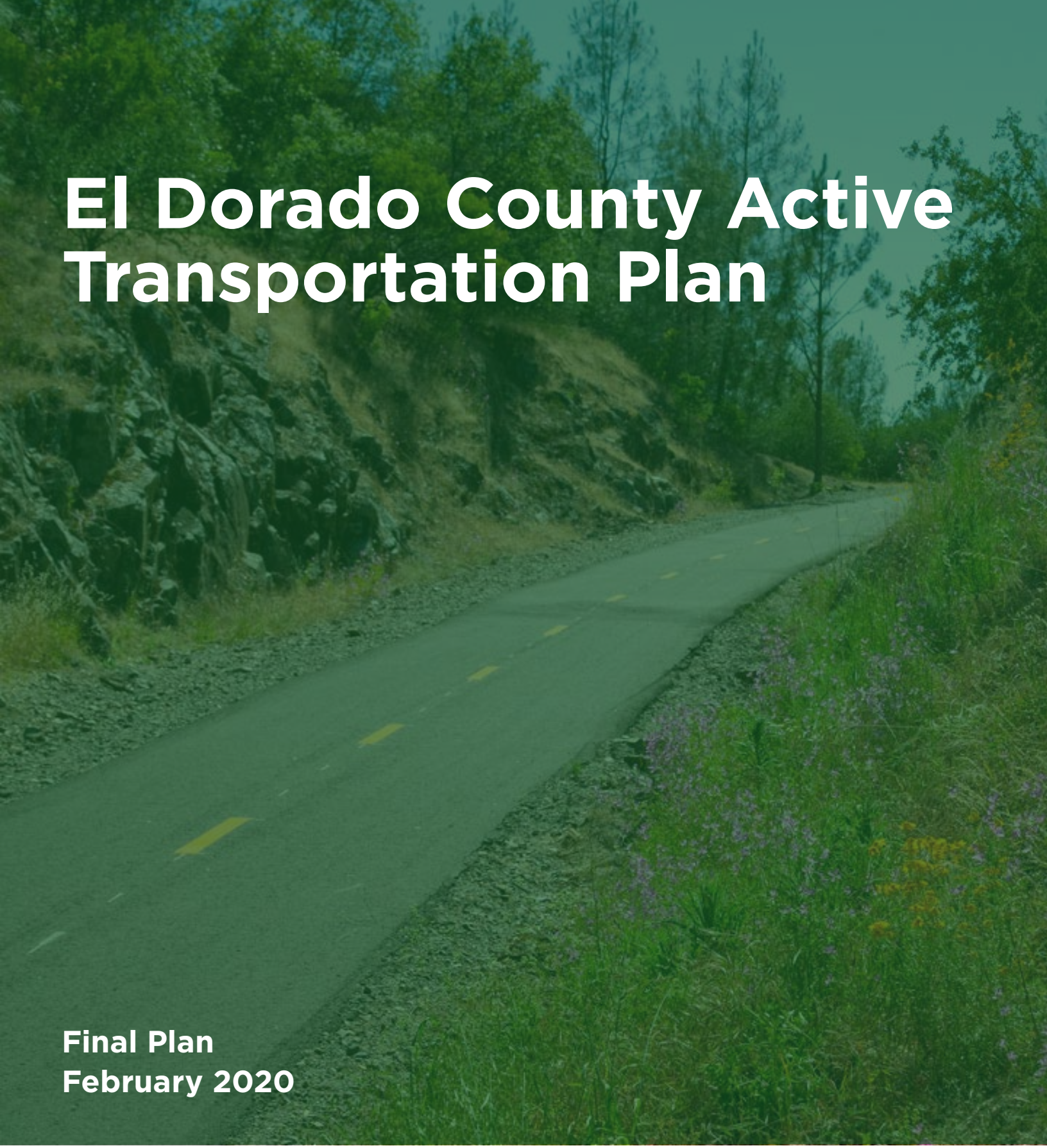

El Dorado County Active Transportation Plan

Final Plan
February 2020

PREPARED FOR

el dorado county edctc TRANSPORTATION COMMISSION

FUNDED BY

Caltrans

PREPARED BY

alta PLANNING + DESIGN

ACKNOWLEDGEMENTS

The County of El Dorado and project staff would like to thank the residents of El Dorado County, elected officials, and professional staff who supported this effort. In particular, El Dorado County and the El Dorado County Transportation Commission are indebted to the Stakeholder Advisory Committee for their time and commitment to improving walking and biking in El Dorado County and providing valuable input throughout the project.

This Active Transportation Plan was funded by the Caltrans Fiscal Year 2017-18 Road Maintenance & Rehabilitation Account Sustainable Communities Grant Program. This Plan was completed in partnership with the City of Placerville, El Dorado County, Alta Planning and Design.

PREPARED IN PARTNERSHIP WITH

Stakeholder Advisory Committee Member Organizations

El Dorado Hills Bike/Pedestrian Safety Coalition

Bicycle and Pedestrian Advocates of Cameron Park/Shingle Springs

Friends of El Dorado Trail

Utilitarian Cyclists Group

Walk Sacramento

Commission on Aging

El Dorado County Chamber of Commerce

Placerville Downtown Association

Shingle Springs/Cameron Park Chamber of Commerce

El Dorado Hills Chamber of Commerce

Divide Chamber of Commerce

Coloma/Lotus Chamber of Commerce

Diamond Springs/El Dorado Community Advisory Committee

Placerville Drive Business Association

Bike Friendly 50 Corridor Members – El Dorado County

Shingle Springs Community Alliance

El Dorado Community Foundation

Museum/Historical Society

El Dorado County Office of Education

Folsom Lake College

Boys and Girls Club

El Dorado County Public Health

Schools

Disabled Advocate

Placerville Mobility Support Group

El Dorado County

Caltrans

SACOG

Sacramento - Placerville Transportation Corridor Joint Powers Authority

El Dorado Transit

Cameron Park Community Services District

El Dorado Hills Community Services District

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CHAPTER 1: INTRODUCTION

Why Develop an Active Transportation Plan?

El Dorado County is committed to improving the quality of life for residents and visitors by making walking and biking more convenient, comfortable, healthy, and safe modes of transportation. The purpose of the El Dorado County Active Transportation Plan is to provide a clear and guiding vision for active transportation planning in the planning area to ensure that there is cohesion in the active transportation network and programs

Walking is most common for short trips. Because of El Dorado County's rural nature, pedestrian improvements are focused near activity generators or in areas with higher volumes of pedestrian activity. Bicycling is more common for short and medium trips. Due to the high interest in recreational riding within El Dorado County, bicycling improvements were identified near destinations with high volumes of activity, as well as routes and facilities that connect regions of the County.

The Active Transportation Plan (Plan) establishes a long term vision for improving walking and bicycling in El Dorado County. This Plan is a critical tool in guiding a balanced transportation system. This balanced transportation system will be pedestrian and bicycle friendly, while encouraging residents to use these modes of transportation. This Plan provides a set of recommended infrastructure improvements and studies paired with education, encouragement, enforcement, and evaluation programs. This document also provides a strategy to ensure implementation of these projects and programs is manageable and fundable, recognizing that limited funding and resources will require phased implementation over many years.

This Plan updates the previous 2010 El Dorado County Bicycle Master Plan. The Active Transportation Plan utilizes the methodology laid out in the 2017 Active Transportation Connections Study.

The El Dorado County Active Transportation Plan process provided opportunities for stakeholders and the general public, elected and appointed officials, as well as key staff and leadership of the County, cities, commissions, School Districts and community boards to participate in the development of the Plan. Ideally, the Plan should be reviewed every three to five years to update maps, project lists, and priorities as facilities are completed and new opportunities and needs arise.

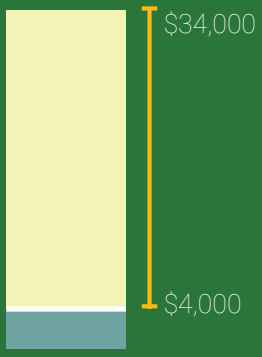
The remainder of this introduction provides a guiding vision for the Plan, as well as related goals and the strategies to help achieve them.

A family enjoying the benefits of active transportation together along a segment of El Dorado County's El Dorado Trail.

El Dorado County Active Transportation Plan Benefits

ECONOMIC BENEFITS

Walkability Pays Off



In a controlled study of 90,000 houses in 15 US metropolitan housing markets, houses with **ABOVE-AVERAGE WALKABILITY WERE FOUND TO SELL FOR ABOUT $4,000 TO $34,000 OVER** houses with just average levels of walkability.

Source: Cortright, 2009

Trails Can Help Revitalize Commercial Districts

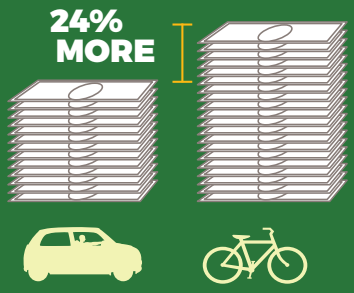
Within the first year of its opening, Indian Creek Plaza in Caldwell, ID (served by the waterfront Indian Creek Trail), **A DOZEN NEW BUSINESSES** opened in the area and **CALDWELL HAS DOCUMENTED NEARLY A 300% INCREASE IN PEDESTRIAN TRIPS**

Source: KIVI Boise, One Year Later Indian Creek Plaza, 2019

Bicyclists Spend More

Customers who arrive by automobile spend the most per visit across all of the establishments, but **CYCLISTS SPEND THE MOST PER MONTH**.

Source: Clifton, Morrissey & Ritter, 2012



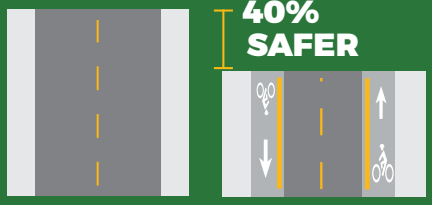
Bike Tourism is Big Business

Cities can capture substantial sales revenue by establishing themselves as regional destinations for cyclists. One 2012 study of Oregon's tourism economy estimated that **BICYCLE TOURISM GENERATES APPROXIMATELY $400 MILLION IN SALES REVENUE** statewide per year.

Source: The Oregon Bicycle Travel Survey, 2012

SAFETY BENEFITS

Streets with Bike Infrastructure are Safer



Bicycling in a dedicated bike facility, like a bike lane, is safer than riding on streets without bike facilities.

Source: NYC DOT "The NYC Pedestrian Safety

The City of Denver experienced a

37% **REDUCTION IN SIDEWALK RIDING**

on one street after installing a bikeway & a

47% **INCREASE IN BICYCLISTS**

Source: The City & County of Denver Public Works, 2013

New York City experienced a

56% **REDUCTION IN INJURIES**

to all roadway users after installing separated bike lanes.

Source: NYC DOT "Measuring the Street", 2012

Safety in Numbers

The likelihood that a person walking or bicycling will be struck by a motorist **DECREASES AS THE # OF PEOPLE WALKING AND BICYCLING INCREASES.**

Source: Jacobsen, PL. "Safety in Numbers". 2003.

El Dorado County Active Transportation Plan Benefits

HEALTH BENEFITS

Walkable Neighborhoods Encourage Walking

Residents of **WALKABLE COMMUNITIES** are **2x** as **LIKELY TO MEET PHYSICAL ACTIVITY GUIDELINES** compared to those who do not live in walkable neighborhoods

Source: Frank, Lawrence D. et al. (2004) Obesity relationships with community design, physical activity, and time spent in cars. American Journal of Preventive Medicine .

Walking & Biking are Healthy Activities

20 MINUTES OF WALKING OR BIKING each day is associated with **21% LOWER RISK OF HEART FAILURE FOR MEN** and **29% LOWER RISK FOR WOMEN**

Source: Rahman, I., Bellavia, A., & Wolk, A. (2014). Relationship Between Physical Activity and Heart Failure Risk in Women.

Walking & Biking Improve Brain Function

Youth who engage in **60 MINUTES** of moderate to vigorous **PHYSICAL ACTIVITY** daily have **BETTER COGNITIVE PROCESSING, ATTENTION SPANS, ACADEMIC PERFORMANCE AND SELF-ESTEEM**

Source: Institue of Medicine

Walking Is Good for Mental Health

30 MINUTES OF WALKING per day can **REDUCE ANXIETY AND THE RISK OF DEPRESSION**

Sharma, A., Madaan, V., & Petty, F. D. (2006). Exercise for Mental Health. Primary Care Companion to The Journal of Clinical Psychiatry.

ENVIRONMENTAL BENEFITS

Walking & Biking Don't Pollute

BIKING 2 MILES, rather than driving, **AVOIDS EMITTING 2 lbs OF POLLUTANTS**, which would take 1.5 months for one tree to sequester.

Source: EPA, 2000

Walking & Biking Facilities Don't Require A Lot of Space

Nearly **1/3** of all developed land is dedicated to roads. Because of the smaller operator and vehicle footprint of people walking & bicycling, not only does **DEMAND FOR STREETS AND PARKING DECREASE BUT ALSO THE AMOUNT OF ROAD SPACE REQUIRED**

Source: Hashem Akbari, L. Shea Rose and Haider Taha (2003), "Analyzing The Land Cover Of An Urban Environment

QUALITY OF LIFE BENEFITS

Walkability & Short Commutes Are Important to People

In a national survey,

70%

of respondents reported that **WALKABILITY AND A SHORT COMMUTE ARE IMPORTANT** when deciding where to live.

88% of respondents who were living in areas **WHERE THEY COULD WALK TO DESTINATIONS** reported being **MORE SATISFIED WITH THEIR QUALITY OF LIFE.**

Source: The National Association of Realtor's Community and Transportation Preferences Survey

Relationship to Other Documents

EL DORADO COUNTY BICYCLE TRANSPORTATION PLAN (2010)

The 2010 Bicycle Transportation Plan update provided a blueprint for a comprehensive bicycle transportation system throughout the western slope of the county, while acknowledging the health, environmental, economic, and quality of life benefits of increased bicycling. In addition to identifying infrastructure projects, it noted the importance of education programs and encouragement events to increase the number of people bicycling and improve safety. The Plan identified four main themes to incorporate into its goals and policies:

- Commuting by bicycle should be developed as a viable alternative to driving, including to employment hubs outside El Dorado County
- Safety is a priority, including educating bicyclists on safe riding, educating drivers on the rights of bicyclists, improving safety at intersections and crossings, and maintaining safe bicycle access during construction and maintenance projects
- Implementing and maintaining bicycle facilities to efficiently use limited resources and support an acceptable quality of condition
- Integrating land use planning and multimodal connections with bicycle transportation planning

EDCTC ACTIVE TRANSPORTATION CONNECTIONS STUDY (2017)

The El Dorado County Transportation Commission prepared a study to develop a custom tool to prioritize projects within El Dorado County. This tool incorporated seven common metrics used for evaluation in competitive grant programs. This tool was used in this study to help prioritize projects based on local conditions.

EL DORADO COUNTY GENERAL PLAN (2004)

The El Dorado County General Plan, adopted in 2004 and amended August 6, 2019, provides for the long-range direction and policy for the use of land within El Dorado County. The Plan includes a series of eight vision statements; two statements are directly related to transportation: (3) “Make land use decisions in conjunction with comprehensive transportation planning and pursue economically viable alternative transportation modes, including light rail. Adopt a Circulation Element providing for rural and urban flows that recognize limitations of topography and natural beauty with flexibility of road standards” and (7) “Improve and expand local park and recreational facilities throughout the County.”

The Transportation and Circulation Element describes non-motorized transportation as being composed of the local and regional bikeways and trails within El Dorado County. The plan states that the area's low-density development pattern and lack of investment in bicycle and pedestrian facilities plays a major role in the small numbers of pedestrians and bicyclists, especially for commute purposes. Most active transportation trips within the County are for recreational or social purposes.

EL DORADO COUNTY AND CITY OF PLACERVILLE BICYCLE AND PEDESTRIAN SAFETY ASSESSMENT (2015)

The 2015 Safety Assessment was conducted to analyze pedestrian safety, enhance walkability and bikeability, and increase accessibility for pedestrians and bicyclists in unincorporated El Dorado County and Placerville. Priorities from the Assessment include:

- Reduce pedestrian- and bicycle-involved collisions
- Continue to seek funding for and support Safe Routes to Schools programming
- Improve bicycle parking
- Improve pedestrian and bicyclist safety
- Improve economic vitality
- Increase accessibility

The Assessment lists four focus areas in unincorporated El Dorado County:

- Pleasant Valley Road in Diamond Springs (Class II lanes and pedestrian enhancements)
- US-50 bicycle and pedestrian overcrossing in El Dorado Hills
- El Dorado Hills Boulevard/St Andrews Drive/Governor Drive intersection in El Dorado Hills (intersection redesign with bike path integration and pedestrian enhancements)
- New York Creek Bike Path at Silva Valley Parkway in El Dorado Hills (Class I path)

The Assessment also lists four focus areas in Placerville:

- US-50/Bedford Avenue and El Dorado Trail (increase trail connectivity)
- US-50/Spring Street (SR-49) (crossing and signal improvements)
- Main Street/Spring Street (US-49) and Main Street/Pacific Street (US-49) intersections (crossing improvements)
- Main Street/Canal Street and US-50/Canal Street intersections (crossing improvements and intersection design changes)

Summary

El Dorado County is well positioned to increase walking and bicycling for transportation. It has a mild climate most of the year and has a large network of existing bicycle facilities with a growing network of on-street bikeways and off-street shared-use paths. As the El Dorado Trail and US 50 Corridor Bike Routes are implemented, users will be able to experience El Dorado County on a comfortable, low-stress, off-street facility that will connect various communities in the County.

These investments will provide a foundation upon which the County can continue to build a high-quality countywide network for bicycling and walking—one that is accessible and comfortable for everyday use by residents and visitors of all ages and abilities.

Included in this Plan is an evaluation of existing conditions in El Dorado County, recommended goals and strategies to enact to make El Dorado County more bicycle and pedestrian friendly, as well as recommended programs and infrastructure improvements to help make bicycling and walking easier and safer. This Plan also includes a prioritization tool to help identify high-priority projects, as well as available funding sources to implement these recommended improvements.

CHAPTER 2: BACKGROUND & EXISTING CONDITIONS

Local Context

The planning area for this Active Transportation Plan (Plan) for El Dorado County encompasses the unincorporated areas of the western slope of El Dorado County, from approximately Kyburz to the Sacramento County line, excluding the incorporated City of Placerville. The City of Placerville, as El Dorado County's only incorporated municipality, oversees transportation improvements within its administrative boundaries. This Plan covers the area that is consistent with the planning boundaries of the El Dorado County Transportation Commission (areas of the county within the Lake Tahoe basin are under the authority of the Tahoe Regional Planning Agency and not included in this plan). A separate Active Transportation Plan has been prepared for the City of Placerville, which is the only incorporated city within the planning area.

The west part of the county has a suburban character, transitioning to mountain rural in the higher eastern elevations. The overall planning area has 153,000 residents, according to 2017 data from the U.S. Census Bureau. Overall, county population density is low, with the highest densities within the unincorporated community of El Dorado Hills and the City of Placerville.

Median household incomes vary widely among the planning area. The highest median incomes are within the communities of El Dorado Hills and Cameron Park, while the lower median incomes are dispersed amongst the lower population density areas.

TRANSPORTATION PATTERNS

Despite wide variations in income levels across the EDCTC planning area, more than 98 percent of workers have access to at least one vehicle.

Nearly 80 percent of workers in the EDCTC area drive alone to work, according to 2016 five-year estimates from the American Community Survey. Just one percent walk to work, and 0.2 percent bicycle, as shown in Figure 2-1.

The distribution of active transportation participation can be found in Figure 2-5 on page 18.

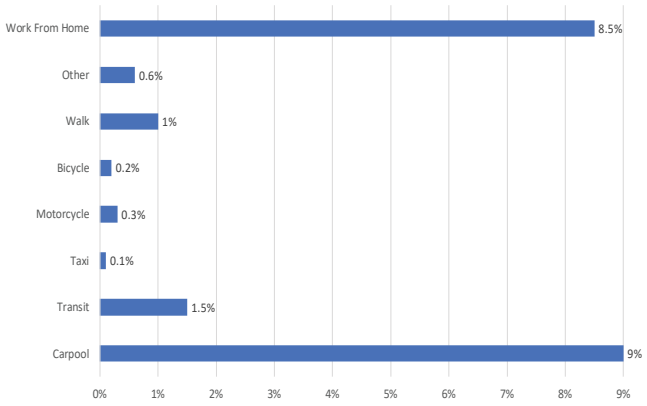


Figure 2-1: EDCTC Mode of Transportation to Work Other Than Driving Alone

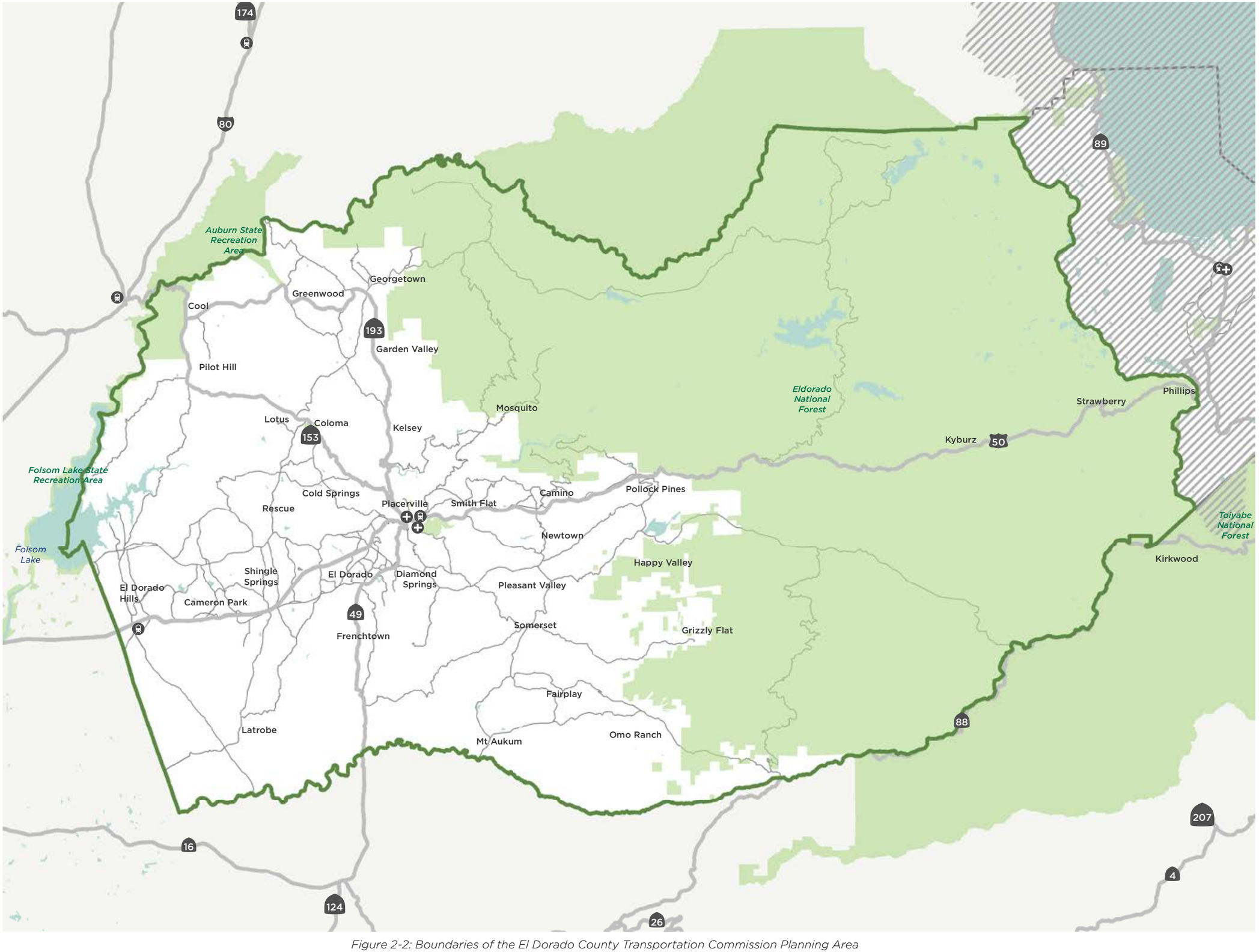
EL DORADO COUNTY TRANSPORTATION COMMISSION PLANNING AREA

El Dorado County, CA

EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Destinations + Boundaries

- Hospital
- Transit Center
- Park
- Water
- El Dorado County
- El Dorado County Transportation Commission Planning Area
- Tahoe Regional Planning Agency Boundary



0 3 6 MILES

Map produced September 2018.
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 2-2: Boundaries of the El Dorado County Transportation Commission Planning Area

POPULATION DENSITY

El Dorado County, CA

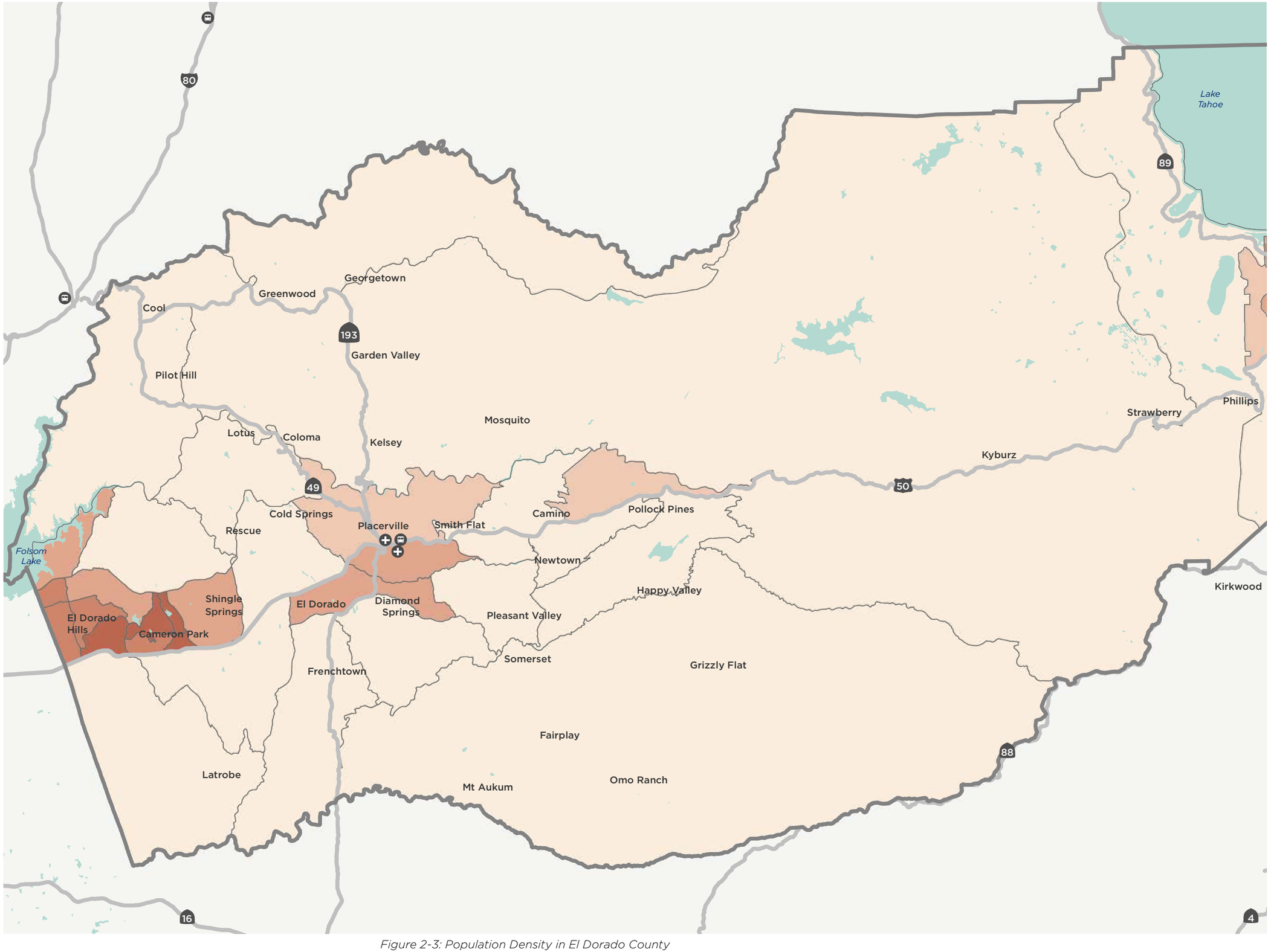
EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Population per Square Mile

- Less than 250
- 250 to 600
- 600 to 1,200
- 1,200 to 2,400
- 2,400 to 5,205

Destinations + Boundaries

- Hospital
- Transit Center
- Water
- Census Tract
- El Dorado County



0 2.5 5 MILES

alta PLANNING + DESIGN

Map produced September 2018.
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 2-3: Population Density in El Dorado County

DENSITY OF WORKERS PER SQUARE MILE

El Dorado County, CA

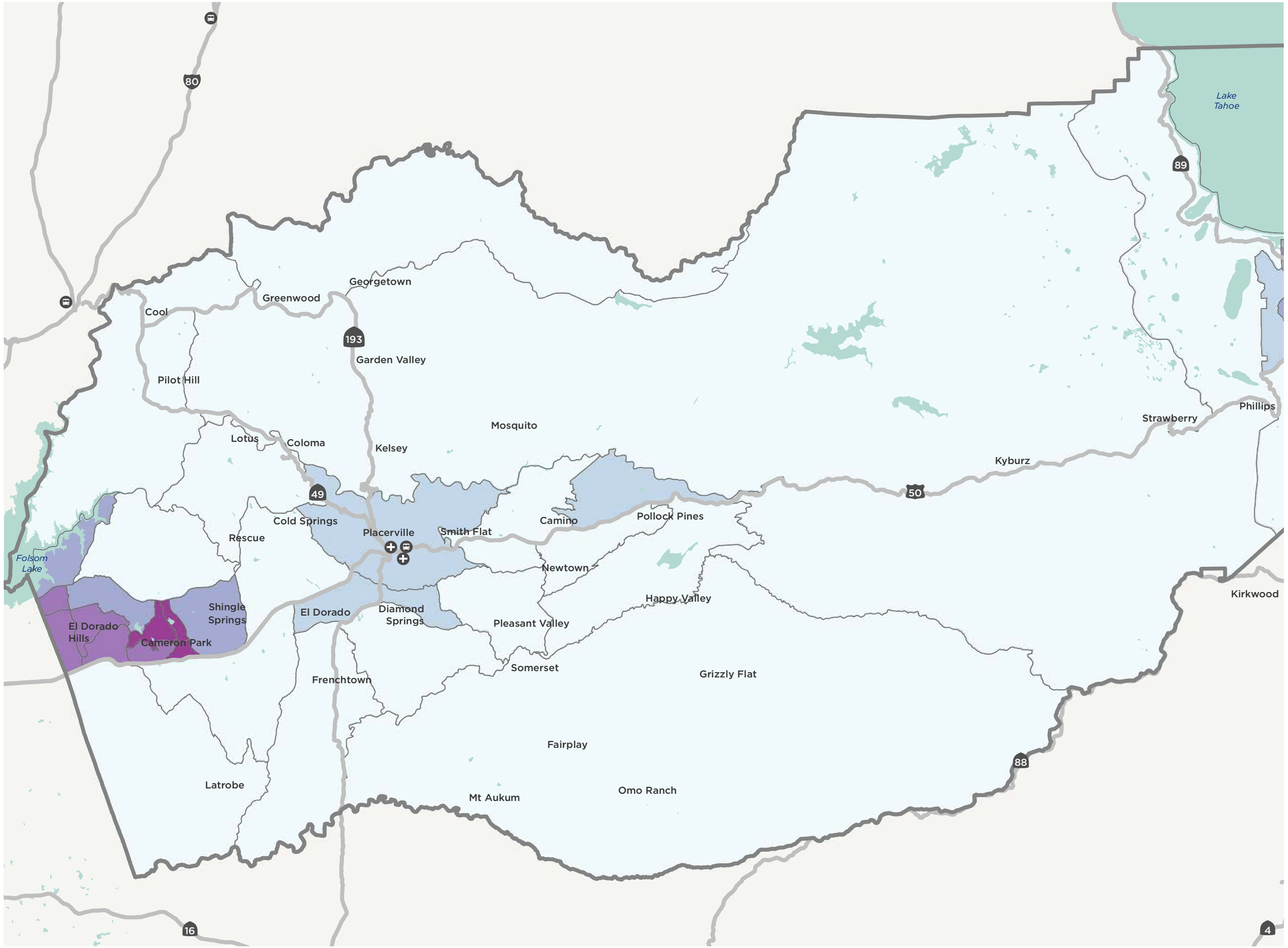
EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Workers per Square Mile

- Less than 100
- 100 to 300
- 300 to 600
- 600 to 1,200
- 1,200 to 2,400

Destinations + Boundaries

- Hospital
- Transit Center
- Water
- Census Tract
- El Dorado County



0 2.5 5 MILES

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Map produced September 2018.
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 2-4: Worker Density in El Dorado County

ACTIVE TRANSPORTATION TO WORK

El Dorado County, CA

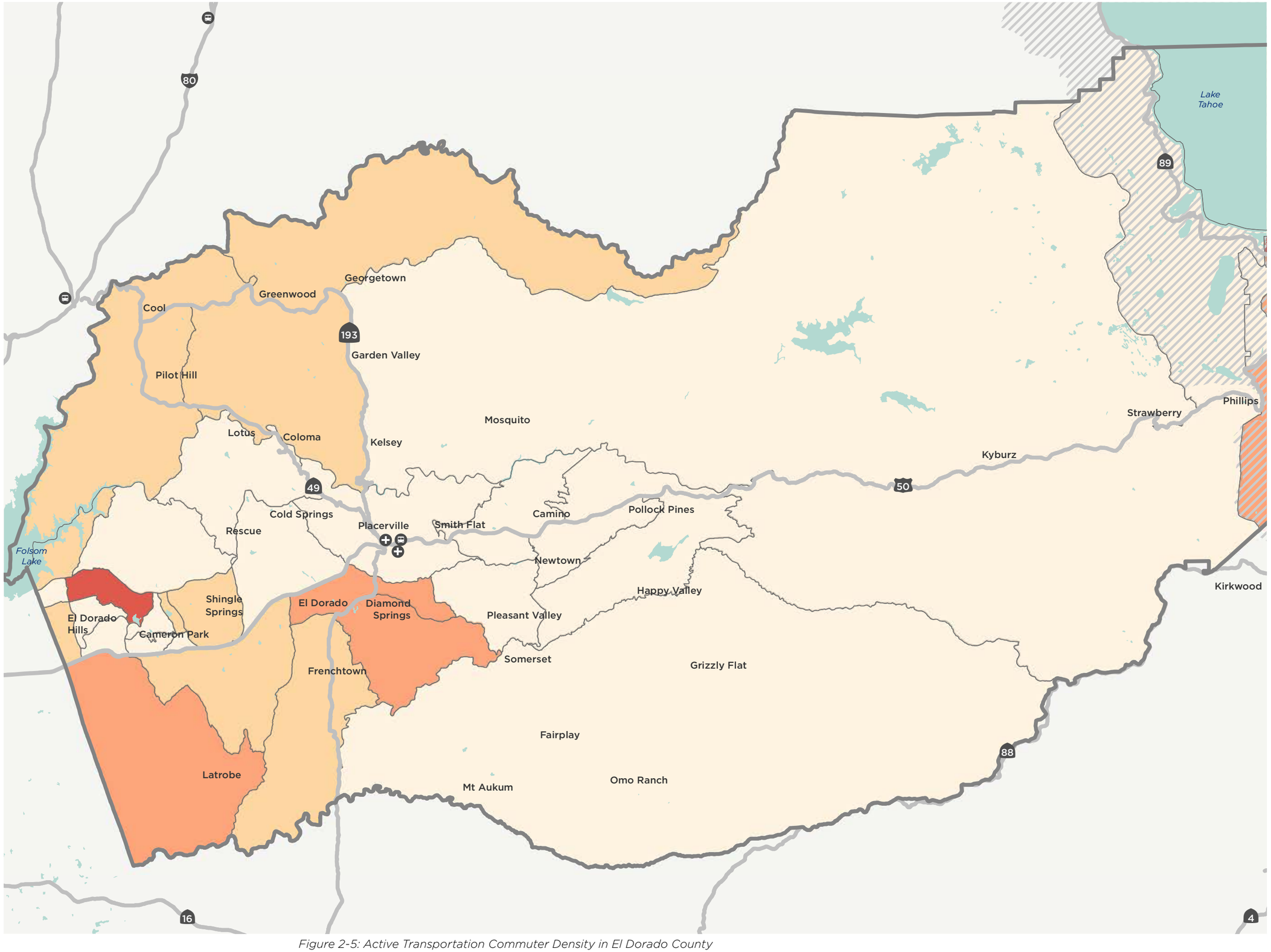
EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Walk or Bike to Work (per Census Tract)

- Less than 20
- 20 to 60
- 60 to 120
- 120 to 420

Destinations + Boundaries

- Hospital
- Transit Center
- Water
- TRPA Boundary
- Census Tract
- El Dorado County



0 2.5 5 MILES

Map produced January 2019.
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 2-5: Active Transportation Commuter Density in El Dorado County

CALIFORNIA HEALTHY PLACES INDEX

California Healthy Places Index (CHPI) was developed by the Public Health Alliance of Southern California (Alliance) in partnership with the Virginia Commonwealth University's Center on Society and Health, to help communities prioritize public and private investments, resources and programs. HPI measures a number of indicators that relate to public health, including several related to transportation and air quality.

The California Healthy Places Index (CHPI) measures a number of indicators that relate to public health, including several related to transportation and air quality. Data is available for counties[1] and incorporated cities, as well as unincorporated community areas. With this index, a high score denotes a healthy community relative to other communities in California, and a low score denotes the community is impacted by poor health as measured by the provided criteria. For each geography, indicators also include a percentile showing how they compare to other counties or communities in California.

For this Active Transportation Plan, indicators related to transportation and air quality provide insight into a region's current active transportation activity as well as the need for investment in transportation facilities that support improved air quality by reducing vehicle trips.

Active Commuting measures the percent of workers age 16 and older who commute to work by transit, walking, or bicycling, using 2015 five-year estimates from the American Community Survey.

Access to Vehicles measures the percent of households that have access to one or more vehicles, using 2015 five-year estimates from the American Community Survey.

Clean Air – Ozone measures the average daily eight-hour maximum ozone concentration in parts per million during summer months (May to October), averaged over three years from 2012 to 2014. Data is from CalEnviroScreen 3.0.

Clean Air – PM2.5 measures average annual concentration of particulate matter in micrograms per cubic meter. Data is from CalEnviroScreen 3.0.

EL DORADO COUNTY

Overall, the CHPI score for El Dorado County places it in the 83.9 percentile for California counties. Scores for unincorporated communities within the planning area generally fall into three clusters on the Index. El Dorado Hills ranked relatively high, with an overall score in the 93.2 percentile. Cameron Park, Camino, Coloma, and Shingle Springs are close to the countywide score, falling between the 71.7 and the 77.2 percentiles. Diamond Springs, Pollock Pines, and Georgetown are all in the lowest half of communities for overall health scores, falling between the 39.3 and the 48.6 percentiles.

Among the four indicators most relevant to this Active Transportation Plan, El Dorado County fell below the 50th percentile for both Active Commuting (44.6 percentile) and Clean Air – Ozone (21.4 percentile).

CALENVIROSCREEN

The California Office of Environmental Health Hazard Assessment developed the CalEnviroScreen tool to help identify communities that are disproportionately burdened by multiple sources of pollution. It combines pollution data (such as ozone concentrations and drinking water contaminants) with population indicators (such as birth weight and educational attainment).

This is also a tool used in California's Active Transportation Program grant application scoring. Communities that score in the most burdened 25% of the state are considered to be disadvantaged and receive a small advantage in the competitive funding process. No communities in El Dorado County meet this threshold.

Existing Bicycling and Walking Network

BICYCLE FACILITIES

The California Department of Transportation (Caltrans) defines four classes of bicycle facilities:

- Class I Shared Use Path
- Class II Bicycle Lane
- Class III Bicycle Route
- Class IV Separated Bikeways

Definitions and examples of these facilities can be found on the following pages.

Class I Shared Use Paths are paved trails completely separated from the street or highway. They allow two-way travel for people bicycling and walking, and are often considered the most comfortable facilities for children and inexperienced bicyclists because there are few potential conflicts between people bicycling and people driving.

Several examples of Class I paths exist in El Dorado County today including the following:

- The paved portion of the New York Creek Trail
- Along segments of El Dorado Hills Boulevard
- Along segments of Silva Valley Parkway
- The Northside School Bike Path in Cool

Example of a Class I facility

The New York Creek Trail, a Class I Shared Use Path in El Dorado County

Class II Bicycle Lanes are striped preferential lanes on the roadway for one-way bicycle travel that include pavement stencils and signs. Some bicycle lanes include a striped buffer on one or both sides to increase separation from the traffic lane or from parked cars, where people may open car doors into the bicycle lane.

Variations of the Class II Bicycle Lane are the **Uphill Climbing Lane**, where due to narrow roadway width, a Class II facility is installed in the uphill traveling direction to give bicyclist additional protection and the **Buffered Bike Lane**, where painted buffers increase the distance between bicyclists and drivers.

Some short segments of bicycle lanes exist in El Dorado County near Placerville and in El Dorado Hills.

Class III Bicycle Routes are signed routes where people bicycling share a travel lane with people driving. Because they are shared facilities, bicycle routes are best suited for low-speed streets with relatively low traffic volumes or on higher-speed roadways that include a wide outside lane or shoulder to accommodate safe passing. Class III bicycle routes include shared lane markings or "sharrows" that encourage proper bicyclist positioning in the travel lane and alert drivers that bicyclists may be present.

Advisory Shoulders are signed roadways where bicyclists are to travel in the shoulder when they are not being used for parking.

Class III bike routes have been designated in some areas of El Dorado County.

