
- ❑ Provide technical and administrative support to partner agencies and organizations on the maintenance of the Safe Routes to School program and other programs that provide community education, training, and distribution of safety equipment.
- ❑ Partner with local agencies to establish a program of consistent wayfinding signs/markings across jurisdictional boundaries.
- ❑ Develop a regional procurement program for active transportation amenities such as benches, bicycle parking, etc. (see Regional Trunk Line section).
- ❑ Partner with applicable organizations to brand Trunk Lines via artistic/cultural/historical enhancements into local agency active transportation projects (e.g., historical signs/markers along the regional trunk line proposed for alignment with the old beltline to Shasta Dam, Old 99 Trail, etc.) to add to the cultural appeal and comfort of these high quality facilities and boost project competitiveness for discretionary grant funding.

## City of Shasta Lake's Action List

- ❑ Establish routine meetings with the county sheriff's office to receive and discuss their active transportation collision reports, as well as CHP SWITRS reports, to address traffic hazards and potential projects to improve safety.
- ❑ Assess bus routes for ancillary needs like shelters, adjacent parking areas, signage, lighting and landscaping.
- ❑ Assess crossings—formal and informal—for all ATP users. Identify issues for correction.
- ❑ Inventory and analyze impediments to people walking and riding bicycles.
- ❑ Identify volunteer organizations that can assist in public knowledge and where possible construction of amenities.
- ❑ Map transit routes and stops in comparison to street circulation and user needs identified above.
- ❑ Inventory parking available to ATP users.
- ❑ Engage ATP users including visitors. Use multiple means of engagement including surveys, walk/bike days, utility inserts and notices, door-hangers, and other forms of contact (group meetings including those for special populations like seniors, non-English speaking, and disabled).
- ❑ Consult with neighboring jurisdictions and SRTA when projects, programs, or actions/policies have the potential to either impact the neighboring jurisdiction or adversely impact the user experience when transitioning from one jurisdiction to another.
- ❑ Adopt guidance for full range of acceptable designs applicable to local conditions (see Regional Trunk Line section).
- ❑ Work with SRTA to potentially leverage funding for freight movement that also accommodates active transportation improvements.
- ❑ Integrate Safe Routes to School (SRTS) and other project-specific education and encouragement events/programs into grant application budgets for

active transportation infrastructure. (Coordinate with SRTA and Shasta County Public Health)

## City of Anderson's Action List

- ❑ Invest in active transportation facilities that last as long as possible and require minimal maintenance.
- ❑ Install automated enforcement at hot spots with non-compliance issues (for any mode) and a history of collisions with special allowances for active transportation modes (e.g., bicycle rolling stops).
- ❑ Secure funding from the Highway Safety Improvement Program and other programs for safety improvements.
- ❑ Adopt guidance for a full range of acceptable designs applicable to local conditions (See Trunk Line Description).
- ❑ Improve safety and security at crosswalks, transit stops, and along main access routes to transit with priority consideration of low income, minority, and high crime areas.
- ❑ Integrate Safe Routes to School (SRTS) and other project specific education and encouragement events/programs into grant application budgets for active transportation infrastructure. (Coordinate with SRTA and Shasta County Public Health)
- ❑ Consult with neighboring jurisdictions and SRTA when projects, programs, or actions/policies have the potential to either impact the neighboring jurisdiction or adversely impact the user experience when transitioning from one jurisdiction to another.

## Shasta County's Action List

- ❑ Strategically invest in active transportation facilities that last as long as possible and require minimal maintenance. (DPW)
- ❑ Secure funding from the HSIP and other programs for safety and security improvements. (DPW)
- ❑ Adopt guidance for a full range of acceptable designs applicable to local conditions (See Trunk Line Description). (DPW)
- ❑ Improve safety and security at crosswalks, transit stops, and along main access routes to transit with priority consideration of low income, minority, and high crime areas. (DPW)
- ❑ Integrate SRTS Education and Encouragement event/programs into grant applications budgets for active transportation infrastructure. (Coordination between DPW, Public Health and SRTA).
- ❑ Incorporate, where practical, bicycle lanes with additional width and/or buffer separation to increase user safety and comfort. (DPW)
- ❑ Consult with neighboring jurisdictions and SRTA when projects, programs, or actions/policies have the potential to either impact the neighboring jurisdiction or adversely impact the user experience when transitioning from one jurisdiction to another. (DPW)

# Theme 3 - Invest in Healthy, Vibrant, Sustainable, and People-Centered Communities

## SRTA's Action List

- ❑ Administer a call for local agencies and private sector partners to identify and develop demonstration blocks along Trunk Lines within SGAs. These joint "complete package" projects aimed at the "5D" factors (see below) have proven to increase active transportation and transit mode share.
  - **Density**: Increased the number of housing, jobs, shoppers, and other visitors
  - **Diversity**: Balance of residential, retail, office, and other land uses
  - **Design**: Street/trail network and non-motorized travel facilities and amenities
  - **Destination Accessibility**: Number of jobs and other attractions accessible via any travel mode
  - **Distance to Transit**: Proximity of high quality public service to home and work
- ❑ Utilize the SRTA Infill & Redevelopment Incentive Program and Affordable Housing and Sustainable Community (AHSC) grants to fund local agency projects combining high-density housing, commercial development, active transportation infrastructure, amenities, and programs (e.g. bike share and maintenance center at bike depots, etc.) within SGAs.
- ❑ Explore and define the concept of trail-oriented development for consideration as part of future calls for technical assistance under SRTA's Infill & Redevelopment Program.
- ❑ Link active transportation facilities to nature, parks and open space in coordination with local agencies.
- ❑ Support Shasta County Public Health/Health and Human Services Agency and other applicable organizations to provide programs and services that connect disadvantaged communities to education, community services, and employment.
- ❑ Develop and administer an awareness campaign on benefits associated with green street improvements to private businesses and residences on active transportation routes to generate support for projects that can offer protection from extreme heat and weather events, storm-water treatment, etc.
- ❑ Empower citizens to develop projects in the community with mini-grants of technical assistance.

## City of Shasta Lake's Action List

- ❑ Provide housing and income inventory data to insure small, effective projects are assisted.
- ❑ Partner with SRTA and private developers regarding infill projects to provide complete street access and funding.
- ❑ Work across city divisions and with SRTA on assembling projects that compete well for regional non-motorized funding.
- ❑ Adopt Circulation Element policies to encourage and require, where needed, complete street improvements and amenities.
- ❑ Identify areas that can use reduced street right-of-way and incorporate compete street standards for users.
- ❑ Work with SRTA to provide funding for right-of-way where needed.
- ❑ Provide transportation amenities where needed and where SRTA or other agency funding can be identified and used.
- ❑ Set priority policies relative to user needs.
- ❑ Provide active public engagement using online and in-person forums.
- ❑ Seek funding for transit/ATP uses and amenities.
- ❑ Identify other resources for funding amenities as well as ATP uses.

## City of Anderson's Action List

- ❑ Expand active transportation access, connectivity, and amenities within a half mile of transit stops, schools, and activity centers.
- ❑ Identify target blocks for public-private partnerships for residential and commercial projects adjacent to trunk routes and introduce city code that promotes such trail-oriented development (development occurring along facilities that provide a "trail-like" experience).
- ❑ Adopt a policy that promotes the development of bike corrals (on-street bicycle parking that can accommodate up to 16 bicycles).
- ❑ Adopt land-use codes with minimum non-residential development standards, not tied to other minimums, for bicycle and pedestrian friendly features and end-of-trip amenities such as bike racks and showers.
- ❑ Partner with SRTA and private sector on projects proposed for funding under the SRTA Infill & Redevelopment Incentive Program, AHSC grants, and other funding sources to increase the number of residential and mixed-use developments in SGAs.
- ❑ Work with SRTA to research infrastructure elements used in other areas that mitigate active transportation users' exposure to weather events (e.g., extreme heat, rain, etc.) while waiting at traffic signals.

## Shasta County's Action List

- ❑ Expand active transportation access, connectivity, and amenities within a half mile of transit stops, schools, and community/activity centers. (DPW & Planning)
- ❑ Identify target blocks for public-private partnerships for residential and commercial projects adjacent to trunk routes and introduce code that promotes such trail-oriented development (development occurring along facilities that provide a "trail like" experience, such as a Class IV bikeway that uses a curb, planter or some obstacle to separate cyclists from vehicular traffic). (DPW & Planning)
- ❑ Adopt policy that promotes the development of bike corrals (on-street bicycle parking that can accommodate up to 16 bicycles). (DPW & Planning)
- ❑ Amend land-use policy documents to prioritize, encourage, and support active transportation. (Planning Division)
- ❑ If sewer services are to be expanded, provide high quality active transportation facilities to accommodate future housing needs with greater density (Planning & DPW).
- ❑ Adopt land-use codes with non-residential development standards for a minimum of bicycle and pedestrian friendly features and end-of-trip amenities such as bike racks and showers. (Planning)
- ❑ Work with SRTA to research infrastructure elements used in other areas that mitigate active transportation users' exposure to weather events (e.g., extreme heat, rain, etc.) while waiting at traffic signals. (DPW)

# Chapter 2: Program Recommendations

While building a connected and safe network is critical to improving walking and biking in the Shasta Region, programs to promote active transportation also play an important role in achieving this Active Transportation Plan's (ATP's) vision.

This chapter describes a variety of programs that will be explored and implemented by the Shasta Regional Transportation Agency (SRTA), local jurisdictions, and partner organizations to support an effective active transportation network. The categories of programs and initiatives illustrated below are described in this chapter.

**Education**

**Bicycle Theft Prevention Initiatives**

**Encouragement**

**Land Use Policies**

**Enforcement**

**Evaluation**

**» Additional background information on these programs and initiatives can be found in Appendix C. «**

Figure 2.1. Family Bicycling Day in Redding. ***Source: Really Redding***

# Education

A key element of an effective active transportation network is ensuring that users of all ages and abilities are able to safely walk, roll, bike, and ride transit. Educational programs are an effective way to improve traffic safety for all roadway users.

## Bicycle Ambassador Program

A bicycling ambassador program can be an effective way to encourage people to make trips by bicycle, provide education around safe travel behaviors and proper etiquette on shared and new adfacilities, and foster an engaged community of bicyclists. Bicycle ambassadors are typically volunteers (see Figure 2.2).

SRTA will explore working with municipalities and agencies, advocacy organizations, bicycle clubs, and the bicycle community to develop the program, craft the guidelines, recruit volunteers, decide upon roles and responsibilities, and develop the outreach plan. The program could partner with other organizations such as Shasta Living Streets and Shasta County Public Health to host outreach events throughout the region.

## Safe Routes to School

Safe Routes to School (SRTS) programs are intended to create safe, fun, and social opportunities that encourage children to walk and bike to school or bus stops and provide bicycle and pedestrian safety education (see Figure 2.3).

Shasta County Health and Human Services - Public Health currently operates a SRTS program. SRTA will continue to support Shasta County Public Health in its operation of SRTS programs within the region and assist in securing consistent funding to support the long-term operation of the program. SRTA currently provides funding, using Active Transportation Program funds, to SRTS programs; one recommendation this ATP makes is to continue this funding. SRTA can also provide support in the form of SRTS-oriented policies, technical assistance, oversight, grant writing assistance, and partnering with underserved areas to seek SRTS grants.

Figure 2.2. A San Francisco Bicycle Coalition Ambassador cheers on bicyclists. ***Source: San Francisco Bicycle Coalition***

Figure 2.3. Safe Routes to School Programs are a fun and social way to encourage children to walk and bike. ***Source: Toole Design Group***

# Bike Theft Prevention Initiatives

Concerns about bike theft can be a deterrent to riding, particularly for people riding for transportation purposes. Providing an adequate supply of well-designed, secure bike parking at popular destinations may encourage more people to make trips by bike. However, bike parking alone cannot prevent bike theft, and additional strategies must be employed, such as those described below.

## Education on Proper Locking Methods

SRTA in partnership with local jurisdictions and advocacy groups, such as Shasta Living Streets or Shasta Wheelmen, could develop an educational program that shares information on:

- The most and least secure types of locks (see Figure 2.4)
- How to properly lock one's bike
- How to identify unsecured bike racks

A sticker with a locally designed logo and information about proper locking techniques could be adhered to public bike racks. The logo could also be embedded into print and online publications, such as the Bike Redding map, Visit Redding trail map, and websites supporting trail use and active transportation. Additionally, SRTA could develop or fund the development of educational materials, such as brochures, that are distributed at local events or made available at community and civic centers.

## Bicycle Registration Program

The aim of bicycle registration programs is to create a database of information such as the owners' name and the brand, model, serial number, and color of their bicycle. SRTA could partner with local agencies and organizations to develop bicycle registration programs and possibly an associated app. Through advertising bicycle registration programs, hosting registration events, or supporting online registration, SRTA could improve the reach of bike registration programs. Increasing the number of municipalities participating in bicycle registration programs may lead to a reduction in bike thefts and an increase in stolen-bicycle recovery.

Figure 2.4. A U-lock, as shown here, is the most secure type of bike lock. ***Source: Toole Design Group***

## Anti-Bike Theft Signage

Information sharing through clear and prominent signage can be an inexpensive way to alert the community to the potential of bike thefts. Signs can include messages of caution, such as shown in Figure 2.5, or wording that describes proper locking techniques and use of secure locks.

SRTA could help municipalities identify "hot spot" locations that may be appropriate for anti-theft signage, possibly near schools and universities, transit centers, commercial and retail corridors, and parks. SRTA could provide support to municipalities through funds, grant writing assistance, or banners, letter boards, or other materials to place at locations with high rates of bike theft. If materials are provided, a marketing plan should be developed to ensure a clear and cohesive message is shared throughout the region.

Figure 2.5. Letter boards used by the Singapore Police Force to alert bicyclists of the number of area thefts. ***Source: Huff Post, May 14, 2013.***

## Bait Bike Program

"Bait Bike" Programs have been implemented in several cities where bike theft is perceived to be an issue, such as Sacramento, CA and Spokane, WA. As a part of a Bait Bike Program, Police Departments equipped department-owned bicycles with GPS tracking devices, and the unlocked bicycles were placed throughout the community. When the bike is moved, and possibly stolen, police are alerted and are able to track the bicycle. This allows them to arrest the offender and possibly gain more information about the fate of stolen bicycles. This program is most effective if a small number of offenders are responsible for most bike thefts. Local laws must be consulted to determine if a Bait Bike Program is legal in each community.

Bait Bike Programs may receive criticism due to equity concerns, questions regarding effectiveness, and concerns about the program targeting certain community members and at-risk youth. Consideration should be given to the value of the bait bikes; in California, stolen property valued over $950 may result in a felony charge.

SRTA could support local agencies' and organizations' work with local law enforcement, communities, and businesses to determine whether Bait Bike Programs are desirable, feasible, and an appropriate policing strategy to reduce bicycle theft. SRTA should share information about the potential shortcomings and adverse impacts to community members, that could result from Bait Bike Programs.

# Encouragement

By providing recognition, incentives, or basic services to make it easier to bike and walk to a destination, the Shasta Region can help make walking and bicycling a more convenient and enjoyable transportation choice. Encouragement can take the form of infrastructure, programs, or policies.

## Encouragement Through Infrastructure

### End-of-Trip Facilities

"End-of-trip" facilities are an important aspect of a complete bicycle network, and examples include dedicated bicycle storage (see Figure 2.6), extra wide hallways or bike elevators, bicycle workrooms, bike-washing stations, bike valet, shower and/or locker facilities, and bicycle mechanics or repair stations available on-site. An end-of-trip planning guide could be developed by SRTA to provide guidance and strategies to employers and jurisdictions on how to increase the number of end-of-trip facilities throughout the region.

Figure 2.6. Lockers are examples of end-of-trip facilities. ***Source: Toole Design Group***

### Wayfinding

Wayfinding is an important part of an intuitive and user friendly pedestrian and bicycle network. Wayfinding can help people plan their routes, navigate the transportation network with confidence, and find their way past barriers such as complex intersections, dead-end streets, high-stress roadways, or steep hills (see Figure 2.7).

Wayfinding, which can include stand-alone signs, markings painted on the street, or other signage, should be placed along walking and biking routes to provide clear information about:

- Destinations
- Direction to these destinations
- Distance in minutes to walk or bike to destinations

SRTA could partner with municipalities to develop a regional wayfinding system that is easy for bicyclists and other roadway users to understand. The system

Figure 2.7. Wayfinding signage in Seattle, WA. ***Source: Toole Design Group***

should have a similar brand throughout Shasta County and be compatible with other regional and local wayfinding. Jurisdictions may adjust any branding included on signs to reflect local character while still maintaining signage elements for consistency including placement, frequency of signs, and content.

# Encouragement Through Programs

## Employer/Employee Incentives

To encourage employees to walk, bike, or ride transit to work, employers may offer incentives, such as:

- Reduced transit passes
- Bicycle Commuter Benefits in which an employer may reimburse up to $20 in bicycle commuting costs, per the Bicycle Commuter Act
- Walk and bike to work events and contests
- Shared bikes for employees to use
- End-of-trip facilities
- Educational materials, classes on basic bike repairs, and "how to" handouts on commuting by bike
- Appointing an active transportation coordinator to manage events, programs, facilities, and communications with employees
- Subsidizing bike share memberships

Support from SRTA could come in the form of encouraging employers throughout the region to adopt active transportation friendly policies and provide technical and funding support for employee incentives programs.

## Transportation Demand Management

Transportation Demand Management (TDM) programs seek to support and encourage walking, biking, riding transit, teleworking, and carpooling/ridesharing as an alternative to driving. TDM programs are an effective way to incentivize a shift in travel behavior, promote the use of active modes, and reduce vehicle miles traveled and greenhouse gas emissions. These programs can also support Assembly Bill 32: Global Warming Solutions and Senate Bill 375: Sustainable Communities, which aim to reduce greenhouse gas emissions from motor vehicle trips. SRTA can support local jurisdictions in establishing TDM programs by providing technical assistance, funding, or in-kind services and support. SRTA might also support light and reflector giveaways to improve visibility of people walking and biking at night.

## Bike Parking Program

Having secure bicycle parking at the end of each trip is imperative for bicyclists. Developing a bike parking program at the regional or municipal level which provides technical assistance and/or funding can assist municipalities, businesses, non-profits, or other organizations with the installation of bicycle parking.

Healthy Shasta, in partnership with Viva Downtown and the cities of Redding, Anderson and Shasta Lake, have purchased and installed over 82 locally-manufactured bicycle racks. Healthy Shasta maintains a list of suggested and requested locations and works with the team to finalize locations for each round of installation. Local jurisdictions donate time to install the racks in the public right-of-way, and some racks also are installed by private property owners. Healthy Shasta provides businesses/property owners with information on best practices for bicycle parking (such as rack selection and placement) and sometimes coordinates bulk purchases involving multiple entities. The team is currently experimenting with a pilot program to install high-capacity racks and are interested in expanding the designs available.

SRTA could support the efforts of Healthy Shasta and local jurisdictions by providing funding for and/or coordinating the bulk purchasing of high quality bicycle parking and amenities, and ensuring that bike parking is equitably distributed around the region at key destinations.

### Bike Parking on Private Property

Regulatory policies, such as ordinances in development and zoning codes, can require the provision of adequate, secure bicycle parking. Policies may specify the type of bicycle rack, rack location, and the number of both short- and/or long-term racks that should be installed based on the building's square footage or number of units. Providing building inspectors with an easy-to-follow punch list that reflects the bicycle

parking requirements can help ensure that the racks meet requirements.

