



GoShasta

Regional Active Transportation Plan

DRAFT November 2017



ACKNOWLEDGMENTS

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CONTENTS

How to use this Plan	iv
Introduction.....	1

CHAPTER 1: POLICY AND ACTION FRAMEWORK2

Where We Are Today	2
Where We Want to Be	3
How We Will Get There.....	3
Themes	8

CHAPTER 2: PROGRAM RECOMMENDATIONS 16

Education	17
Bike Theft Prevention Initiatives	18
Encouragement	20
Land Use Policies	24
Enforcement.....	26
Evaluation.....	27

CHAPTER 3: PROJECT RECOMMENDATIONS 28

Relationship to City of Redding Active Transportation Plan.....	28
Process to Develop Recommendations	28
Pedestrian Network Recommendations	28
Bikeway Network Recommendations	41

CHAPTER 4: IMPLEMENTATION 54

Project Prioritization	54
Funding	56

APPENDICES

Appendix A: Public Outreach
Appendix B: Existing Conditions
Appendix C: Programmatic Recommendations Background
Appendix D: Network Development and Prioritization

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:

Page numbers to be inserted in final plan.

Topic	Page
Community Outreach Completed for the Plan	#
Estimated Bicycle and Pedestrian Demand	#
Bicycle and Pedestrian Collisions and Analysis	#
Existing Pedestrian Facilities	#
Existing Bicycle Facilities	#
Proposed Pedestrian Facilities	#
Proposed Bicycle Facilities	#
Existing and Proposed Bike Parking	#
Bike and Pedestrian Connections with Transit	#
Wayfinding	#
Support Programs and Recommendations	#
Prioritized Project List	#
Implementation Plan	#



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. This Plan 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 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 is for the Shasta Region which encompasses the Cities of Anderson and Shasta Lake, populated areas such as Cottonwood, Burney, and Bella Vista, and unincorporated areas within Shasta County. An ATP has also been developed for the City of Redding; the Redding ATP will be a companion to this regional GoShasta ATP.

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 bicycle and pedestrian network will be fulfilled through the development of Trunk Lines, or a network of high-quality facilities that connect to activity centers, and through the implementation of regional and local action lists.

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.

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

While Table 1.1 demonstrates that there have been significant investments in bicycle infrastructure in the Shasta Region, these facilities are 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 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.

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

Shasta Regional Transportation Agency (SRTA) plans to build on recent successes with a more purposeful and strategic allocation of its limited resources. SRTA hopes that this will allow the region to be more competitive in seeking state funding as well as achieving 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. Within Shasta County, 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 the conditions for bicycling and walking in the Shasta Region.

Active Transportation Values

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 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 innovative 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

Moving forward, SRTA will build on this momentum and strategically invest its resources on high-quality, high-impact active transportation projects. Through the implementation of Trunk Lines and thematically-based action lists, this framework serves as a catalyst to create a safe, intuitive, and appealing pedestrian and bicycle network and to prevent active transportation-related traffic fatalities and serious injuries.

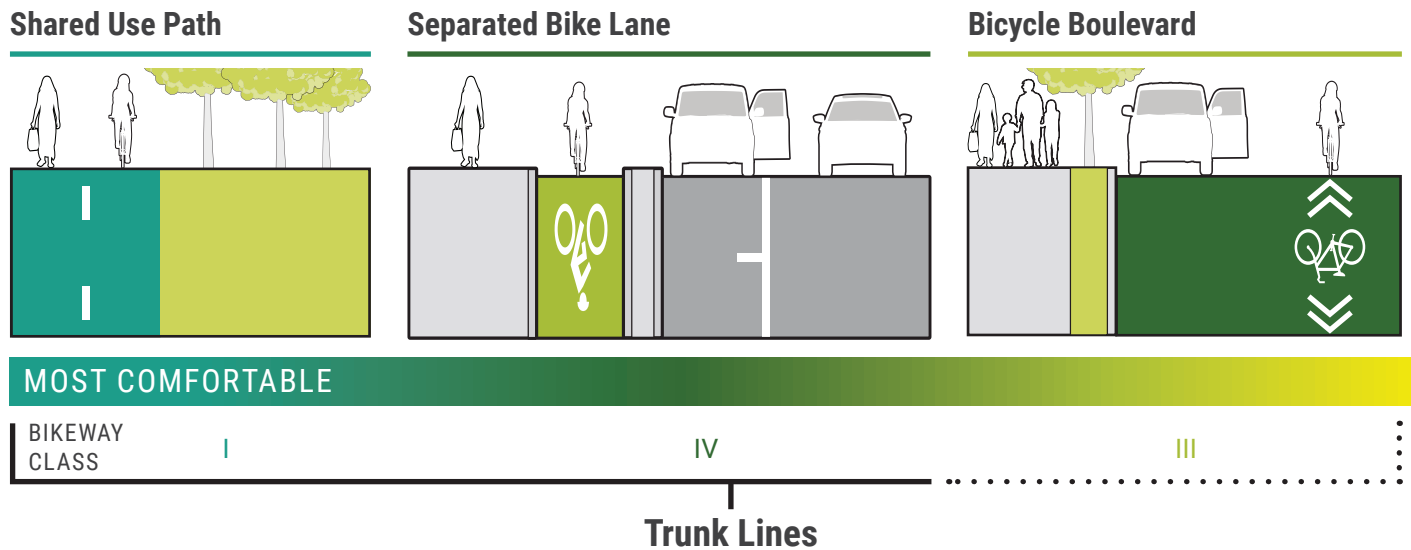


Figure 1.1. Diagram Designs for Bicycle Level of Comfort

Regional Trunk Line System

SRTA has developed a system of “Trunk Lines” which are high-quality active transportation facilities that provide a trail, or trail-like (in terms of level of 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 will provide safe and comfortable walking and bicycling facilities.

Figure 1.2 illustrates the conceptual Trunk Lines that will extend throughout Shasta County. These lines depict the general connections between Strategic Growth Areas¹ 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.

The conceptual trunk line locations have been approved by the City of Redding, other 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 alignment of each trunk line as projects progress. Projects in the fiscally-constrained and unconstrained project lists (see Chapter 4) may integrate with a trunk line; however, different projects may be substituted if local jurisdictions determine that new conditions warrant a change. Also, because Trunk Lines

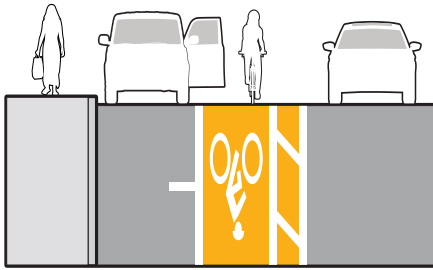
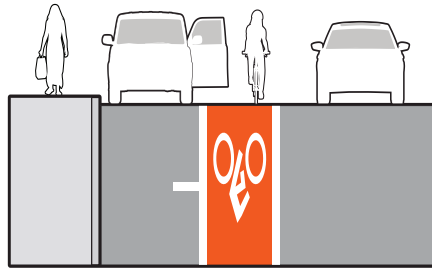
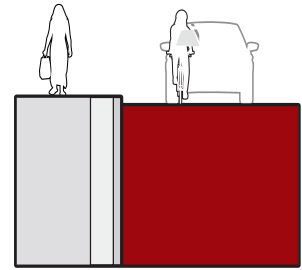
will not serve the entire network, connections to and from the trunk line system will be provided through feeder routes designed and implemented at the local level.

Because building trunk line facilities will be more expensive than traditional biking and walking facilities, SRTA will prioritize funding for local agencies to implement this trunk line system. Regional dollars can also be leveraged and paired with state and federal 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 Multi-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 on a Class III Bicycle Boulevard with amenities and features that heighten a sense of safety and comfort for pedestrians or bicyclists. Wayfinding signs may also be included on

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.

Buffered Bike Lane**Bike Lane****Shared Roadway****LEAST COMFORTABLE**

I

IV

III

Figure 1.1. Diagram Designs for Bicycle Level of Comfort.¹ *Source: Toole Design Group and SRTA.*

Figure 1.2. Potential Truck Line Alignments.

¹ The scale of comfort shown assumes a bike facility on a street with higher motor vehicle speeds and traffic volumes and a less confident bicyclists.



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

Trunk Lines which will intuitively guide people to bikeable and walkable destinations along high-quality corridors.

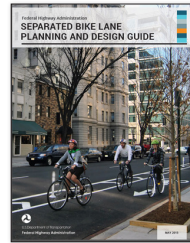
Examples of Trunk Lines can be seen in Figures 1.3-1.5.

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. If a busy intersection is located along a trunk line, dedicated bicycle and pedestrian signals or other traffic controls 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.

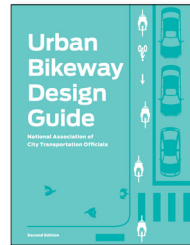


Figure 1.4. Example of a high-quality bicycle facility in Indianapolis, IN.

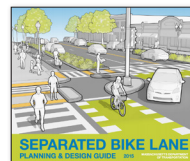
Designs for active transportation infrastructure are quickly evolving. Design guidance for these types of facilities can be found in the following documents:



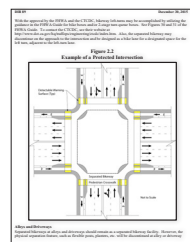
Federal Highway Administration (FHWA)'s Separated Bike Lane Planning and Design Guide



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



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



Caltrans' Design Information Bulletin 89 Class IV (Separated Bike Lane) Bikeway Guidance
Diagram of a protected intersection

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. If a proposed facility provides minimal or no separation from motor vehicle traffic, more of these design elements should be included to qualify for regional trunk line funding.

- Vertical separation between vehicles and active transportation
 - » Grade separation between modes (vehicles, bicyclists, pedestrians, equestrians [if applicable])
 - » Intermittent planter barriers, curbs, or K-rails
 - » Plastic bollards
- 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
- Mid-block crossings (rectangular rapid flashing beacons or pedestrian hybrid beacons)
- Cycling traffic separated from transit traffic and pedestrian queueing using transit passenger islands
- Wayfinding signs
- Adequate secure bicycle parking
- Drinking fountains, waste bins, public restrooms, benches at key junctions



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

- 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, 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

Where a trunk line section includes a Class III Bicycle Boulevard, traffic calming 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

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 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, 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 regional GoShasta planning effort; it can be found in its ATP on the City's website at: www.cityofredding.org/ATP.

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 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 Truck 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 (SGA) 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 16 for more information on Five D's in SGAs).

City of Shasta Lake's Action List

- ☐ Develop and implement a 'Share the Road' awareness program in collaboration with SRTA and partner agencies.
- ☐ 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

- ❑ Develop and implement a 'Share the Road' awareness program in collaboration with SRTA and partner agencies.
- ❑ 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

- ❑ Develop and implement a "Share the Road" awareness program 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 Truck 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 Truck 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).

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.
- ❑ 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.
- ☐ Target **X%** of SRTA Non-Motorized funds and/or other investments serving disadvantaged neighborhoods identified in the Regional Transportation Plan, focusing on connections to transit, education, community services, and employment.
- ☐ 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 complete 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. Building a connected and safe active transportation network is key to encouraging people to walk, bike and ride transit in the Shasta Region.