Example of a Class II Bicycle Lane

Example of a Class III Bicycle Route

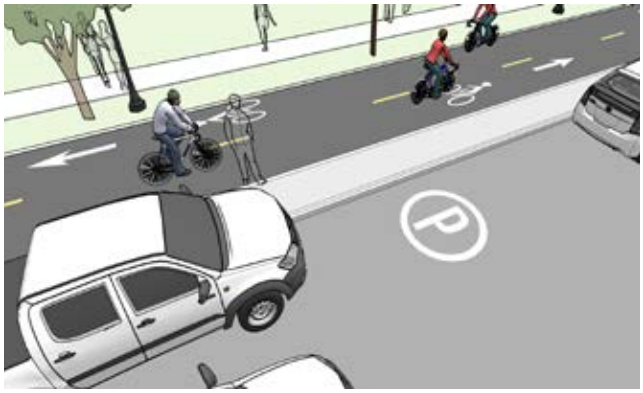
Example of a Class II Bicycle Lane in El Dorado Hills

Example of a Class III Bicycle Route

Class IV Separated Bikeways are on-street bicycle facilities that are physically separated from motor vehicle traffic by a vertical element or barrier such as a curb, bollards, or parking aisle. They can allow for one- or two-way bicycle travel on one or both sides of the roadway.

No Class IV bikeways currently exist in El Dorado County.

In addition to these formally designated bikeways, bicyclists often use wide shoulders on state highways or county roads to travel between communities in El Dorado County. An inventory of shoulder conditions was conducted for the 2010 Bicycle Plan. In some cases, sufficiently wide shoulders may create opportunities for low-cost implementation of Class II Bicycle Lanes. A table of this inventory is included as Appendix A.



Example of a Class IV Bicycle Facility

Example of a Class IV Bicycle Facility

PEDESTRIAN FACILITIES

Conducting a sidewalk audit of priority areas in El Dorado County was part of this planning process. Currently, sidewalks and marked crosswalks exist primarily in El Dorado HIlls and some areas of unincorporated El Dorado County.

COMPLETED ACTIVE TRANSPORTATION PROJECTS

Since the adoption of the 2010 El Dorado County Bicycle Transportation Plan, the following active transportation projects have been completed in the EDCTC planning area:

- Northside School Bike Path in Cool
- Extension of the El Dorado Trail between Los Trampas and Halcon Road in Camino
- Extension of the El Dorado Trail between Missouri Flat Road and El Dorado Road
- Phase 2 of the US 50 and Missouri Flat Road Interchange Class I facility between Missouri Flat Road and Placerville Drive
- Silva Valley Bike Path and Bike Lanes project in El Dorado Hills
- New York Creek Trail Phases 1 and 2 in El Dorado Hills
- Class II Bike Lanes on SR 49 in Coloma
- Class II Bike Lanes on Cameron Park Drive in El Dorado Hills
- Class I Shared Use Path adjacent to El Dorado Hills Boulevard in El Dorado Hills
- El Dorado Trail at Missouri Flat Road Shared Use Overcrossing – Design and Environmental Phases
- Class II Bike Lanes on Green Valley Road in El Dorado Hills
- Harvard Way Bike Path project in El Dorado Hills
- Class II Bike Lanes on Latrobe Road in Latrobe
- Class I Bike Path adjacent to Latrobe Road in Latrobe
- Class II Bike Lanes on Saratoga Way in El Dorado Hills
- Class II Bike Lanes on White Rock Road
- Class III Bike Route Signage on Big Cut Road, Pleasant Valley to Pacific Street in Placerville; Green Valley Road, North Shingle Road to Cameron Park Drive; Deer Valley Road, entire length; Malcolm Dixon Road, Green Valley to Salmon Falls Road; and Hollow Oak Road, Bass Lake to Ore Cart Court.

BICYCLE AND PEDESTRIAN RELATED COLLISIONS

Data on bicycle- and pedestrian-related collisions can provide insight into locations or roadway features that tend to have higher collision rates, as well as behaviors and other factors that contribute to collisions. Collision data involving people walking and bicycling was acquired from the UC Berkeley Transportation Injury Mapping System (TIMS). TIMS was used to analyze collision trends due to its comprehensive database that includes collision data from all law enforcement agencies across the state. This provided a complete picture of all reported collisions within the study area. However, TIMS typically only includes fatal or injury collisions reported on roadways. Collisions on Class I facilities will not be reflected in this dataset, or may be reflected on the nearest roadway. Five years of data were evaluated, from 2013 through 2017.

A total of 2,649 reported collisions occurred in the EDCTC planning area during the five-year period, 52 of which involved a person riding a bicycle (1.9%) and 49 of which involved pedestrians (1.8%). On average during the five-year period, there were 10.4 collisions involving a bicycle and 9.8 collisions involving a pedestrian. Figure 2-6 shows annual totals of bicycle and pedestrian collisions in the County during the five-year period.

Bicycle and pedestrian collisions tend to be concentrated along highways and in populous areas, likely due to higher speeds and increased activity in these locations. The single fatal bicycle collision recorded in the dataset occurred on Pony Express Trail, which parallels Highway 50 in Pollock Pines. That collision was attributed to a driver under the influence of drugs or alcohol who struck and killed the bicyclist. An additional fatal collision involving a person riding a bicycle at the intersection of Alexandra and Beatty Drives was reported by agency stakeholders, but is not included in the data.

Most of the bicycle collisions occurred along roads that do not have existing bicycle facilities. Many of the pedestrian collisions happened at, or near, intersections, primarily in populated areas.

Pedestrian and bicycle collision hotspots are concentrate along Green Valley Road, along El Dorado Hills boulevard, along Cameron Park Drive, and along Missouri Flat Road in Diamond Springs.

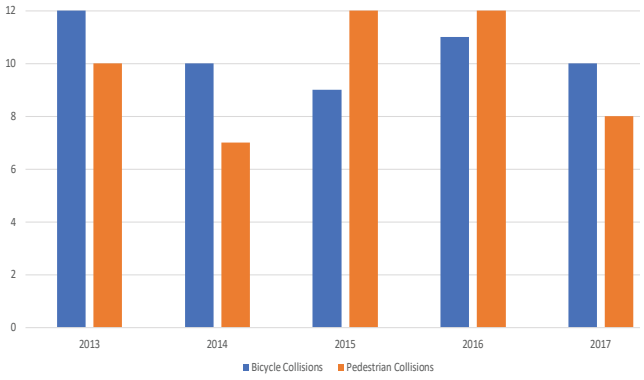


Figure 2-6: EDCTC Annual Bicycle and Pedestrian Collisions

BICYCLE COLLISIONS

During the five year study period, the data show 52 reported collisions in the EDCTC planning area involved a person riding a bicycle. Of these, one was fatal and 12 resulted in severe injuries (Figure 2-7).

More than 80 percent of collisions occurred during daylight hours, and an additional eight percent occurred at night where street lights were present and functioning.

Bicyclists were determined to be at fault in 27 of the 52 collisions reported during the study period. The most common bicyclist violation was riding on the wrong side of the road, which can suggest a lack of adequate bicycle facilities, a lack of safe crossing opportunities, or a need for education on safe bicycling.

Drivers were determined to be at fault in 18 of the 52 bicycle involved collisions during the study period. The most common violation was failing to yield the right of way.

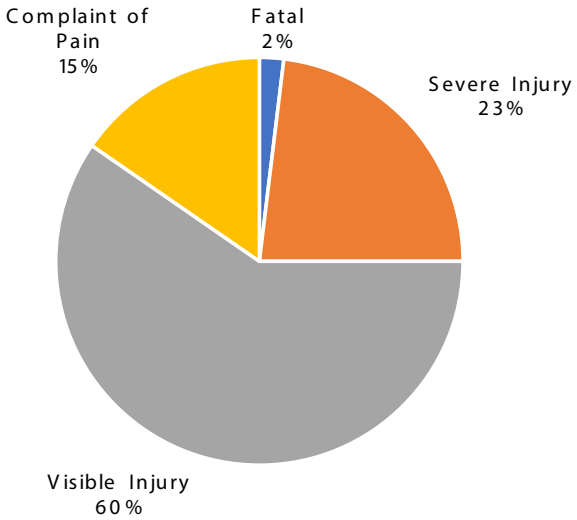


Figure 2-7: EDCTC Bicycle Collision Severity

PEDESTRIAN COLLISIONS

There were 49 collisions in the EDCTC planning area involved a pedestrian during the five year study period. Of these, three collisions were fatal, while 13 resulted in severe injuries (Figure 2-8).

Almost two-thirds (58%) of the pedestrian collisions occurred during daylight hours. A third of the pedestrian collisions occurred at night where street lights were present and functioning. This can suggest a lack of safe, marked crossings for the pedestrians near the location of the collision.

Pedestrians were determined to be at fault in 22 of the 49 collisions. Those collisions were all under the umbrella of Pedestrian Violation, terms commonly used to describe collisions with pedestrians crossing at unmarked crossings. This often suggests a lack of adequate crossings or pedestrian facilities.

Drivers were determined to be at fault in 18 of the 49 collisions. The most common violations were unsafe speed and failure to yield to pedestrians.

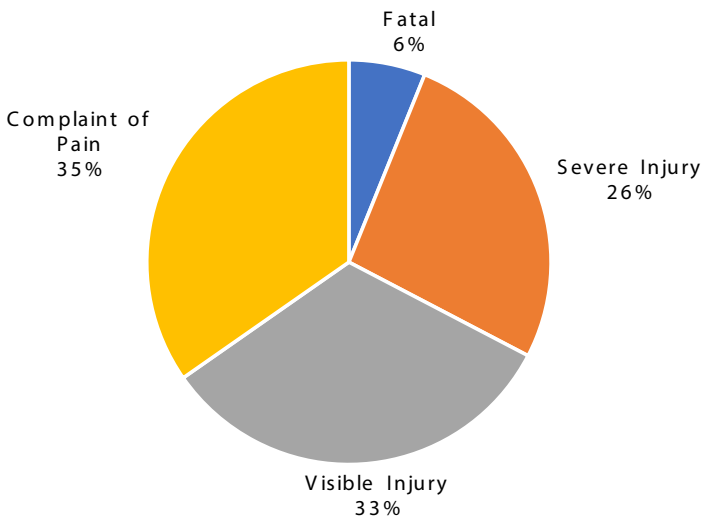


Figure 2-8: EDCTC Pedestrian Collision Severity

BICYCLE AND PEDESTRIAN COLLISIONS

El Dorado County, CA

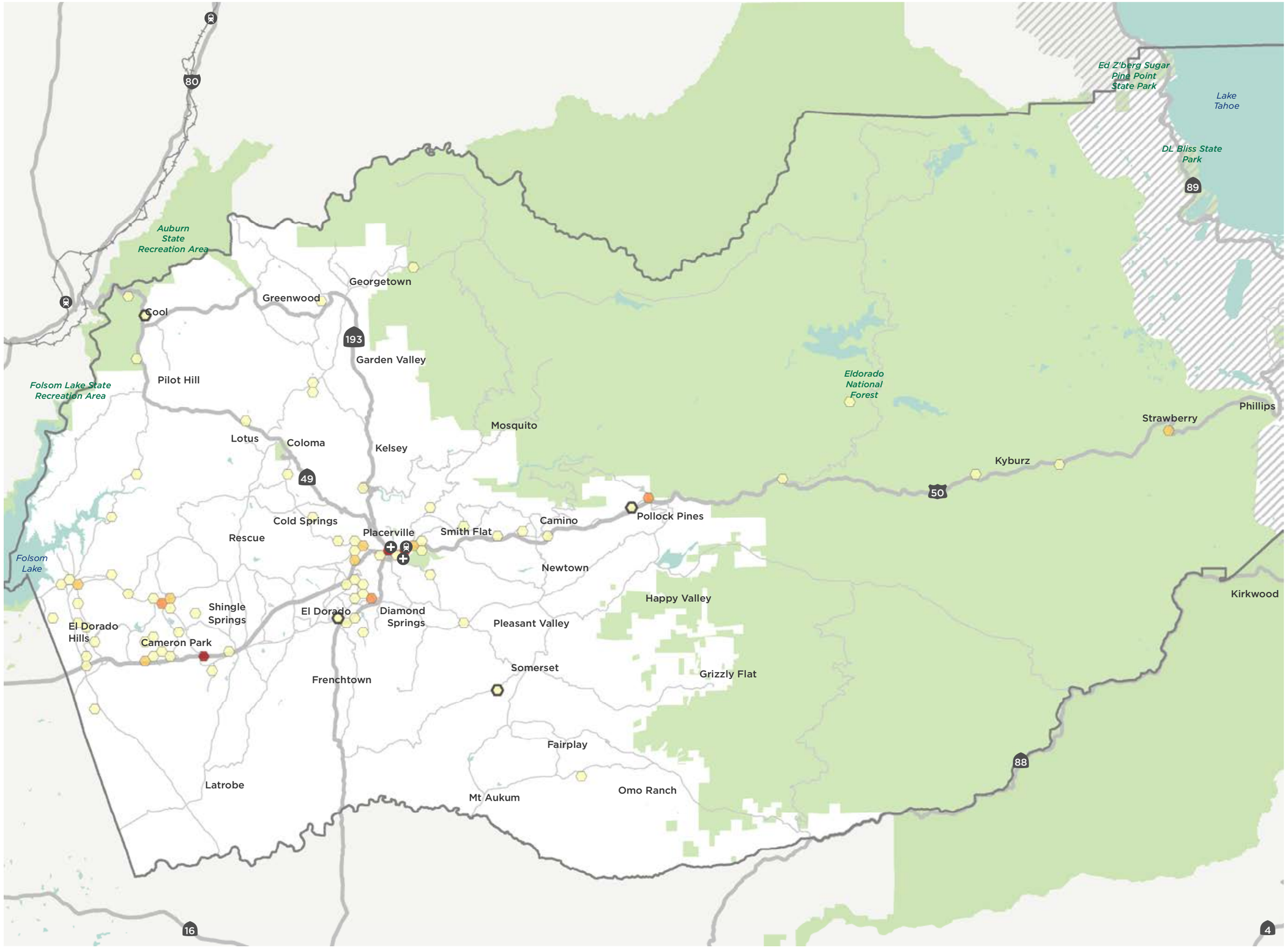
EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Collisions per Hexagon (2013 - 2017)

- 1 Collision
- 2 Collisions
- 3 Collisions
- 4 to 5 Collisions
- Fatality

Destinations + Boundaries

- Hospital
- Transit Center
- Park
- Water
- TRPA Boundary
- El Dorado County



0 2.5 5 MILES

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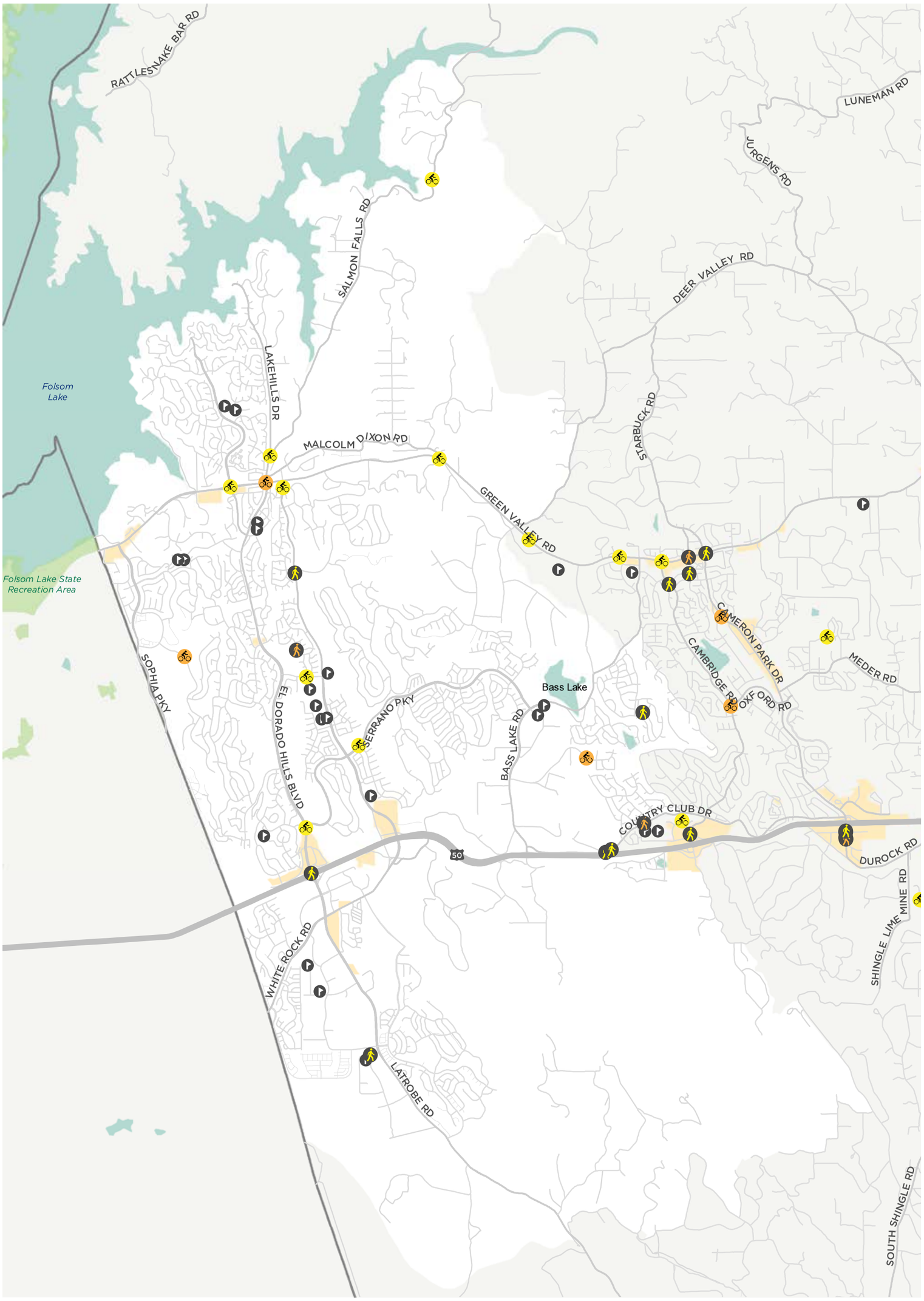
Map produced January 2019.
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 2-9: Collisions involving Bicyclists and Pedestrians in El Dorado County



BICYCLE AND PEDESTRIAN COLLISIONS

El Dorado Hills, CA

EL DORADO COUNTY AND CITY OF PLACERVILLE ACTIVE TRANSPORTATION PLANS

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Map produced January 2019.
Sources: El Dorado County, Caltrain, Esri, US Census, UC Berkeley TIMS

Bicycle Collisions (2013 - 2017)
- Severe Injury
- Minor Injury

Pedestrian Collisions (2013 - 2017)
- Severe Injury
- Minor Injury

Destinations + Boundaries
- Hospital
- School
- Transit Center
- Park
- Commercial Area
- Water

0 0.5 1 MILES

Figure 2-10: Collisions involving Bicyclists and Pedestrians in El Dorado Hills

Existing Active Transportation Programs in El Dorado County Sponsored by the County or Partner Agencies

Ready, Set, Ride

El Dorado County encourages residents to drive alone less during the last week of October and instead opt to walk, bike, take transit, or carpool. This effort is a part of a larger regional campaign to increase the use of alternative transportation, specifically biking and walking.

May is Bike Month

May is Bike Month is a national campaign to get more people to enjoy the benefits of bicycling by promoting and supporting cycling events during the month of May. El Dorado County has been participating in this annual campaign since 2005.

Bicycle Rodeos

California Highway Patrol conducts educational events called Bicycle Rodeos. These events are conducted at least once a year, when it is possible. The educational program includes bicycle inspections, safety and helmet use walkthroughs, and ends with participants riding through an obstacle course.

Sheriff's Office Educational Programs

The Sheriff's Office conducts educational and safety events. These programs teach participants general knowledge of bicycles, mechanical safety, basic laws around cycling, and a riding skills event.

Car-Lite October Campaign Program

In 2018, Well Dorado launched a regional program to increase awareness about carpooling, teleworking, taking transit, biking, and walking. Participants pledge to reduce their driving during the month of October. In the campaign's first year, participants pledged to reduce their driving by a collective total of 127,000 miles.

Walk to School Day

National Walk to School Day is a campaign to incentivize and encourage students to Walk to School to show parents and students the benefits of active transportation.

May is Bike Month participants

Walk to School Day participants

CHAPTER 3: VISIONS, GOALS & STRATEGIES

The Active Transportation Plan vision, goals, objectives, and strategies were developed with input from the Stakeholder Advisory Committee. They are intended to address the active transportation needs and to provide guidance and strategies to support the active transportation mode. Within this Chapter these elements are presented by topic area and are not presented in any prioritized manner. Active transportation projects will be considered by the County where needs exist and there is available funding to deliver and maintain the improvements that will serve as a viable transportation alternative.

El Dorado Trail users enjoying the benefits of active transportation on a nice day in El Dorado County.

VISION

El Dorado County aims to be a healthy, safe, and thriving region where walking and bicycling are increasingly feasible options for travel, providing people of all ages and abilities safe, convenient, and accessible multi-modal transportation options.

A bicyclist on the El Dorado Trail enjoying the mobility of an active transportation system that allows them to safely and comfortably access different parts of the county.

GOALS

1. **Safety**: Design bicycle and pedestrian facilities that are safe, accessible and comfortable for people of all ages and abilities.
2. **Health**: Provide people of all ages and abilities with access to walking and bicycling facilities to improve health and enhance quality of life.
3. **Connectivity**: Identify, develop, and maintain a connected, safe and convenient bicycle and pedestrian network that meets the needs of commuters and recreational users of all skill levels.
4. **Funding and Implementation**: Identify and pursue local, county, regional, state and federal programs that would fund bicycle and pedestrian capital improvements and programs.

Objectives & Strategies

GOAL 1: SAFETY

Provide bicycle and pedestrian facilities that are safe, accessible and comfortable for people of all ages and abilities.

Objective 1.1: Improve safety for people walking and bicycling through education and enforcement programs.

- **Strategy 1.1.1:** Work with local law enforcement agencies, EDCTC, schools, and other partners to develop and provide bicycling and walking education to school children in El Dorado County.
- **Strategy 1.1.2:** Work with EDCTC and other partners to maintain a bike map that includes information on safe bicycling behavior.
- **Strategy 1.1.3:** Work with EDCTC to develop an online or printed brochure to educate people of all ages and abilities on how to bicycle safely and drive motorized vehicles with an awareness of bicyclists and pedestrians. Share this information with driver education providers and high schools, and post information on the EDCTC, El Dorado County and City of Placerville websites.

Objective 1.2: Proactively address safety for people walking and bicycling at potential conflict locations.

- **Strategy 1.2.1:** Review the number, locations, and contributing factors of bicycling related collisions to identify and implement ongoing improvements at key locations throughout the transportation network.
- **Strategy 1.2.2:** Enhance the visibility and safety of crossings through enhanced visibility of Class I Shared Use Path crossings, proper marking of Class II bicycle lanes at intersection approaches, and clear marked crosswalks for pedestrians.
- **Strategy 1.2.3:** EDCTC to use performance measures from the El Dorado County Active Transportation Connections Study to understand and develop solutions to barriers to safe pedestrian and bicycle transportation. The County will take this project prioritization into consideration as funds become available.
- **Strategy 1.2.4:** Work to address safety challenges identified by El Dorado County residents and as reported in the El Dorado County Active Transportation Connections Study Survey, and identified in the El Dorado County Bicycle and Pedestrian Safety Assessments.

- **Strategy 1.2.5:** Increase the number of streets in El Dorado County and its communities that are pedestrian and bicycle friendly by closing gaps in the existing active transportation network and providing bicycle and pedestrian amenities in new developments whenever feasible.
- **Strategy 1.2.6:** Analyze the best practices, new technologies, and innovations in active transportation facilities and safety improvements to determine what can be applied in El Dorado County.
- **Strategy 1.2.7:** Encourage retrofit projects on substandard bicycling and walking facilities to meet or exceed most recent design standards.
- **Strategy 1.2.8:** Coordinate with Caltrans to address safety concerns and provide safe and comfortable bicycle and pedestrian facilities on Caltrans maintained facilities in the County.

GOAL 2: HEALTH

Provide people of all ages and abilities with access to walking and bicycling facilities to improve health and enhance quality of life.

Objective 2.1: Increase walking and bicycling as transportation modes to improve air quality and public health.

- **Strategy 2.1.1:** Work to increase the percent of adults in El Dorado County that walk at least 150 minutes per week for transportation or recreation in order to meet the minimum level of physical activity recommended by the Centers for Disease Control and Prevention.
- **Strategy 2.1.2:** Construct active transportation projects and support the implementation of programs that increase the physical activity level of residents.
- **Strategy 2.1.3:** Increase the number of walking and bicycling trips by encouraging the development of infrastructure that provides the amenities of a recreational route, connects to multiple destinations, including work and shopping destinations, and decreases safety concerns.

Objective 2.2: Improve coordination with local and regional public health agencies.

- **Strategy 2.2.1:** Coordinate with the El Dorado County Active Living Leadership and "Well Dorado" initiatives to support the County's Community Health Improvement Program.
- **Strategy 2.2.2:** Evaluate health outcomes using the preferred criterion identified in the El Dorado County Active Transportation Connections Study when feasible.

GOAL 3: CONNECTIVITY

Identify, develop, and maintain connected and convenient bicycle and pedestrian networks that meet the needs of commuters and recreational users of all skill levels.

Objective 3.1: Provide safe and accessible connections to important community destinations.

- **Strategy 3.1.1:** Support the Safe Routes to School (SRTS) program for students, and support implementation of additional SRTS program activities at schools.
- **Strategy 3.1.2:** Support the development of a bicycle network that safely and comfortably connects residential neighborhoods to destinations like employment centers, grocery stores, community centers, schools and shopping areas.
- **Strategy 3.1.3:** Identify and eliminate gaps to provide comprehensive community-wide networks and reduce travel time and trip distance for bicyclists and pedestrians.
- **Strategy 3.1.4:** Identify major activity centers and coordinate active transportation, housing and land use planning to maximize opportunities for increased active transportation and transit use.
- **Strategy 3.1.5:** Install directional signage to guide people bicycling to key destinations and routes.
- **Strategy 3.1.6:** EDCTC to maintain a robust public outreach strategy to engage and solicit input from community stakeholders, the general public, underrepresented/ disadvantaged communities and local jurisdiction staff regarding active transportation needs and projects.
- **Strategy 3.1.7:** When feasible, analyze priority active transportation improvements using a performance-based approach as identified in the El Dorado County Active Transportation Connections Study.

Objective 3.2: Support regional connectivity for active transportation.

- **Strategy 3.2.1:** Maximize coordination between EDCTC, El Dorado County, the City of Placerville, Community Services Districts, and neighboring jurisdictions to create continuity across boundaries.

- **Strategy 3.2.2:** Develop active transportation routes along major arterials and highways to support long distance bicycle commuting.
- **Strategy 3.2.3:** Coordinate Active Transportation Plan implementation with county and regional planning efforts such as the El Dorado County Regional Transportation Plan and Sacramento Area Council of Governments Metropolitan Transportation Plan/Sustainable Communities Strategy.

Objective 3.3: Maintain the active transportation network at an acceptable condition.

- **Strategy 3.3.1:** Use the California Manual of Uniform Traffic Control Devices (CAMUTCD) and the Caltrans Highway Design Manual as guidance for contractors and County and City inspectors to address the impact of roadway construction and maintenance projects on active transportation facilities, and require safe and convenient accommodation for bicyclists and pedestrians through construction zones.
- **Strategy 3.3.2:** Maintain or develop a system for identifying, evaluating, reporting, and responding to maintenance and safety issues on the active transportation network, including a system for residents to report maintenance needs.

Objective 3.4: Support multimodal connections between active transportation and transit.

- **Strategy 3.4.1:** Support the creation of Safe Routes to Transit for pedestrians and bicyclists.
- **Strategy 3.4.2:** Work with El Dorado Transit Authority to provide bicycle parking at transit stops and bicycle racks on buses.
- **Strategy 3.4.3:** Ensure new transit stops are accessible for pedestrians, including convenient crossings of nearby arterials.

Objective 3.5: Complete development of the El Dorado Trail.

- **Strategy 3.5.1:** Develop sections of the El Dorado Trail as identified in this Plan.
- **Strategy 3.5.2:** Develop bicycle and pedestrian connections from the El Dorado Trail to town centers and other destinations.
- **Strategy 3.5.3:** Develop connections from the El Dorado Trail to the City of Folsom and to the American River Parkway.

GOAL 4: FUNDING AND IMPLEMENTATION

Identify and pursue local, county, regional, state and federal programs that would fund bicycle and pedestrian capital improvements and programs.

Objective 4.1: Identify and prioritize improvements for bicycling and walking in El Dorado County.

- **Strategy 4.1.1:** Incorporate local and regional planning for active transportation infrastructure and support facilities.
- **Strategy 4.1.2:** Use the Capital Improvement Program (CIP) for construction of bicycle and pedestrian projects.
- **Strategy 4.1.3:** Maintain a list of low-cost bicycle and pedestrian improvements to be incorporated into annual transportation budgets, including routine repaving or other maintenance activities as appropriate.
- **Strategy 4.1.4:** Maintain a regularly updated Active Transportation Plan that identifies existing conditions, future needs, and implementation priorities in addition to providing specific recommendations for active transportation facilities in existing, new, and redeveloping areas.

Objective 4.2: Pursue funding to implement and maintain the projects and programs in this Plan.

- **Strategy 4.2.1:** Support the development of an active transportation funding and life cycle maintenance strategy.
- **Strategy 4.2.2:** Partner with other agencies and private businesses and organizations to pursue funding of priority active transportation projects.
- **Strategy 4.2.3:** Support projects that are more competitive for grant funding, including projects that will reduce reliance on motor vehicles, especially for short trips, to reduce greenhouse gases and other pollutants. Where applicable, use findings from the El Dorado County Active Transportation Connections Study in support of this strategy.

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CHAPTER 4: PUBLIC ENGAGEMENT

Community Input

Community engagement within El Dorado County has been a priority throughout the Plan development process. A variety of outreach opportunities were used to seek input from diverse El Dorado County residents and community members. The plan development process also included extensive coordination with partner agencies and other City departments to ensure this Active Transportation Plan meets community needs, advances initiatives of local and regional partners, and includes projects and programs that can feasibly be implemented.

Ongoing outreach ensured a continuous feedback loop that informed the final project list and Plan. Specific events and opportunities included:

COMMUNITY MEETINGS

- 3 Stakeholders Meetings
- 3 Non-Traditional Outreach Events
- 2 Public Meetings

ONLINE

Interactive Mapping Tool

- 517 responses from 150 unique users

STAKEHOLDER ADVISORY COMMITTEE

A Stakeholder Advisory Committee was developed to help incorporate feedback of individuals involved in the planning process, public works priorities, experts in bicycle and pedestrian safety and advocacy, as well as other key stakeholders in El Dorado County. The Committee reviewed selected project deliverables and provided guidance on bicycle and pedestrian network recommendations. They also played an important role in promoting this plan's public engagement tools and activities.

Three Stakeholder meetings were held as a part of the outreach efforts to support this Plan.

The three Stakeholder Meetings took place on the following dates:

- October 24, 2018
- April 25, 2019
- August 15, 2019

STAKEHOLDER ADVISORY COMMITTEE MEMBER ORGANIZATIONS

Bicycle and Pedestrian Advocacy Organizations

- El Dorado Hills Bike/Pedestrian Safety Coalition
- Bicycle and Pedestrian Advocates of Cameron Park/Shingle Springs
- Friends of El Dorado Trail
- Utilitarian Cyclists Group
- Walk Sacramento

Seniors

- Commission on Aging

Chambers of Commerce, Business, Community or Tourist-Oriented Groups

- El Dorado County Chamber of Commerce
- Placerville Downtown Association
- Shingle Springs/Cameron Park Chamber of Commerce
- El Dorado Hills Chamber of Commerce
- Divide Chamber of Commerce
- Coloma/Lotus Chamber of Commerce
- Diamond Springs/El Dorado Community Advisory Committee
- Placerville Drive Business Association
- Bike Friendly 50 Corridor Members – El Dorado County
- Shingle Springs Community Alliance
- El Dorado Community Foundation
- Museum/Historical Society

Schools, Youth, and Health Groups

- El Dorado County Office of Education
- Folsom Lake College
- Boys and Girls Club
- El Dorado County Public Health
- Schools
- Disabled Advocate

Public Agencies

- City of Placerville
- El Dorado County
- Caltrans
- SACOG
- SPTC JPA
- Service Providers
- El Dorado Transit
- Cameron Park Community Services District
- El Dorado Hills Community Services District

Public Workshops

As part of an effort to conduct comprehensive and equitable outreach, non-traditional events were identified for outreach. The County held two non-traditional, pop-up outreach events in the Fall of 2018.

The first pop-up event was held at the El Dorado Hills Farmer's Market on Sunday, October 28, 2018 from 8:00 am to 1:00 pm, and at the Placerville Farmer's Market on Saturday, November 3, 2018 from 8:00 am to 12:30 pm. Many participants were vendors or patrons of the farmer's markets and were invited to engage with project staff to provide feedback on active transportation. A map of the project area was available to help identify specific locations of concerns or opportunities for walking and bicycling, though project staff collected general comments as well.

The Placerville Farmer's Market is hosted on the El Dorado Bike Trail. As a result, some individuals were actively using the trail for recreational walking or bicycling when they stopped to participate in the pop-up event. Another result of the location of this event was that some participants limited their feedback to the El Dorado Bike Trail. In most cases, project staff were able to prompt participants to provide further feedback about the broader City of Placerville and the surrounding region.

Key themes from the responses received include:

- Concerns about drivers speeding and failing to stop at stop signs.
- Lack of sidewalks, especially on hilly terrain where sight distance may be limited, is a concern.
- Additional sidewalks and bike lanes, especially to and from neighborhood parks and civic amenities, would be welcomed.
- Parents would like to see safer routes to schools, especially to cross busy roads on foot, and to provide dedicated space for bicycling.
- Increased connectivity between existing facilities would be welcomed.

The third outreach event was held at the Placerville Earth Day event on April 27, 2019. At this event, participants used tablets to complete the online webmap, identifying barriers, desired routes, and destinations.

Outreach allowed for the public to provide input for this Plan

INTERACTIVE MAP

A custom interactive webmap was developed to allow El Dorado County residents to identify walking and biking destinations, barriers, and routes that could be improved. The webmap received 517 responses from over 150 unique users. An example of the interface for the webmap is shown below in Figure 4-1. Publicly identified destinations, barriers, and desired routes are mapped on Pages 39-42.

The webmap allowed for participants to easily and directly identify locations where active transportation connections would be desired to in the proposed network, areas or locations where there were perceived barriers to active transportation (such as high road speeds or a lack of existing facilities), or routes along which active transportation improvements would be desired (such as bike facilities allowing bicyclists to safely access Lions Park in Placerville). The public input from this webmap informed facility recommendations in this Plan.

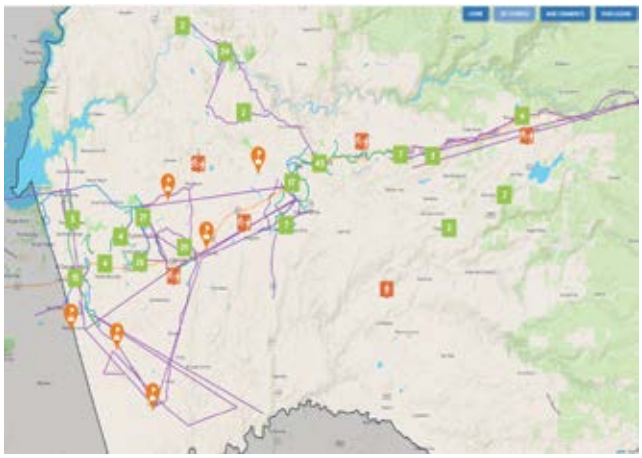

Figure 4-1: Respondents were asked to draw biking and walking routes, as well as identify barriers and destinations. Some respondents chose to draw the routes by hand, which are symbolized by the straight lines drawn on the map.

Identified destinations were spread throughout the County. Desired connections to destinations were primarily concentrated around Placerville, El Dorado Hills and Cameron Park, and Cool and Lotus.

Respondents were also asked to highlight walking routes and biking routes. Respondents could identify routes where infrastructure improvements were necessary, which roads or streets posed barriers, or which streets they use for walking and biking. Respondents often used online tools to draw lines to symbolize the need to connect certain areas or to parallel dangerous roads.

Walking and biking barriers were also identified by the survey respondents. Similar to the destinations, many of these were concentrated in Placerville, El Dorado Hills and Cameron Park, and Cool and Lotus. Identified walking, biking, and active transportation barriers often cited high road speeds and a lack of adequate infrastructure leading to the users to feel unsafe.

Participants used the webtool to identify **Safety Concerns**, such as high speeds, wide roads, or a lack of infrastructure, and to request **Infrastructure Improvements** or make **Facility Recommendations.** These comments were incorporated into the process of developing network improvements, which are covered in Chapters 6, 7 and 8.

IDENTIFIED BARRIERS

Type of Comments	Number of Comments
Safety Concern	54
Infrastructure Improvement or Facility Recommendation	75

Figure 4-2: Count of webmap responses citing barriers to active transportation.

EL DORADO COUNTY PUBLIC INPUT

El Dorado County, CA

EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Identified Destinations

- Destination

Destinations + Boundaries

- Hospital
- Transit Center
- Park
- Water
- El Dorado County
- Tahoe Regional Planning Agency Boundary
- El Dorado Transportation Commission Boundary

0 2.5 5 MILES

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Map produced September 2018.
Sources: El Dorado County, Caltrain, Esri, US Census.

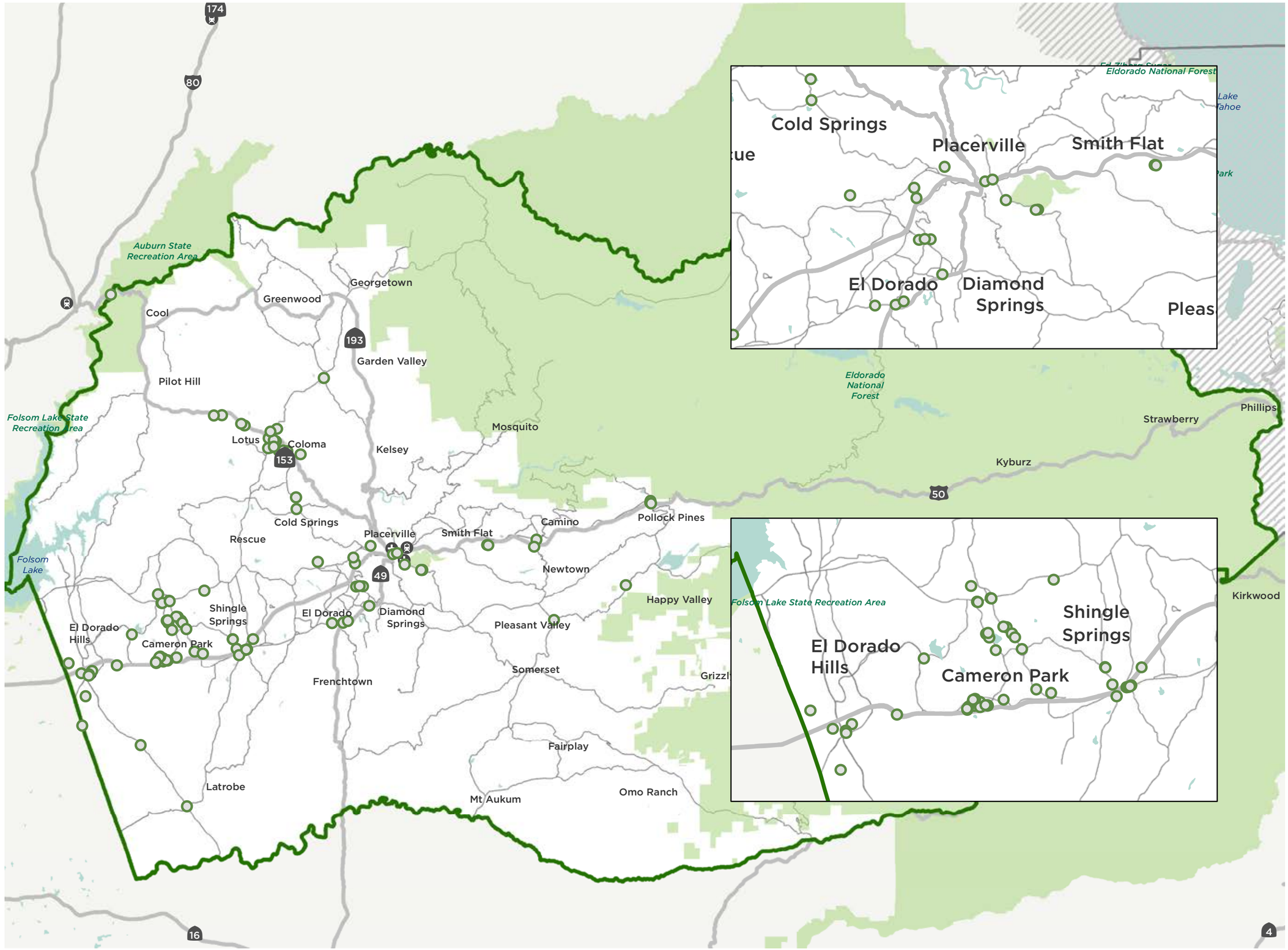


Figure 4-3: Community identified destinations

EL DORADO COUNTY PUBLIC INPUT

El Dorado County, CA

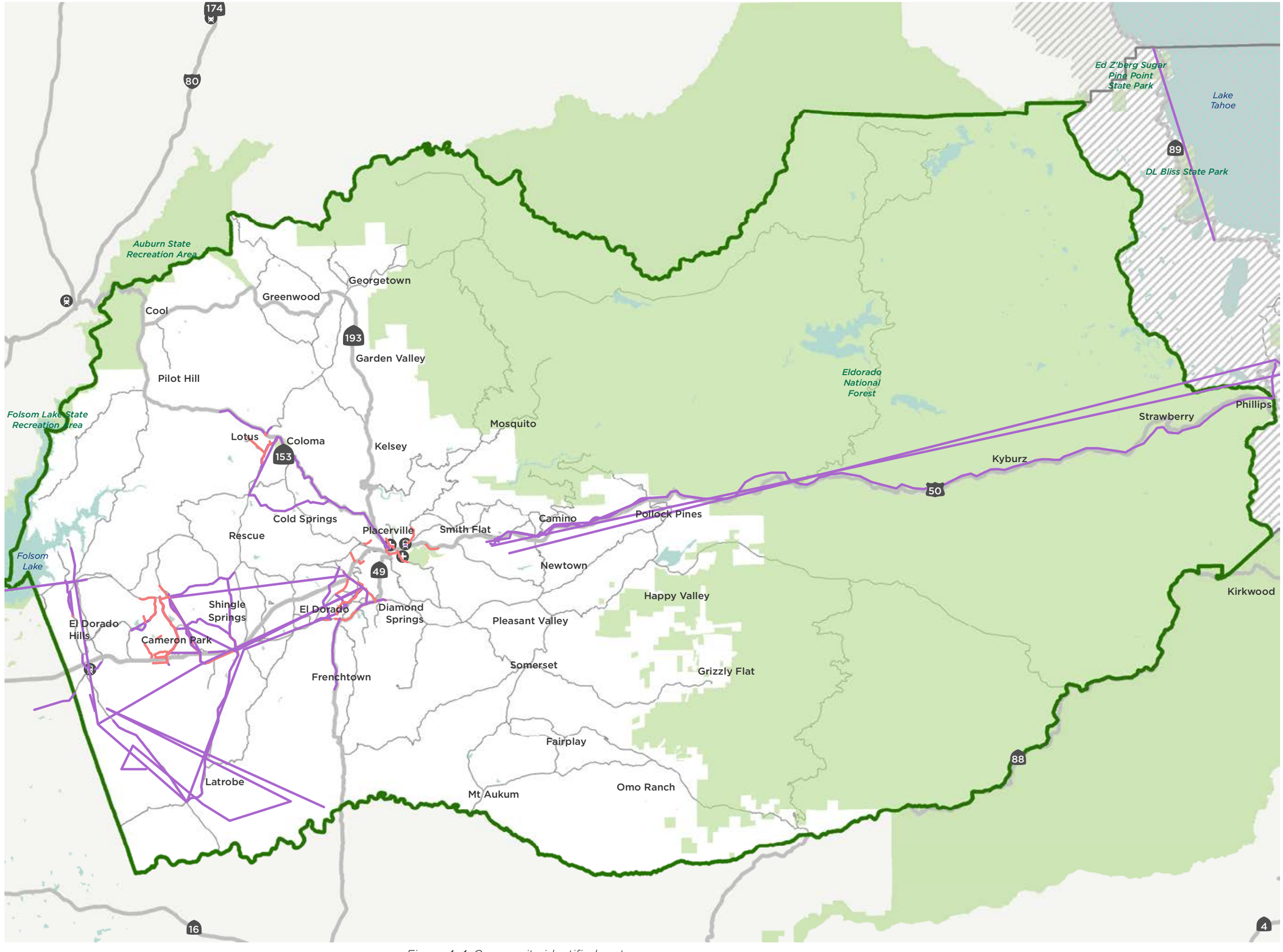
EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Identified Routes

- Biking Route
- Walking Route

Destinations + Boundaries

- Hospital
- Transit Center
- Park
- Water
- El Dorado County
- El Dorado County Transportation Commission Boundary
- Tahoe Regional Planning Agency Boundary



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alta PLANNING + DESIGN

Map produced September 2018.
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 4-4: Community identified routes

EL DORADO COUNTY PUBLIC INPUT

El Dorado County, CA

EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Identified Barriers

- Walking Barrier
- Walking and Biking Barrier

Destinations + Boundaries

- Hospital
- Transit Center
- Park
- Water
- El Dorado County
- Tahoe Regional Planning Agency Boundary
- El Dorado Transportation Commission Boundary

0 2.5 5 MILES

Map produced September 2018.
Sources: El Dorado County, Caltrain, Esri, US Census.

