NEVADA COUNTY

ACTIVE TRANSPORTATION PLAN

April 2019

COUNTY OF NEVADA CALIFORNIA

CITY OF GRASS VALLEY NEVADA CO. CALIF.

NEVADA • COUNTY • TRANSPORTATION NCTC COMMISSION

NEVADA CITY CALIFORNIA

TOWN OF TRUCKEE

Acknowledgements

Prepared by the Nevada County Transportation Commission for

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» The City of Nevada City
» The Town of Truckee

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Introduction

Commercial Street, Nevada City

Active transportation is human-powered travel, including walking and bicycling. These activities have many important health, economic, environmental, and social benefits.

Active transportation:

» Helps families get to schools, parks, work, shopping, restaurants, and bus stops;

» Improves health and reduces the incidence of disease and obesity;

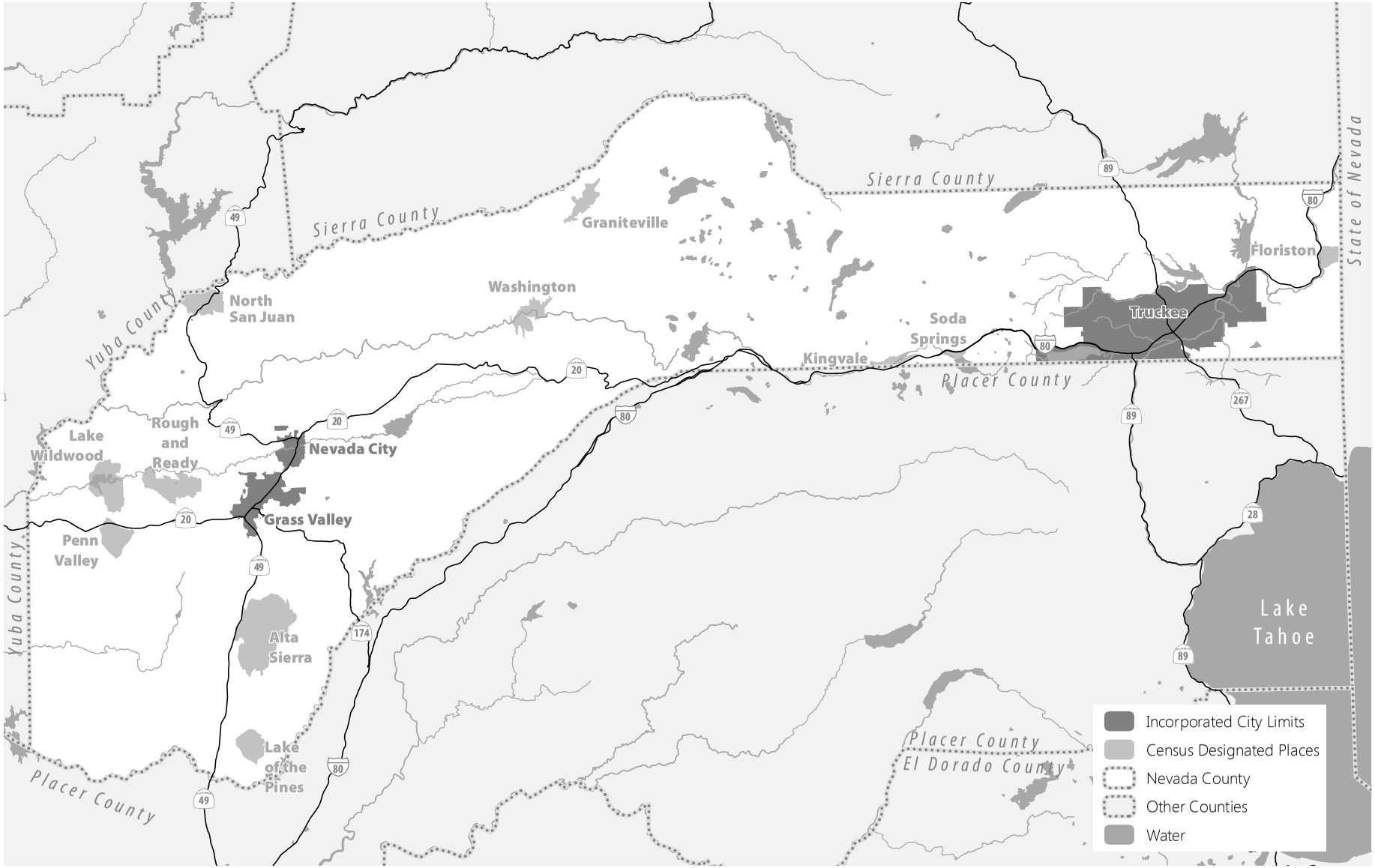
» Reduces air pollution and greenhouse gas production; and

» Saves money on gas and car maintenance.

Bicycling and walking are already used and enjoyed by many members of the community and visitors to the County. Historic compact neighborhoods in each city enable residents to walk to many destinations. Tourists visit and stroll the Gold-Rush era downtowns in each city, and also come to Nevada County to enjoy walking, hiking, and biking in the many parks and other recreation areas in the County. Both local resident and visiting bicyclists also enjoy riding on roads throughout the County.

However, walking and biking in Nevada County can be challenging. The automobile is the primary mode of moving people in the County. Nevada County is typical of many rural counties in California in that the County's existing transportation system and widely scattered population, topography, lack of facilities, and lack of funding limit other solutions to transportation-related problems.

Figure 1: Study Area



The downtown areas of the three incorporated communities and some unincorporated communities such as North San Juan and Washington were developed in the latter half of the 19th century. Many streets in these areas are narrow, contributing to the valued historic character of each community and helping to reduce vehicle speeds. However, many of these streets have narrow sidewalks, poor sidewalk conditions, or no sidewalks. Additionally, curb ramps at many intersections are missing or do not meet current standards. Many areas in these communities also have few dedicated bicycling facilities. This active transportation plan is an important step toward addressing these needs and making walking and biking safer, easier, and more enjoyable for everyone.

The active transportation plan presented in this document covers Nevada County and its three incorporated Cities, the City of Grass Valley, the City of Nevada City, and the Town of Truckee (Figure 1). The plan will help make each jurisdiction eligible for new funding to create new trails, sidewalks, bike lanes, and other improvements for bicycling and walking. The plan will support applications for funding from the statewide Active Transportation Program and other sources of funding.

This plan meets all requirements for active transportation plans as specified by the California Transportation Commission's 2019 Active Transportation Program Guidelines. A summary of these requirements and where they are addressed within the plan is provided in Appendix F, Plan Conformance with ATP Guidelines.

Goals and Objectives

The goals and objectives for this plan were developed with consideration of other local and state plans and policies, desires of local residents, and emerging trends and opportunities in active transportation.

The Nevada County Regional Transportation Plan and the General Plans for Nevada County and the cities of Grass Valley, Nevada City, and Truckee each have goals supporting increases in bicycling and walking. The California Transportation Plan and the California State Bicycle and Pedestrian Plan also have specific goals and policies for increasing biking and walking. (Each of these plans is further described in Appendix E, Other Plans and Policies.)

Local residents have expressed the desire for new, safe, and comfortable walking and biking facilities. Additionally, electric mobility devices such as e-bikes and scooters are emerging, and new laws and policies regarding reduction of vehicle miles traveled present an opportunity for synergy with active transportation. Bases on all of these inputs, the goals and objectives of this plan were created.

GOAL 1 Enable all to move safely on the bicycle and pedestrian networks.

- Objective: Reduce bicycle and pedestrian collisions.
- Objective: Prioritize and address ADA deficiencies.

GOAL 2 Increase walking and biking.

- Objective: Implement programs in all elementary and middle schools to promote walking and bicycling.
- Objective: Adopt policies for use of e-bikes and other electric mobility options for all jurisdictions in Nevada County.
- Objective: Promote bicycle and pedestrian networks both for everyday transportation and as a recreational attraction.
- Objective: Provide for winter use of walking and biking networks.
- Objective: Implement pedestrian and bicycle count programs.

GOAL 3 Improve bicycle and walking mobility for residents and visitors by connecting destinations to the bicycling and pedestrian networks.

- Objective: Create regional networks that connects to residential, commercial, educational, and recreational destinations and recreational trails.
- Objective: Reduce the number of gaps in the bicycle and pedestrian network.
- Objective: Connect all schools to adjacent neighborhoods by bicycle and pedestrian facilities.
- Objective: Connect all transit stops to nearby destinations by bicycle and pedestrian facilities.
- Objective: Implement policies in each jurisdiction to ensure all new development includes bicycle and pedestrian facilities and connects to adjacent bicycle and pedestrian networks.
- Objective: Prioritize improvements that serve disadvantaged communities.
- Objective: Investigate implementation of a VMT impact fee to offset impacts of new projects and help fund bicycle and pedestrian improvements.
- Objective: Work with partner agencies and organization to obtain funding to develop the bicycle and pedestrian networks.

GOAL 4 Keep bicycle and pedestrian networks well-maintained.

- Objective: Implement regular bicycle and pedestrian facility maintenance and monitoring programs in each jurisdiction.

Public Participation

Obtaining input from the residents of Nevada County was an important part of the ATP development process. The public helped identify recommended improvements to the bicycling and walking facilities as well as priorities for projects. Participation was solicited through:

- Three outreach events in June 2018 at Grass Valley Thursday Night Market, Nevada City Farmers Market, and Truckee Thursdays
- An online crowdsourced interactive map, where the public could recommend improvements they would like to see and vote for improvements made by others
- A website hosted by NCTC to communicate information about the plan process
- Two public meetings in October 2018 at Grass Valley City Hall and Truckee City Hall to review and comment on the recommended bicycle and pedestrian improvements

Appendix D, Public Participation, provides additional details on the public input received.

Bicycle Facilities

Several types of bikeways and supporting facilities come together to form a complete bicycle network.

Bikeways are classified in Chapter 1000 of the Highway Design Manual (Caltrans, 2015) into four primary types:

- Class I bike paths (including shared use paths),
- Class II bike lanes,
- Class III bike routes, and
- Class IV separated bikeways.

Nevada County also has many recreational trails that do not meet the standards of Class I bike paths.

Outreach at Truckee Thursdays, June 2018

Class I Bikeway: Bike Path

Bike paths, often referred to as shared-use paths or trails, are off-street facilities that provide exclusive use for non-motorized travel, including bicyclists and pedestrians (Figure 2). Bike paths have minimal cross flow with motorists and are typically located along landscaped corridors. Bike paths can be utilized for both recreational and commute trips. These paths provide an important recreational amenity for bicyclists, pedestrians, dog walkers, runners, skaters, and those using other non-motorized forms of travel. They are frequently designed to offer a benefit to users, such as a connection not previously included in the bicycle or pedestrian network or traversing a barrier such as a freeway or river. Unless specifically allowed by local laws, equestrians are generally prohibited from using bike paths. If horses and riders are allowed to use a bike path, the facility should be designed to accommodate all users, typically with wider widths than traditional multi-use paths.

Class II Bikeway: Bike Lane

Class II bike lanes are on-street facilities that use striping, stencils, and signage to denote preferential or exclusive use by bicyclists. On-street bikes lanes are located adjacent to motor vehicle traffic (Figure 3). Bike lanes provide adequate space for comfortable riding and alert drivers about the predictable movements of bicyclists.

Figure 2: Bike Path

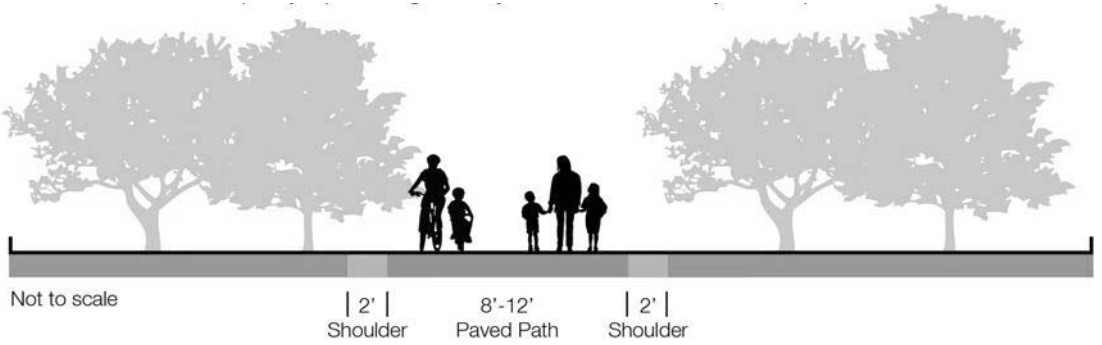
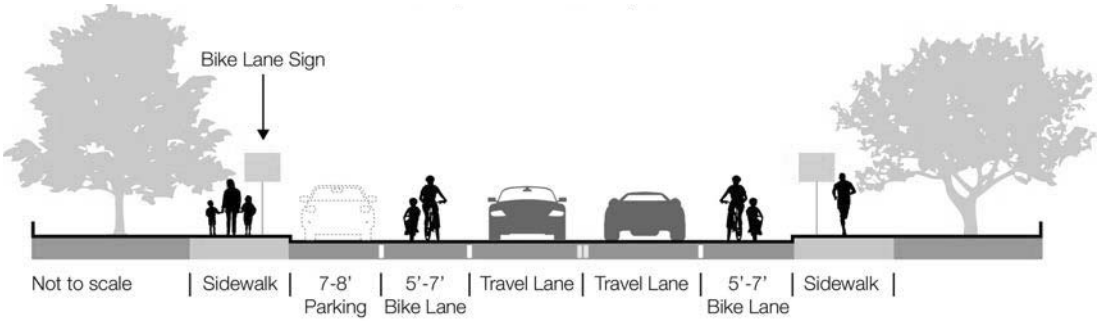


Figure 3: Bike Lane



Class III Bikeway: Bike Route

Class III bike routes are streets with signage and optional pavement markings where bicyclists travel on the shoulder or share a lane with motor vehicles (Figure 4). Class III bike routes are utilized on low-speed and low-volume streets to connect bike lanes or paths along corridors that do not provide enough space for dedicated lanes. Shoulders are preferable but not required on streets with Class III bike routes (Class III bike routes with multi-use shoulders are discussed further below). In addition to alerting motorists to the presence of bicyclists, bike routes help bike riders find their way to other bikeways or regional destinations like schools and parks.

Shared-lane markings, or sharrows, are a common Class III pavement marking that alerts drivers that bicyclists are sharing the road and facilitate wayfinding through neighborhoods. They are best used on streets with less than 3,000 ADT. The chevrons in sharrow markings should be painted near the center of the travel lane, out of the parked vehicle door zone.

Class III Bike Route with Multi-Use Shoulder

Class III bike routes with multi-use shoulders include the features of Class III bike routes and additionally provides a striped shoulder of variable width (Figure 5). This facility is used when jurisdictions wish to maximize road space for bicycles but do not have sufficient right-of-way to meet minimum requirements for Class II bike lanes. The facility also accommodates pedestrians, but at a much lower level of comfort than a Class I path or sidewalk. Class III bike routes with multi-use shoulders are common in hilly areas similar to rural Nevada County.

Figure 4: Bike Route

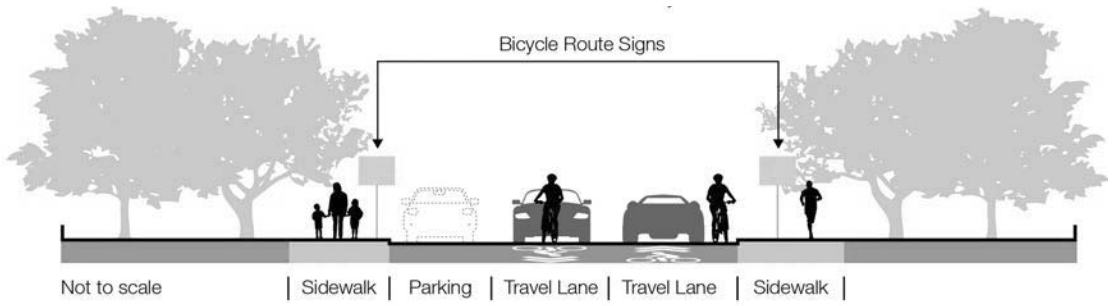
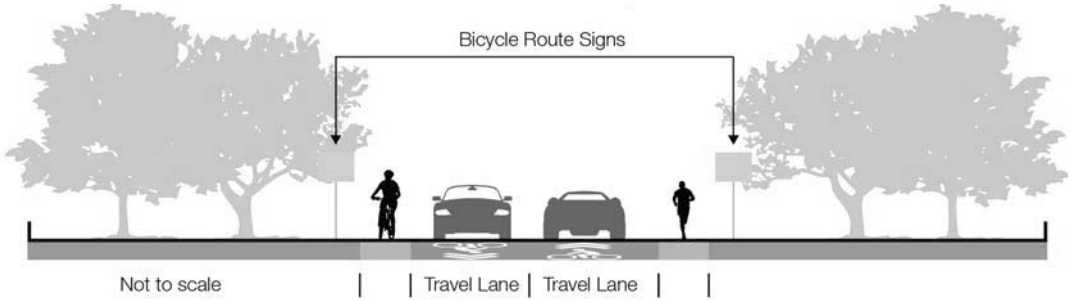


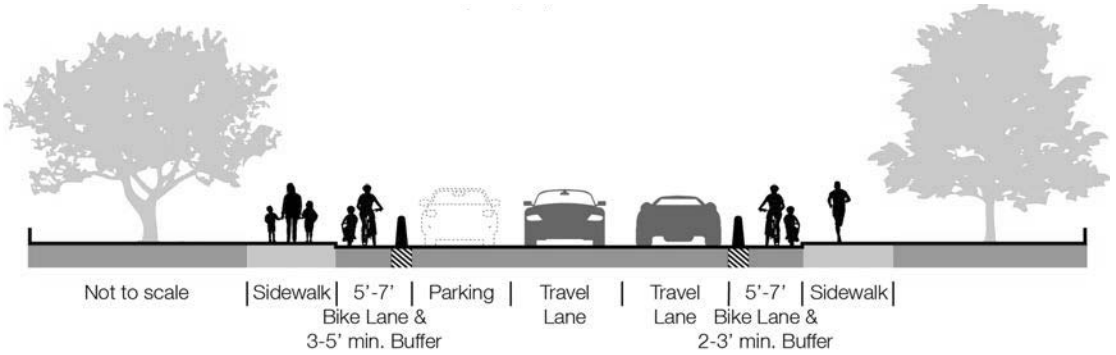
Figure 5: Bike Route with Multi-Use Shoulder



Class IV Bikeway: Separated Bikeway

Class IV separated bikeways, commonly known as cycle tracks, are physically separated bicycle facilities that are distinct from the sidewalk and designed for exclusive use by bicyclists. They are located within the street right-of-way, but provide comfort similar to Class I bike paths. The key feature of a separated bikeway is a vertical element that provides physical separation from motor vehicle traffic. Common vertical elements used for separation include a vertical curb, a painted buffer with flexible posts, parked cars, a landscaped area, large planters, or a fixed barrier. Separated bikeways may also be constructed by creating a bike lane at a height above the vehicular lanes, with a continuous sloped transition. Separated bikeways can be either one-way or two-way, accommodating a single direction of travel or both (Figure 6). Streets with high vehicular volumes and speeds are appropriate candidates for separated bikeways, which increase the comfort of bicyclists on these higher-stress roads. Separated bikeways require wider right-of-way than Class II and III facilities and, to minimized conflicts with motor vehicles, are best placed in areas with fewer driveways. Because of these factors, separated bikeways require careful planning.

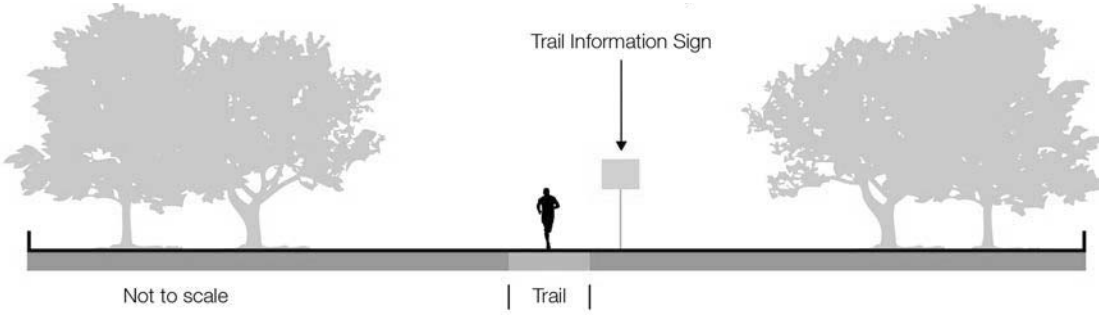
Figure 6: Separated Bikeway



Earthen Trails

Earthen trails are facilities for use exclusively by non-motorized users such as bicyclists, pedestrians, equestrians, and other non-motorized users, with minimal cross-flow by motor vehicles (Figure 7). These trails have a surface composed of dirt, decomposed granite, or similar materials. Earthen trail width generally varies between two feet to four feet. These trails usually are used for recreation, but may also be used for transportation needs if they connect desired destinations.

Figure 7: Earthen Trail



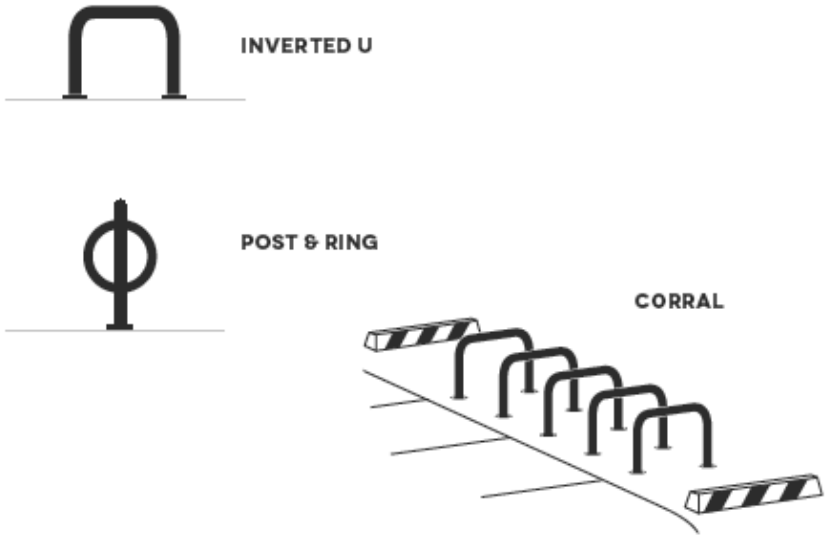
Bicycle Parking

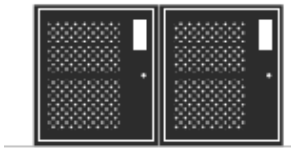
Bicycle parking encourages ridership by supporting the final stage of a bicycle trip. Locations with high ridership are excellent candidates for bicycle parking, including civic, residential, commercial, and office spaces. At these locations, both short-term and long-term parking should be accommodated:

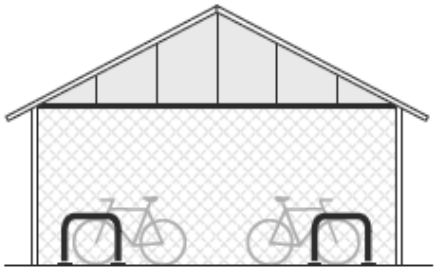
Short-term bicycle parking is temporary bicycle parking intended for visitors. Bicycle racks are a common form of short-term parking. Bicycle racks in front of stores and other destinations allow patrons to park their bike for short periods. Bike parking should be located in well-lit areas to discourage theft. Installing permanent bicycle racks near main entrances also helps bicyclists feel welcome and encourages them to ride their bicycle again on a return trip. Bicycle racks that allow at least two points of contact, such as the wheel and frame, provide the most protection against theft and accidental damage.

Long-term bicycle parking is intended for employees, students, commuters, and residents to protect bicycles for extended periods. Long-term facilities are more secure than short-term bicycle parking and should fully protect bicycles from theft and weather. Long-term bicycle parking includes bike lockers, bike cages, and bike rooms.

- Bike lockers are outdoor enclosures that accommodate one or two bicycles and are usually leased on a monthly basis or paid short-term use.
- Bike cages are fully enclosed, roofed shelters that house racks of bicycle parking, typically found at schools.
- Bicycle rooms are commonly found inside office or residential buildings, and provide secure indoor parking. Bicycle rooms may feature amenities such as bike pumps and quick-fix tools for employees and residents.




BIKE LOCKERS


SHELTERED SECURE ENCLOSURE

Source: APBP Essentials of Bike Parking: Selecting and Installing Bike Parking that Works (2015), pages 2-3, www.apbp.org, used with permission from the copyright holder.

Pedestrian Facilities

Pedestrian facilities include trails, sidewalks, and crosswalks.

Shared-Use Facilities

Some types of facilities are shared by both pedestrians and bicyclists. Each of these facilities is described earlier in this chapter:

» Class I bikeway: bike path, frequently known as a shared-use path

» Class III bike route with multi-use shoulder

» Earthen trail

Sidewalks

Sidewalks are paved areas immediately adjacent to the vehicular right-of-way for the exclusive use of pedestrians, and may be used by people riding bicycles unless prohibited. Unlike shared-use paths or earthen trails, they are directly adjacent to the main right-of-way.

Crosswalks

Marked crosswalks feature striping and other enhancements to delineate a street crossing for pedestrians. There are two types of marked crosswalks:

» Controlled crosswalks are located with stop signs or traffic signals.

» Uncontrolled crosswalks are located without stop signs or traffic signals. Under California law, drivers are legally required to yield to pedestrians at uncontrolled crosswalks.

Additional features can be added to crosswalks to increase visibility on busy streets:

» High-visibility crosswalk markings add additional striping to the pavement.

» Rectangular rapid flashing beacons allow the pedestrian to activate a flashing light when crossing.

» Pedestrian hybrid beacons require traffic to stop for pedestrians when activated, but allow vehicles to proceed with caution after the pedestrian crossing has been completed.

Pedestrian hybrid beacon, Sacramento

Rectangular rapid flashing beacon, Zion Street, Nevada City

Emerging Trends and Opportunities

Electric bikes and electric scooters are two new developments related to active transportation that provide both new opportunities and challenges. These device can be partially or fully powered but also share facilities with other users. There are a range of types of e-bikes, scooters, and other devices. These devices can be privately owned or rented for short periods ("shared"). State law governs where these devices may be used, but also allows local jurisdictions to enact more restrictive rules on where they may be used. A broader review of these new devices is included in Appendix H, Electric Mobility Devices.