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 educational around safe travel behaviors, 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 (see Figure 2.3).

Shasta County Public Health's Healthy Shasta initiative currently operates a SRTS program. SRTA will continue to support Healthy Shasta 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; a recommendation of this ATP 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 local 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 help employers and jurisdictions increase the number of end-of-trip facilities throughout the region. As a complement to this guide, SRTA may also encourage jurisdictions to require secure parking (such as lockers or indoor/enclosed bike racks), repair equipment, and/or showers as a part of their development and zoning codes.

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



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



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

SRTA could partner with municipalities to develop a regional wayfinding system that is easy for bicyclists and other roadway users to understand. The system should have a similar brand throughout Shasta County and be compatible with other regional and local wayfinding. Jurisdictions may adjust the brand 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 partner with Healthy Shasta and local jurisdictions to develop a bike parking program and provide technical assistance with:

- Purchasing high-quality bicycle parking and amenities
- Determining which types of racks to install, including short- and/or long-term
- Identifying locations for the racks

SRTA could also assist jurisdictions with developing a process to streamline bicycle parking requests from the public, businesses, and others and provide funding for the purchase of racks.

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 (see Figure 2.8).

Shasta Living Streets works with Healthy Shasta and the Redding Chamber of Commerce to sponsor a Bicycle Friendly Business Program. Each year, the program 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 Street Membership.

SRTA could support and help expand the Bicycle Friendly Business program by providing coordination between participating municipalities and businesses.



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, on 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 providing 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.



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

Encouragement Through Policies

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 that must be provided. By establishing bicycle parking minimums, development codes can also specify 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 are installed.

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

- Type of racks that are permitted
- Rubric for the number of racks
- Where the racks should be placed and how to coordinate specific land uses, such as sidewalk dining
- How the racks should be installed
- Incentives for developers to provide additional bicycle parking or amenities

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 at commercial and residential areas, transit facilities, and other popular destinations.

Bike parking within the public right-of-way is typically intended for 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. To build a bike corral, one on-street vehicle parking space is replaced with approximately ten bike parking spaces (see Figure 2.10).

Long-term bike parking, sometimes provided in the public right-of-way, is designed for people who need to store their bikes for more than four hours. Security and protection from the weather are the primary

considerations for adequate long-term parking to ensure that bikes are not stolen or damaged. Long-term parking facilities include bike lockers and sheltered enclosures.

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

As a first step, SRTA could conduct a regional bike parking inventory to identify where current bike parking is provided and what types. 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.



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



Land Use 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.

Trail-Oriented Development

Trail-oriented development is development that is built around or adjacent to trails (see Figure 2.11). Trail-oriented development is similar to transit-oriented development in that it is also built around an amenity – in this case, trails.

SRTA could promote trail-oriented development within jurisdictions through SRTA's Infill and Redevelopment Incentive Program which provides funding for transportation-efficient land use projects. SRTA could also draft a model trail-oriented development ordinance for jurisdictions to use that provides developers with incentives, such as increased floor-area-ratio or reduced parking minimums, for developing areas near trails.



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

Development Plans

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

For subdivision developments, ensuring that roadways are not overbuilt, requiring sidewalks and landscaping, and providing connections to existing and proposed bike and pedestrian facilities can create a higher quality of life for residents. Developers could also be required to build a network of Class I shared-use paths that connect to existing bikeways and paths. These connections have the potential to increase the number of recreational and transportation trips.

SRTA could work with local jurisdictions to amend their zoning and development codes to require bicycle and pedestrian facilities and amenities as well as connections to transit stations and stops. SRTA could also coordinate with Caltrans District 2 and local municipalities to develop guidelines to improve design reviews to ensure bicycle and pedestrian facilities are being included in new and renovated development projects.

Access to Transit

Ensuring that bicycle and pedestrian connections are provided to transit stations and stops is a critical component of a multimodal transportation system. 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 reduce the number of trips made by car. Consideration should also be given to the location of bus stops and connections to these stops (see Figure 2.12). If an area has safe and convenient bicycle routes to transit, this can increase the catchment area surrounding a bus stop by up to three miles for bicyclists.

SRTA could work with the Redding Area Bus Authority, local jurisdictions, and the community to determine where bicycle and pedestrian improvements are needed. 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 projects and improvements. Funding could be prioritized for locations where pedestrian and bicyclist connections are lacking. Prioritization efforts should include transit providers, local jurisdictions, and the community.



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

SRTA could partner with 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.

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



Figure 2.13. SRTA could partner with local law enforcement officers on enforcement programs, such as rewarding good behavior and promoting safe driving and bicycling behavior.

Source: Toole Design Group

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
- Educate trail users about safe practices and local plants and wildlife

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, 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 means building active transportation projects, offering relevant programs, and changing some policies to encourage walking and biking. To ensure that these projects, programs, and policies are meeting their intent, they must be evaluated.

An evaluation can use many different methods and procedures; however, an evaluation should use a plan or project-based goals and objectives as its basis. Results can be used internally or made public to:

- 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 workplans 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

Non-Motorized Counts

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

SRTA could implement and coordinate a regional bike count program. The regional count program could consist of short and long-range counts that rely on local staff members and volunteers or use automated counters.

The short-duration counts should occur regularly (such as twice a year) using staff members and volunteers. Detailed information would be collected such as the number and gender of bicyclists and pedestrians, their travel direction, whether they are riding on the street or sidewalk, weather, and other information. Each jurisdiction could process and send the data to SRTA to provide in a publicly available database. Long-duration counts could be taken by permanent, automated counters.

SRTA's role may include:

- Developing the bicycle count program's requirements and methodology
- Developing an inventory of count programs currently in use within the region to assess the technologies and programs that are being used
- Identifying locations
- Assisting with public outreach
- Providing technical assistance
- Pursuing funding to assist jurisdictions with purchasing and installing permanent counters

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 providing 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 one to two percent mode share—will not come without challenges. The current trail and bike network is hampered by a lack of connectivity to major destinations, and people who walk and bike face safety risks (perceived and actual) on roads that lack sufficient infrastructure for those activities.

This chapter presents project recommendations for creating a connected, appealing, and safe bicycle and pedestrian network throughout the Shasta Region, including 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.

Relationship to City of Redding Active Transportation Plan

The Shasta Region needs a coordinated approach to active transportation that catalyzes local interest in bicycling and walking and enables the region to compete effectively for Active Transportation Program and other funds. The GoShasta Regional Active Transportation Plan (ATP) and the City of Redding ATP will complement each other and work hand-in-hand to achieve each plan's goals.

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 Citizen 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 corridor improvements integrate with regional Trunk Lines (see Chapter 1) will be determined by local agencies, in consultation with neighboring jurisdictions and SRTA. Figures 3.1 to 3.7 illustrate these recommendations, and a description of the proposed elements follows.

» 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.