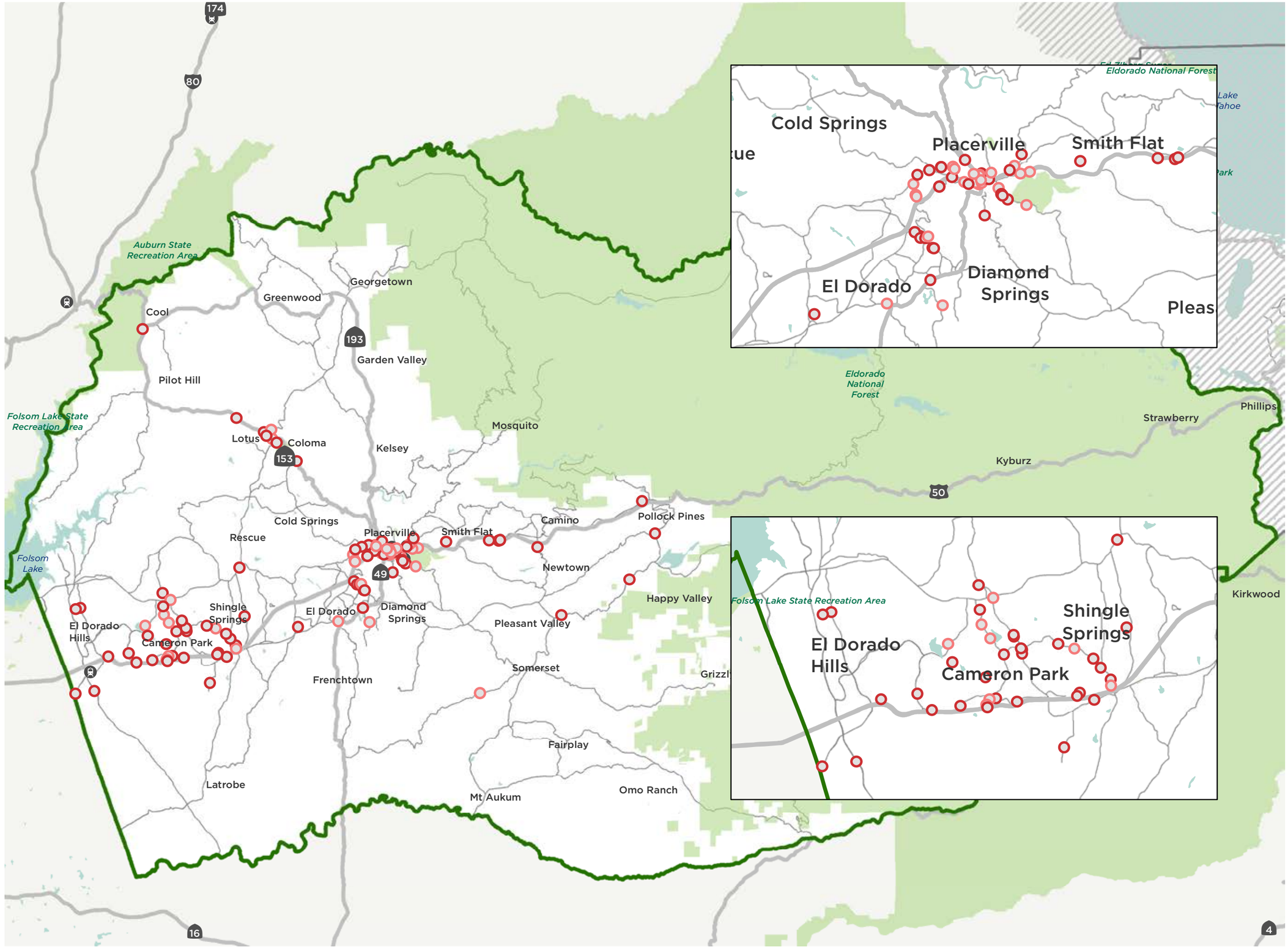


Figure 4-5: Community identified barriers to walking

EL DORADO COUNTY PUBLIC INPUT

El Dorado County, CA

EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

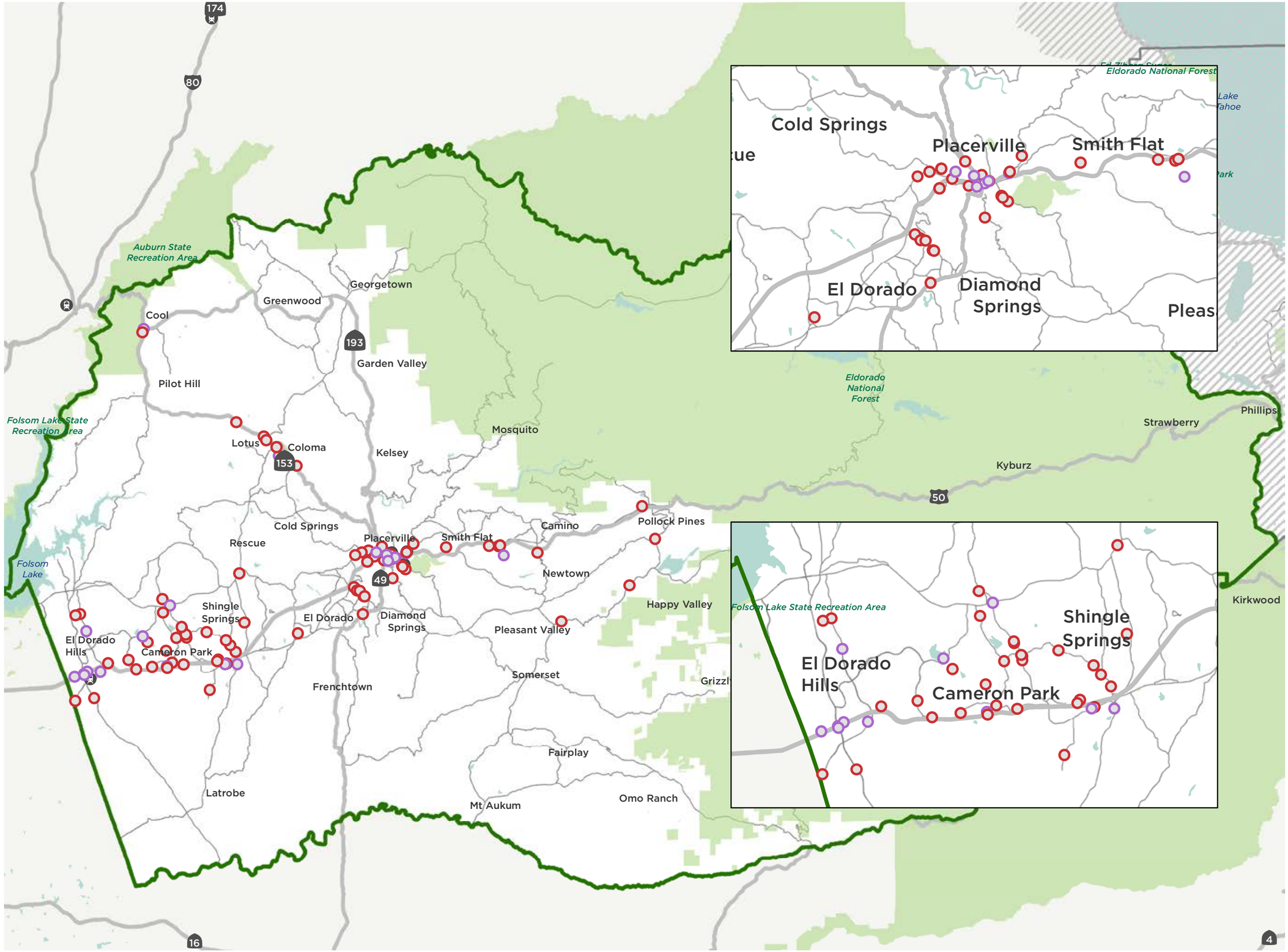
Identified Barriers

- Biking Barrier
- Walking and Biking Barrier

Destinations + Boundaries

- Hospital
- Transit Center
- Park
- Water
- El Dorado County
- Tahoe Regional Planning Agency Boundary
- El Dorado Transportation Commission Boundary

0 2.5 5 MILES



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Map produced September 2018.
Sources: El Dorado County,

Figure 4-6: Community identified barriers to biking

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CHAPTER 5: RECOMMENDED PROGRAMS

This section describes recommended bicycle and pedestrian related programs for El Dorado County. The recommendations are organized in four E's:

Education programs are designed to improve safety and awareness. They can include programs that teach students how to safely cross the street, or teach drivers where to anticipate bicyclists and how to share the road safely.

Encouragement programs provide incentives and support to help people leave their car at home and try walking or bicycling instead.

Enforcement programs enforce legal and respectful walking, bicycling, and driving. They include a variety of approaches, ranging from police enforcement to neighborhood signage campaigns.

Evaluation programs are an important component of any investment. They help measure success at meeting the goals of this plan and to identify adjustments that may be necessary.

Programs recommended on the following pages should include outreach and education in both English and Spanish to serve the diverse El Dorado County community.

Available funding sources for these programs are included in Chapter 8. Potential funding sources include the following statewide programs: Active Transportation Program, Office of Traffic Safety, and Affordable Housing & Sustainable Communities.

In addition to implementing facilities, it is frequently necessary to implement programs to support the use of active transportation.

Implementing programs aimed at promoting active transportation can also serve as a tool to engage the community and gather input around the community's vision for the active transportation network.

EDUCATION

"StreetSmarts" Campaign

El Dorado County can join with other California cities and counties by implementing a "StreetSmarts" media campaign. StreetSmarts uses print media, radio, and television to educate the community about safe driving, bicycling, skateboarding, and walking behavior.

A "StreetSmarts" campaign would give El Dorado County an opportunity to tailor the public outreach to address the most current priorities they have heard from the community.

Artwork for the updated campaign could be created by local students as part of a Traffic Safety Poster Contest, or photos of local families on streets that will be familiar to the community could be used. Posters could also highlight and share information about newly completed projects, such as green transition areas. Funding could be provided by a grant from the California Office of Traffic Safety.

To maximize engagement and effectiveness of the campaign, the County can develop messaging and choose graphics with involvement from the Bicycle and Pedestrian Advisory Board, Well Dorado, law enforcement, schools, business owners, civic leaders, and community advocates.

Bicycle Safety Education for Adults

Bicycling education for adults can build confidence and improve safety by incorporating both presentations and on-bike practice covering rules of the road and safe bicycling skills. This program can build off of the success of similar programs dedicated to educating school children on the benefits of bicycling and bicycling safety protocol.

The League of American Bicyclists offers multiple curricula that can be taught by League Certified Instructors in the area, or bicycling advocacy groups in the region may be interested in partnering to offer educational opportunities to El Dorado County residents.

The County can support these efforts by advertising classes, providing meeting space, or by direct funding of classes.

More information on the League of American Bicyclists courses is available at bikeleague.org/ridesmart.

Safe Routes to School Program

El Dorado County would benefit from a robust Safe Routes to School (SRTS) program.

This Plan recommends the County seek grant funding to prepare a SRTS Plan to document and evaluate effectiveness of existing program activities, and identify priority programs to expand to all schools. This should include suggested routes to school maps at all schools, which help families plan their walking or bicycling trip to school by highlighting enhanced crossings and bikeways.

A Safe Routes to School program could be piloted for a time of one to two years at interested schools to assess interest in and viability of a County-wide program.

ENCOURAGEMENT

Train Staff to Support Bicycle and Pedestrian Programs

This Plan recommends training County Planning and Engineering staff in active transportation needs, education, and outreach. Staff could ensure that all planning, public works, and transportation projects account for bicyclists and pedestrians. They can also write grant applications to fund projects and programs and serve as a County liaison for all bicycle and pedestrian coordination with the public and neighboring jurisdictions.

If funding is not available to create a new position, the County can hire interns to work on bicycle and pedestrian projects until a suitable full-time staff member can be found. Partner organizations and foundations could fund staff member salaries, fellowships, or contractor salaries for a set period of time. The County should apply for grants from one or more of these foundations.

Social Walks/Rides

Supporting social walks and bicycle rides in El Dorado County can provide many benefits to the community. People who are uncomfortable bicycling or walking alone, or who are unfamiliar with the best routes to use, will benefit from having a group to show them the way. Rides can also be used as informal education opportunities to remind participants about safe walking and bicycling behavior and sharing the road, or combined with other efforts like tours of historic neighborhoods.

This Plan recommends the County pursue grants to fund and promote rides and walks, as well as partner with or support local organizations who wish to host the rides or walks.

Bike Rack Program

Bike Rack programs coordinate and streamline bike rack installations. This also ensures bike racks are properly installed so as to not block sidewalks while still being usable for bicyclists.

Currently, there are no bike corrals installed in El Dorado County. The County could install bike corrals in high-traffic locations such as in vehicle parking spots in El Dorado Hills. This not only sends a statement that secure bike parking is important to community members, but bike corrals increase visibility at intersections for all roadway users. An increase in visibility should reduce the risk of a collision in these locations.

The County could also develop customized bike racks. These racks can serve as a "brand," highlighting El Dorado County's identity as a bicycle-friendly community, while doubling as art features.

Where appropriate, this program could also coordinate with local businesses to provide bicycle lockers or other secure parking for employees and long-term visitors. Secure long-term parking is a key component of the bicycle network to encourage employees to bicycle instead of driving, and helps reduce bicycle theft. Bicycle lockers should also be located in the most dense areas like El Dorado Hills and Cameron Park to serve people shopping or running multiple errands who would like a secure place to store their bicycle and deposit purchases or other items during their trip.

Bicycle Friendly Business Program

Bicycle Friendly Business programs recognize businesses who make it easy and convenient for both employees and customers to arrive by bicycle. This requires different strategies to accommodate the different needs of customers and employees. For customers, providing bicycle parking and supporting County bicycling projects can make it safer and easier to travel by bicycle. Some businesses also choose to offer discounts or incentives to people who bicycle.

For employees, offering secure long-term parking for bicycles is key. This could include a secure gated bicycle parking area, or access to bicycle lockers. If space is not available for dedicated secure bicycle parking, business owners and landlords can consider allowing employees and tenants to bring bicycles inside and store them in their workspace or another designated location. Providing changing areas, showers, or lockers to store belongings can also make it easier for employees to bicycle to work.

By recognizing businesses who support bicycling, El Dorado County can support their local economy while fostering partnerships with the Chamber of Commerce and business owners to build community support for bicycling projects and programs. The League of American Bicyclists has a Bicycle Friendly Business program similar to the program, which can be used as a framework for El Dorado County.

Walk & Roll to School Days

Walk & Roll to School Days are events that encourage students and families to try walking or bicycling to school. The most popular events of this type are International Walk to School Day held in early October, and Bike to School Day held in early May. Many communities choose to celebrate walking and bicycling on both days, in addition to roller skating, skateboarding, and scootering.

Families that live too far from their school to walk or bicycle the full distance should be encouraged to park at a designated location a few blocks away or up to one mile from campus. From there, parents and students can complete their trip to school by walking or rolling.

Volunteers can set up a welcome table for participating students, and may opt to provide refreshments, small incentive prizes, or an interactive poster that allows students to record their mode of transportation used that day.

Once established on an annual basis, Walk & Roll to School Days can be expanded by adding monthly or weekly events, coordinating friendly competitions between classrooms, or by organizing groups to walk or bicycle together.

Example of Walk & Roll to School Days program

Wayfinding

Wayfinding signs direct bicyclists or pedestrians along the existing network and to key community destinations. Signs typically include distance or time and direction (using an arrow) to key destinations. El Dorado County currently does not have a consistent wayfinding sign program implemented throughout the County.

The California Manual on Uniform Traffic Control Devices (CA MUTCD) includes standard bicycle wayfinding signs, but they are also used for Class III Bicycle Route signs. This may cause confusion for bicyclists, and does not serve pedestrian wayfinding. Some cities have modified the standard sign to change "bike route" to "bikeway," and others have developed and installed non-standard enhanced wayfinding signs that include unique branding for the community. The non-standard option provides the most flexibility to meet community needs and serve both bicyclists and pedestrians.

This Plan recommends the County develop a comprehensive wayfinding program for bicyclists and pedestrians. This wayfinding should also take into account existing network connections. With segments of the El Dorado Trails creating an extensive off-road travel route, this method of travel should be prioritized in the wayfinding system of its on-street counterpart facilities.

ENFORCEMENT

Targeted Enforcement

The El Dorado County Sheriff's Office currently conducts targeted enforcement periodically based on requests from the community or focus areas of grant funding received.

This Plan recommends continuing these efforts, with a focus on those behaviors that create the greatest risk or potential conflict, and care should be taken that programs do not unfairly target specific demographics or modes of transportation. This Plan also recommends continuing current educational enforcement activities, where officers stop individuals and discuss the unsafe behavior observed without issuing citations.

Behaviors and locations for targeted enforcement should be reviewed each year based on collision data and community input. Current behaviors cited as challenges during public outreach for this Plan include drivers failing to stop at red lights and yield to pedestrians in crosswalks, parking in bicycle lanes, pedestrians crossing streets at undesirable locations, and bicyclists riding on the wrong side of the road.

Example of bicycle wayfinding signage

Crossing Guard Program

Crossing guards can improve safety and comfort for students and families walking to school by increasing visibility of crossing pedestrians and helping children only cross the street when oncoming traffic has yielded. Providing training and resources to volunteer crossing guards can help ensure best practices are met for equipment use and crossing protocols.

The County should continue to support local efforts like the California Highway Patrol school partnership, and should seek to share training resources with schools, offering meeting space for trainings, and pursuing funding from sources such as Office of Traffic Safety for labor and materials related to school safety training programs

California offers free online resources for crossing guard training, available at caActive Transportation Planresources.org/?pid=1305.

Example of a crossing guard program

EVALUATION

Annual Report Card

An annual report card serves as an evaluation assessing the County's progress toward goals and objectives outlined in this Plan, implementation of the recommended projects and programs, and changing mode splits for active transportation. In addition to tracking these data, annual report cards can incorporate a review of effectiveness to evaluate costs and benefits of various efforts and adjust investments to maximize results.

This Plan recommends the County develop an Annual Report Card that tracks progress toward implementing this Plan, in addition to incorporating annual collision data, SRTS program and participation data, and other relevant information to highlight successes and challenges of improving walking and bicycling in the community each year. Specific performance measures identified by the County and the community should be included in this card on an annual basis to allow tracking of key metrics time and a better understanding of successes and challenge areas.

The League of American Bicyclists issues report cards for states, communities, and universities throughout the country. This could be used to model El Dorado County's Annual Report Card off of. More information can be found at bikeleague.org/community.

Student Hand Tallies and Parent Surveys

Student hand tallies and parent surveys are two of the most commonly used tools to measure change in behavior and attitudes related to walking and bicycling. They are increasingly included as required elements on applications for competitive grant programs, or are required to be included as part of the scope of work for grant funded projects in school areas. Collecting this data may increase El Dorado County's competitiveness in these programs by having robust data to make a strong case for walking and bicycling improvements.

Teachers or volunteers collect hand tally data at the classroom level, asking students for information on how they traveled to and from school on two consecutive days that week. Tallies should be conducted each year on a Tuesday, Wednesday, or Thursday and should collect information on the day of the tallies as well as the previous day. Avoid collecting data that may reflect unusual travel patterns due to minimum schedule days, holidays, Fridays, or school events.

Parent surveys gauge knowledge and opinions of walking and bicycling to school. Surveys should be conducted once per year and can either be sent home with students or made available online.

The National Center for Safe Routes to School provides a standard survey form that gathers information on modes of travel to school, interest in and perceptions of walking and bicycling to school, barriers or challenges that prevent walking or bicycling to school, and interest in volunteer opportunities. Additional questions can be added to measure opinions on any specific challenges or opportunities within El Dorado County or at the specific school site.

Instructions and data collection forms are available at saferoutesdata.org.

SUMMARY

On the following page is a summary of recommended programs. In addition, potential stakeholder agencies have been identified for lead and supporting roles for development and implementation of these programs.

Figure 5-1: Summary table of recommended programs

Program Name	*Cost*	*Lead Agency*	*Support Agency*
EDUCATION			
"StreetSmarts" Campaign	$$	Department of Transportation	EDCTC
Bicycle Safety Education for Adults	$$	Community Organization	EDCTC
Safe Routes to School Program	$$$$	Schools, EDCTC	EDCTC; Interested schools or School Districts
ENCOURAGEMENT			
Train Staff to Support Bicycle and Pedestrian Programs	$$$	Department of Transportation	EDCTC; Planning Services
Social Walks/Rides	$	Community Organization	EDCTC
Bike Rack Program	$$	Planning Services	EDCTC
Bicycle Friendly Business Program	$	Economic Development	EDCTC
Walk & Roll to School Days	$	Schools, EDCTC	EDCTC; Interested schools or School Districts
Wayfinding	$$$	Department of Transportation	EDCTC
ENFORCEMENT			
Targeted Enforcement	$$	Sheriff's Office	EDCTC
Crossing Guard Program	$	Office of Education	EDCTC; Interested schools or School Districts
EVALUATION			
Annual Report Card	$	Department of Transportation	EDCTC
Student Hand Tallies and Parent Surveys	$	Office of Education	EDCTC; Interested schools or School Districts

CHAPTER 6: PEDESTRIAN PROJECTS

The pedestrian network includes Class I Shared Use Paths and sidewalks. Sidewalks and pathways are an essential element of a pedestrian network. They not only provide a comfortable walking space separate from the roadway, but are also a foundational element of Americans with Disabilities Act (ADA) compliance.

Sidewalks and pathways should provide a smooth surface free of obstructions at least five feet wide. In some areas, where high pedestrian activity is expected, wider sidewalks may be desirable. Sidewalks and pathways can either be adjacent to the curb or separated by a planted landscaping strip.

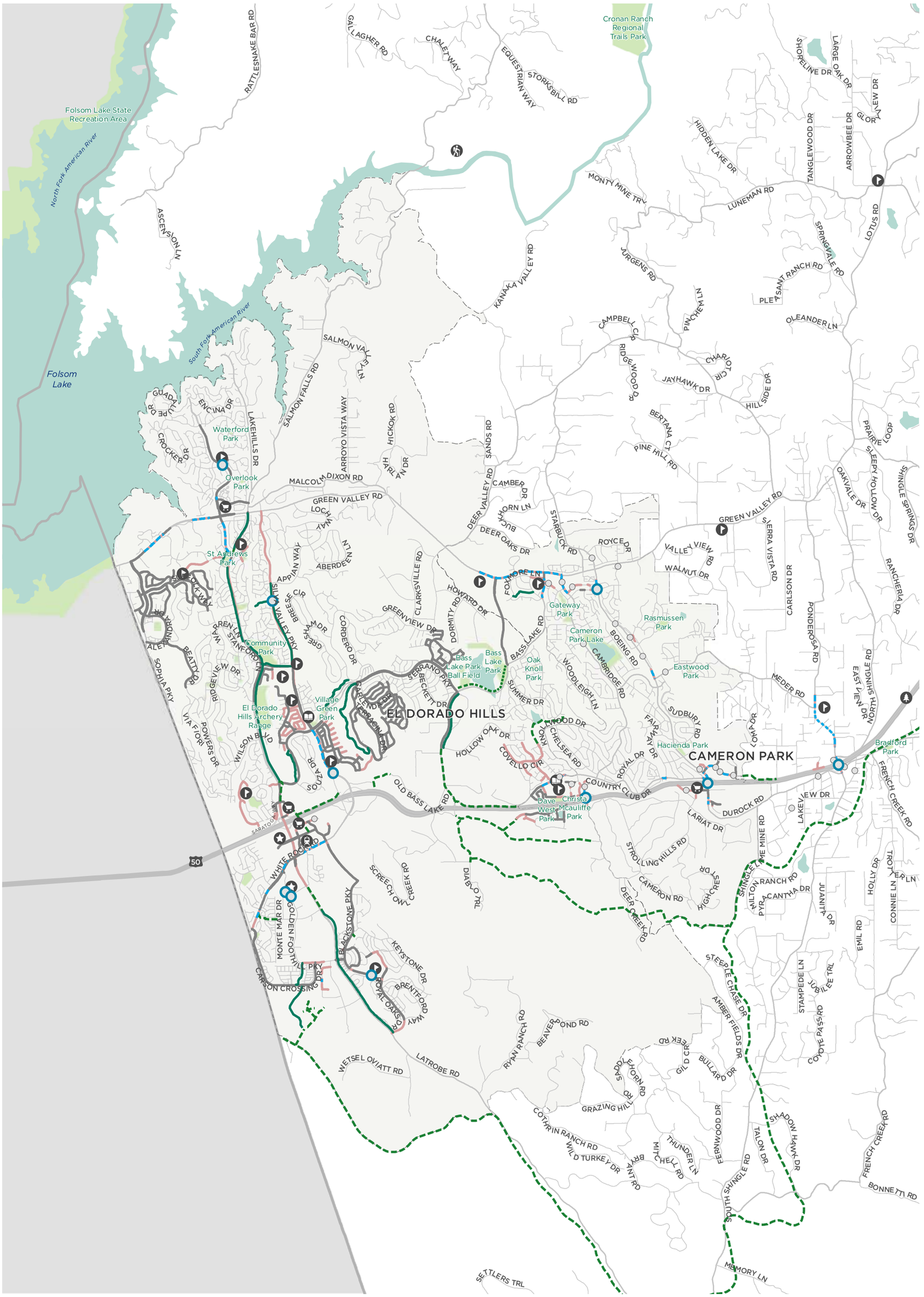
There are many streets in El Dorado County with sidewalks or pathways, but the network is inconsistent. Not every street without a sidewalk or pathway is recommended for improvement in this Active Transportation Plan due to limited available public right of way. Instead, sidewalk and pathway recommendations are focused on those corridors where they are likely to serve large numbers of pedestrians or address a priority community concern, such as walking routes to and from destinations like schools, civic buildings, and shopping centers or employment centers.

This Plan includes 37.9 miles of proposed sidewalks, along with 35.9 miles of proposed Class I, as shown in Figure 6-1 through Figure 6-7.

Pedestrians enjoying the El Dorado Trail in El Dorado County.

A separated sidewalk along Green Valley Road in front of Pleasant Valley School provides a safe and comfortable walking experience for users.

A trailhead sign for the El Dorado Trail in El Dorado County.



EL DORADO HILLS PROPOSED PEDESTRIAN AND DISABLED IMPROVEMENTS

Map 1
EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Proposed Improvements
- Spot Improvement
- Add Sidewalk
- Class I Shared-Use Path

Existing Network
- Class I Shared-Use Path
- Sidewalk Both Sides
- Sidewalk One Side
- No Sidewalk or Segment Not Included in Sidewalk Audit

Activity Generators
- Trailhead
- Bus Stop
- School
- Employment Center
- Campground
- Grocery Store
- Library

Destinations + Boundaries
- Park
- Water
- El Dorado County Boundary

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Map produced July 2019.
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 6-1: El Dorado Hills Proposed Pedestrian and Disabled Improvements

COOL, COLOMA, COLD SPRINGS, AND LOTUS PROPOSED PEDESTRIAN AND DISABLED IMPROVEMENTS

Map 2

EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Proposed Improvements

- Spot Improvement
- Add Sidewalk
- Class I Shared-Use Path

Existing Network

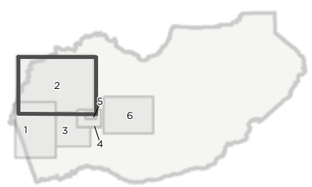
- Class I Shared-Use Path
- Sidewalk Both Sides
- Sidewalk One Side
- No Sidewalk or Segment Not Included in Sidewalk Audit

Activity Generators

- Trailhead
- Grocery Store
- School

Destinations + Boundaries

- Park
- Water
- Community Region
- El Dorado County



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Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 6-2: Cool, Coloma, Cold Springs, and Lotus Proposed Pedestrian and Disabled Improvements

CAMERON PARK, DIAMOND SPRINGS, AND SHINGLE SPRINGS PROPOSED PEDESTRIAN AND DISABLED IMPROVEMENTS

Map 3

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Proposed Improvements

- Spot Improvement
- Add Sidewalk
- Class I Shared-Use Path

Existing Network

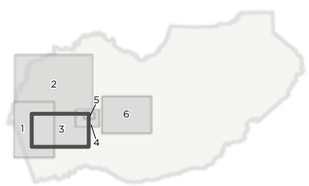
- Class I Shared-Use Path
- Sidewalk Both Sides
- Sidewalk One Side
- No Sidewalk or Segment Not Included in Sidewalk Audit

Activity Generators

- Bus Stop
- Employment Center
- Campground
- Grocery Store
- School
- Library

Destinations + Boundaries

- Park
- Water
- Community Region
- El Dorado County



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Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 6-3: Cameron Park, Diamond Springs, and Shingle Springs Proposed Pedestrian and Disabled Improvements

PLACERVILLE PROPOSED PEDESTRIAN AND DISABLED IMPROVEMENTS

Map 4

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Projects located within the Placerville City limit are shown for context only, not under the jurisdiction of El Dorado County, and are included in more detail in the City of Placerville Active Transportation Plan.

Proposed Improvements

- Spot Improvement
- Add Sidewalk
- Class I Shared-Use Path

Existing Network

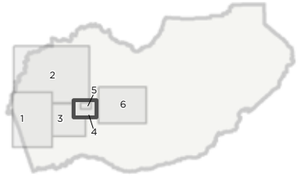
- Class I Shared-Use Path
- Sidewalk Both Sides
- Sidewalk One Side
- No Sidewalk or Segment Not Included in Sidewalk Audit

Activity Generators

- Bus Stop
- Employment Center
- Grocery Store
- School
- Library
- Transit Center

Destinations + Boundaries

- Park
- Water
- Placerville City Limit
- El Dorado County



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Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 6-4: Placerville Proposed Pedestrian and Disabled Improvements

DOWNTOWN PLACERVILLE PROPOSED PEDESTRIAN AND DISABLED IMPROVEMENTS

Map 5

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Projects located within the Placerville City limit are shown for context only, not under the jurisdiction of El Dorado County, and are included in more detail in the City of Placerville Active Transportation Plan.

Proposed Improvements

- Spot Improvement
- Add Sidewalk
- Class I Shared-Use Path

Existing Network

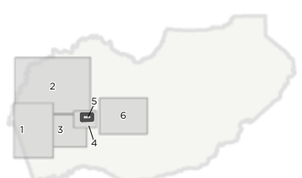
- Class I Shared-Use Path
- Sidewalk Both Sides
- Sidewalk One Side
- No Sidewalk or Segment Not Included in Sidewalk Audit

Activity Generators

- Bus Stop
- Employment Center
- Grocery Store
- School
- Library
- Transit Center

Destinations + Boundaries

- Park
- Placerville City Limit
- El Dorado County



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Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 6-5: Downtown Placerville Proposed Pedestrian and Disabled Improvements

CAMINO AND POLLOCK PINES PROPOSED PEDESTRIAN AND DISABLED IMPROVEMENTS

Map 6

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Proposed Improvements

- Spot Improvement
- Add Sidewalk
- Class I Shared-Use Path

Existing Network

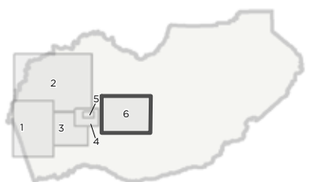
- Class I Shared-Use Path
- Sidewalk One Side
- No Sidewalk or Segment Not Included in Sidewalk Audit

Activity Generators

- Bus Stop
- Campground
- Grocery Store
- School
- Library

Destinations + Boundaries

- Park
- Water
- Community Region
- El Dorado County



0 0.5 1 MILES

alta PLANNING + DESIGN

Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 6-6: Camino and Pollock Pines Proposed Pedestrian and Disabled Improvements

Pedestrian Oriented Spot Improvements

In addition to network projects for bicycling and walking, locations for new or improved crossings have been gathered and consolidated through this Plan from numerous public outreach events, a review of prior plans, the Sidewalk Audit conducted in El Dorado County as a part of this Planning process, and public input from the webmap. Spot Improvement recommendations are included in maps in Chapters 6 and 7.

Specific facility recommendations and designs for these locations will be developed by the County on a case-by-case basis due to the highly varied context at each intersection or midblock crossing location. Some locations represent multiple alternatives identified for possible crossings, and improvements may not ultimately be recommended at all locations. Some typical crosswalk markings and enhancements are described on the following pages, as well as in the Design Guidelines in Appendix A.

Figure 6-7: Example of high-visibility crosswalk markings

CROSSWALK MARKINGS

Crosswalk markings highlight crossings to motorists, increasing awareness that people may be crossing the street. Crosswalk markings can also be used to guide people walking to desired crossing locations, or to designate legal midblock crosswalks.

Standard “transverse” markings consist of two parallel lines that mark the edges of the crosswalk, shown at left and right in the illustration top right.

High visibility crosswalk markings can include “continental” crosswalks with bold white bars that run perpendicular to the pedestrian path of travel (shown top and bottom in the illustration on this page), and “ladder” crosswalks which combine continental markings with the traditional transverse lines.

These markings are more noticeable to drivers and are typically used at uncontrolled crossings, where slower walkers are expected (near schools and senior centers), and where high numbers of pedestrian related crashes have occurred. In school areas, crosswalk markings are yellow.

CURB EXTENSIONS

Curb extensions improve visibility of pedestrians and reduce crossing times by shortening the length of the crossing. This may reduce pedestrian collisions by reducing the length of time that pedestrians are exposed to potential conflicts with motorists. Curb extensions also narrow the perceived roadway width for drivers, which may reduce speeds. At signalized intersections, curb extensions can reduce delays by allowing for shorter pedestrian "walk" phases due to the reduced crossing distance.

Curb extensions extend the sidewalk or curb line out into the parking lane on a street, reducing the effective street width. They can only be used where there is on-street parking, and should not encroach into bicycle lanes.

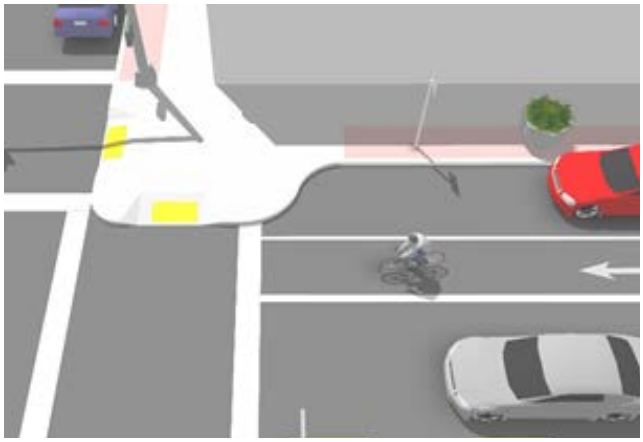


Figure 6-8: Example of a curb extension

ADVANCE STOP OR YIELD LINE

Advance stop bars are placed six to ten feet before a marked crosswalk to indicate to motorists where they should stop. At uncontrolled or midblock crossings, yield lines are used instead of stop bars. Advance stop bars or yield lines improve visibility of pedestrians by discouraging drivers from encroaching into the crosswalk. This is especially important at uncontrolled crossings on multi-lane streets, where a vehicle stopped too close to a crosswalk may hide a pedestrian from view of an approaching driver in the second lane.

PEDESTRIAN REFUGE ISLAND

Pedestrian refuge islands can improve pedestrian comfort and reduce collisions by providing a safe waiting area in the median on wide or busy streets. This allows people walking to cross the roadway in two stages, waiting for a gap in one direction of oncoming traffic at a time.

The waiting area should be protected by a physical barrier on either side, such as raised median islands or planters. The crossing surface should remain level through the waiting area, and may be angled to encourage pedestrians to face oncoming traffic as they approach the second crossing leg. Refuge islands may be combined with beacons or other treatments to further improve challenging crossings.

RECTANGULAR RAPID FLASHING BEACON

Rectangular Rapid Flashing Beacons (RRFBs) are used to increase visibility of pedestrians at marked crosswalks where traffic signals or stop signs are not warranted. They consist of a pedestrian crossing sign supplemented by a pair of bright rectangular lights that flash in a rapid alternating pattern when a pedestrian presses a button. Many assemblies are solar powered stand-alone units that can be installed without costly wiring work.

Figure 6-9: Example of an RRFB

Figure 6-10: Example of an RRFB in Placerville

PEDESTRIAN HYBRID BEACON

Pedestrian hybrid beacons are a traffic control device that can be activated by a pedestrian to stop cross traffic. The beacon consists of three lights on an overhead mast arm that remain dark until a pedestrian presses a button to request a walk phase. Yellow lights flash in an alternating pattern to alert motorists that a red phase will be starting, followed by a solid red light that requires motorists to stop. A pedestrian signal shows a "walk" phase during this red signal, followed by a flashing hand and then "do not walk" phase. After the pedestrian phase concludes, the red signal goes dark and motorists may proceed.

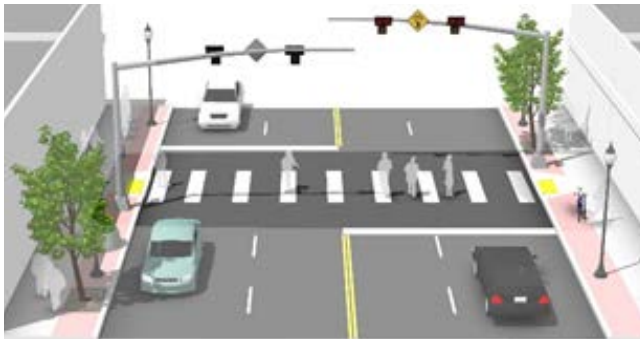


Figure 6-11: Example of a Pedestrian Hybrid Beacon

SENIOR ZONES

For future projects, Senior Zones can be considered to improve areas for pedestrian access where the needs of senior citizens should be heavily considered. Appropriate improvements can be found in Appendix A8-A9. Improvements include signal timing, signage, and crossing improvements.

CHAPTER 7: BICYCLE PROJECTS

The following chapter presents recommended bikeway improvements throughout El Dorado County. These recommendations are based on a review of existing conditions, data-driven analyses, and community input documented in the earlier chapters of this Plan

Bicycle network projects are categorized based on the four classifications recognized by Caltrans, along with two sub-classifications, described in detail in Chapter 2 and the Bicycle and Pedestrian Facility Guidelines in Appendix A. These include:

- **Class I Shared Use Paths:** Dedicated paths for walking and bicycling completely separate from the roadway
- **Class II Bicycle Lanes**: Striped lanes for bicyclists
- **Class II Buffered Bicycle Lanes:** Bicycle lanes that include a striped "buffer" area either between the bicycle lane and travel lane or between the bicycle lane and parked cars
- **Class II Uphill Climbing Lane:** Where roadway width cannot accommodate bicycles lanes on both sides, a bicycle lane is to be installed on one side to give cyclists more protection as they climb uphill, while the bicyclists travelling downhill are to share the lane with traffic
- **Class III Bicycle Routes:** Signed routes for bicyclists on low-speed, low-volume streets where lanes are shared with motorists
- **Class III Advisory Shoulder:** Signed and marked shoulders for bicycle travel when not being used for parking
- **Class IV Separated Bikeways**: On-street bicycle facilities with a physical barrier between the bicycle space and motor vehicle lanes, including bollards, curbs, or parking. These facilities can be one-way or support two-way bicycle travel

Additionally, this chapter defines spot improvement facilities for bicycles. This includes Green Bike Lanes and Bike Racks that are recommended in this Plan. Green bike lanes are more appropriate for community centers, where there are higher levels of traffic and increased need for visibility of bicyclists.