Active Transportation and VMT Reduction

Senate Bill 743 is changing how the impact of land use and transportation projects and plans will be measured under the California Environmental Quality Act (CEQA). The State has determined that vehicle miles traveled (VMT) will be the metric used to determine these impacts. Projects and plans that increase VMT will thus have impacts under CEQA. Because active transportation can be an alternative to vehicle travel, increasing active transportation can be a way to reduce or offset increases in VMT and thus mitigate these impacts.

Robust active transportation networks are important to increasing walking and biking and making active transportation a viable option for accessing new development. A VMT impact fee is an option to ensure new development is paying its fair-share for the improvements needed to create these networks. Such a fee could be based on vehicle trip generation, trip length, and the share of new trips per land use type. This fee could provide a local source of funding and contribute to the local match required for many funding sources. For some projects, alternatives to reduce VMT may be limited, and a fee benefiting active transportation projects would be a viable option to offset VMT increases.

Existing Conditions

West Main Street, Downtown Grass Valley

This chapter describes the existing conditions for bicycling and walking in Nevada County.

Climate and Settlement Patterns

The diverse topography and geography of Nevada County ranges from elevations about 500 feet above sea level in the western end of the County to almost 8,000 feet above sea level in the Sierra Nevada Mountains in the eastern portion of the County. West to east, the rolling hills of developed areas such as the Cities of Grass Valley and Nevada City give way to the more and more rugged, mountainous terrain that characterizes areas such as Donner Pass, which separates the western and eastern County areas. The Town of Truckee lies to the east of Donner Pass. Figure 1 depicts Nevada County and communities within the County.

The climate in the County also varies from west to east. The lower elevations in the western portion of the county are warmer, with relatively mild winters. Summer high temperatures average in the low 90s and winter low temperatures average in the mid-30s (degrees Farenheit). As elevation increases, average temperatures decrease, with summer high temperatures averaging in the low 80s and winter low temperatures averaging in the teens. Throughout the county, summers are generally dry. In winter, precipitation in the western County is generally rain, with short periods of snow. The mountainous eastern County typically experiences several feet of snow accumulation in the winter, transitioning to dryer conditions in the rain shadow on the eastern slope of the mountains.

With this terrain and location, the County is host to popular year-round recreation destinations that provide opportunities for hiking, road and

mountain biking, and other recreational activities. The climate is generally good for walking and biking throughout the year in the western County and throughout the spring, summer, and fall in the eastern County. Although the incorporated communities are flat in comparison to most of the County, nearly all populated areas have some hills that can create challenges for many pedestrians and bicyclists.

Table 1: Nevada County Population

Community	Population
Nevada County	98,639
Truckee	16,231
Grass Valley	12,861
Nevada City	3,117
Alta Sierra CDP	6,639
Lake Wildwood CDP	5,289
Lake of the Pines CDP	3,936
Penn Valley CDP	1,607
Rough and Ready CDP	1,271
North San Juan CDP	293
Kingvale CDP	122
Washington CDP	79
Soda Springs CDP	58
Floriston CDP	30

Note: CDP = Census Designated Place
Source: U.S. Census 2012-2016 American Community Survey

The densest residential areas in Nevada County are the incorporated communities of Grass Valley, Nevada City, and Truckee. However, most County residents live in unincorporated areas, as shown in Table 1. The downtown areas of the three incorporated communities and some unincorporated communities such as North San Juan and Washington were developed in the latter half of the 19th century. Many streets in these areas are narrow, contributing to the valued historic character of each community and helping to reduce vehicle speeds. However, many of these streets have narrow sidewalks, poor sidewalk conditions, or no sidewalks. Additionally, curb ramps at many intersections are missing or do not meet current standards. Because of these narrow street widths and their age of development, many of these areas also have few dedicated bicycling facilities.

Key Destinations and Land Use

Figure 8 to Figure 10 show key destinations for bicyclists and pedestrians in the Nevada County. Destination include:

- Schools
- Parks
- Public buildings, including libraries, post offices, city halls, and county offices
- Retail areas
- Senior centers and senior housing
- Major trail heads

Appendix C also includes current zoning maps, identifying residential, commercial, and industrial areas.

Figure 8: Key Destinations in Nevada County

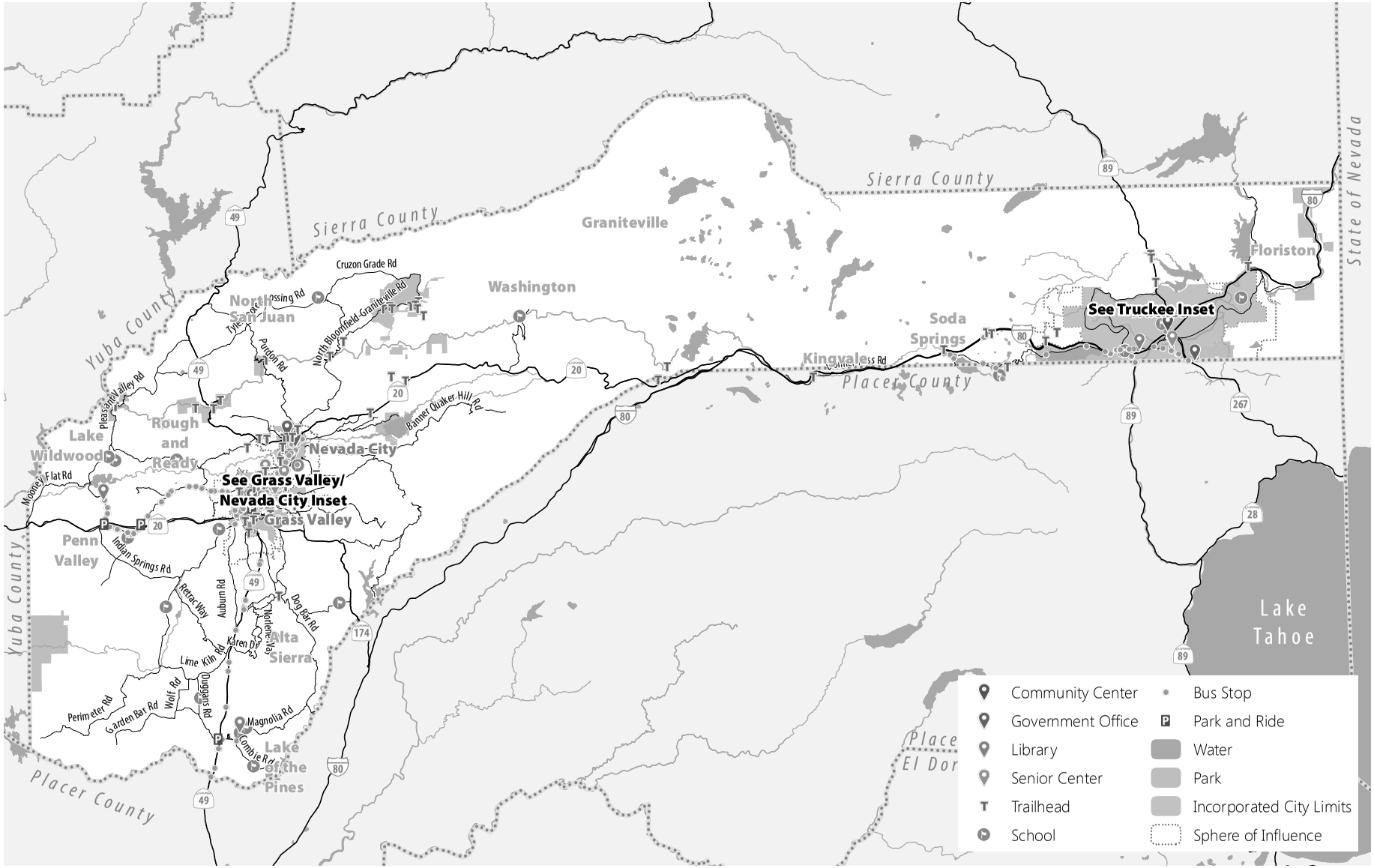


Figure 9: Key Destinations in Grass Valley and Nevada City

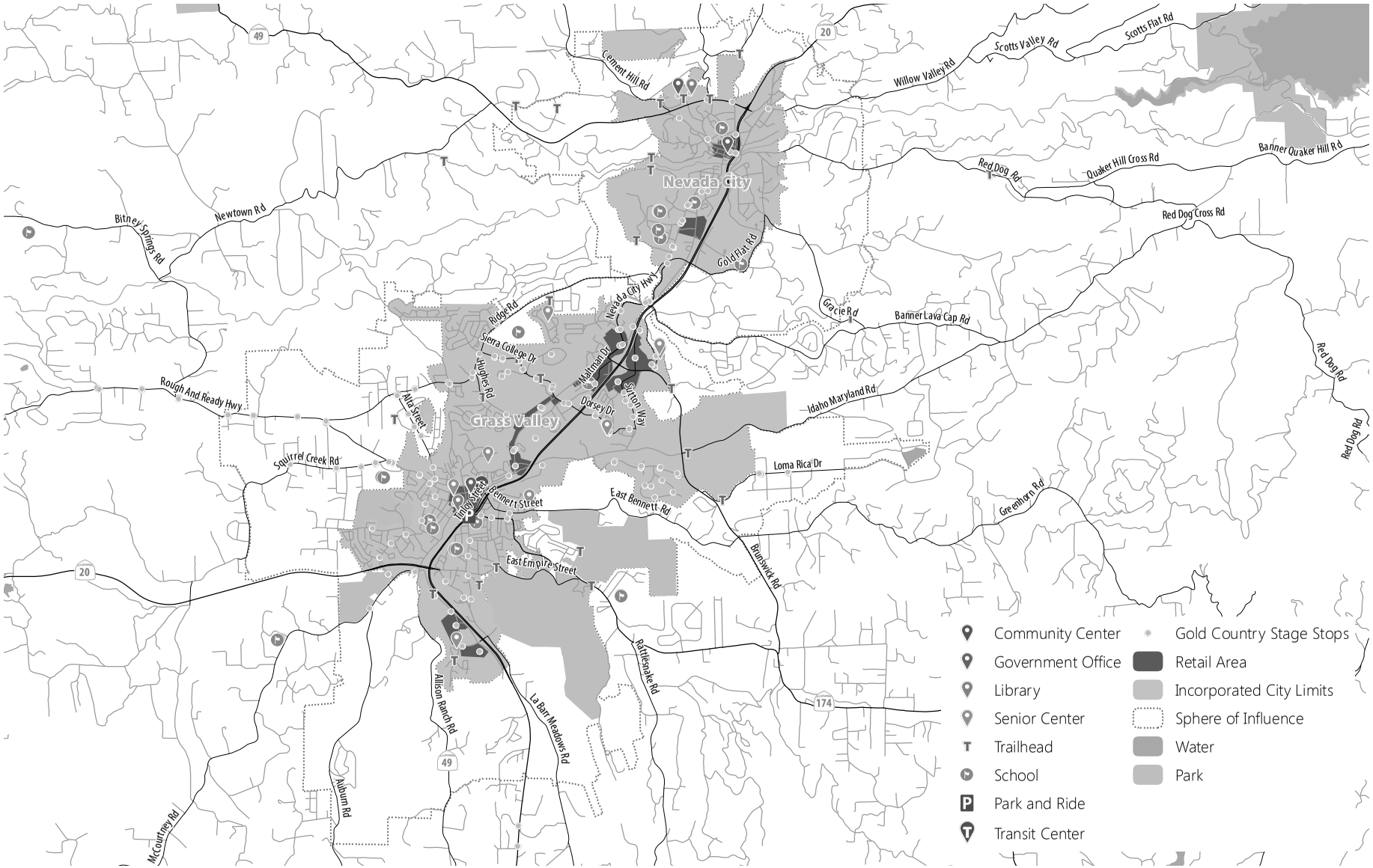


Figure 10: Key Destinations in Truckee

Connections With Transit and Carpooling

Figure 8 to Figure 10 also show links to other transportation, specifically bus stops, park and ride lots, and the Truckee Amtrak station.

Two primary transit providers serve Nevada County with fixed route service. Gold Country Stage serves the western County and Tahoe Truckee Area Regional Transit serves the eastern County. Fixed route service areas are also served by demand-responsive transit service. All fixed-route buses have bike racks.

Four park and ride lots are located in western Nevada County.

Amtrak serves Truckee with train and connecting bus service. On these trains, standard full-size bicycles may be transported in bicycle racks located in the baggage car. Most connecting buses can accommodate a limited number of bicycles on a first-come, first-served basis underneath the motor coach in the luggage compartment.

Disadvantaged Communities

Service to disadvantaged and underserved communities is a key factor in many grant funding programs such as California's Active Transportation Program. This plan presents four different indicators of disadvantaged communities, often referred to as environmental justice communities (Figure 11 to Figure 16):

- Household median income – census tracts, block groups (for communities with population less than 15,000), or census designated places (unincorporated communities) with median household income less than 80% of the statewide median, or $51,026 (2012-2016 ACS).
- Free or reduced price meal eligibility – the share of students at a school who are eligible for subsidized meals. Schools with at least 75% eligible are considered disadvantaged by the ATP guidelines.
- CalEnviroScreen 3.0 score percentile – a measure of environmental health by census tract. Inputs include socioeconomic factors, population characteristics, pollution factors, and environmental factors. Tracts with higher percentiles are more disadvantaged. The worst scoring 25% are considered disadvantaged by the ATP guidelines.
- Zero automobile households – share of households in each census tract that do not own a car.

No area of Nevada County meets the CalEnviroscreen threshold for a disadvantaged community. However, some areas meet the income or school meal thresholds. Zero automobile households is not an indicator used by the Active Transportation Program, but is provided for information.

Figure 11: Household Median Income

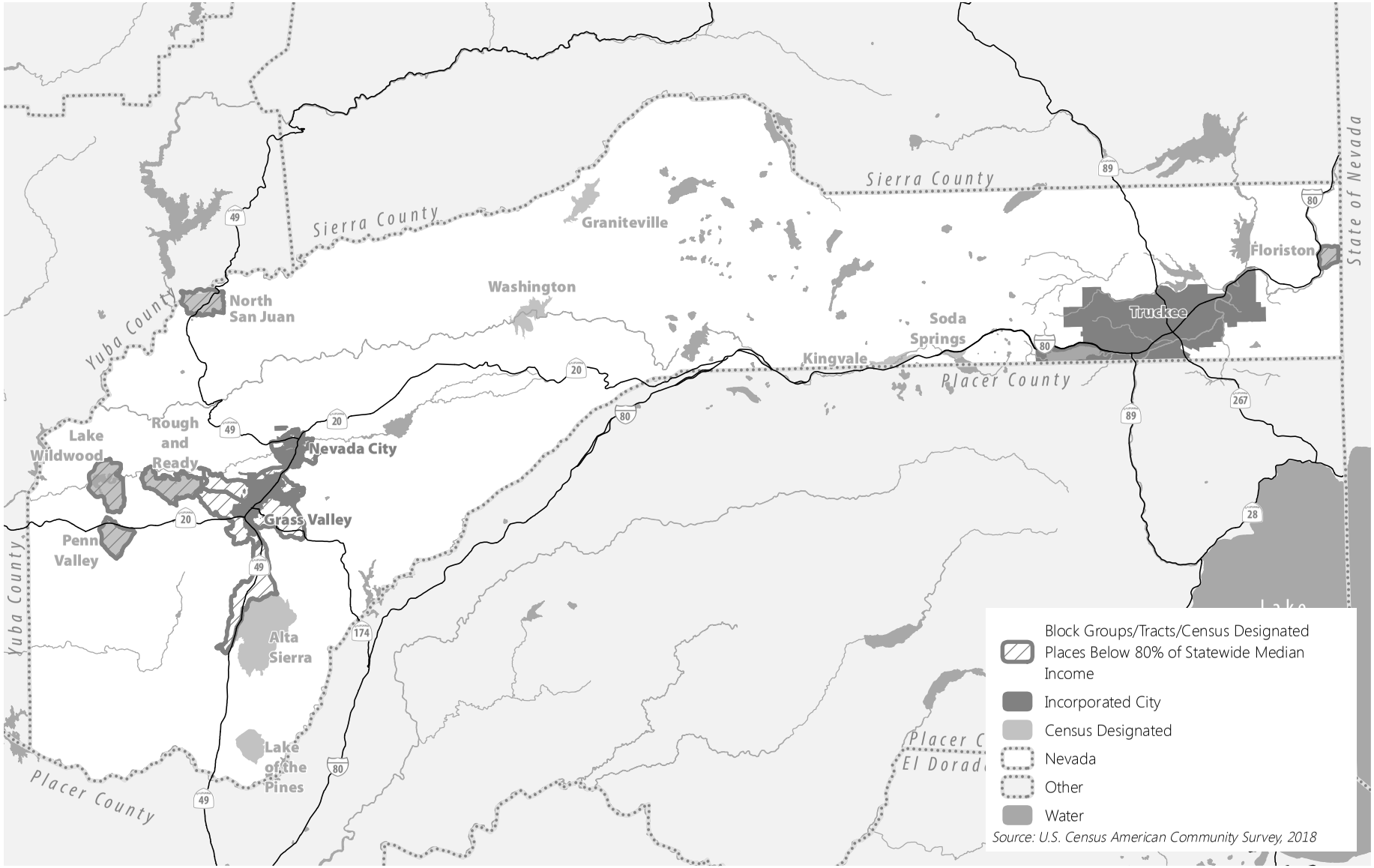


Figure 12: Free or Reduced Price Meal Elegibility in Nevada County

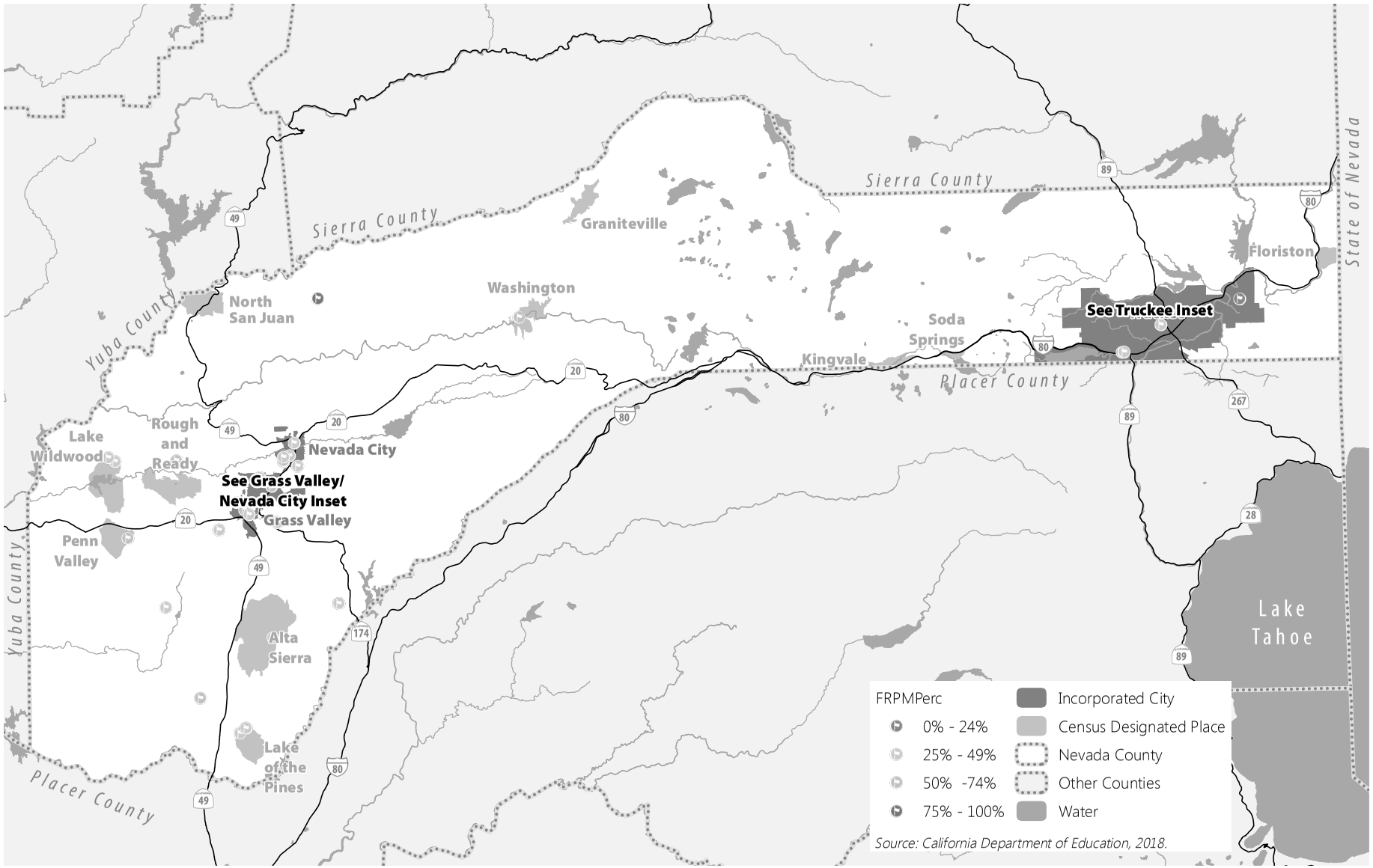
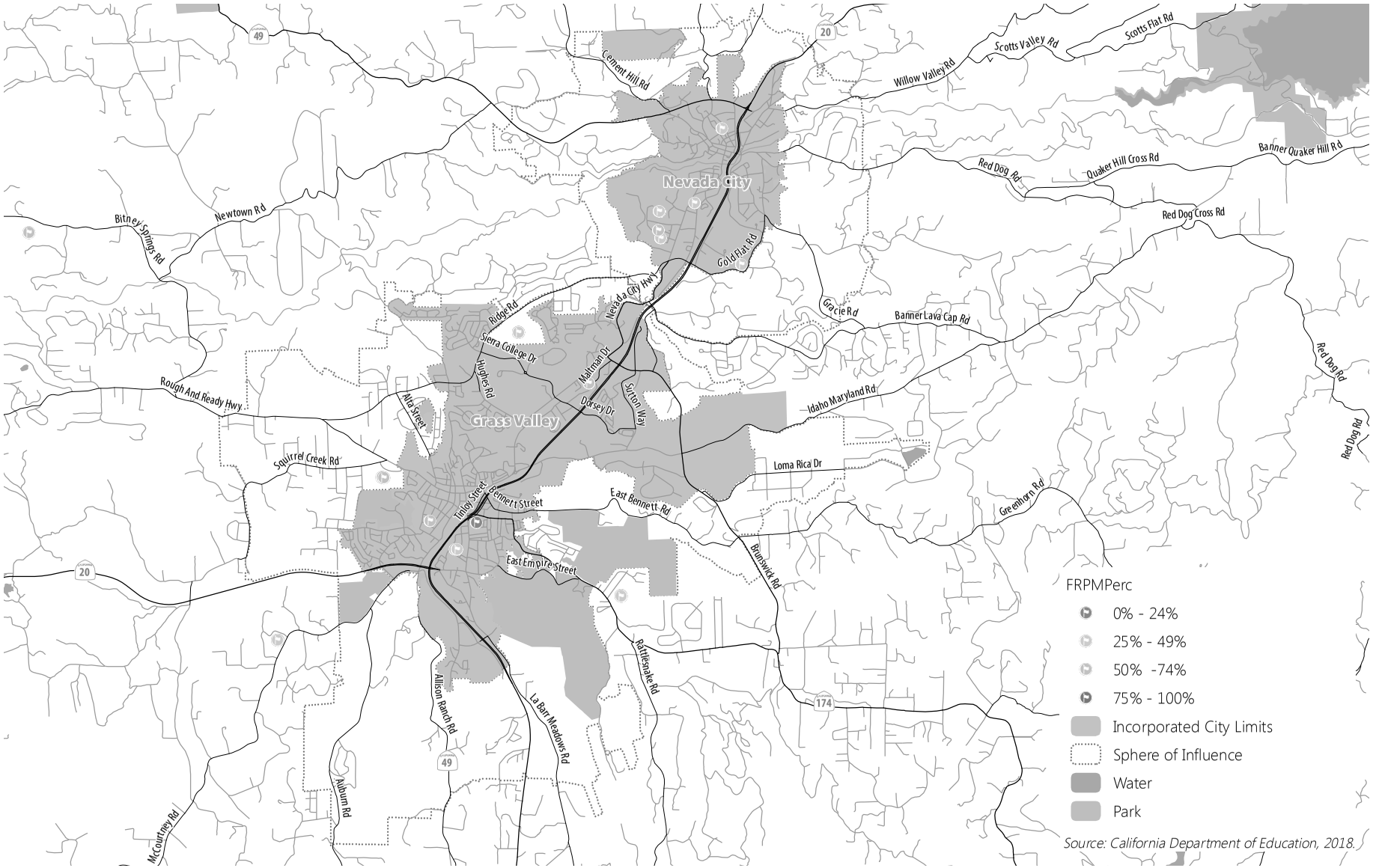


Figure 13: Free or Reduced Price Meal Elegibility in Grass Valley and Nevada City



Source: California Department of Education, 2018.