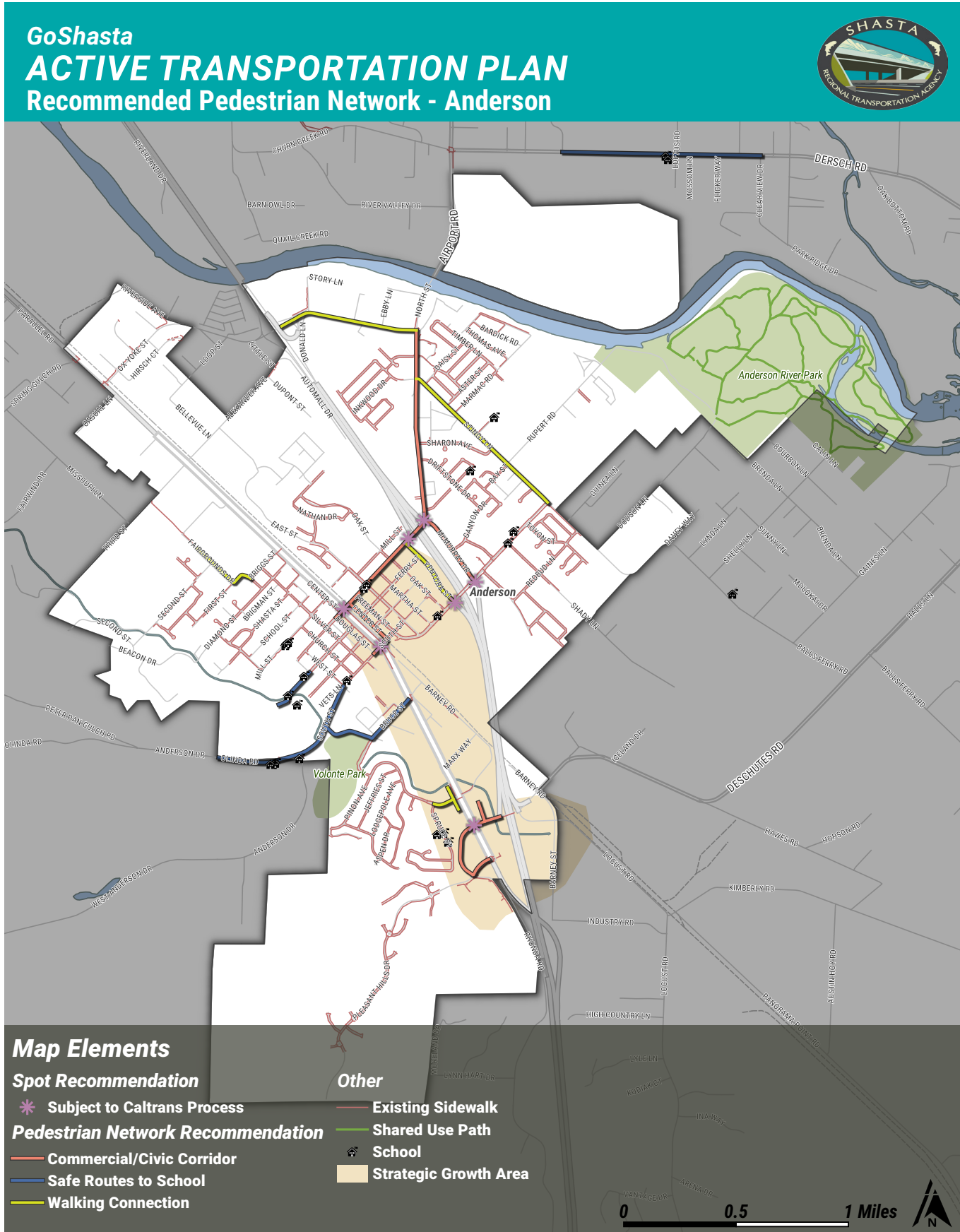


Figure 3.1

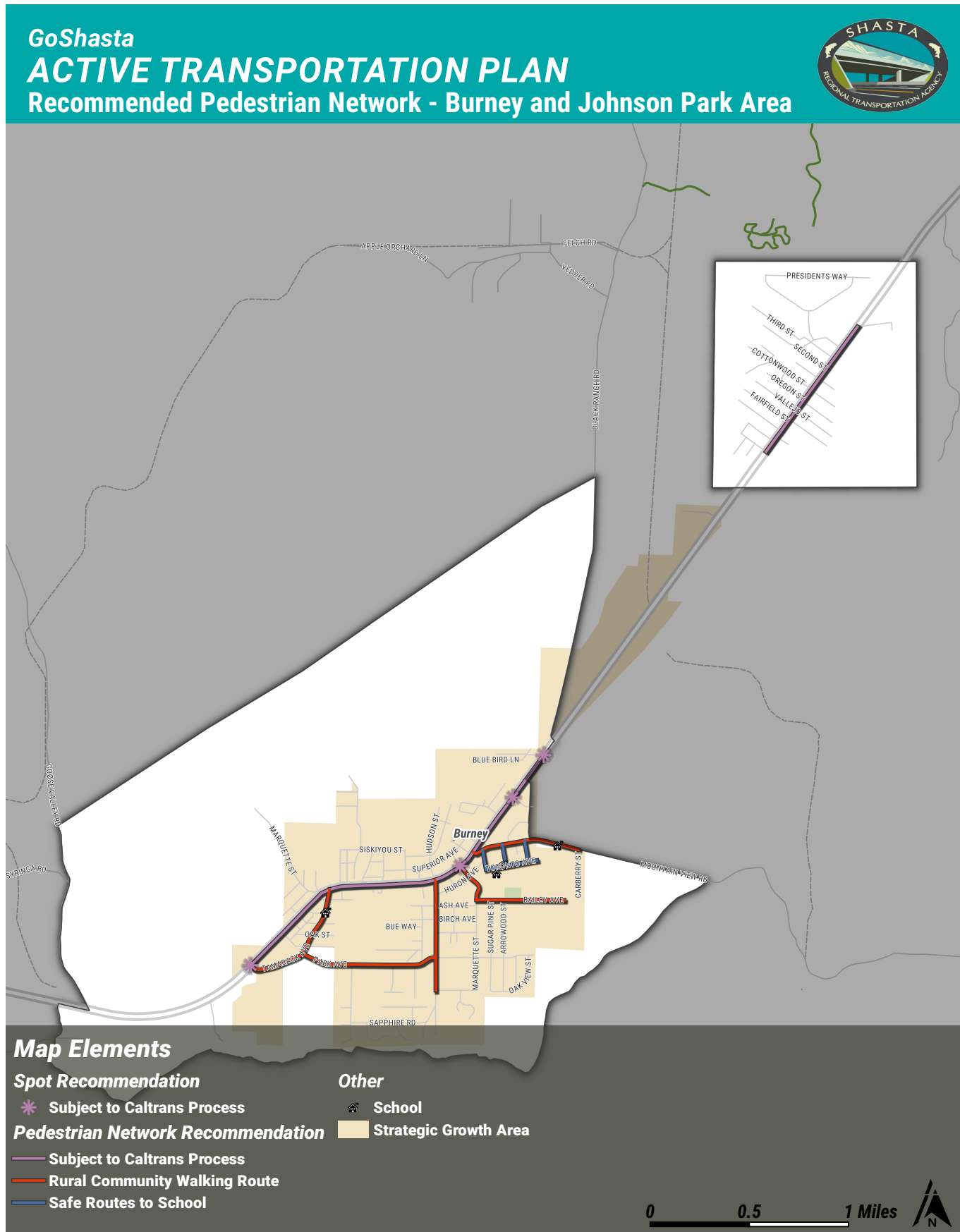


Figure 3.2

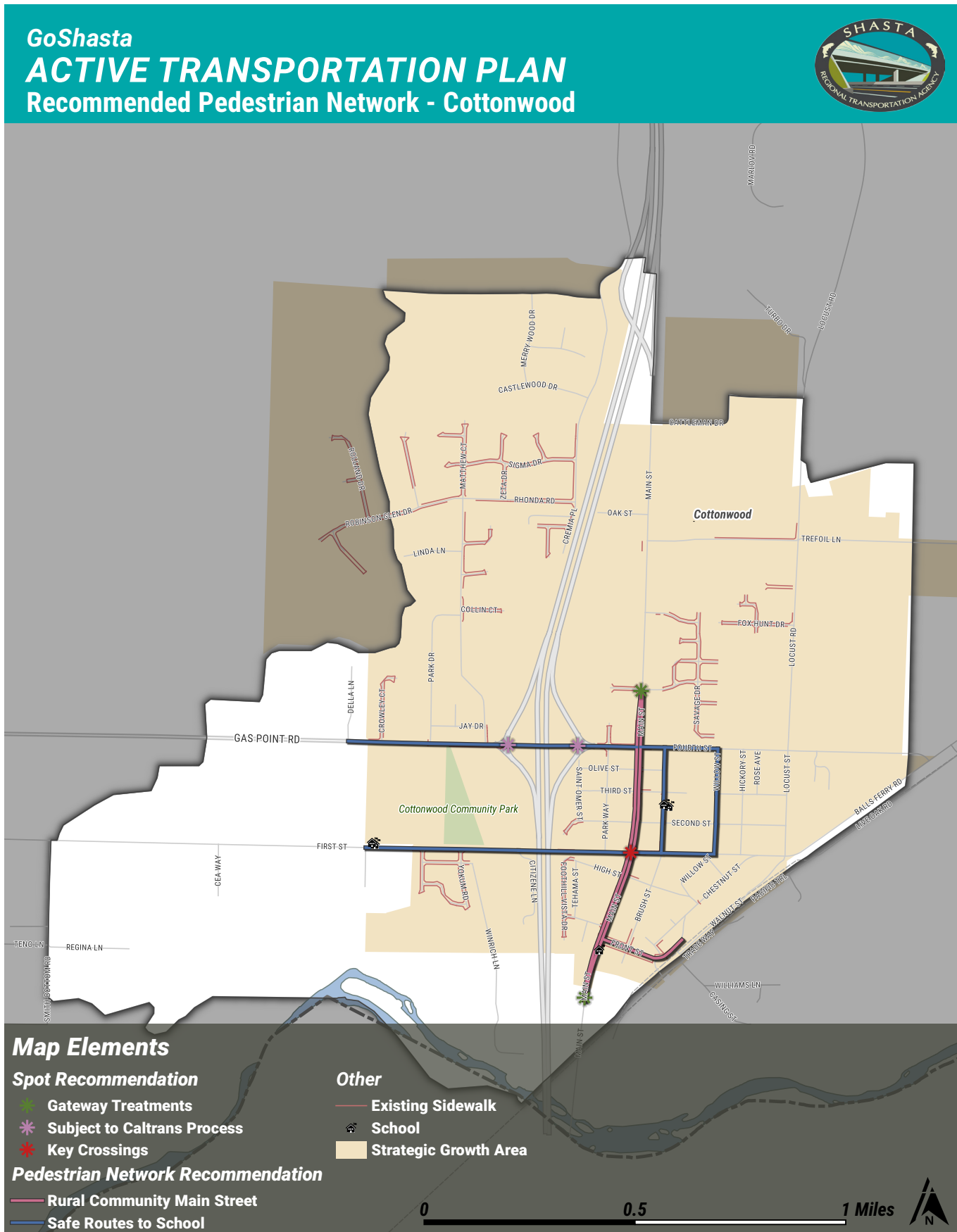


Figure 3.3

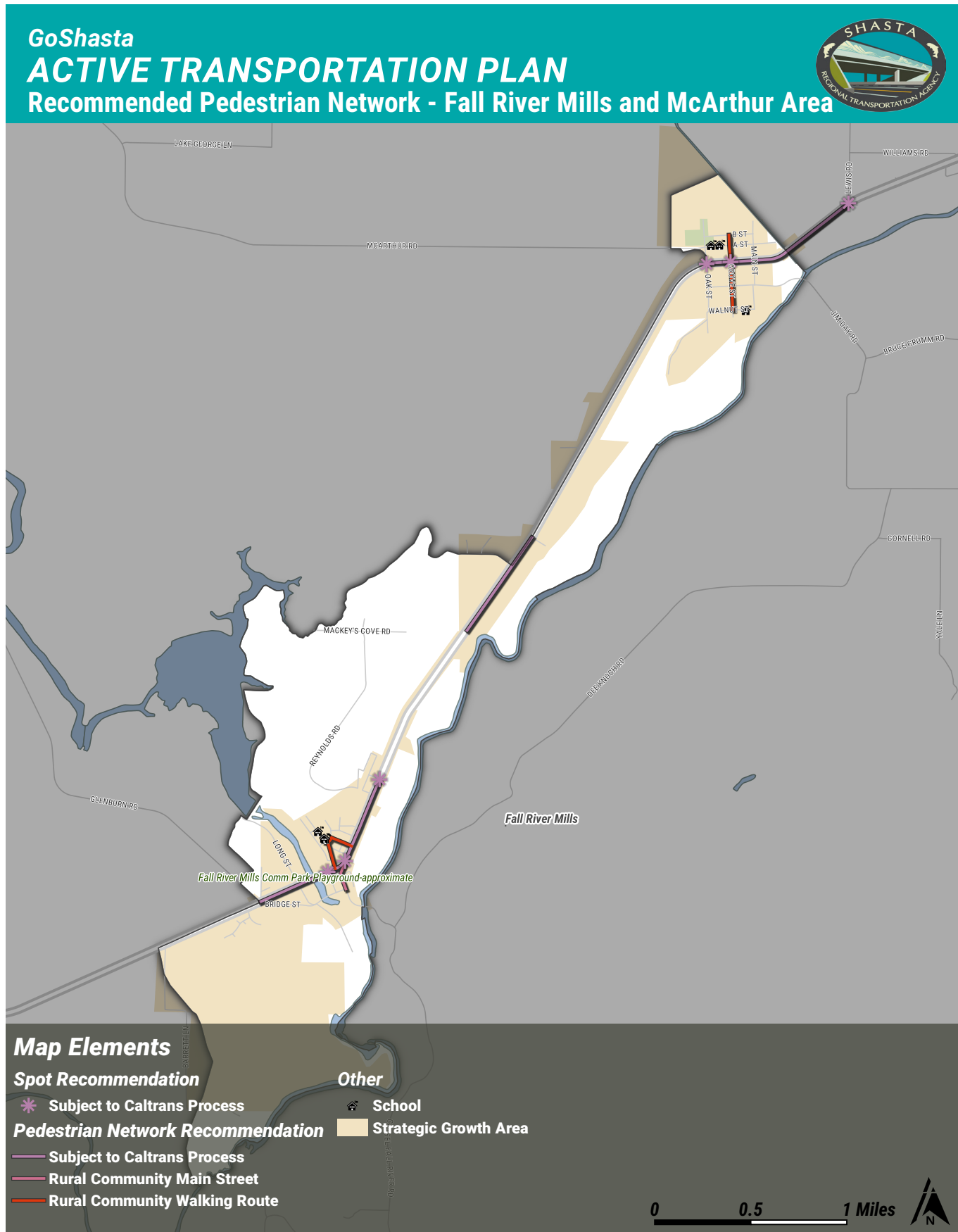


Figure 3.4

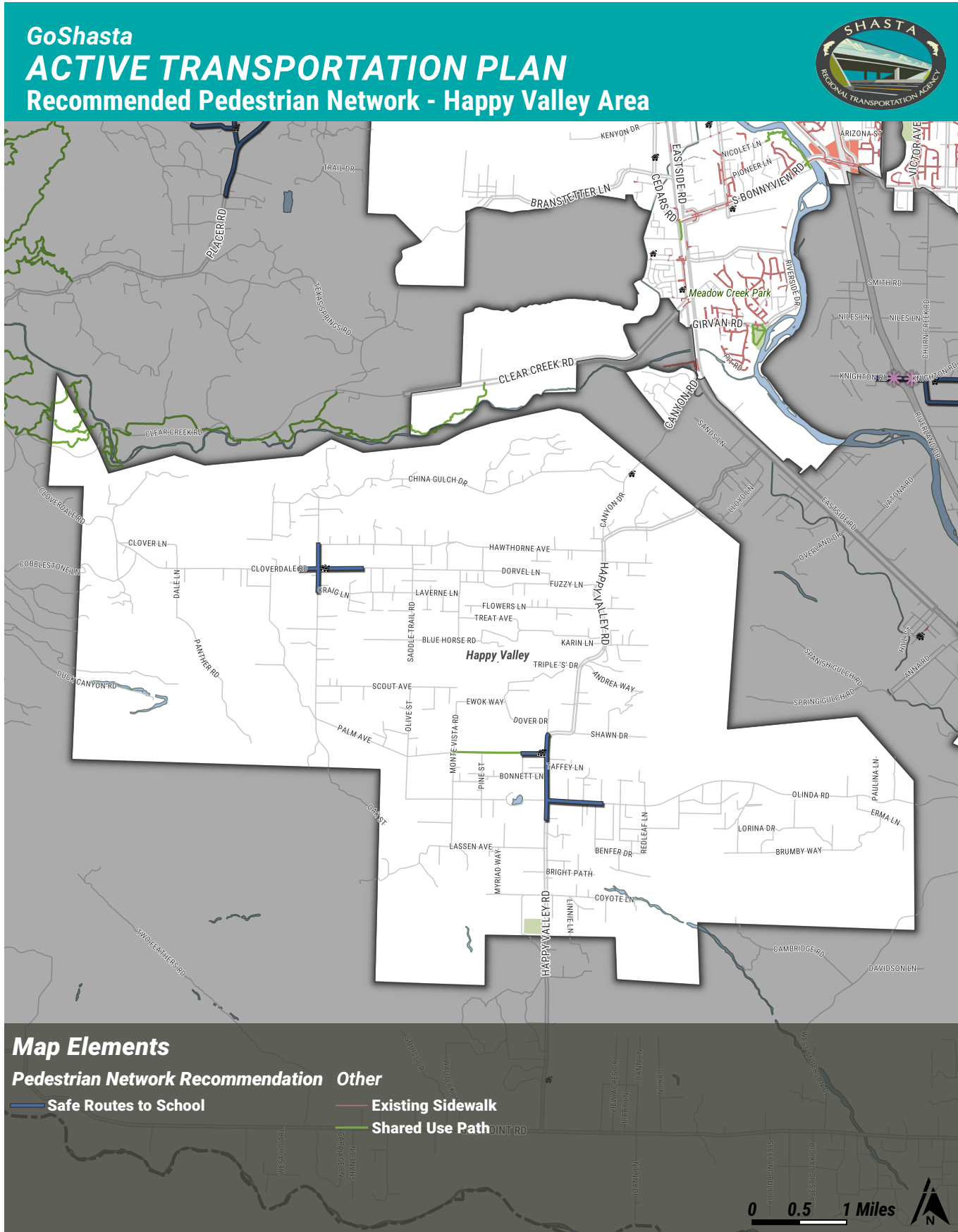
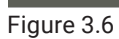


Figure 3.5



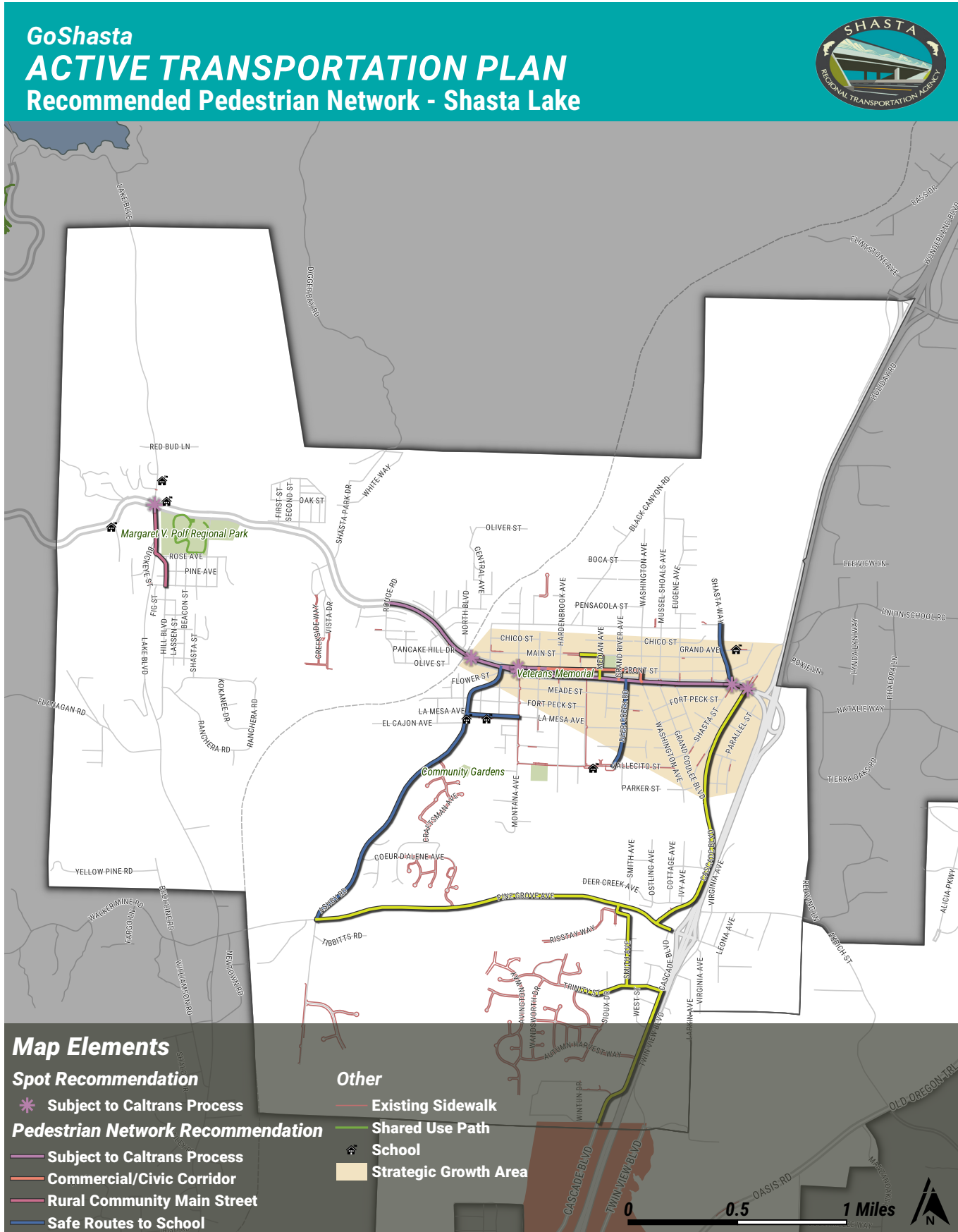


Figure 3.7

RECOMMENDATION



Spot Improvements

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

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 identify the community.

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 3.8)

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 reduce exposure, 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:



Figure 3.8. Anderson, CA Gateway Monument. *Source: Kittelson & Associates, Inc.*

- 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 3.9)