Figure 7-1: Existing and Proposed Bikeway Mileage

Facility	Existing Facility Mileage	Proposed New Facility Mileage	# of Projects	Total Existing + Proposed Miles
Class I Shared Use Paths	29.6	35.9	31	65.5
Class II Bicycle Lanes	31.2	110.1	73	141.3
Class II Uphill Climbing Lanes	0	1.6	2	1.6
Class III Bicycle Routes	1.2	58	49	59.2
Class IV Separated Bikeways	0	1.2	3	1.2
Total	**62**	**206.8**	**158**	**268.8**

Network Connectivity

The recommended network greatly increases access to the destinations that El Dorado County residents regularly access and care about. Facilities within 1/3 of a mile to the bicycle network doubles (from 95 to 194) with the implementation of this Plan's recommended bicycle facilities. The results of the increased bicycle network connectivity can be found below in Figure 7-2.

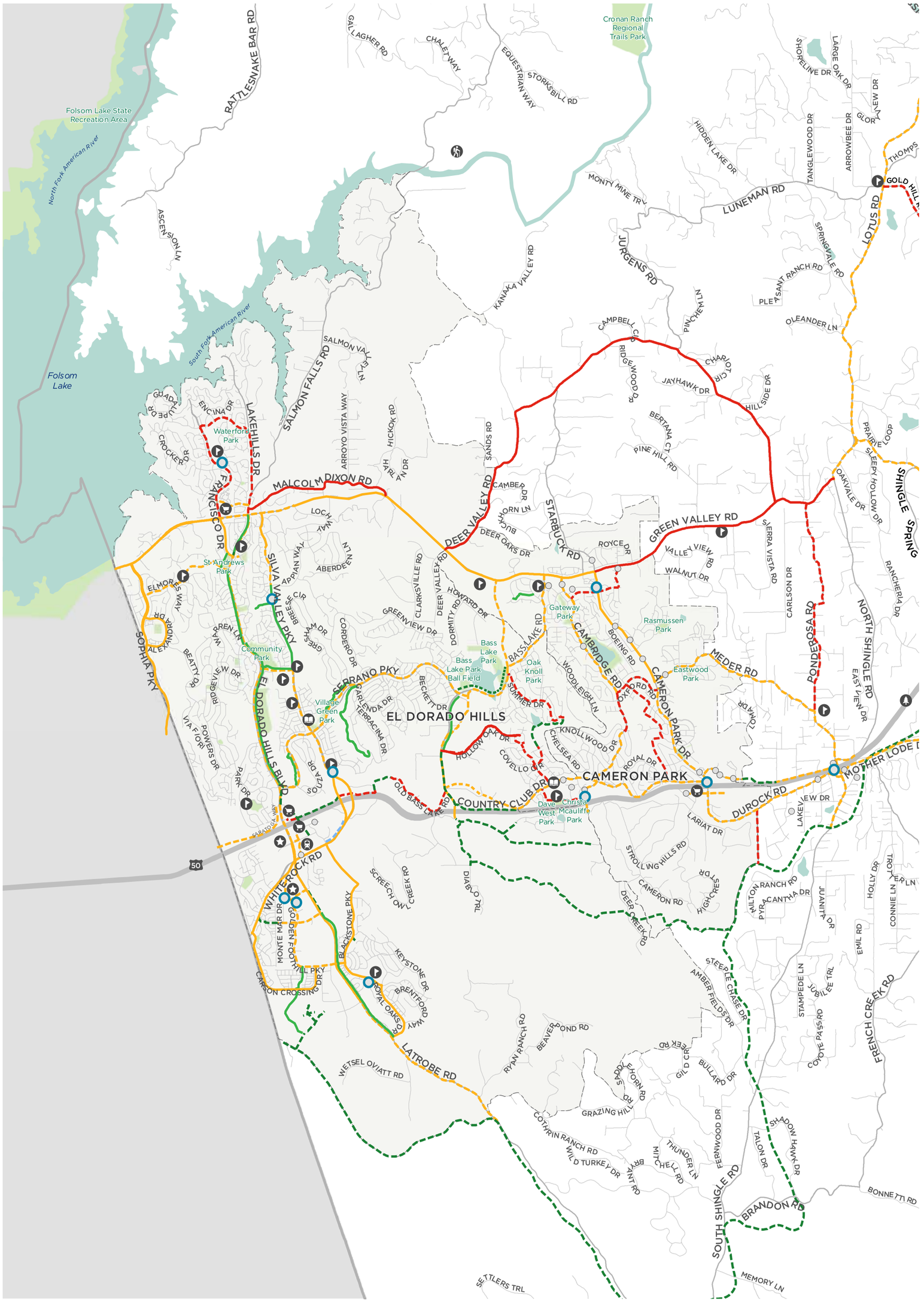
By increasing access to these facilities and destinations, this Plan will help create a more bikeable environment for all users in El Dorado County.

The existing bicycle network, along with the bicycle facility recommendations, are mapped on the following pages.

Multi-generational users taking advantage of the El Dorado Trail, El Dorado County's longest Class I facility.

Figure 7-2: Increased Bicycle Network Connectivity

Activity Generator	Total	# within 1/3 mile of Existing Bike Network	# within 1/3 mile of Existing and Proposed Bike Network
Trailhead	4	1	3
Bus Stop	142	54	111
Employment Center	8	6	7
Park and Ride	11	5	11
Campground	7	0	1
Grocery Store	17	9	17
Schools	53	13	35
Library	9	6	8
CalTrain Station	1	1	1
Total	**252**	**95 (37%)**	**194 (77%)**



EL DORADO HILLS BICYCLE FACILITIES

Map 1

EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.

alta PLANNING + DESIGN

Map produced July 2019.
Sources: El Dorado County, Caltrain, Esri, US Census.

Proposed Improvements

- Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class III Bicycle Route
- Class IV Separated Bike Lane

Activity Generators

- Trailhead
- Bus Stop
- School
- Employment Center
- Campground
- Grocery Store
- Library

Existing Bikeways

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class III Bicycle Route

Destinations + Boundaries

- Park
- Water
- El Dorado County Boundary

0 0.5 1 MILES

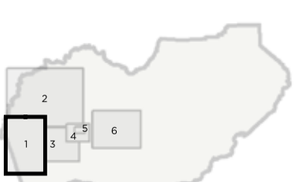


Figure 7-3: El Dorado Hills Proposed Bicycle Facilities

COOL, COLOMA, COLD SPRINGS, AND LOTUS BICYCLE FACILITIES

Map 2

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Proposed Improvements

- Spot Improvement
- Class I Shared Use Path
- Class II Bicycle Lane
- Class III Bicycle Route

Activity Generators

- Trailhead
- Grocery Store
- School

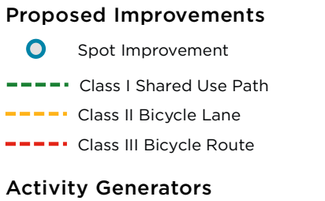
Existing Bikeways

- Class I Shared-Use Path
- Class II Bicycle Lane

Destinations + Boundaries

- Park
- Water
- Community Region

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.



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Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 7-4: Cool, Coloma, Cold Springs, and Lotus Proposed Bicycle Facilities

CAMERON PARK, DIAMOND SPRINGS, AND SHINGLE SPRINGS BICYCLE FACILITIES

Map 3

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Proposed Improvements

- Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class III Bicycle Route
- Class III Advisory Shoulder
- Class IV Separated Bike Lane

Activity Generators

- Bus Stop
- Employment Center
- Campground
- Grocery Store
- School
- Library

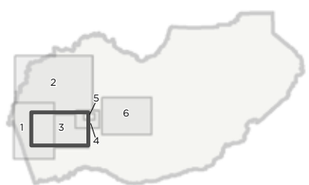
Existing Bikeways

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class III Bicycle Route

Destinations + Boundaries

- Park
- Water
- Community Region

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.



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alta PLANNING + DESIGN

Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 7-5: Cameron Park, Diamond Springs, and Shingle Springs Proposed Bicycle Facilities

PLACERVILLE BICYCLE FACILITIES

Map 4

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Projects located within the Placerville City limit are shown for context only, not under the jurisdiction of El Dorado County, and are included in more detail in the City of Placerville Active Transportation Plan.

Proposed Improvements

- Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class II Uphill Climbing Lane
- Class III Bicycle Route
- Class III Advisory Shoulder
- Class IV Separated Bike Lane

Activity Generators

- Bus Stop
- Employment Center
- Grocery Store
- School
- Library
- Transit Center
- Trailhead

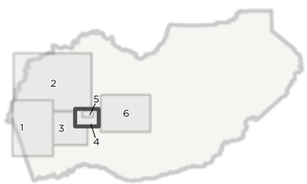
Existing Bikeways

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIU Uphill Climbing Lane
- Class III Bicycle Route

Destinations + Boundaries

- Park
- Water
- Placerville City Limit

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.



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Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 7-6: Placerville Proposed Bicycle Facilities

DOWNTOWN PLACERVILLE BICYCLE FACILITIES

Map 5

EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Projects located within the Placerville City limit are shown for context only, not under the jurisdiction of El Dorado County, and are included in more detail in the City of Placerville Active Transportation Plan.

Proposed Improvements

- Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class II Uphill Climbing Lane
- Class III Bicycle Route
- Class III Discretionary Shoulder

Activity Generators

- Bus Stop
- Employment Center
- Grocery Store
- School
- Library
- Transit Center

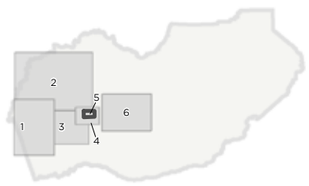
Existing Bikeways

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class IIU Uphill Climbing Lane
- Class III Bicycle Route

Destinations + Boundaries

- Park
- Placerville City Limits

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.



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Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 7-7: Downtown Placerville Proposed Bicycle Facilities

CAMINO AND POLLOCK PINES BICYCLE FACILITIES

Map 6

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Proposed Improvements

- Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class III Bicycle Route

Activity Generators

- Bus Stop
- Campground
- Grocery Store
- School
- Library

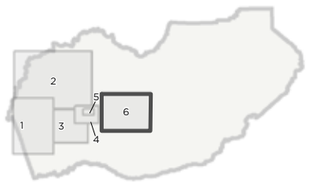
Existing Bikeways

- Class I Shared-Use Path

Destinations + Boundaries

- Park
- Water
- Community Region

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.



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Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 7-8: Camino and Pollock Pines Proposed Bicycle Facilities

IMPROVEMENTS ALONG US BIKE ROUTE 50

Map 7

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Bicycle Facilities

- US Bike Route 50
- Spot Improvements
- Existing Class I
- Existing Class II
- Existing Class III
- Proposed Class I
- Proposed Class II
- Proposed Class III

Activity Generators

- Trailhead
- Employment Center
- Campground
- Grocery Store
- School
- Library
- Transit Center

Destinations + Boundaries

- Park
- Water
- Community Region
- El Dorado County
- Placerville City Limits

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.

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alta PLANNING + DESIGN

Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

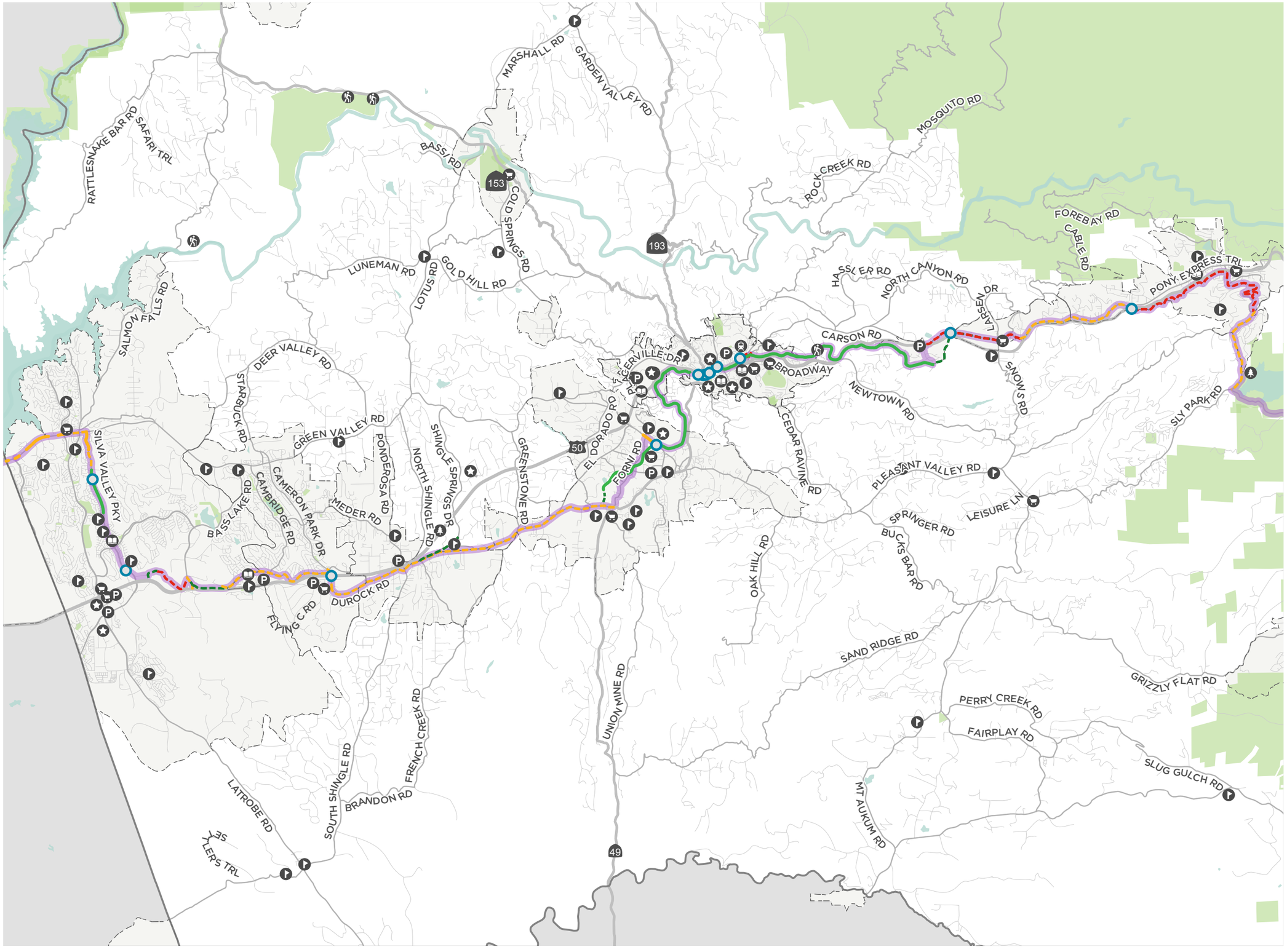

Figure 7-9: Proposed Bicycle Facility Projects along US Bike Route 50 in El Dorado County

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BICYCLE ORIENTED SPOT IMPROVEMENT

Green Bike Lanes

Green bike lanes better inform drivers of the distinct lanes of travel and reduce conflicts between bicyclists and drivers.

When approaching intersections, green bike lanes can inform drivers when to look for bicyclists to yield the right-of-way before merging. This is especially important as most bicycle collisions happen near intersections.

Red Bike Lanes

Red bike lanes are an alternative to green bike lanes to increase the visibility of the bicycle facilities. Red bike lanes can be chosen for aesthetic preference to better match the local environment.

El Dorado County has already implemented red bike lanes in conjunction with Caltrans in the community of Coloma.

Bicycle Racks and Bicycle Lockers

Providing adequate bicycle parking is essential to create a more bikeable environment in El Dorado County. Bicycle racks serve people who leave their bicycles for relatively short periods of time, typically for shopping or errands, dining, or recreation. Bicycle racks provide a high level of convenience and moderate security. Bike lockers provide secure long-term bicycle parking options. Bicycle lockers may vary in design and operation, including keyed lockers that are rented to one individual on an annual or monthly basis or e-lockers that can be reserved online in hourly increments and unlocked with a credit card or an access code.

Figure 7-10: Example of green bike lanes

Figure 7-11: Example of red bike lanes on SR 49 in Coloma

Figure 7-12: Example of bike racks in Placerville

Figure 7-13: Example of types of bike racks

CHAPTER 8: IMPLEMENTATION

This Plan includes projects, programs, and policy changes intended to create a more walkable and bikeable environment in El Dorado County. Implementation of this Plan will require community support and political leadership in addition to significant funding.

This chapter outlines a strategy towards implementation of the infrastructure projects and includes the following sections:

Project Evaluation presents the method and data sources used to prioritize projects for implementation, along with a summary of the results

Funding Strategies provides an overview of competitive funding sources and eligibilities for the projects in this Plan

The intent of evaluating projects is to create a strategic list to guide implementation. The project list and evaluation results are flexible concepts that serve as guidelines. Over time as development occurs or other changes to land uses and the transportation network take place, this framework can be used to reevaluate remaining projects and continue pursuing implementation of this Plan.

A detailed list of all projects is included in Appendix A. Typical costs for each type of infrastructure project are included in Chapters 6 and 7.

CAPITAL COST ESTIMATES

Figures 8-1 through 8-3 present planning level unit cost assumptions used to develop project construction cost estimates. Unit costs are typical or average costs informed by Alta Planning + Design's experience working with California communities.

At the planning level, cost assumptions do not consider project-specific or location-specific factors that may affect actual costs, including acquisition of right of way, significant grading, or relocation of utilities, among other factors. For some projects, actual costs may differ significantly from the planning level estimates.

Cost estimates for projects in this Plan are in 2019 dollars, and do not include cost escalation.

Cost estimates are not provided for recommended studies in this plan. These costs can vary widely based on the included outreach and other components.

MAINTENANCE COST ESTIMATES FOR ON-STREET BICYCLE AND PEDESTRIAN FACILITIES

Maintaining the walking and bicycling environment once improvements have been implemented preserves the investment and will help support a high quality of life for El Dorado County residents.

On-street bikeways should be maintained as part of the normal roadway maintenance program, with emphasis placed on keeping bicycle lanes and roadway shoulders clear of debris and keeping vegetation overgrowth from blocking visibility. Given the County's constrained funding available for Class I multi-use path maintenance and upkeep, the County and EDCTC will explore and develop alternative fund sources through expanded relationships with the El Dorado Hills or Cameron Park Community Services Districts, or with community volunteer organizations such as Friends of El Dorado Trail to assist with fund raising and trail maintenance activities.

Figure 8-41 lists typical maintenance activities, frequencies, and costs. All estimated costs are in 2019 dollars.

Figure 8-1: Bicycle Facility Planning Level Cost Estimates

Item	Unit	Cost Estimate (Low)	Cost Estimate (High)
Class I Shared-Use Path	Mile	$700,000	$1,000,000
Class II Bicycle Lane	Mile	$80,000	$400,000
Class III Bicycle Route	Mile	$20,000	$30,000
Class IV Separated Two Way Bikeway	Mile	$200,000	$300,000

Figure 8-2: Sidewalk Installation Planning Level Cost Estimates

Item	Unit	Cost Estimate (Low)	Cost Estimate (High)
Sidewalk, Curb, Gutter (no curb ramp)	Square Foot	$10	$20

Figure 8-3: Spot Improvement Facility Planning Level Cost Estimates

Item	Unit	Cost Estimate (Low)	Cost Estimate (High)
High Visibility Crosswalk	Each	$2,000	$5,000
Transverse Crosswalk with advance stop bar	Each	$2,000	$3,500
Pedestrian Refuge Island	Each	$10,000	$75,000
RRFB	Each	$25,000	$50,000
Study for Pedestrian Hybrid Beacon	Each	$2,000	$75,000
Pedestrian Hybrid Beacon	Each	$200,000	$400,000
Curb Extensions	Each	$15,000	$30,000
Pedestrian Overcrossing	Each	$1,000,000	$5,000,000
Advance Yield/ Stop Lines	Each	$500	$2,000
Bicycle Loop Detection	Each	$2,000	$4,000
Traffic Control Study	Each	$2,000	$40,000
New sign with foundation and pole	Each	$375	$800
Tightening turning radii	Per Corner	$10,000	$100,000
Parking Restriction	Linear Foot	$25	$50
Curb Ramp	Each	$3,500	$10,000
Bike Racks	Each	$800	$2,000
Bike Lockers	Each	$2,000	$3,500
Green Bike Lanes	Mile	$160,000	$800,000

Figure 8-4: Maintenance Cost Estimates for on-street bicycle and pedestrian facilities

Activity	Frequency	Unit	Cost Estimate
Crosswalk restriping	5-7 years	Each	$2,800
Sidewalk and curb ramp repair	As needed	Each	Varies
Sign repair	As needed	Each	$300
Class II Bicycle Lane restriping, replacing signs/stencils	Ongoing	Mile	$6,000
Class III Bicycle Route Sharrow restriping, replacing signs/stencils	Ongoing	Mile	$2,500
Class IV Separated Bicycle Lane restriping, replacing signs/stencils	Ongoing	Mile	$8,200

SHARED USE PATH MAINTENANCE AND UPKEEP

Like natural surface trails, shared use paths require regular routine and capital maintenance to provide a quality experience to users. Maintenance activities will vary depending on the surface material (asphalt or concrete). Additionally, environmental contexts will affect the schedule which maintenance will be required. At higher elevations in El Dorado County, capital maintenance like sealcoating might be required more frequently than in lower lying areas that do not experience the same amount of freeze and thaw issues through the winter and spring. Similarly, routine maintenance such as litter and trash removal might be required more frequently in areas with higher population densities or near activity generators than in more remote areas.

Much like other pedestrian and bicycle facilities, diligent maintenance and upkeep for Shared Use Paths is essential to ensuring that the trails and paths are utilized to their full extent, as users are more easily affected by cracks, potholes, and other obstructions than drivers.

Funding for Maintenance of Shared Use Paths

Dedication of fund sources for maintenance of existing Class I shared use paths is a challenge for many public agencies, including El Dorado County. Since there are few funding sources available for maintenance of Class I paths, the County should work strategically with EDCTC to identify funding mechanisms for ongoing shared use path maintenance. The County and EDCTC should look to local, state, federal, and private funding sources, as well as taxes, fees and recreation grants. Development of an annual funding and maintenance strategy could help to optimize the use of limited funds and further the life of existing pavements.

Photo of the El Dorado Trail in El Dorado County

Routine Maintenance

Maintenance needs will vary depending on the unique context and needs of each path. However, general routine maintenance includes sweeping, snow removal or grooming, landscaping and vegetation control, and repairs to the path surface. Figure 8-5 lists typical shared use path routine maintenance tasks, including frequency and estimated annual costs. Overall, routine maintenance for Shared Use Paths can range between $500 and $1,500 a year per mile.

TRAIL INSPECTION AND UPKEEP

Trail inspections should happen annually. Inspections can be done using handhelds devices running applications, such as ArcGIS Collector, to assess trail conditions of pre-determined lengths. Photos can be uploaded to give context to the field notes. Trail conditions can then be assigned scores that can be factored into the repaving and trail maintenance schedule. Based on the score of the Shared Use Paths, maintenance schedules can be adjusted to a higher or lower frequency than the suggested capital maintenance schedule.

Figure 8-5: Shared Use Path Routine Maintenance Schedule and Costs

Maintenance Activity	Function	Frequency	Est. Annual Cost (per mi.)
Path sweeping	Keep paved surfaces debris free	Twice annually (once in spring and once in fall)	$140 (x2)
Litter and trash removal	Keep path clean and maintain consistent quality of experience for users	Annually, or as needed	$70
Mowing path shoulders (native opens space areas)	Increases the effective width of the path corridor and helps prevent encroachment	Twice annually, in late spring and mid- to late-spring	$100 (x2)
Tree and brush trimming	Eliminate encroachments into path corridor and open up sight lines	Annually, or less frequently as needed	$100
Weed abatement	Manage existence and/or spread of noxious weeds, if present	Twice annually, in late spring and mid to late summer	$140 (x2)
Safety Inspections	Inspect path tread, slope stability, and bridges or other structures	Annually	$20
Snow removal/grooming	Limited to sections of the path where year-round access is desired	As needed (assume 20 events)	$1,000
Sign and other amenity inspection/replacement	Identify and replace damaged infrastructure	Annually (assume 2 sign replacements)	$100
Crack sealing and repair	Seal cracks in asphalt to reduce long term damage	Annually	$250

CAPITAL MAINTENANCE

Major or capital maintenance activities typically involve more intensive maintenance repairs such as pavement seal coating, pavement overlays, pavement reconstruction, or other structural rehabilitations. Needs can vary widely based upon environmental factors, such as soil conditions, drainage and the quality of initial construction. Any paved path surface will deteriorate over time with asphalt surfaces dropping in quality rapidly after 10 years. Preservation efforts such as seal coating extend the life of asphalt efficiently and at a lower cost than waiting for the surface to require reconstruction. Overlays may be needed after multiple seal coats or at approximately 30 years of service. A full reconstruction is typically needed after 50 years if the seal coat and overlay have been provided.

Concrete paths will require significantly less capital maintenance than asphalt paths. Although they may require isolated jacking or replacement, limited capital maintenance expenditures can generally be expected for upwards of 50 years.

Financial planning for major or capital maintenance can be challenging. Typically asphalt shared use paths require greater capital maintenance activities with age and ultimately require full reconstruction at some point. Some jurisdictions stay focused on eventual reconstruction and treat this as a maintenance item to be budgeted for, whereas some treat this as a separate capital project to be considered at a later date.

Capital Maintenance Guidance

Seal cracks as soon as possible to stop pot holes from forming.

Sealcoat the asphalt path surfaces on a regular basis to provide protection from the elements and extend the pavement's usable life.

When minor to modest damage is present, overlays can sufficiently repair the surface without having to complete a total reconstruction.

Figure 8-6: Shared Use Path Capital Maintenance Schedule and Costs

Maintenance Activity	Time	Long Term Capital Costs		
Sealcoat	Year 10	$0.21/SF	$1.90/LF	$10,000/mi
Sealcoat	Year 20	$0.21/SF	$1.90/LF	$10,000/mi
Overlay	Year 30	$3.00/SF	$20.00/LF	$105,000/mi
Sealcoat	Year 40	$0.21/SF	$1.90/LF	$10,000/mi
Reconstruction	Year 50	$8.00/SF	$65.00/LF	$343,000/mi

Prioritization Methodology

This Plan utilizes a methodology for prioritization developed as a component of the El Dorado County Transportation Commission's 2017 Active Transportation Connections Study. The tool utilized seven categories to assess the priority of a project. The methodology for the prioritization tool is provided below.

Following a review of scoring rubrics for state and federal active transportation grant programs, the following seven categories were identified as reoccurring areas of evaluation:

- **Health**
- **Environment**
- **Demand**
- **Connectivity**
- **Safety**
- **Equity**
- **Cost-Effectiveness**

These criterion can be adjusted based on the individual grant application.

These seven common evaluation areas formed the foundation for the prioritization tool developed through the 2017 Active Transportation Connections Study. EDCTC worked with its advisory committee to select one preferred evaluation criteria that represented each evaluation area. In the event that no locations within the county would perform well under common grant criteria, EDCTC identified evaluation criteria that provided insight into a project's ability to address local concerns. For example, proposed projects in El Dorado County typically perform poorly in grant applications that define equity by identifying locations near low-income households or schools with a large percentage of students that are eligible for free and reduced lunches. In lieu of including an equity evaluation criterion that would align well with grant applications but show few eligible projects in El Dorado County, EDCTC and its advisory committee elected to select an equity evaluation criterion that would help with internal prioritization: the number of youths and seniors living near a proposed project. This approach allows EDCTC to identify projects that would have strong equity implications within the context of the county even though they may not perform well under some grant application criteria. Below are the preferred evaluation criteria for each evaluation area:

HEALTH

Understanding the importance of transportation investments on health outcomes is a featured component in El Dorado County's Regional Transportation Plan (RTP), a comprehensive document that addresses all transportation modes in the western slope of El Dorado County. The RTP notes that if the design of new and/or rehabilitated facilities considers the needs of pedestrians and bicyclists, the transportation network can contribute to improved public health. The preferred health evaluation criterion is the percent of adults within 2 miles of a proposed project that walked at least 150 minutes for transportation or leisure in the past week (the minimum level of physical activity recommended by the Centers for Disease Control and Prevention). Physical activity serves as a proxy for a variety of health concerns such as obesity, diabetes, heart disease, mental health, and other chronic diseases, and the data is readily available through the California Health Interview Survey.

ENVIRONMENT

Transportation systems that support walking and bicycling help reduce reliance on motor vehicles, especially for short trips, resulting in reduced emissions of greenhouse gases and other criteria pollutants. This not only improves air quality but also reduces the potential for pollutants in stormwater runoff to reach groundwater and local waterways. The preferred environmental evaluation criterion is the estimated pounds of greenhouse gases and other criteria pollutants that would be removed from the atmosphere each year if the proposed projects were built. Estimated reductions in greenhouse gas and criteria pollutant emissions are derived from a combination of forecasted demand estimates and national trip replacement and trip distance factors.

DEMAND

Forecasting demand helps identify projects that are more likely to be well used by local residents and visitors to El Dorado County. Forecasted demand estimates were based on walking and bicycling counts from around the county and through an analysis of how those counts correlate with demographic and socioeconomic data from populations living near existing facilities. Separate approaches to forecasting demand were developed for pedestrian activity and bicycle activity.

CONNECTIVITY

Projects that connect residents to employment centers, grocery stores, community centers, schools, and shops can have a large influence on one›s willingness to walk or bicycle for short-distance trips. The preferred connectivity criterion is the annual number of trips that begin or end near the proposed project provided by the County›s travel demand model.

SAFETY

Pedestrians and bicyclists face unique safety concerns, and improving safety conditions can make the transportation network more accessible and attractive to people of all ages and abilities. The preferred safety evaluation criterion is the number of safety barriers that would be removed if a project was implemented. This evaluation criterion relies on expert analysis to identify challenges presented by the existing design of a travelway and potential opportunities presented by the proposed project. It allows for a more nuanced view of safety in a rural area like El Dorado County, where low numbers of reported walking- or bicycling-related collisions may not accurately represent challenges or capture how these challenges limit a person's willingness to walk or bicycle.

EQUITY

Without access to multiple transportation options, some people may have difficulty getting to work, accessing healthy food, going to school, or engaging in social activities. Ensuring equitable access to walking and bicycling facilities for transportation is particularly important for communities that have been historically disadvantaged, do not have access to a motor vehicle, rely heavily on walking and bicycling for their daily transportation needs, or are otherwise disconnected from active transportation opportunities. The preferred equity evaluation criterion is the number of youths (18 years and under) and seniors (64 years and over) within 2 miles of a proposed project, as captured by the U.S. Census Bureau's American Community Survey.

COST-EFFECTIVENESS

Health, environment, demand, connectivity, safety, and equity benefits come at a price. Being able to weigh the benefits of a proposed project against its costs helps place projects on an even playing field for evaluation. While a large project may show considerable benefits, its costs may be prohibitive to pursuing outside funding. Likewise, a small project may not show as many benefits as other projects, but its relatively low cost may make it a more cost-effective choice for implementation. The preferred cost-effectiveness evaluation criterion is the estimated capital costs of a given proposed project.

The results from this Prioritization methodology are mapped on the following pages. Due to the large amount of recommendations and limited funding, the recommendations were combined into the following groups:

- **Top Five Projects** - These are the five highest scoring projects within each District
- **Class I/IV** - Class I Shared Use Path and Class IV Separated Bicycle Facility
- **Class II/III** - Class II Bicycle Lane and Class III Bicycle Route
- **Pedestrian** - Pedestrian oriented spot improvements and sidewalk projects
- **Bike (Other)** - Bicycle Oriented Spot Developments

Projects were then assigned to the El Dorado County's Supervisorial Districts. Assigning projects to the County's Supervisorial Districts distributes projects equitably through this prioritization process. Some Supervisorial Districts did not have every type of recommendation.

Top Supervisorial District 1 Projects

TOP DISTRICT 1 PROJECTS

Rank	Project	Begin	End	Type
1	Path along El Dorado Hills Blvd	Serrano Pkwy	Park Dr	Class I
2	Elmores Way/Suffolk Way/ Brittany Way/Brittany Pl	Sophia Pkwy	El Dorado Hills Blvd	Class II
3	Town Center/Village Center US50 overcrossing	Raley's	Nugget Markets	Class I
4	Brittany Way	Brittany Pl	Suffolk Way	Class III
5	Post St	White Rock Rd	Mercedes Ln	Class II

CLASS I/IV PROJECTS

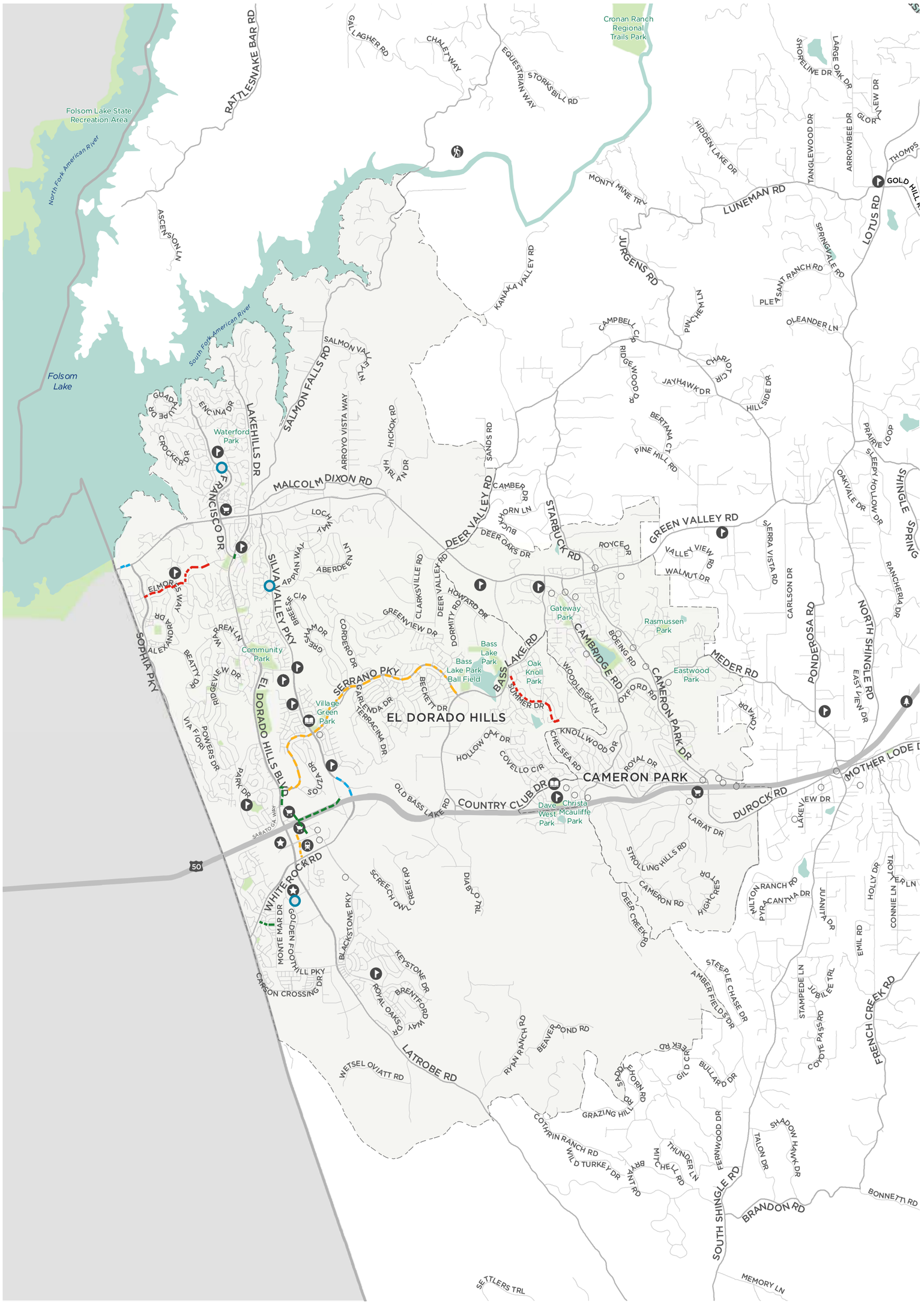
Rank	Project	Begin	End	Type
1	Path along El Dorado Hills Blvd	Serrano Pkwy	Park Dr	Class I
2	Town Center/Village Center US50 overcrossing	Raley's	Nugget Markets	Class I
3	El Dorado Hills Blvd	Telegraph Hill	Francisco Dr	Class I
4	White Rock Rd Connector Trail	White Rock Rd	Sunset Ln	Class I

CLASS II/III BICYCLE PROJECTS

Rank	Project	Begin	End	Type
1	Elmores Way/Suffolk Way/ Brittany Way/Brittany Pl	Sophia Pkwy	El Dorado Hills Blvd	Class II
2	Brittany Way	Brittany Pl	Suffolk Way	Class III
3	Serrano Pky	El Dorado Hills Blvd	Bass Lake Rd	Class II
4	Summer Dr	Bass Lake Rd	Great Heron Dr	Class III
5	Post St	White Rock Rd	Mercedes Ln	Class II

PEDESTRIAN PROJECTS

Rank	Project	Begin	End	Type
1	Silva Valley Pky	New York Creek Trail	Appian Way	Spot Improvement
2	Windfield Way	Windplay Drive		Spot Improvement
3	Silva Valley Pky	Oak Meadow Elementary driveway	Old Silva Valley Pkwy	Sidewalk
4	Francisco Drive	Kensington Drive		Spot Improvement
5	Green Valley Rd	Shadowfax Ln	Sophia Pky	Sidewalk



DISTRICT 1 PRIORITIZED FACILITIES

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Proposed Improvements

- Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class III Bicycle Route
- Add Sidewalk

Activity Generators

- Trailhead
- Bus Stop
- School
- Employment Center
- Campground
- Grocery Store
- Library

Destinations + Boundaries

- Park
- Water
- El Dorado County Boundary

0 0.5 1 MILES

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.

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Map produced July 2019.
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 8-7: Prioritized Projects in Supervisorial District 1

DISTRICT 2 PRIORITIZED IMPROVEMENTS

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Proposed Improvements

- Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class III Bicycle Route
- Add Sidewalk

Activity Generators

- Bus Stop
- Employment Center
- Campground
- Grocery Store
- School
- Library

Destinations + Boundaries

- Park
- Water
- Community Region

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.

0 0.5 1 MILES

Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

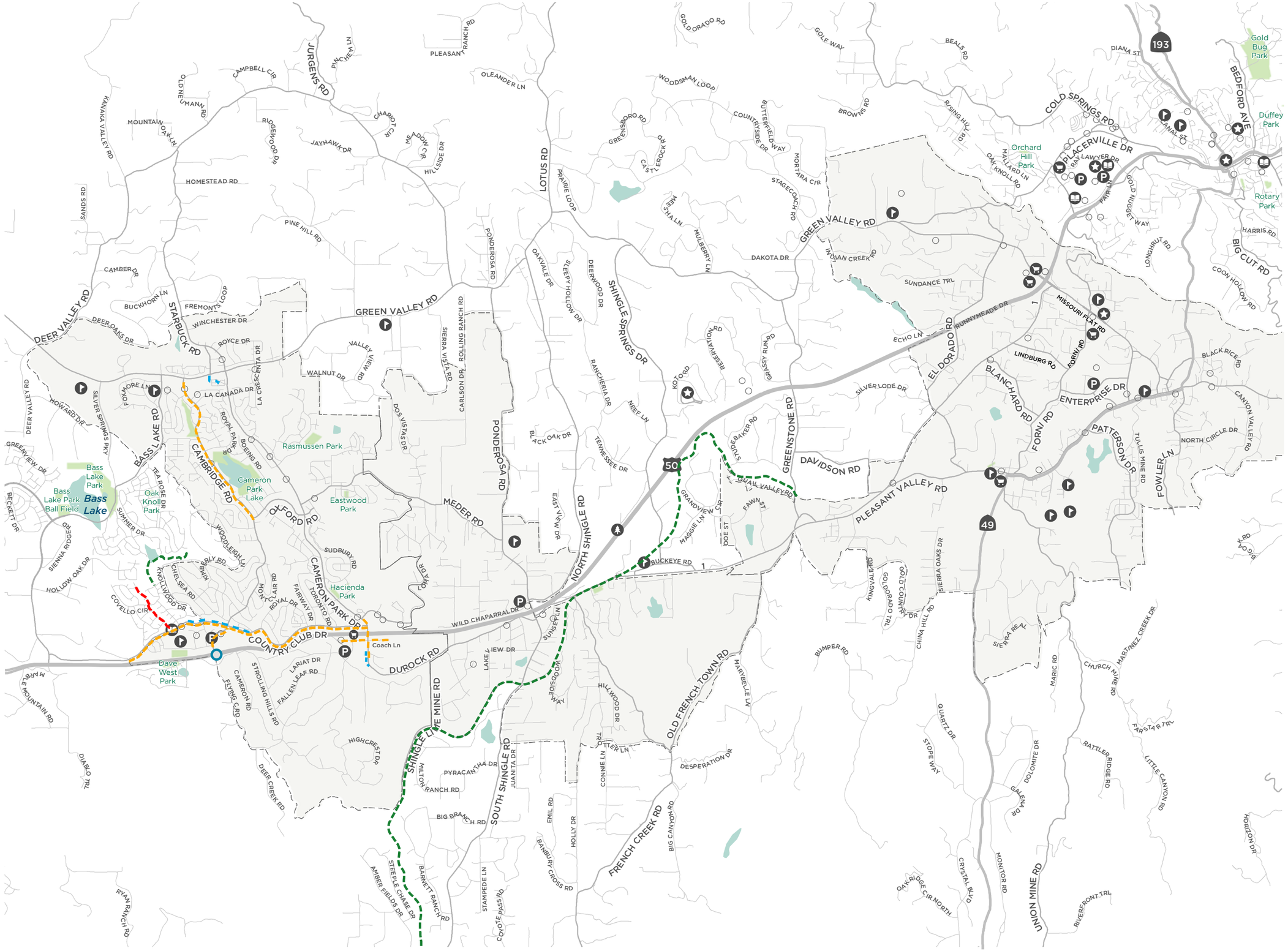

Figure 8-8: Prioritized Projects in Supervisorial District 2

Top Supervisorial District 2 Projects

TOP DISTRICT 2 PROJECTS

Rank	Project	Begin	End	Type
1	Cambridge Rd	Oxford Rd	Green Valley Rd	Class II
2	Castana Dr	Country Club Dr	End of Street	Class III
3	Country Club Dr	Cameron Park Dr	Placitas Dr	Class III
4	Cameron Park Dr	Palmer Dr	Durock Rd	Class II
5	Coach Ln	Rodeo Rd	End Of Street	Class II

CLASS I/IV PROJECTS

Rank	Project	Begin	End	Type
1	El Dorado Trail	Shingle Lime Mine Rd	Mother Lode Dr	Class I
2	El Dorado Trail	Latrobe Rd	Shingle Lime Mine Rd	Class I
3	El Dorado Trail	County Line	Latrobe Rd	Class I
4	El Dorado Trail	Mother Lode Dr	Shingle Springs Dr	Class I
5	Connector Trail	Ziana Rd	Summer Dr	Class I

CLASS II/III BICYCLE PROJECTS

Rank	Project	Begin	End	Type
1	Cambridge Rd	Oxford Rd	Green Valley Rd	Class II
2	Castana Dr	Country Club Dr	End of Street	Class III
3	Country Club Dr	Cameron Park Dr	Placitas Dr	Class III
4	Cameron Park Dr	Palmer Dr	Durock Rd	Class II
5	Coach Ln	Rodeo Rd	End Of Street	Class II

PEDESTRIAN PROJECTS

Rank	Project	Begin	End	Type
1	Country Club Dr	500 Feet East of Placitas Dr	Archwood Rd	Sidewalk
2	Winterhaven Dr	Green Valley Rd	Chesapeake Bay Cir	Sidewalk
3	Cameron Park Dr	500 feet south of Robin Ln	Durock Rd	Sidewalk
4	Cameron Park Dr	150 feet North of Robin Ln	Robin Ln	Sidewalk
5	Chesapeake Bay Cir	Chesapeake Bay Ct	Winterhaven Dr	Sidewalk

BIKE (OTHER) PROJECTS

Rank	Project	Begin	End	Type
1	Cambridge Rd	Knollwood Dr	Crazy Horse Rd	Spot Improvement

Top Supervisorial District 3 Projects

TOP DISTRICT 3 PROJECTS

Rank	Project	Begin	End	Type
1	El Dorado Trail	Greenstone Rd	Oriental St	Class I
2	Ridgeway Dr	Pony Express Trail	Ridgeway Ct	Class II
3	Motherlode Dr	Ponderosa Rd	Pleasant Valley Rd	Class II
4	SR 49	Pleasant Valley Rd	Union Mine Rd	Class II
5	Ridgeway Dr	Sly Park Rd	Ridgeway Crt	Class III

CLASS I/IV PROJECTS

Rank	Project	Begin	End	Type
1	El Dorado Trail	Greenstone Rd	Oriental St	Class I
2	Missouri Flat Rd	Perks Crt	Forni Rd	Class IV
3	Connector Trail	Trail	US 50	Class I
4	El Dorado Trail	Los Trampas Dr	Fuji Crt	Class I

CLASS II/III BICYCLE PROJECTS

Rank	Project	Begin	End	Type
1	Ridgeway Dr	Pony Express Trail	Ridgeway Ct	Class II
2	Motherlode Dr	Ponderosa Rd	Pleasant Valley Rd	Class II
3	SR 49	Pleasant Valley Rd	Union Mine Rd	Class II
4	Ridgeway Dr	Sly Park Rd	Ridgeway Crt	Class III
5	Pleasant Valley Rd	Mother Lode Rd	Big Cut Rd	Class II

PEDESTRIAN PROJECTS

Rank	Project	Begin	End	Type
1	Missouri Flat Rd	US 50		Spot Improvement
2	SR 49	Koki Ln		Spot Improvement
3	Union Mine Rd	Koki Ln		Spot Improvement
4	South St	Beginning of Street	SR 49	Sidewalk
5	Farm Rd	Mother Lode Dr	Pleasant Valley Rd	Sidewalk

BIKE (OTHER) PROJECTS

Rank	Project	Begin	End	Type
1	Ridgeway Dr	US 50		Spot Improvement
2	Missouri Flat Rd	Marantha Ln	Plaza Dr	Spot Improvement

DISTRICT 3 PRIORITIZED FACILITIES

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Proposed Improvements

- Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class III Bicycle Route
- Class IV Separated Bike Lane
- Add Sidewalk

Activity Generators

- Trailhead
- Bus Stop
- Employment Center
- Grocery Store
- School
- Library
- Transit Center

Destinations + Boundaries

- Park
- Water
- City of Placerville
- El Dorado County

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.