Figure 14: Free or Reduced Price Meal Elegibility in Truckee

Figure 15: CalEnviroScreen 3.0 Percentile

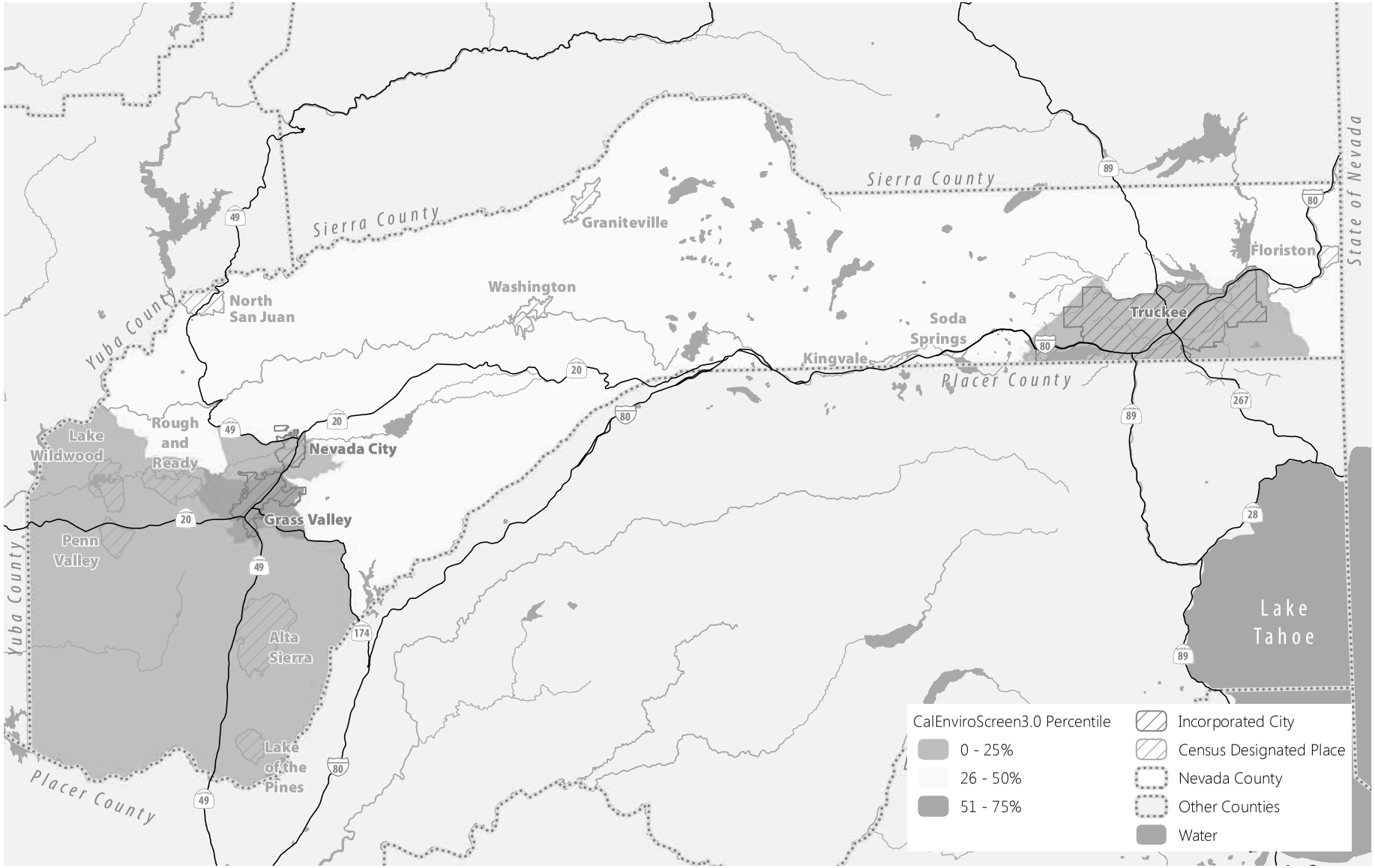
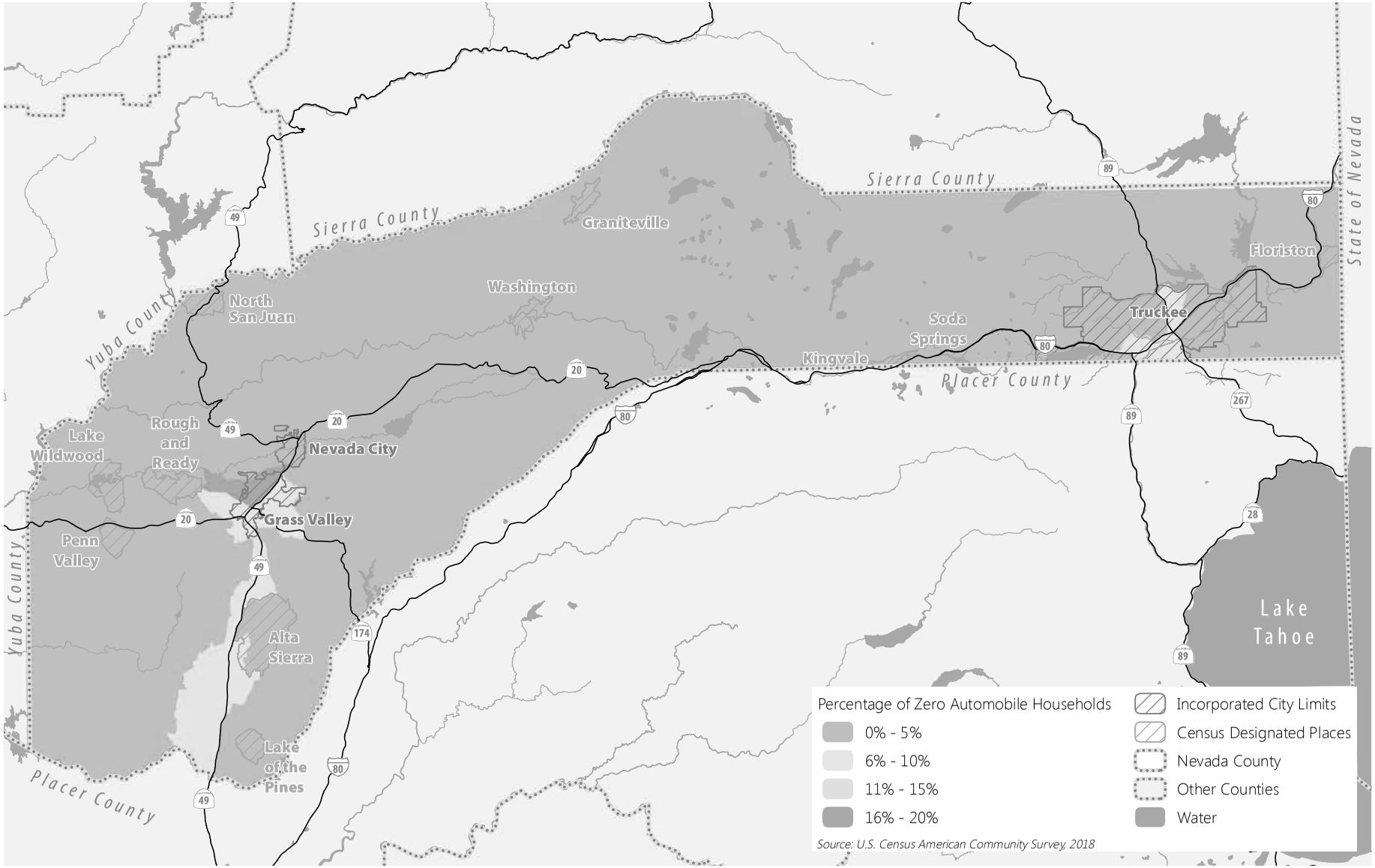


Figure 16: Zero Automobile Households



Bicycle and Pedestrian Networks

Currently there are 110.6 miles of bicycle and paved trail facilities and over 57 miles of sidewalks within Nevada County. There are also over 300 miles of unpaved trails in the County. These networks are summarized in Table 2 and depicted in Figure 17 to Figure 23. Sidewalks have been inventoried on major roadways likely to currently have pedestrian traffic or provide access to key pedestrian destinations (with potential for latent pedestrian traffic); however, additional sidewalks exist on streets not inventoried and are thus not shown in these tables or figures.

Table 2: Existing Bicycle and Pedestrian Facilities (Miles)

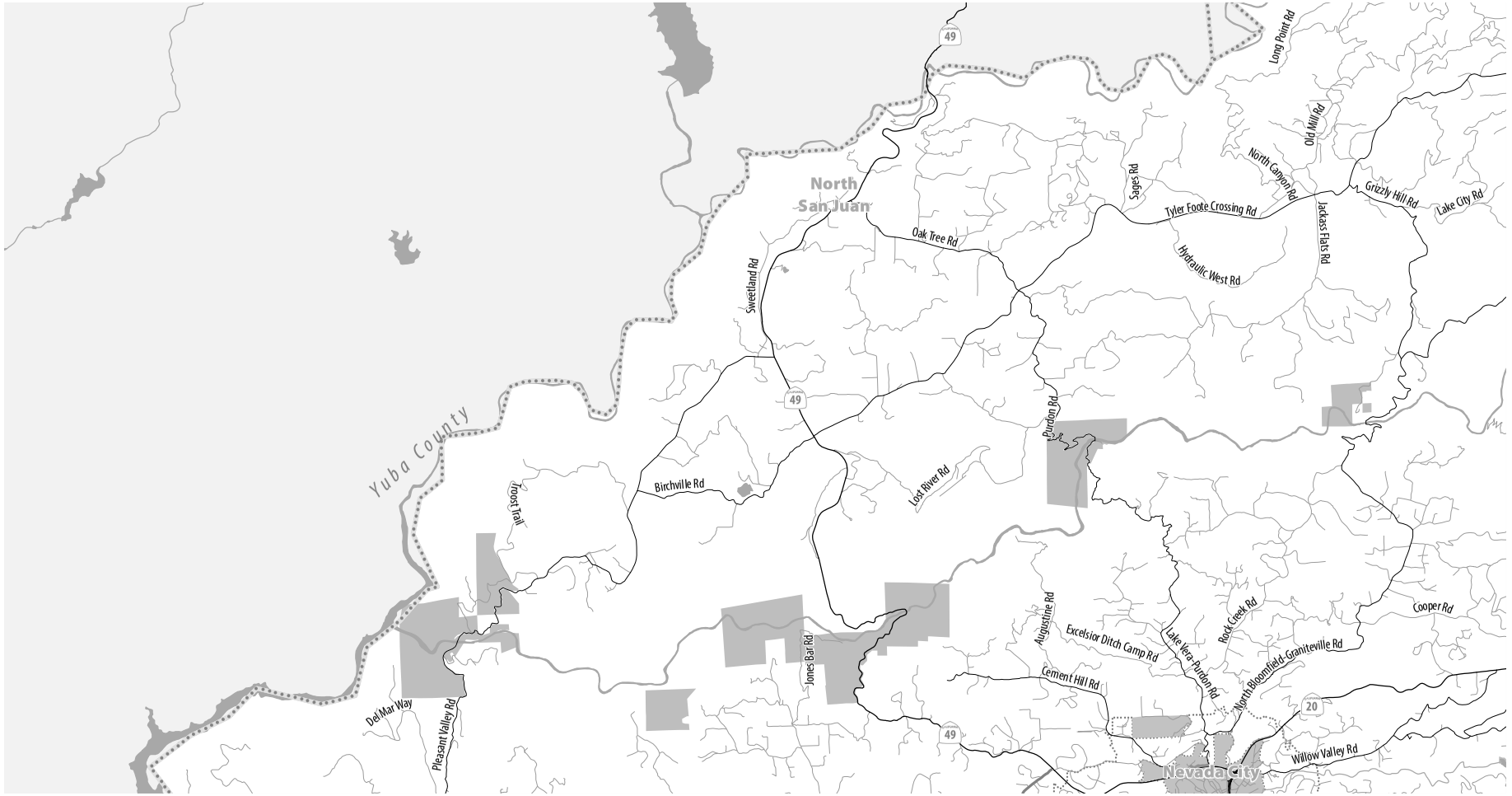
Type	Grass Valley	Nevada City	Truckee	Unincorporated Nevada County	Total
Sidewalks[1,2]	14.0	33.8	6.5	2.9	57.2
Class I Bike Paths (Multi-Use)	0.5	0.4	20.6	3.2	24.7
Class II Bike Lanes	5.5	0	29	8	42.5
Class III Bike Routes	1.8	0.4	34.8	6.4	43.4
Class III with Multi-Use Shoulder	0	0	0	7.0	7.0
Earthen Trails (Recreational)	9.3	7.5	19	287.8	323.6

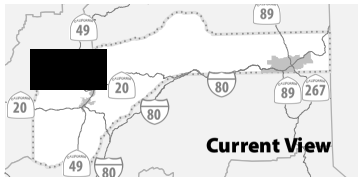
Note: [1]Most significant areas only. Additional sidewalks exist but are not included in totals.
[2]Per side of street. One mile of street with sidewalks on both sides is two miles of sidewalks.
Source: Fehr & Peers, 2018

Figure 17: Grass Valley and Nevada City Existing Bicycle Network

Figure 18: Truckee Existing Bicycle Network

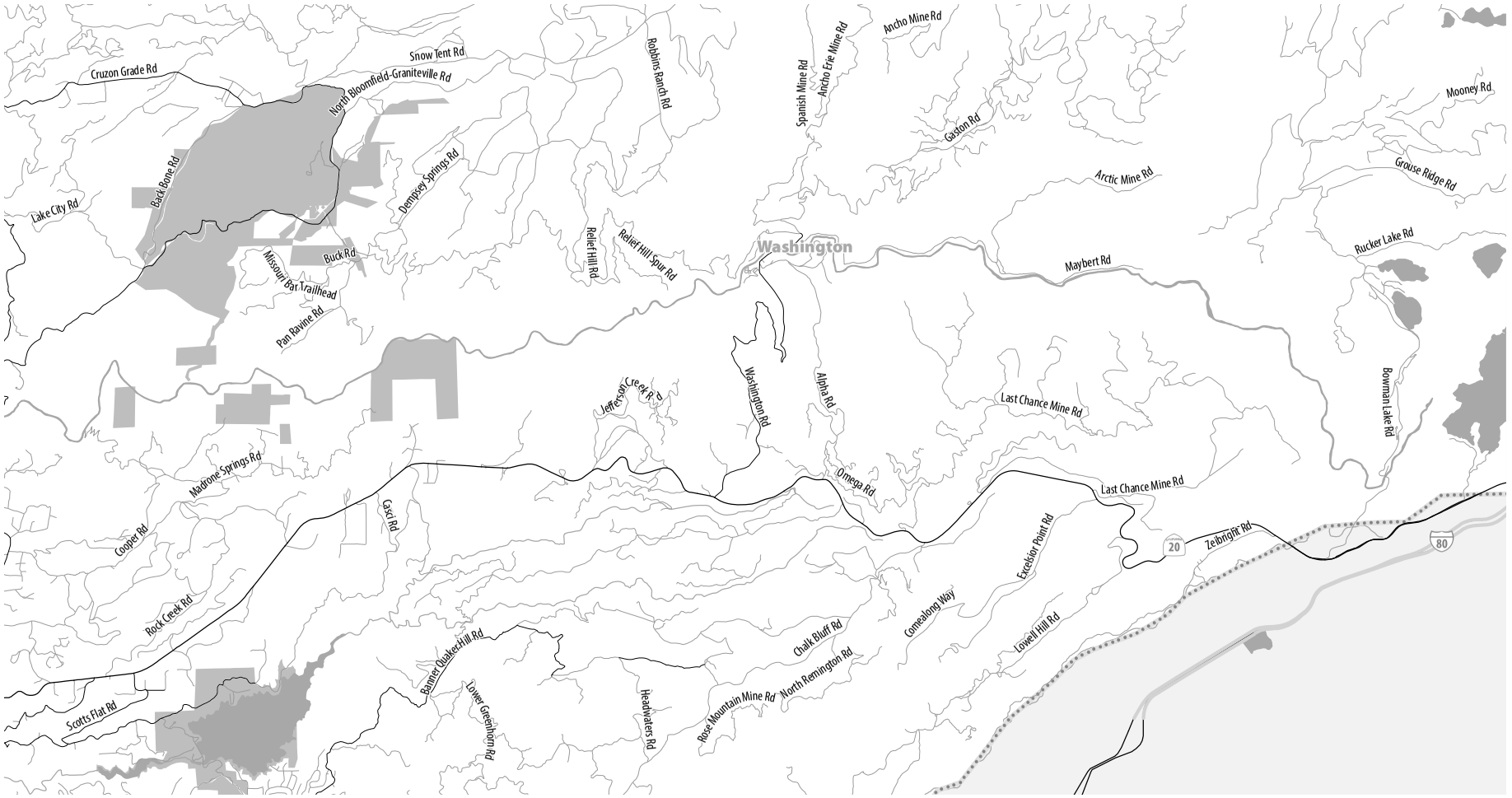
Figure 19: Nevada County Existing Bicycle Network





Existing Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Class III Multi-Use Shoulder
- Shoulder Bike Access Permitted

- Incorporated City Limits
- Sphere of Influence
- Water
- Park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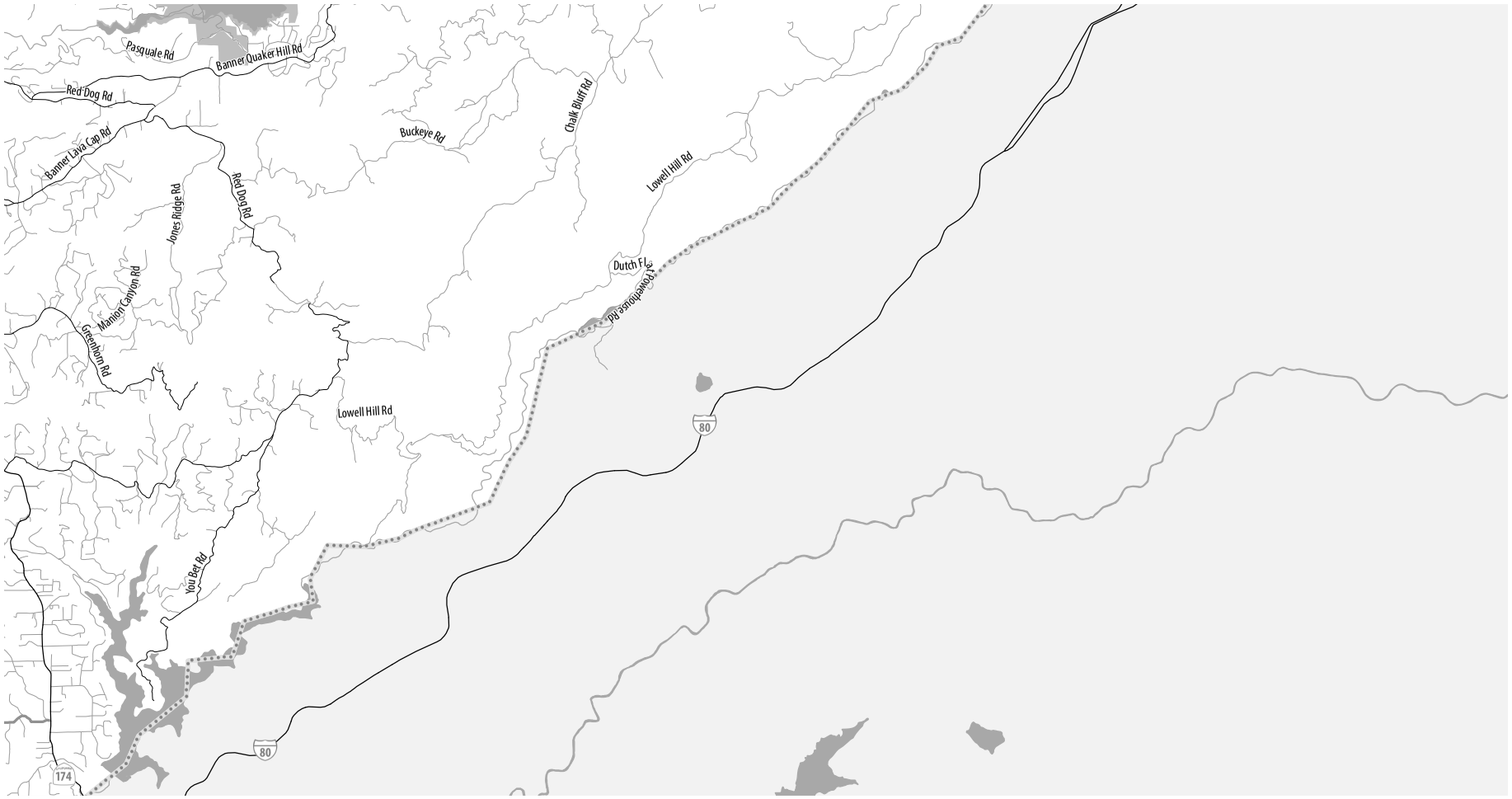
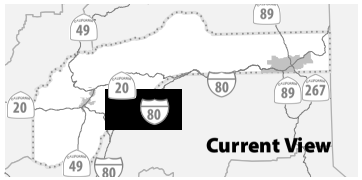
Snow Tent Rd
North Bloomfield-Graniteville Rd
Robbins Ranch Rd
Spanish Mine Rd
Ancho Fire Mine Rd
Ancho Mine Rd
Mooney Rd
Gaston Rd
Grouse Ridge Rd
Back Bone Rd
Dempsey Springs Rd
Lake City Rd
Arctic Mine Rd
Relief Hill Rd
Relief Hill Spur Rd
Washington
Rucker Lake Rd
Buck Rd
Missouri Bar Trailhead
Maybert Rd
Pan Ravine Rd
Jeffers on Creek Rd
Washington Rd
Alpha Rd
Last Chance Mine Rd
Bowman Lake Rd
Madrone Springs Rd
Omega Rd
Last Chance Mine Rd
Gaci Rd
Cooper Rd
Excelsior Point Rd
Zeibright Rd
20
80
Rock Creek Rd
Comesalong Way
Chalk Bluff Rd
Banner Quaker Hill Rd
Lowell Hill Rd
North Remington Rd
Lower Greenhorn Rd
Headwaters Rd
Rose Mountain Mine Rd
Scotts Flat Rd
Existing Bicycle Facilities
Class I Bike Path
Class II Bike Lane
Class III Bike Route
Class III Multi-Use Shoulder
Shoulder Bike Access Permitted
Incorporated City Limits
Sphere of Influence
Water
Park
Current View
49
89
20
80
89
267
80
49
80

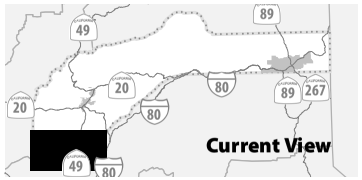

John Born Rd
Pleasant Valley Rd
Lake Wildwood Dr
Bitney Springs Rd
Newtown Rd
Champion Rd
Nevada City
Red Dog Rd
Pasquale Rd
Banner Mountain Trail
Ridge Rd
North Ponderosa Way
Lake Wildwood
Rough and Ready
Rough And Ready Rd
Rough And Ready Hwy
State Creek Rd
Banner Lava Cap Rd
Grass Valley
Idaho Maryland Rd
Squirrel Creek Rd
Loma Rica Dr
174
East Bennett Rd
Brunswick Rd
Greenhorn Rd
Lost Lake Rd
Rex Reservoir Rd
20
Mooney Flat Rd
Penn Valley Dr
Wild Turkey Lane
Big Oak Dr
Penn Valley
South Ponderosa Way
49
La Barr Meadows Rd
Rattlesnake Rd
Brooks Rd
Allison Ranch Rd
Long Valley Rd
Indian Springs Rd
Spenceville Rd
Hidden Valley Rd
Hutto Rd
McCourtney Rd
Dog Bar Rd
Lower Colfax Rd
Auburn Rd
Alta Sierra Dr
Alta Sierra
Retrac Way
Wolf Mountain Rd
Hatchet Creek Rd
49
20
80
89
267
Current View
Existing Bicycle Facilities
Class I Bike Path
Class II Bike Lane
Class III Bike Route
Class III Multi-Use Shoulder
Shoulder Bike Access Permitted
Incorporated City Limits
Sphere of Influence
Water
Park





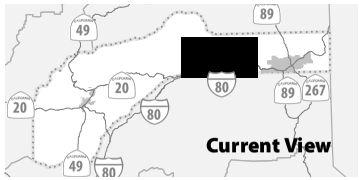
Existing Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Class III Multi-Use Shoulder
- Shoulder Bike Access Permitted

- Incorporated City Limits
- Sphere of influence
- Water
- Park

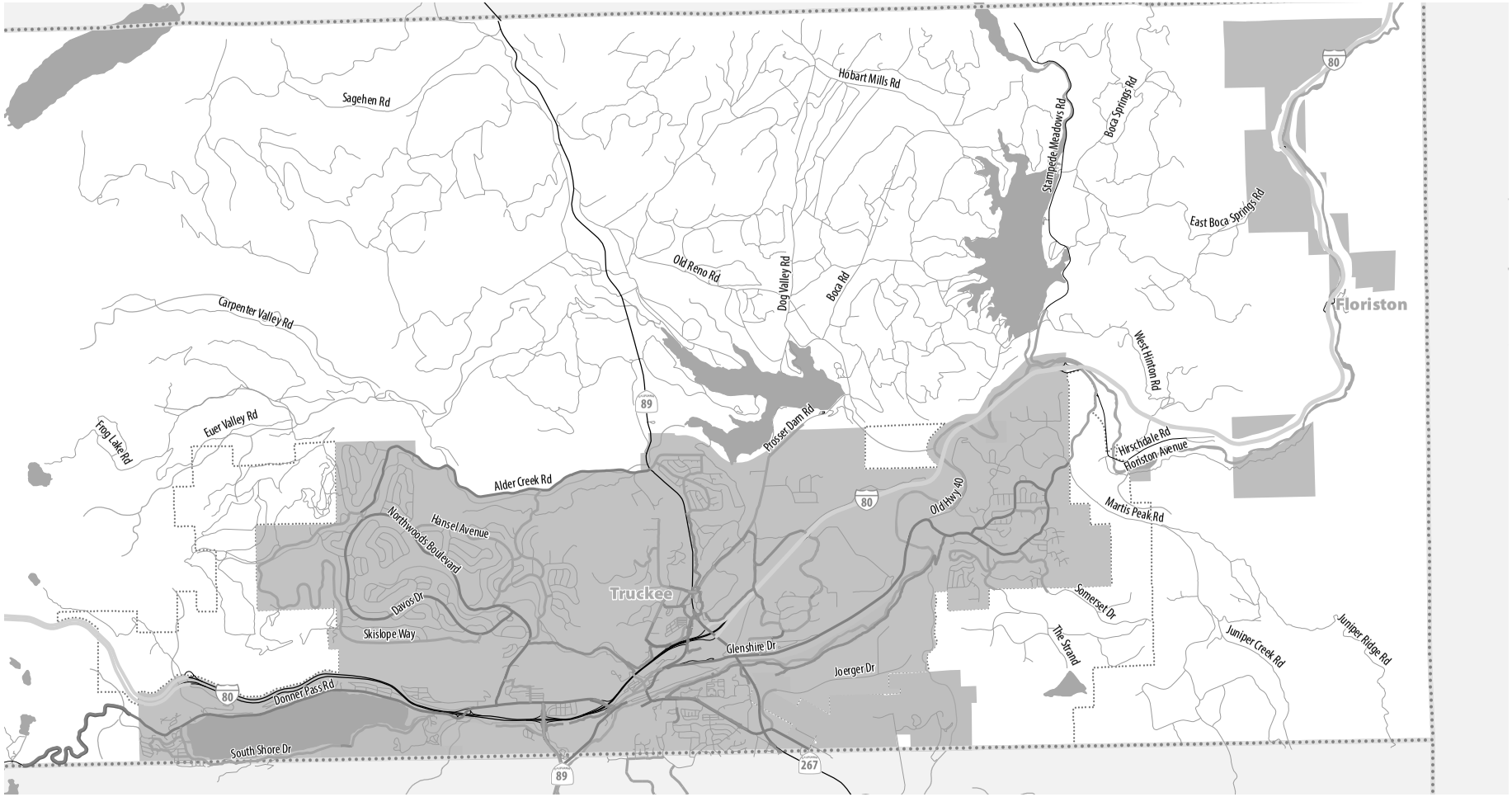


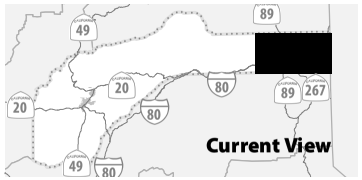
Existing Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Class III Multi-Use Shoulder
- Shoulder Bike Access Permitted