- Enhancing infrastructure—through pedestrian median islands, rectangular rapid flashing beacons (RRFB), or pedestrian hybrid beacons—at higher-volume crossings or where high vehicle speeds and/or volumes are present midblock

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



Figure 3.9. High visibility crossings for bicyclists and pedestrians in Davis, CA. *Source: Kittelson & Associates, Inc.*

occur on state routes and along the I-5 corridor and are designed and operated by Caltrans, and thus subject to Caltrans'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."

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 (see Figure 3.10). 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.

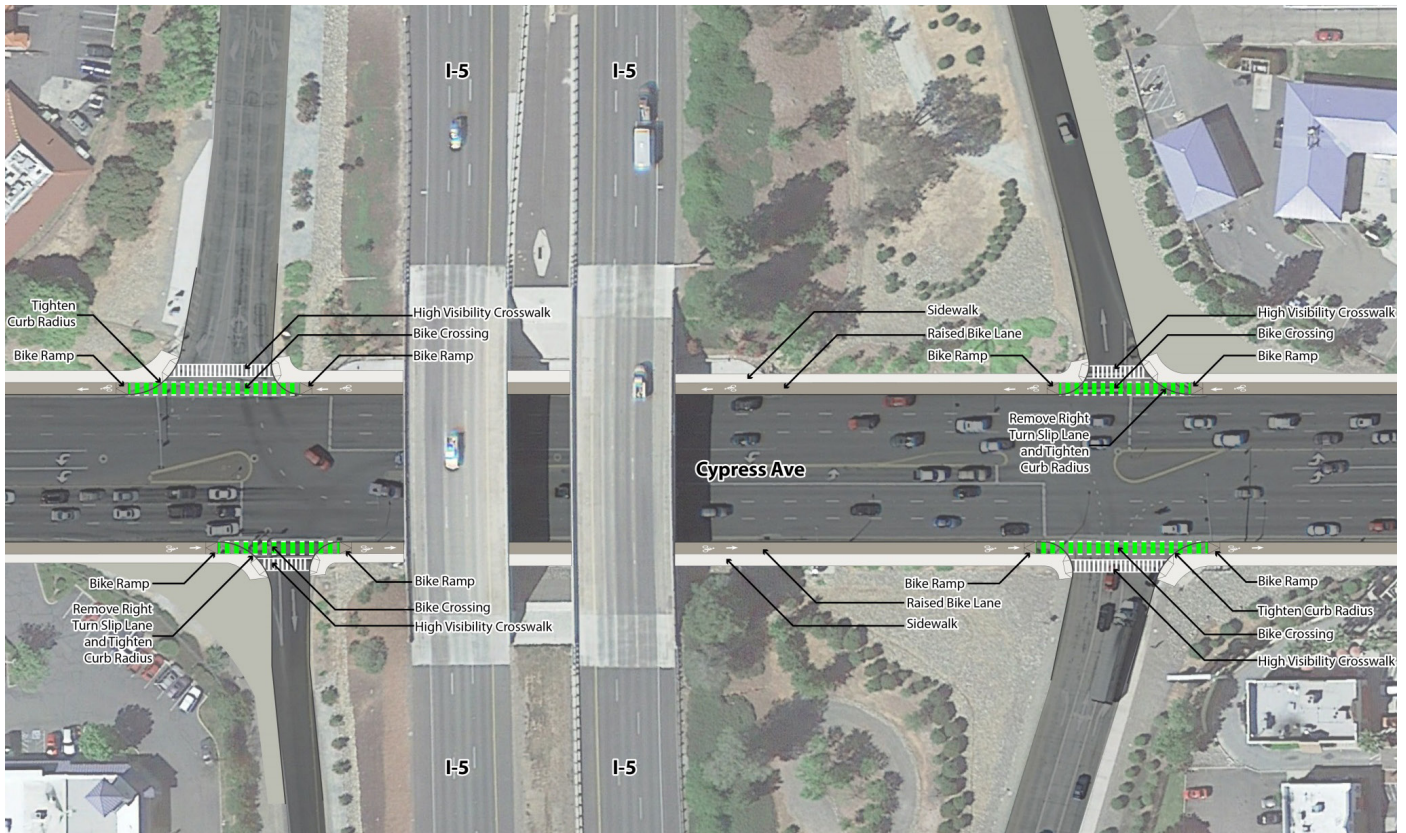


Figure 3.10. Conceptual Interchange Crossing Design at Cypress Avenue and Interstate 5. *Source: Kittelson & Associates, Inc.*