To support municipalities in developing bicycle parking policies, SRTA could develop a model bike parking ordinance. The model ordinance could specify:

- Preferred rack types
- Rubric for the number of racks based on land use
- Where the racks should be placed
- How the racks should be installed

### Bike Parking on Public Property

In tandem with requiring bicycle parking on private property, bicycle parking should also be provided on public property such as in public right-of way and at public facilities.

Bike parking within the public right-of-way is typically intended for the short-term, e.g., for visits of less than a few hours. Racks used for short-term parking may include inverted-U, post and ring, or bike corrals (see Figure 2.10).

By providing technical assistance and possibly funding, SRTA could partner with jurisdictions and organizations to provide quality bike parking within the public right-of-way and at public facilities.

As a first step, SRTA could support Health Shasta's pilot effort to develop a regional bike parking inventory to identify where current bike parking is provided and where it is needed. The inventory could include additional analysis such as capacity, condition, obstructions (such as racks installed too close to a fence or building), protection from the weather, and overall security. This data could be used to identify areas that would benefit from additional, or more secure, bicycle parking. For more information on Healthy Shasta's existing bicycle parking "crowd source" pilot, see Appendix C.

## Bicycle Friendly Business Program

Bicycle friendly businesses are ones that commit to supporting bicycling and provide incentives to customers who arrive by bicycle. Such support may include discounts on purchases, providing high quality bicycle parking, such as on-street bike corrals or custom-designed bike racks, a bicycle repair station, or hosting bicycle events at their businesses. Businesses may display a sign provided by the program that indicates they are a bicycle friendly business.

Healthy Shasta works with Shasta Living Streets and the Redding Chamber of Commerce to sponsor a Bicycle Friendly Business Program that focuses on encouraging and supporting employees bicycling to work. The program also offers annual awards to local bicycle friendly businesses. Any business, organization, public entity or worksite within Shasta County is eligible to be nominated, and the winners are determined by a committee with representatives from several organizations who reference the League of American Bicyclist's Bicycle Friendly Business criteria. Winners receive recognition through free marketing, are honored at the Bicycle Friendly Business celebration, are awarded a complimentary bicycle rack of their choice and a bicycle friendly banner, and receive a Shasta Living Streets Membership. The program also encourages businesses to seek the League of American Bicyclists recognition (see Figure 2.8)

SRTA could help promote the Bicycle Friendly Business program through its active transportation program website and other published materials, and facilitating the exchange of information about the program.

Figure 2.8. Bicycle Friendly Business sign from the League of American Bicyclists. ***Source: League of American Bicyclists***

## Community Events

Events and community celebrations are fun and popular ways to encourage people to get on their bikes and ride with their friends, family, and fellow community members. SRTA could support and partner with municipalities and local organizations, such as Shasta Living Streets, Open Street events, community rides, and other events that promote and celebrate walking and biking (see Figure 2.9). For more information about Open Street events, community rides, and other events, see Appendix C.

## Bike Valet Programs

Bike valet programs turn community events into bicycle destinations by proving bicycle check (similar to a coat check) services. This VIP-type service is open to anyone who arrives at such events by bike and is a fun, and convenient way for attendees to park their bicycles. Bike valet programs also provide a visible and positive statement about the event's or organization's support of bicycle riding. Shasta Living Streets provides bike valet services at large community events and at farmers' markets.

SRTA could encourage and support municipalities, businesses, and organizations to provide bike valet at community events. SRTA could partner with Shasta Living Streets to offer their bicycle valet services at additional events.

# Encouragement Through Policies

## Sustainable Growth Policies

Sustainable growth policies encourage walkable neighborhoods, mixed-use development, infill development, and the provision of transportation options. Regarding transportation, sustainable growth policies aim to:

- Reduce vehicle miles traveled
- Enhance or expand accessible and affordable transit
- Develop a comprehensive transportation network that is walkable and bikeable
- Manage the amount of parking
- Ensure land uses and development support active transportation

The 2008 Sustainable Communities Act (California Senate Bill 375) sets regional targets for reducing greenhouse gas emissions from passenger vehicle use. SRTA could encourage jurisdictions to continue to implement the Sustainable Communities Strategies to address these regional targets by providing support during the development of local plans. SRTA could also continue to fund projects that encourage active transportation, mixed-use development, expanded transportation options, and the reduction of sprawl.

Figure 2.9. A popular Open Street Event in San Luis Obispo, CA attracts hundreds of community members. ***Source: Trip Advisor***

Figure 2.10. A bike corral is an example of an end-of-trip facility. ***Source: Toole Design Group***

## Land Use

There are a variety of development types that are especially supportive of walking and biking, including mixed-used activity centers, transit-oriented development and trail-oriented development (see Figure 2.11). Trail-oriented development is development that is built around or adjacent to trails or facilities providing a "trail-like" experience. These development types should be encouraged and integrated with Trunk Line development.

Figure 2.11. Example of trail-oriented development. ***Source: Toole Design Group***

SRTA could continue to promote these development types within jurisdictions through its Infill and Redevelopment Incentive Program, which provides funding for transportation-efficient land use projects. Given that trail-oriented development is a fairly new concept, SRTA could draft a model trail-oriented development ordinance for jurisdictions to use/modify that includes access requirements, desired amenities and features, and potentially developer incentives such as increased floor-area-ratio or reduced parking minimums, for developments near trails.

## Development Plans

Private development is a common and important mechanism for getting biking and walking facilities built. Proposed development plans should be reviewed to ensure that they include appropriate active transportation elements.

For subdivision developments, ensuring that roadways are accommodating all transportation modes and providing connections to existing and proposed bike and pedestrian facilities can provide residents with more transportation choices. Developers could also be required to build planned active transportation facilities.

SRTA could develop a best practice checklist local jurisdictions could use to assess their development codes/review process and identify where changes may be necessary to better support local and regional active transportation networks.

## Access to Transit

Ensuring that bicycle and pedestrian connections are provided to transit stations and stops is a critical component of an active transportation system, especially in more rural or less developed portions of the Shasta Region. Strong bicycle and pedestrian connections help provide the "first and last mile" connection between home or work to transit which can increase the attractiveness of riding transit and make active transportation a more viable choice, particularly in less urban areas. For example, if a transit stop has safe and convenient bicycle routes connecting to it, this can increase the catchment area of the stop by up to three miles for bicyclists.

SRTA supports the Redding Area Bus Authority's current efforts to identify ADA improvements throughout its service area and work with local communities to determine where first and last mile connections would make the biggest impact to improving transit access. Current funding sources, such as the Transportation Development Act's Local Transportation Fund and the State Transit Fund, could be used for pedestrian and bicycle transit access improvements.

Figure 2.12. Separated bike lanes are located adjacent to a bus stop on this Seattle roadway. ***Source: Humantransit.org***

# Enforcement

Enforcement programs are an important way to increase awareness, improve behavior, and improve traffic safety. Focusing enforcement efforts on behaviors that contribute to fatal and injury-causing crashes, rather than less serious infractions, is a recommended use of resources.

## Enforcement Campaigns

Recognizing that police resources in the Shasta Region are strained, a data-driven, targeted approach to enforcement is critical. SRTA could encourage partnerships between local jurisdictions and law enforcement agencies to implement enforcement campaigns. To identify where to focus the campaigns, SRTA could provide local jurisdictions with technical assistance in analyzing crash data and identifying high-priority locations for enforcement activities. Locations with high rates of injuries, failure to yield behavior, or speed-related crashes should receive priority. Other locations that should be prioritized are those with high volumes of pedestrians and bicyclists such as intersections.

Locations near schools and parks should also be prioritized for enforcement campaigns due to the likeliness of children crossing the road. Young children lack the cognitive ability to judge the speed and distance of moving vehicle to determine when it is safe to cross the street, making it imperative that motorists are aware of school zones and other locations where children may be present.

### Rewarding Good Behavior

Targeted enforcement can also focus on rewarding those who obey traffic control devices during enforcement campaigns. Positive messaging can also be delivered through safety awareness campaigns and safety-focused events. Shasta County Public Health's SRTS program currently works with law enforcement, such as the Anderson Police Department, to reward good pedestrian and bicyclist behavior among youth.

Figure 2.13. Law enforcement plays an important role in promoting safe behaviors of all roadway users. ***Source: Toole Design Group***

SRTA could assist and support coordination between local jurisdictions and law enforcement officers to develop rewards campaigns (see Figure 2.13). SRTA could provide support in the form of funding, coordination, or marketing. Locations with high bicycle and pedestrian volumes such as trails and routes near schools would be good candidates for a reward campaign.

## Safety Patrols on Trails

Safety patrols conducted either by police officers or volunteers, such as bicycle ambassadors, can be also be effective on regional trails to protect users from hazardous conditions and criminal activities; report maintenance issues; and educate trail users about trail proper etiquette.

Safety patrols can act as a community outreach effort to contribute to a safe and enjoyable environment for all. Providing a safety patrol can also indicate that the region values its trails. Ideally, the safety patrol will be on bicycles so that they can patrol trails quickly and easily, and directly understand uncomfortable trail conditions.

SRTA could support coordination between local jurisdictions, law enforcement agencies, local parks departments, and other organizations to determine if there is interest in developing a safety patrol program. If a program is desired, volunteers could be used to staff the patrols and serve as ambassadors to provide education, outreach, and safety information along specific trails and parks where there are safety concerns.

# Evaluation

Achieving the vision of this ATP requires local agencies to build active transportation projects, offer relevant programs, and change some policies to encourage walking and biking. To ensure that these projects, programs, and policies are meeting their intent, they must be evaluated.

Evaluation should use a plan or project-based goals and objectives as its basis. Results should:

- Inform decision makers and the public on whether the projects, programs, and policies are successful
- Illustrate areas that can be improved
- Demonstrate how funds are being used and apply for more funding
- Promote projects to encourage public support

## Data Collection

Collecting measurable data allows projects, programs, and policies to be evaluated quantitatively. This will help determine successes or identify areas that need improvement. Data collection should be built into work plans to ensure the ongoing collection and evaluation of data.

Examples of data include:

- Bicycle and pedestrian counts
- Motor vehicle speed and volume counts
- Pavement and striping conditions
- Bike parking and amenity assessments

## Bicycle and Pedestrian Counts

Collecting data on the number of people walking and biking can help communities gain a better understanding of their active transportation network and activity levels. Short- and long-duration counts can be used to identify activity patterns and facility usage, contribute to safety analysis, and evaluate trends.

SRTA will implement and coordinate a regional bike count program that builds on and incorporates short-duration manual counts that have been organized by Shasta County Public Health and conducted by volunteers since 2008. SRTA will purchase and install permanent counters in close coordination with local agencies with a goal of installing counters at eight to sixteen locations over the next four years. Combining short- and long-duration count data will provide reliable data for establishing trend lines and day of use patterns, which are useful for planning and evaluation purposes.

Beyond purchasing permanent counters, SRTA's role may include:

- Being a data clearinghouse
- Analyzing data and producing reports for local agencies
- Developing the bicycle count program's requirements and methodology
- Identifying a variety of representative locations for permanent and manual counts
- Quality checking data

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# Chapter 3: Project Recommendations

The Shasta Region has a great opportunity to increase walking and biking for both transportation and recreation. Doing so will enable the region to meet air quality and greenhouse gas reduction targets while improving public health and more transportation options. Residents and visitors to the region will be able to take advantage of the tremendous recreational opportunities on facilities such as the Sacramento River Trail, offering a boost to the local economy.

This shift to increase bicycle and pedestrian activity—from the existing 1 to 2 percent mode share—will require connecting existing routes with new routes to provide access to major destinations, and making the walking and biking network safer and more comfortable so a wider spectrum of people see these modes as attractive and viable options for getting around.

This chapter presents project recommendations for creating a connected, appealing, and safe bicycle and pedestrian network in the cities of Anderson and Shasta Lake and the unincorporated areas of Shasta County. The rural, urban, and suburban characters of the Shasta Region create a need for projects that are context-sensitive and provide appropriate facilities for recreational and transportation trips. To see how the projects recommended as part of the city of Redding Active Transportation Plan connect with the rest of the region, view the regional bicycle map and regional pedestrian map. More information on the city of Redding's project recommendations, policies, and programs can be found in the city of Redding Active Transportation Plan.

## Process to Develop Recommendations

The project recommendations were developed based on careful consideration of data and community input about walking and biking within the Shasta Region. The following information was used to develop project recommendations:

- Community comments from public workshops and events, walk audits, and online engagement tools, such as a survey and mapping tool
- Input from the GoShasta Steering Committee and Citizens Advisory Committee
- Best practices for pedestrian and bicycle planning and design, including how to develop a network for all ages and abilities
- Collision analysis
- Data on walking and biking trips
- Assessment of existing bicycle and pedestrian facilities
- Assessment of transit service and access areas
- Land use and Strategic Growth Areas

The recommendations presented in this chapter include physical changes to the bicycle and pedestrian network. Specific locations recommended for improvements are identified in the following maps. Program recommendations which complement these project recommendations, can be found in Chapter 2.

## Pedestrian Network Recommendations

The recommendations to enhance walking throughout the Shasta Region focus on spot improvements and corridor recommendations. How regional Trunk Lines (see Chapter 1) comprise corridor improvements implemented by local agencies will be determined in consultation with neighboring jurisdictions and SRTA. Figures 3.1 to 3.7 illustrate these recommendations, and a description of the proposed elements follows. There are several recommendations not shown on local maps due to the size of the region and the scale of the projects, however all recommendations are shown on the Regional Map of Pedestrian Recommendations, and are included in the project lists in Appendix E.

**See Appendix A for more information about the Stakeholder and Public Input.**

**See Appendix D for more information about the data and technical analysis to develop the recommendations.**

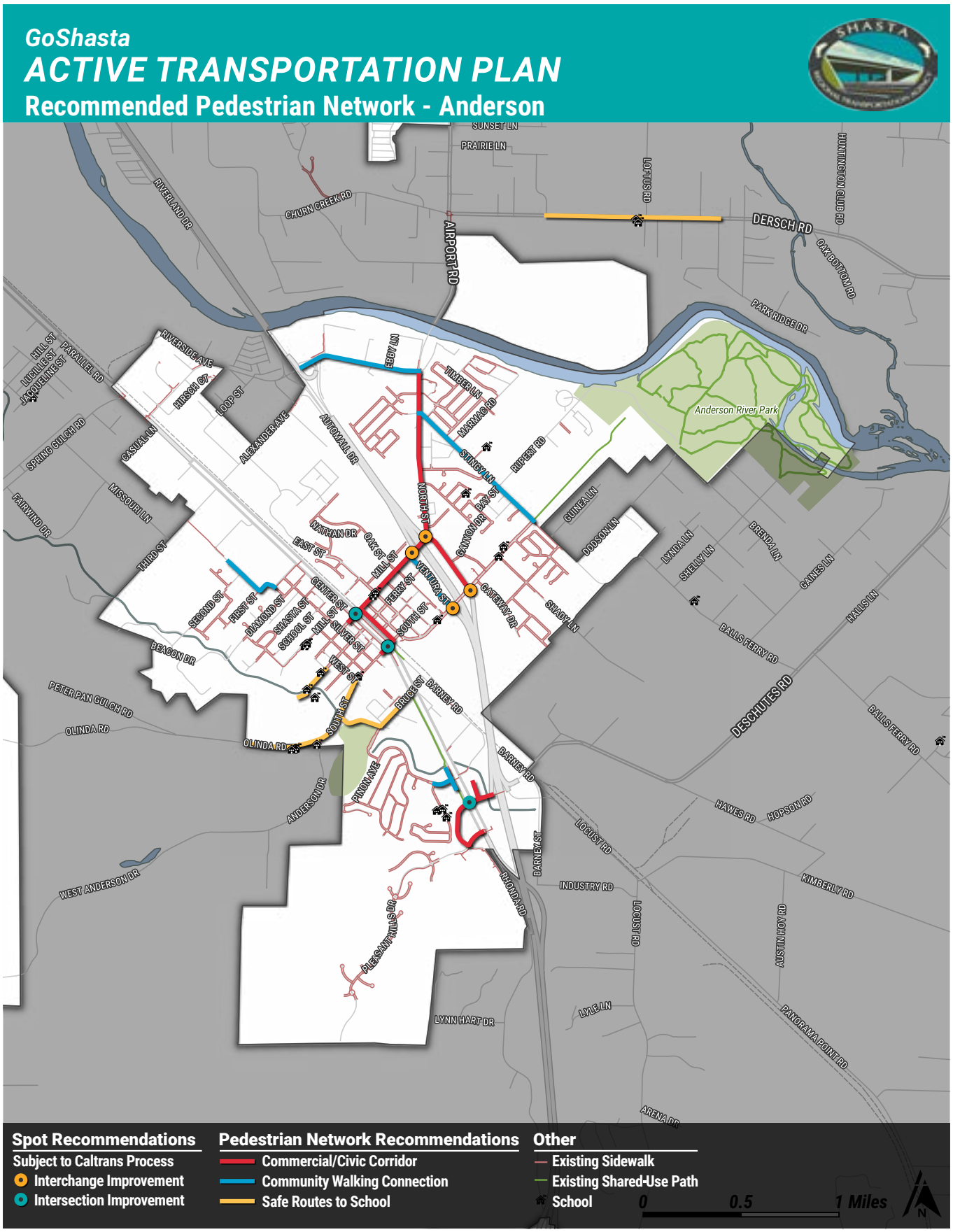

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Pedestrian Network - Anderson
SUNSET LN
PRAIRIE LN
LOFTUS RD
HUNTINGTON CLUB RD
RIVERLAND DR
CHURN CREEK RD
DERSCH RD
OAKBOTTOM RD
AIRPORT RD
PARK RIDGE DR
Anderson River Park
RIVERSIDE AVE
HILL ST
LUCILLE ST
JACQUELINE ST
PARALLEL RD
HIRSCH CT
LOOP ST
ALEXANDER AVE
AUTOMALL DR
NTI 16GB
TIMBER LN
MARIAC RD
STINGY LN
RUPERT RD
SPRING GULCH RD
CASUAL LN
MISSOURI LN
FAIRWIND DR
THIRD ST
NORTH ST
BAY ST
CANNON DR
GUINEA LN
DODSON LN
NATHAN DR
EAST ST
OAK ST
HILL ST
VENTURA ST
GATEWAY DR
LYNDA LN
SHELLY LN
BRENDA LN
GAINES LN
HALLS LN
SHADY LN
SECOND ST
FIRST ST
DIAMOND ST
SHASTA ST
CENTER ST
SCHOOL ST
HILL ST
SILVER ST
FERRY ST
SOUTH ST
BALLS FERRY RD
BEACON DR
WEST ST
BRUCE ST
BARNEY RD
DESCHUTES RD
PETER PAN GULCH RD
OLINDA RD
SOUTH ST
OLINDA RD
BALLS FERRY RD
BARNEY RD
PINON AVE
ANDERSON DR
HAWES RD
HOPSON RD
LOCUST RD
BARNEY ST
WEST ANDERSON DR
INDUSTRY RD
KIMBERLY RD
RHONDA RD
LOCUST RD
AUSTIN HOY RD
PLEASANT HILL DR
LYLE LN
LYNN HART DR
PANORAMA POINT RD
ARENA DR
Spot Recommendations
Subject to Caltrans Process
Interchange Improvement
Intersection Improvement
Pedestrian Network Recommendations
Commercial/Civic Corridor
Community Walking Connection
Safe Routes to School
Other
Existing Sidewalk
Existing Shared-Use Path
School
0
0.5
1 Miles
N