0 0.75 1.5 MILES

Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 8-9: Prioritized Projects in Supervisorial District 3

DISTRICT 4 PRIORITIZED IMPROVEMENTS

EL DORADO COUNTY
ACTIVE TRANSPORTATION
PLAN

Proposed Improvements

- Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Add Sidewalk

Activity Generators

- Bus Stop
- Employment Center
- Campground
- Grocery Store
- School
- Library

Destinations + Boundaries

- Park
- Water
- Community Region

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.

0 0.5 1 MILES

Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 8-10: Prioritized Projects in Supervisorial District 4

Top Supervisorial District 4 Projects

TOP DISTRICT 4 PROJECTS

Rank	Project	Begin	End	Type
1	Cameron Park Dr	Oxford Rd	Palmer Dr	Class II
2	Country Club Dr	Cameron Park Dr	Placitas Dr	Class II
3	Cameron Park Dr	Palmer Dr	Durock Rd	Class II
4	Palmer Dr	Cameron Park Dr	Loma Dr	Class II
5	El Dorado Trail	Shingle Springs Dr	Greenstone Rd	Class I

CLASS I/IV PROJECTS

Rank	Project	Begin	End	Type
1	El Dorado Trail	Shingle Springs Dr	Greenstone Rd	Class I
2	Palmer Dr - Wild Chaparral Dr	Loma Dr	Wild Chaparral Dr	Class I

CLASS II/III BICYCLE PROJECTS

Rank	Project	Begin	End	Type
1	Country Club Dr	Cameron Park Dr	Placitas Dr	Class II
2	Cameron Park Dr	Palmer Dr	Durock Rd	Class II
3	Palmer Dr	Cameron Park Dr	Loma Dr	Class II
4	Green Valley Rd	North Shingle Rd	Missouri Flat Rd	Class II
5	Cameron Park Dr	Oxford Rd	Palmer Dr	Class II

PEDESTRIAN PROJECTS

Rank	Project	Begin	End	Type
1	Winterhaven Dr	Green Valley Rd	Chesapeake Bay Cir	Sidewalk
2	Cameron Park Dr	Green Valley Rd	Winterhaven Dr	Sidewalk
3	Palmer Dr	Palmero Cir	Loma Dr	Sidewalk
4	Ponderosa Rd	175 Feet South of Deelane Rd	North Shingle Rd	Sidewalk
5	Camerado Dr	Cameron Park Dr	Virada Rd	Sidewalk

BIKE (OTHER) PROJECTS

Rank	Project	Begin	End	Type
1	Cameron Park Dr	Palmer Dr	Coach Ln	Spot Improvement
2	Cameron Park Dr	La Canada Dr		Spot Improvement
3	Cameron Park Dr	Country Club Ln	Durock Rd	Spot Improvement

Top Supervisorial District 5 Projects

TOP DISTRICT 5 PROJECTS

Rank	Project	Begin	End	Type
1	Sly Park Rd	Ridgeway Dr	Pony Express Trail	Class II
2	Sly Park Rd	Ridgeway Dr	Gold Ridge Trail	Spot Improvement
3	Pine St	Laurel Dr		Spot Improvement
4	Pony Express Trail	Hub St	Forebay Rd	Sidewalk
5	Onyx Trail	Gold Ridge Trail	Sly Park Rd	Class III

CLASS II/III BICYCLE PROJECTS

Rank	Project	Begin	End	Type
1	Sly Park Rd	Ridgeway Dr	Pony Express Trail	Class II
2	Onyx Trail	Gold Ridge Trail	Sly Park Rd	Class III
3	Pony Express Trail	Carson Rd	Sly Park Rd	Class II
4	Ridgeway Dr	Sly Park Rd	Ridgeway Crt	Class III
5	Gold Ridge Trail	Ridgeway Dr	Onyx Trail	Class III

PEDESTRIAN PROJECTS

Rank	Project	Begin	End	Type
1	Sly Park Rd	Ridgeway Dr	Gold Ridge Trail	Spot Improvement
2	Pine St	Laurel Dr		Spot Improvement
3	Pony Express Trail	Hub St	Forebay Road	Sidewalk
4	Sly Park Rd	Pony Express Trail	US 50	Sidewalk

DISTRICT 5 PRIORITIZED FACILITIES

EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Proposed Improvements

- Spot Improvement
- Class I Shared-Use Path
- Class II Bicycle Lane
- Class III Bicycle Route
- Add Sidewalk

Activity Generators

- Bus Stop
- Campground
- Grocery Store
- School
- Library

Destinations + Boundaries

- Park
- Water
- Community Region

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.

0 0.5 1 MILES

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Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

Figure 8-11: Prioritized Projects in Supervisorial District 5

TOP FACILITIES NEAR TRANSIT STOPS AND SCHOOLS FOR THE EL DORADO COUNTY ACTIVE TRANSPORTATION PLAN

Prioritized Improvements

- Class I Shared-Use Path
- Class II Bicycle Lane
- Class III Bicycle Route

Destinations + Boundaries

- Park
- Community
- City of Placervilleo
- El Dorado County Transportation Commission Planning Boundary

Maps intended for planning purposes only. Proposed Improvements are not intended for route planning or navigation.

0 1 2 MILES

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Map produced July 2019
Sources: El Dorado County, Caltrain, Esri, US Census.

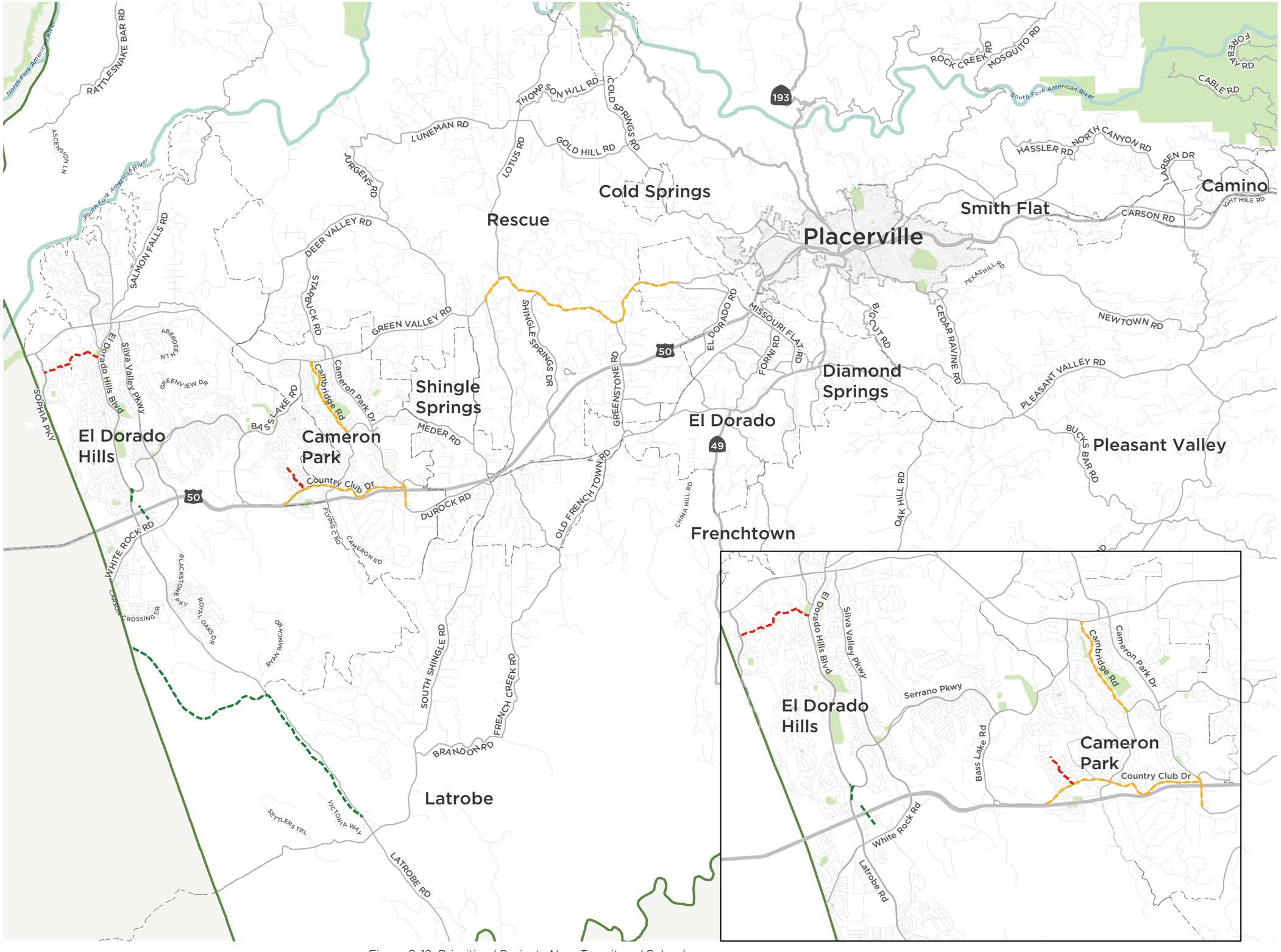


Figure 8-12: Prioritized Projects Near Transit and Schools

Top Projects Near Schools and Transit

The following projects were identified as the highest priority projects throughout the County near schools or transit. Many of these projects are Class I Shared Use Paths throughout the County. These were identified as high priority due to their proximity to a variety of factors, such as schools or other activity generators.

The top prioritized projects are listed in their sequential order, with the first being the highest scoring project, with the last having a lower priority score.

PROJECTS NEAR SCHOOLS

Rank	Project	Begin	End	Type
1	Cambridge Rd	Oxford Rd	Green Valley Rd	Class II
2	Path along El Dorado Hills Blvd	Serrano Pkwy	Park Dr	Class I
3	Elmores Way/Suffolk Way/ Brittany Way/Brittany Pl	Sophia Pkwy	El Dorado Hills Blvd	Class III
4	Town Center/Village Center US50 overcrossing	Raley's	Nugget Markets	Class I
5	Cameron Park Dr	Palmer Dr	Durock Rd	Class II

PROJECTS NEAR TRANSIT

Rank	Project	Begin	End	Type
1	Cambridge Rd	Oxford Rd	Green Valley Rd	Class II
2	El Dorado Trail	County Line	Latrobe Rd	Class I
3	Green Valley Rd	North Shingle Rd	Missouri Flat Rd	Class II
4	Castana Dr	Country Club Dr	End of Street	Class III
5	Country Club Dr	Cameron Park Dr	Placitas Dr	Class II

Funding

A variety of sources exist to fund bicycle and pedestrian infrastructure projects, programs, and studies. Local and regional funding sources that can be used for construction or maintenance of bicycle or pedestrian improvements, along with statewide and federal grant programs, are described on the following pages.

Eligibilities for the funding programs listed in this section are summarized in Table 8-6 and on pages 85-87.

FUNDING SOURCES

A variety of bicycle and pedestrian funding sources exist. As stated previously, some bicycle and pedestrian funding sources allow use for maintenance of existing facilities. Others are limited to new construction. Local and regional funding sources for bicycle and pedestrian improvements, along with competitive grant programs, are described below.

Local & Regional Opportunities

No information was available about tax measures or other funding sources specifically dedicated to transportation projects in El Dorado County. Opportunities should be explored to implement bicycle or pedestrian improvements through general funds and in cooperation with partner agencies, as discussed below.

GENERAL FUND & EXISTING PROJECTS

When possible, bicycle or pedestrian projects from this Plan should be incorporated into the County's annual budget for transportation improvements. Some improvements may also be folded into larger, complementary projects. For example, bicycle lanes could be added to paving projects within the County.

CAPITAL IMPROVEMENT PROGRAM

The Capital Improvement Program (CIP) is a planning and implementation tool for the development, construction, rehabilitation, and maintenance of transportation infrastructure. The possibility for installing bicycle and pedestrian facilities should be considered when assessing projects on the CIP.

PARTNER AGENCIES

Multiple local partners may be interested in joining with El Dorado County or its communities to improve health and safety through bicycling and walking improvements. Relationships with local tribal governments, community groups, and philanthropic groups should be fostered. Partners should be invited to

discussions about projects that would benefit all stakeholders. Partner agencies may also be able to provide matching or leveraging funds for competitive grant programs, if available.

Competitive Grant Programs

The eligible activities and other information about the following competitive grant programs is based on application cycles that occurred prior to August 2019. Because funding programs often change application forms or program guidelines, future application cycles may have updated eligibilities or requirements.

CALIFORNIA ACTIVE TRANSPORTATION PROGRAM

California's Active Transportation Program (Active Transportation Plan) funds infrastructure and non-infrastructure projects that support the program goals of shifting trips to walking and bicycling, reducing greenhouse gas emissions, and improving public health. Competitive application cycles occur every one to two years, typically in late Spring or Summer.

Eligible projects include construction of new bicycling or walking facilities, new or expanded program activities, or projects that include a combination of infrastructure and program components. Active Transportation Plan funding can be used for all project phases, including design, environmental documents, and securing right of way in addition to construction.

Competitive projects in past cycles tend to be those that serve schools, address high-crash locations, incorporate public health concerns, and benefit disadvantaged communities—defined by the Active Transportation Plan as those with low median household income, high pollution burdens based on CalEnviroScreen, or high percentages of students who qualify for free or reduced price meals. Typically no local match is required, although points are awarded to communities who do identify leveraging funds.

Funds are programmed by the California Transportation Commission (CTC).

TRANSPORTATION PLANNING GRANTS

Caltrans Transportation Planning Grants are available to communities for planning, study, and design work to identify and evaluate projects, including conducting outreach or implementing pilot projects. Applications are accepted multiple times per year. Communities are typically required to provide at least an 11.47 percent local match, but staff time or in-kind donations may be used for this match.

Competitive applications typically demonstrate strong potential to reduce greenhouse gas emissions, integrate land use planning with transportation, and articulate a strong project need, including crash data, health burdens, and environmental concerns.

Funds are programmed by Caltrans.

HIGHWAY SAFETY IMPROVEMENT PROGRAM

Caltrans offers applications for Highway Safety Improvement Program (HSIP) grants every one to two years. Projects on any publicly owned road or active transportation facility are eligible, including bicycle and pedestrian improvements.

HSIP guidelines place a strong emphasis on safety, specifically by reducing crashes. Competitive projects should be able to demonstrate a strong need based on crash data at the project location, include nationally recognized crash reduction countermeasures, are cost-effective, and are implementation-ready.

Funds are programmed by Caltrans.

SOLUTIONS FOR CONGESTED CORRIDORS PROGRAM

Funded by SB1, the Congested Corridors Program strives to reduce congestion in highly traveled and congested corridors through performance improvements that balance transportation improvements, community impacts, and environmental benefits. This program can fund a wide array of improvements including bicycle facilities and pedestrian facilities.

Competitive projects must be detailed in an approved corridor-focused planning document. These projects must include aspects that benefit all modes of transportation using an array of strategies that can change travel behavior, dedicate right of way for bikes and transit, and reduce vehicle miles traveled.

Funds are programed by the CTC.

OFFICE OF TRAFFIC SAFETY

Under the Fixing America's Surface Transportation (FAST) Act, five percent of Section 405 funds are dedicated to addressing nonmotorized safety. These funds may be used for law enforcement training related to pedestrian and bicycle safety, enforcement campaigns, and public education and awareness campaigns.

Funds are programmed by the California Office of Traffic Safety.

RECREATIONAL TRAILS PROGRAM

The Recreational Trails Program helps provide recreational trials for both motorized and nonmotorized trail use. Eligible products include: trail maintenance and restoration, trailside and trailhead facilities, equipment for maintenance, new trail construction, and more.

Funds are programed by the California Department of Parks and Recreation.

AFFORDABLE HOUSING AND SUSTAINABLE COMMUNITIES PROGRAM

The AHSC program funds land-use, housing, transportation, and land preservation projects that support infill and compact development that reduces greenhouse gas emissions. Projects must fall within one of three project area types: transit-oriented development, integrated connectivity project, or rural innovation project areas. Fundable activities include: affordable housing developments, sustainable transportation infrastructure, transportation-related amenities, and program costs.

Funds are programmed by the Strategic Growth Council and implemented by the Department of Housing and Community Development.

CULTURAL, COMMUNITY AND NATURAL RESOURCES GRANT PROGRAM – PROPOSITION 68

Proposition 68 authorizes the legislature to appropriate $40 million to the California Natural Resources Agency to protect, restore, and enhance California's cultural, community, and natural resources. One type of eligible project that this program can fund are projects that develop future recreational opportunities including: creation or expansion of trails for walking, bicycling, and/or equestrian activities and development or improvement of trailside and trailhead facilities, including visitor access to safe water supplies.

Funds are programmed by the California Natural Resources Agency.

URBAN GREENING GRANTS

Urban Greening Grants support the development of green infrastructure projects that reduce GHG emissions and provide multiple benefits. Projects must include one of three criteria, most relevantly: reduce commute vehicle miles travels by constructing bicycle paths, bicycle lanes or pedestrian facilities that provide safe routes for travel between residences, workplaces, commercial centers, and schools. Eligible projects include green streets and alleyways and non-motorized urban trails that provide safe routes for travel between residences, workplaces, commercial centers, and schools.

Funds are programmed by the California Natural Resources Agency.

FUNDING ELIGIBILITY TABLE

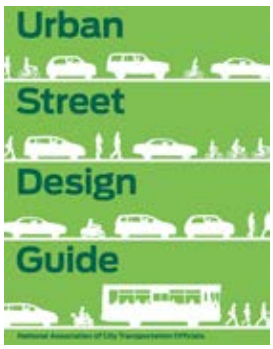
Figure 8-13: Funding Source Eligibilities by Project Type

Funding Source	On-Street Bikeways	Trails	Safe Routes to School	Safe Routes to Transit	Crossings/ Intersections	Programs	Studies
Local and Regional Sources							
City and County General Funds	●	●	●	●	●	●	●
Partner Agencies	●	●	●	●	●	●	●
Competitive Grant Programs							
Active Transportation Program (CTC)	●	●	●	●	●	●	
Sustainable Transportation Planning Grants (Caltrans)							●
Highway Safety Improvement Program (Caltrans)	●		●	●	●		
Solutions for Congested Corridors (CTC)	●	●			●		
Office of Traffic Safety (CA OTS)						●	
Recreational Trails Program (CA DPR)		●					
Affordable Housing & Sustainable Communities (CA HCD)	●			●		●	
Cultural, Community, and Natural Resources (CA NRA)		●					
Urban Greening Grants (CA NRA)	●	●	●	●			

APPENDIX A: PEDESTRIAN AND BICYCLE DESIGN GUIDELINES

Guidance Basis

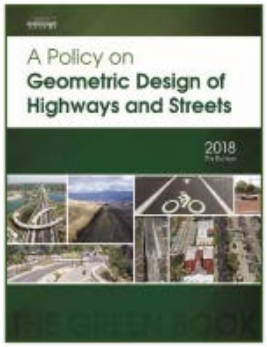
The sections that follow serve as an inventory of pedestrian and bicycle design treatments and provide guidelines for their development. These treatments and design guidelines are important because they represent the tools for creating a bicycle-friendly, safe, accessible community. The guidelines are not, however, a substitute for a more thorough evaluation by a professional upon implementation. The following standards and guidelines are referred to in this guide:



NATIONAL GUIDANCE

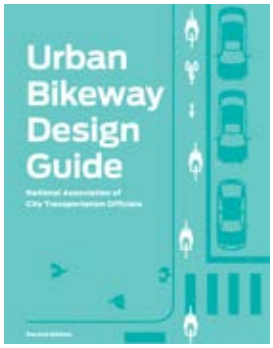
A blueprint for designing 21st century streets, the NACTO **Urban Street Design Guide (2013)** unveils the toolbox and tactics cities use to make streets safer, more livable, and more economically vibrant. The Guide outlines both a clear vision for complete streets and a basic road map for how to bring them to fruition. The document charts the principles and practices of the nation's foremost engineers, planners, and designers working in cities.

Separated Bike Lane Planning and Design Guide (2015) provides national guidance on the planning and design of separated bike lane facilities. Released by the Federal Highway Administration (FHWA), this guide documents best practices as demonstrated around the U.S., and offers ideas on future areas of research, evaluation, and design flexibility.



AASHTO GUIDE (2018) provides national guidance onthe design of highways and streets. The 7th edition of the "The Green Book" offers an updated framework for geometric design that is more flexible, multimodal, and performance based than in previous editions.

NCHRP's Improving Pedestrian Safety at Unsignalized Crossings Report recommends engineering treatments to improve pedestrian safety at unsignalized locations with high speeds and traffic volumes.

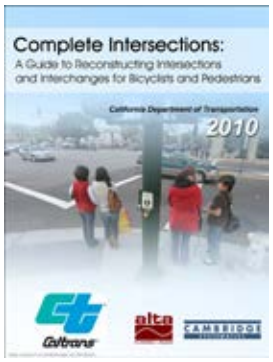


The National Association of City Transportation Officials' (NACTO) **Urban Bikeway Design Guide (2012)** provides cities with state-of-the-practice solutions that can help create complete streets that are safe and enjoyable for bicyclists. The designs were developed by cities for cities, since unique urban streets require innovative solutions. In August 2013, the Federal Highway Administration issued a memorandum officially supporting use of the document.

CALIFORNIA GUIDANCE

The **California Manual on Uniform Traffic Control Devices (CAMUTCD) (2014)** is an amended version of the FHWA MUTCD 2009 edition modified for use in California. While standards presented in the CA MUTCD substantially conform to the FHWA MUTCD, the state of California follows local practices, laws and requirements with regards to signing, striping and other traffic control devices.

The **California Highway Design Manual (HDM) (Updated 2015)** establishes uniform policies and procedures to carry out highway design functions for the California Department of Transportation.



Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians (2010) is a reference guide that presents information and concepts related to improving conditions for bicyclists and pedestrians at major intersections and interchanges. The guide can be used to inform minor signage and striping changes to intersections, as well as major changes and designs for new intersections.

Main Street, California: A Guide for Improving Community and Transportation Vitality (2013) reflects California's current manuals and policies that improve multi-modal access, livability and sustainability within the transportation system. The guide recognizes the overlapping and sometimes competing needs of main streets.

The Caltrans Memo: **Design Flexibility in Multimodal Design (2014)** encourages flexibility in highway design. The memo stated that "Publications such as the NACTO "Urban Street Design Guide" and "Urban Bikeway Design Guide," … are resources that Caltrans and local entities can reference when making planning and design decisions on the State highway system and local streets and roads."

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Sidewalk Zones & Widths

Sidewalks are the most fundamental element of the walking network, as they provide an area for pedestrian travel separated from vehicle traffic. Providing adequate and accessible facilities can lead to increased numbers of people walking, improved accessibility, and the creation of social space.

Enhancement Zone

The enhancement zone, or curbside lane, can act as a flexible space to further buffer the sidewalk from moving traffic, and may be used for a bike lane, shoulder and/or parking lane. Curb extensions and bike corrals may occupy this space where appropriate.

Buffer Zone

The buffer zone, also called the furnishing or landscaping zone, buffers pedestrians from the adjacent roadway, and is also the area where elements such as street trees, signal poles, signs, and other street furniture are properly located.

Pedestrian Through Zone

The through zone is the area intended for pedestrian travel. This zone should be entirely free of permanent and temporary objects.

Wide through zones are needed in downtown areas or where pedestrian flows are high.

Frontage Zone

The frontage zone allows pedestrians a comfortable “shy” distance from the building fronts, fencing or landscaping. It provides opportunities for window shopping, to place signs, planters, or chairs.

Street Classification	Parking Lane/ Enhancement Zone	Buffer Zone	Pedestrian Through Zone	Frontage Zone
Local Streets	Varies	4 - 6 feet	6 feet	N/A
Downtown and Pedestrian Priority Areas	Varies	4 - 6 feet	12 feet	2.5 - 10 feet
Arterials and Collectors	Varies	4 - 6 feet	6 - 8 feet	2.5 - 5 feet

TYPICAL APPLICATION

- All streets where pedestrian access is desired or anticipated
- Sidewalks should be continuous on both sides of urban commercial streets, and should be required in areas of moderate residential density.

DESIGN FEATURES

- Wider sidewalks should be installed near schools, at transit stops, in downtown areas, or anywhere high concentrations of pedestrians exist.
- At transit stops, an 8 feet by 5 feet clear space is required for accessible passenger boarding/alighting at the front door location per ADA requirements.
- When retrofitting gaps in the sidewalk network, locations near transit stops, schools, parks, public buildings, and other areas with high concentrations of pedestrians should be the highest priority.

FURTHER CONSIDERATIONS

Materials and Maintenance

Sidewalks are typically constructed out of concrete and are separated from the roadway by a curb or gutter and sometimes a landscaped boulevard. Less expensive walkways constructed of asphalt, crushed stone, or other stabilized surfaces may be appropriate. Ensure accessibility and properly maintain all surfaces regularly. Surfaces must be firm, stable, and slip resistant. Colored, patterned, or stamped concrete can add distinctive visual appeal.

Approximate Cost

Cost of standard sidewalks range from $15 to $25 per square foot for concrete sidewalk. This cost can increase with additional right-of-way acquisition or addition of landscaping, lighting or other aesthetic features. As an interim measure, an asphalt concrete path can be placed until such time that a standard sidewalk can be built. The cost of asphalt path can be less than half the cost of a standard sidewalk.

Senior zones

Right-of-way near assisted living facilities, community centers, and similar uses may benefit from key enhancements that promote the safe and comfortable use of public space for seniors. Providing comfortable pedestrian conditions in these locations is important for encouraging an active lifestyle for older adults. Design upgrades geared toward seniors include a diversity of treatments that promote safe crossings.

TYPICAL APPLICATION

- Senior zone upgrades should concentrate heavily on right of way within 1/2 mile of designated senior facilities
- Upgrades should also be made along pedestrian routes connecting facility users to transit stops and popular destinations
- Campus facilities with private roadways should also make appropriate upgrades

DESIGN FEATURES

Signage

- Install senior zone warning signage visible to all drivers within 500 feet. of the facility.
- Install enhanced wayfinding signage within 1/2 mile of senior facilities to help guide older pedestrians to transit stops and destinations.

Traffic Calming

- Slowing speeds on streets adjacent to senior facilities provides safer and more comfortable conditions for older pedestrians.
- Installing speed humps, curb extensions, and stop signs in key locations may be appropriate interventions to consider.
- Reduce speed limits on streets directly adjacent to senior facilities to 25 mph or less (in areas deemed appropriate by an engineer).

Crossing Enhancements

- Providing safe crossing opportunities for seniors may include:
- Signalization updates to provide additional pedestrian phase time for older adults and pedestrians with mobility challenges is important in senior zones. Pedestrian clearance intervals should be timed to 3.0 feet per second rather than the MUTCD standard 3.5 feet per second.
- Pedestrian signal count down displays are also useful to seniors crossing the roadway.

Amenities

- Providing adequate pedestrian amenities for seniors may include:
- Installing benches along key routes and within public parks to offer older pedestrians the opportunity to rest.
- Planting street trees to offer shading for older adults during warm weather.
- Adding pedestrian scale street lighting for easier navigation in low light conditions.

FURTHER CONSIDERATIONS

Signage

- SENIOR ZONE signage (SW50-1P) may be used above speed limit signs on any street or road, other than a State highway, exceeding 25 mph that is adjacent to some form of senior facility (CA MUTCD). Warning signage should be visible to drivers within 500 feet of a senior facility.

Accessibility

- Any deficiencies in meeting ADA guidelines should be addressed within the senior zone itself, as well as along key routes identified to serve older adults, potentially including routes to transit stops, public parks, community centers, grocery stores, and other senior serving uses.
- Curb ramp design and crosswalk placement should provide a direct line of travel from curb ramp to curb ramp to promote ease of travel for users with visual impairments and mobility devices as they proceed through the crosswalk.
- It's important to consider the turn radius of wheelchairs or other mobility devices when designing and installing ADA curb ramps. Curb ramp design should easily accommodate wheelchair and mobility scooter users attempting to turn from one crosswalk into another.

Source: City of Portland

Pedestrian/Bike Circulation within commercial Parking areas

Pedestrians and bicyclists accessing retail stores and services must often walk or bike through parking lots to reach their final destination. Key improvements can enhance the safety and comfort of this connection to reduce the likelihood of conflicts with vehicles entering, exiting, and parking in the parking lot.

TYPICAL APPLICATION

- Bicycle and pedestrian circulation upgrades in private commercial areas are most important in mid-size to large parking lots and locations with high volumes of visitors and high turnover.

DESIGN FEATURES

Signage

- Private commercial parking lots can incorporate pedestrian warning signage.
- Pedestrians and bike warning signage can be used in combination with advisory speed limit signage to draw attention to the presence of bicyclists and pedestrians in parking lots.

Traffic Calming

Slowing vehicle speeds in parking lots can promote safe and comfortable circulation for bicyclists and pedestrians. Traffic calming improvements to consider may include:

- Speed humps
- Stops signs at high volume pedestrian crossing locations
- Landscaped end cap medians to slow turning movements

Sidewalks and Striping

- Sidewalks provide the most protection for pedestrians navigating parking lots.
- Some larger parking lot configurations may support the installation of a central walkway median that can help separate pedestrians from vehicles.
- High pedestrian volume conflict points in parking lots may be improved through the striping of diagonal walkway markings.

Amenities

Commercial areas can improve the comfort of their parking lots for pedestrians through the provision of:

- Landscaped strips and street trees surrounding the perimeter of the parking lot with islands scattered throughout
- Adequate lighting throughout the parking lot
- Security cameras covering the extent of the parking lot
- Adequate bike parking

Lafayette Station Site Improvement.
Source: BART.gov

FURTHER CONSIDERATIONS

Signage

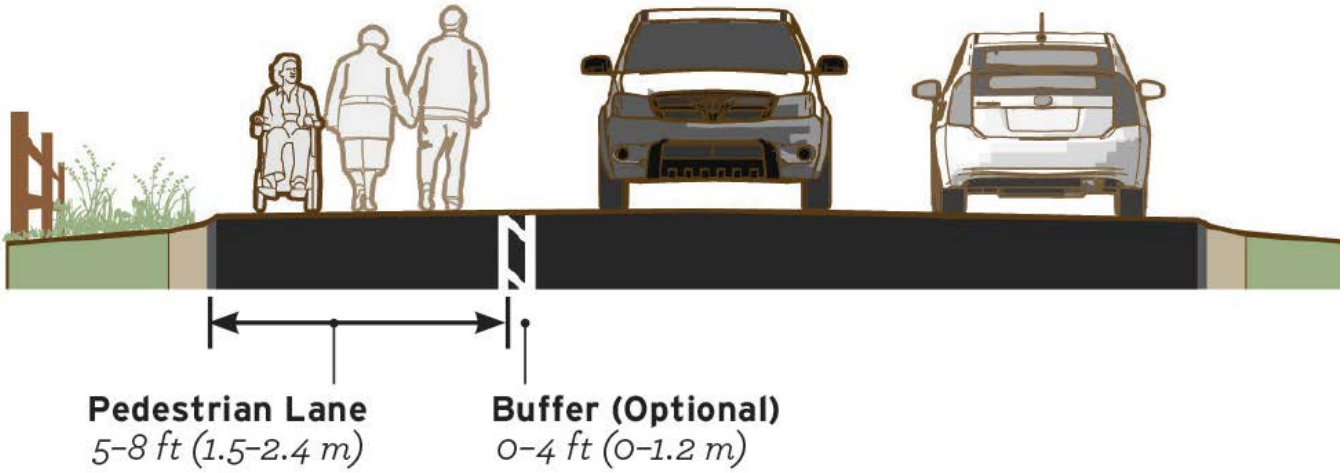
- W11-15 signs (see right) can be used to highlight the presence of cyclists and pedestrians.
- Pairing this signage with a 10 MPH advisory speed limit sign can help further communicate the need for low speeds and driver diligence.

Accessibility

- In addition to ensuring sidewalks include ADA compliant curb ramps, special attention should be paid to provide safe pedestrian connections from accessible parking spaces to the each store front.

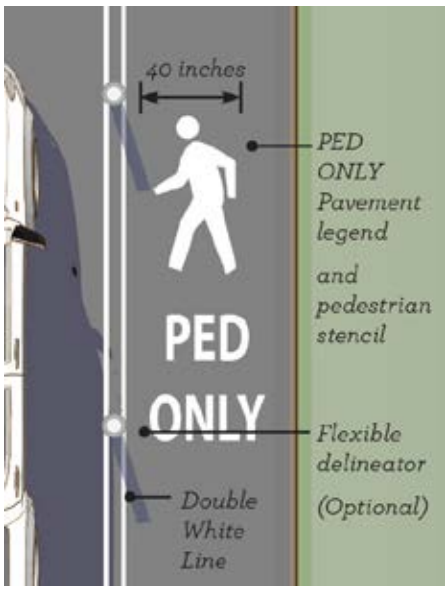
Pedestrian Lane

A pedestrian lane is an interim or temporary pedestrian facility that may be appropriate on roads with low to moderate speeds and volumes. A pedestrian lane is a designated space on the roadway for exclusive use of pedestrians. The lane may be on one or both sides of the roadway and can fill gaps between important destinations in a community.



TYPICAL APPLICATION

- Pedestrian lanes should be designed to support and promote side-by-side walking within the lane. Because of the lack of physical separation, additional width beyond this should be included for added comfort.



DESIGN FEATURES

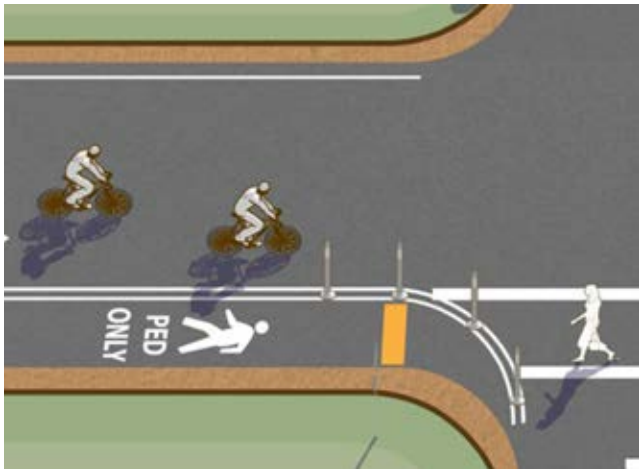
- 8 feet width is preferred
- 5 feet width is the minimum to allow for side-by-side walking and maneuverability by users of mobility devices.
- Pedestrian lanes are intended for use by pedestrians and must meet accessibility guidelines for a pedestrian access route.
- There is no maximum grade as long as the pedestrian lane is a part of the adjacent street.
- The cross slope of pedestrian access routes should be 2 percent maximum. This may be problematic on some roadways with substantial crowns.
- The surface of pedestrian access routes shall be firm, stable, and slip resistant.

FURTHER CONSIDERATIONS

Markings

Separate a pedestrian lane from the adjacent travel lanes with some form of longitudinal marking.

- Use a double white line for extra emphasis and to discourage motor vehicle encroachment.
- If additional comfort is desired, mark a buffer to increase separation between pedestrians and motor vehicles.
- Mark pedestrian lanes with the appropriate pavement word markings.
- Use a PED ONLY legend marking to designate exclusive pedestrian use of the lane.
- For additional awareness, use a pedestrian symbol to communicate exclusive pedestrian use.
- Markings should be visible to "approaching traffic for all available departures" (MUTCD 2009, p. 415).



Intersections

Configure pedestrian lanes with treatments to provide for a safe, clear, and accessible passage at street crossings.

- Define the corner at intersections with a double solid white line to reduce motor vehicle encroachment into the pedestrian areas. Use flexible delineators where a more robust treatment is desired.
- Place stop lines or yield lines outside of the pedestrian area.
- Crosswalks may be marked to clearly delineate the crossing paths of pedestrians.
- Provide detectable warnings in advance crosswalks, even in the absence of a curb ramp transition.

Signs

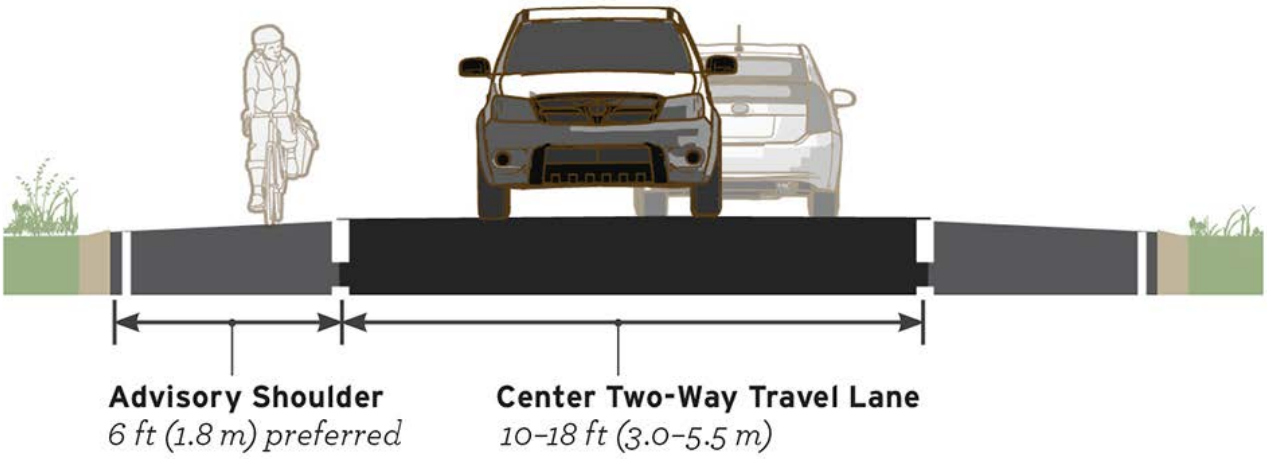
Pedestrian Warning Sign (W11-2) paired with an "ON ROADWAY" legend plaque may be used to indicate to drivers to expect pedestrians within the paved road surface.

Accessibility

Any deficiencies in meeting ADA guidelines during implementation as a restriping project should be identified in the ADA transition plan and be corrected in the next resurfacing. Note that pedestrian lanes are a interim facility, and a full sidewalk construction should be planned for future implementation.

Advisory Shoulder

Advisory shoulders create usable shoulder for bicyclists and/or pedestrians on a roadway that is otherwise too narrow to accommodate one. The shoulder is delineated by pavement markings and optional pavement color. Motorists may only enter the shoulder when no bicyclists or pedestrians are present and must overtake these users with caution due to potential oncoming traffic.