RECOMMENDATION



Corridor Improvements

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

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:

- Providing active building frontages that integrate with the streetscape

- Providing a buffer, such as a planting strip and curbside parking, between the sidewalk and roadway, especially along higher-speed roadways
- Requiring 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



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

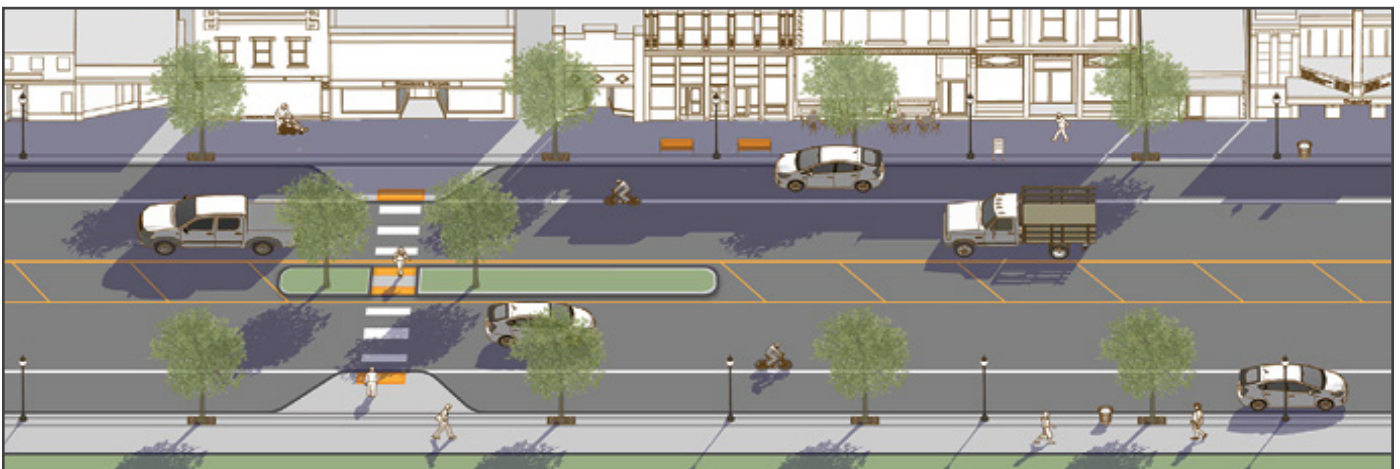
Walking Connections

Additional improvements are recommended for main streets and walking routes to improve pedestrian connections and create a cohesive walking network throughout the Shasta Region. A complete sidewalk network along these routes and comfortable intersection crossings are key to encouraging walking between destinations.

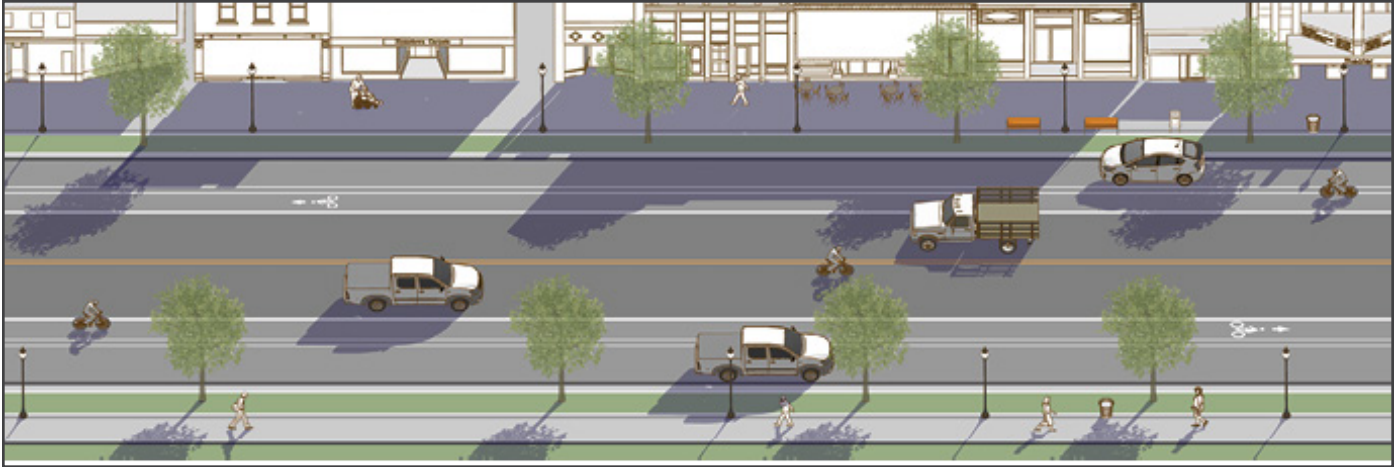
Rural Community Main Street

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 have evolved into high-speed roadways that serve regional trips rather than local destinations. Improvements to these roadways can create a more walkable and bikeable environment. 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. 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*

Rural Community Walking Route

In addition to rural community main streets, creating safe walking routes 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, rural walking routes may consist of widening sidewalks or buffers along traffic lanes to create a sidepath (see Figure 3.14 and 3.15). Sidepaths are typically found along higher-speed roads.



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



Figure 3.15. Concept Visualization for rural side path along Airport Road. *Source: Kittleson & Associates, Inc.*

Bikeway Network Recommendations

Recommendations to improve bicycling throughout the Shasta Region focus on the development of a regional network of Trunk Lines (see Chapter 1) and local connectivity routes. Figures 3.16-3.22 illustrate the proposed bikeway network.

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.

Table 3.1. Recommended Bikeway Network Mileage

Bikeway Facility	Anderson	Shasta Lake	Redding	Shasta County	Total
Shared-Use Path	1.21	9.71	53.72	12.94	77.57
Buffered Bike Lane	—	1.72	52.80	6.44	60.96
Separated Bike Lane	0.53	3.53	2.04	0.00	6.11
Bike Lane	6.56	3.35	36.13	102.48	148.52
Bike Boulevard	2.21	5.73	18.11	0.88	26.92
Bike Route	0.27	2.79	3.34	28.54	34.95
Caltrans Process	6.02	3.92	6.93	25.83	42.69
Grand Total	16.80	30.74	173.07	177.11	397.73

By implementing these improvements, SRTA and local jurisdictions can continue to develop a safe and connected bicycling network. The recommendations for the City of Redding are included in the Redding ATP.