Figure 3.1

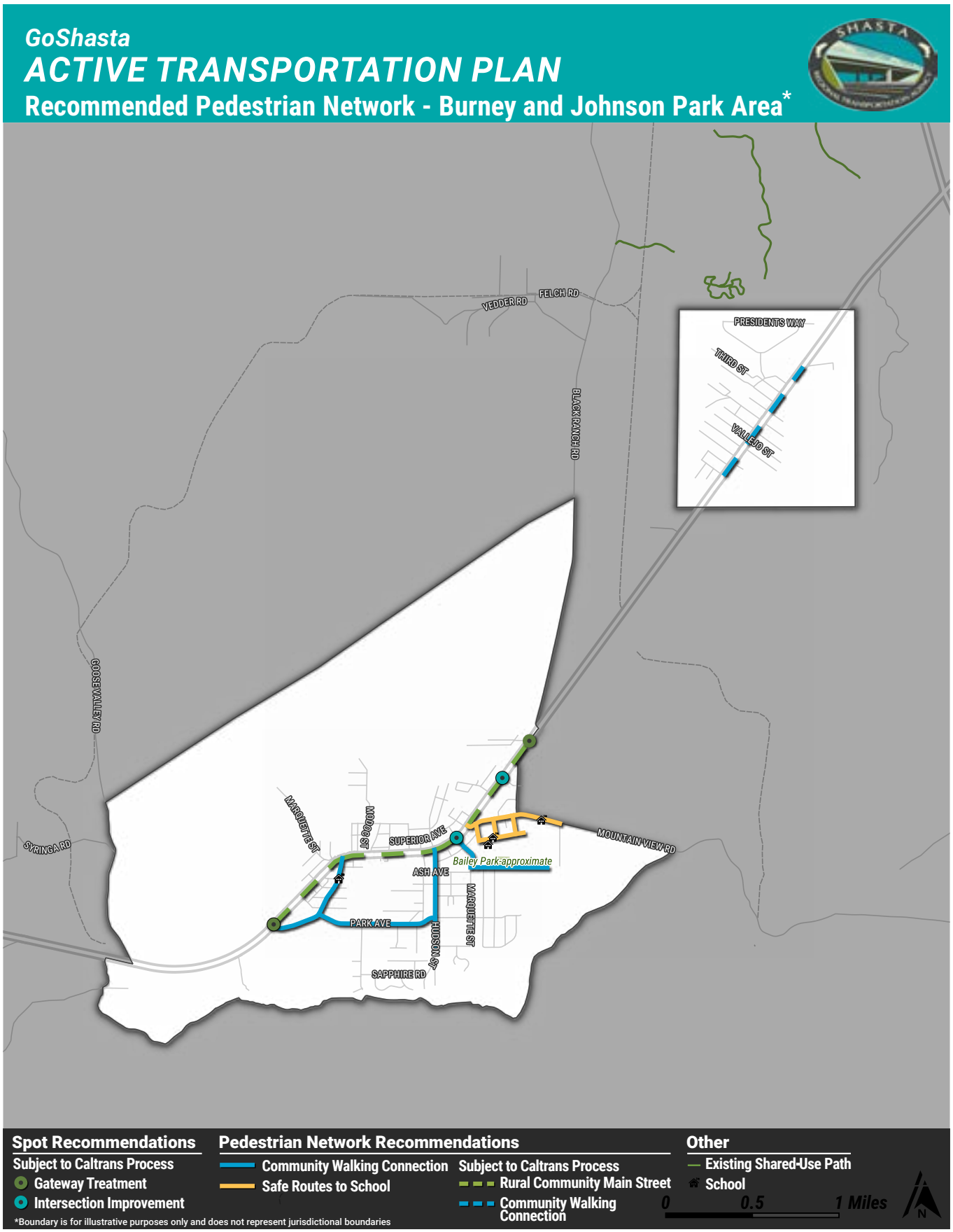

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Pedestrian Network - Burney and Johnson Park Area*
VEDDER RD
FELCH RD
BLACK RANCH RD
PRESIDENTS WAY
THIRD ST
VALLEJO ST
GOOSEVALLEY RD
SYRINGA RD
MARQUETTE ST
WOOD ST
SUPERIOR AVE
ASH AVE
Bailey Park-approximate
MOUNTAIN VIEW RD
PARK AVE
HUDSON ST
SAPPHIRE RD
Spot Recommendations
Subject to Caltrans Process
Gateway Treatment
Intersection Improvement
Pedestrian Network Recommendations
Community Walking Connection
Safe Routes to School
Subject to Caltrans Process
Rural Community Main Street
Community Walking Connection
Other
Existing Shared-Use Path
School
0
0.5
1 Miles
N
*Boundary is for illustrative purposes only and does not represent jurisdictional boundaries

Figure 3.2

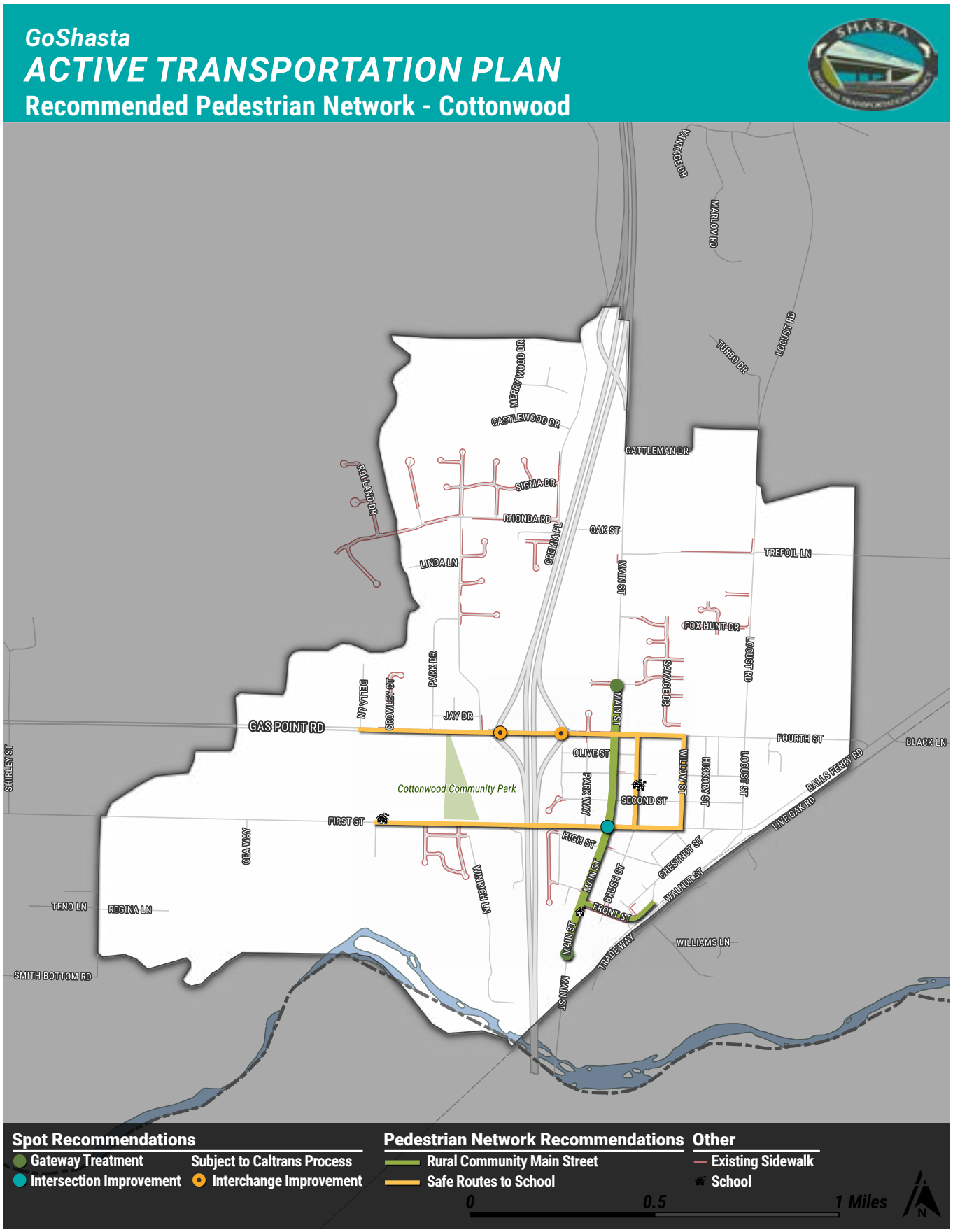

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Pedestrian Network - Cottonwood
WATTAGE DR
MARLOW RD
LOCUST RD
TURBO DR
MERRY WOOD DR
CASTLEWOOD DR
CATTLEMAN DR
ROLLAND DR
SIGMA DR
RHONDA RD
GREMA PL
OAK ST
TREFOIL LN
LINDA LN
MAIN ST
FOX HUNT DR
LOCUST RD
PARK DR
SAVAGE DR
BELLA LN
CROWLEY CT
JAY DR
GAS POINT RD
MAIN ST
FOURTH ST
BLACK LN
OLIVE ST
WILLOW ST
HICKORY ST
LOCUST ST
SHIRLEY ST
Cottonwood Community Park
PARK WAY
SECOND ST
BALLS FERRY RD
LIVE OAK RD
FIRST ST
HIGH ST
GEA WAY
CHESTNUT ST
MAIN ST
BROSH ST
WALNUT ST
WILKINSON LN
TENO LN
REGINA LN
FRONT ST
MAIN ST
TRADEWAY
WILLIAMS LN
SMITH BOTTOM RD
MAIN ST
Spot Recommendations
Gateway Treatment
Subject to Caltrans Process
Intersection Improvement
Interchange Improvement
Pedestrian Network Recommendations
Rural Community Main Street
Safe Routes to School
Other
Existing Sidewalk
School
0
0.5
1 Miles
N

Figure 3.3

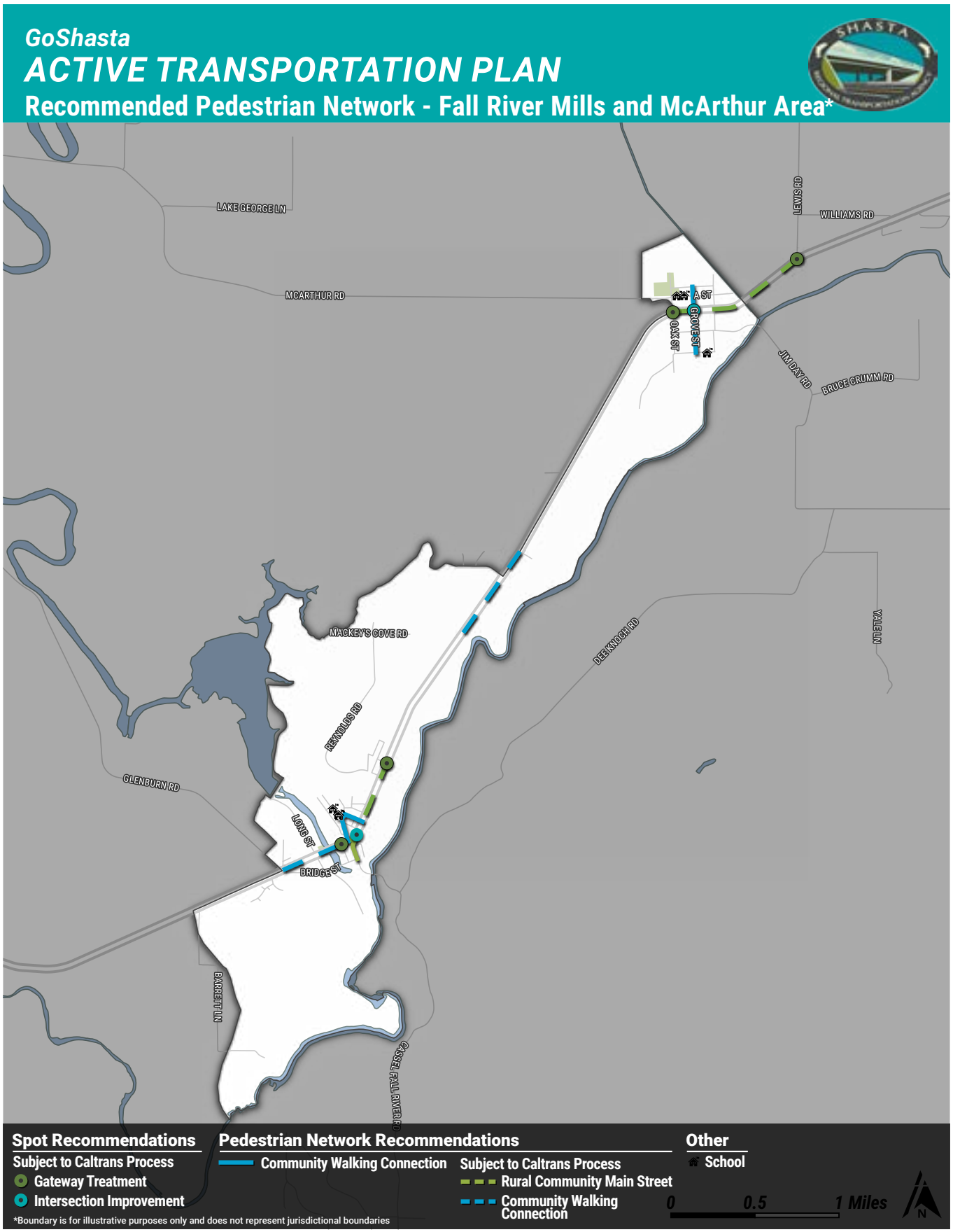

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Pedestrian Network - Fall River Mills and McArthur Area*
LAKE GEORGE LN
MCARTHUR RD
LEWIS RD
WILLIAMS RD
A ST
GROVE ST
OAK ST
JIM DAY RD
BRUCE CRUMM RD
MACKEY'S COVE RD
DEE KNOCH RD
YALE LN
REYNOLDS RD
GLENBURN RD
LONG ST
BRIDGE ST
BARRETT LN
CASSEL FALL RIVER RD
Spot Recommendations
Subject to Caltrans Process
Gateway Treatment
Intersection Improvement
Pedestrian Network Recommendations
Community Walking Connection
Subject to Caltrans Process
Rural Community Main Street
Community Walking Connection
Other
School
0
0.5
1 Miles
N
*Boundary is for illustrative purposes only and does not represent jurisdictional boundaries

Figure 3.4

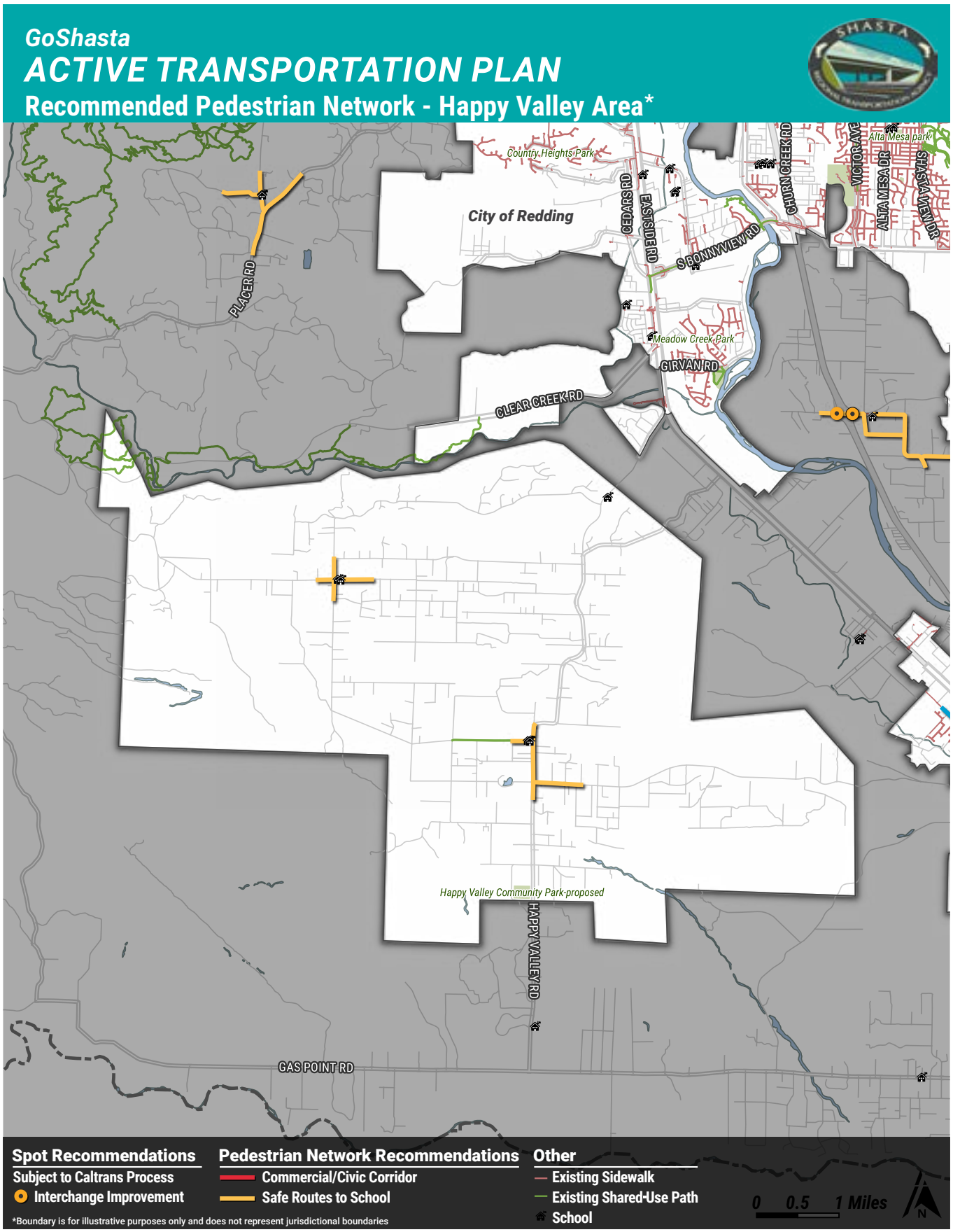

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Pedestrian Network - Happy Valley Area*
City of Redding
Country Heights Park
Alta Mesa park
Meadow Creek Park
Happy Valley Community Park-proposed
PLACER RD
CEDARS RD
EASTSIDE RD
S BONNYVIEW RD
CHURN CREEK RD
VICTOR AVE
ALTA MESA DR
SHASTA VIEW DR
GIRVAN RD
CLEAR CREEK RD
HAPPY VALLEY RD
GAS POINT RD
Spot Recommendations
Subject to Caltrans Process
Interchange Improvement
Pedestrian Network Recommendations
Commercial/Civic Corridor
Safe Routes to School
Other
Existing Sidewalk
Existing Shared-Use Path
School
0 0.5 1 Miles
N
*Boundary is for illustrative purposes only and does not represent jurisdictional boundaries

Figure 3.5

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Pedestrian Network - Palo Cedro
SANDPOINT RD
SUNNY OAKS LN
ROBIN WAY
FRISBIE LN
DALEWOOD DR
HIDDEN LN
HILLVIEW DR
ORIOLE LN
COW CREEK DR
STONEY CREEK LN
SWEDE CREEK RD
WINEGAR RD
LOGAN RD
BERYL DR
LASSEN VIEW DR
STONE MEADOW RD
VINE CT
OLD HWY 44 DR
KILGEY RD
KENA LN
CEDRO LN
Palo Cedro Community Park
CALISTOGA WAY
DORK LN
GILBERT DR
PLAZA DR
GOLFTIME DR
SERENITY LN
ROVERN RANCH RD
SILVERLODE LN
BUENA VENTURA DR
HILLSIDE DR
SPANISH OAKS DR
RUSTY LN
ELMAR RD
VISTA OAKS DR
KIRKWOOD MANOR DR
WILLOA LN
MIDVIEW DR
MEL MAR DR
BARROW RD
BUCKSKIN LN
BELMONT DR
WHISPERING OAKS RD
BERKELEY DR
SILVER BRIDGE RD
RAMBLEWOOD LN
BRUNDAGE RD
MAYNARD RD
SILVER SPUR RD
DESCHUTES RD
SKYLARK LN
CHAROLAIS WAY
BASS POND RD
MELISA DR
ANTLERS RD
Spot Recommendations
Gateway Treatment
Subject to Caltrans Process
Interchange Improvement
Pedestrian Network Recommendations
Rural Community Main Street
Safe Routes to School
Other
Existing Sidewalk
School
0
0.5
1 Miles
N