- Incorporated City Limits
- Sphere of Influence
- Water
- Park



Existing Bicycle Facilities
Class I Bike Path
Class II Bike Lane
Class III Bike Route
Class III Multi-Use Shoulder
Shoulder Bike Access Permitted
Incorporated City Limits
Sphere of Influence
Water
Park

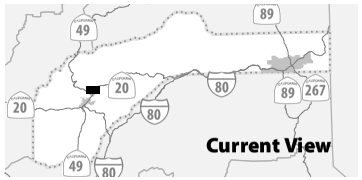




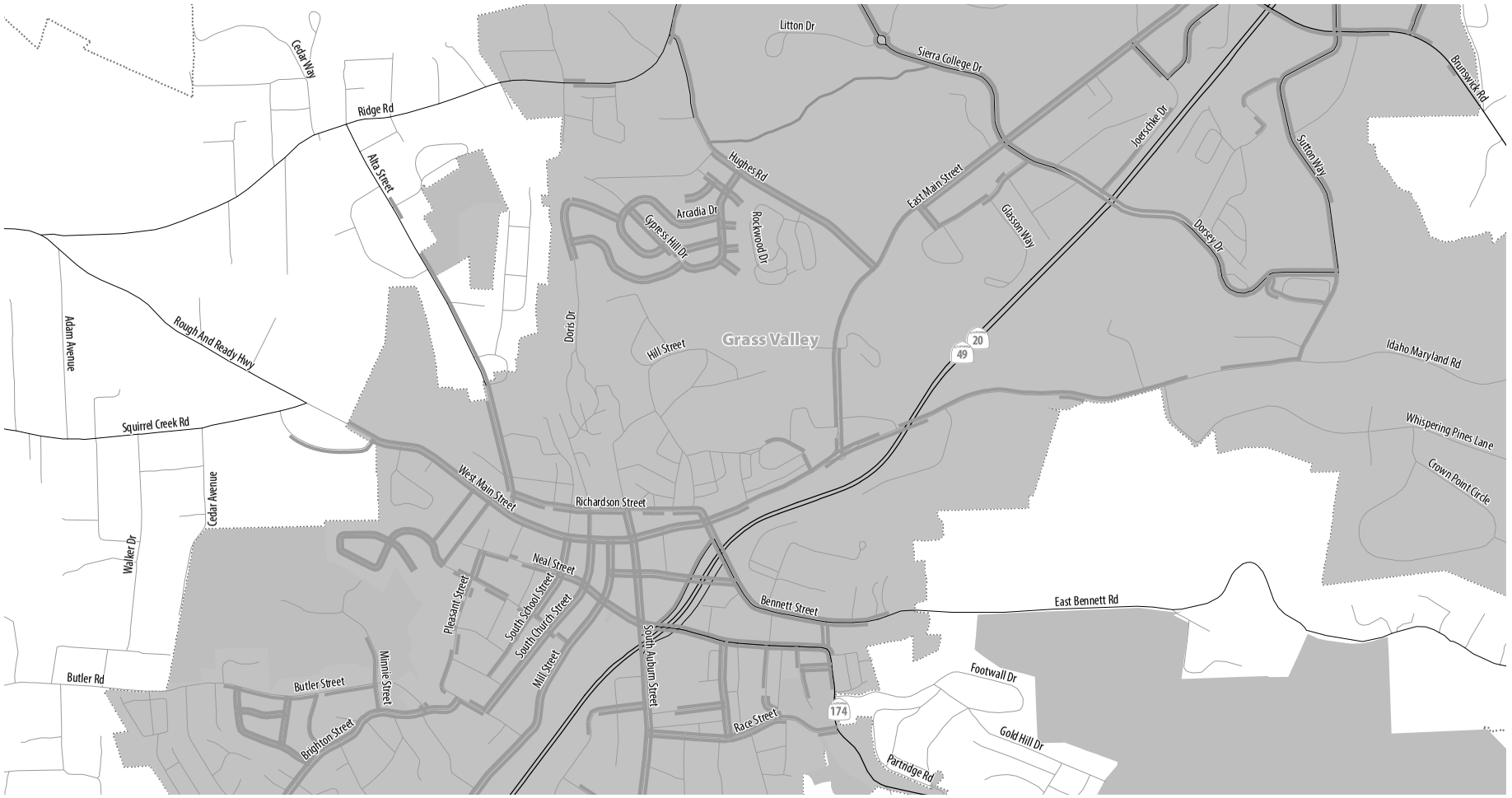
Existing Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Class III Multi-Use Shoulder
- Shoulder Bike Access Permitted

- Incorporated City Limits
- Sphere of Influence
- Water
- Park

Figure 20: Nevada County Existing Pedestrian Network




Nevada City
Grass Valley
Slate Creek Rd
Hoover Lane
Zion Street
Searls Avenue
Railroad Avenue
Gracie Rd
Providence Mine Rd
Hollow Way
Lothlorien Lane
Marion Dr
Shannon Way
Greenwood Circle
Deer Park Dr
Echo Ridge Dr
Via Vista
Ridge Rd
Ridge Estates Rd
Gold Flat Rd
Pinewoods Rd
Granholm Lane
Lower Grass Valley Rd
Nevada City Hwy
Pittsburg Rd
Pittsburg Mine Rd
Northview Dr
Banner Lava Cap Rd
Woodcrest Way
Morgan Ranch Dr
Horizon Circle
Eskaton Circle
Glenwood Rd
Old Tunnel Rd
Sutton Way
Sierra College Dr
Robert Ross Way
Litton Dr
East Main Street
Brunswick Rd
Town Talk Rd
Gayle Lane
Banner Mine Way
Success Cross Rd
Current View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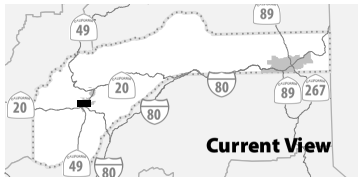
Sierra College Dr
Brunswick Rd
Cedar Way
Ridge Rd
Alta Street
Hughes Rd
Joerschke Dr
Sutton Way
East Main Street
Arcadia Dr
Cypress Hill Dr
Rockwood Dr
Glasson Way
Dorsey Dr
Doris Dr
Hill Street
Grass Valley
20
49
Idaho Maryland Rd
Adam Avenue
Rough And Ready Hwy
Squirrel Creek Rd
Whispering Pines Lane
Crown Point Circle
West Main Street
Richardson Street
Cedar Avenue
Walker Dr
Neal Street
Pleasant Street
South School Street
South Church Street
Bennett Street
East Bennett Rd
South Auburn Street
Mill Street
Minnie Street
Butler Rd
Butler Street
Brighton Street
Race Street
174
Footwall Dr
Gold Hill Dr
Partridge Rd


49
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267
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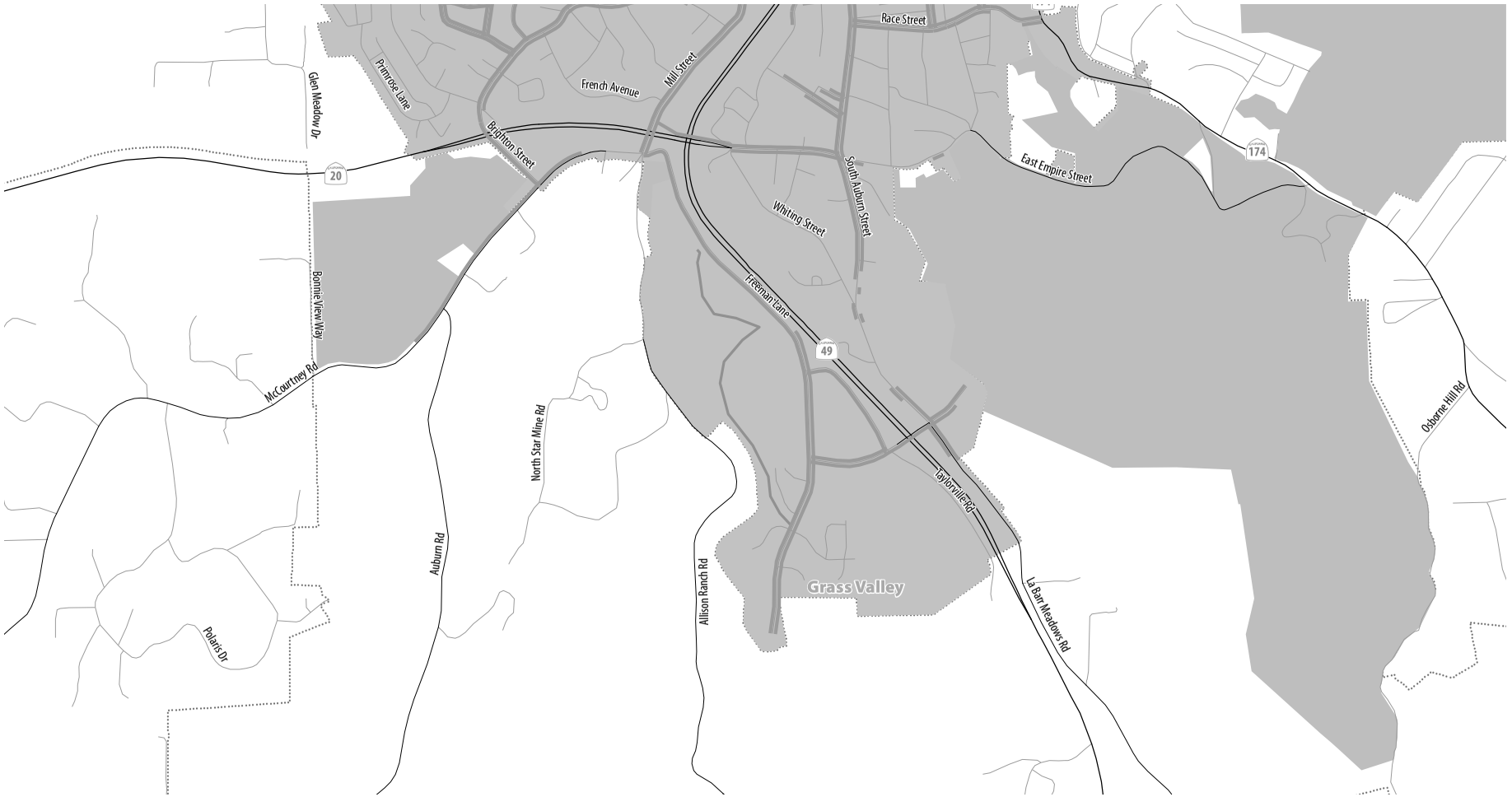
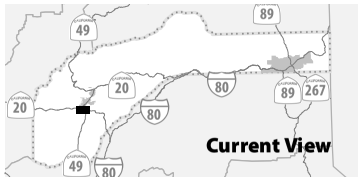
Current View


Race Street
Primrose Lane
French Avenue
Mill Street
Glen Meadow Dr
Brighton Street
20
Whiting Street
South Auburn Street
East Empire Street
174
Bonnie View Way
Freeman Lane
49
McCourtney Rd
North Star Mine Rd
Osborne Hill Rd
Taylorville Rd
Auburn Rd
Allison Ranch Rd
Grass Valley
La Barr Meadows Rd
Polaris Dr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267
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Current View
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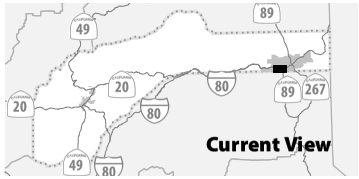
Euer Valley Rd
Northwoods Boulevard
Edmunds Dr
Sierra Dr
Sierra Dr East
Truckee
Richards Boulevard
Donner Pass Rd
80
Spring Lane
Deerfield Dr
Cold Stream Rd
West River Street
89


89
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267
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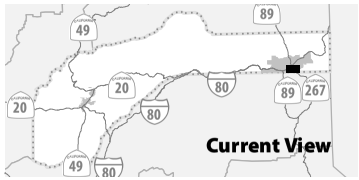
49
80
Current View


Pioneer Trail
Olympic Boulevard
Highland Avenue
Glenshire Dr
Euer Valley Rd
80
Donner Pass Rd
East Jibboom Street
East River Street
River View Dr
Joerger Dr
Martis Dr
Estates Dr
Truckee
West River Street
Reynold Way
Brockway Rd
Winter Creek Loop
Palisades Dr
267
Jeffery Pine Rd
Red Fir Rd
Torrey Pine Rd
Ponderosa Dr
Star Pine Rd
Martis Valley Rd
Hope Court
Soaring Way
Truckee-Tahoe Airport Rd
Silver Fir Dr


89
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267
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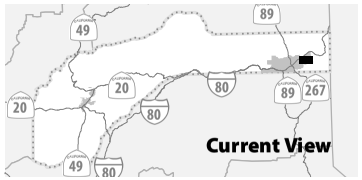
Current View
49
80


Union Mills Rd
80
Old Hwy 40
Truckee
Huntsman Leap
Whitehorse Rd
Whitehorse Rd
Archery View
Manchester Dr
Dorchester Dr
Evensham Place
Rolands Way
Martis Peak Rd
Chelmsford Circle
Saint Albans Place
Sudsbury Cirde
Waterloo Circle
Berkshire Circle
Glenshire Dr
Donnington Lane
Courtenay Lane
Somerset Dr
Overland Trail
Donnington Lane
The Strand
Royal Way
Kent Dr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267
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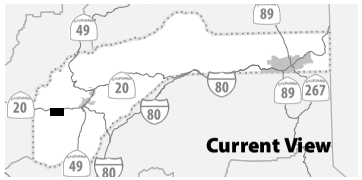
Current View


Gray Oak Dr
Lazy Lane
Rough And Ready Hwy
Nie's Cliff Lane
Cattle Dr
20
Easy Street
Penn Valley Dr
Quincy Lane
Crowsnest Lane
Hilltop Rd
Siesta Dr
Lasso Loop
Penn Valley
Horton Street
Devonshire Circle
Willowbrook Lane
Lazy Valley Rd
Spenceville Rd
Woodglen Lane
Elnora Dr
Indian Springs Rd
Southridge Dr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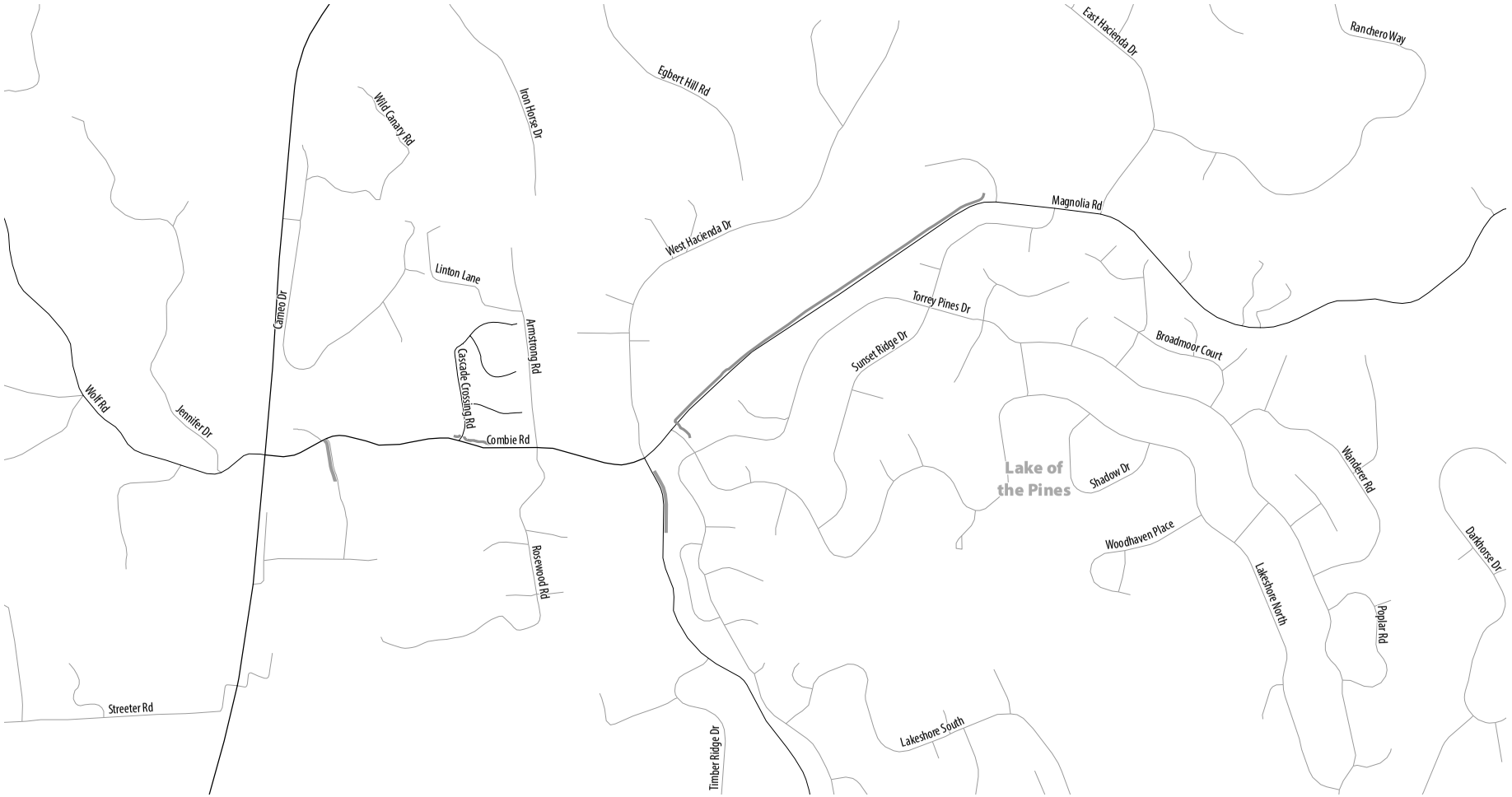
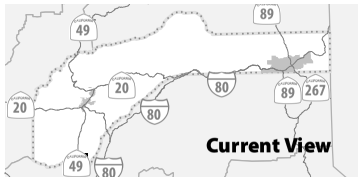
Current View


East Hacienda Dr
Ranchero Way
Egbert Hill Rd
Wild Canary Rd
Iron Horse Dr
Magnolia Rd
West Hacienda Dr
Linton Lane
Cameo Dr
Torrey Pines Dr
Armstrong Rd
Sunset Ridge Dr
Broadmoor Court
Cascade Crossing Rd
Wolf Rd
Jennifer Dr
Combie Rd
Lake of the Pines
Shadow Dr
Wanderer Rd
Woodhaven Place
Rosewood Rd
Lakeshore North
DarkHorse Dr
Poplar Rd
Streeter Rd
Timber Ridge Dr
Lakeshore South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267
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Current View

Figure 21: Grass Valley and Nevada City Existing Trails Network

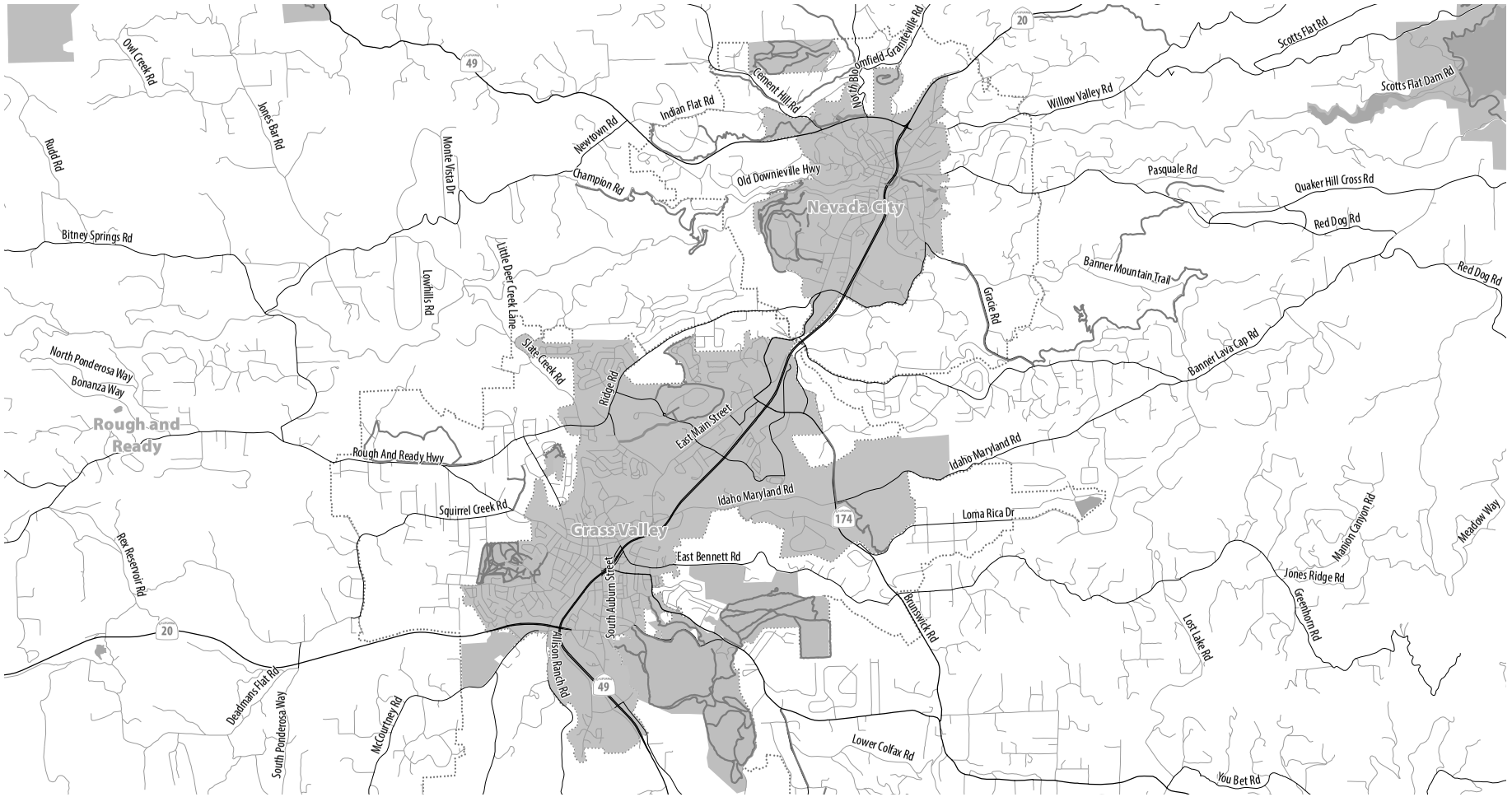
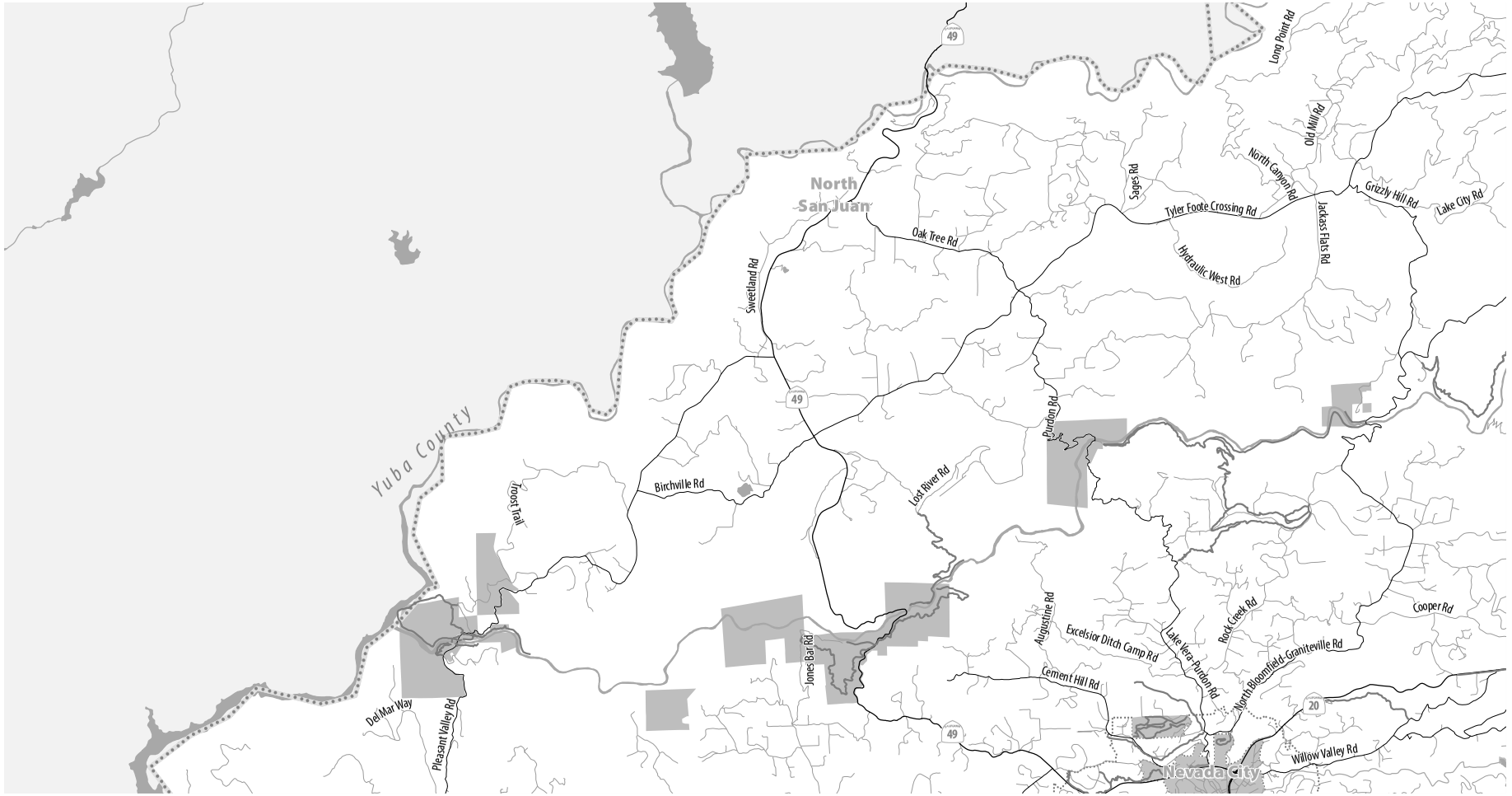
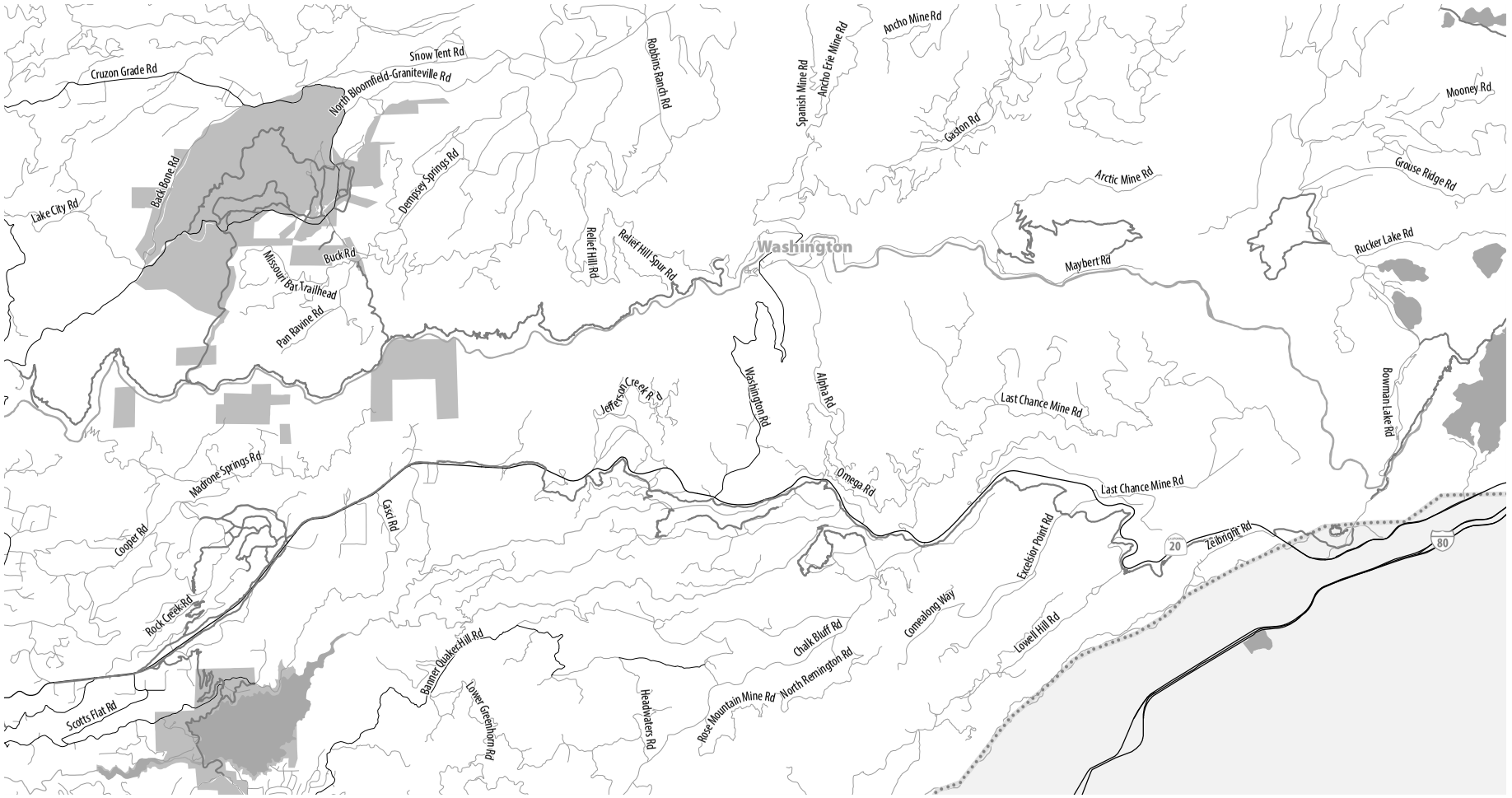