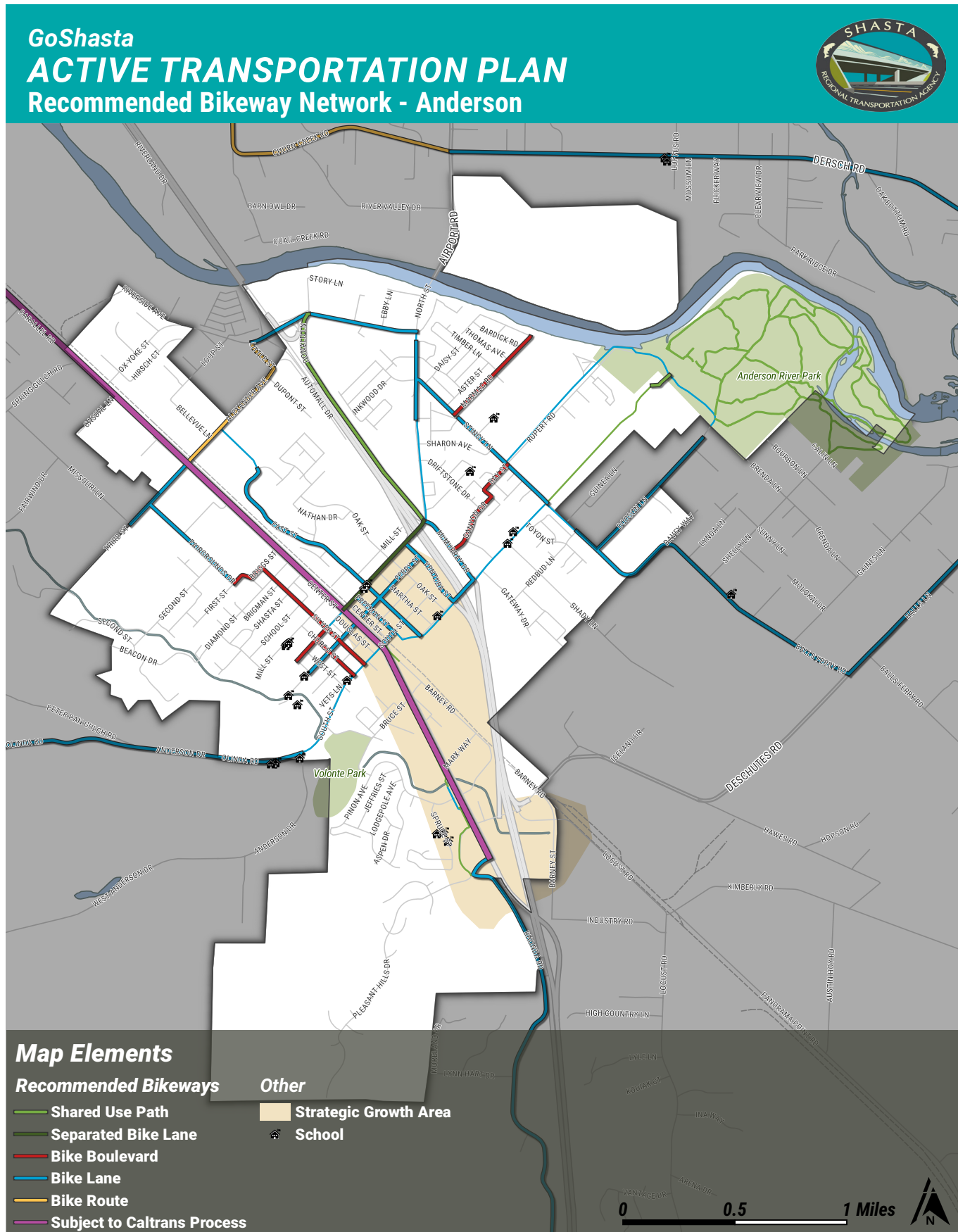


Figure 3.16

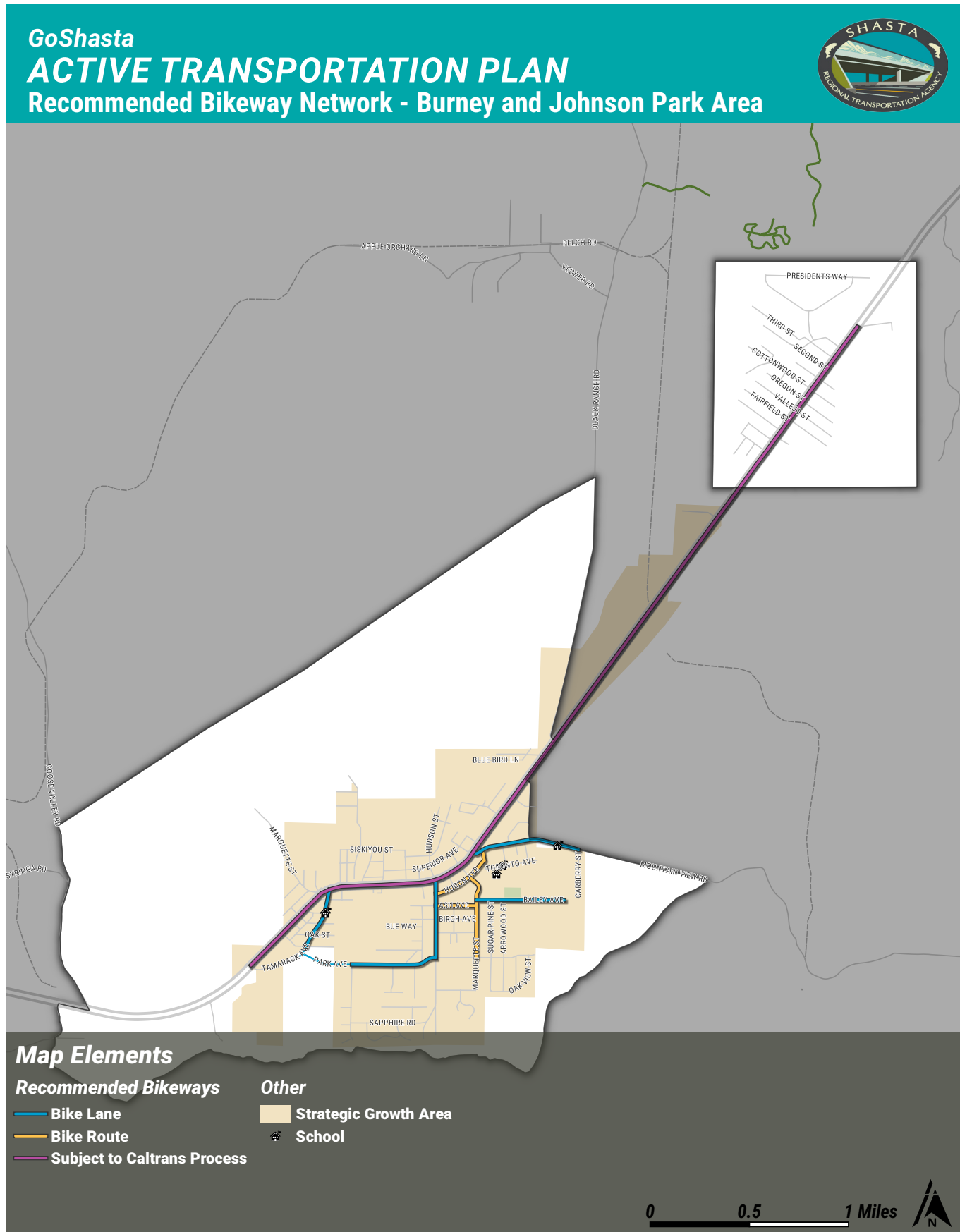
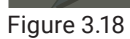