Figure 3.6

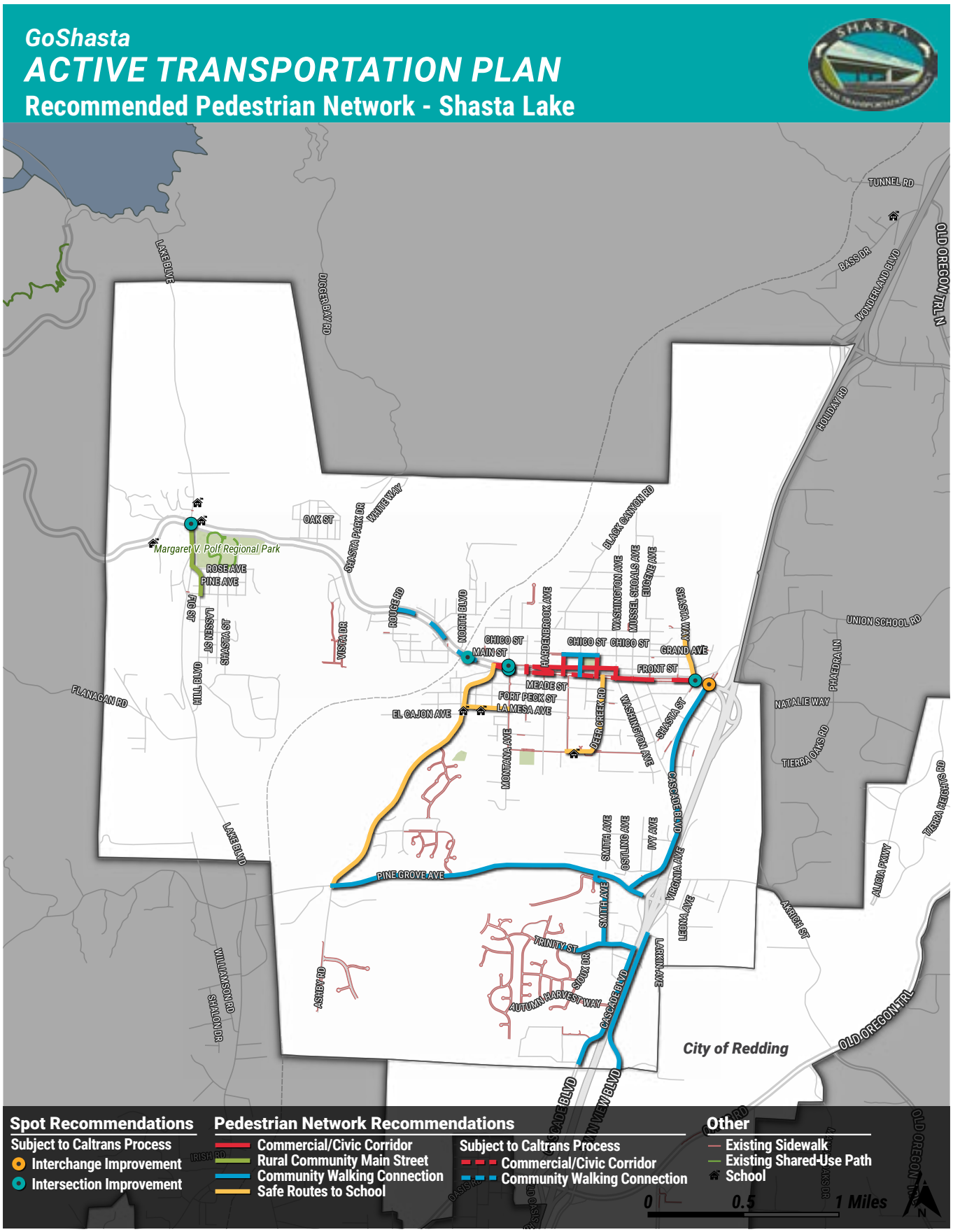

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Pedestrian Network - Shasta Lake
Margaret V. Polf Regional Park
City of Redding
Spot Recommendations
Subject to Caltrans Process
Interchange Improvement
Intersection Improvement
Pedestrian Network Recommendations
Commercial/Civic Corridor
Rural Community Main Street
Community Walking Connection
Safe Routes to School
Subject to Caltrans Process
Commercial/Civic Corridor
Community Walking Connection
Other
Existing Sidewalk
Existing Shared-Use Path
School
0
0.5
1 Miles

Figure 3.7

RECOMMENDATION

## Spot Improvements

Recommended spot improvements include gateway treatments, intersection improvements, and interchange improvements.

### Intersection Improvements

Intersections are primary conflict areas between bicyclists, pedestrians, and drivers. Intersection design should provide visibility for all users and create a predictable environment where users intuitively understand each other's expected movements. Intersections should be as compact as possible to minimize crossing distances, increase visibility, and slow traffic near conflict points. Unused space within an intersection should be minimized and, where possible and context-appropriate, can be converted into pedestrian spaces.

Crossing improvements can include:

- Constructing curb extensions and/or raised crossings to slow vehicle turning speeds and reduce pedestrian exposure
- Shortening cycle lengths and coordinating timing along corridors to reduce pedestrian delay
- Striping high-visibility crosswalks at unsignalized locations (see Figure 3.8)
- Enhancing infrastructure—through pedestrian median islands, flashing beacons, or pedestrian hybrid beacons—at higher-volume crossings or where high vehicle speeds and/or volumes are present mid-block

### Interchange Improvements

Interchanges are often critical links across limited access roadways for pedestrians and bicyclists; however, these facilities are not always designed to provide safe and comfortable access for these users. Improvements to interchange ramp designs can encourage drivers to slow to a safe speed, increase visibility for all users, and help increase awareness of potential conflicts. Interchanges in the Shasta Region occur on state routes and along the I-5 corridor and are designed and operated by Caltrans, and thus subject to Caltran's project development process. Interchange locations identified as needing improvement to better accommodate people walking and biking are indicated on the pedestrian network recommendation maps as "Subject to Caltrans Process."

Figure 3.8. High visibility crossings for bicyclists and pedestrians in Davis, CA. ***Source: Kittelson & Associates, Inc.***

Creating safe and comfortable facilities for non-motorized users through interchanges includes:

- Encouraging slower vehicle speeds at ramp entrances and exits through geometric design.
- Orienting ramps at 90-degree angles to the intersecting roadway to improve sight triangles.
- Controlling ramp entrances and exits through stop or signalized intersection controls.
- Striping pedestrian crossings with high-visibility markings and installing advanced stop bars, or yield lines, and pedestrian warning signs.
- Shortening the length of the crossing.
- Installing sidewalks on both sides of the interchange.
- Constructing grade-separated interchange crossings at complex interchanges or on high-use walking and biking routes. These should directly connect to pedestrian and bicycle routes, as grade-separated facilities that require bicyclists or pedestrians to make long detours compared to crossing the interchange at grade may not be used.
- Designing well-lit and open undercrossings, if grade-separated interchanges are constructed.

For bicyclists, the same principles apply and, where possible, bicycle facilities should be separated to provide bicyclists a comfortable environment physically separated from high-speed vehicles. Separated facilities also provide drivers with a clear understanding of potential conflicts by creating a predictable environment for all users. Bicycle crossings with green paint should be striped across intersection crossings at ramp intersections to clearly identify the potential conflict between vehicles and bicycles. Figure 3.9 illustrates walking and biking enhancements at an interchange.

## Gateway Treatments

In areas where roadways transition from high-speed intercity and interregional routes to local, main streets with higher walking and biking activity, indicating the transition through gateway treatments can help calm vehicle speeds, cue drivers to the changed land use and roadway context, improve safety, and provide community identity.

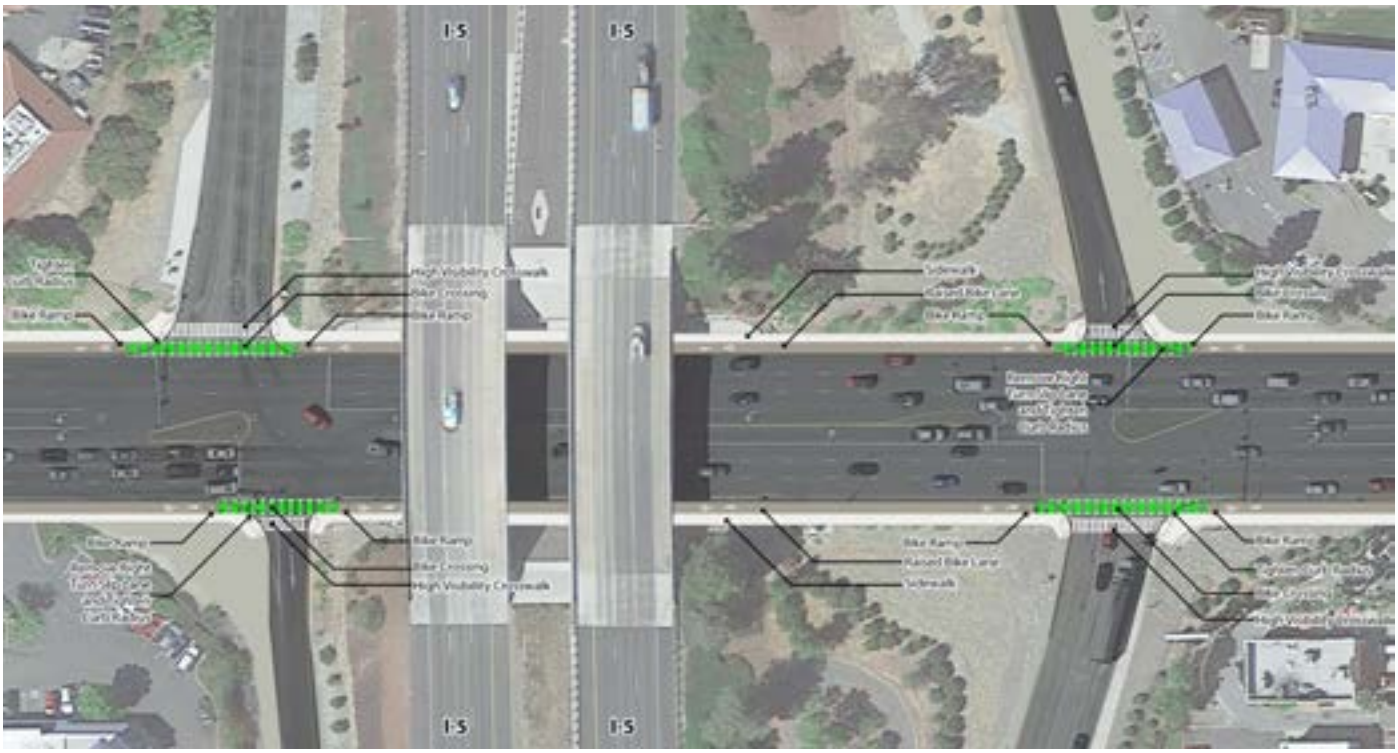



Figure 3.9. Conceptual Interchange Crossing Design. ***Source: Kittelson & Associates, Inc.***

Gateway improvements can include:

- Physically narrowing the roadway or travel lanes
- Visually narrowing the roadway (e.g., introducing on-street parking, street trees)
- Signage
- Streetscape elements (e.g., pedestrian-scale lighting, banners)
- Roundabouts
- Medians
- Monuments, structures, or signs that communicate the name and/or cultural elements of the community (see Figure 3.10)

Figure 3.10. Gateway treatments may include parking, lane narrowing, street trees, medians, lighting and monuments. ***Source: Toole Design Group***

RECOMMENDATION

## Corridor Improvements

Recommended corridor improvements include treatments to create safe and comfortable commercial/civic corridors, safe routes to school, rural community main streets, and community walking connections.

### Commercial/Civic Corridors

Commercial and civic corridors provide an opportunity for enhancing the pedestrian realm since these are areas where people are more likely to walk for shopping, business, and recreational trips. Improvements along these corridors should be prioritized to allow for a cohesive and comfortable walking environment.

Pedestrian improvements along commercial and civic corridors could include:

- Filling sidewalk gaps
- Providing a buffer, such as a planting strip and curbside parking, between the sidewalk and roadway, especially along higher-speed roadways
- Providing sidewalks that are wider than minimum clear widths to allow for comfortable side-by-side walking (see Figure 3.11)
- Enhancing crosswalks through the installation of high-visibility crossings or other improvements at key intersections

Providing active building frontages that integrate with the streetscape elements is also important for creating an inviting walking environment.

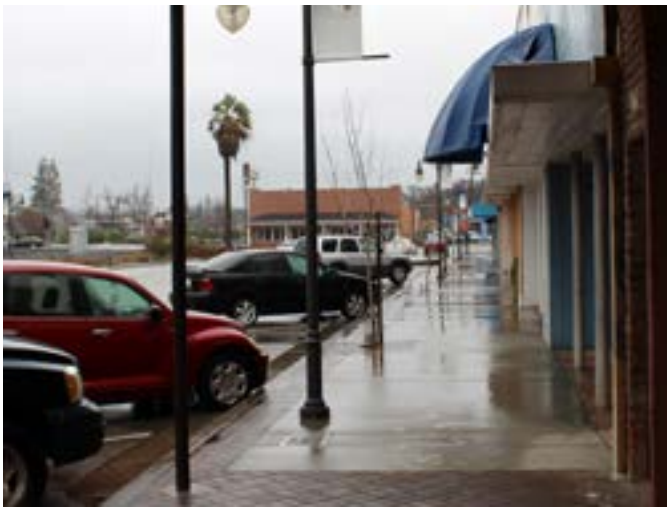


Figure 3.11. Commercial corridor in Anderson, CA. ***Source: Toole Design Group***

## Safe Routes to Schools

An important focus of a complete active transportation network is developing safe, comfortable ways for children to walk and bike to school. Creating safe routes to schools should be coordinated with local school districts to ensure guidance on optimal routes is provided to families and that specific infrastructure issues within the walking shed of a school are identified and addressed.

Improvements can include:

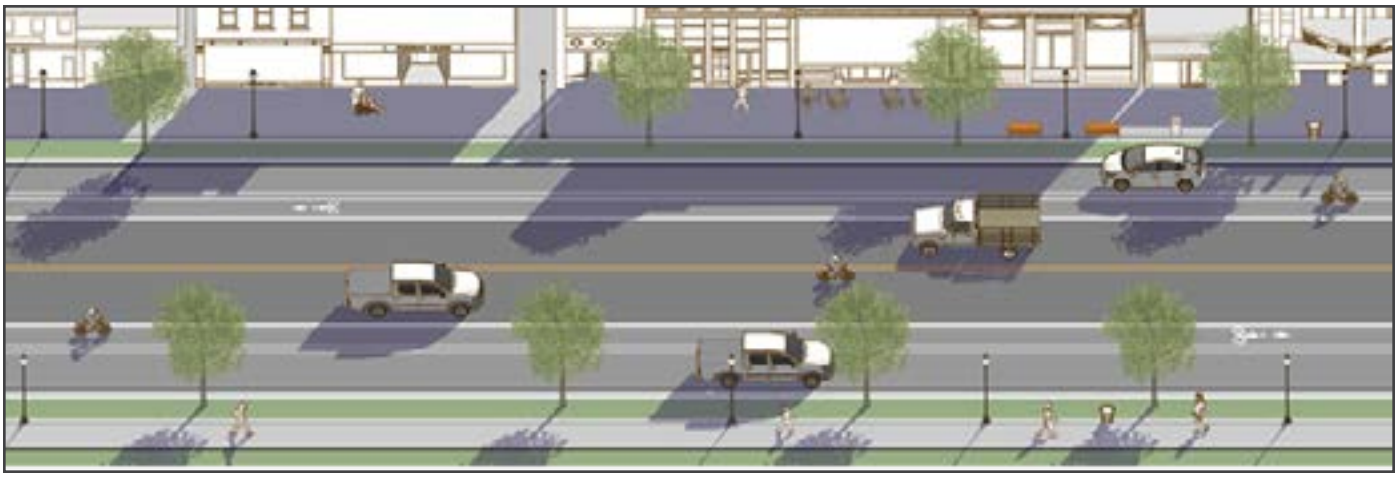
- Providing a safe walking environment between homes and schools by installing sidewalks or otherwise providing a delineated space for walking
- Ensuring intersections are enhanced with high-visibility crossings and other treatments, such as pedestrian hybrid beacons or rectangular rapid flashing beacons

## Rural Community Main Street

Many of the Shasta Region's rural communities, such as Burney, French Gulch, and Fall River Mills, developed around a state route or other roadway that has evolved into high-speed roadways that serve regional trips rather than local destinations. These streets could be redesigned to emphasize placemaking and community identity and to serve all users, whether arriving on foot, by bike, in a wheelchair, or in a car. For example, installing sidewalks or filling sidewalk gaps, providing buffers by introducing on-street parking or constructing planted sidewalk buffers, narrowing travel lanes, and installing convenient and visible crossings are among the treatments that can be used to establish more pedestrian friendly main streets. Such changes go hand-in-hand with Gateway Treatments discussed above. Changes to these roadways will likely need to balance a number of competing needs, and the community and key stakeholders should be involved with envisioning the future of these streets.

Figures 3.12 and 3.13 provide example concepts for accommodating multiple users along a rural main street. These concepts are from the Federal Highway Administration's 2017 *Small Town and Rural Multimodal Networks Guide*.

Figures 3.12. Example Concept Designs for Rural Main Streets. ***Source: FHWA Small Town and Rural Multimodal Networks Guide***



Figures 3.13. Example Concept Designs for Rural Main Streets. ***Source: FHWA Small Town and Rural Multimodal Networks Guide***

## Community Walking Connection

In addition to rural community main streets, creating safe walking connections between rural communities and to key destinations is equally important. Facilities should be context-sensitive and should fit with the character and identity of the community. For more developed communities such as Burney, this may include installing sidewalks along routes between activity centers, residential neighborhoods, and schools. For other communities, community walking connections may consist of widened paved shoulders or, in some cases where feasible, creating a sidepath (see Figures 3.14 and 3.15). Sidepaths are typically found along higher-speed roads.

Figure 3.14. Existing condition. ***Source: Kittleson & Associates, Inc.***

Figure 3.15. Concept visualization for rural side path along higher speed road. ***Source: Kittleson & Associates, Inc.***

# Bikeway Network Recommendations

Recommendations to improve bicycling throughout the Shasta Region focus on local connectivity routes and the development of a regional network of Trunk Lines (see Chapter 1). Figures 3.16-3.22 illustrate the proposed bikeway network. There are several recommendations not shown on local maps due to the size of the region and the scale of the projects, however all projects are shown on the Regional Map of Bicycle Recommendations. All recommended projects have been included in the project lists in Appendix E.

This chapter also provides an overview of the different facility types recommended for the Shasta Region's bikeway network. The following table summarizes the recommended bikeway facilities for each community. This mileage includes bikeway facility upgrades e.g., buffered bike lane where there is an existing conventional bike lane. For details on city of Redding bikeway recommendations, see the City of Redding Active Transportation Plan (city of Redding, 2018)

Implementing these bikeway recommendations will result in safer, more connected regional bicycle network.