Figure 22: Truckee Existing Trails Network

Figure 23: Nevada County Existing Trails Network




Cruzon Grade Rd
Snow Tent Rd
North Bloomfield-Graniteville Rd
Robbins Ranch Rd
Spanish Mine Rd
Ancho Fire Mine Rd
Ancho Mine Rd
Mooney Rd
Gaston Rd
Back Bone Rd
Dempsey Springs Rd
Lake City Rd
Arctic Mine Rd
Grouse Ridge Rd
Relief Hill Rd
Relief Hill Spur Rd
Washington
Rucker Lake Rd
Buck Rd
Missouri Bar Trailhead
Maybert Rd
Pan Ravine Rd
Jefferson Creek Rd
Washington Rd
Alpha Rd
Last Chance Mine Rd
Bowman Lake Rd
Madrone Springs Rd
Omega Rd
Last Chance Mine Rd
Gaci Rd
Cooper Rd
Excelsior Point Rd
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Zeibright Rd
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Rock Creek Rd
Chalk Bluff Rd
Come-along Way
Lowell Hill Rd
Banner Quaker Hill Rd
North Remington Rd
Lower Greenhorn Rd
Headwaters Rd
Rose Mountain Mine Rd
Scotts Flat Rd
89
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267
20
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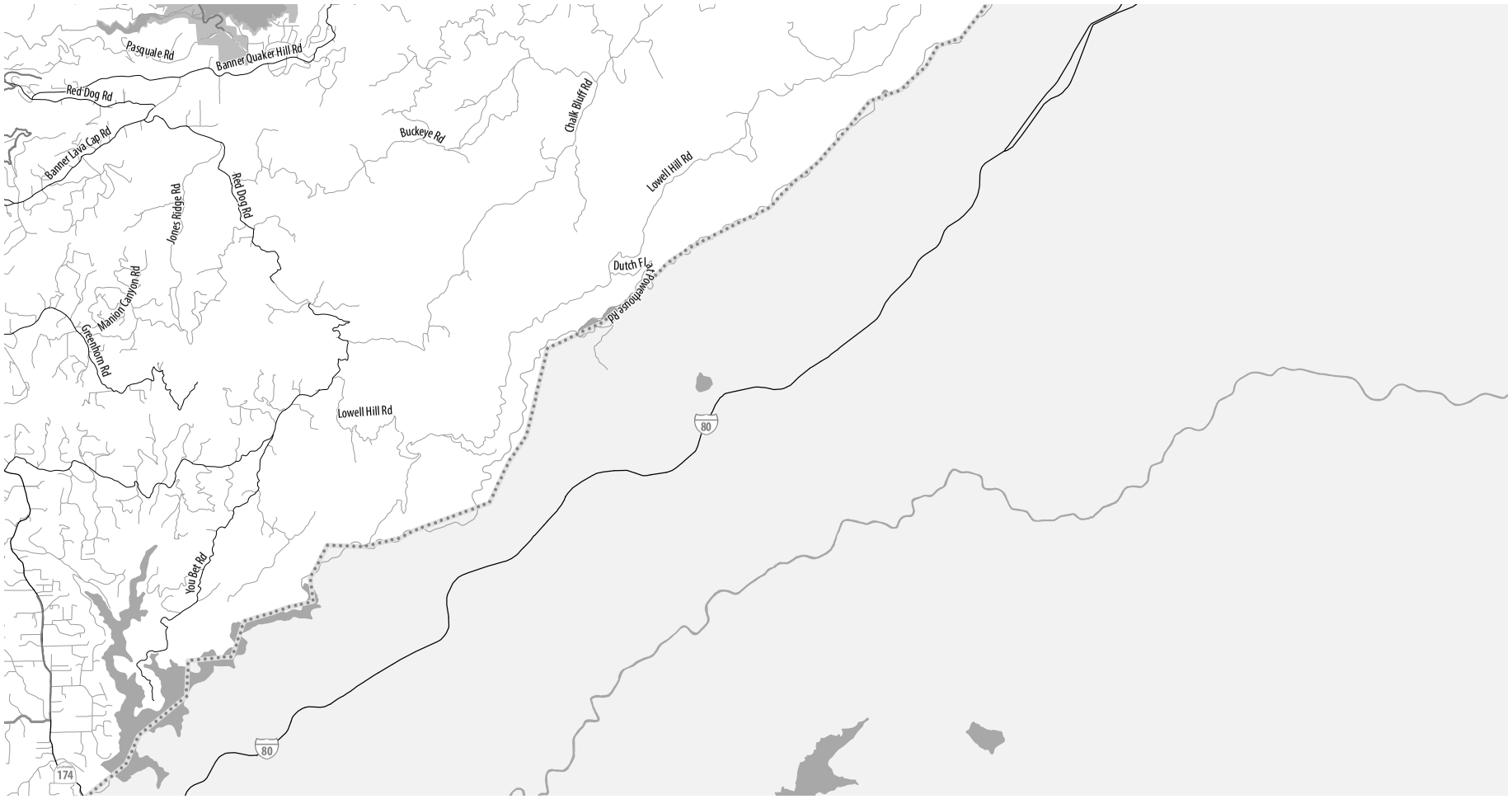
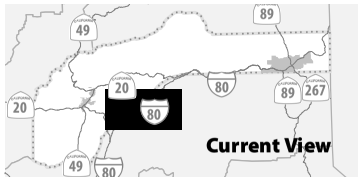
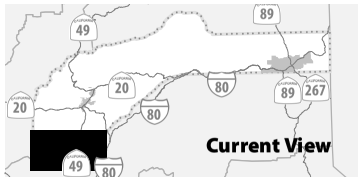
49
80
Current View
Existing Trail Facilities
Class I Bike Path
Earthen Trail
Water
Park
Incorporated City Limits
Sphere of Influence


John Born Rd
Pleasant Valley Rd
Lake Wildwood Dr
Bitney Springs Rd
Newtown Rd
Champion Rd
Nevada City
Red Dog Rd
Pasquale Rd
Banner Mountain Trail
Ridge Rd
North Ponderosa Way
Lake Wildwood
Rough and Ready
Rough And Ready Rd
Rough And Ready Hwy
Slate Creek Rd
Banner-Lava Cap Rd
Grass Valley
Idaho Maryland Rd
Squirrel Creek Rd
Loma Rica Dr
174
East Bennett Rd
Brunswick Rd
Greenhorn Rd
Lost Lake Rd
Rex Reservoir Rd
Mooney Flat Rd
20
Penn Valley Dr
Wild Turkey Lane
Penn Valley
South Ponderosa Way
49
La Barr Meadows Rd
Big Oak Dr
Rattlesnake Rd
Brooks Rd
Allison Ranch Rd
Long Valley Rd
Indian Springs Rd
Spenceville Rd
Hidden Valley Rd
Hutto Rd
McCourtney Rd
Lower Colfax Rd
Dog Bar Rd
Alta Sierra Dr
Auburn Rd
Alta Sierra
Retrac Way
Wolf Mountain Rd
Hatchet Creek Rd
Existing Trail Facilities
Class I Bike Path
Earthen Trail
Water
Park
Incorporated City Limits
Sphere of Influence
Current View



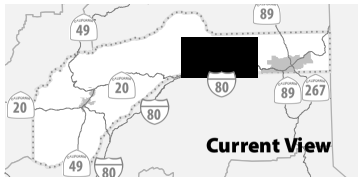


Existing Trail Facilities
Class I Bike Path
Earthen Trail
Water
Park
Incorporated City Limits
Sphere of Influence



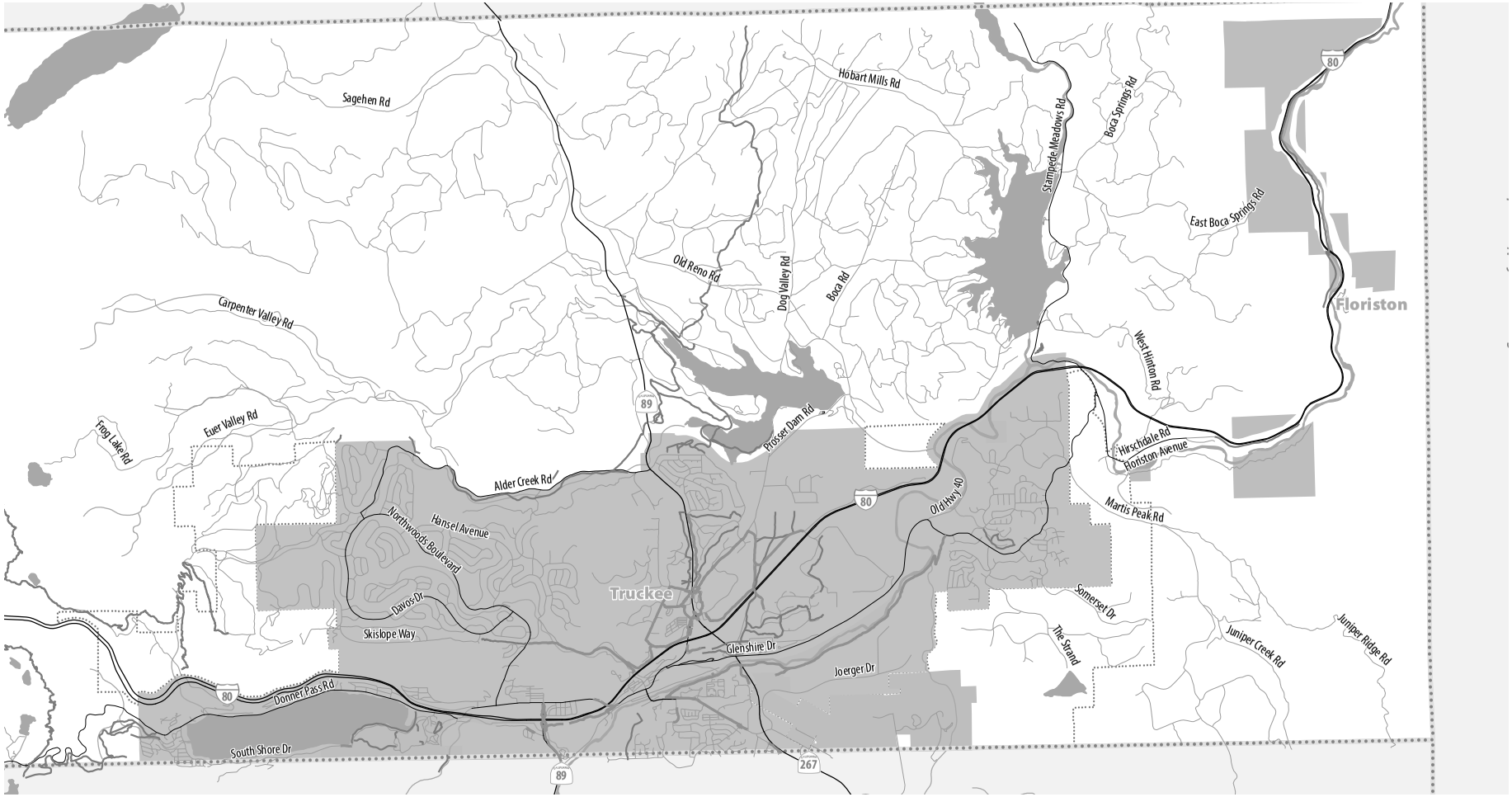
Existing Trail Facilities
- Class I Bike Path
- Earthen Trail

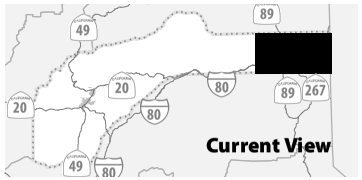
- Water
- Park
- Incorporated City Limits
- Sphere of Influence



Existing Trail Facilities
- Class I Bike Path
- Earthen Trail

- Water
- Park
- Incorporated City Limits
- Sphere of Influence





Existing Trail Facilities
Class I Bike Path
Earthen Trail
Water
Park
Incorporated City Limits
Sphere of Influence

Bicycle Parking

Existing bike parking locations are shown in Figure 24 to Figure 26. Additional bike parking not shown on this map may exist.

Specific bicycle parking requirements in each jurisdiction's municipal code are summarized below. In addition to these requirements, the California Green Builiding Standards Code, Part 11 of the California Building Standards Code, also includes requirements for bicycle parking. Additional details are provided in Appendix E, Other Plans and Policies.

- Nevada County: Requires one bicycle rack for each 20 vehicle parking spaces. Can be reduced by planning agency determines use of site does not warrant this requirement.
- Grass Valley: Town Core and Neighborhood Standards require bicycle parking be provided and in a secure environment. Development may substitute bicycle spaces for vehicle spaces at the rate of eight bicycle spaces for one vehicle space, up to a maximum of 10 percent.
- Nevada City: Requires one bicycle parking space per unit of high-density residential development.
- Truckee: Identifies specific requirements based on development including number of spaces and construction elements.

Bicycle parking, Nevada County Library

Figure 24: Nevada County Existing Bicycle Parking

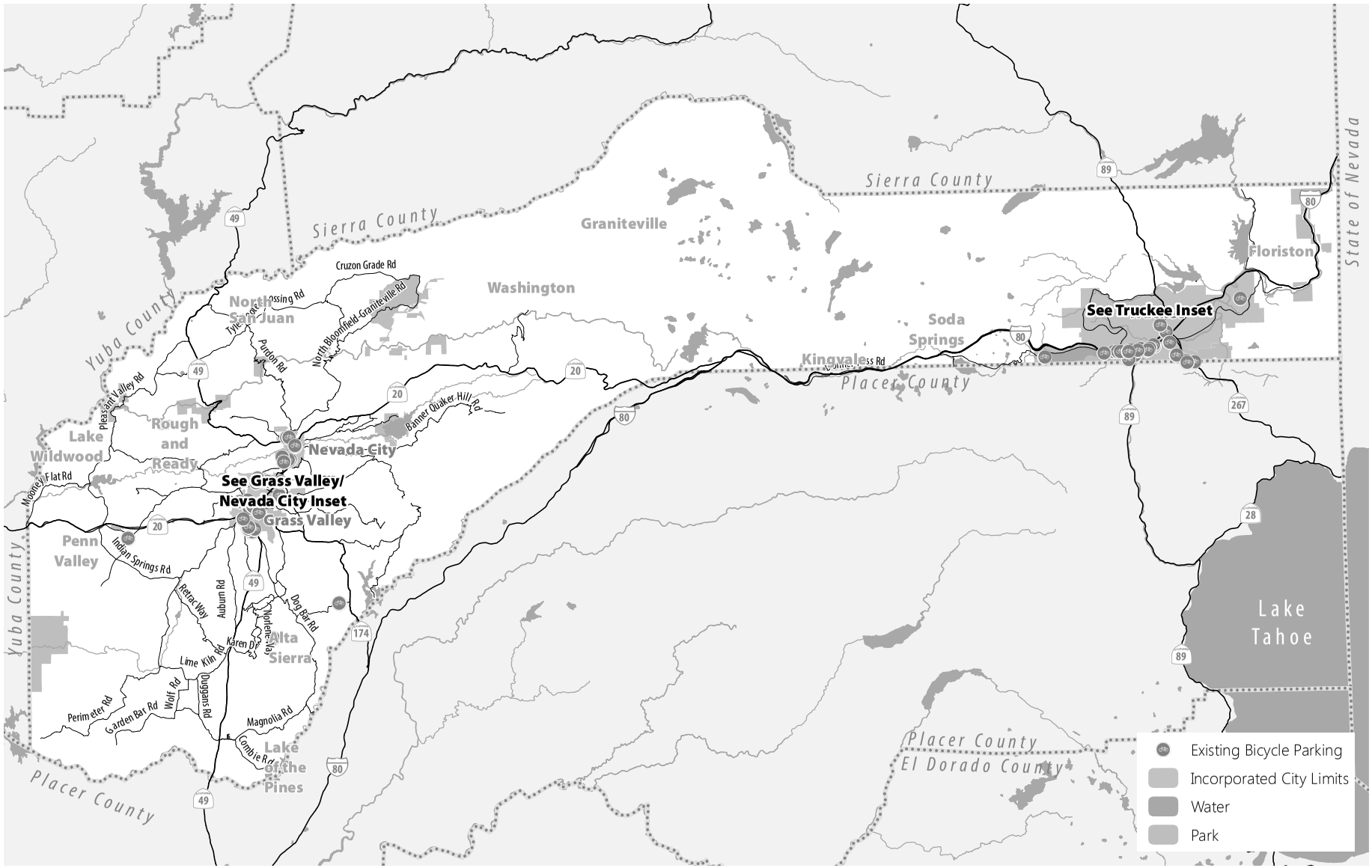


Figure 25: Grass Valley and Nevada City Existing Bicycle Parking

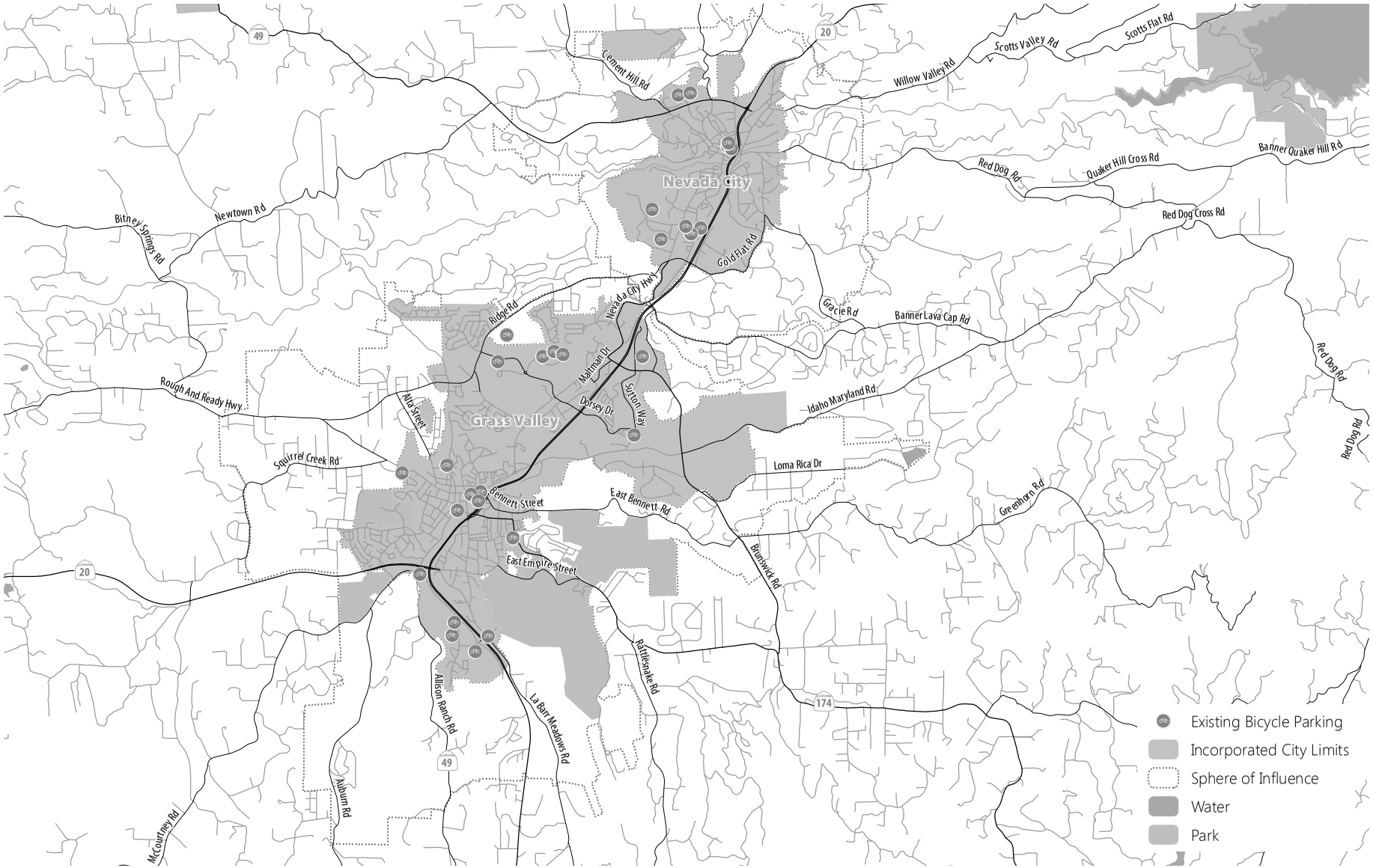
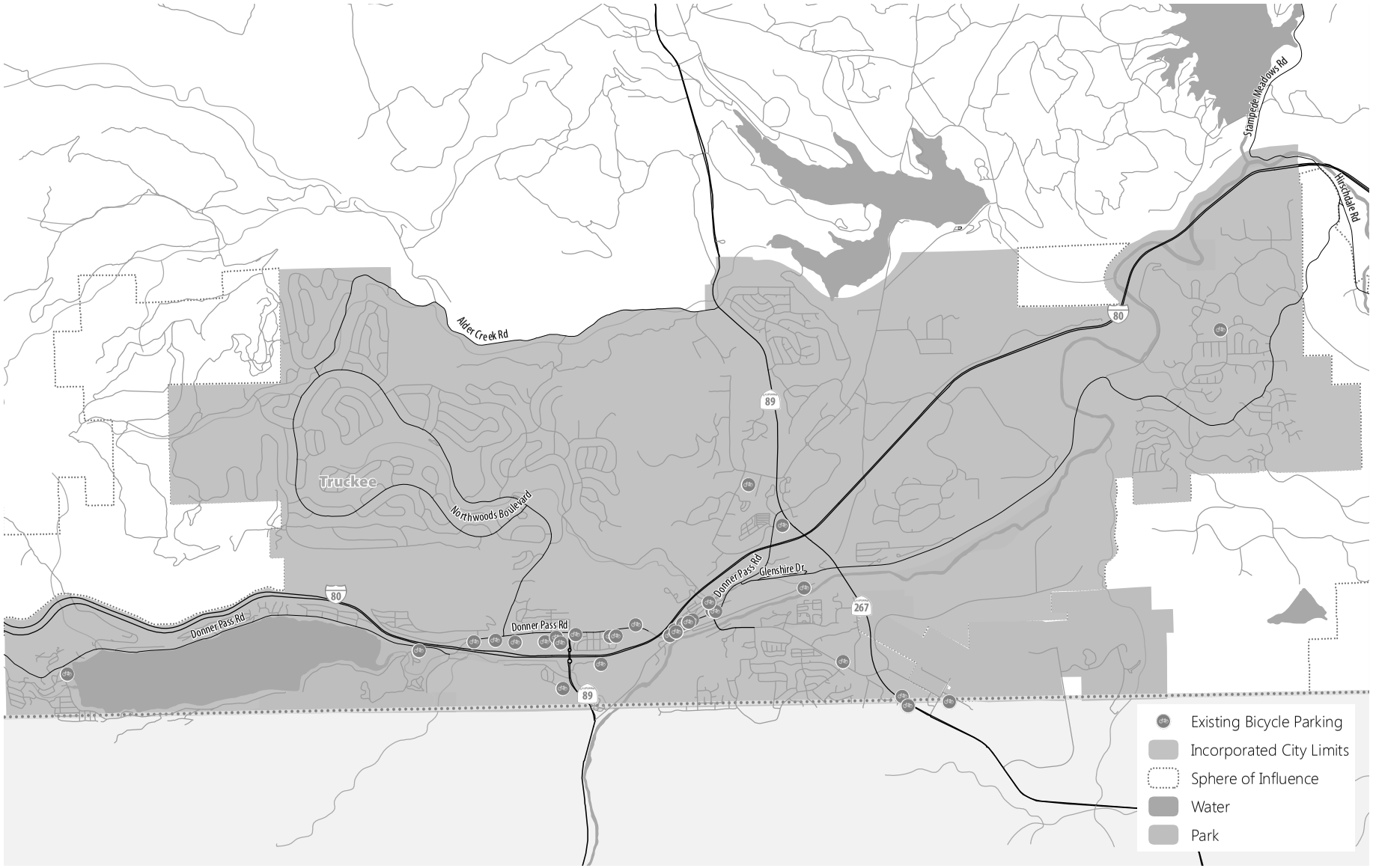


Figure 26: Truckee Existing Bicycle Parking



Collisions

Table 3 and Table 4 summarize collisions involving bicycles or pedestrians. Figure 27 to Figure 32 depict maps of these collisions, indicating locations where past collisions involving bicyclists and pedestrians are most concentrated. Table 3 shows that although bicyclist and pedestrian collisions are a relatively small share of all collisions, they comprise a relatively large share of fatal and severe injury collisions.