Figure 3.17



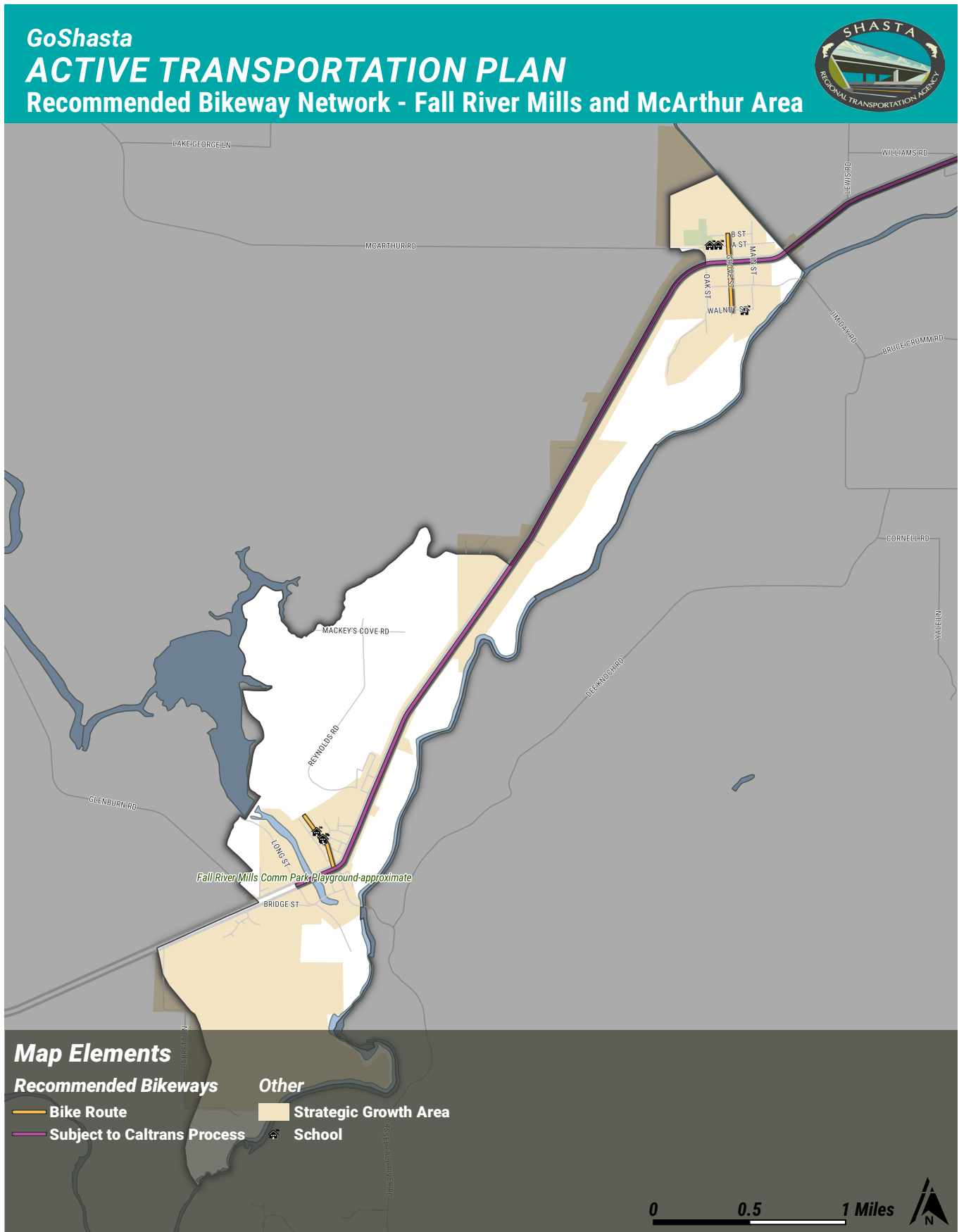


Figure 3.19

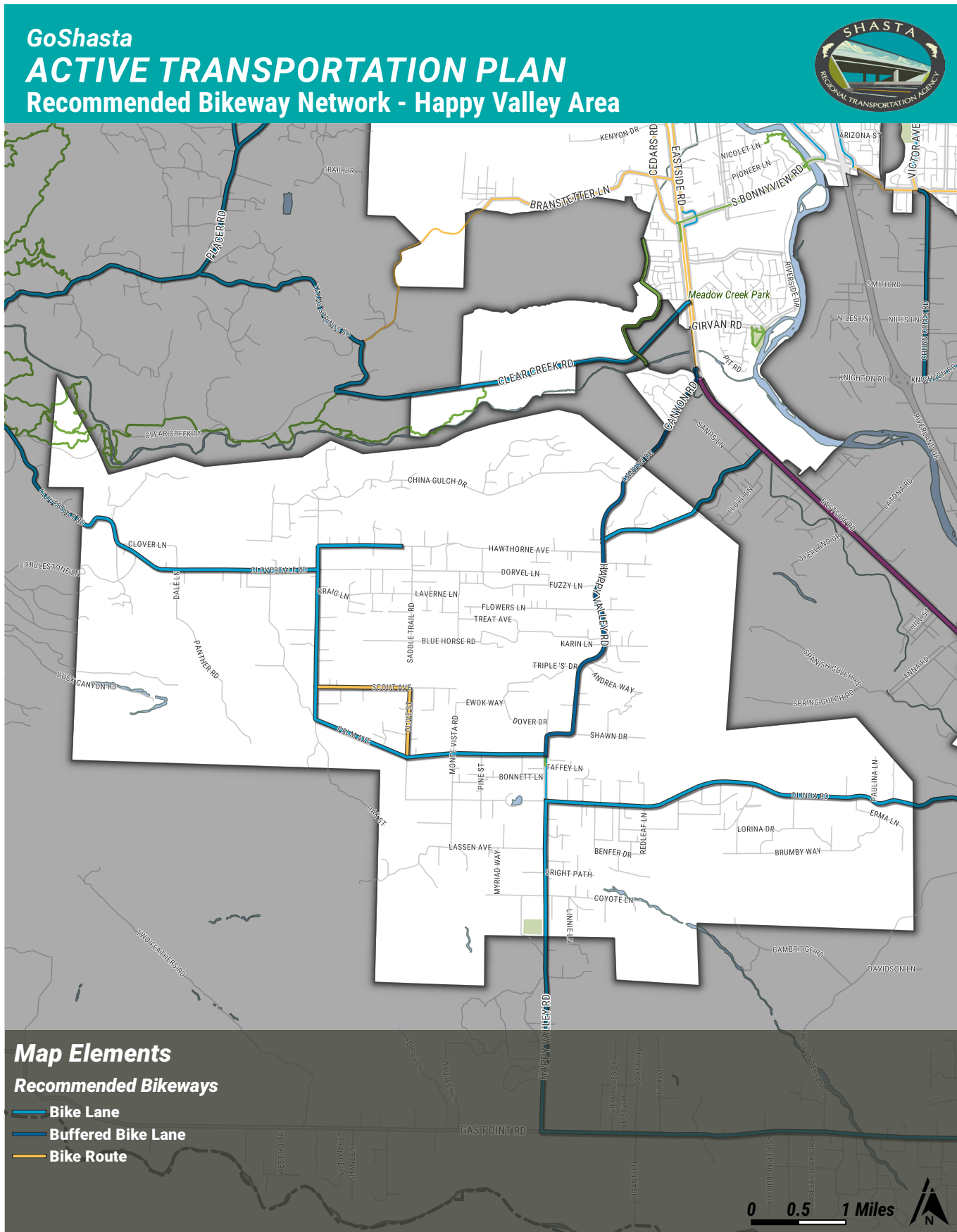


Figure 3.20



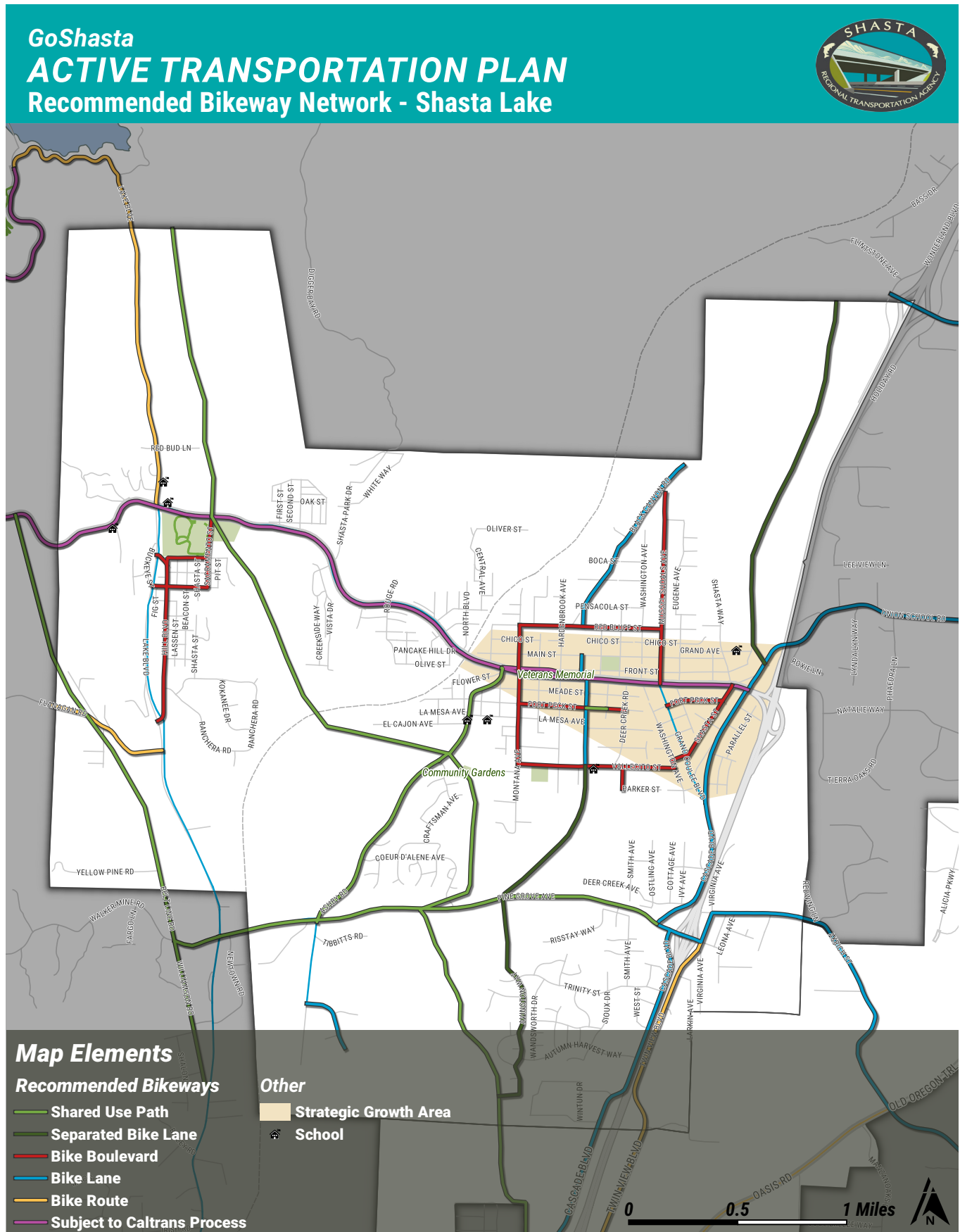


Figure 3.22

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. Trunk Lines are high-quality 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 each of these facilities that make up the regional bicycle network.

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.

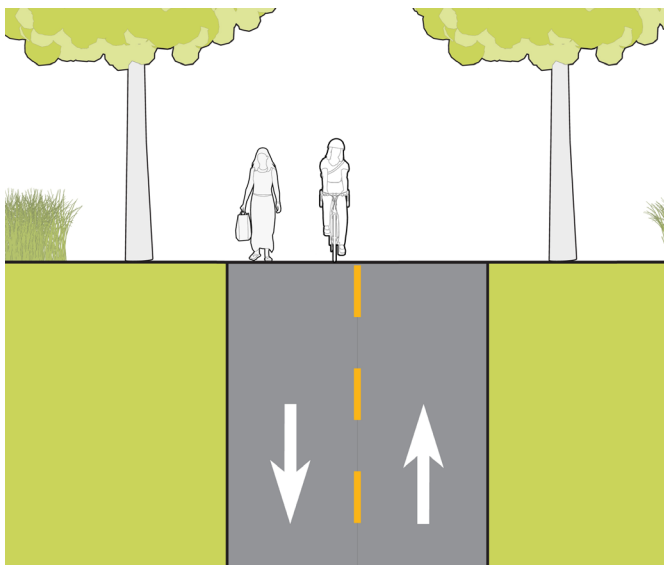


Figure 3.23. Example of a Class I Shared-Use Path

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. Separated bikeways are separated from vehicular traffic with physical barriers such as on-street parking, flex posts, curb medians, or planter strips. These routes 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).

Bicycle boulevards (described under connectivity routes) may also function as trunk lines provided they are direct and designed to facilitate seamless and safe bicycle travel.

Local Connectivity Routes

In addition to developing a regional Trunk Line network, providing low-stress routes with Class II bike lanes and Class III bicycle routes will complete the regional bikeway network. The facilities will support a greater variety of trips, including short trips to shopping

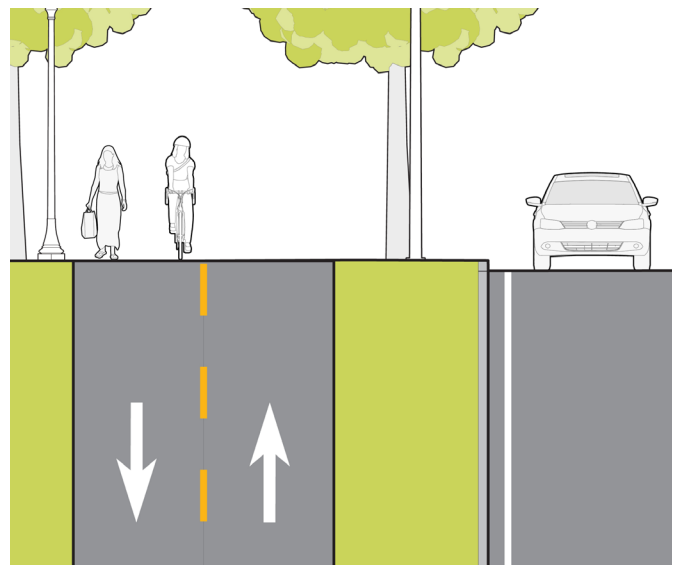


Figure 3.24. Example of a Class I Shared-Use Path (Sidepath) near a roadway

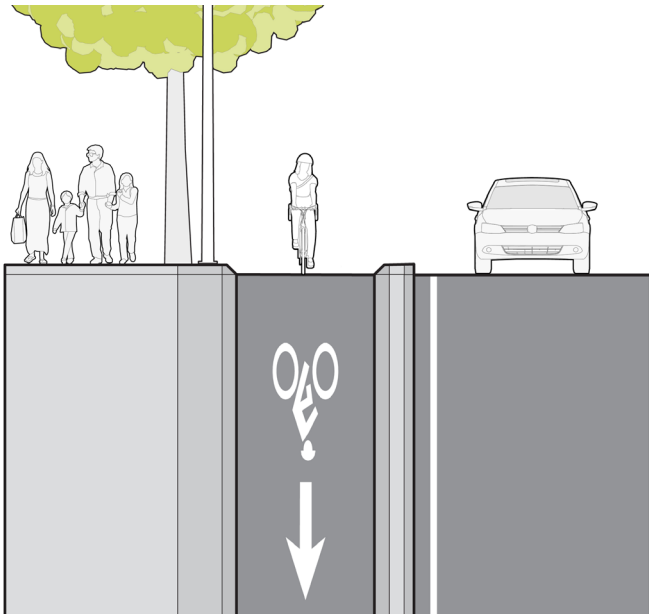


Figure 3.25. Example of a Class IV Separated Bike Lane

or school and recreational rides. To be low-stress and high-comfort routes, these facilities are appropriate for roads with low traffic volumes and low vehicle speeds.

Bike Lanes (Class II Bikeways)

Class II bicycle lanes provide an exclusive space for bicyclists in the roadway and are established using painted lines and symbols on the roadway surface. Bicycle lanes may not be comfortable for all users on roads with higher vehicle speeds and volumes, but may be the only feasible option in constrained locations. Where possible wider (than 5 feet) bicycle lanes or additional buffers between bicyclists and motor vehicles should be provided to improve comfort.

Buffered Bike Lanes

Buffered bicycle lanes (also Class II facilities) provide additional lateral space between bicyclists and motor vehicles. While painted buffers are typically used between bicycle 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 bicycle lanes and parking lanes in locations with high parking turnover to discourage bicyclists from riding too close to parked vehicles.

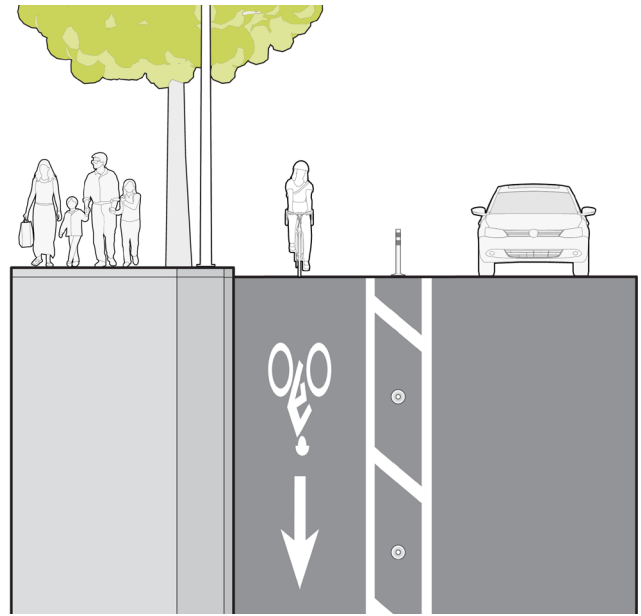


Figure 3.26. Example of a Class IV Separated Bike Lane with flexposts

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 provide low-stress shared roadway bikeways that emphasize bicyclists' priority on a given route. Bicycle boulevards provide connections between destinations by using low-speed, low-stress routes through neighborhoods. Bicycle boulevards are considered Class III routes and are enhanced by emphasizing 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.