Table 3.1. Recommended Bikeway Network Mileage

| Bikeway Facility | Redding | Anderson | Shasta Lake | Shasta County | Total |
|---|---|---|---|---|---|
| Shared-Use Path | 55.31 | 1.21 | 9.55 | 12.22 | 78.29 |
| Buffered Bike Lane | 56.59 | 0.00 | 1.88 | 9.26 | 67.73 |
| Separated Bike Lane | 1.50 | 7.38 | 5.03 | 1.78 | 15.69 |
| Bike Lane | 36.68 | 7.93 | 6.92 | 109.13 | 160.66 |
| Bike Boulevard | 17.27 | 2.21 | 5.63 | 0.00 | 25.11 |
| Bike Route | 2.66 | 0.73 | 4.41 | 31.47 | 39.27 |
| **Grand Total** | **170.01** | **19.45** | **33.41** | **163.86** | **386.75** |

Note: Mileage totals include projects that are subject to Caltrans process, including 20.77 miles of bike lanes, 0.4 miles of bike routes, 1.53 miles of buffered bike lanes, and 7.85 miles of shared-use paths.

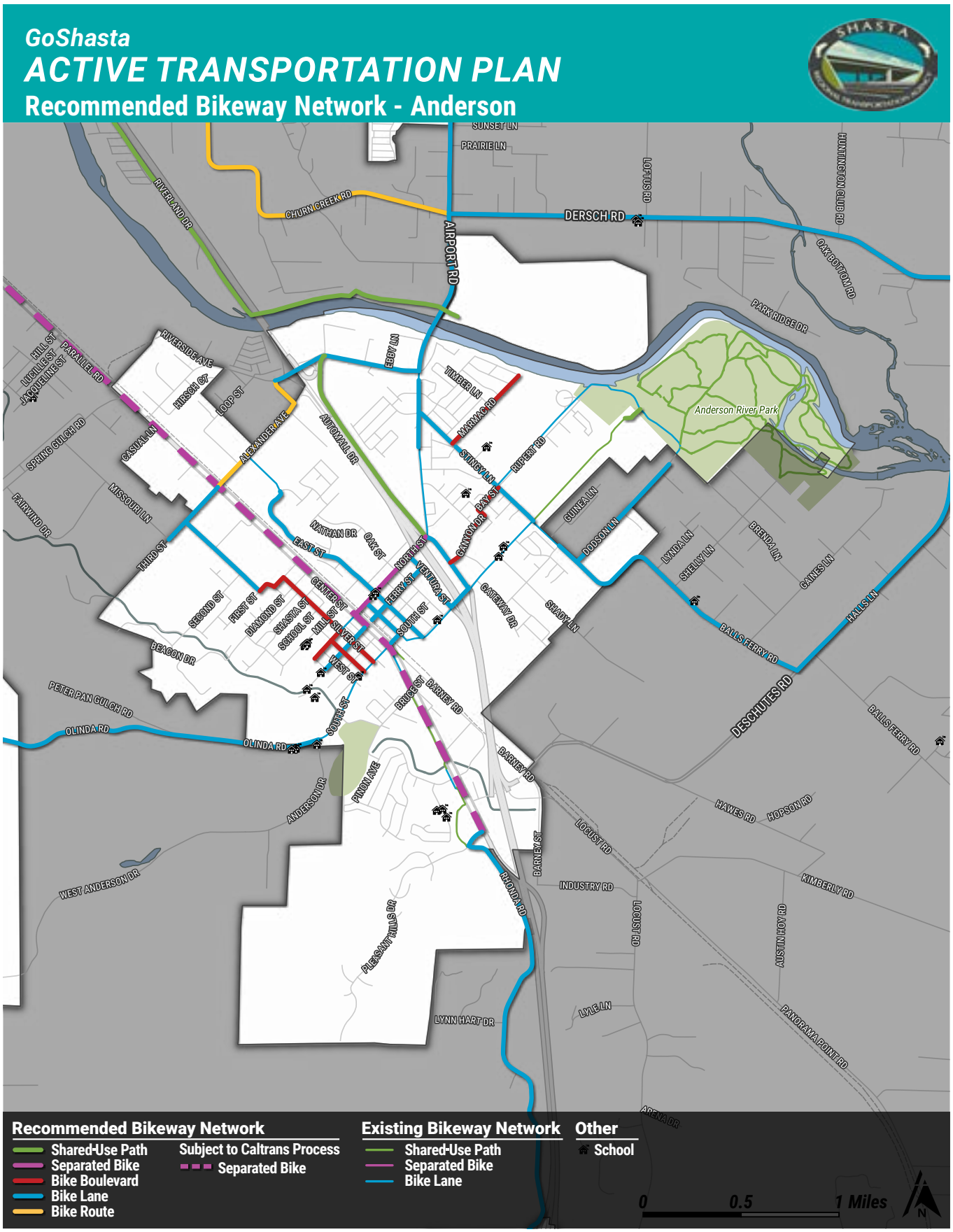

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Bikeway Network - Anderson
SUNSET LN
PRAIRIE LN
LOFTUS RD
HUNTINGTON CLUB RD
RIVERLAND DR
CHURN CREEK RD
DERSCH RD
AIRPORT RD
OAKBOTTOM RD
PARK RIDGE DR
HILL ST
LUCILLE ST
JACQUELINE ST
PARALLEL RD
RIVERSIDE AVE
HIRSCH CT
LOOP ST
EBBY LN
TIMBER LN
MARMAC RD
Anderson River Park
SPRING GULCH RD
CASUAL LN
ALEXANDER AVE
AUTOMALL DR
STINGY LN
RUPERT RD
MISSOURI LN
FAIRWIND DR
BAY ST
GUINEA LN
NATHAN DR
OAK ST
EAST ST
NORTH ST
CANNON DR
DODSON LN
THIRD ST
LYNDA LN
SHELLY LN
BRENDA LN
GAINES LN
CENTER ST
FERRY ST
VENTURA ST
GATEWAY DR
SECOND ST
FIRST ST
DIAMOND ST
SHASTA ST
SCHOOL ST
HILL ST
SILVER ST
SOUTH ST
SHADY LN
HALLS LN
BALLS FERRY RD
BEACON DR
WEST ST
BRUCE ST
BARNEY RD
DESCHUTES RD
PETER PAN GULCH RD
OLINDA RD
SOUTH ST
BALLS FERRY RD
PINON AVE
ANDERSON DR
HAWES RD
HOPSON RD
LOCUST RD
BARNEY ST
WEST ANDERSON DR
INDUSTRY RD
KIMBERLY RD
RHONDA RD
LOCUST RD
AUSTIN HOY RD
PLEASANT HILLS DR
LYLE LN
LYNN HART DR
PANORAMA POINT RD
ARENA DR
Recommended Bikeway Network
Shared-Use Path
Separated Bike
Bike Boulevard
Bike Lane
Bike Route
Subject to Caltrans Process
Separated Bike
Existing Bikeway Network
Shared-Use Path
Separated Bike
Bike Lane
Other
School
0
0.5
1 Miles
N

Figure 3.16

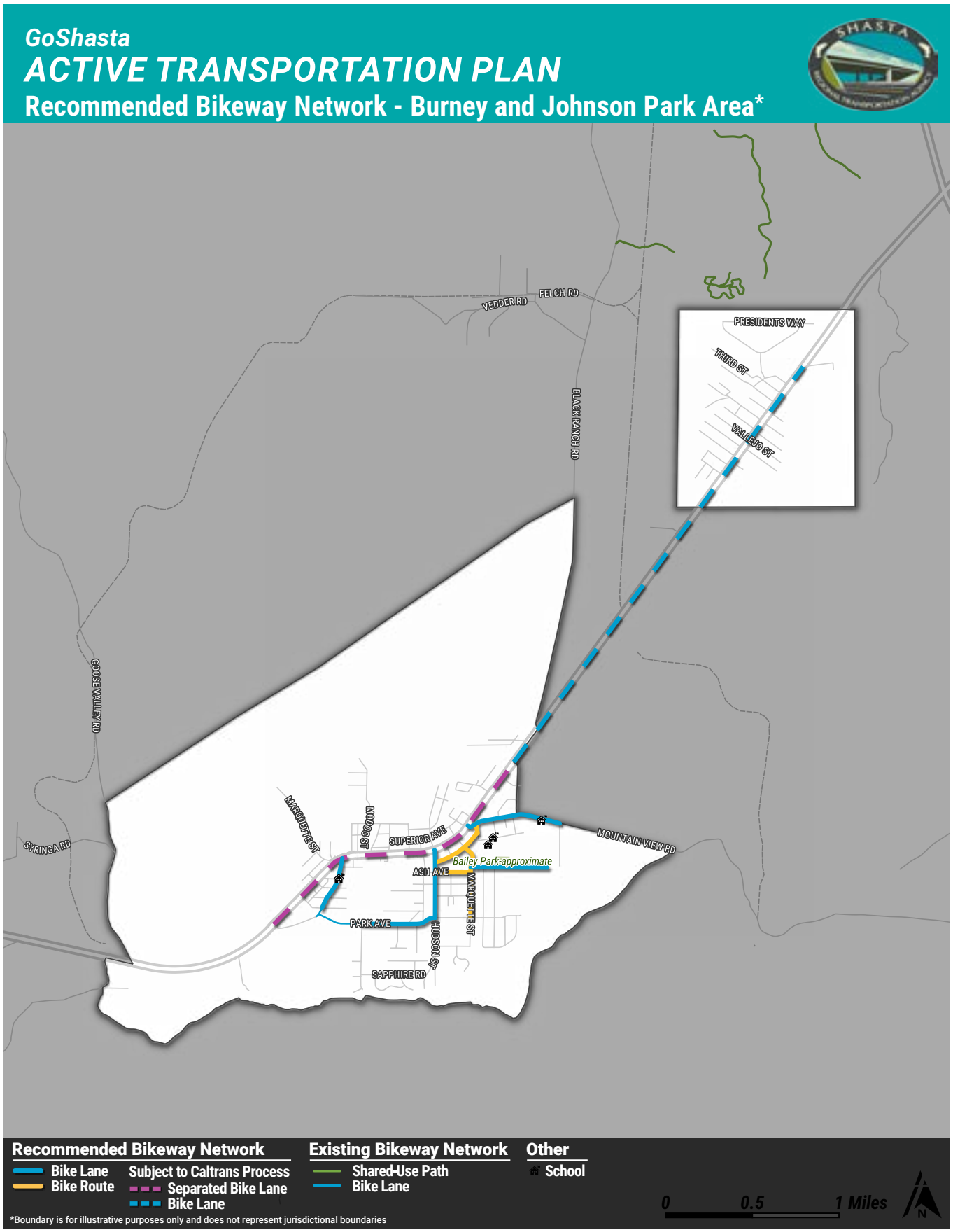

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Bikeway Network - Burney and Johnson Park Area*
VEDDER RD
FELCH RD
PRESIDENTS WAY
THIRD ST
VALLEJO ST
BLACK RANCH RD
GOOSEVALLEY RD
SYRINGA RD
MARQUETTE ST
WOOD ST
SUPERIOR AVE
ASH AVE
Bailey Park-approximate
MOUNTAIN VIEW RD
PARK AVE
HUDSON ST
SAPPHIRE RD
Recommended Bikeway Network
Bike Lane
Bike Route
Subject to Caltrans Process
Separated Bike Lane
Bike Lane
Existing Bikeway Network
Shared-Use Path
Bike Lane
Other
School
0
0.5
1 Miles
N
*Boundary is for illustrative purposes only and does not represent jurisdictional boundaries

Figure 3.17

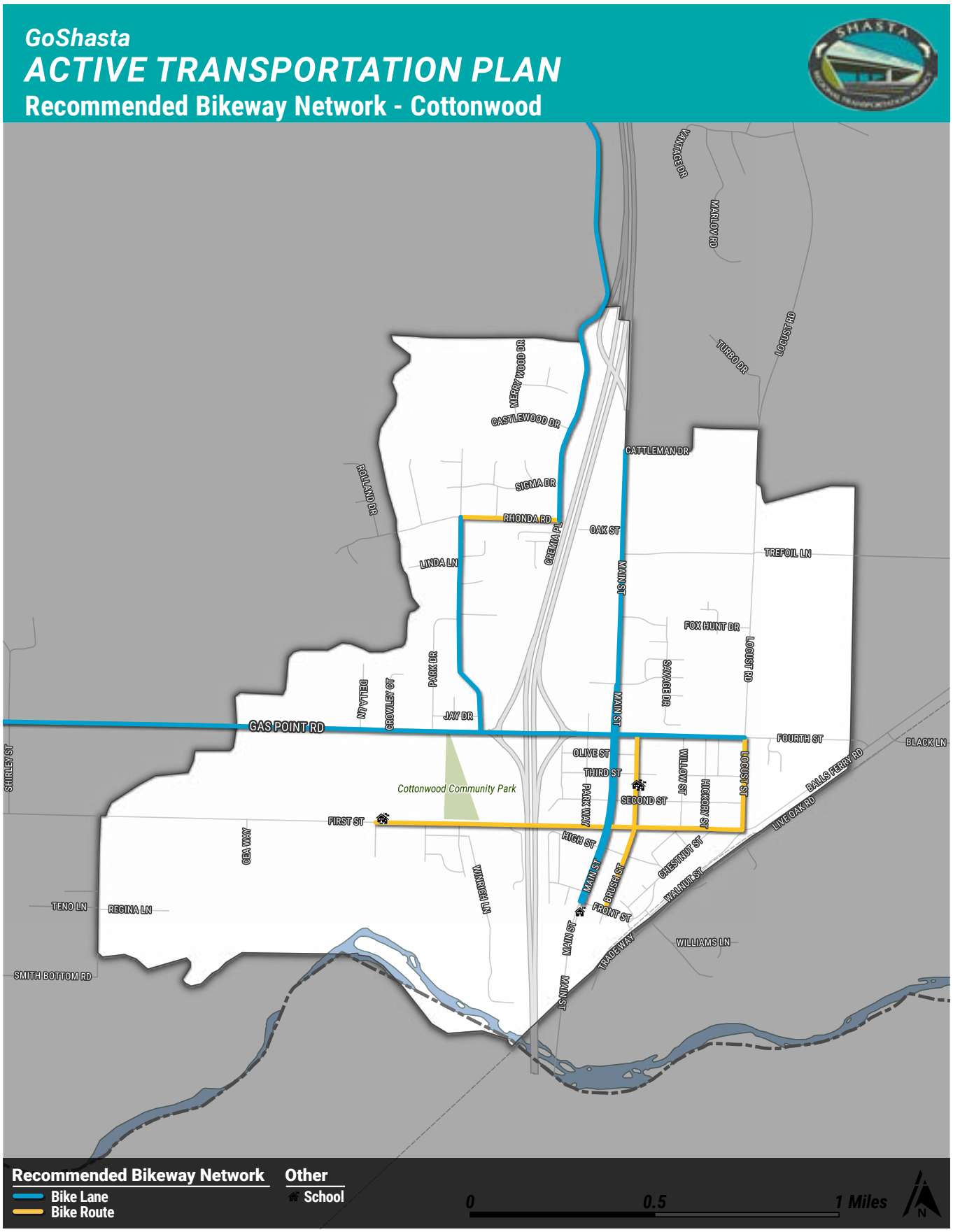

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Bikeway Network - Cottonwood
VINTAGE DR
MARLOW RD
LOCUST RD
TURBO DR
MERRY WOOD DR
CASTLEWOOD DR
CATTLEMAN DR
ROLLAND DR
SIGMA DR
RHONDA RD
GREMA PL
OAK ST
TREFOIL LN
LINDA LN
MAIN ST
FOX HUNT DR
LOCUST RD
SAVAGE DR
PARK DR
BELLA LN
CROWLEY CT
JAY DR
GAS POINT RD
FOURTH ST
BLACK LN
SHIRLEY ST
OLIVE ST
THIRD ST
WILLOW ST
HICKORY ST
LOCUST ST
BALLS FERRY RD
Cottonwood Community Park
PARK WAY
SECOND ST
FIRST ST
HIGH ST
LIVE OAK RD
GEA WAY
CHESTNUT ST
BRUSH ST
WALNUT ST
WILKINSON LN
TENO LN
REGINA LN
FRONT ST
WILLIAMS LN
TRADEWAY
SMITH BOTTOM RD
Recommended Bikeway Network
Bike Lane
Bike Route
Other
School
0
0.5
1 Miles
N

Figure 3.18

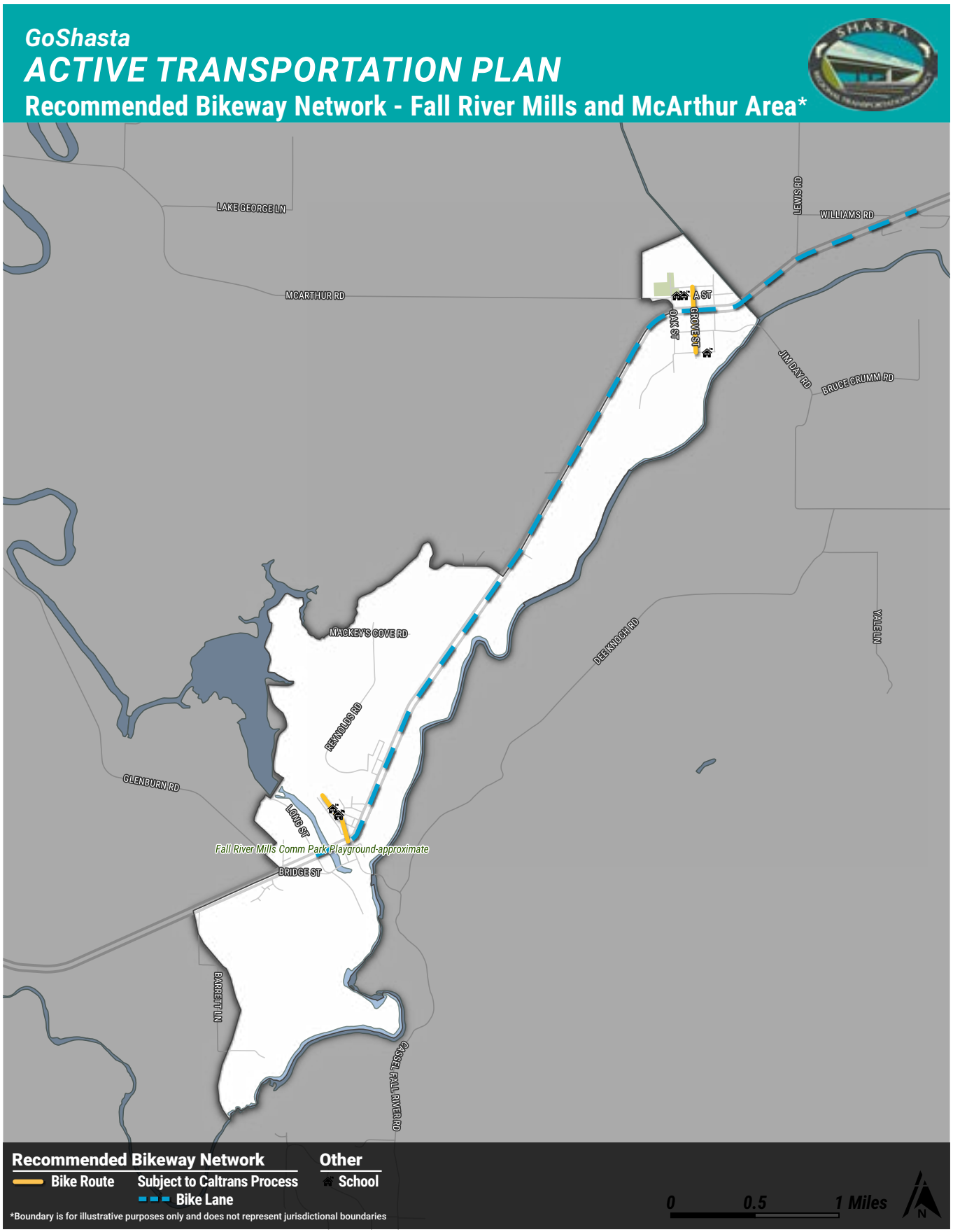

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Bikeway Network - Fall River Mills and McArthur Area*
LAKE GEORGE LN
MCARTHUR RD
LEWIS RD
WILLIAMS RD
A ST
OAK ST
GROVE ST
JIM DAY RD
BRUCE CRUMM RD
MACKEY'S COVE RD
REYNOLDS RD
DEE KNOCH RD
YALE LN
GLENBURN RD
LONG ST
Fall River Mills Comm Park Playground-approximate
BRIDGE ST
BARRETT LN
OSSEL FALL RIVER RD
Recommended Bikeway Network
Bike Route
Subject to Caltrans Process
Bike Lane
Other
School
*Boundary is for illustrative purposes only and does not represent jurisdictional boundaries
0
0.5
1 Miles
N