Additional Data

Additional data describing the existing conditions for bicycling and walking in Nevada County is provided in the following appendices:

Appendix C, Existing Conditions Supporting Data

» Current Zoning: Current land use in the County and each City.

» Existing Trips: Presents U.S. Census data describing the number and share of trips made by bicycling and walking.

Table 3: Collisions by Mode and Location, 2006-2015

Location	Severity	Bicyclists		Pedestrians		Motor Vehicles	
		Number	Share	Number	Share	Number	Share
Grass Valley	Fatalities	0	0%	1	50%	1	50%
	Severe injuries	1	4%	5	20%	19	76%
	All collisions[2]	27	2%	85	5%	1,529	93%
Nevada City	Fatalities	0	0%	0	0%	1	100%
	Severe injuries	1	13%	1	13%	6	75%
	All collisions	9	2%	22	5%	427	93%
Truckee	Fatalities	1	8%	3	23%	9	69%
	Severe injuries	6	12%	6	12%	40	77%
	All collisions	37	2%	34	1%	2,263	97%
Unincorporated Nevada County	Fatalities	1	1%	4	4%	98	95%
	Severe injuries	9	3%	4	1%	303	96%
	All collisions	37	0%	46	1%	7,586	99%

Notes: [1]Most recent years for which final data is available, 2006-2015, are included.
[2]All collisions includes fatalities, severe injuries, other visible injuries, complaints of pain, and no injuries
Source: Transportation Injury Management System, 2018; SWITRS, 2018; Fehr & Peers, 2018.

» Past Expenditures: Presents data on recent expenditures on bicycle and pedestrian facilities in each jurisdiction.

» Maintenance Policies: Maintenance policies and procedures for bicycle and pedestrian facilities in each jurisdiction. Maintaining facilities is important to encourage bicycling and walking and keeping bicyclists and pedestrians safe.

» Non-Infrastructure Programs: Supporting programs to increase biking and walking and to improve safety for pedestrians and bicyclists.

Appendix E, Other Plans and Policies

» A summary of local, regional, state, and federal plans and other documents reviewed in development of this ATP. These plans and documents contain goals and policies as well as specific requirements related to active transportation.

Table 4: Collisions by Year, 2006-2015

Year	Grass Valley		Nevada City		Truckee		Unincorporated Nevada County	
	Bicyclist	Pedestrian	Bicyclist	Pedestrian	Bicyclist	Pedestrian	Bicyclist	Pedestrian
2006	6	10	0	2	3	2	6	4
2007	4	12	2	3	4	5	2	3
2008	2	8	1	4	3	5	9	7
2009	6	12	0	2	3	3	1	0
2010	1	7	1	4	2	4	5	6
2011	2	12	1	1	6	4	5	4
2012	1	9	1	0	3	2	2	6
2013	0	6	1	1	5	0	2	7
2014	2	3	0	4	4	3	4	6
2015	3	6	2	1	4	6	1	3
Total	27	85	9	22	37	34	37	46

Notes: [1]Most recent years for which final data is available, 2006-2015, are included.
Source: Transportation Injury Management System, 2018; SWITRS, 2018; Fehr & Peers, 2018.

Figure 27: Nevada County Collisions Involving Bicyclists

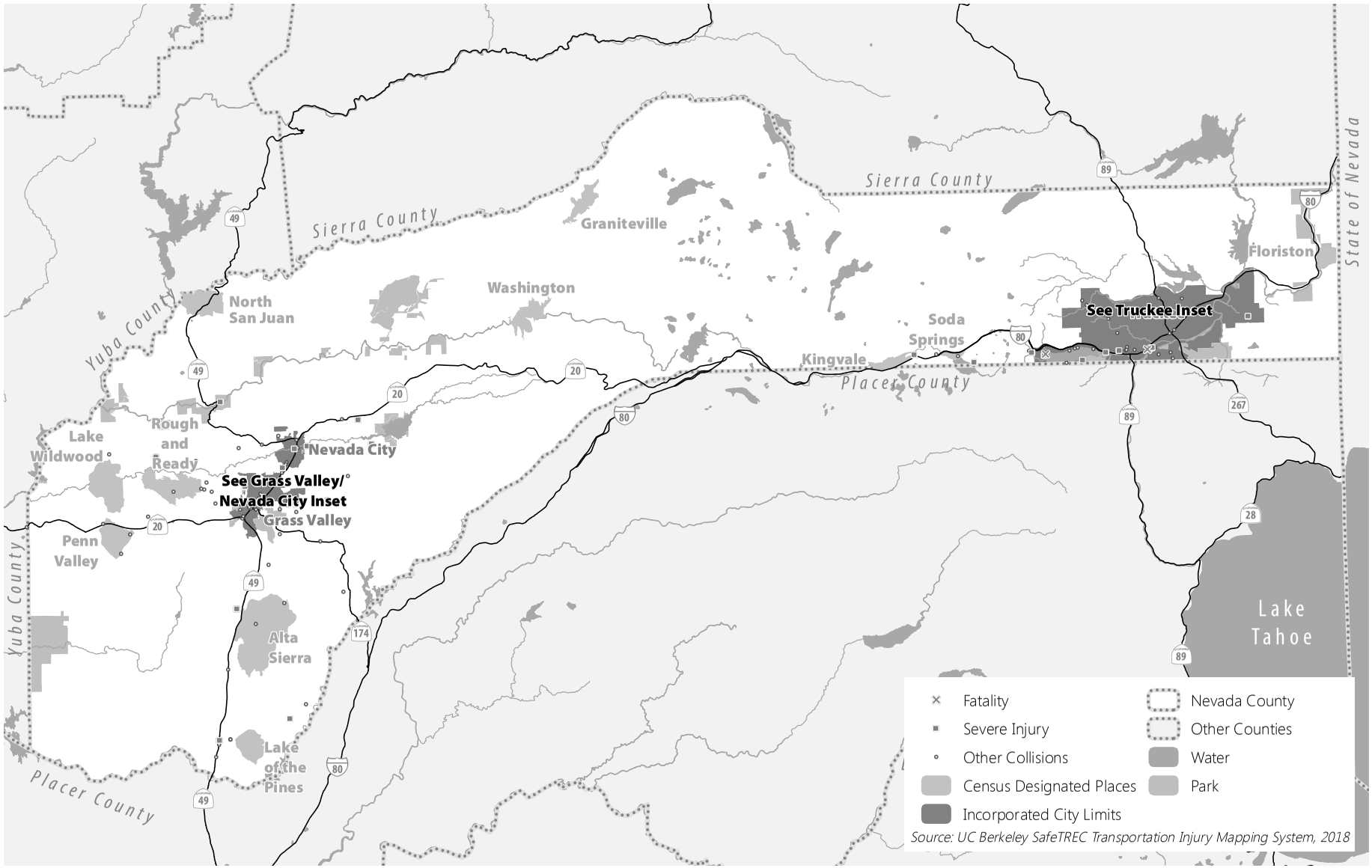


Figure 28: Grass Valley and Nevada City Collisions Involving Bicyclists

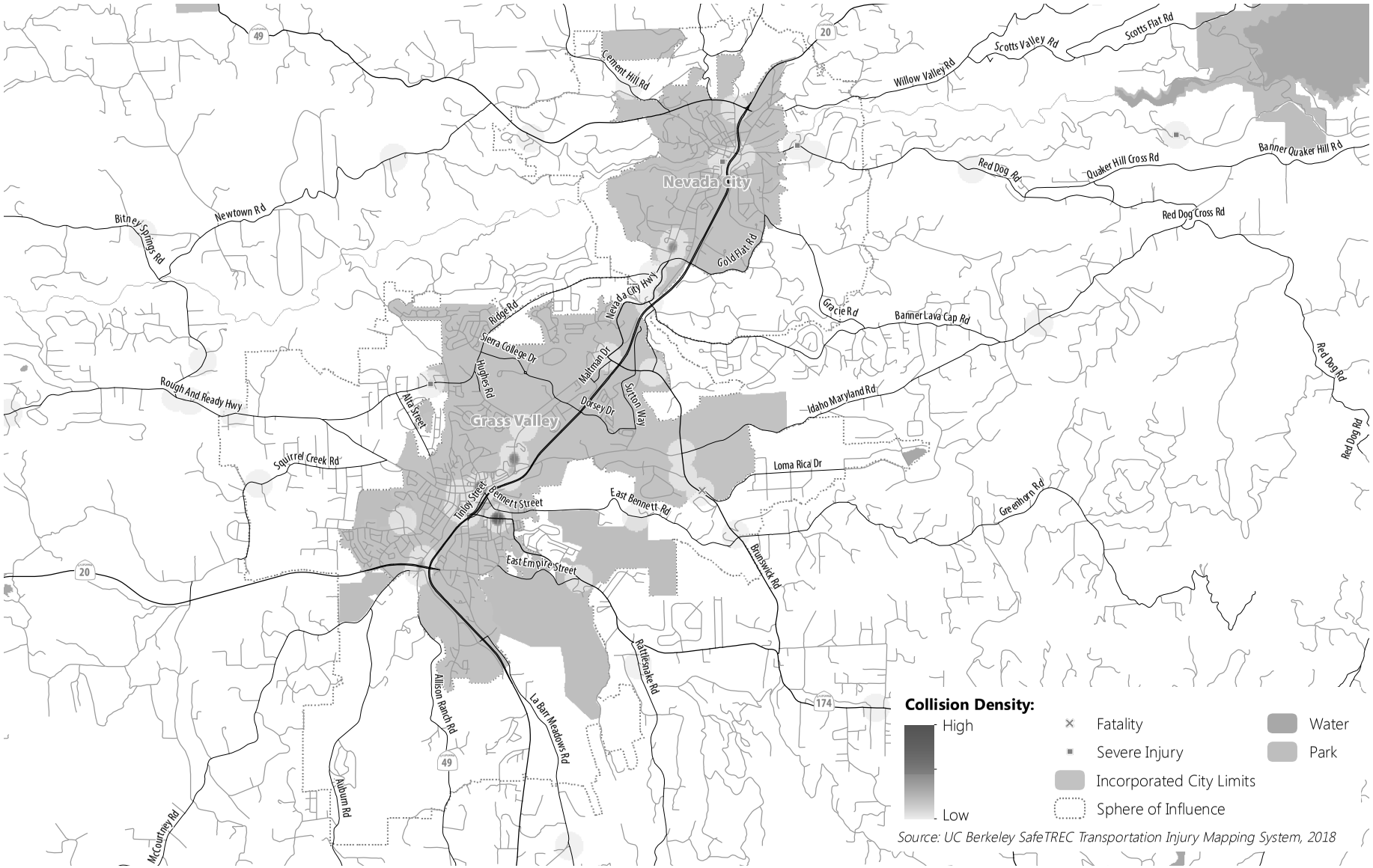


Figure 29: Truckee Collisions Involving Bicyclists

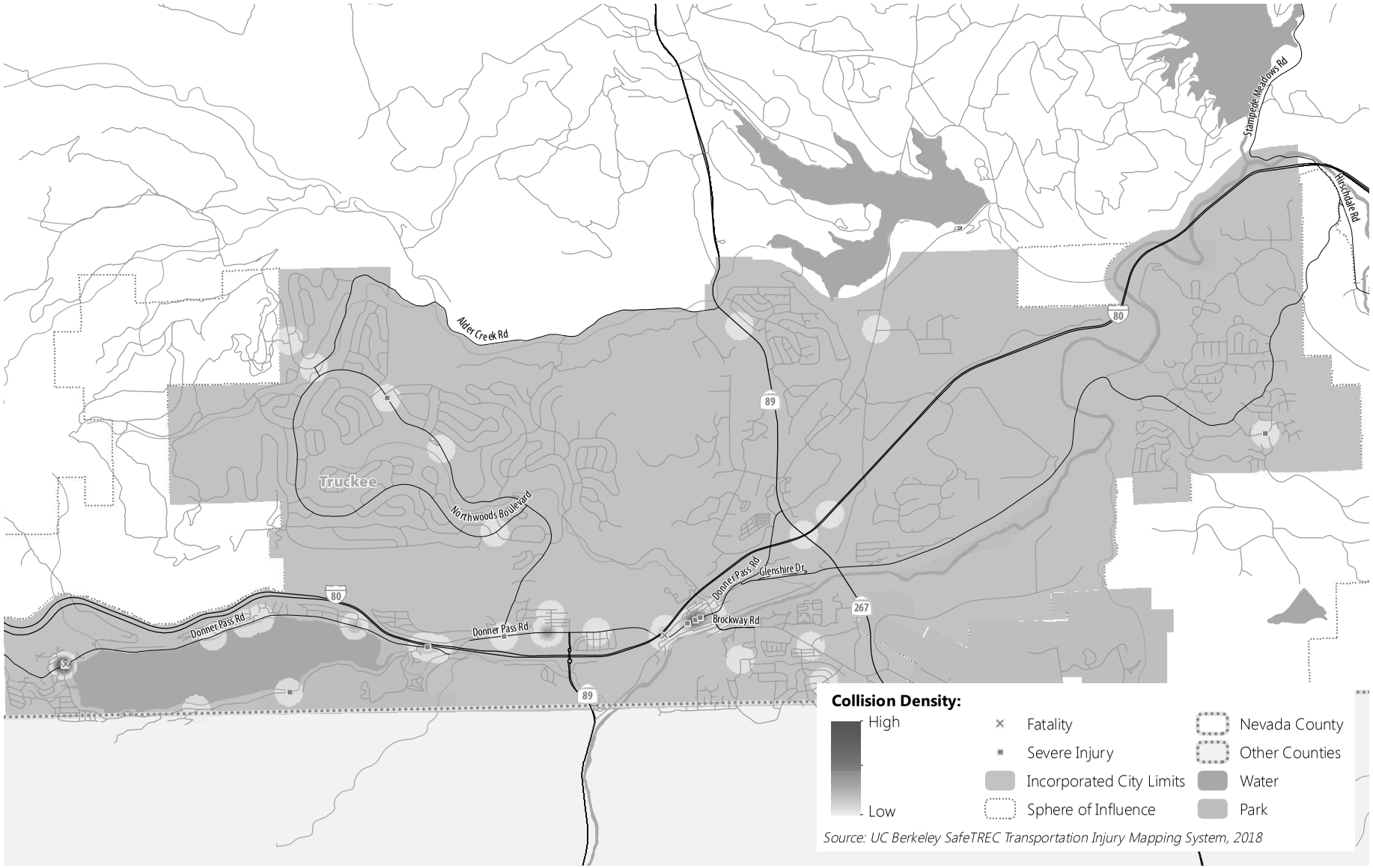


Figure 30: Nevada County Collisions Involving Pedestrians

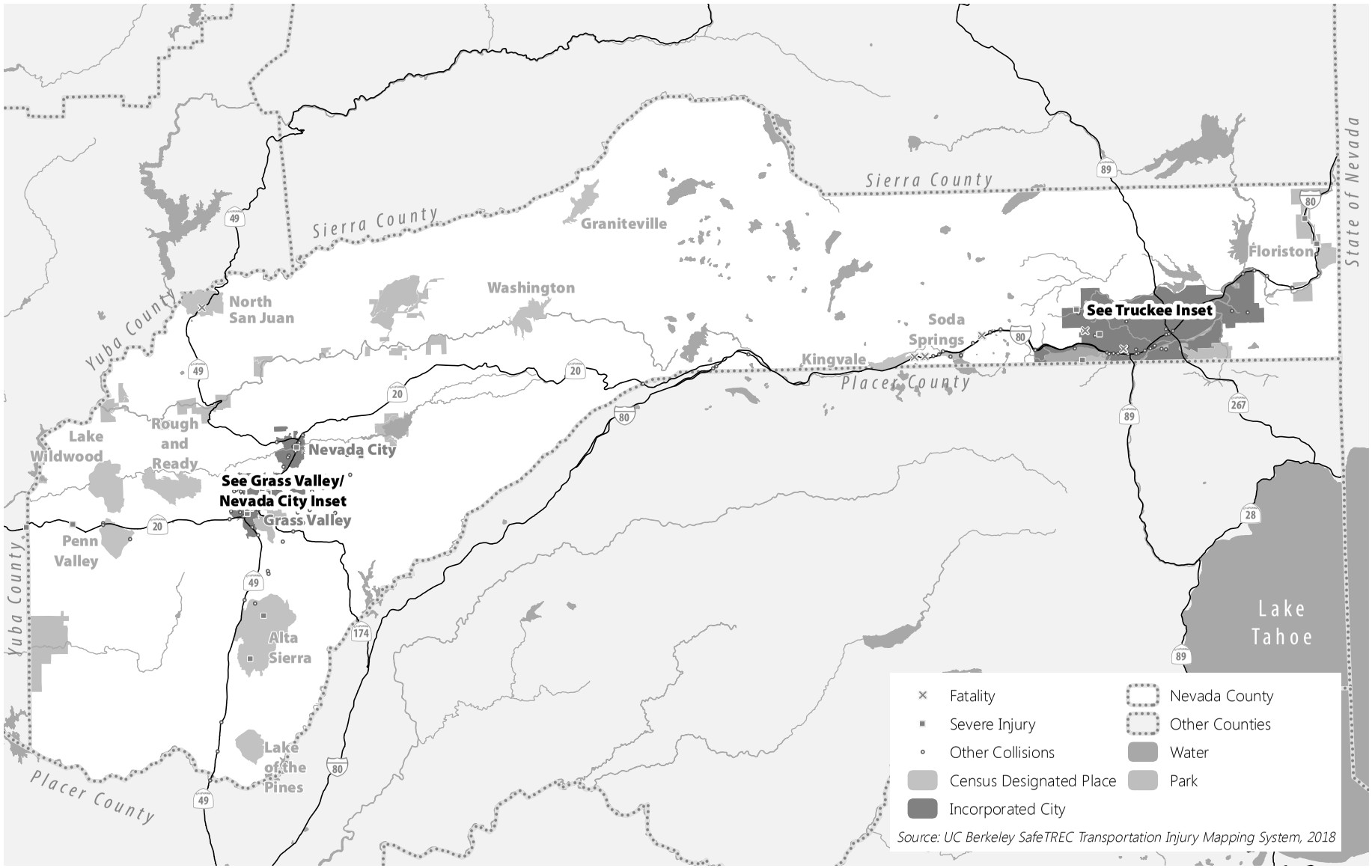
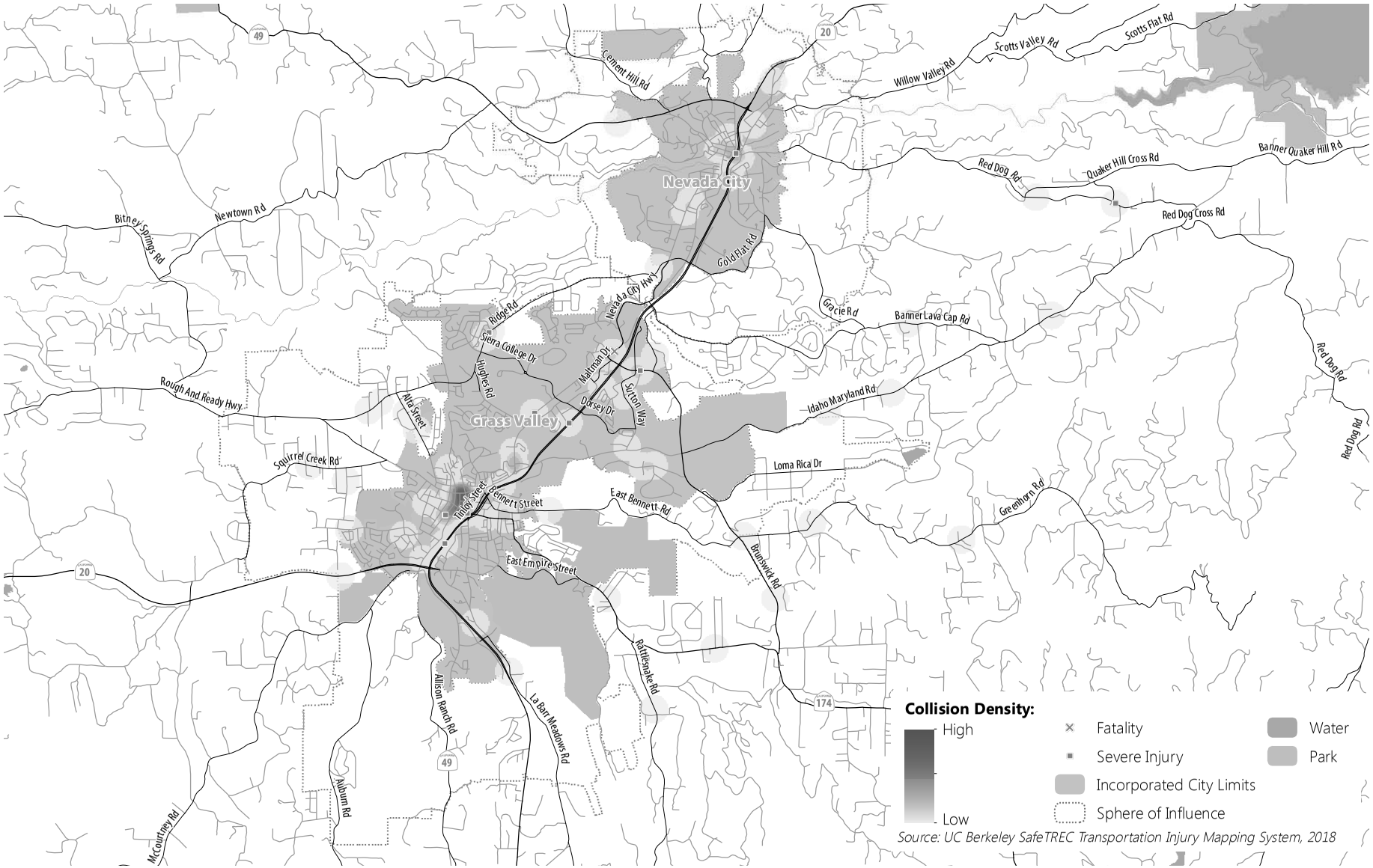
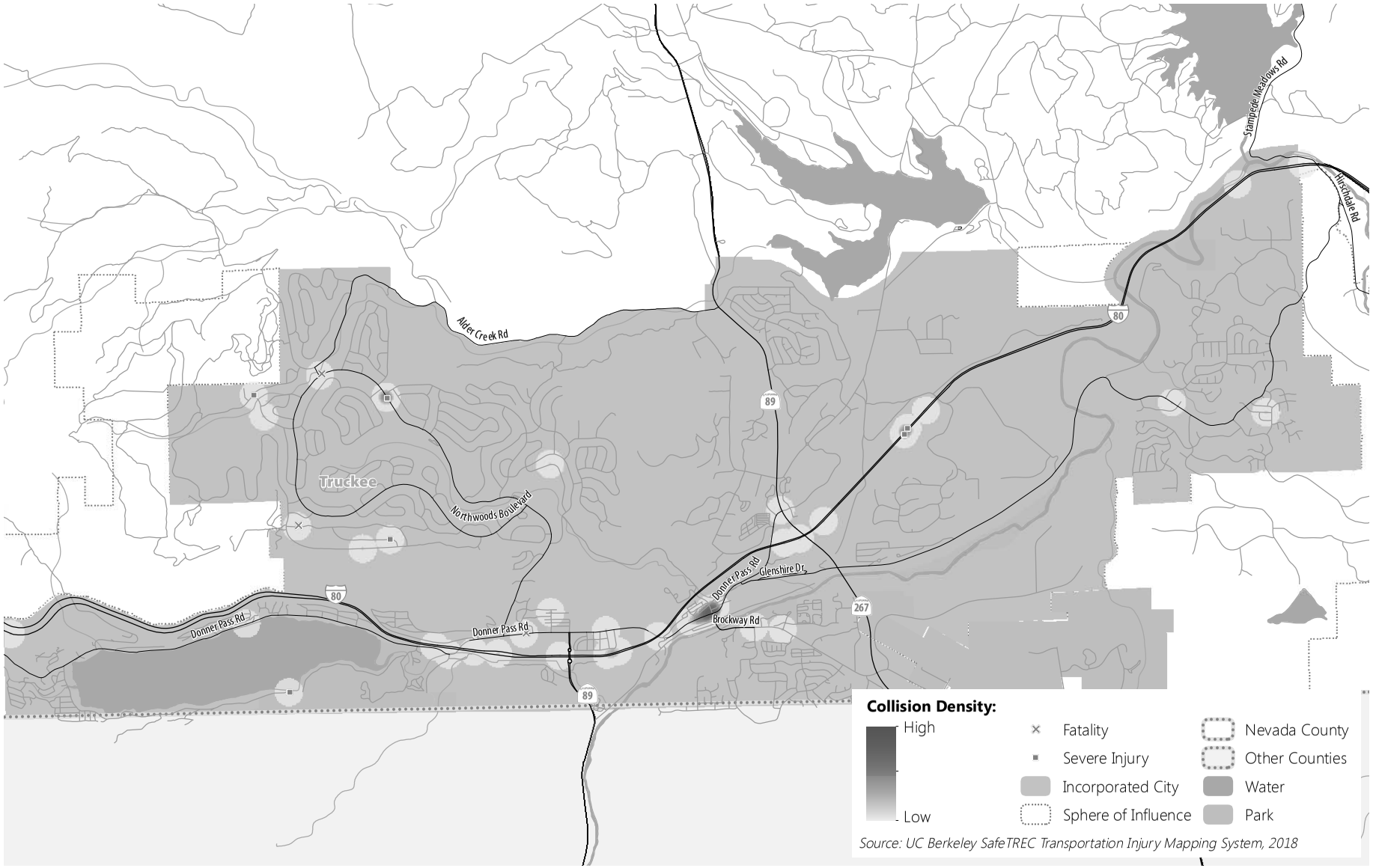


Figure 31: Grass Valley and Nevada City Collisions Involving Pedestrians



Source: UC Berkeley SafeTREC Transportation Injury Mapping System, 2018

Figure 32: Truckee Collisions Involving Pedestrians



Source: UC Berkeley SafeTREC Transportation Injury Mapping System, 2018

Commerical Street, Nevada City

Planned Networks and Programs

This chapter discusses the planned bicycle networks, pedestrian networks, and supporting facilities and programs for the Nevada County region. The plan was developed to improve connectivity to key destinations, including connections between jurisdictions, and to improve the safety and comfort of pedestrians and bicyclists. Plans were developed based on previous bicycle and pedestrian plans, local general plans and community plans, discussion and input from the public, local jurisdiction staff, and school district staff.