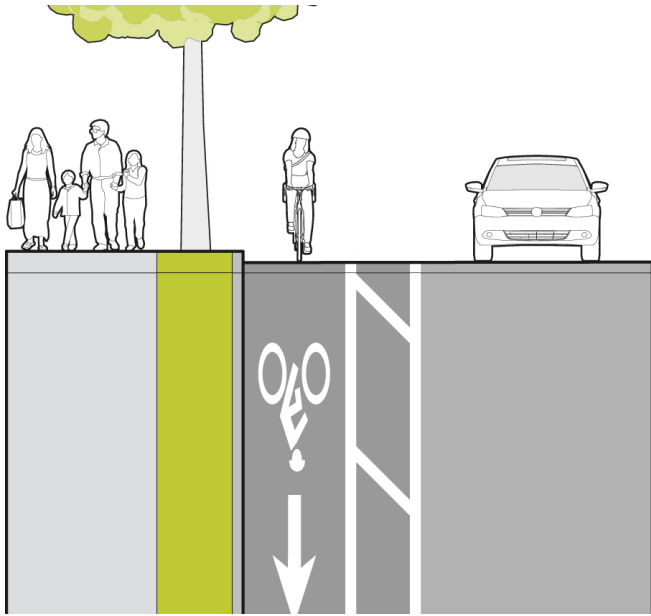


Figure 3.27. Example of a Class II Buffered Bike Lane

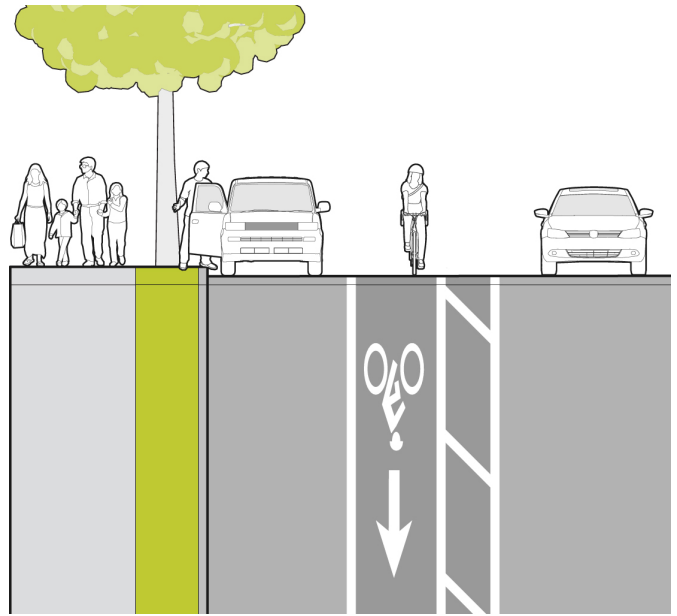


Figure 3.28. Example of a Class II Buffered Bike Lane adjacent to parking

Crossing Improvements

In addition to building bicycle facilities along corridors, thoughtful design at intersections is also needed. Treatments that can help reduce conflicts and improve safety for bicyclists at intersections include:

- Striping bicycle crossing markings through intersections to show drivers and bicyclists the expected path of travel for bicyclists
- Designing intersection approaches to correctly

position bicyclists and increase driver awareness to minimize conflicts with turning vehicles

- 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)

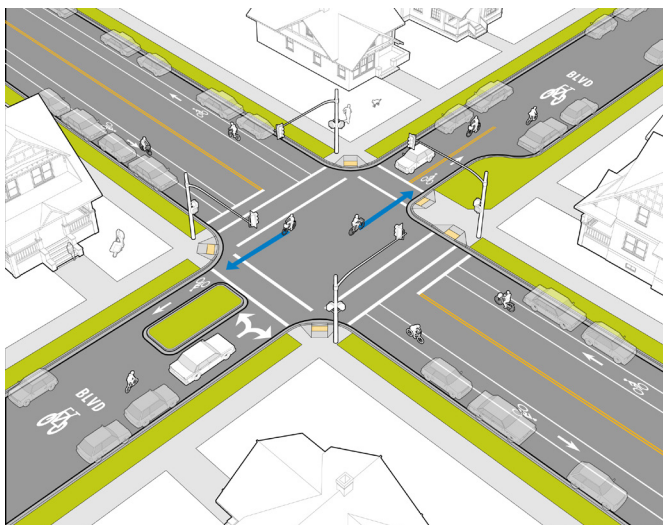
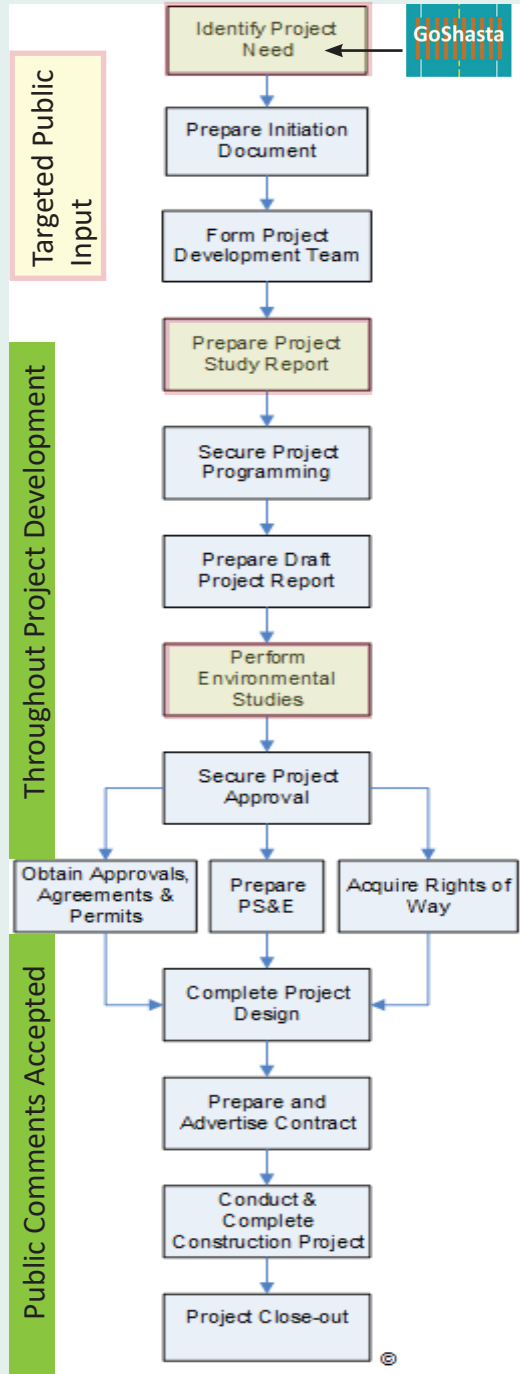


Figure 3.29. Example of a Class III Bicycle Boulevard with Traffic Diversion

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



PROJECT COMPLETE



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, 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.

More information on how Caltrans builds projects can be found here. If you have questions about specific active transportation issues on state routes in the Shasta Region, please contact: Caltrans District 2 Active Transportation Coordinator Tamy Quigley: P: 530-225-2735 and E: tamy.quigley@dot.ca.gov or Caltrans District 2 Public Information Office: P: 530-225-3426 and E: d2pio@dot.ca.gov

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

Because SRTA has a constrained budget, it is not possible to implement all the recommended projects presented in Chapter 3 within the near-term. While all these projects 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 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.

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 public or private development projects that can be leveraged to implement the recommended project.

Tables 4.2 and 4.3 list priority pedestrian and bikeway projects, respectively, that will be integrated into the Regional Transportation Plan (RTP) fiscally-constrained project lists. While projects are listed in descending order of their prioritization score, the order in which projects are implemented will depend on a number of factors including the complexity of the project and level of design needed, other upcoming projects that could be leveraged, and sequencing that emphasizes connectivity to existing facilities. Additional projects that will be integrated into the RTP's unconstrained project lists 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)

Table 4.2 - Fiscally-constrained Pedestrian Project List - *Information provided separately; will be integrated into final plan*

Project Number	Project Location	From/to	Project description	Short Term Est. Cost of project	Long Term Est. Cost of project	Project Band	Expected Funding Source

* Details of how each project scored under the individual criteria can be found in Appendix D.

Table 4.3 - Fiscally-constrained Bikeway Project List - *Information provided separately; will be integrated into final plan*

Project Number	Project Location	From/to	Project description	Short Term Est. Cost of project	Long Term Est. Cost of project	Project Band	Expected Funding Source

* Details of how each project scored under the individual criteria can be found in Appendix D.

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 is a reflection of how likely that future can be realized and how closely it resembles what has been envisioned through extensive outreach and planning.

At the local agency level, 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. To increase their chances of receiving state and federal grants, local agencies sometimes apply for non-motorized funding from SRTA to use as match.

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, so a key goal of the program is to leverage state and federal funds for major bicycle and pedestrian improvements.

Of course, 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 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. Projects listed in Tables 4.2 and 4.3 may integrate with a Trunk Line. Because building Trunk Line facilities will be more expensive than conventional biking and walking facilities, SRTA will prioritize funding for local agencies to implement this Trunk Line system. Regional dollars can also be leveraged and paired with state and federal funding (see discussion of funding sources on the following pages).

Other Funding Sources

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. While SRTA is apportioned a certain level of funding through federal and state transportation programs based on population, there are additional funding sources 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. [transportation.gov/tiger](https://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 Brown signed legislation creating the Active Transportation Program. 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 Active Transportation Program is administered by Caltrans Division of Local Assistance, Office of Active Transportation and Special Programs. A portion of the funds are administered by MPOs in the state which issue their own call for projects typically at the same time as the state call. In 2017, SB 1 augmented the Active Transportation Program by \$100 million per year. Caltrans has typically issued a call for projects every year. The 2018 call for projects is expected in March and will allocate about \$440 million to active transportation projects throughout the state.

Resources

- Active Transportation Program. <http://www.dot.ca.gov/hq/LocalPrograms/atp/>

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/>

Regional Funding Opportunities

Regional Active Transportation Program

A portion of the statewide Active Transportation Program is administered by the SRTA for projects within its jurisdiction. Program goals include increasing the proportion of trips accomplished by biking and walking, increasing safety and mobility for non-motorized users, advancing efforts to implement SB 375, enhancing public health, ensuring disadvantaged communities fully share in benefits of the program, and providing a broad spectrum of projects to benefit many types of active transportation users.

Resources

- Active Transportation Program. <https://www.srta.ca.gov/226/Active-Transportation-Program-ATP>

Transportation Development Act (TDA)

The TDA provides two major sources of funding for public transportation: the Local Transportation Fund (LTF) and the State Transit Assistance fund (STA). The TDA funds a wide variety of transportation programs, including planning and program activities, pedestrian and bicycle facilities, community transit services, public transportation, and bus and rail projects. Two percent of money in the fund is made available to counties and cities for facilities provided for the exclusive use of pedestrians and bicycles, or for local street and road purposes in those areas where the money may be expended for such purposes, in the development of a balanced transportation system. Of this amount, five percent may be expended to supplement moneys from other sources to fund bicycle safety education programs. In Shasta County, approximately half of FY2014-15 funds were distributed to cities and the county for maintenance of local streets and roads.

Resources

- Transportation Development Act Guidebook. http://www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/STIP/TDA_4-17-2013.pdf
- Transportation Development Act (Shasta Regional Transportation Agency). <https://www.srta.ca.gov/215/Transportation-Development-Act-TDA-Funds>