TYPICAL APPLICATION

- Low volume, low speed roadways with limited roadway width and few intersections/driveways

DESIGN FEATURES

Advisory Shoulder

- Unlike a conventional shoulder, an advisory shoulder is a part of the traveled way, and it is expected that vehicles will regularly encounter meeting or passing situations where driving in the advisory shoulder is necessary and safe.
- The advisory shoulder space is a visually distinct area on the edge of the roadway, offering a prioritized space for people to bicycle and walk.
- The preferred width of the advisory shoulder space is 6 feet. Absolute minimum width is 4 feet when no curb and gutter is present.
- Consider using contrasting paving materials between the advisory shoulder and center travel lane to differentiate the advisory shoulder from the center two-way travel lane in order to minimize unnecessary encroachment and reduce regular straddling of the advisory shoulder striping.

Two-Way Center Travel Lane

The two-way center travel lane is created from the remaining paved roadway space after the advisory shoulder has been accounted for.

- Preferred two-way center travel lane width is 13.5 to 16 feet, although may function with widths of 10 to 18 feet.

FURTHER CONSIDERATIONS

Markings

- A broken lane line used to delineate the advisory shoulder should consist of 3 feet line segments and 6 feet gaps.
- Where additional edge definition is desired, stripe a normal solid white edge line in addition to the broken advisory shoulder line.
- If the advisory shoulder is intended for bicycle use only, bicycle lane markings and green pavement can be used in a similar manner to conventional bicycle lanes.
- In general, do not mark a center line on the roadway. Short sections may be marked with center line pavement markings to separate opposing traffic flows at specified locations, such as around curves, over hills, on approaches to controlled intersections, and at bridges. At these locations, widen the paved roadway surface to provide space for paved bicycle-accessible shoulders and conventional width travel lanes.

Intersections

- Advisory shoulder designs work best on road segments without frequent stop or signal controlled intersections that require vehicles to stop within the roadway. The designer should strive to maintain the visual definition of the advisory shoulder through all driveways and street crossings, and provide a conventional shoulder at controlled intersections.
- At minor street crossings, use a dotted line extension on both sides of the advisory shoulder to maintain delineation of the advisory shoulder space.
- If contrasting pavement material is used, maintain the material through driveway crossings and minor intersections.
- Where the road is controlled by a stop sign or traffic signal, discontinue the advisory shoulder 50 feet in advance of the intersection. At these locations, provide a bicycle accessible paved shoulder outside of the full width travel lanes or design for operation as a shared roadway.

Signs

Use signs to warn road users of the special characteristics of the street. Potential signs for use with advisory shoulders include:

- Use an unmodified two-way traffic warning sign (W6-3) to clarify two-way operation of the road.
- Use a NO CENTER LINE warning sign (W8-12) to help clarify the unique striping pattern.
- Use a NO PARKING ON PAVEMENT (R8-1) to discourage parking within the advisory shoulder.

Accessibility

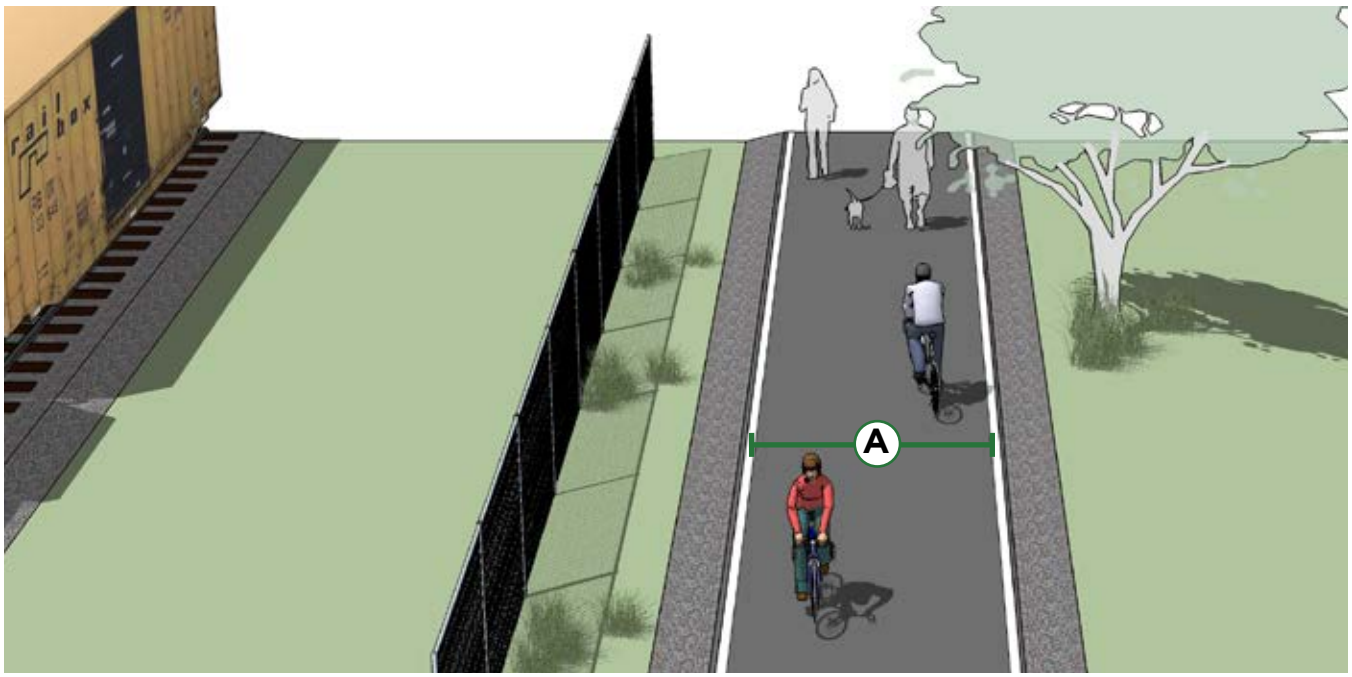
Advisory shoulders as described here are not intended for primary use by pedestrians. When advisory shoulders are intended for use by pedestrians, they should meet accessibility guidelines.

Implementation

In order to install advisory shoulders, an approved Request to Experiment is required as detailed in the MUTCD 2009, Sec. 1A.10. FHWA is also accepting requests for experimentation with a similar treatment called “dashed bicycle lanes”.

Shared Use Path (Class I)

Shared use paths (Class I) are off-street facilities that can provide a desirable transportation and recreation connection for users of all skill levels who prefer separation from traffic. They often provide low-stress connections to local and regional attractions that may be difficult, or not be possible on the street network.



TYPICAL APPLICATION

- In abandoned rail corridors (commonly referred to as Rails-to-Trails or Rail-Trails.
- In active rail corridors, trails can be built adjacent to active railroads (referred to as Rails-with-Trails.
- In utility corridors, such as powerline and sewer corridors.
- In waterway corridors, such as along canals, drainage ditches, rivers, and creeks.
- Through parks and across other public lands
- Along roadways.

DESIGN FEATURES

(A) 8 feet is the absolute minimum width (with 2 foot shoulders) allowed for a two-way travel and is only recommended for constrained situations (Caltrans Design Manual).

- 10 feet is recommended in most situations and will be adequate for moderate use.
- 12 feet is recommended for heavy use situations with high concentrations of multiple users. A separate track (5 foot minimum) can be provided for pedestrian use.

FURTHER CONSIDERATIONS

Lateral Clearance

- A 2 foot or greater shoulder on both sides of the path should be provided. An additional foot of lateral clearance (total of 3 feet) is required by the MUTCD for the installation of signage or other furnishings.
- If bollards are used at intersections and access points, they should be colored brightly and/or supplemented with reflective materials to be visible at night.

Overhead Clearance

- Clearance to overhead obstructions should be an 8 foot minimum, with 10 feet recommended.

Striping

- When striping is desired, use a 4 inch dashed yellow centerline stripe.
- Solid centerlines can be provided on tight or blind corners, and on the approaches to roadway crossings.
- 4 inch solid white edge lines are optional, but will narrow the effective width of the facility.

Materials and Maintenance

- Shared use paths must be regularly maintained so that they are free of potholes, cracks, root damage, and debris. Signage and lighting should also be regularly maintained to ensure shared use path users feel comfortable, especially where visibility is limited.
- Adjacent landscaping should be regularly pruned, to allow adequate sightlines, daylight, and pedestrian-scale lighting, and so as not to obstruct the path of travel of trail users.

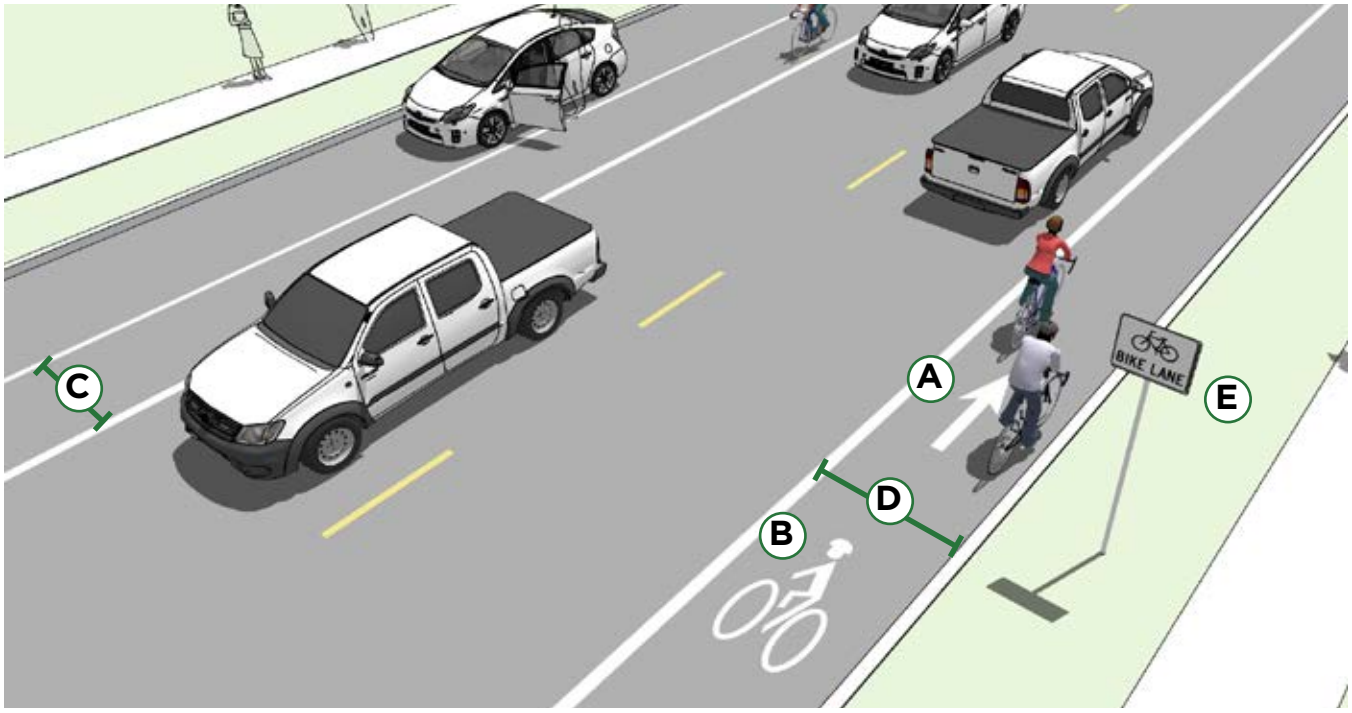
Approximate Cost

- The cost of a shared use path can vary, but typical costs are between $65,000 per mile to $4 million per mile. These costs vary with materials, such as asphalt, concrete, boardwalk and other paving materials, lighting, other amenities and ROW acquisition.

Prince Memorial Greenway connects users to downtown Santa Rosa. Source: Peter Stetson.

On-Street Bicycle Lanes (Class II)

On-street bike lanes (Class II) are a portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes enable bicyclists to ride at their preferred speed without interference from prevailing traffic conditions and facilitate predictable behavior and movements between bicyclists and motorists.



TYPICAL APPLICATION

- Bike lanes may be used on any street with adequate space, but are most effective on streets with moderate traffic volumes greater than or equal to 6,000 ADT (with a greater than 3,000 ADT min.).
- Bike lanes are most appropriate on streets with low to moderate speeds of 25 mph or more.
- Appropriate for skilled adult riders on most streets.
- May be appropriate for children when configured as 6+ feet wide lanes on lower-speed, lower-volume streets with one lane in each direction.

DESIGN FEATURES

A Mark inside line with 6 inch stripe. Mark 4 inch parking lane line or "Ts".

B Include a bicycle lane marking (MUTCD 9C-3) at the beginning of blocks and at regular intervals along the route (MUTCD 9C.04).

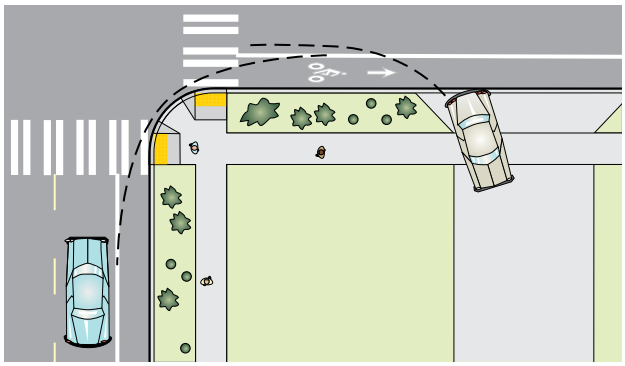
C 6 feet width preferred adjacent to on-street parking (5 feet min.).

D 6 feet preferred adjacent to curb and gutter (5 feet min.) or 3 feet minimum/ 4 feet preferred wider than the gutter pan width.

E Signage consists of an optional R81 (CA) sign, which must be placed at the beginning of each bike lane and at major changes in direction. It should also be placed at every arterial street and at 1/2 mile intervals.

FURTHER CONSIDERATIONS

- On high speed streets (greater than or equal to 40 mph) the minimum bike lane should be 6 feet.
- On streets where bicyclists passing each other is to be expected, where high volumes of bicyclists are present, or where added comfort is desired, consider providing extra wide bike lanes up to 7 feet wide, or configure as a buffered bicycle lane.
- It may be desirable to reduce the width of general purpose travel lanes in order to add or widen bicycle lanes.
- On multi-lane and/or high speed streets, the most appropriate bicycle facility to provide for user comfort may be buffered bicycle lanes or physically separated bicycle lanes.



Bike lane word, symbol, and/or arrow markings (MUTCD Figure 9C-3) shall be placed outside of the motor vehicle tread path in order to minimize wear from the motor vehicle path (NACTO 2012).

Manhole Covers and Grates

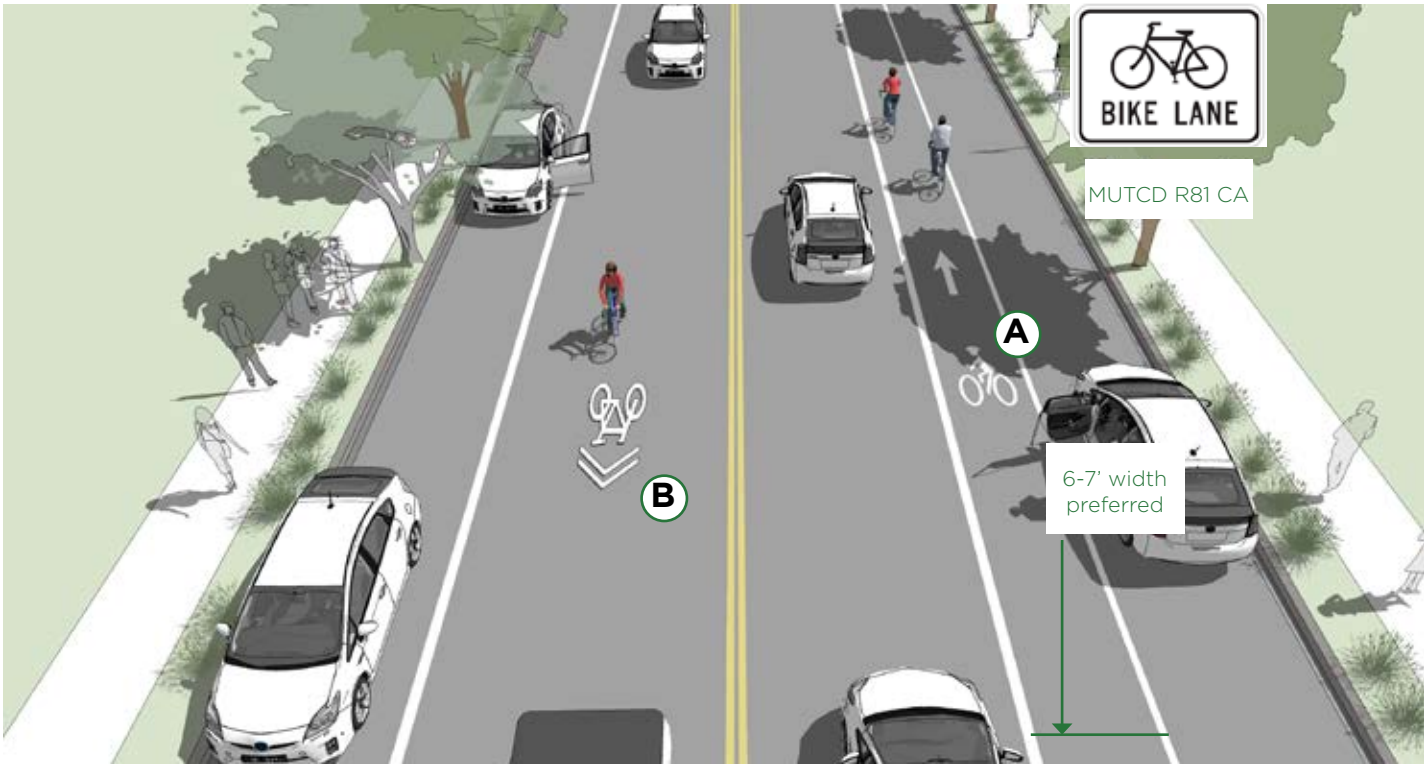
- Manhole surfaces should be manufactured with a shallow surface texture in the form of a tight, nonlinear pattern
- If manholes or other utility access boxes are to be located in bike lanes within 50 feet of intersections or within 20 feet of driveways or other bicycle access points, special manufactured permanent nonstick surfaces are required to ensure a controlled travel surface for bicyclists breaking or turning.
- Manholes, drainage grates, or other obstacles should be set flush with the paved roadway. Roadway surface inconsistencies pose a threat to safe riding conditions for bicyclists. Construction of manholes, access panels or other drainage elements will be constructed with no variation in the surface. The maximum allowable tolerance in vertical roadway surface will be 1/4 of an inch.

Approximate Cost

- The cost for installing bicycle lanes will depend on the implementation approach. Typical costs are $16,000 per mile for the application of a bike lane on new pavement.

Bicycle lanes provide an exclusive space, but may be subject to unwanted encroachment by motor vehicles.

Uphill Climbing Bike Lanes



TYPICAL APPLICATION

- Sections of roadway with moderate to high traffic volumes and speeds where steep grades may prevent bicyclists from traveling at a safe speed for general travel lanes.
- Climbing lanes should be 6 to 7 feet wide to provide adequate maneuvering space for uphill pedaling.
- Mark inside line with 6 inch stripe. Mark 4 inch parking lane line or "Ts".

DESIGN FEATURES

(A) Same features as Class II bike lanes.

- If the roadway is two-way, downhill cyclists on the opposite side of the street will likely be traveling closer to vehicle travel speeds, making a designated lane less necessary.

(B) In these instances climbing lane treatments may be paired with shared lane markings on the downhill general travel lane.

FURTHER CONSIDERATIONS

Approximate Cost

- Climbing lanes cost approximately the same amount as standard bike lanes on a per-mile basis, but are often applied over shorter distances

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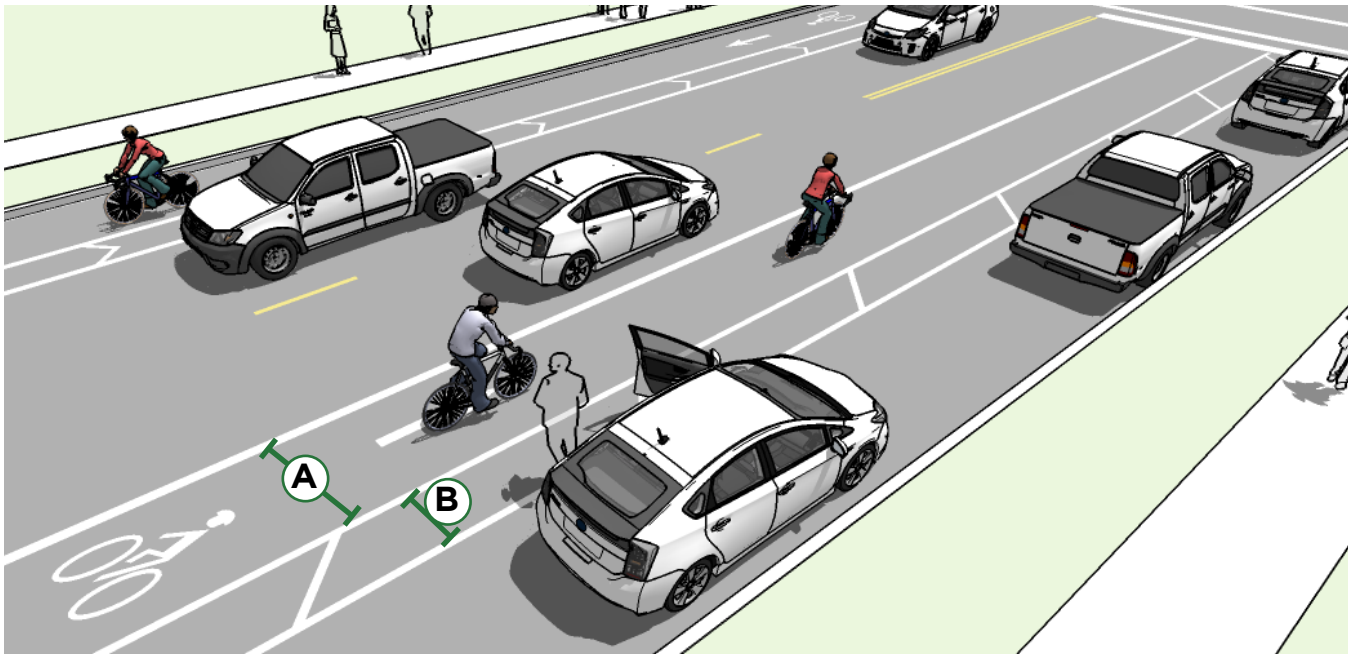
Buffered Bicycle Lanes (Class II)

Buffered bike lanes (Class II) are conventional bicycle lanes paired with a designated buffer space, separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane.



TYPICAL APPLICATION

- Anywhere a conventional bike lane is being considered.
- On streets with high speeds and high volumes or high truck volumes.
- On streets with extra lanes or lane width.
- Appropriate for skilled adult riders on most streets.

DESIGN FEATURES

(A) The minimum bicycle travel area (not including buffer) is 5 feet wide.

(B) Buffers should be at least 2 feet wide. If buffer area is 4 feet or wider, white chevron or diagonal markings should be used (CA MUTCD 9C-104).

- For clarity at driveways or minor street crossings, consider a dotted line.
- There is no standard for whether the buffer is configured on the parking side, the travel side, or a combination of both.

The use of pavement markings delineates space for bicyclists to ride in a comfortable facility.

The use of pavement markings delineates space for bicyclists to ride in a comfortable facility.

FURTHER CONSIDERATIONS

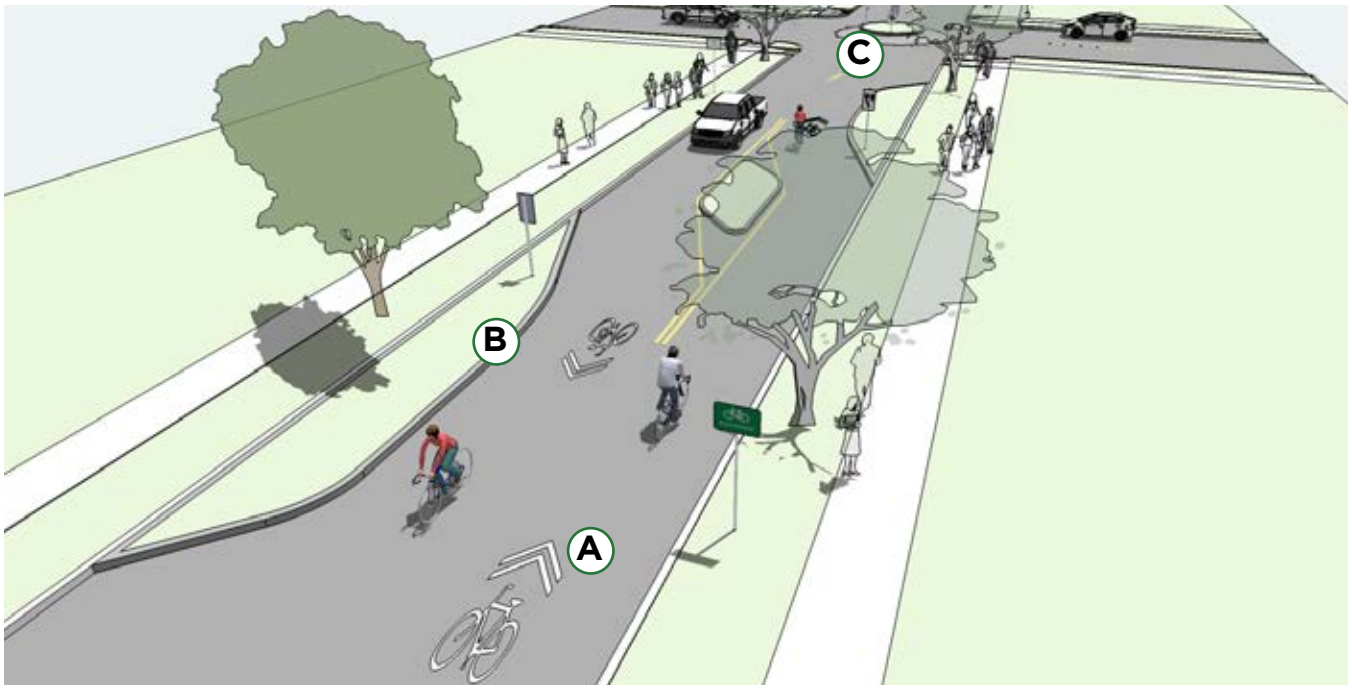
- Color may be used within the lane to discourage motorists from entering the buffered lane.
- A study of buffered bicycle lanes found that, in order to make the facilities successful, there needs to also be driver education, parking signage and proper pavement markings.
- On multi-lane streets with high vehicles speeds, the most appropriate bicycle facility to provide for user comfort may be physically separated bike lanes.
- NCHRP Report #766 recommends, when space in limited, installing a buffer space between the parking lane and bicycle lane where on-street parking is permitted rather than between the bicycle lane and vehicle travel lane.

Approximate Cost

- The cost for installing buffered bicycle lanes will depend on the implementation approach. Typical costs are $25,000 per mile on new pavement. However, the cost of large-scale bicycle treatments will vary greatly due to differences in project specifications and the scale and length of the treatment.

Bicycle Boulevards (Class III)

Bicycle boulevards (Class III) are low-volume, low-speed streets modified to enhance bicyclist comfort by using treatments such as signage, pavement markings, traffic calming and/or traffic reduction, and intersection modifications. These treatments allow through movements of bicyclists while discouraging similar through-trips by non-local motorized traffic.



TYPICAL APPLICATION

- Parallel with and in close proximity to major thoroughfares (1/4 mile or less).
- Follow a desire line for bicycle travel that is ideally long and relatively continuous (2-5 miles).
- Along routes that create sufficient network density of routes suitable for all ages and abilities.
- Avoid alignments with excessive zigzag or circuitous routing. The bikeway should have less than 10 percent out of direction travel compared to shortest path of primary corridor.
- Streets with travel speeds at 25 mph or less (20 mph recommended) and with traffic volumes of fewer than 1,500 vehicles per day.

DESIGN FEATURES

A Signs and pavement markings are the minimum treatments necessary to designate a street as a bicycle boulevard.

B Implement volume control treatments based on the context of the bicycle boulevard, using engineering judgment. Target motor vehicle volumes range from 1,000 to 1,500 vehicles per day.

C Intersection crossings should be designed to enhance safety and minimize delay for bicyclists and pedestrians. Treatments should not be an attractor for vehicular access.

Bicycle boulevards are established on streets that improve connectivity to key destinations and provide a direct, low-stress route for bicyclists, with low motorized traffic volumes and speeds, designated and designed to give bicycle travel priority over other modes.

Neighborhood bikeways may require additional traffic calming measures to discourage through trips by motor vehicles.

FURTHER CONSIDERATIONS

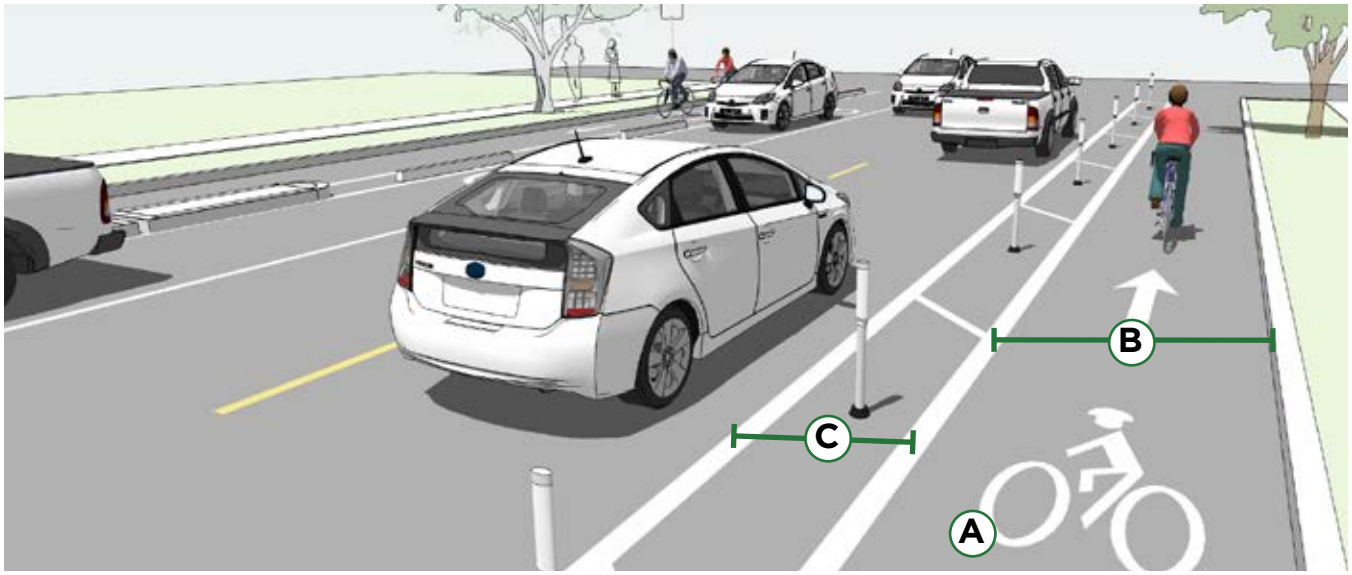
- Bicycle boulevards are typically located on streets without existing signalized accommodation at crossings of collector and arterial roadways. Without treatments for bicyclists and pedestrians, these intersections can become major barriers along the bicycle boulevard and compromise safety.
- Traffic calming can lower speeds along bicycle boulevards and even deter motorists from driving on a street. Anticipate and monitor vehicle volumes on adjacent streets to determine whether traffic calming results in inappropriate volumes. Traffic calming can be implemented on a trial basis. For more information on traffic calming strategies, see page 32).

Approximate Cost

- Costs vary depending on the type of treatments proposed for the corridor. Simple treatments such as wayfinding signage and markings are most cost-effective, but more intensive treatments will have greater impact at lowering speeds and volumes, at a higher cost.

Separated Bikeways (Class IV)

Separated Bike Lanes (Class IV) have different forms but all share common elements—they provide space that is intended to be exclusively or primarily used for bicycles, and are separated from motor vehicle travel lanes, parking lanes, and sidewalks. In situations where on-street parking is allowed they are located to the curb-side of the parking (in contrast to bike lanes).



Class IV bikeways may be at street level, at sidewalk level, or at an intermediate level. When retrofitting protected bikeways onto existing streets, a one-way street-level design may be most appropriate. This design provides protection through physical barriers and can include flexible delineators, curbs, on-street parking or other barriers.

TYPICAL APPLICATION

- Street retrofit projects with limited funds for relating curbs and drainage.
- Streets with high motor vehicle volumes and/or speeds and high bicycle volumes.
- Streets for which conflicts at intersections can be effectively mitigated using parking lane setbacks, bicycle markings through the intersection, and other signalized intersection treatments.
- Appropriate for most riders on most streets.

DESIGN FEATURES

A Pavement markings, symbols and/or arrow markings must be placed at the beginning of the protected bikeway and at intervals along the facility (MUTCD 9C.04).

B 7 foot width preferred to allow passing (5 foot minimum).

C 3 foot minimum buffer width when adjacent to parking. 18 inch minimum adjacent to travel lanes. Channelizing devices should be placed in the buffer area (NACTO, 2012).

- If buffer area is 4 feet or wider, white chevron or diagonal markings should be used.

Protected Bikeways can be separated from the street with parking, planters, bollards, or other design elements.

FURTHER CONSIDERATIONS

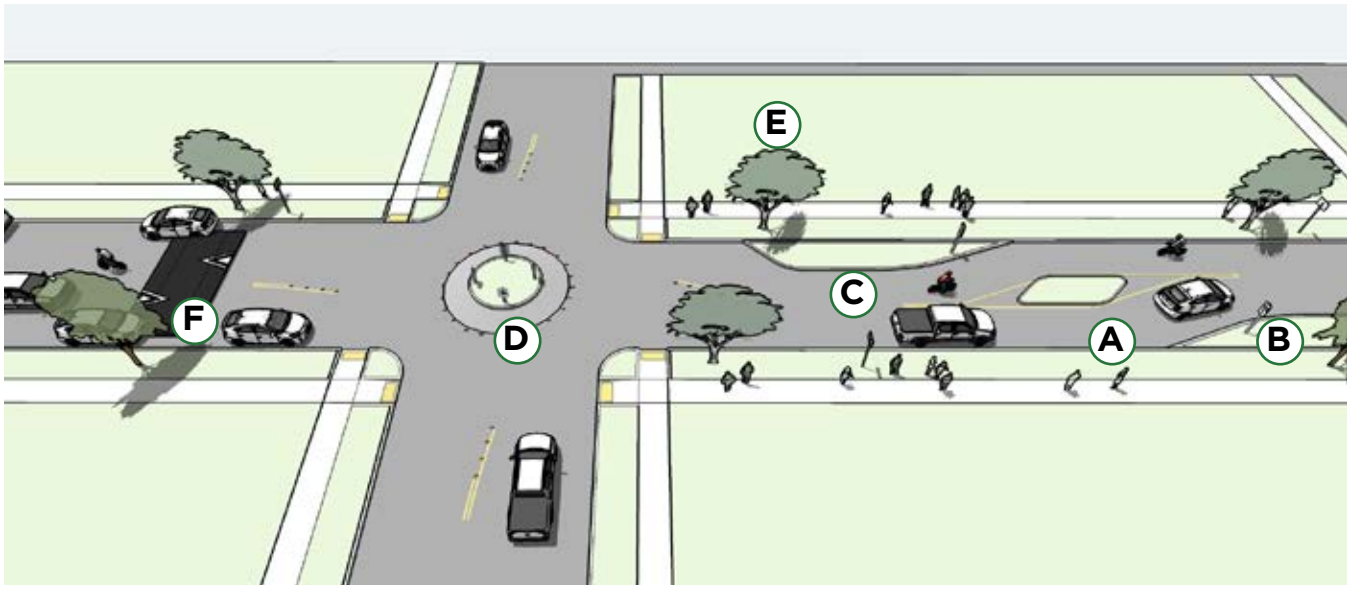
- Protected bikeway buffers and barriers are covered in the MUTCD as preferential lane markings (section 3D.01) and channelizing devices (section 3H.01). Curbs may be used as a channeling device, see the section on islands (section 3I.01).
- A retrofit protected bikeway lane has a relatively low implementation cost compared to road reconstruction by making use of existing pavement and drainage and by using parking lane as a barrier.
- Gutters, drainage outlets and utility covers should be designed and configured as not to impact bicycle travel.
- Special consideration should be given at transit stops to manage bicycle and pedestrian interactions.

Approximate Cost

- The implementation cost is low if the project uses existing pavement and drainage, but the cost significantly increases if curb lines need to be moved. A parking lane is the low-cost option for providing a barrier. Other barriers might include concrete medians, bollards, tubular markers, or planters.

Traffic Calming Strategies

Traffic calming may include elements intended to reduce the speeds of motor vehicle traffic to be closer to bicyclist travel speeds, or may include design elements that restrict certain movements for motorized travel to discourage the use of bicycle boulevard corridors for through travel by automobiles. Traffic calming treatments can cause drivers to slow down by constricting the roadway space or by requiring careful maneuvering. Such measures may reduce the design speed of a street, and can be used in conjunction with reduced speed limits to reinforce the expectation of lowered speeds. They can also lower vehicle volumes by physically or operationally reconfiguring corridors and intersections along the route.



TYPICAL APPLICATION

- Use traffic calming to maintain an 85th percentile speed below 20 mph (25 mph maximum).
- Maintain a minimum clear width of 14 feet with a constricted length of at least 20 feet in the direction of travel.
- Bring traffic volumes down to 1,500 cars per day (3,000 cars per day maximum). Bikeways with daily volumes above this limit should be considered for traffic calming measures.

DESIGN FEATURES

Speed Reduction

(A) Median islands create a pinchpoint for traffic in the center of the roadway and offers shorter crossing distances for pedestrians when used in tandem with a marked crossing.

(B) Chicanes slow drivers by requiring vehicles to shift laterally through narrowed lanes and which avoids uninterrupted sightlines.

(C) Pinchpoints, chokers, or curb extensions restrict motorists from operating at high speeds on local streets by visually narrowing the roadway.

D Neighborhood traffic circles reduce speed of traffic at intersections by requiring motorists to move cautiously through conflict points.

E Street trees narrow a driver's visual field, subconsciously queuing drivers to slow down.

Volume Reduction

- Partial closure diverters allow bicyclists to proceed straight across the intersection but forces motorists to turn left or right. All turns from the major street onto the bikeway are prohibited. Can incorporate curb extensions with stormwater management features and/ora mountable island.
- Right-in/right-out diverters force motorists to turn right while bicyclists can continue straight through the intersection. The island can provide a through bike lane or bicycle access to reduce conflicts with right-turning vehicles. Left turns from the major street onto the bikeway are prohibited, while right turns are still allowed.
- Median refuge island diverters restrict through and left-turn vehicle movements along the bikeway while providing refuge for bicyclists to cross one direction of traffic at a time. This treatment prohibits left turns from the major street onto the bikeway, while right turns are still allowed.
- Full diverters block all motor vehicles from continuing on a neighborhood bikeway, while bicyclists can continue unrestricted. Full closures can be constructed to be permeable to emergency vehicles.

Bike Intersection Crossings

Bicycle pavement markings through intersections guide bicyclists on a safe and direct path through the intersection and provide a clear boundary between the paths of through bicyclists and vehicles in the adjacent lane.

TYPICAL APPLICATION

- Streets with conventional, buffered, or separated bike lanes.
- At direct paths through intersections.
- Streets with high volumes of adjacent traffic.
- Where potential conflicts exist between through bicyclist and adjacent traffic.

DESIGN FEATURES

(A) Intersection markings should be the same width and in line with leading bike lane.

- Dotted lane line extensions should be 2 foot line segments with 2 to 6 foot gaps between them (CAMUTCD 3B.08).
- All markings should be white, skid resistant and retro reflective (CAMUTCD 9C.02.02).

(B) Dotted white lines may be enhanced with solid green, or dashed green within the same extents as the dotted line itself.

Intersection crossing markings can be used at signalized intersections or high volume minor street and driveway crossings.

FURTHER CONSIDERATIONS

The National Committee on Uniform Traffic Control Devices has submitted a request to include additional options for bicycle lane extensions through intersections as a part of future MUTCD updates. Their proposal includes the following options for striping elements within the crossing:

- Bicycle lane markings
- Double chevron markings, indicating the direction of travel.
- Green colored pavement.

Approximate Cost

The cost for installing intersection crossing markings will depend on the implementation approach. On roadways with adequate width for reconfiguration or restriping, costs may be negligible when provided as part of routine overlay or repaving projects.

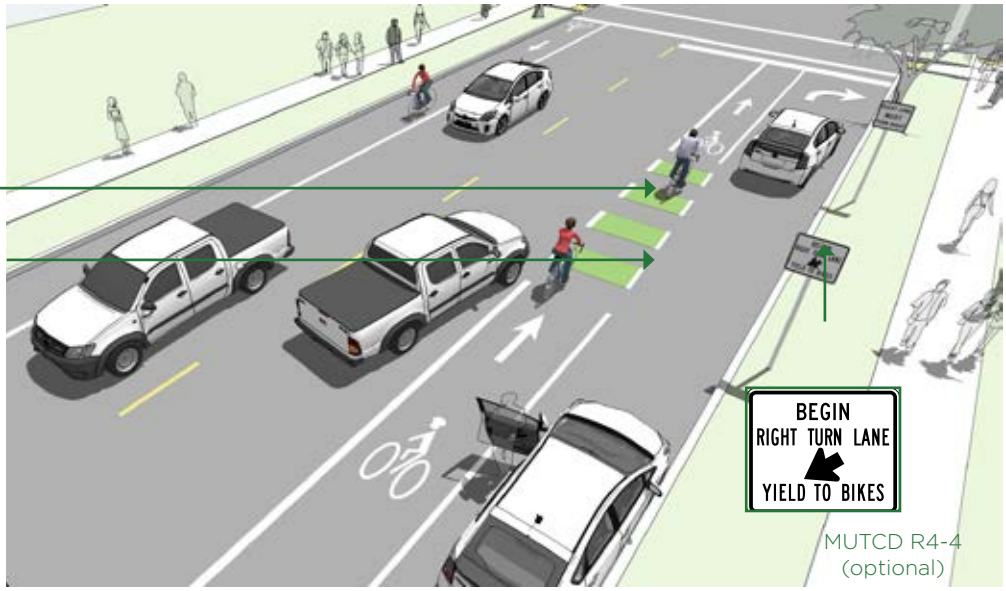
Typical thermoplastic green markings range from $8-15 per square foot depending on quantity.