Figure 3.19

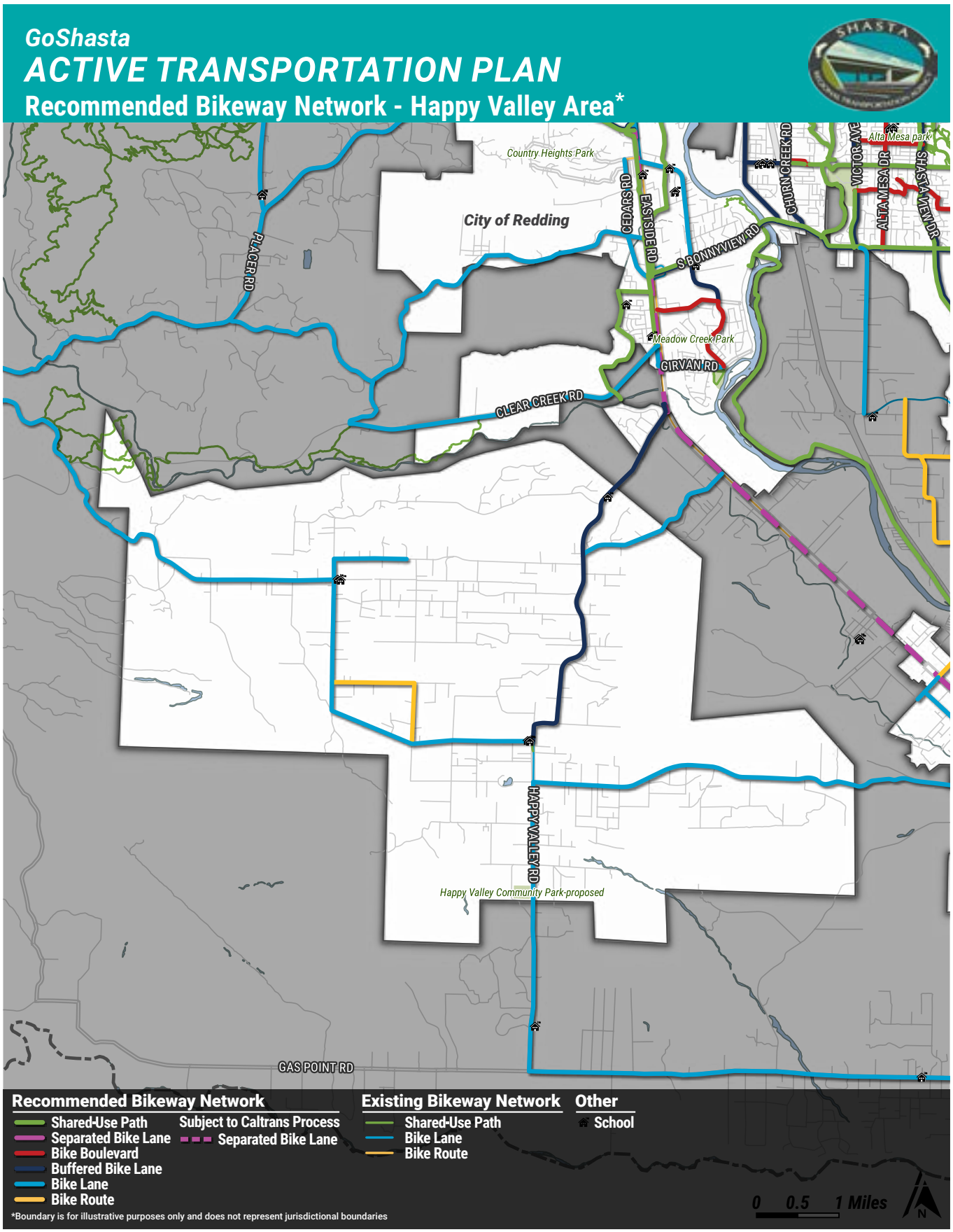

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Bikeway Network - Happy Valley Area*
Country Heights Park
City of Redding
CEDARS RD
EASTSIDE RD
S BONNYVIEW RD
CHURN CREEK RD
VICTOR AVE
Alta Mesa park
ALTA MESA DR
SHASTA VIEW DR
PLACER RD
Meadow Creek Park
GIRVAN RD
CLEAR CREEK RD
HAPPY VALLEY RD
Happy Valley Community Park-proposed
GAS POINT RD
Recommended Bikeway Network
Shared-Use Path
Separated Bike Lane
Bike Boulevard
Buffered Bike Lane
Bike Lane
Bike Route
Subject to Caltrans Process
Separated Bike Lane
Existing Bikeway Network
Shared-Use Path
Bike Lane
Bike Route
Other
School
*Boundary is for illustrative purposes only and does not represent jurisdictional boundaries
0 0.5 1 Miles
N

Figure 3.20

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Bikeway Network - Palo Cedro
SANDPOINT RD
SUNNY OAKS LN
HIDDEN LN
HILLVIEW DR
ROBIN WAY
ORIOLE LN
FRISBIE LN
DALEWOOD DR
WINEGAR RD
LOGAN RD
BERYL DR
LASSEN VIEW DR
COW CREEK DR
STONEY CREEK LN
SWEDE CREEK RD
STONE MEADOW RD
VINE CT
OLD HWY 44 DR
KILGEY RD
KENA LN
CEDRO LN
Palo Cedro Community Park
CALISTOGA WAY
DORK LN
GILBERT DR
PLAZA DR
GOLFTIME DR
SERENITY LN
ROVERN RANCH RD
SILVERLODE LN
BUENA VENTURA DR
HILLSIDE DR
SPANISH OAKS DR
RUSTY LN
ELMAR RD
VISTA OAKS DR
DESCHUTES RD
KIRKWOOD MANOR DR
WILLOA LN
MEL MAR DR
MIDVIEW DR
BARROW RD
BUCKSKIN LN
BELMONT DR
WHISPERING OAKS RD
BERKELEY DR
SILVER BRIDGE RD
RAMBLEWOOD LN
BRUNDAGE RD
MAYNARD RD
SILVER SPUR RD
SKYLARK LN
CHAROLAIS WAY
BASS POND RD
MELISA DR
ANTLERS RD
EL PINO DR
REDBUD LN
Recommended Bikeway Network
Bike Lane
Other
School
0
0.5
1 Miles
N

Figure 3.21

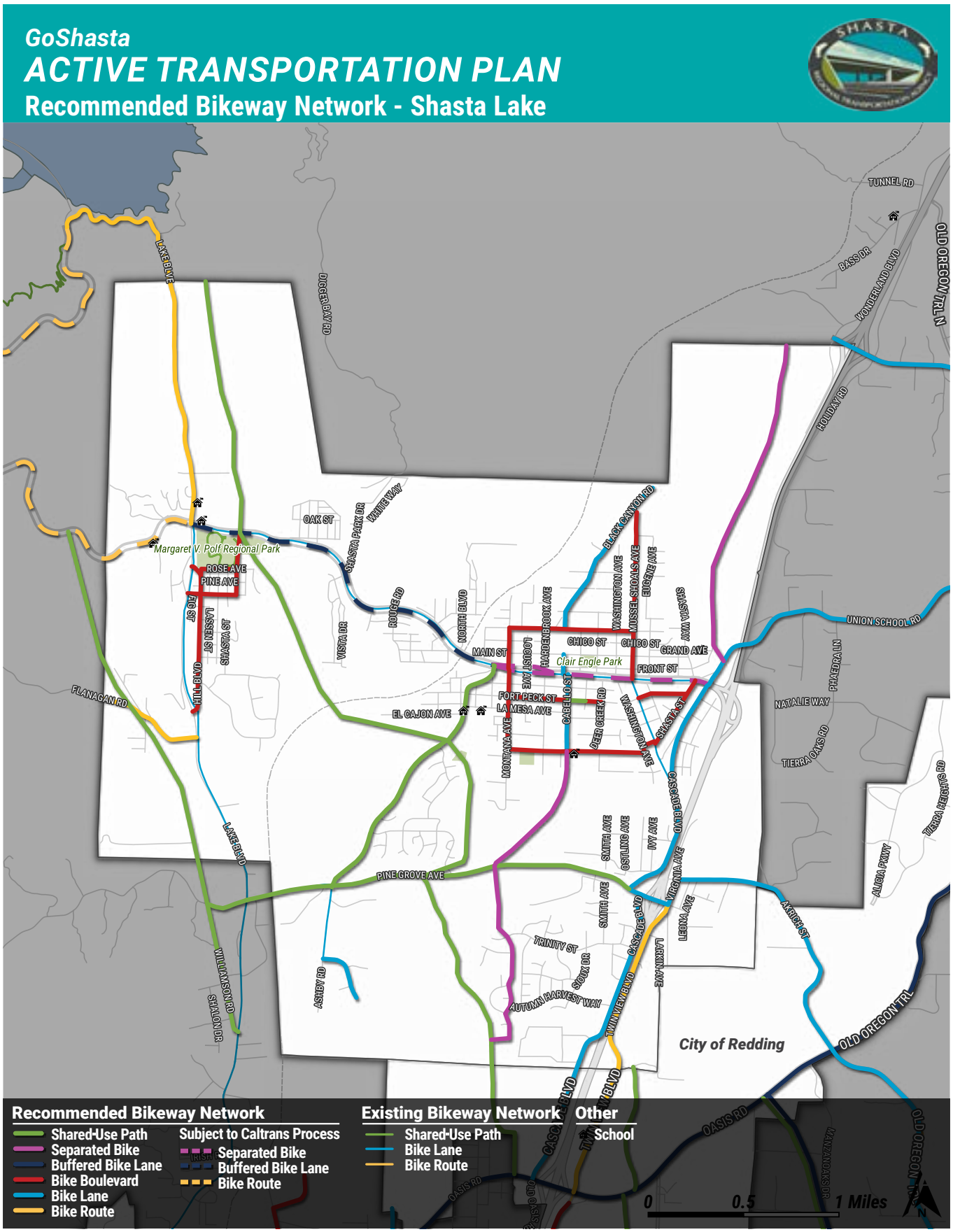

GoShasta
ACTIVE TRANSPORTATION PLAN
Recommended Bikeway Network - Shasta Lake
Margaret V. Polf Regional Park
Clair Engle Park
City of Redding
LAKE BLVD
DIGGER BAY RD
OAK ST
WHITE WAY
SHASTA PARK DR
ROSE AVE
PINE AVE
2ND ST
LASSEN ST
1ST
SHASTA ST
HILL BLVD
VISTA DR
ROUGE RD
NORTH BLVD
MAIN ST
LOCUST AVE
HARDENBROOK AVE
CHICO ST
WASHINGTON AVE
MUSSEL SHOALS AVE
EUREKA AVE
BLACK CANYON RD
SHASTA WAY
GRAND AVE
FRONT ST
FORT PECK ST
LA MESA AVE
CABELLO ST
DEER CREEK RD
EL CAJON AVE
MONTANA AVE
SHASTA ST
FLANAGAN RD
TUNNEL RD
BASS DR
WONDERLAND BLVD
OLD OREGON TRL N
HOLIDAY RD
UNION SCHOOL RD
PHAEDRA LN
NATALIE WAY
TIERRA OAKS RD
TIERRA HEIGHTS RD
ALICIA PKWY
CASCADE BLVD
SMITH AVE
OSTLING AVE
IVY AVE
VIRGINIA AVE
LEONA AVE
ALLIGH ST
PINE GROVE AVE
TRINITY ST
SIOUX DR
AUTUMN HARVEST WAY
TWIN VIEW BLVD
LARKIN AVE
WILLIAMSON RD
SHALON DR
ASHBY RD
OLD OREGON TRL
OASIS RD
MAYZANDAKS DR
Recommended Bikeway Network
Shared-Use Path
Separated Bike
Buffered Bike Lane
Bike Boulevard
Bike Lane
Bike Route
Subject to Caltrans Process
Separated Bike
Buffered Bike Lane
Bike Route
Existing Bikeway Network
Shared-Use Path
Bike Lane
Bike Route
Other
School
0
0.5
1 Miles
N

Figure 3.22

# Regional Bicycle Network

The regional bicycle network will consist of a spectrum of bicycle facility types depending on context and local needs. As described in Chapter 1, SRTA will prioritize implementation of regional Trunk Lines to connect Strategic Growth Areas and activity centers, as well as high quality connections to Trunk Lines. Trunk Lines are high comfort facilities that are appealing to people of all ages and abilities. As such, Trunk Lines are facilities that offer separation from motor vehicles, such as shared-paths or separated bike lanes. In some cases, Trunk Lines may be low speed/low volume neighborhood streets designed to maximize safety for people biking and walking (i.e., bicycle boulevards). Below is a description of the bikeway facilities that make up the regional bicycle network, including Trunk Lines and local connectivity routes.

## Shared-Use Paths (Class I Bikeways)

A backbone of the Shasta Region's bicycle network is the Sacramento River Trail, and a focus of this ATP is the development of other Class I shared-use paths both for recreation and transportation purposes. These paths provide a safe and comfortable place for bicyclists and pedestrians of all ages and abilities to bicycle and walk separate from vehicular traffic.

Figure 3.23 illustrates a Class I shared-use path that is located in an independent right-of-way. Figure 3.24 illustrates a Class I shared-use path that is located near a roadway (i.e. sidepath).

## Separated Bike Lanes (Class IV Bikeways)

A guiding principle of the GoShasta ATP is to provide facilities that accommodate bicyclists of all ages and abilities. Developing low-stress, comfortable routes on key corridors that are physically separated from roadways is a proven strategy for achieving this goal. These bikeways are particularly appropriate on roadways with higher volumes of vehicular traffic or vehicle speeds.

Class IV separated bike lanes may be separated from traffic using on-street parking, curb medians, flex posts, planters, or other physical elements (see Figures 3.25 and 3.26).

## Bike Lanes (Class II Bikeways)

Class II bike lanes provide an exclusive space for bicyclists in the roadway and are established using painted lines and symbols on the roadway surface. To be low-stress and high-comfort routes, these facilities

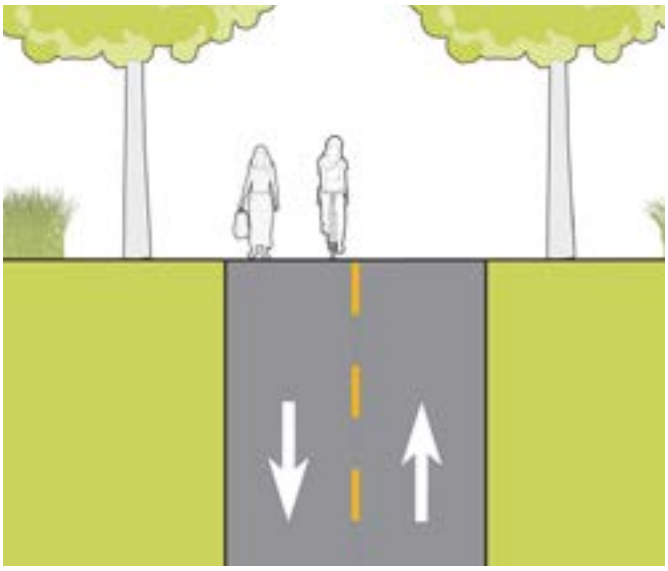


Figure 3.23. Example of a Class I Shared-Use Path

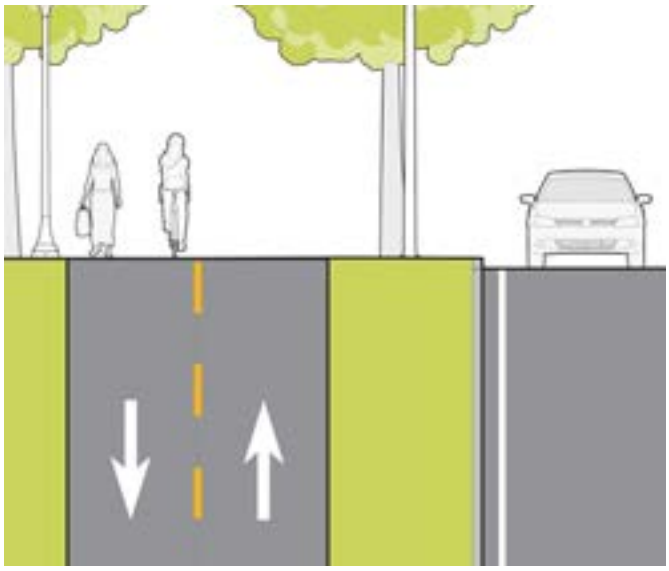


Figure 3.24. Example of a Class I Shared-Use Path (Sidepath) near a roadway

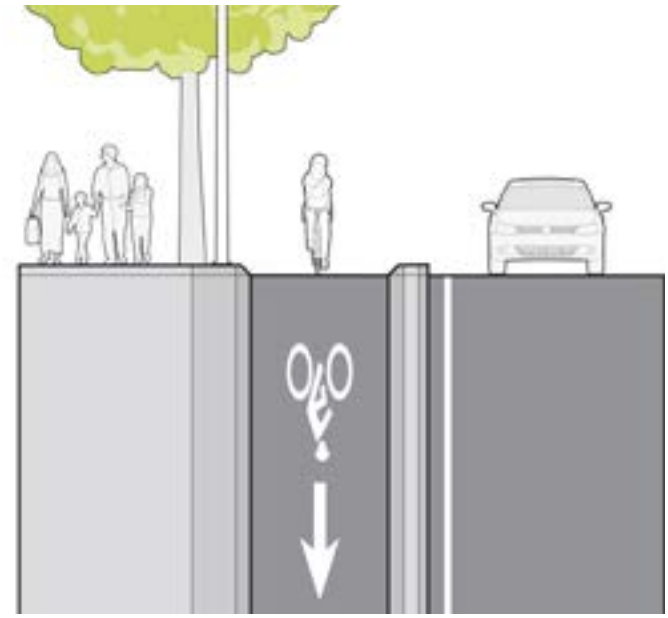


Figure 3.25. Example of a Class IV Separated Bike Lane

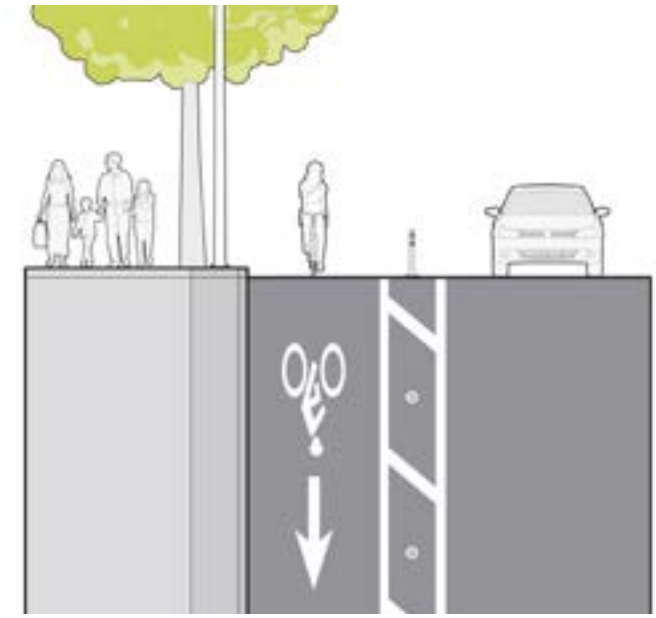


Figure 3.26. Example of a Class IV Separated Bike Lane with flexposts

are appropriate for roads with lower traffic volumes and vehicle speeds. Where possible wider (than 5 feet) bike lanes or additional buffers between bicyclists and motor vehicles should be provided to enhance user comfort.