Bicycle and Pedestrian Networks

Planned bicycle and pedestrian networks are summarized in Table 5 and presented in Figure 33 to Figure 39. These build-out pedestrian and bicycle networks are the long-term vision of the active transportation facilities for the region. The networks include shared-use paths, bike lanes and routes, sidewalks, trails, and crosswalk improvements. The proposed networks are designed to connect neighborhoods in each community to key destinations and to serve as recreational assets.

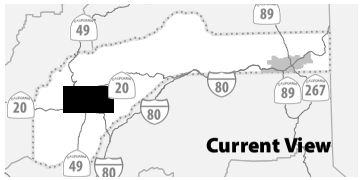
An additional trail being planned, but not shown on these maps, is the Pines to Mines Trail. This trail will connect Nevada City and Truckee entirely via earthen trails. As more details are determined, this trail will be added to the maps in this plan.

Table 5: Miles of Planned Bicycle and Pedestrian Facilities

Type	Grass Valley	Nevada City	Truckee	Unincorporated Nevada County	Total
Sidewalks[1]	3.6	4.5	10.8	13.5	32.4
Class I Bike Paths (Multi-Use)	8.1	1.0	17.2	7.2	33.6
Class II Bike Lanes	8.0	1.7	7.0	21.0	37.7
Class III Bike Routes	5.1	5.4	3.3	64.7	78.5
Class III with Multi-Use Shoulder	5.2	2.5	0.0	158.7	166.4
Earthen Trails (Recreational)	0	0.9	31.3	11.4	43.5

Note: [1]Per side of street. One mile of street with sidewalks on both sides is two miles of sidewalks.
Source: Fehr & Peers, 2018

Figure 33: Grass Valley and Nevada City Planned Bicycle Networks

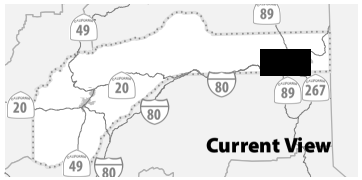


Existing Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Class III Multi-Use Shoulder
- Shoulder Bike Access Permitted

Planned Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Class III Multi-Use Shoulder
- Shoulder Bike Access Permitted

- Water
- Park
- Incorporated City Limits
- Sphere of Influence

Figure 34: Truckee Planned Bicycle Networks



Existing Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Class III Multi-Use Shoulder
- Shoulder Bike Access Permitted

Planned Bicycle Facilities
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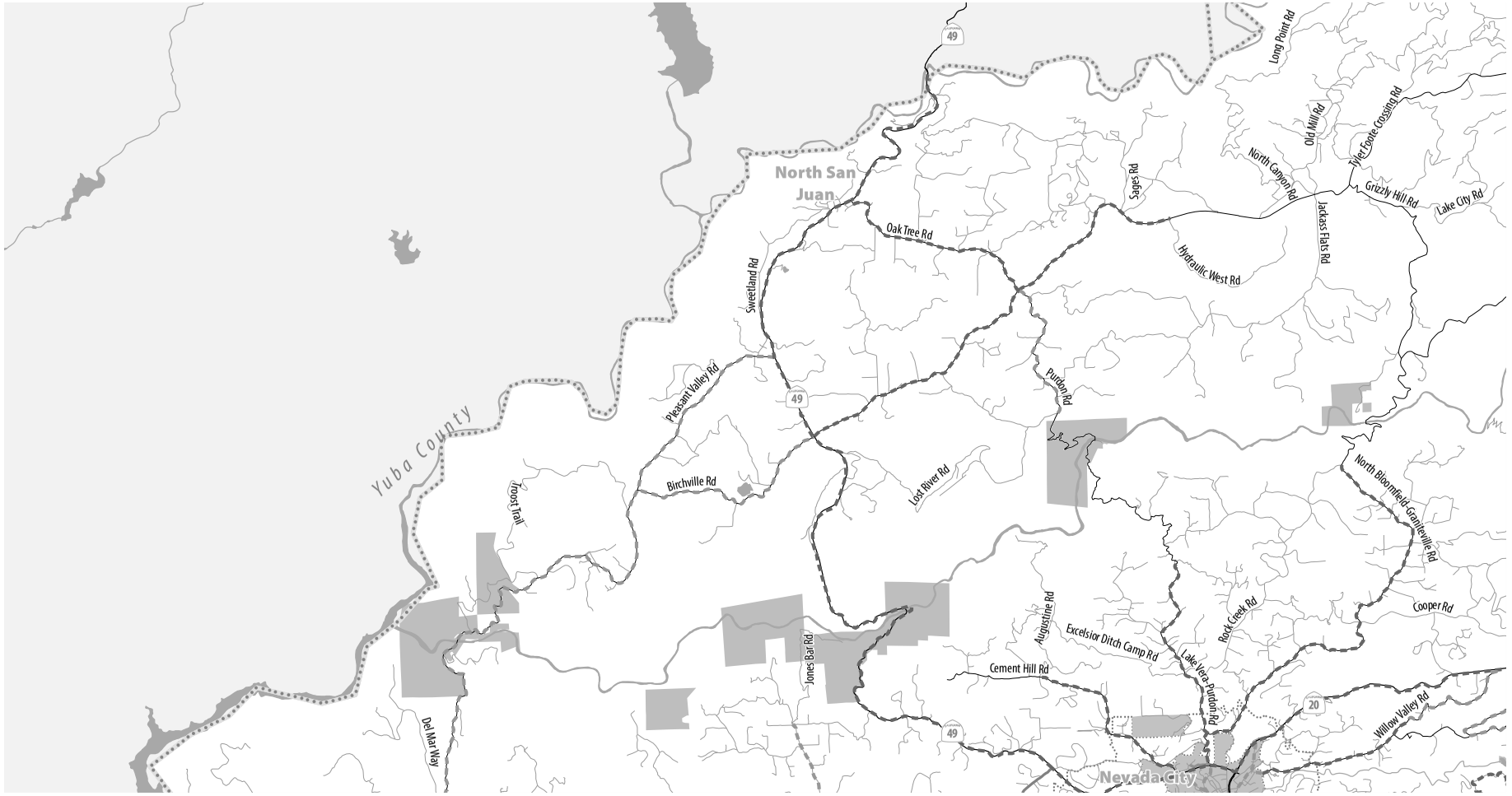
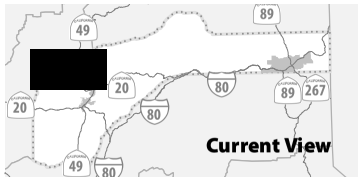
- Class II Bike Lane
- Class III Bike Route
- Class III Multi-Use Shoulder
- Shoulder Bike Access Permitted

- Water
- Park
- Incorporated City Limits
- Sphere of Influence

Figure 35: Nevada County Planned Bicycle Networks





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- Class III Multi-Use Shoulder
- Shoulder Bike Access Permitted

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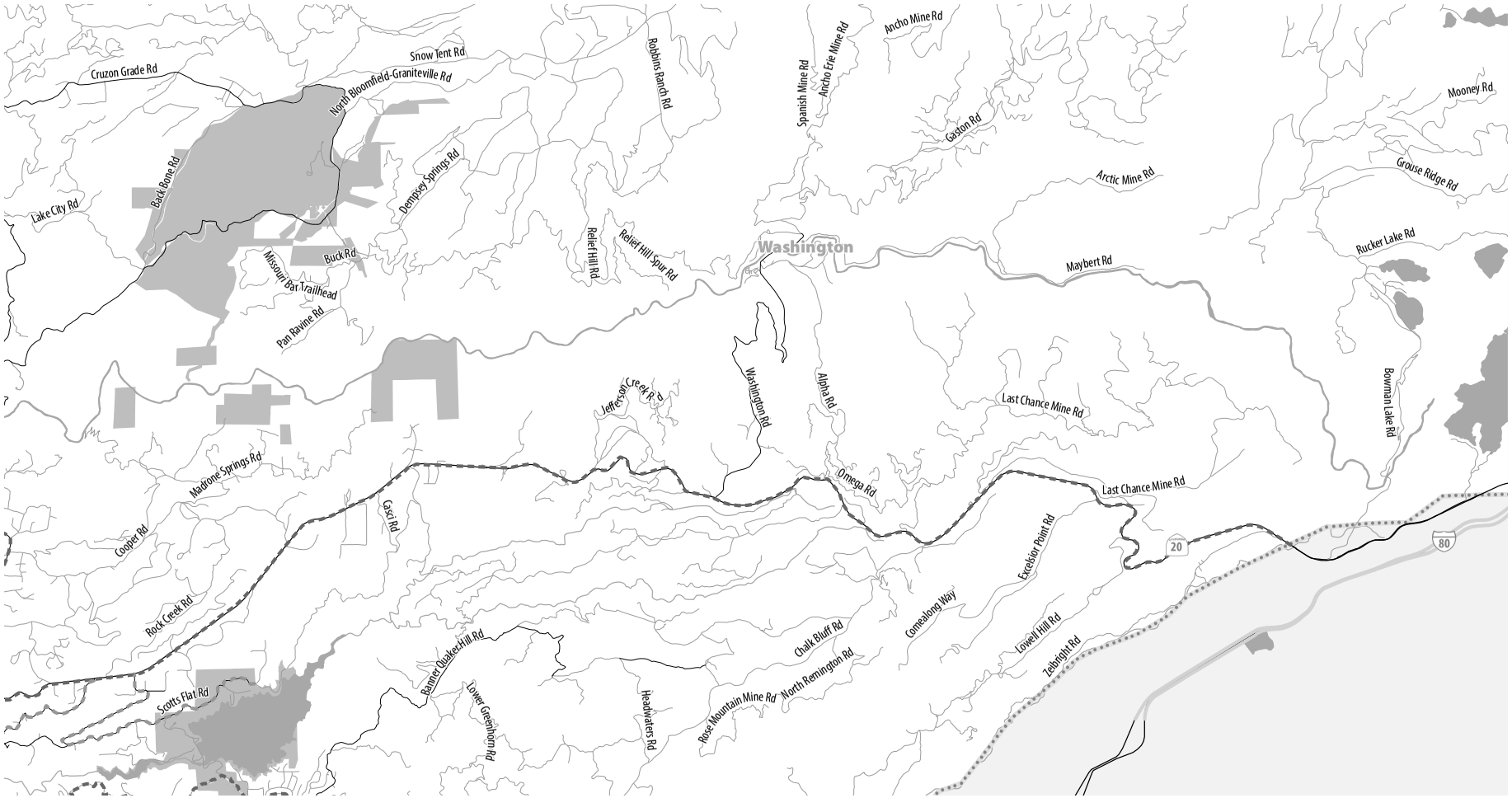
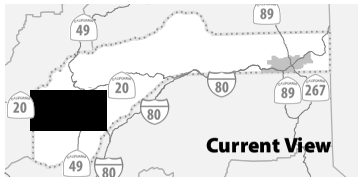
- Shoulder Bike Access Permitted

- Water
- Park
- Incorporated City Limits
- Sphere of Influence


Cruzon Grade Rd
Snow Tent Rd
North Bloomfield-Graniteville Rd
Robbins Ranch Rd
Spanish Mine Rd
Ancho Erie Mine Rd
Ancho Mine Rd
Mooney Rd
Gaston Rd
Grouse Ridge Rd
Back Bone Rd
Dempsey Springs Rd
Arctic Mine Rd
Lake City Rd
Relief Hill Rd
Relief Hill Spur Rd
Washington
Rucker Lake Rd
Buck Rd
Missouri Bar Trailhead
Maybert Rd
Pan Ravine Rd
Jeffers on Creek Rd
Washington Rd
Alpha Rd
Last Chance Mine Rd
Bowman Lake Rd
Madrone Springs Rd
Omega Rd
Gaci Rd
Cooper Rd
Last Chance Mine Rd
Excelsior Point Rd
20
80
Rock Creek Rd
Gomes Long Way
Banner Quaker Hill Rd
Chalk Bluff Rd
Lowell Hill Rd
Zeibright Rd
North Remington Rd
Scotts Flat Rd
Lower Greenhorn Rd
Headwaters Rd
Rose Mountain Mine Rd
Current View
49
89
267
Existing Bicycle Facilities
Class I Bike Path
Class II Bike Lane
Class III Bike Route
Class III Multi-Use Shoulder
Shoulder Bike Access Permitted
Planned Bicycle Facilities
Class I Bike Path
Class II Bike Lane
Class III Bike Route
Class III Multi-Use Shoulder
Shoulder Bike Access Permitted
Water
Park
Incorporated City Limits
Sphere of Influence



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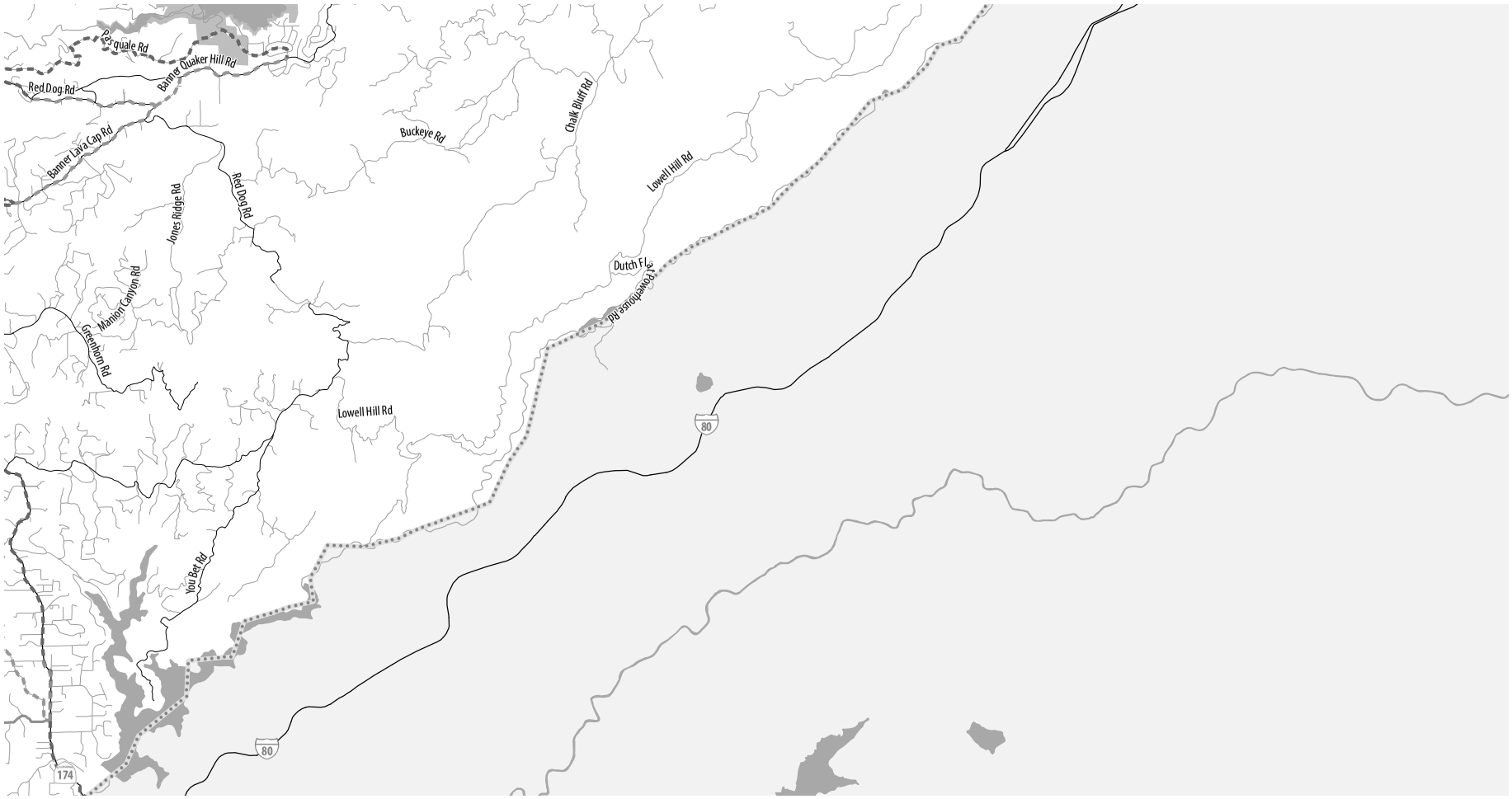
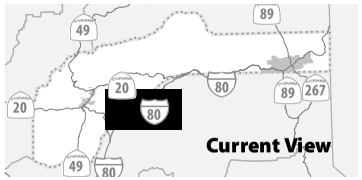
- Water
- Park
- Incorporated City Limits
- Sphere of Influence





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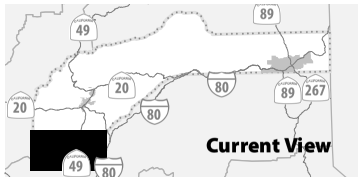

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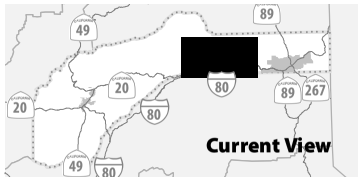

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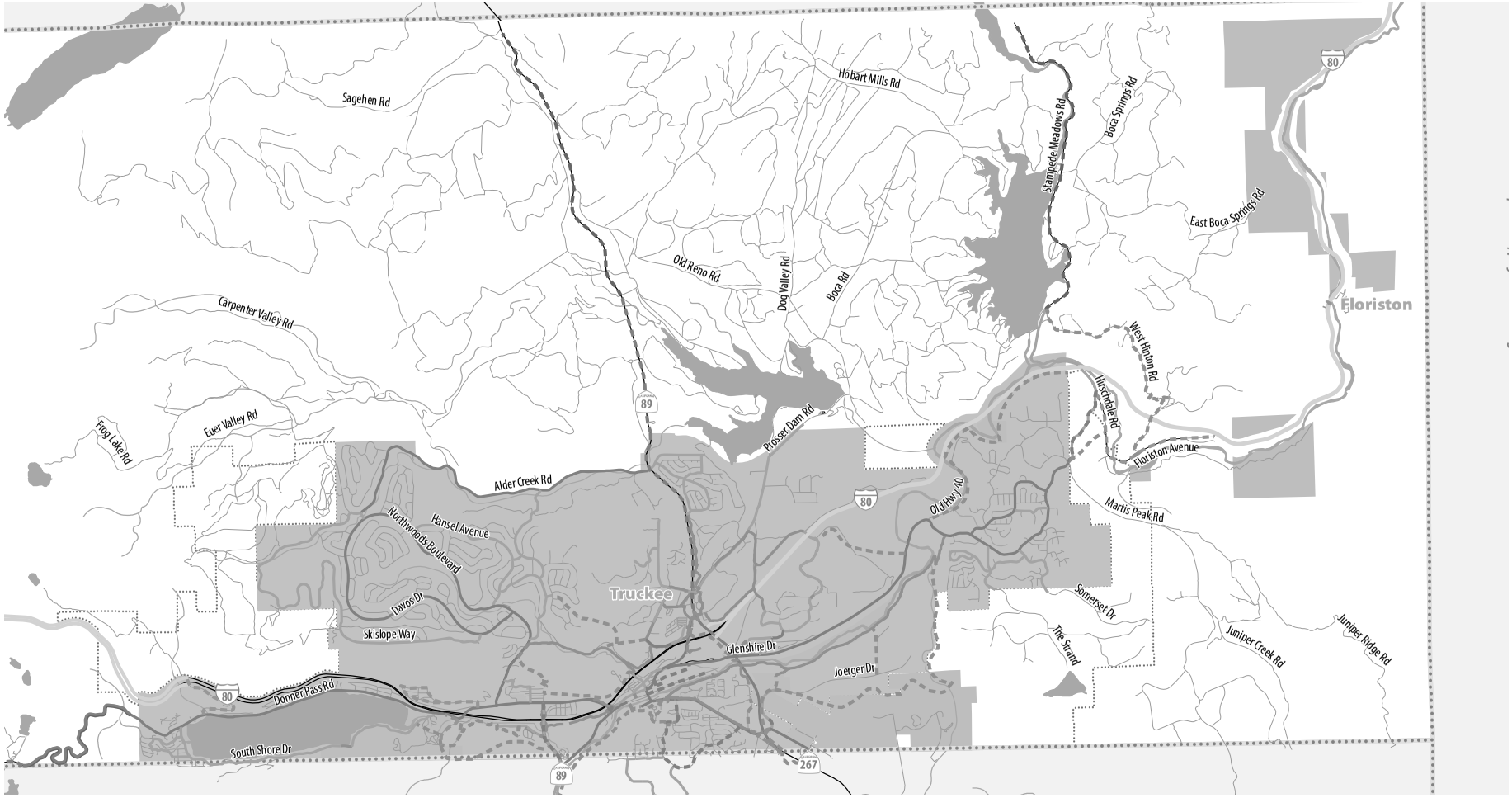

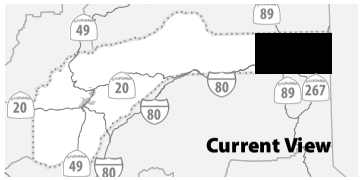

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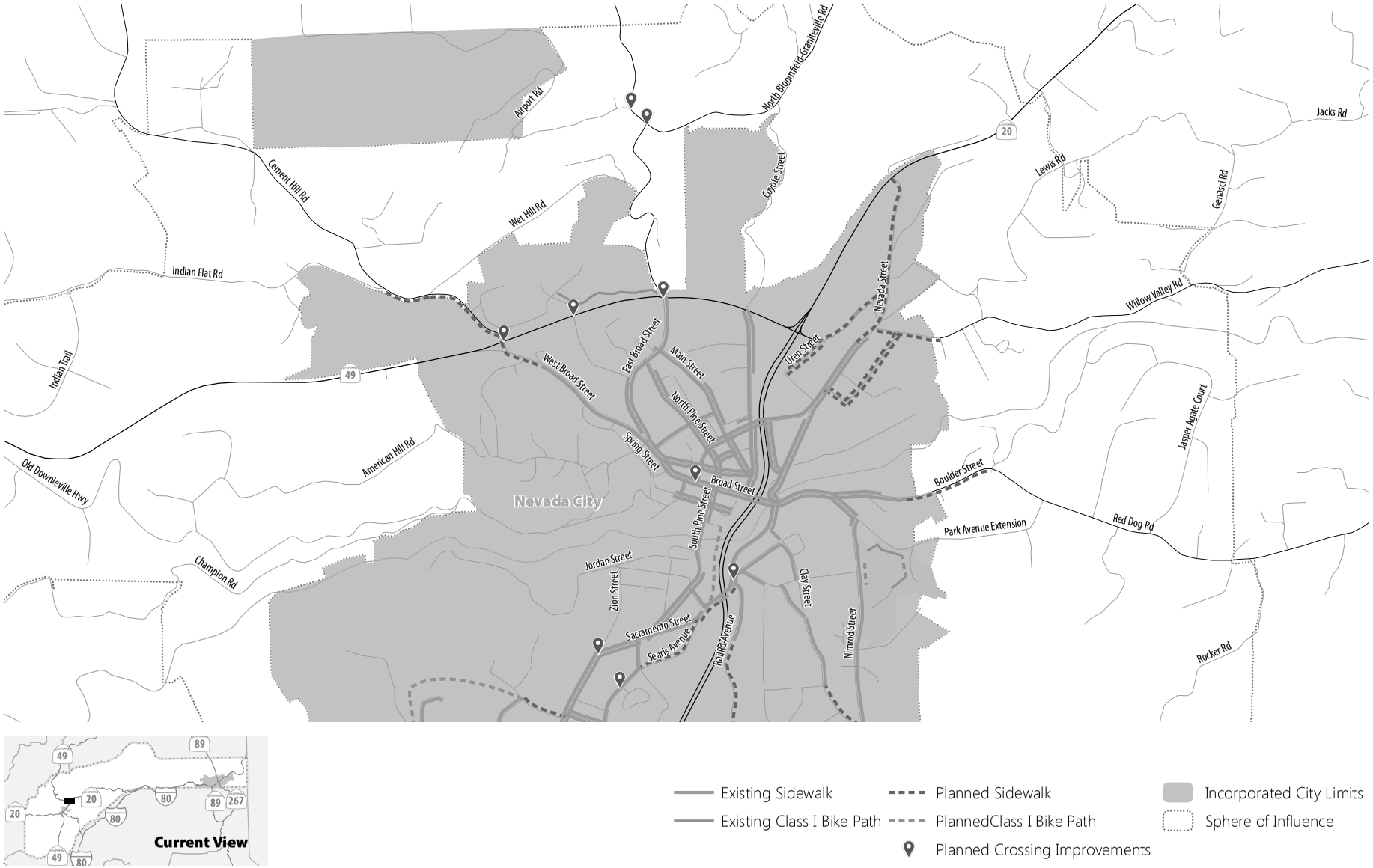
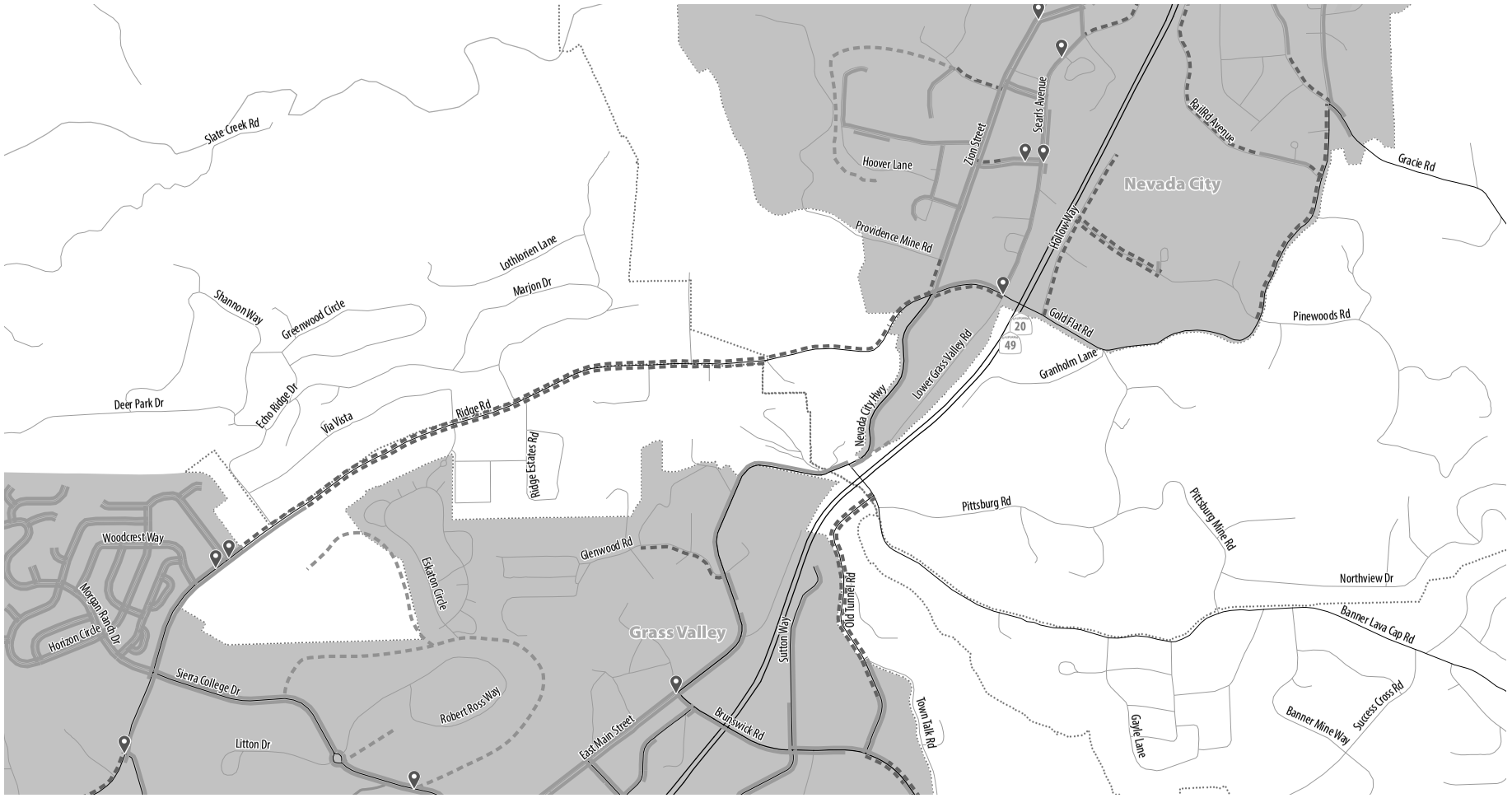
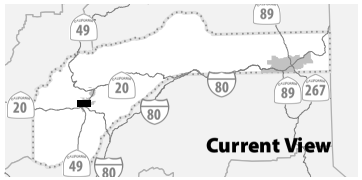
- Shoulder Bike Access Permitted