Bike Lanes at Right-Turn Lanes

At right-turns add lanes to place the bike lane between the right-turn lane and the right-most through lane or, where right-of-way is insufficient, to use a shared bike lane/turn lane. The design (below) illustrates conflict markings, with signage indicating that motorists should yield to bicyclists through the conflict area.

Colored pavement may be used in the weaving area to increase visibility and awareness of potential conflict

Optional dotted lines



MUTCD R4-4 (optional)

TYPICAL APPLICATION

- Locations where vehicular traffic must cross over dedicated bike facilities to enter into a right-turn lane

DESIGN FEATURES

At auxiliary right turn only lanes (add lane):

- Continue existing bike lane width; standard width of 5 to 6 feet or 4 feet in constrained locations.
- Use R4-4 signage to indicate that motorists should yield to bicyclists through the conflict area.
- Consider using colored conflict areas to promote visibility of the mixing zone.

Where a through lane becomes a right turn only lane:

- Do not define a dotted line merging path for bicyclists.
- Use shared lane markings to indicate shared use of the lane in the merging zone.

Drivers wishing to enter the right turn lane must transition across the bicycle lane in advance of the turn.

FURTHER CONSIDERATIONS

- The bicycle lane maintains a straight path, and drivers must weave across, providing clear right-of-way priority to bicyclists.
- Maintaining a straight bicycle path reinforces the priority of bicyclists over turning cars. Drivers must yield to bicyclists before crossing the bike lane to enter the turn lane.
- Through lanes that become turn only lanes are difficult for bicyclists to navigate and should be avoided.
- The use of dual right-turn-only lanes should be avoided on streets with bike lanes (AASHTO, 2013). Where there are dual right-turn-only lanes, the bike lane should be placed to the left of both right-turn lanes; however, this merge is uncomfortable for most bicyclists. Keeping the bike lane to the right of the turn lanes is possible if a bicycle signal phase is implemented to separate bicyclists from turning vehicles.

Approximate Cost

- The cost for installing bicycle lanes will depend on the implementation approach. On roadways with adequate width for reconfiguration or restriping, costs may be negligible when provided as part of routine overlay or repaving projects.

Materials and Maintenance

- Because the effectiveness of markings depends entirely on their visibility, maintaining the visibility of markings should be a high priority.

Combined Bike Lane/Turn Lane

Where there isn't room for a conventional bicycle lane and turn lane a combined bike lane/turn lane creates a shared lane where bicyclists can ride and turning motor vehicles yield to through traveling bicyclists. The combined bicycle lane/ turn lane places shared lane markings within a right turn only lane.

TYPICAL APPLICATION

- Most appropriate in areas with lower posted speeds (25 MPH or less) and with lower traffic volumes (10,000 ADT or less).
- May not be appropriate for high speed arterials or intersections with long right turn lanes.
- May not be appropriate for intersections with large percentages of right-turning heavy vehicles.

DESIGN FEATURES

(A) Maximum shared turn lane width is 13 feet; narrower is preferable (NACTO, 2012).

(B) Shared Lane Markings should indicate preferred positioning of bicyclists within the combine lane.

(C) A "Right Lane Must Turn Right" (CA MUTCD R3-7R) sign with an "EXCEPT BIKES" plaque may be needed to permit through bicyclists to use a right turn lane.

(D) Use "Begin Right Turn Lane Yield To Bikes" signage (CA MUTCD R4-4) to indicate that motorists should yield to bicyclists through the conflict area.

- There should be a receiving bicycle lane or shoulder on the far side of the intersection

Shared lane markings and signs indicate that bicyclists should right in the left side of this right turn only lane.

FURTHER CONSIDERATIONS

- This treatment is recommended at intersections lacking sufficient space to accommodate both a standard through bike lane and right turn lane.
- Not recommended at intersections with high peak motor vehicle right turn movements.
- Combined bike lane/turn lane creates safety and comfort benefits by negotiating conflicts upstream of the intersection area.

Materials and Maintenance

- Because the effectiveness of markings depends entirely on their visibility, maintaining the visibility of markings should be a high priority.

Approximate Cost

- The cost for installing a combined bike/turn lane will depend on the implementation approach. On roadways with adequate width for reconfiguration or restriping, costs may be negligible when provided as part of routine overlay or repaving projects. Some roadways can be retrofitted with simple shared lane markings and accompanying signage.

Local Neighborhood Accessways

Neighborhood accessways provide residential areas with direct bicycle and pedestrian access to parks, trails, greenspaces, and other recreational areas. They most often serve as small trail connections to and from the larger trail network, typically having their own rights-of-way and easements.

El Dorado General Plan Policy TC-4i states: "Within Community Regions and Rural Centers, all development shall include pedestrian/bike paths connecting to adjacent development and to schools, parks, commercial areas and other facilities where feasible. In Rural Regions, pedestrian/bike paths shall be considered as appropriate." See Chapter 3 of the County General Plan.

TYPICAL APPLICATION

- Neighborhood accessways should be designed into new subdivisions at every opportunity and should be required by City/County subdivision regulations.
- For existing subdivisions, neighborhood and homeowner association groups are encouraged to identify locations where such connections would be desirable. Nearby residents and adjacent property owners should be invited to provide landscape design input.

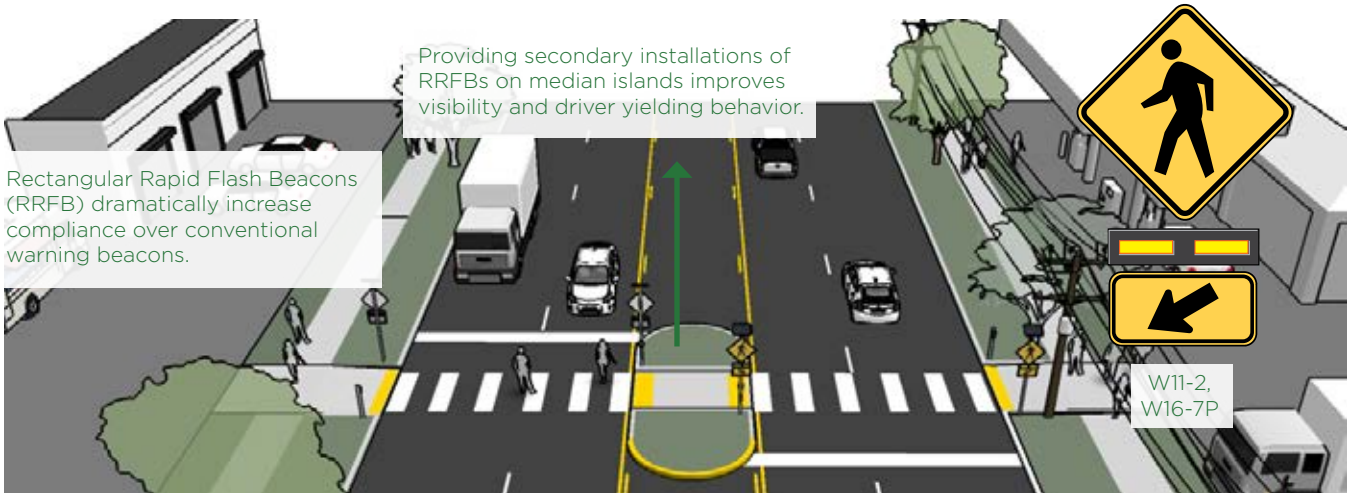
DESIGN FEATURES

(A) Neighborhood accessways should remain open to the public.

- Accessways shall be designed with 12 feet minimum of right of way and 8 feet of pathway, to accommodate emergency and maintenance vehicles and be considered suitable for multi-use.
- Trail widths should be designed to be less than 8 feet wide only when necessary to protect mature trees over 18 inches in caliper, wetlands or other ecologically sensitive areas.
- Lighting and fencing may be included at accessways where additional security is desired.

Active Warning Beacons

Active warning beacons are placed at unsignalized crossings to increase motor vehicle yielding compliance on multi-lane or high volume roadways. These enhancements include pathway user or sensor actuated warning beacons or Rectangular Rapid Flash Beacons (RRFB) shown below.



TYPICAL APPLICATION

- RRFB's are typically activated by pedestrians manually with a push button, or can be actuated automatically with passive detection systems.
- RRFBs shall not be used at crosswalks controlled by YIELD signs, STOP signs, or traffic control signals.
- RRFBs shall initiate operation based on user actuation and shall cease operation at a predetermined time after the user actuation or, with passive detection, after the user clears the sidewalk.

DESIGN FEATURES

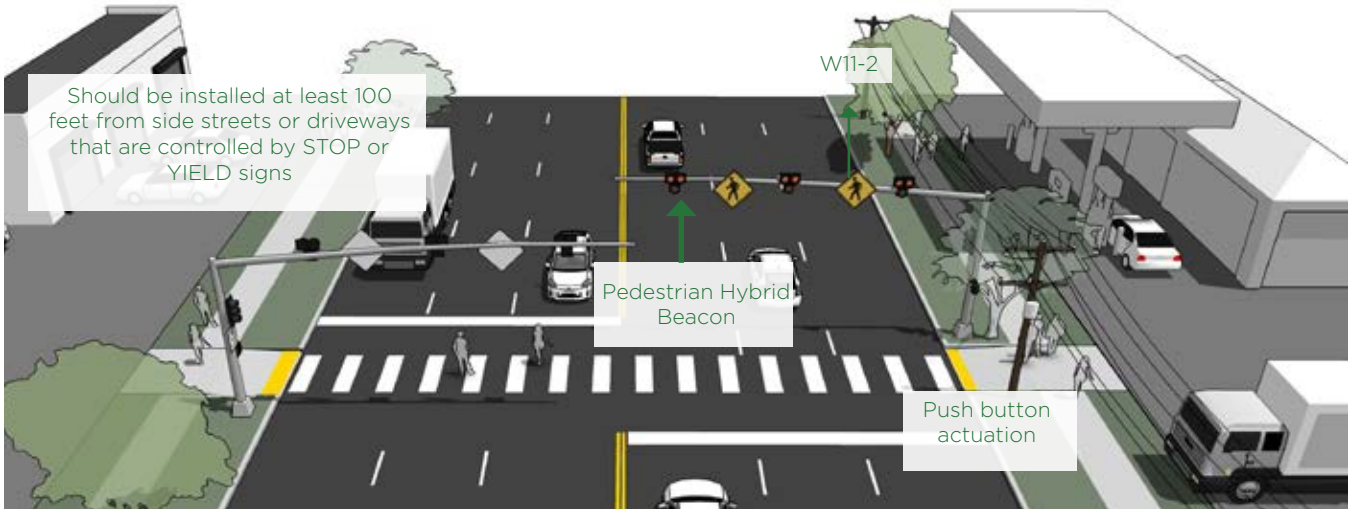
- Guidance for marked/unsignalized crossings applies.
- RRFBs are user actuated lights that supplement warning signs at unsignalized intersections or mid-block crossings.
- Push buttons should be easy to identify and located on the right-hand side of the path. They should be positioned so that bicyclists do not have to dismount to activate.
- A study of the effectiveness of going from a non-beacon arrangement to a two-beacon arrangement RRFB installation increased yielding from 18 percent to 81 percent. A four beacon arrangement raised compliance to 88%. Additional studies of long-term installations show little to no decrease in yielding behavior over time.
- Where possible, RRFBs work well as multi-beacon installations on mast arms or in median refuge island crossings to improve driver yielding behavior.
- See FHWA Interim Approval 21 (IA-21) for more information on device application standards.

FURTHER CONSIDERATIONS

- RRFBs should not be considered on roadways with posted speeds higher than 45mph with 35mph maximum preferred.
- RRFBs vary in cost, depending on site conditions, but generally cost between $10,000 to $25,000 for two units.

Pedestrian Hybrid Beacons

Hybrid beacons, otherwise known as High-intensity Activated Crosswalk beacons, are used to improve non-motorized crossings of major streets. A hybrid beacon consists of a signal-head with two red lenses over a single yellow lens on the major street, and a pedestrian signal head for the crosswalk.



TYPICAL APPLICATION

- Hybrid beacons are only used at marked mid-block crossings or unsignalized intersections with high pedestrian volumes and/or within school zones on a walking route.

DESIGN FEATURES

- Parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the marked crosswalk to provide adequate sight distance.
- Hybrid beacons are normally activated by push buttons, but may also be triggered by infrared, microwave or video detectors. The maximum delay for activation of the signal should be two minutes, with minimum crossing times determined by the width of the street
- Hybrid beacons are not required to be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs. Uncontrolled locations are often ideal locations to locate hybrid beacons to assist Bicycle Boulevard crossings of major roadways.
- Parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the marked crosswalk to provide adequate sight distance. (CA MUTCD 4F)
- Hybrid beacons have less stringent warrants than full signals.
- If installed within a signal system, signal engineers should evaluate the need for the hybrid beacon to be coordinated with other signals.

FURTHER CONSIDERATIONS

- Each crossing, regardless of traffic speed or volume, requires additional review by a registered engineer to identify sight lines, potential impacts on traffic progression, timing with adjacent signals, capacity, and safety.

Approximate Cost

- Hybrid beacons are more expensive than other beacons, ranging in costs from $50,000 to $150,000, but are generally less expensive than full signals.

Wayfinding Sign Types

The ability to navigate through a city is informed by landmarks, natural features, and other visual cues. Signs throughout the city should indicate to bicyclists the direction of travel, the locations of destinations and the travel time/distance to those destinations. A bicycle wayfinding system consists of comprehensive signing and/or pavement markings to guide bicyclists to their destinations along preferred bicycle routes.

D11-1c

D1-1

D11-1/D1-3a

TYPICAL APPLICATION

- Wayfinding signs will increase users' comfort and accessibility to the bicycle network.
- Signage can serve both wayfinding and safety purposes including:
- Helping to familiarize users with the bicycle network
- Helping users identify the best routes to destinations
- Helping to address misconceptions about time and distance
- Helping overcome a "barrier to entry" for people who are not frequent bicyclists (e.g., "interested but concerned" bicyclists)

DESIGN FEATURES

(A) Confirmation signs indicate to bicyclists that they are on a designated bikeway. Make motorists aware of the bicycle route. Can include destinations and distance/time but do not include arrows.

(B) Turn signs indicate where a bikeway turns from one street onto another street. These can be used with pavement markings and include destinations and arrows.

(C) Decision signs indicate the junction of two or more bikeways and inform bicyclists of the designated bike route to access key destinations. These include destinations, arrows and distances. Travel times are optional but recommended.

Wayfinding signs can include a local community identification logo, as this example from Oakland, CA.

Custom street signs can also act as a type of confirmation sign, to let all users know the street is prioritized for bicyclists. This example is from Berkeley, CA.

FURTHER CONSIDERATIONS

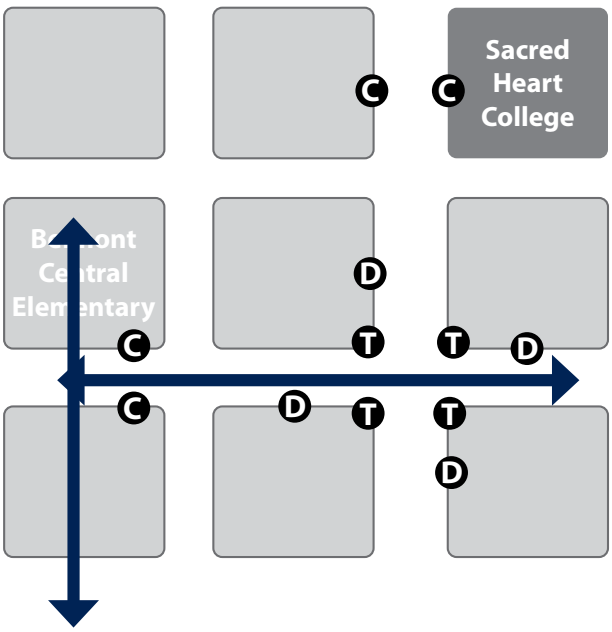
- Bicycle wayfinding signs also visually cue motorists that they are driving along a bicycle route and should use caution. Signs are typically placed at key locations leading to and along bicycle routes, including the intersection of multiple routes.
- Too many road signs tend to clutter the right-of-way, and it is recommended that these signs be posted at a level most visible to bicyclists rather than per vehicle signage standards.
- A community-wide bicycle wayfinding signage plan would identify:
- Sign locations
- Sign type – what information should be included and design features
- Destinations to be highlighted on each sign – key destinations for bicyclists
- Approximate distance and travel time to each destination
- Green is the color used for directional guidance and is the most common color of bicycle wayfinding signage in the US, including those in the MUTCD.
- Check wayfinding signage along bikeways for signs of vandalism, graffiti, or normal wear and replace signage along the bikeway network as-needed.
- Language presented in the Community Wayfinding section of the MUTCD provides some flexibility on logos and colors, which may be integrated into a comprehensive system that reflects the local identify and integrates with pedestrian and vehicular wayfinding signage.

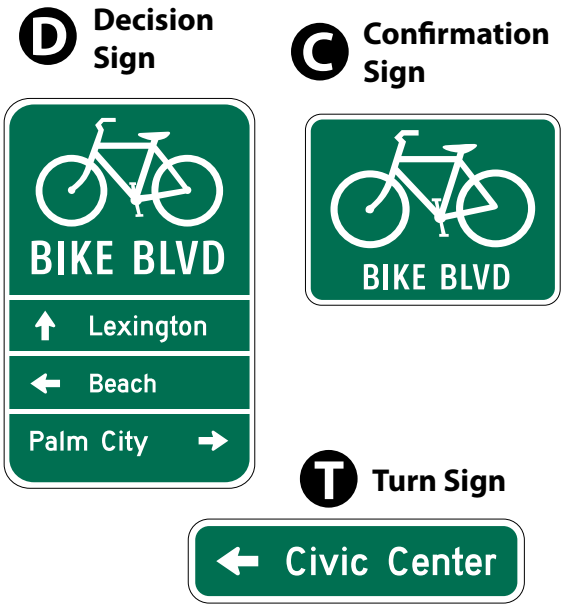
Approximate Cost

- Wayfinding signs range from $150 to $500

Wayfinding Sign Placement

Signs are placed at decision points along bicycle routes – typically at the intersection of two or more bikeways and at other key locations leading to and along bicycle routes.





TYPICAL APPLICATION

Confirmation Signs

- Placed every ¼ to ½ mile on off-street facilities and every 2 to 3 blocks along on-street bicycle facilities, unless another type of sign is used (e.g., within 150 feet of a turn or decision sign).
- Should be placed soon after turns to confirm destination(s). Pavement markings can also act as confirmation that a bicyclist is on a preferred route.

Turn Signs

- Near-side of intersections where bike routes turn (e.g., where the street ceases to be a bicycle route or does not go through).
- Pavement markings can also indicate the need to turn to the bicyclist.

Decision Signs

- Near-side of intersections in advance of a junction with another bicycle route.
- Along a route to indicate a nearby destination.

DESIGN FEATURES

- MUTCD guidelines should be followed for wayfinding sign placement, which includes mounting height and lateral placement from edge of path or roadway.
- Pavement markings can be used to reinforce routes and directional signage.

FURTHER CONSIDERATIONS

- It can be useful to classify a list of destinations for inclusion on the signs based on their relative importance to users throughout the area. A particular destination's ranking in the hierarchy can be used to determine the physical distance from which the locations are signed. For example, primary destinations (such as the downtown area) may be included on signage up to 5 miles away. Secondary destinations (such as a transit station) may be included on signage up to two miles away. Tertiary destinations (such as a park) may be included on signage up to one mile away.

APPENDIX B: PLAN REVIEW

Introduction

This review of local, regional, and statewide plans and policies documents the context for the El Dorado County. Relevant goals, policies, and facility improvements identified will inform the goals and recommendations in the Plan.

The review of local and regional plans will also provide information about potential improvements. All of the projects identified in prior plans will be considered within the evaluation of potential projects. These will be supplemented by information from the needs analysis and public input during the planning process.

The remainder of this document provides a summary of each of the relevant local/regional and statewide plans and other documents.

LOCAL & REGIONAL PLANS

El Dorado County Bicycle Transportation Plan (2010)

This 2010 Bicycle Transportation Plan update provides a blueprint for a comprehensive bicycle transportation system throughout the western slope of the county, acknowledging the health, environmental, economic, and quality of life benefits of increased bicycling. In addition to identifying infrastructure projects, it notes the importance of education programs and encouragement events to increase the number of people bicycling and improve safety.

Themes incorporated into the plan's goals and policies include:

- Commuting by bicycle should be developed as a viable alternative to driving, including to employment hubs outside El Dorado County
- Safety is a priority, including educating bicyclists on safe riding, educating drivers on the rights of bicyclists, improving safety at intersections and crossings, and maintaining safe bicycle access during construction and maintenance projects
- Implementing and maintaining bicycle facilities to efficiently use limited resources and support an acceptable quality of condition
- Integrating land use planning and multimodal connections with bicycle transportation planning

The plan includes a chapter outlining the existing conditions for bicycling in the county in addition to identifying proposed projects and programs. Commonly used two-lane rural roads for bicycling include Deer Valley Road, Green Valley Road (from the western county line to the City of Placerville), Lotus Road, Salmon Falls Road, Marshall Road, Ponderosa Road, North Shingle Road, South Shingle Road, Pleasant Valley Road, Mother Lode Drive, and State Routes 49 and 193. Several high-priority or prominent long-distance projects were identified, including the US 50 Corridor Bike Route and the El Dorado Trail along the Sacramento-Placerville Transportation Corridor. These long-distance projects are illustrated in Figure 1, Figure 2, and Figure 3 below.

Figure 1: 2010 US 50 Corridor Bike Route

Figure 2: 2010 El Dorado Trail Proposed Improvements

Figure 3: 2010 El Dorado Trail

Highest priority projects in the 2010 County Bicycle Transportation Plan include the following projects:

- Silva Valley Road Bike Lanes: Class II Bike Lanes on Silva Valley Road from White Rock Road to Green Valley Road (complete, including one section of Class I bike path along Silva Valley)
- El Dorado Hills Boulevard Bike Path – Phase 1: Sign and stripe existing Class I paths from Harvard Way to St Andrews, and from Governors Drive to Francisco Drive (construction anticipated in 2019)
- El Dorado Hills to Bass Lake Connection – Phase 1: Class III Bike Route on Tong Road, Class III Bike Route on Old Bass Lake Road, use existing roadway as Class I Bike Path between gates from Tong to Old Bass Lake Road
- El Dorado Hills to Folsom Connection: Class II Bike Lanes on the extension of Saratoga Drive to Iron Point Road (roadway connection under construction – to include Class II bike lanes)
- Green Valley Road Bike Lanes: Class II Bike Lanes from El Dorado Hills Boulevard to Pleasant Grove Middle School (complete from Loch Way to Pleasant Grove Middle School)
- Bass Lake Road Bike Lanes: Class II Bike Lanes from Green Valley Road to Highway 50
- Northside School Bike Path and Class II Bike Lanes: Class I Bike Path from Northside School in Cool to Highway 49/193 intersection and from Highway 49/193 intersection to Auburn Lake Trails, and Class II Bike Lanes on Highway 193 from Highway 49 to the Community of Auburn Lake Trails (Completed as Class I Bike Path)
- Highway 50 Grade Separated Crossing in El Dorado Hills: Overcrossing from Raley's Center to El Dorado Hills Town Center
- SPTC-El Dorado Trail: Class I Bike Path from Missouri Flat Road to Mother Lode Drive in El Dorado (Class I Bike Path to be constructed in 2019 from Missouri Flat Road to Oriental Road)

EDCTC Active Transportation Connections Study (2017)

The El Dorado County Active Transportation Connections Study, completed in August 2017, established a method for evaluating and prioritizing bicycle and pedestrian projects on the western slope of El Dorado County. The evaluation methodology is focused on seven themes shared by three popular competitive grant funding sources: the Active Transportation Program (Active Transportation Plan), the Highway Safety Improvement Program (HSIP), and Congestion Management and Air Quality (CMAQ) funding programs. Evaluation criteria were selected for each of the seven evaluation areas that produced meaningful results for El Dorado County and use reliable, readily available data sources. These evaluation areas and selected criteria are described below.

HEALTH

The criterion selected to evaluate health is the percent of adults within two miles of a proposed project that walked at least 150 minutes for transportation or leisure in the past week. This is the minimum level of physical activity recommended by the Centers for Disease Control and Prevention. The percent in the project area was compared to the statewide average of 33 percent.

ENVIRONMENT

The criterion selected to evaluate environmental impacts is the estimated pounds of greenhouse gases and other criteria pollutants that would be removed from the atmosphere each year if the proposed projects were built. The threshold identified was 70,000 pounds per year.

DEMAND

Forecasted demand for projects was estimated based on counts of people walking or bicycling on facilities similar to the proposed project and on demographic and socioeconomic data about the people and surrounding environment where the facility is located.

CONNECTIVITY

The criterion selected to evaluate connectivity is the annual number of trips that currently begin or end near the proposed project, which serves as a proxy for how many people are likely to visit the project area by any mode of transportation.

SAFETY

The criterion selected to evaluate safety is the number of safety barriers likely to be removed if a project was implemented. Unlike an evaluation based solely on crash data at a given location, this criterion accounts for locations where barriers to safety may exist but no walking or bicycling activity is present.

EQUITY

The criteria typically used by grant funding programs to evaluate equity—median household income and percent of students receiving free or reduced-price meals—tend to show few competitive projects in El Dorado County. Instead, the number of youths 18 and under and seniors 64 and older living near a proposed project was selected as the preferred criterion to identify projects that have strong equity implications within the county even though they may not perform well under some grant application criteria.

COST

The cost effectiveness of projects will be evaluated by measuring the capital costs of the proposed projects against the benefits captured by the other six evaluation areas.

El Dorado County General Plan (2004)

The El Dorado County General Plan, adopted in 2004, provides for the long-range direction and policy for the use of land within El Dorado County. The Plan includes a series of eight vision statements; two statements are directly related to transportation: (3) "Make land use decisions in conjunction with comprehensive transportation planning and pursue economically viable alternative transportation modes, including light rail. Adopt a Circulation Element providing for rural and urban flows that recognize limitations of topography and natural beauty with flexibility of road standards" and (7) "Improve and expand local park and recreational facilities throughout the County."

The Transportation and Circulation Element describes non-motorized transportation as being composed of the local and regional bikeways and trails within El Dorado County. The plan states that the area's low-density development pattern and lack of investment in bicycle and pedestrian facilities plays a major role in the small numbers of pedestrians and bicyclists, especially for commute purposes. Most active trips within the County are for recreational or social purposes.

2004 GENERAL PLAN ACTIVE TRANSPORTATION GOALS

There are many goals within the Circulation element that are supportive of active transportation:

- To plan for and provide a unified, coordinated, and cost-efficient countywide road and highway system that ensures the safe, orderly, and efficient movement of people and goods.
- To provide a safe, continuous, and easily accessible non-motorized transportation system that facilitates the use of the viable alternative transportation modes.
- To provide safe, continuous, and accessible sidewalks and pedestrian facilities as a viable alternative transportation mode.

- To support the development of complete streets where new or substantially improved roadways shall safely accommodate all users, including bicyclists, pedestrians, transit riders, children, older people, and disabled people, as well as motorists.

SACOG Metropolitan Transportation Plan/Sustainable Communities Strategy (2016)

The 2016 Sacramento Area Council of Governments (SACOG) Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) supports the Sacramento Region Blueprint, which implements smart growth policies, including housing choice, compact development, mixed-use development, natural resource conservation, use of existing assets, quality design and transportation choice. It also seeks to provide increased transportation options while reducing congestion, shortening commute times, and improving air quality.

By 2036, the plan proposes that El Dorado County have 70 miles of Class I facilities, 225 miles of Class II bike lanes, totaling 295 miles (includes 31 miles of existing facilities in 2012),

Planned projects, derived from EDCTC documents such as the County and City Bike Plans, include:

- Caltrans – D3: SR-49 from Southview Court (Placerville) to Gold Hill Road – Class II bike lanes (CAL20634)
- Placerville: Broadway between Main Street and Schnell School Road – Class II bike lanes (ELD19423)
- Placerville: Main Street between Spring Street and Clay Street – Class II bike lanes (ELD19442)
- Placerville: Mallard Lane between city limits and Green Valley Road and Green Valley Road between Mallard Lane and Placerville Drive – Class II lanes (ELD19443)
- Placerville: Middletown Road between Canal Street and Cold Springs Road – Class II bike lanes (ELD19447)
- Placerville: Placerville Drive between Green Valley Road and Forni Road/US-50 (ELD19455)
- Placerville: Placerville Drive between Cold Springs Road and US-50 – widen Placerville Drive to accommodate 4 travel lanes, center turn lane, sidewalks, and bike lanes on both sides of the street (ELD19408)
- Placerville: Placerville Drive between Fair Lane and Ray Lawyer Drive - widen Placerville Drive to accommodate 4 travel lanes, center turn lane, sidewalks, and bike lanes on both sides of the street (ELD19409)
- Placerville: Placerville Drive between Ray Lawyer Drive and Cold Springs Road – widen Placerville Drive to accommodate 4 travel lanes, center turn lane, sidewalks,

and bike lanes on both sides of the street (ELD19410)

- Placerville: Upper Broadway between Schnell School Road and Point View Drive – Class II bike lanes (ELD19465)
- El Dorado County: Cameron Park Drive – Class II bike lanes (ELD19424)
- El Dorado County: Carson Road between Jacquier Road and Larson Drive (on climbing shoulder) (ELD19425)
- El Dorado County: Coach Lane – Class II bike lanes (ELD19426)
- El Dorado County: Commerce Way – Class III route (ELD19427)
- El Dorado County: Country Club Drive (phase 1) between Bass Lake Road and Cambridge Road – Class II bike lanes
- El Dorado County: Durock Road – Class II bike lanes
- El Dorado County: El Dorado Trail between Los Trampas Drive and Halcon Road – Class I path (ELD19432)
- El Dorado County: El Dorado Trail at Missouri Flat Road – Construct a bike/ped overcrossing (ELD19394)
- El Dorado County: Enterprise Drive – Class III route (ELD19433)
- El Dorado County: Gold Hill Road between SR-49 and Lotus Road – Class III route (ELD19434)
- El Dorado County: Jacquier Road between the Placerville city limit to Carson Road – Class II bike lanes (ELD19438)
- El Dorado County: Latrobe Road between Golden Foothill Parkway to Investment Boulevard – widen road to four lanes divided with curb, gutter, and Class II bike lanes – modify signal at Investment Boulevard (ELD19236)
- El Dorado County: Latrobe Road between Investment Boulevard and Deer Creek/SPTC – Class II bike lanes (ELD19439)
- El Dorado County: Lotus Road (phase 1) between Gold Hill Road and SR-49 – Class II bike lanes (ELD19440)
- El Dorado County: Marshall Road between the top of Prospectors Road to Black Oak Mine Road – Class II bike lanes (ELD19444)
- El Dorado County: Marshall Road between Black Oak Mine Road to SR-193 – Class III route (ELD19445)
- El Dorado County: Meder Road between Cameron Park Drive and Paloran Court – Class II bike lanes (ELD19446)
- El Dorado County: Missouri Flat Road between Campus Drive and existing facilities south of US-50 – Class II bike lanes (ELD19448)
- El Dorado County: Missouri Flat Road between Golden Center Drive and Pleasant Valley Road – Class II (ELD19449)

- El Dorado County – Mother Lode Drive between Missouri Flat Road and Lindberg Avenue – Class II (ELD19451)
- El Dorado County: Old Bass Lake Road between EDH and Bass Lake Connection – Use existing roadway as Class I path between Tong Road and Old Bass Lake Road (ELD19452)
- El Dorado County: Palmer Drive - Class II bike lanes (ELD19453)
- El Dorado County: Palmer Drive Bike Path to Wild Chaparral Drive – Class I path (ELD19454)
- El Dorado County: Pleasant Valley Road between But Cur Road and Sly Park Road – Class II bike lanes (ELD19458)
- El Dorado County: Pleasant Valley Road between Missouri Flat Road and Mother Lode Drive – Class II bike lanes (ELD19457)
- El Dorado County: Pleasant Valley Road between Big Cut Road and Missouri Flat Road – Class II bike lanes (ELD19456)
- El Dorado County: Ponderosa Road between US-50 and Meder Road – Class II bike lanes (ELD19459)
- El Dorado County: Prospectors Road – Class III route (ELD19460)
- El Dorado County: Saratoga Way between Finders Way and the County Line – Class II bike lanes (ELD18432)
- El Dorado County: SPTC/El Dorado Trail between Missouri Flat Road and Mother Lode Drive – Class I path (ELD19463)
- El Dorado County/Caltrans D3: Countywide – Install bicycle loop detection at all major intersections (VAR56157)
- El Dorado County/El Dorado Hills CSD: Bass Lake Road between Green Valley Road and US-50 – Class II lanes (VAR56137)
- El Dorado County/El Dorado Hills CSD: US-50 between Silva Valley Road to El Dorado Hills Village Center Shopping Center – parallel Class I path (VAR56142)
- El Dorado County/El Dorado Hills CSD: El Dorado Hills Boulevard between Saratoga Way and Governor Drive/St. Andrews – Class II bike lanes (VAR56148)
- El Dorado County/El Dorado Hills CSD: El Dorado Hills Boulevard Path between the current terminus at Serrano Parkway to Raley's Center – Class I path utilizing golf cart bridge (VAR56149)
- El Dorado County/El Dorado Hills CSD: El Dorado Hills Boulevard between Harvard Way to St. Andrews and between Governors Drive to Brittney Way – Sign and stripe existing Class I paths (VAR56150)
- El Dorado County/El Dorado Hills CSD: Tong Road and Old Bass Lake Road – Class III routes (VAR56151)
- El Dorado County/El Dorado Hills CSD: Green Valley Road between Francisco Drive and Pleasant Grove Middle School, Pleasant Grove Middle School to Lock,

and Lock to Francisco Drive – Class II bike lanes (VAR56153)

- El Dorado County/El Dorado Hills CSD: Harvard Way between Clermont Road and El Dorado Hills Boulevard – Class I path (VAR56154)
- El Dorado County/El Dorado Hills CSD: Silva Valley Road between White Rock Road and Green Valley Road – Class II bike lanes (VAR56173)
- El Dorado County/El Dorado Hills CSD: El Dorado Trail/SPTC between Latrobe Road and the County Line – Class I path (VAR56174)

Cameron Park Community Mobility Action Plan (2015)

The 2015 Community Mobility Action Plan is a dynamic planning document that provides both a short and long-range transportation plan for the Cameron Park Community with an emphasis on improving multimodal transportation options while making enhancements to the community. The improvements include facilities for bicyclists, pedestrians, transit users, and vehicles. The plan also provides a foundation to support Cameron Park's vision for a walkable downtown area.

The projects within the plan were scored and prioritized into a four-tier system. Tier 1 priority projects are those that will be the focus of grant and other funding within the next five years, between 2015 and 2020. Tier 2 projects are expected to be pursued within 6-10 years, Tier 3 within 11 to 20 years, and Tier 4 beyond 20 years. Figure 4 shows Tier 1 projects included in the Cameron Park Community Mobility Action Plan.

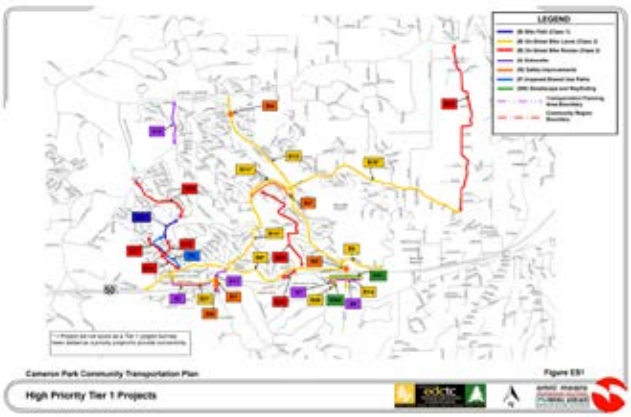


Figure 4: Cameron Park Community Mobility Action Plan Tier 1 Projects

TIER 1 PROJECTS

- B5 – Class I path through Knollwood Park between Summer Driver and Covello Circle
- B9 – Class II Lanes on Palmer Driver between Cameron Park Drive and end of pavement
- B13 – Fill in Class II lane gaps on Cameron Park Drive between Green Valley Road and Durock Road
- B14 – Class II lanes on Coach Lane – entire corridor
- B20 – Class II lanes on Strolling Hills Road – entire corridor
- B21 – Class II lanes on Merrychase Drive between Country Club Drive to Cambridge Road
- B8 – Class II lanes on Country Club Road between Cameron Park Drive and proposed Class I path at Tierra de Dios
- B10 – Class II lanes on Cambridge Road between Oxford Road and Country Club Drive
- B16 – Class II lanes on Meder Road between Cameron Park Drive and Ponderosa Road
- B23 – Class III route on Ponderosa Road between Green Valley Road and Mender Road
- B24 – Class III route on Castana Drive between Country Club Drive and Covello Circle
- B25 – Class III route on Covello Circle between Castana Drive and east of Covello Drive
- B26 – Class III route on Garden Circle – entire corridor
- B27 – Class III route on Castana Drive between Covello Circle and Whistler's Bend Way
- B28 – Class III route on Summer Driver between Bass Lake Road to end of road
- B29 – Class III route on Fairway Drive between Country Club Drive and Oxford Road
- S3 – Fill sidewalks gaps on Merrychase Drive between Cambridge Road to Country Club Drive
- S6 – Fill in sidewalks gaps on Coach Lane
- S7 – Fill in sidewalk gaps on Strolling Hills Road on the west side of the street
- S10 – Fill in sidewalk gaps on Bass Lake Road from Green Valley Road and Woodleigh Lane
- S11 – Fill in gaps on Cambridge Road between Country Club Drive to Flying "C" Road
- SI1, SI2, SI4 – Cameron Park Drive Safety Improvements
- SI5 – All signalized intersections – add bicycle detection and coordinate signal timing for bicycle and pedestrian timing

- SI6 – Replace existing railing on US 50/ Cambridge Road
- SI7 – Oxford Road traffic calming
- P1 – Pine Hill Preserve unpaved shared use path feasibility study
- P8 – Unpaved path from proposed Class I path at Covello Circle to Country Club Drive via stormwater drainage corridor parallel to Castana Drive
- SW1 – Streetscape and wayfinding improvements along Coach Lane
- SW2 – Streetscape and wayfinding improvements on Strolling Hills Road

Diamond Springs –El Dorado Livable and Sustainable Communities Plan (2014)

The purpose of the Livable and Sustainable Communities Plan was to provide the communities of Diamond Springs and El Dorado with a menu of options from which they can make informed decisions about transportation infrastructure improvements. Those options will help shape the future of the community by improving mobility and access for all users within the region by creating multimodal transportation links between residential neighborhoods, commercial districts, and the historic downtowns of El Dorado and Diamond Springs.

The plan recommended the following bicycle projects:

- Union Mine Road Connector – Class II lanes
- El Dorado Trail – Class I shared use path
- Blanchard Road – Class II lanes
- Mother Lode Drive – Class II lanes
- El Dorado Road – Class II lanes

- Pleasant Valley Road – Class II lanes and Class I shared use path
- Missouri Flat Road – Class II lanes
- Forni Road – Class III route
- Lindberg Avenue – Class III route
- Enterprise Drive – Class III route
- Koki Lane – Class III route
- Tullis Mine Road – Class I shared use path

The plan also recommends pedestrian improvements at the following locations:

- Union Mine Road Connector – detached sidewalks
- Missouri Flat Road – attached sidewalks
- Koki Lane – attached sidewalks

Sacramento – Placerville Transportation Corridor Alternatives Analysis (2015)

The Sacramento-Placerville Transportation Corridor (SPTC) alternatives analysis evaluates the opportunities, constraints, benefits, and costs of providing transportation improvements within a 31-mile portion of the SPTC between the Humbug Willow Creek Bikeway in Folsom and the intersection with Missouri Flat Road in Diamond Springs. While there is active excursion train use in some areas, the corridor remains underutilized compared to similarly developed rail-with-trail corridors. A study conducted in partnership with the Rails-to-Trails Conservancy analyzed the cost, user demand, and economic benefits if similar corridors and anticipated that with increased rail capacity, paved paths/improved natural trails could potentially draw up to 850,000 annual users and $13 million in annual regional economic benefit. Implementation of all modes along the corridor is constrained by the hilly terrain of El Dorado County, available right of way, and the availability of probable funding sources. Four alternatives for this corridor were considered:

- Federal Railroad Administration (FRA) Rail Upgrade

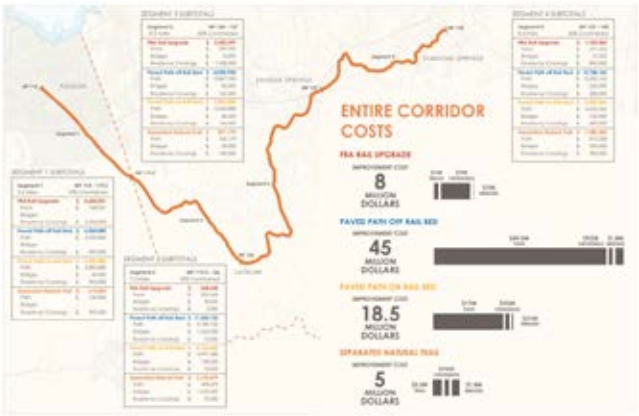


Figure 5: Sacramento-Placerville Transportation Corridor Alternatives Analysis

- Paved Path off Rail Bed
- Paved Path on Rail Bed
- Separated Natural Trail

Three investment scenarios were analyzed:

- Existing conditions: Excursion motorcars + natural trail
- Invest scenario 1: FRA Class I Rail + separated natural trail
- Investment scenario 2: FRA Class I Rail + paved path off rail bed
- Investment scenario 3: Paved Path on rail bed + natural trail

Figure 5 below provides an overview of the options analyzed in the plan:

El Dorado County and City of Placerville Bicycle and Pedestrian Safety Assessment (2015)

The 2015 Safety Assessment was conducted to analyze pedestrian safety, enhance walkability and bikeability, and increase accessibility for pedestrians and bicyclists in unincorporated El Dorado County and Placerville. Priorities from the Assessment include:

- Reduce pedestrian- and bicycle-involved collisions
- Continue to seek funding for and support Safe Routes to Schools programming
- Improve bicycle parking
- Improve pedestrian and bicyclist safety
- Improve economic vitality
- Increase accessibility

The Assessment lists four focus areas in unincorporated El Dorado County:

- Pleasant Valley Road in Diamond Springs (Class II lanes and pedestrian enhancements)
- US-50 bicycle and pedestrian overcrossing in El Dorado Hills
- El Dorado Hills Boulevard/St Andrews Drive/Governor Drive intersection in El Dorado Hills (intersection redesign with bike path integration and pedestrian enhancements)
- New York Creek Bike Path at Silva Valley Parkway in El Dorado Hills (Class I path)

The Assessment also lists four focus areas in Placerville:

- US-50/Bedford Avenue and El Dorado Trail (increase trail connectivity)
- US-50/Spring Street (SR-49) (crossing and signal improvements)
- Main Street/Spring Street (US-49) and Main Street/Pacific Street (US-49) intersections (crossing improvements)
- Main Street/Canal Street and US-50/ Canal Street intersections (crossing improvements and intersection design changes)

El Dorado Hills Community Services District Park and Recreation Facilities Master Plan (2016)

The El Dorado Hills Community Services District (CSD) is an independent special district serving approximately 28 square miles within the El Dorado Hills community of El Dorado County. The CSD owns and manages over 294 acres of land including 191 acres of parks and 127 acres of open space. While the CSD does not own or maintain any on-street bikeways, it does have jurisdiction over any Class I paths which are located within their right of way. The 2016 Park and Recreation Facilities Master Plan is a current and comprehensive tool for the staff and directors to prioritize improvements and investments for El Dorado Hills' parks, trails, and recreation facilities and programs. The Plan has five main goals which include:

- Promote health and wellness
- Develop and maintain diverse parks and recreation facilities program amenities

Relevant park access and trails policies include:

- A3: Use walking or biking travel distances to evaluate park distribution and service areas
    - Evaluate opportunities for improved connectivity to parks including Murray Homestead, Wild Oak, Laurel Oak, and Bertelsen to mitigate disconnected street networks and improve the service areas of neighborhood and village parks
    - Periodically evaluate transportation barriers affecting the ability of existing and proposed parks to serve neighbors effectively, and develop strategies, such as providing sidewalks, bike paths, bike lanes, and bridges to increase accessibility and maximize the number of residents served by each site
- C7: Develop a system of accessible trails throughout private and publicly owned open space within the District to promote connectivity between parks and open space areas, trails, recreation facilities, schools, employment centers, and other community destinations including Folsom Lake
    - Prioritize the acquisition and development of District and regional trails connecting District parks, open

lands, and recreation facilities to key local destinations
    - Provide a variety of trail types, including multi-use, bicycle and pedestrian trails
    - Ensure all Home Owners Association (HOA) trails provide connections to the public trail network
    - Evaluate unofficial trails if on District managed property and upgrade these trails or close them to use
    - Update existing and provide additional trail support facilities, such as trailheads and trail signs, where appropriate
- C8: Create a comprehensive wayfinding system that is recognized and understandable to all users
    - The wayfinding system and signs should indicate where greenways and trailheads are located and include safety and educational information
    - Incorporate information about accessibility/challenge level and mileage/distance between destinations
- C10: Participate in the effort to complete the El Dorado Trail, a Class I bike path
- C11: Pursue bicycle friendly community designation from the League of American Bicyclists
- C12: Promote the health benefits of activities supported by trails, including walking, biking, and running

City of Placerville Non-Motorized Transportation Plan (2010)

The overall goal and vision statement for the 2010 City of Placerville Non-Motorized Transportation Plan (NMTP) is to provide a safe, efficient, and convenient network of non-motorized facilities that establish alternative transportation as viable options in the City.