### Buffered Bike Lanes

Buffered bike lanes (also Class II facilities) provide additional lateral space between bicyclists and motor vehicles. While painted buffers are typically used between bike lanes and motor vehicle travel lanes to increase bicyclists' comfort (as shown in Figure 3.27 and 3.28), they can also be provided between bike lanes and parking lanes in locations with high parking turnover to discourage bicyclists from riding too close to parked vehicles.

## Bike Routes (Class III Bikeways)

Class III bicycle facilities can include bicycle routes and bicycle boulevards.

### Bicycle Routes

Class III bicycle routes are indicated by signage and are most appropriate for experienced cyclists or along roads with low vehicle volumes and speeds. Bicycle routes may be used where topographical or right-of-way constraints exist. When implemented, the roadway should include appropriate signage, adequate sight lines, and paved shoulders where feasible and context-appropriate. These features can help minimize conflicts and create a more predictable shared roadway environment.

### Bicycle Boulevards

Class III bicycle boulevards are a low-stress, all ages and abilities shared roadway bikeway that emphasizes bicyclists' priority and comfort on a given route. Bicycle boulevards provide connections between destinations by using low-speed, low-stress routes through neighborhoods. Bicycle boulevards often incorporate traffic calming to maintain a low-speed environment, safe crossings at key arterial intersections, and sometimes traffic diversion to minimize vehicular traffic while permitting bicycle traffic, as shown in Figure 3.29. See the Regional Trunk Line discussion in Chapter 1 for additional information on Bicycle Boulevards.

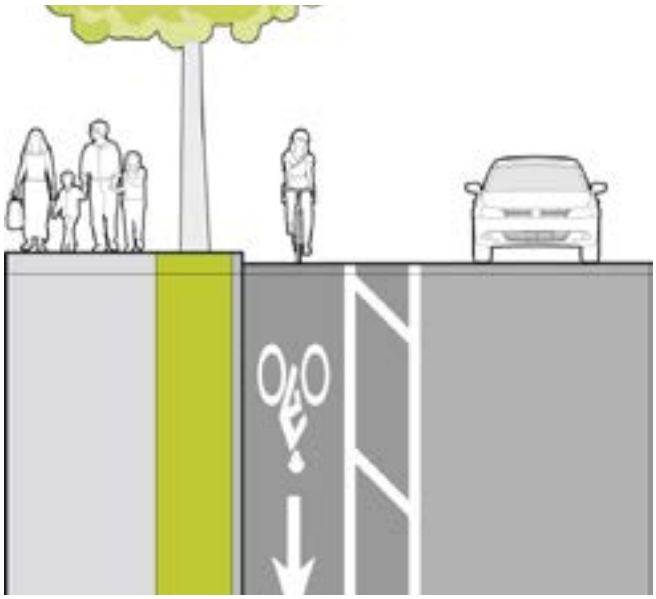


Figure 3.27. Example of a Class II Buffered Bike Lane

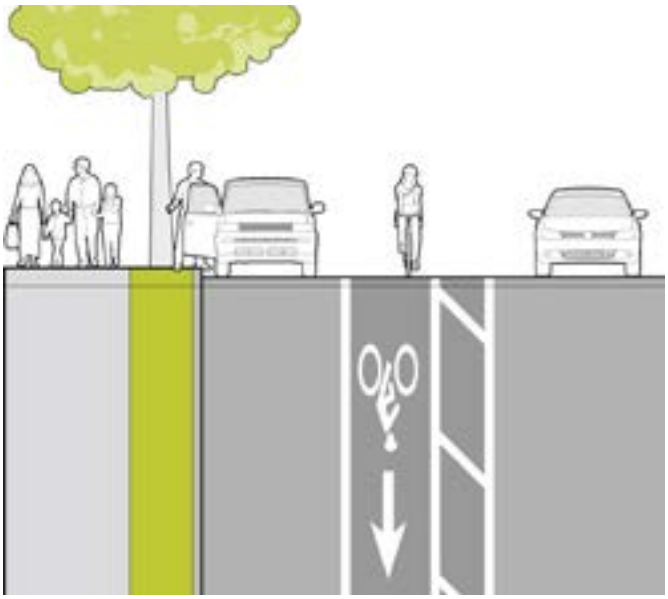


Figure 3.28. Example of a Class II Buffered Bike Lane adjacent to parking

## Intersections and Crossings

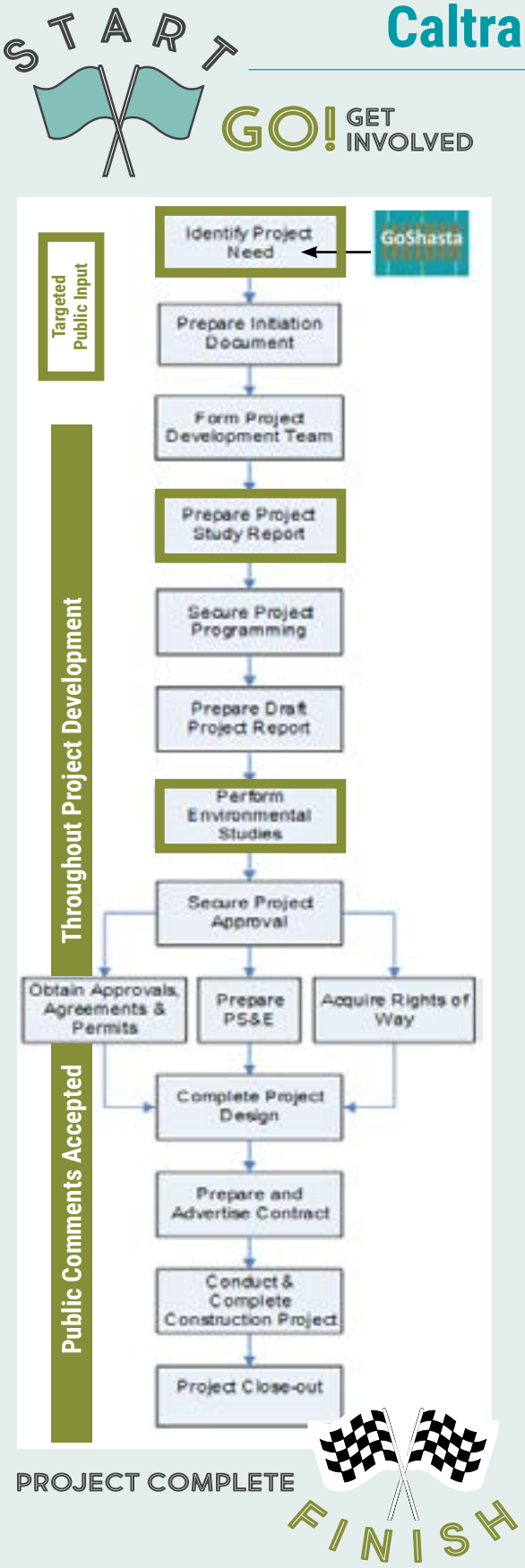
In addition to building bikeways along corridors, thoughtful design at intersections and crossings is paramount to attracting bicyclists of all ages and abilities. Treatments that can help reduce conflicts and improve safety for bicyclists at intersections include:

- Designing intersection approaches to correctly position bicyclists and increase driver awareness to minimize conflicts with turning vehicles.
- Striping bicycle crossing markings through intersections to show drivers and bicyclists the expected path of travel for bicyclists and raise awareness of potential conflict points.
- Providing bicycle signalization for complex intersections or where separated bicycle facilities conflict with vehicle turn movements.
- Intersection geometry that provides protected areas for bicyclists (and pedestrians) waiting to move through the intersection and better sight lines for turning motorists (i.e., protected intersections) (Figure 3.30).

Figure 3.29. Example of a Class III Bicycle Boulevard with Traffic Diversion

Figure 3.30. Example of protected intersection. ***Source: Toole Design Group***

# Caltrans Process



Some of the projects identified through the GoShasta planning process are on streets and roads owned, operated, and maintained by Caltrans, which has a planning process and project selection methodology unique to the state of California. Caltrans conducts extensive public outreach through long range planning to establish the state highway system's current and future needs for all users. It identifies project needs through ongoing evaluations of a variety of elements in the state transportation system such as, but not limited to safety, pavement, bridges, traffic calming, congestion, and speed studies. Active transportation challenges are always considered, and countermeasures are incorporated into all projects when appropriate.

Caltrans relies on local and regional agencies to bring forth active transportation issues or concerns on state routes identified in planning processes like GoShasta. Once projects are identified, Caltrans actively seeks public input and partnership to find a resolution.

Current Caltrans active transportation assessments include:

1. a statewide effort for each Caltrans district to develop a district active transportation plan. This plan will identify current system assets in regards to complete streets on the state highway system; and
2. a local specific corridor study for state route 273. This study will be specific to the state route 273 corridor looking at the needs of multimodal users. This plan follows the state route 273 public participation study that was completed in September 2017.

For questions about specific active transportation issues on state routes in the Shasta Region, email D2bike@dot.ca.gov or call 530-225-2735.

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# Chapter 4: Implementation

Achieving the active transportation vision for the Shasta Region will require smart investments in infrastructure and programs. As the agency responsible for regional transportation planning and funding, Shasta Regional Transportation Agency (SRTA) is focused on efforts that offer a high return on investment while also ensuring that people throughout the Shasta Region are provided low-cost mobility options and equitable access to economic opportunities and physical activity.

## Project Prioritization

While all the recommended projects in this ATP play an important role in a region-wide, safe and connected active transportation network, certain projects are going to provide greater benefits in terms of meeting demand, improving safety and connecting the region's activity centers. To identify the projects that will help to best achieve an increase in active transportation mode share, and the safety and comfort of active transportation users, recommended projects were prioritized using Geographic Information Systems (GIS) analysis. A number of criteria related to safety, connectivity, demand, and equity were used to identify priority projects (see Table 4.1). Additional detail on the specific measures and weights used in the prioritization process are included in Appendix D.

Table 4.1. Criteria for prioritizing projects

| | |
|---|---|
| **Safety** | Number of pedestrian/bicycle crashes |
| | Level of Traffic Stress (bicycle projects only) |
| **Connectivity** | Connects with existing facilities |
| | Closes network gap |
| | Connects with proposed facilities |
| **Demand** | Provides access to parks |
| | Provides access to schools |
| | Provides access to transit |
| | Connects to (or within) Strategic Growth Area |
| **Equity** | Connects to (or within) Disadvantaged Community (See Appendix D for definition) |

This quantitative GIS analysis generated a list of projects with associated prioritization scores – the higher the score, the greater benefits a given project is likely to provide. This list was then reviewed by SRTA and its local agency partners and modifications were made based on factors not captured in the quantitative analysis, such as knowledge of upcoming roadway or private development projects that can be leveraged to implement the recommended project.

Table 4.2 list priority pedestrian and bikeway projects, respectively, that will be integrated into the Regional Transportation Plan (RTP) fiscally-constrained project lists. The order in which projects are ultimately implemented will depend on a number of factors including the complexity of the project and level of design needed, other upcoming projects that present "piggybacking" opportunities, sequencing that emphasizes connectivity to existing facilities, and how well a given project might satisfy criteria of different grant programs. Additional projects that are recommended in this ATP and will be integrated into the RTP are included in Appendix E.

Several projects in Table 4.2 and projects listed in Appendix E are "subject to Caltrans process." Please refer to page 51 for more information about Caltran's project development process.

Active transportation projects from each jurisdiction in the Shasta Region are represented in the following table, including projects listed in the city of Redding's Active Transportation Plan (ATP). More information on city of Redding projects, policies, and programs can be found Redding's ATP. The ATPs for the city and the region were developed somewhat independently out of the same planning effort and will move forward together. As the City of Redding updates the project list in its ATP, these changes will automatically be incorporated in the GoShasta plan and the regional transportation plan.

Table 4.2 - GoShasta Project List

## Anderson

### Pedestrian

| Street Name | From Street | To Street | Project Description | Length (Miles) | Time Band | Cost |
|---|---|---|---|---|---|---|
| NORTH ST | DOWNING LN/ RIVERSIDE AVE | I 5 NB ON/R/ McMURRAY DR | Commercial/Civic Corridor | 0.85 | 2018-2025 | $1,402,000 |
| STINGY LN | BAY ST/RUPERT RD | NORTH ST | Community Walking Connection | 0.80 | 2018-2025 | $725,500 |
| NORTH ST | I 5 NB ON/R/ McMURRAY DR | DOUGLAS ST | Commercial/Civic Corridor | 0.58 | 2018-2025 | $966,500 |
| | | | | | Anderson Subtotal | $3,094,000 |

## Shasta Lake

### Pedestrian

| Street Name | From Street | To Street | Project Description | Length (Miles) | Time Band | Cost |
|---|---|---|---|---|---|---|
| ASHBY RD | LOS GATOS AVE | FRONT ST/SHASTA DAM BLVD | Safe Routes to School | 0.29 | 2018-2025 | $495,500 |
| MCCONNELL AVE | SHASTA DAM BLVD | MAIN ST | Commercial/Civic Corridor | 0.10 | 2018-2025 | $170,500 |
| ASHBY RD | PINE GROVE AVE | LA MESA AVE | Safe Routes to School | 1.20 | 2018-2025 | $2,049,500 |
| DEER CREEK RD/ VALLECITO ST | CABELLO ST | SHASTA DAM BLVD | Safe Routes to School | 0.53 | 2018-2025 | $906,500 |
| PINE GROVE AVE | JORZACK WAY | ASHBY RD | Community Walking Connection | 1.40 | 2018-2025 | $1,267,500 |
| CASCADE BLVD | PINE GROVE AVE | GRAND COULEE BLVD | Community Walking Connection | 0.67 | 2018-2025 | $609,000 |
| CASCADE BLVD | GRAND COULEE BLVD | I 5 NBOFF/R/I 5 SBON/R/SHASTA DAM BLVD | Community Walking Connection | 0.57 | 2018-2025 | $513,000 |
| | | | | | Shasta Lake Pedestrian Subtotal | $6,011,000 |

### Bicycle

| | | | | | | |
|---|---|---|---|---|---|---|
| CHURN CREEK TRAIL - CONNECTION | OASIS RD | PINE GROVE AVE | Shared Use Path | 1.73 | 2018-2025 | $1,407,500 |
| SHASTA DAM RD | ASHBY RD | LAKE BLVD | Buffered Bike Lane - Subject to Caltrans Process | 1.88 | 2018-2025 | $203,000 |
| | | | | | Shasta Lake Bicycle Subtotal | $1,610,500 |
| | | | | | Shasta Lake Subtotal | $7,621,500 |

## Redding

### Pedestrian

| Street Name | From Street | To Street | Project Description | Length (Miles) | Time Band | Cost |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | Redding Pedestrian Subtotal | $-- |

### Bicycle

| Street Name | From Street | To Street | Project Description | Length (Miles) | Time Band | Cost |
|---|---|---|---|---|---|---|
| BUTTE ST | CONTINENTAL ST | SUNDIAL BRIDGE DR | Buffered Bike Lane | 0.39 | 2018-2025 | |
| CONTINENTAL ST | BUTTE ST | TRINITY ST | Separated Bike Lane | 0.31 | 2018-2025 | |
| OFF-STREET (TURTLE BAY TO DOWNTOWN TRAIL) | TURTLE BAY | CONTINENTAL ST | Shared-Use Path | 0.86 | 2018-2025 | |
| PARK MARINA DR | SUNDIAL BRIDGE DR | E CYPRESS AVE | Shared-Use Path | 1.35 | 2018-2025 | |
| PARK MARINA DR | SUNDIAL BRIDGE DR | PARKVIEW AVE | Buffered Bike Lane | 1.40 | 2018-2025 | |
| SHASTA ST; WILLIS ST; PLEASANT ST; SOUTH ST | SOUTH ST/SAN FRANCISCO ST | SHASTA ST/COURT ST | Bike Boulevard | 1.46 | 2018-2025 | |
| SHASTA VIEW DR | CASTLEWOOD DR | HWY 44 WB OFF/R/ HWY 44 WB ON/R | Buffered Bike Lane | 0.74 | 2018-2025 | |
| CAPRICORN WAY | CASTLEWOOD DR | HARTNELL AVE | Shared-Use Path | 1.09 | 2018-2025 | |
| SOUTH ST | EAST ST | PARK MARINA DR | Bike Boulevard | 0.94 | 2018-2025 | |
| TRINITY ST | CENTER ST | CONTINENTAL ST | Separated Bike Lane | 0.43 | 2018-2025 | |
| VICTOR AVE | BRAMBLE PL | E CYPRESS AVE | Shared-Use Path | 0.62 | 2018-2025 | |
| VICTOR AVE | BRAMBLE PL | OLD ALTURAS RD | Buffered Bike Lane | 1.76 | 2018-2025 | |
| | | | | | Redding Bicycle Subtotal | $-- |
| | | | | | Redding Subtotal | $-- |

IN DEVELOPMENT BY CITY OF REDDING

## Shasta County

### Bicycle

| Street Name | From Street | To Street | Project Description | Length (Miles) | Time Band | Cost |
|---|---|---|---|---|---|---|
| DESCHUTES RD | BOYLE RD/OLD DESCHUTES RD | LASSEN VIEW DR | Bike Lane | 1.42 | 2018-2025 | $234,000 |
| PARK AVE/CYPRESS AVE | HUDSON ST | BARTEL ST | Bike Lane | 0.43 | 2018-2025 | $71,000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| HUDSON ST | MOUNTAIN VIEW RD/ STATE HWY 299 E | CYPRESS AVE | Bike Lane | 0.39 | 2018-2025 | $65,000 |
| MOUNTAIN VIEW RD | CARBERRY ST | MUSKEGON ST/STATE HWY 299 E | Bike Lane | 0.55 | 2018-2025 | $91,000 |
| RHONDA RD | CREMIA PL | MATTHEW CT/ ROBINSON GLEN DR | Bike Route | 0.27 | 2018-2025 | $34,500 |
| OAK ST/HAWTHORNE AVE | DIXIELAND LN | CLOVERDALE RD | Bike Lane | 1.13 | 2018-2025 | $187,500 |
| | | | | | Shasta County Subtotal | $683,000 |

| | |
|---|---|
| **GoShasta Projects Subtotal** | **$11,398,000** |

# Funding

Sufficient funding is critical to the implementation of the GoShasta Regional Active Transportation Plan (ATP). The degree to which SRTA and its partners invest in the future outlined in this plan and the RTP will determine how likely that future can be realized and how closely it resembles what has been envisioned through extensive outreach and planning.