Of the 6 goals laid out in this Plan, 4 are relevant to this Active Transportation Plan. Relevant goals are listed below.

1) NON-MOTORIZED CIRCULATION

- Goal: Develop a bicycle and pedestrian system that enhances the safety and convenience of bicycling and walking to employment, residential neighborhoods, parks, education, commercial, and other activity centers within the City
- Objective: Increase bicycling and walking as a transportation mode to reduce congestion, improve air quality, and improve public health

2) SAFETY AND EDUCATION

- Goal: Maximize pedestrian and bicycle safety
- Objective: Improve pedestrian and bicycle safety and increase safety and awareness programs

5) MULTI-MODAL INTEGRATION

- Goal: Maximize multimodal connections to the bicycle and pedestrian system
- Objective: Develop a system that encourages use of multiple transportation modes

6) PEDESTRIAN MOBILITY

- Goal: Identify potential improvements or deficiencies in the pedestrian network in the City
- Objective: Identify important connections, barriers, and necessary improvements in the City's network

The NMTP proposes 8.55 miles of Class II facilities, 5.95 miles of Class III routes, and 2.35 miles of Class I shared-use paths. Bike racks and bike lockers have also been proposed at six locations (commercial centers and transit hubs).

Figure 6 below shows the bicycle facilities proposed in the NMTP:

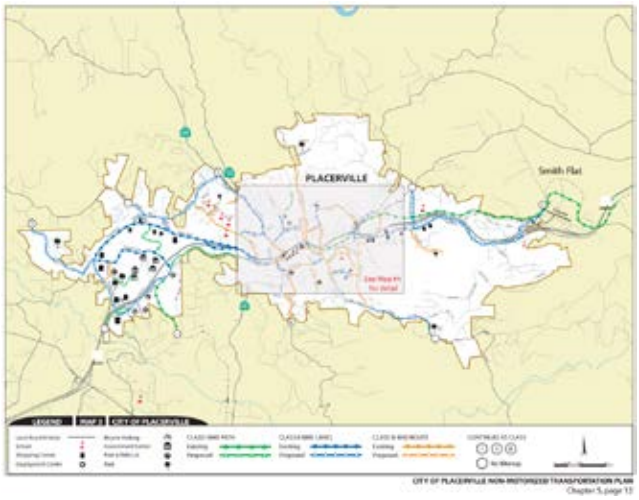


Figure 6: City of Placerville NMTP

City of Placerville Pedestrian Circulation Plan (2007)

The 2007 Pedestrian Circulation Plan extends the inventory conducted in the Non-Motorized Transportation Plan and provides project priorities and options for funding a "Pedestrian Circulation Improvement Program" for the construction and maintenance of an extensive sidewalk network throughout the City.

GOALS

- Promote convenient and safe pedestrian circulation (per City General Plan)
- Repair and upgrade the existing system of sidewalks
- Close gaps to increase the connectivity and viability of existing system
- Expand the system to provide greater opportunities to pedestrians

SIDEWALKS

The Plan provides design guidelines for sidewalk installation based on various roadway configurations.

The City was divided into seven areas and sidewalk improvements were identified within each area. Projects are listed by priority within each area. In total, across all seven areas, there are 14 miles (almost 75,000 linear feet) of sidewalk proposed at a cost of $5.6M (2007 dollars). Projects with the highest priority are near schools, parks, and other known high-pedestrian volume locations.

El Dorado County Walkability & Bikeability Audits (2008)

Within western El Dorado County there are 14 public school districts serving 53 schools; this study did not include the Lake Tahoe Unified School District. This project identified areas in need of improvement, as well as which schools have the most potential for increases in walking and bicycling to school. The plan identified many potential programmatic additions including carpooling programs, walking school buses, bike trains, park and walk locations, and others. Installing dedicated bicycle facilities and improving signage were identified as countywide projects that can improve safety.

Each of the schools within the study received an audit. Each school was scored in two areas:

1) Pedestrian/bicycle facilities (physical infrastructure)

2) Walkability (density/ land use/destinations)

These scores combine to 35 points; 25 for facilities and 10 for walkability. One-quarter of schools audited scored 5 points or less; 14 percent of schools scored 26 or more points. There is high variability in terms of both facilities and walkability throughout the county. Each school district has a prioritized list of projects.

El Dorado County Transit Design Manual (2007)

The Transit Design Manual, adopted in 2007, provides design guidelines and options for transit infrastructure. The document covers common vehicle characteristics, vehicle turning radii, transit stop design and how sidewalks, curbs, and pedestrians interact with the space, bus stop placement, bus stop spacing, bus pullouts, park and ride facilities, and passenger amenities including benches, shelters, sighs, bicycle parking, and other street furniture. The document also provides guidance for more rural settings.

El Dorado County Rural Regions and Rural Centers Design Standards

Roadways in rural areas of El Dorado County with roadway volumes of less than 2,000 ADT are allowed to use Design Standard Plan 101C. Plan 101C is a two-lane roadway section of varying widths and speed designations dependent on ADT. While small shoulders are included (as little as 1 foot), sidewalks are not required as a part of this standard.

SACOG Regional Bicycle, Pedestrian, and Trails Master Plan (2015)

The 2015 SACOG Regional Bicycle, Pedestrian, and Trails Master Plan envisions a complete transportation system that supports healthy living and active communities where bicycling and walking are viable and popular travel choices in a comprehensive, safe, and convenient network.

GOALS

- **Goal 1:** Increase and improve bicycle and pedestrian access and mobility for residents and visitors of all ages and abilities
- **Goal 2:** Improve and maintain the quality and operation of bikeway and walkway networks
- **Goal 3:** Improve bicycle and pedestrian safety
- **Goal 4:** Increase the number of bicycle and pedestrian trips
- **Goal 5:** Increase the number of high-quality support facilities to complement the bicycle and walkway networks
- **Goal 6:** Increase education, encouragement and awareness programs about bicycle and pedestrian travel
- **Goal 7:** Create a comprehensive regional bicycling and walking network within and between communities with strong current and future demand
- **Goal 8:** Increase collaboration among stakeholders throughout the region to seek funding and implement bicycle and pedestrian projects, programs, and related efforts
- **Goal 9:** Increase collection of bicycle and pedestrian related data

The project list for El Dorado County is composed of projects from the following plans:

- El Dorado County Bicycle Transportation Plan 2010 Update
- City of Placerville Non-Motorized Transportation Plan (2010)
- 2013 District 3 State Highway Bicycle Plan (SR-49 and SR-193)

STATEWIDE PLANS

Several state-level plans and policies will guide development of and provide requirements for the Active Transportation Plans. Plans include Toward an Active California: Statewide Bicycle and Pedestrian Plan as well as the California Transportation Plan 2040. Policies include the California Complete Streets Policy and the 2014 Design Flexibility in Multimodal Design Memorandum. The El Dorado County and City of Placerville Active Transportation Plans will be consistent with each of these plans and policies.

Toward an Active California: Statewide Bicycle and Pedestrian Plan

This 2017 plan is the first bicycle and pedestrian plan developed for the state. Primarily a policy document, it aims to align Caltrans policies and programs to support increased walking and bicycling in California. The plan includes strategies and actions intended to influence change at the state level while informing development of local plans like the Active Transportation Plans. These are organized into four key objectives: safety, mobility, preservation, and social equity.

Caltrans Strategic Management Plan

The Strategic Management Plan provides direction for Caltrans as an organization. The most recent 2015-2020 plan set a goal to double walking and triple bicycling in California by 2020, based on 2010 levels.

California Complete Streets Deputy Directive 64

This policy is the foundation of active transportation policy in California, requiring Complete Streets principles to be integrated in all agency activities since 2008. Caltrans monitors and guides Complete Streets progress in the Complete Streets Implementation Action Plan released in 2010 and the updated Complete Streets Implementation Action Plan 2.0 released in 2014.

Smart Mobility 2010: A Call to Action for the New Decade

Caltrans' Smart Mobility framework provides tools and resources to help state and local agencies create a more sustainable transportation system, with policies centered on public health and safety. The Smart Mobility framework incorporates the California Transportation Plan and Regional Blueprint planning efforts, calling on the state Department of Transportation to design and implement complete streets that support walking, bicycling, and transit as everyday transportation choices.

Main Street California: A Guide for Improving Community and Transportation Vitality

This 2013 document is focused on the design of state highways in California that also serve as main streets or local commercial streets in communities. The guide consolidates information from existing Caltrans manuals and policies, as well as national resources, to help communities improve multimodal access, livability, and sustainability while meeting appropriate engineering standards. The guide helps readers find information about standards and procedures described in the Caltrans Highway Design Manual (HDM), the California Manual of Uniform Traffic Control Devices (MUTCD), and the Project Development Procedures Manual.

Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians

This guide provides direction on implementing an important component of Caltrans' Complete Streets policy by identifying "actions that will improve safety and mobility for bicyclists and pedestrians at intersections and interchanges." The guide is intended primarily for Caltrans planners, engineers, and other highway designers working as generalists or specialists in advising, engineering, or designing for safe travel for all highway users at intersections and interchanges.

APPENDIX C: PROPOSED PROJECTS LIST

Sidewalk Projects

Project ID	Street	From	To	Mileage
1	Placerville Dr	Pierroz Rd	Cold Springs Rd	0.04
2	Alhambra Dr	Cameron Park Dr	Mira Loma Dr	0.39
3	Aurum City Rd	Pleasant Valley Rd	Koki Ln	0.26
4	Blackstone Pky	Royal Oaks Dr	Valley View Charter Montessori	0.15
5	Buckeye Rd	Holiday Lake Dr	Mother Lode Dr	0.71
6	Cambridge Rd	Country Club Dr	Knollwood Dr	0.29
7	Cambridge Rd	Cimmarron Rd	Rolls Dr	0.26
8	Camerado Dr	Cameron Park Dr	Mira Loma Dr	0.07
9	Camerado Dr	Cameron Park Dr	Virada Rd	0.17
10	Cameron Park Dr	500 feet south of Robin Ln	Durock Rd	0.06
11	Cameron Park Dr	150 feet North of Robin Ln	Robin Ln	0.03
12	Cameron Park Dr	Toronto Rd	Palmer Dr	0.50
13	Cameron Park Dr	Meder Rd	El Dorado Royale Dr	0.92
14	Cameron Park Dr	La Canada Dr	El Dorado Superior Court	1.26
15	Cameron Park Dr	Green Valley Rd	Winterhaven Dr	0.14
16	Campus Dr	Green Valley Rd	End of Street	0.36
17	Chesapeake Bay Cir	Chesapeake Bay Ct	Winterhaven Dr	0.03
18	Chesapeake Bay Cir	Chesapeake Bay Ct	End of Street	0.04
19	Church St	Pleasant Valley Rd	Cemetery St	0.13
20	Commerce Way	Pleasant Valley Rd	500 Feet West of Pleasant Valley Rd	0.12
21	Commerce Way	Enterprise Dr	500 Feet East of Enterprise Dr	0.10
22	Country Club Dr	300 Feet West of Tierra de Dios Dr	El Norte Rd,	0.24
23	Country Club Dr	Rustic Rd	Arthur Ct	0.39
24	Country Club Dr	Fairway Dr	Los Santos Dr	0.47
25	Country Club Dr	500 Feet East of Placitas Dr	Archwood Rd	0.68
26	Durock Rd	Cameron Park Dr	South Shingle Rd	1.93
27	El Dorado Hills Blvd	50 Feet North of Park Dr	US 50	0.29
28	El Dorado Hills Blvd	Telegraph Hill	400 Feet South of Francisco Dr	0.14
29	El Dorado Rd	Durado Ct	Annmarie Lane	0.40
30	El Dorado Rd	Sundance Trl	Green Valley Rd	0.40
31	Enterprise Dr	Clear Ct	Missouri Flat Rd	0.71
32	Flying C Rd	Cameron Rd	Crazy Horse Rd	0.24

Project ID	Street	From	To	Mileage
33	Forni Rd	Linda Dr	Pleasant Valley Rd	0.40
34	Forni Rd	Amber Ln	Juniper Ln	0.56
35	Golden Foothill Pky	Latrobe Rd	600 Feet West of Latrobe Rd	0.16
36	Golden Foothill Pky	Cypress Point Ct	Latrobe Rd	0.90
37	Green Valley Rd	Cambridge Rd	Pearl Ln	1.63
38	Green Valley Rd	Shadowfax Ln	Sophia Pky	0.15
39	Green Valley Rd	Deer Valley Rd	600 Feet East of Deer Valley Rd	0.55
40	Green Valley Rd	Ulenkamp Rd	Skinner Ln	1.22
41	Green Valley Rd	Francisco Dr	1000 Feet West of Francisco Dr	0.13
42	Green Valley Rd	200 Feet West of Salmon Falls Rd	2000 Feet East of Loch Way	1.19
43	Green Valley Rd	Green Valley Rd	Greenwood Ln	0.23
44	Hillsdale Cir	Glenhaven Ct	Robert J Mathews Pky	0.34
45	Hillsdale Cir	500 Feet North of Glenhaven Ct	600 Feet North of Glenhaven Ct	0.02
46	Hillsdale Cir	1000 Feet North of Glenhaven Ct	1200 Feet North of Glenhaven Ct	0.07
47	Hinman Aly	North St	Pleasant Valley Rd	0.05
48	Investment Blvd	Latrobe Rd	Robert J Mathews Pky	0.24
49	La Crescenta Dr	Green Valley Rd	Arcadia Dr	0.09
50	Lariat Dr	Flying C Rd	Strolling Hills Rd	0.19
51	Latrobe Rd	Suncast Ln	200 Feet South of White Rock Rd	0.64
52	Latrobe Rd	US 50	White Rock Rd	0.46
53	Many Oaks Ln	Kori Ct	Wild Chaparral Dr	0.09
54	Middletown Ct	Middletown Rd	800 Feet North of Middletown Rd	0.04
55	Missouri Flat Rd	200 Feet West of Halyard Ln	Pleasant Valley Rd	0.83
56	Missouri Flat Rd	Green Valley Rd	Headington Rd	1.46
57	Morrison Rd	Tierra De Dios Dr	Tierra De Dios Dr	0.10
58	Mother Lode Dr	US 50	North Star Dr	0.64
59	Mother Lode Dr	Childhood Ln	Buckeye Rd	0.72
60	Mother Lode Dr	Pleasant Valley Rd	Thunder Head Ln	2.03
61	Mother Lode Dr	Lindberg Ave	Greenleaf Dr	0.70
62	North St	Oriental St	Hinman Aly	0.13
63	Oak Dell Rd	Pleasant Valley Rd	Farnsworth Ln	0.20
64	Oxford Rd	Cameron Park Dr	Sudbury Rd	0.12

Project ID	Street	From	To	Mileage
65	Palmer Dr	Palmero Cir	Loma Dr	0.09
66	Mother Lode Dr	Pleasant Valley Rd	Pleasant Valley Rd	0.08
67	Pleasant Valley Rd	Mother Lode Dr	Mother Lode Dr	0.03
68	Pleasant Valley Rd	Missouri St	La Selva Dr	0.34
69	Pleasant Valley Rd	SR 49	100 Feet East of Hinman Aly	0.01
70	Pleasant Valley Rd	Elizabeth Ln	El Dorado Rd, Elizabeth Ln	0.09
71	Pleasant Valley Rd	900 Feet West of Oriental St	Oriental St	0.09
72	Pleasant Valley Rd	Dublin Rd	Howard Cir	1.41
73	Ponderosa Rd	Deelane Rd	North Shingle Rd	0.13
74	Ponderosa Rd	Meder Rd	Foxwood Ln	0.48
75	Pony Express Trail	Hub St	Forebay Rd	0.09
76	Portsmouth Dr	Durham Pl	Carnelian Cir	0.29
77	Robert J Mathews Pky	Golden Foothill Pky	Investment Blvd	0.62
78	Rodeo Rd	Coach Ln	Strolling Hills Rd	0.17
79	Sailsbury Dr	Durham Pl, Portsmouth Dr	Inverness Pl	0.10
80	Salmon Falls Rd	Green Valley Rd	Village Center Dr	0.13
81	Shingle Springs Dr	Sleepy Creek Ln	Buckeye Rd	0.56
82	Silva Valley Pky	Oak Meadow Elementary driveway	Old Silva Valley Pkwy	0.62
83	Sly Park Rd	Pony Express Trail	US 50	0.10
84	Snoopy Rd	Oak Dell Rd	Clemenger Dr	0.13
85	South Shingle Rd	Durock Rd	Sottile Ln	0.34
86	South St	End of Street	SR 49	0.16
87	Starbuck Rd	Winchester Dr	Green Valley Rd	0.64
88	Strolling Hills Rd	Lariat Dr	Rodeo Rd	0.11
89	Strolling Hills Rd	Rodeo Rd	Coach Ln	0.06
90	Suncast Ln	200 Feet West of Windplay Dr	Golden Foothill Pky	0.24
91	Sunset Ln	South Shingle Rd	Mother Lode Dr	0.36
92	Tierra De Dios Dr	Country Club Dr	Morrison Rd	0.37
93	Virada Rd	Cameron Park Dr	Camerado Dr	0.05
94	Monte Verde Dr	White Rock Rd	White Rock Rd	0.04
95	Wild Chaparral Dr	Many Oaks Ln	US 50	0.22

Project ID	Street	From	To	Mileage
96	Wild Chaparral Dr	1000 Feet West of Ponderosa Rd	Ponderosa Rd	0.22
97	Windfield Way	White Rock Rd	Golden Foothill Pky	0.35
98	Windplay Dr	Suncast Ln	Windfield Way	0.36
99	Winterhaven Cir	Winterhaven Dr	Winterhaven Dr	0.09
100	Winterhaven Ct	Winterhaven Cir	Winterhaven Cir	0.01
101	Winterhaven Dr	Green Valley Rd	Chesapeake Bay Cir	0.16
102	Carson Rd	Snows Rd	C St	0.17
103	SR 49 (south side only)	Bridge Street	Brewery Street	0.08
104	SR 49 (north side only)	Marshall Road	Chevron Gas Station	0.09
105	SR 49 (south side only)	Marshall Road	Amaloc Lane	0.11
106	Diamond Springs Pkwy	MIssouri Flat Rd	SR 49	0.12

Bicycle Projects

Class	Project ID	Street or Project Name	From	To	Mileage
1	107	Bass Lake Rd	Hollow Oak Dr	Country Club D	0.7
2	108	Bass Lake Rd	Country Club Dr	Sienna Ridge Rd	1.1
2	109	Bass Lake Rd	Sienna Ridge Rd	Green Valley Rd	2.2
2	110	Bass Lake Rd	Old Bass Lake Rd	Sienna Ridge Rd	0.6
Downhill Class III	111	Bedford Ave	Gold Bug Ln	Spring St	0.8
3	112	Big Cut Rd	Parkview Dr	Pleasant Valley Rd	3.5
1	113	Blackstone Pkwy Connector Trail	Trail	Conerstone Dr	0.05
2	114	Brittany Pl	El Dorado Hills Blvd	Brittany Way	0.2
2	115	Brittany Way	Brittany Pl	Suffolk Way	0.5
2	116	Broadway	Point View Dr	Schnell School Rd	1.2
3	117	Broadway	Carson Rd	Schnell School Rd	0.4
Downhill Class III	118	Broadway	Schnell School Rd	Jacquier Rd	1.2
2	119	Cambridge Rd	Merrychase Dr	Green Valley Rd	1.6
2	120	Cambridge Rd	Merrychase Dr	Crazy Horse Dr	1.9
2	121	Cameron Park Dr	Oxford Rd	Palmer Dr	1.3
2	122	Cameron Park Dr	Palmer Dr	Durock Rd	0.5
3	123	Carnelian Cir	Sheffield Dr, Cardiff Cir	Cromwell Ct	0.1
Uphill Climbing Lane	124	Carson Rd	Schnell School Rd	Jacquier Rd	1.3
3	125	Carson Rd	Jacquier Rd	Pony Express Trail	5.5
3	126	Cash Boy Rd	Crusader Rd	Crystal Dr	0.1
3	127	Castana Dr	Country Club Dr	Whistlers Bend Way	0.6
1	128	Class I in Heritage El Dorado	Beginning of trail	Crazy Horse Ct	0.2
2	129	Coach Ln	Rodeo Rd	End Of St	0.5
3	130	Commerce Way	Pleasant Valley Rd	Enterprise Dr	0.3
1	131	Connector Trail	New Rd	Old Bass Lake Rd	0.3
1	132	Connector Trail	Saratoga Way	Clarksville Crossing	0.6
1	133	Connector Trail	Ziana Rd	Summer Dr	0.8
1	134	Connector Trail	Trail	Us 50	0.2
1	135	Country Club Dr	Tierra De Dios Dr	Bass Lake Rd	0.8
2	136	Country Club Dr	Cameron Park Dr	Tierra De Dios Dr	2.8

Class	Project ID	Street or Project Name	From	To	Mileage
3	137	Covello Cir	Castana Dr	Ziana Rd	0.3
3	138	Cromwell Ct	Carnelian Cir	Lakehills Dr	0.04
3	139	Crusader Rd	Patterson Dr	Cash Boy Rd	0.1
3	140	Crystal Dr/Tullis Mine Rd	Cash Boy Rd	Pleasant Valley Rd	0.7
2	141	Durock Rd	Saratoga Ln	Shingle Rd	1.9
1	142	El Dorado Hills Blvd	Telegraph Hill	Francisco Dr	0.1
2	143	El Dorado Hills Blvd	Town Center Blvd	Green Valley Rd	4.4
1	144	El Dorado Trail	Los Trampas Dr	Fuji Crt	1.9
2	145	Elmores Way	Sophia Pky	Suffolk Rd	0.4
3	146	Enterprise Dr	Missouri Flat Rd	Forni Rd	0.8
3	147	Fairplay Rd	Mt Aukum Rd	Unser Way	0.3
3	148	Fairway Dr	Country Club Dr	Oxford Rd	1.6
2	149	Francisco Dr	El Dorado Hills Blvd	Seven Oaks Ct	0.1
3	150	Francisco Dr	Promotory Point Dr	Green Valley Rd	1.4
2	151	Future Missouri Rd Flat Alignment	Missouri Rd Flat Alignment	SR 49	0.7
2	152	Garden Valley Rd	Marshall Rd	Garden Park Dr	1
2	153	Georgetown Rd	Main St	Spanish Dry Diggins Rd	0.7
3	154	Gold Hill Rd	Lotus Rd	SR 49	4.4
3	155	Golden Center Dr	Forni Rd	Missouri Flat Rd	0.3
2	156	Golden Foothill Pky	Latrobe Rd	Latrobe Rd	1.6
2	157	Green Valley Rd	Starbuck Rd	Missouri Flat Rd	8.6
2	158	Green Valley Rd	Lake Hills Dr	Loch Way	1
2	159	Grizzly Flat Rd	Wooded Glen Dr	Sciaroni Rd	0.3
3	160	Happy Valley Rd	Mt Aukum Rd	Mt Aukum Rd	2.2
2	161	Harvard Way	Silvia Valley Pkwy	El Dorado Hills Blvd	0.4
3	162	Hollow Oak Dr	Bass Lake Rd	End of St	1.3
1	163	Jacquier Rd	Smith Flat Rd	Midblock	0.1
3	164	Jacquier Rd	Carson Rd	Smith Flat Rd	0.9
3	165	La Canada Dr	Cameron Park Dr	La Crescenta Dr	0.3
3	166	La Canada Dr	Cambridge Rd	Cameron Park Dr	0.4
3	167	La Crescenta Dr	Green Valley Dr	La Canada Dr	0.3
3	168	Lakehills Dr	Cromwell Ct	Salmon Falls Rd	0.8
1	169	Latrobe Rd	Monte Verde Dr	Suncast Ln	0.4
2	170	Latrobe Rd	South Shingle Rd	Old Station Ln	0.4
2	171	Latrobe Rd	Cothrin Ranch Rd	Investment Blvd	2.4

Class	Project ID	Street or Project Name	From	To	Mileage
3	172	Lindberg Ave	Mother Lode Dr	Forni Rd	0.6
2	173	Lotus Rd	Green Valley Rd	Green Valley Rd	0.1
2	174	Lotus Rd	Green Valley Rd	Coloma Rd	6.8
2	175	Main St/Wentworth Springs	Georgetown Rd	Citabria Ln	1.1
1	176	Marble Lake Blvd	Boulder Ridge Rd	Marble Valley Rd	0.6
2	177	Marble Valley Rd	Bass Lake Rd	Marble Mountain Rd	0.1
1	178	Marble Valley Rd Connector Trail	Marble Mountain Rd	Dove Meadow Crt	1.9
Advisory Shoulder	179	Marshall Rd	Black Oak Mine Rd	Garden Valley Rd	0.8
Advisory Shoulder	180	Marshall Rd	Prospectors Rd	Coloma Rd	0.6
2	181	Meder Rd	Ponderosa Rd	Cameron Park Dr	2.4
3	182	Merrychase Rd	Country Club Dr	Cambridge Rd	0.7
2	183	Missouri Flat Rd	Green Valley Rd	Plaza Dr	1.6
2	184	Missouri Flat Rd	Pleasant Valley Rd	El Dorado Trail	0.8
4	185	Missouri Flat Rd	Perks Cr	Forni Rd	0.7
2	186	Motherlode Dr	Ponderosa Rd	Pleasant Valley Rd	4
2	187	Motherlode Dr	Lindberg Ave	Green Valley Rd	0.7
2	188	Mt Aukum Rd	Sly Park Rd	Blackhawk Ln	0.2
3	189	Mt Aukum Rd	Blackhawk Ln	Fairplay Rd	6.2
3	190	New Rd	Clarksville Crossing	Tong Rd	0.5
3	191	Old Bass Lake Rd	Bass Lake Rd	Trail Connector	1.1
3	192	Oriental St	Railway Trail	Pleasant Valley Rd	0.1
3	193	Oxford Rd	Cambridge Rd	Cameron Park Dr	0.7
2	194	Palmer Dr	Cameron Park Dr	Loma Dr	0.6
1	195	Palmer Dr - Wild Chaparral Dr	Loma Dr	Wild Chaparral Dr	0.5
1	196	Path Along Dorado Hills Blvd	Serrano Pkwy	Park Dr	0.3
3	197	Patterson Dr	Pleasant Valley Rd	Crusader Rd	0.5
2	198	Pleasant Valley Rd	Holm Rd	Savage Rd	0.8
2	199	Pleasant Valley Rd	Bluff Rd	Mt Aukum Rd	1.4
2	200	Pleasant Valley Rd	Mother Lode Rd	Big Cut Rd	5
2	201	Ponderosa Rd	Meder Rd	Monarch Ln	1.7
3	202	Ponderosa Rd	Green Valley Rd	Meder Rd	2.8
2	203	Pony Express Trail	Carson Rd	Sly Park Rd	5.5

Class	Project ID	Street or Project Name	From	To	Mileage
2	204	Post St	White Rock Rd	Mercedes Ln	0.3
2	205	Ridgeway Dr	Pony Express Trail	Ridgeway Ct	0.1
3	206	Ridgeway Dr	Sly Park Rd	Ridgeway Crt	2.7
3	207	Salmon Falls Rd	Green Valley Rd	Lakehills Dr	0.3
2	208	Saratoga Way	El Dorado Hills Blvd	End Of St	1.1
3	209	Saratoga Way	Park Dr	Connector Trail	0.1
2	210	Sciaroni Rd	Grizzly Flat Rd	Winding Way	0.5
2	211	Serrano Pky	El Dorado Hills Blvd	Bass Lake Rd	3.8
3	212	Shefield Dr	Francisco Dr	Carnelian Cir	0.7
3	213	Shingle Lime Mine Rd	Shingle Lime Mine Railway	Durock Rd	0.7
1	214	Shingle Lime Mine Rd Connector Trail	Diablo Trail	Shingle Lime Mine Rd	3.9
2	215	Shingle Rd	Ponderosa Rd	Sport Club Dr	0.3
2	216	Silva Valley Pky	Wrangler Place	Clarksville Crossing	1.5
2	217	Silva Valley Pky	Midblock	Charter Way	0.5
2	218	Silver Springs Pky	Green Valley Rd	Bass Lake Rd	1.1
2	219	Sly Park Rd	Ridgeway Dr	Pony Express Trail	0.2
Uphill Climbing Lane	220	Sly Park Rd	Onyx Trail	Mormon Emigrant Trail	2.4
2	221	Snows Rd	Fuji Crt	Carson Rd	0.5
2	222	South Shingle Rd	Latrobe Rd	Victoria Way	0.6
2	223	SR 49	Marshall Rd	Northside School	8.9
2	224	SR 49	Gold Hill Rd	Baker Rd	3.4
2	225	SR 49	Pleasant Valley Rd	Bradley Dr	0.5
2	226	SR 49	Lotus Rd	Georgetown Rd	1.1
2	227	SR 49	Cold Springs Rd	Gold Hill Rd	3.3
2	228	SR 49	Pleasant Valley Rd	Union Mine Rd	0.1
2	229	Suffolk Way	Brittany Way	Elmores Way	0.2
3	230	Summer Dr	Bass Lake Rd	Great Heron Dr	1.1
2	231	Suncast Ln	Monte Mar Dr	Latrobe Rd	0.6
2	232	Tierra de Dios Rd	Bass Lake Rd	Country Club Dr	1.2
2	233	Town Center Blvd	Post St	Latrobe Rd	0.1
1	234	Town Center/Village Center US50 overcrossing	Raley's	Nugget Markets	0.4
3	235	Union Mine Rd	State Highway 49	Truscott Ln	0.6
3	236	Union Mine Rd	Pretty Penny Ln	Truscott Ln	6.3

Class	Project ID	Street or Project Name	From	To	Mileage
2	237	Village Center Dr	Salmon Falls Rd	Francisco Dr	0.4
1	238	White Rock Rd Connector Trail	White Rock Rd	Sunset Ln	0.3
2	239	Wild Chaparral Dr	Palmer Connector	Ponderosa Rd	0.6
2	240	Windfield Way	Golden Foothill Pky	White Rock Rd	0.4
3	241	Zandonella Rd	Pleasant Valley Rd	Pleasant Valley Rd	0.6
1	242	El Dorado Trail	County Line	Latrobe Rd	6.7
1	243	El Dorado Trail	Latrobe Rd	Shingle Lime Mine Rd	3.1
1	244	El Dorado Trail	Mother Lode Dr	Shingle Springs Dr	1.0
1	245	El Dorado Trail	Shingle Line Mine Rd	Mother Lode Dr	2.3
1	246	El Dorado Trail	Shingle Springs Dr	Greenstone Rd	2.6
1	247	El Dorado Trail	Greenstone Rd	Oriental St	2.5
2	248	Frontage Rd	Camino Hills Dr	Trail	0.5
2	249	Forni Rd	Lindberg Ave	Enterprise Dr	0.1
1	250	Beach Crt	SR 49	Henningsen Lotus Park	0.26
1	251	SR 49 (on the river side of SR 49)	Lotus Road	Coloma Heights Road	1
1	252	Lotus Road (between the river and road)	SR 49	Henningsen Lotus Park	0.6
2	253	SR 49 (on the river side of SR 49)	Marshall Road	Amaloc Lane	0.11
2	254	Diamond Spring Pkwy	Missouri Flat Rd	Golden Chain Hwy	0.6
1	255	Old Bass Lake Rd	Bass Lake	1000 SW of Bridlewood Dr	0.4
3	256	Tong Rd	Silva Valley Pkwy	Tong Rd	0.3
3	257	Onyx Trail	Gold Ridge Trail	Sly Park Rd	0.9
3	258	Gold Ridge Trail	Ridgeway Drive	Onyx Trail	1.4
4	259	White Rock Rd	Valley View Pkwy	Old Silva Valley Pkwy	0.5
1	260	Brockliss Bridge	Pony Express Historic Trail	Pony Express Trail	0.5
1	261	Bass Lake Rd	White Rock Rd	Serrano Pkwy	0.9
2	262	Gold Ridge Trail	Ridgeway Dr	Onyx Trail	1.4
2	263	Onyx Trail	Gold Ridge Trail	Sly Park Rd	0.9
4	264	Jacquier Rd	El Dorado Trail	El Dorado Trail	0.1

Spot Improvement Projects

Project ID	Street	Cross Street	Spot Improvement Recommendation(s)
265	Sly Park Rd	US 50	High visibility crosswalks, Advance yield markings
266	Ridgeway Dr	US 50	High visibility crosswalks , Green Bike Lanes
267	Carson Rd	US 50	High visibility crosswalk, Advance yield markings
268	Missouri Flat Rd	Mother Lode Dr	Green bike lanes from Plaza Drive to Perks Court
269	Cameron Park Dr	Country Club Ln	Green bike lanes from Wild Chaparral Road to Durock Road
270	Cameron Park Dr	Palmer Dr	Green bike lanes from Country Club Drive to Coach Lane, high visibility crosswalks across US 50 on and off ramps
271	Cambridge Rd	Knollwood Dr	Green bike lanes from Merrychase Drive to Crazy Horse Road, High visibility crosswalks
272	Missouri Flat Rd	El Dorado Trail	Separated crossing for EDT
273	Silva Valley Pkwy	Between Appian Way and Harvard Way	Study for Bicycle and Pedestrian Crossing Improvements
274	Silva Valley Pkwy	Between Appian Way and Harvard Way	Potential Bicycle and Pedestrian Crossing Improvements
275	Cameron Park Dr	La Canada Dr	Add bicycle detection and signal timing
276	Pine St	Laurel Dr	High visibility crosswalk
277	Francisco Dr	Kensington Dr	Curb Ramps
278	Windfield Way	Windplay Dr	Advance yield markings, High visibility crosswalks
279	Windfield Way	Golden Foothill Pkwy	Advance yield markings, High visibility crosswalks
280	Blackstone Pkwy	Valley View Charter Montessori School	Transverse crosswalk
281	Union Mine Rd	Koki Ln	Restripe high visibility crosswalks.
282	SR 49	Koki Ln	High visibility crosswalks
283	Missouri Flat Rd	US 50	High visibility crosswalks
284	Silva Valley Pkwy	Clarksville Crossing	Rectangular Rapid Flashing Beacon, Pedestrian Refuge Island, and high visibility crosswalk
285	Cave Valley Rd	SR 49	Improved ingress/egress for bicyclists between the school and existing path along SR49
286	SR 49	Marcos Restaurant - River Shack	Replace existing crosswalk with high visibility crosswalk and pedestrian hybrid beacon
287	SR 49	Beach Crt	High visibility crosswalk and pedestrian hybrid beacon
288	SR 49	River Park Village/ Ponderosa Park	High visibility crosswalk and pedestrian hybrid beacon
289	SR 49	North Beach Parking Lot	High visibility crosswalk and pedestrian hybrid beacon

Project ID	Street	Cross Street	Spot Improvement Recommendation(s)
290	SR 49	Mill Parking Lot	Rectangular Rapid Flashing Beacon at two existing crosswalks
291	SR 49	Bridge St	Rectangular Rapid Flashing Beacon at existing crosswalk
292	SR 49	Brewery St	Rectangular Rapid Flashing Beacon at existing crosswalk
293	SR 49	North Beach Parking Lot	25 MPH Speed Feedback Sign - south bound lane
294	SR 49	Coloma Heights Rd/ Sutters Market	25 MPH Speed Feedback Sign - north bound lane
295	SR 153 / Cold Springs Road	SR 49	25 MPH Speed Feedback Sign - north bound lane
296	Lotus Rd	Firehouse Rd	Replace existing speed sign with 25 MPH Speed Feedback Sign - north bound lane
297	Lotus Rd	Across from baseball fields	Replace existing 25 MPH speed sign with 25 MPH Speed Feedback Sign - south bound lane
298	Lotus Rd	Playground/Baseball Parking Lot	Replace existing crosswalk with high visibility crosswalk and pedestrian hybrid beacon
299	Lotus Rd	Firehouse Rd	High visibility crosswalk and pedestrian hybrid beacon
300	Lotus Rd	Lotus Pub/All Outdoors Rafting	Install 25 MPH Ahead sign

APPENDIX D: ATP COMPLIANCE CHECKLIST

Subject	Requirement	Section(s)
Mode Share	The estimated number of existing bicycle trips and pedestrian trips in the plan area, both in absolute numbers and as a percentage of all trips, and the estimated increase in the number of bicycle trips and pedestrian trips resulting from implementation of the plan.	Chapter 2
Description of Land Use/ Destinations	A map and description of existing and proposed land use and settlement patterns which must include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, major employment centers, major transit hubs, and other destinations. Major transit hubs must include, but are not limited to, rail and transit terminals, and ferry docks and landings.	Chapter 2
Pedestrian Facilities	A map and description of existing and proposed pedestrian facilities, including those at major transit hubs and those that serve public and private schools.	Chapter 6
Bicycle Facilities	A map and description of existing and proposed bicycle transportation facilities including those at major transit hubs and those that serve public and private schools.	Chapter 7
Bicycle Parking	A map and description of existing and proposed end-of-trip bicycle parking facilities. Include a description of existing and proposed policies related to bicycle parking in public locations, private parking garages and parking lots and in new commercial and residential developments. Also include a map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These must include, but not be limited to, bicycle parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.	Chapter 7
Wayfinding	A description of existing and proposed signage providing wayfinding along bicycle and pedestrian networks to designated destinations	Appendix A
Non-Infrastructure	A description of existing and proposed bicycle and pedestrian education, encouragement, enforcement, and evaluation programs conducted in the area included within the plan. Include efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the law impacting bicycle and pedestrian safety, and the resulting effect on collisions involving bicyclists and pedestrians	Chapter 5
Collision Analysis	The number and location of collisions, serious injuries, and fatalities suffered by bicyclists and pedestrians in the plan area, both in absolute numbers and as a percentage of all collisions and injuries, and a goal for collision, serious injury, and fatality reduction after implementation of the plan.	Chapter 2
Equity Analysis	Identify census tracts that are considered to be disadvantaged or low-income and identify bicycle and pedestrian needs of those disadvantaged or low-income residents.	Chapter 2
Community Engagement	A description of the extent of community involvement in development of the plan, including disadvantaged and underserved communities.	Chapter 4
Coordination	A description of how the active transportation plan has been coordinated with neighboring jurisdictions, including school districts within the plan area, and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, general plans and a Sustainable Community Strategy in a Regional Transportation Plan	Chapter 1 & 2
Prioritization	A description of the projects and programs proposed in the plan and a listing of their priorities for implementation, including the methodology for project prioritization and a proposed timeline for implementation.	Chapter 8
Funding	A description of future financial needs for projects and programs that improve safety and convenience for bicyclists and pedestrians in the plan area. Include anticipated cost, revenue sources and potential grant funding for bicycle and pedestrian uses	Chapter 8

Subject	Requirement	Section(s)
Implementation	A description of steps necessary to implement the plan and the reporting process that will be used to keep the adopting agency and community informed of the progress being made in implementing the plan.	Chapter 8
Maintenance	A description of the policies and procedures for maintaining existing and proposed bicycle and pedestrian facilities, including, but not limited to, the maintenance of smooth pavement, ADA level surfaces, freedom from encroaching vegetation, maintenance of traffic control devices including striping and other pavement markings, and lighting	Chapter 8
Resolution	A resolution showing adoption of the plan by the city, county or district. If the active transportation plan was prepared by a county transportation commission, regional transportation planning agency, MPO, school district or transit district, the plan should indicate the support via resolution of the city(s) or county(s) in which the proposed facilities would be located.	Appendix E