Local agencies frequently face financial challenges (i.e. purchasing right of way, funding plans to get projects shovel ready, etc.) which can impede progress with project implementation. Hence their strategic approach to funding projects. Small active transportation projects are often built as part of street and road maintenance projects funded with local transportation funds or traffic impact fees. Medium to large active transportation projects generally require grant assistance from state and federal programs, such as the Active Transportation Program or the Highway Safety Improvement Program. SRTA respects the demands faced by local agencies and, in addition to its regional non-motorized program, offers technical assistance to agencies pursuing grant funding opportunities such as the Active Transportation Program.

## Regional Funding

As the federally-designated metropolitan planning organization (MPO) and state-designated regional transportation planning agency (RTPA) for the Shasta Region, SRTA's funding comes from a variety of federal, state and local sources. SRTA is apportioned a certain level of funding through federal and state transportation programs based on population. SRTA's Non-Motorized Program is an investment vehicle devoted exclusively to funding non-motorized projects. The program has two components:

- **The 2% Non-Motorized Program** - Originates from a 2% "off the top" allocation of the Local Transportation Fund (LTF) under the Transportation Development Act (TDA) and is open to all areas in Shasta County.
- **The Rural BLAST** (Bike Lanes and Sidewalks to Transit) Program - Funds non-motorized facilities that link to public transit in rural areas and also utilizes TDA funds.

The Non-Motorized Program has approximately $130,000 available annually. However, typical project costs far exceed this amount. A key goal of the program is local agencies' use of Non-Motorized Program funding from SRTA as match for state and federal funds that may be required for more costly bicycle and pedestrian projects.

SRTA may also utilize other funding sources, such as the State Transportation Improvement Program (STIP), to fund non-motorized projects, provided they are included in the RTP and are of regional significance. For instance, SRTA has programmed $400,000 of its STIP funding toward the city of Redding's active transportation project connecting the Sacramento River Trail to the city's downtown. This investment will help build a high quality biking and walking connection, offering safer transportation alternatives and effectively representing the first step toward the development of the region's future Trunk Line system.

### Regional Trunk Line System

As described in Chapter 1, SRTA will work closely with local agency partners to develop a regional system of high quality active transportation facilities (Trunk Lines) that connect Strategic Growth Areas and activity centers throughout the Shasta region. Because SRTA does not own or operate any roadways or control other rights-of-way, local agencies will be the ones to lead Trunk Line implementation. Local agencies, in consultation with neighboring jurisdictions and SRTA, will determine the most suitable alignment of the Trunk Lines.

Direct connections to existing Trunk Lines and portions of the local network that qualify as Trunk Lines may be eligible for regional funding from SRTA. Some projects listed in Table 4.2 may be considered for Trunk Line designation.

# Federal and State Funding Sources

There are a number of additional federal and state funding sources that can be used for bicycle and pedestrian projects that are available to SRTA and its local partners on a competitive basis. These funding sources are described below.

## Federal Funding Opportunities

The Federal Highway Administration (FHWA) maintains a data table to assist communities in understanding which federal funding programs could be used for bicycle and pedestrian projects. Specific program requirements must be met and eligibility must be determined on a case-by-case basis. For example, transit funds must be used to provide access to transit, and Congestion Mitigation and Air Quality Improvement (CMAQ) funds must benefit air quality in eligible areas. More detailed information can be found at the link below.

***Resources***

- FHWA's Bicycle and Pedestrian Program webpage. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/

### FHWA Grant Programs

Transportation Investment Generating Economic Recovery (TIGER) grants fund a broad array of road, rail, transit, and bicycle and pedestrian projects. The program focuses on capital projects that generate economic development and improve access to reliable, safe, and affordable transportation, especially for disadvantaged communities. The grant funds projects that have gone through preliminary design stages, and prioritizes projects with broad stakeholder support. Applicants are required to demonstrate that project benefits outweigh the costs. Projects in urban areas must request at least $10 million (with a 20% match).

***Resources***

- Tiger Discretionary Grants. www.transportation.gov/tiger

### Federal Transit Administration (FTA) Grant Programs

#### Fixing America's Surface Transportation (FAST) Act Funding

The Fixing America's Surface Transportation (FAST) Act supports transit funding through fiscal year 2020, reauthorizes FTA programs, and includes changes to improve mobility, streamline capital project construction and acquisition, and increase the safety of public transportation systems across the country. The FAST Act's five years of predictable formula funding also includes funding for new grant programs for buses and bus facilities, innovative transportation coordination, workforce training, and public transportation research activities.

***Resources***

- FTA's Grant Programs. https://www.transit.dot.gov/grants/13093_3549.html
- FTA's Bicycles & Transit. https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/livable-sustainable-communities/bicycles-transit

#### Transit Oriented Development (TOD) Planning Pilot Grants (5309)

This program provides funding for:

- Advanced planning efforts that support transit-oriented development (TOD) associated with new fixed-guideway and core capacity improvement projects
- Projects that facilitate multimodal connectivity and accessibility
- Projects that increase access to transit hubs for pedestrian and bicycle traffic

***Resources***

- FTA's Pilot Program for Transit-Oriented Development Planning. https://www.transit.dot.gov/TODPilot

### Bus and Bus Facilities Program (Ladders of Opportunity Initiative) (5309)

Funds from this program may be used to modernize and expand transit access specifically for the purpose of connecting disadvantaged and low-income individuals, veterans, seniors, youths, and others with local workforce training, employment centers, health care, and other vital services.

***Resources***

- Bus and Bus Facilities Program (Ladders of Opportunity Initiative). https://www.transit.dot.gov/funding/grants/applying/5309-bus-and-bus-facilities-program-ladders-opportunity-initiative

### Enhanced Mobility of Seniors and Individuals with Disabilities Program

This program is intended to enhance mobility for seniors and persons with disabilities by providing funds for programs to serve transit-dependent populations beyond traditional public transportation services and Americans with Disabilities Act (ADA) complementary paratransit services. This program consolidates New Freedom eligible projects. Bicycle and pedestrian improvements that provide access to an eligible public transportation facility and meet the needs of the elderly and individuals with disabilities are eligible for funding.

***Resources***

- Enhanced Mobility of Seniors & Individuals with Disabilities. https://www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310

## State Funding Opportunities

### Active Transportation Program

In 2013, Governor Edmund G. Brown Jr. signed legislation creating the Active Transportation Program (ATP). This program consolidated the Federal Transportation Alternatives Program (TAP), California's Bicycle Transportation Account (BTA), and Federal and California Safe Routes to School (SRTS) programs. The ATP is administered by Caltrans Division of Local Assistance, Office of Active Transportation and Special Programs.

In 2017, SB 1 augmented the ATP by $100 million per year. The Cycle 4 call for projects is expected for March 2018. It is anticipated that roughly $440 million will be awarded to active transportation projects. Per the legislation that guides the ATP (SB 1 and AB 101), future call for projects will be announced on the even years with the adoption of the program taking place no later than April of the following odd year.

The California Transportation Commission hosts workshops in advance of each ATP cycle to provide technical assistance and to discuss possible changes to the guidelines and application process. The project list in Appendix E offers valuable information for local agencies as they begin preparing ATP applications, as does the table below.

**ATP Application Assembly – Helpful Hints**

| Application Question Themes | Where to Get This Data |
|---|---|
| Use SRTA's regional disadvantaged community definition. | Consult the map of Disadvantaged Community Analysis in Appendix B, or discuss with SRTA staff. |
| Estimating current and future bicycle and pedestrian use for a project | NCHRP 770 |
| Estimating current and future bicycle and pedestrian use for a project by students | Resources and expert help available at the Safe Routes to School National Partnership. |
| Bike and Ped Fatalities and Injuries near a project (Data & Maps) | Consult SWITRS (Internet Statewide Integrated Traffic Records System) and TIMS (Transportation Injury Mapping System). |

Additional technical assistance, resources, and trainings are made available through the Active Transportation Resource Center.

***Resources***

- Active Transportation Program. http://www.dot.ca.gov/hq/LocalPrograms/atp/
- Active Transportation Resource Center. http://caatpresources.org/

### System Safety Analysis Report Program (SSARP)

The SSARP program was established by Caltrans in 2016, and is designed to assist local agencies in performing collision analysis and the identification of safety issues on roadway networks for all modes. The program focuses on systemic safety analysis for motor vehicles

with an emphasis on pedestrian and bicycle collisions. This analysis should result in a list of systemic, low-cost countermeasures that can be used to prepare designs to be used in applications for future Highway Safety Improvement Program (HSIP) funding cycles.

***Resources***

- Systematic Safety Analysis Report Program (SSARP). http://dot.ca.gov/hq/LocalPrograms/HSIP/SSARP.htm

### Highway Safety Improvement Program (HSIP)

HSIP funds are available for safety projects aimed at reducing traffic fatalities and serious injuries. Bike lanes, roadway shoulders, crosswalks, intersection improvements, underpasses and signs are examples of eligible projects. Projects in high-crash locations are most likely to receive funding. This program is funded through FHWA and is administered by Caltrans; all projects must result in the complete construction of safety improvements.

***Resources***

- Highway Safety Improvement Program (HSIP). http://dot.ca.gov/hq/LocalPrograms/hsip.html

### California Office of Traffic Safety (OTS)

The California OTS has grants available to reduce motor vehicle fatalities and injuries in specific areas of pedestrian and bicycle safety, roadway safety, community based organizations, police traffic services, alcohol and drugs, occupant protection, emergency medical services, and traffic records.

***Resources***

- California Office of Traffic Safety – Grants. http://www.ots.ca.gov/Grants/

## Affordable Housing and Sustainable Communities (AHSC) Program

The Strategic Growth Council's Affordable Housing and Sustainable Communities (AHSC) Program provides grants and affordable housing loans for compact transit-oriented development and related infrastructure and programs that reduce greenhouse gas ("GHG") emissions. These projects increase the accessibility of housing, employment centers, and key destinations via low-carbon transportation options (walking, biking, transit) resulting in fewer vehicle miles traveled (VMT) and mode shift.

***Resources***

- Affordable Housing and Sustainable Communities (AHSC) Program. http://www.hcd.ca.gov/grants-funding/active-funding/ahsc.shtml

## Local Funding Mechanisms

Local communities have a variety of mechanisms they can use to fund active transportation projects, including:

- Transportation impact fees
- Local bond measures or levies
- Business Improvement Districts
- Local Improvement Districts
- Conditions for development and subdivision approval

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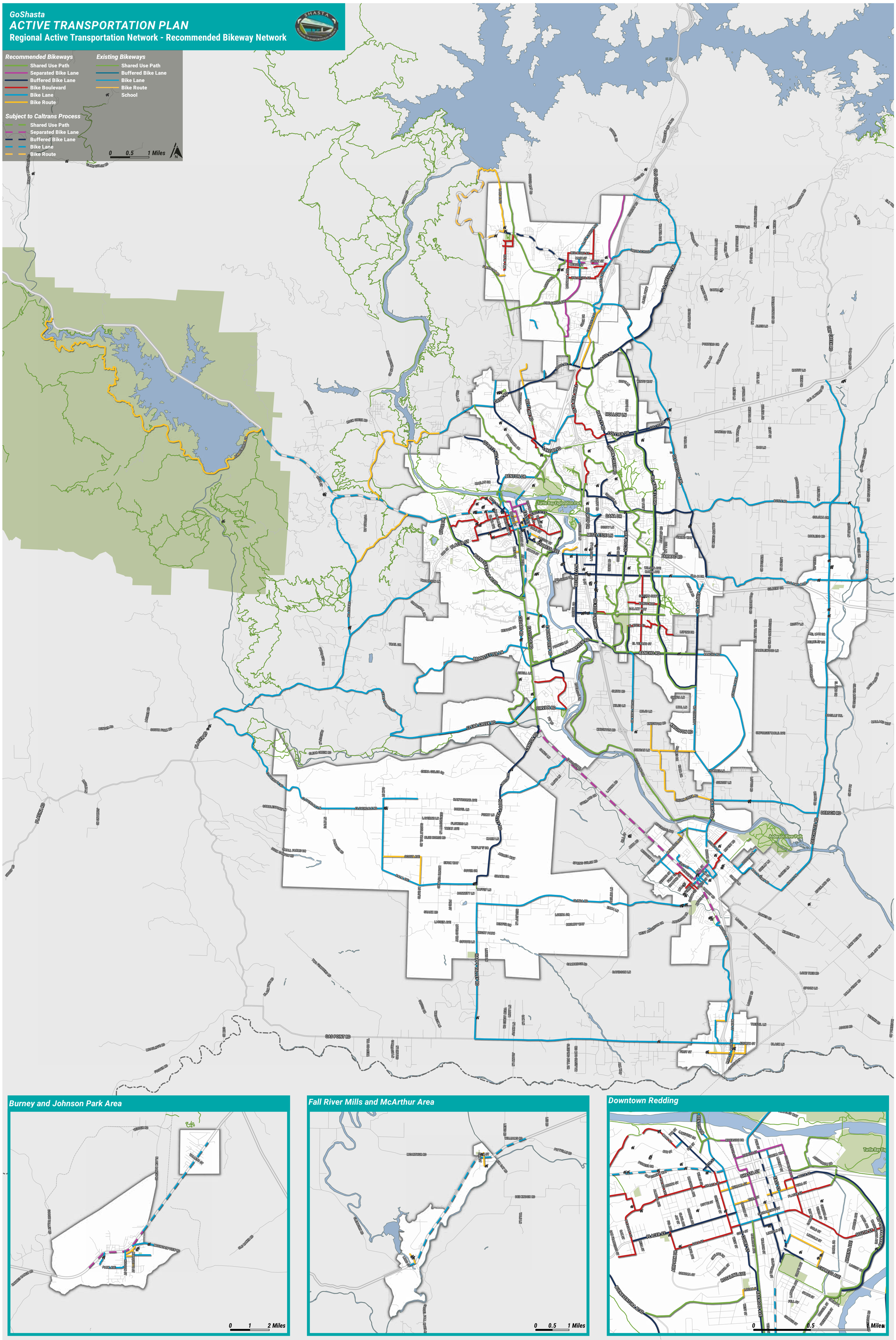
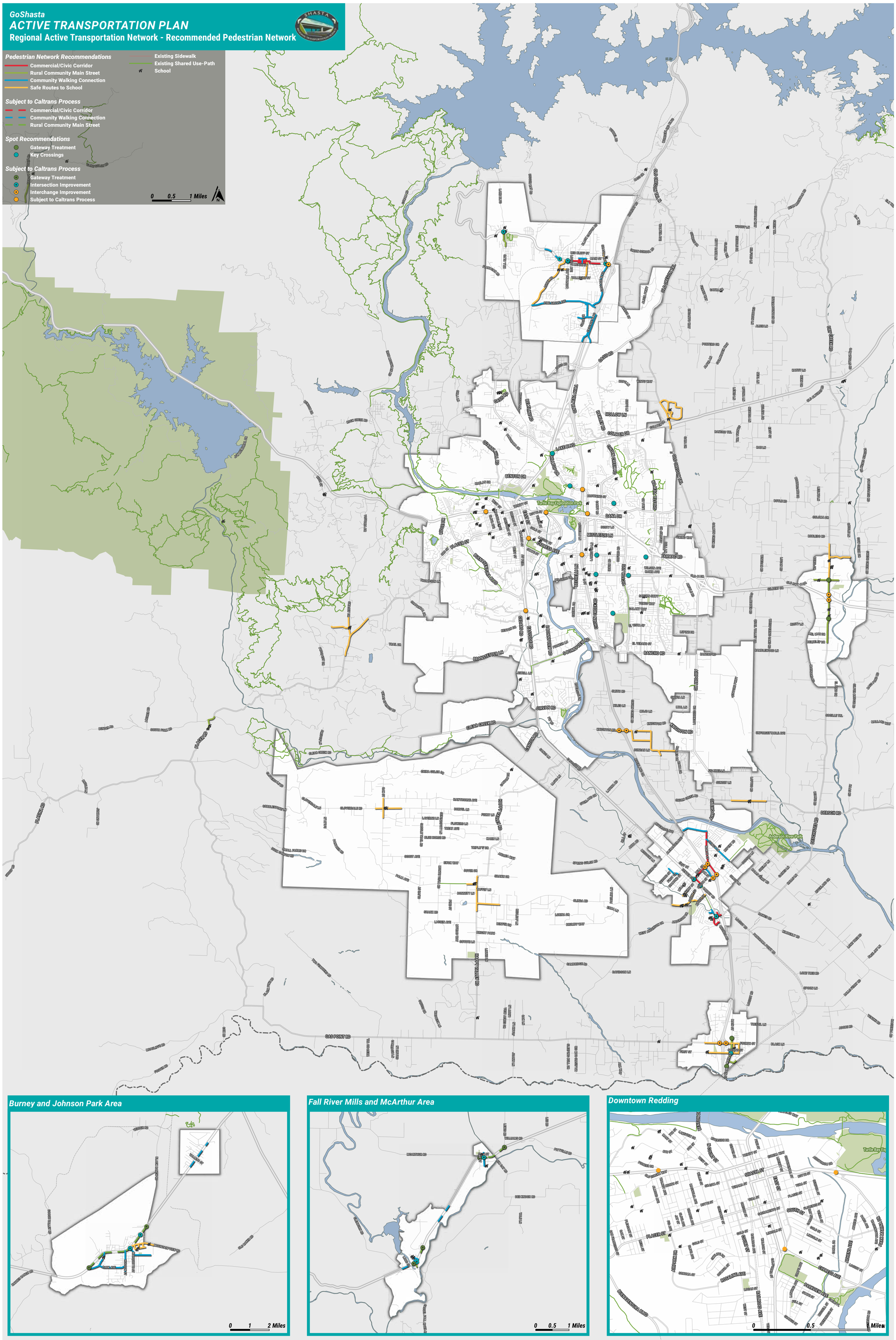

GoShasta
ACTIVE TRANSPORTATION PLAN
Regional Active Transportation Network - Recommended Bikeway Network
Recommended Bikeways
Shared Use Path
Separated Bike Lane
Buffered Bike Lane
Bike Boulevard
Bike Lane
Bike Route
Existing Bikeways
Shared Use Path
Buffered Bike Lane
Bike Lane
Bike Route
School
Subject to Caltrans Process
Shared Use Path
Separated Bike Lane
Buffered Bike Lane
Bike Lane
Bike Route
0 0.5 1 Miles
Turtle Bay Exploration Park
Anderson River Park
Burney and Johnson Park Area
0 1 2 Miles
Fall River Mills and McArthur Area
0 0.5 1 Miles
Downtown Redding
0 0.5 1 Miles


GoShasta
ACTIVE TRANSPORTATION PLAN
Regional Active Transportation Network - Recommended Pedestrian Network
Pedestrian Network Recommendations
Commercial/Civic Corridor
Rural Community Main Street
Community Walking Connection
Safe Routes to School
Existing Sidewalk
Existing Shared Use-Path
School
Subject to Caltrans Process
Commercial/Civic Corridor
Community Walking Connection
Rural Community Main Street
Spot Recommendations
Gateway Treatment
Key Crossings
Subject to Caltrans Process
Gateway Treatment
Intersection Improvement
Interchange Improvement
Subject to Caltrans Process
0 0.5 1 Miles
Burney and Johnson Park Area
0 1 2 Miles
Fall River Mills and McArthur Area
0 0.5 1 Miles
Downtown Redding
0 0.5 1 Miles