- Water
- Park
- Incorporated City Limits
- Sphere of Influence

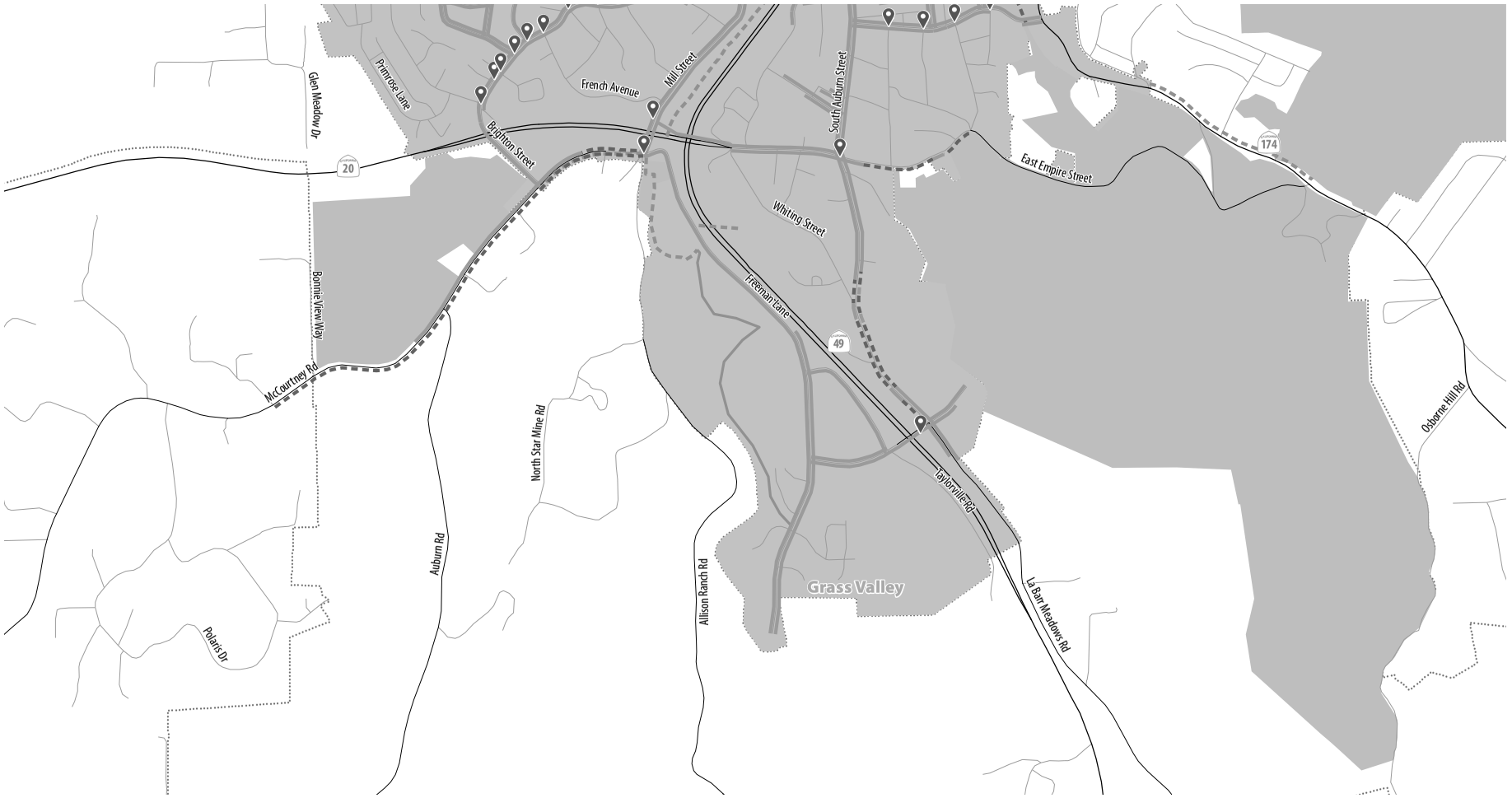
Figure 36: Nevada County Planned Pedestrian Networks

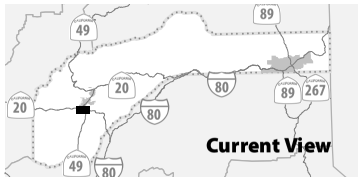



Slate Creek Rd
Hoover Lane
Zion Street
Scarls Avenue
Railroad Avenue
Gracie Rd
Nevada City
Providence Mine Rd
Hollow Way
Lothlorien Lane
Marjon Dr
Shannon Way
Greenwood Circle
Gold Flat Rd
Pinewoods Rd
20
49
Granholm Lane
Lower Grass Valley Rd
Nevada City Hwy
Deer Park Dr
Echo Ridge Dr
Via Vista
Ridge Rd
Ridge Estates Rd
Pittsburg Rd
Pittsburg Mine Rd
Woodcrest Way
Glenwood Rd
Eskaton Circle
Morgan Ranch Dr
Horizon Circle
Grass Valley
Old Tunnel Rd
Sutton Way
Northview Dr
Banner Lava Cap Rd
Sierra College Dr
Robert Ross Way
Brunswick Rd
East Main Street
Town Talk Rd
Litton Dr
Gayle Lane
Banner Mine Way
Success Cross Rd
Current View
Existing Sidewalk
Existing Class I Bike Path
Planned Sidewalk
PlannedClass I Bike Path
Planned Crossing Improvements
Incorporated City Limits
Sphere of Influence



Existing Sidewalk
Existing Class I Bike Path
Planned Sidewalk
PlannedClass I Bike Path
Planned Crossing Improvements
Incorporated City Limits
Sphere of Influence





Existing Sidewalk
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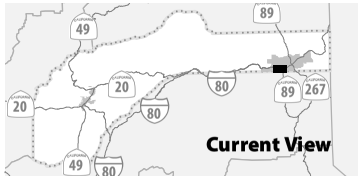
Planned Crossing Improvements
Incorporated City Limits
Sphere of Influence



Existing Sidewalk
Existing Class I Bike Path
Planned Sidewalk
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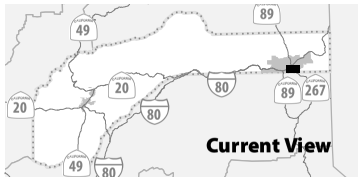
Planned Crossing Improvements
Incorporated City Limits
Sphere of Influence



Existing Sidewalk
Existing Class I Bike Path
Planned Sidewalk
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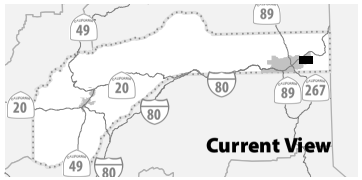
Planned Crossing Improvements
Incorporated City Limits
Sphere of Influence



Existing Sidewalk
Existing Class I Bike Path
Planned Sidewalk
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Planned Crossing Improvements
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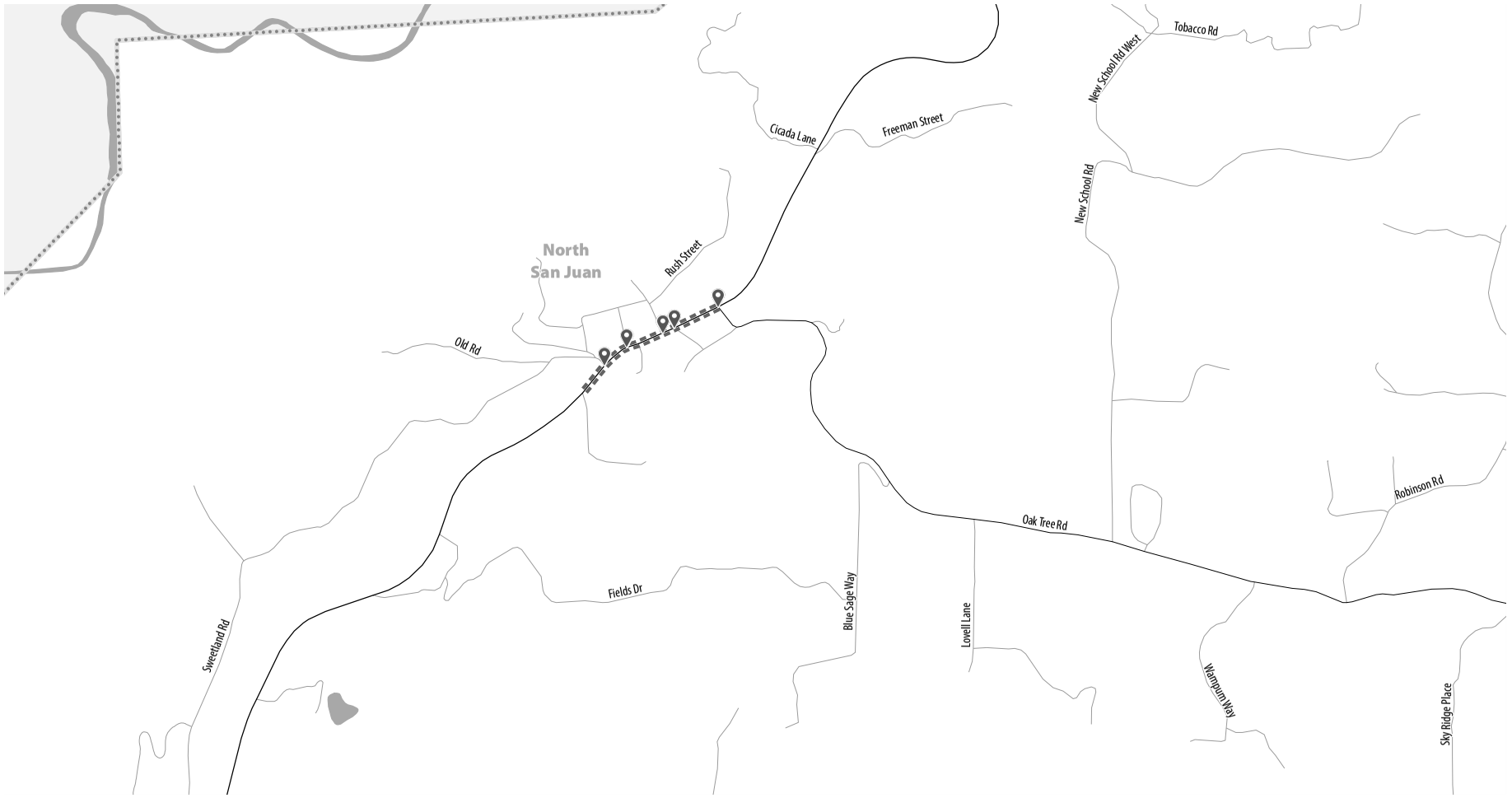
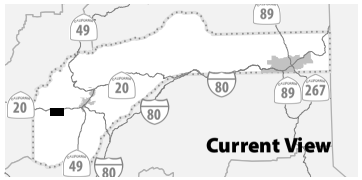

North
San Juan
Cicada Lane
Freeman Street
Rush Street
Old Rd
Tobacco Rd
New School Rd West
New School Rd
Robinson Rd
Oak Tree Rd
Fields Dr
Blue Sage Way
Lowell Lane
Sweetland Rd
Wampum Way
Sky Ridge Place
Current View
Existing Sidewalk
Existing Class I Bike Path
Planned Sidewalk
PlannedClass I Bike Path
Planned Crossing Improvements
Incorporated City Limits
Sphere of Influence



Existing Sidewalk
Existing Class I Bike Path
Planned Sidewalk
PlannedClass I Bike Path
Planned Crossing Improvements
Incorporated City Limits
Sphere of Influence

Figure 37: Grass Valley and Nevada City Planned Trail Networks

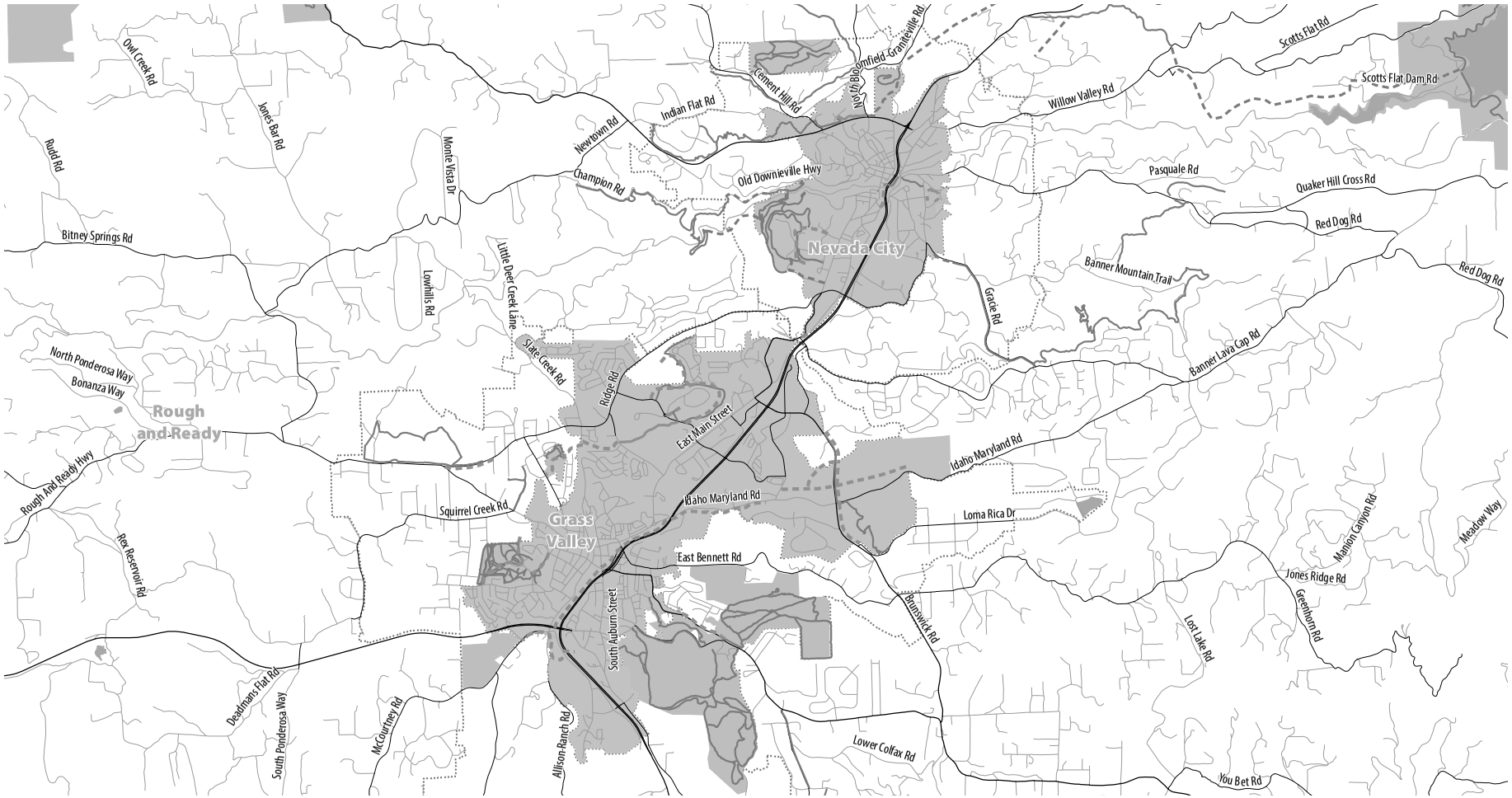
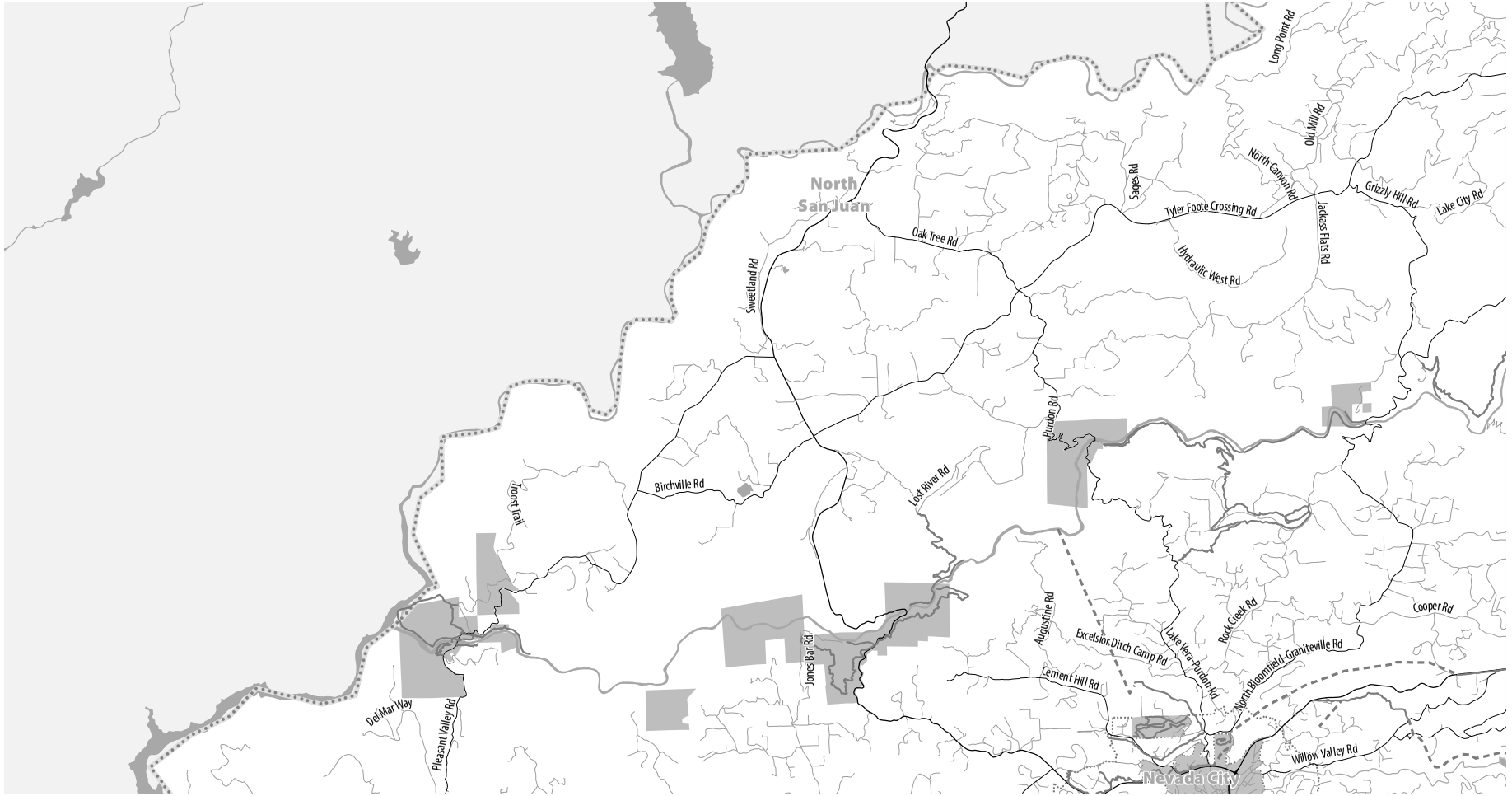
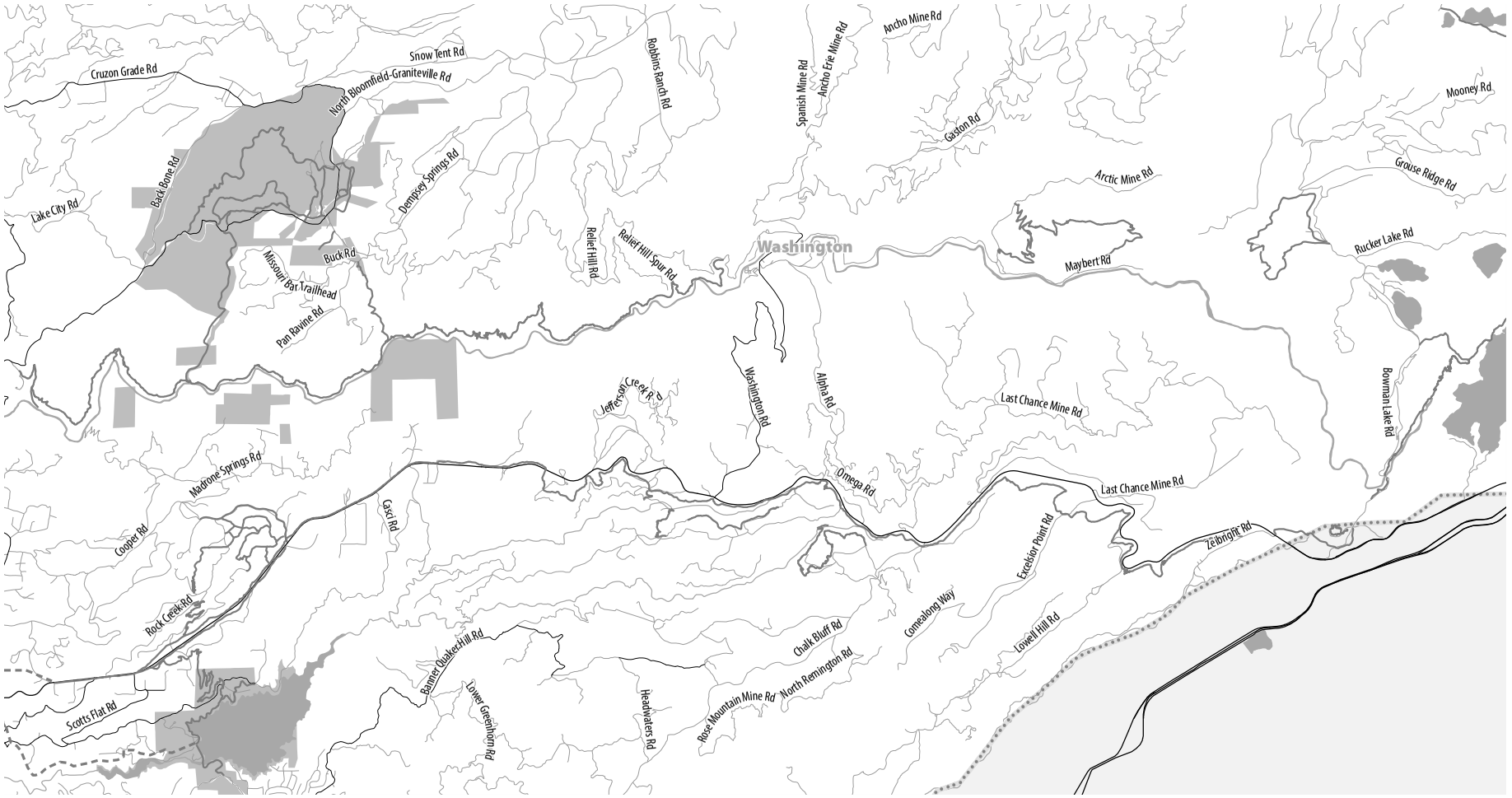


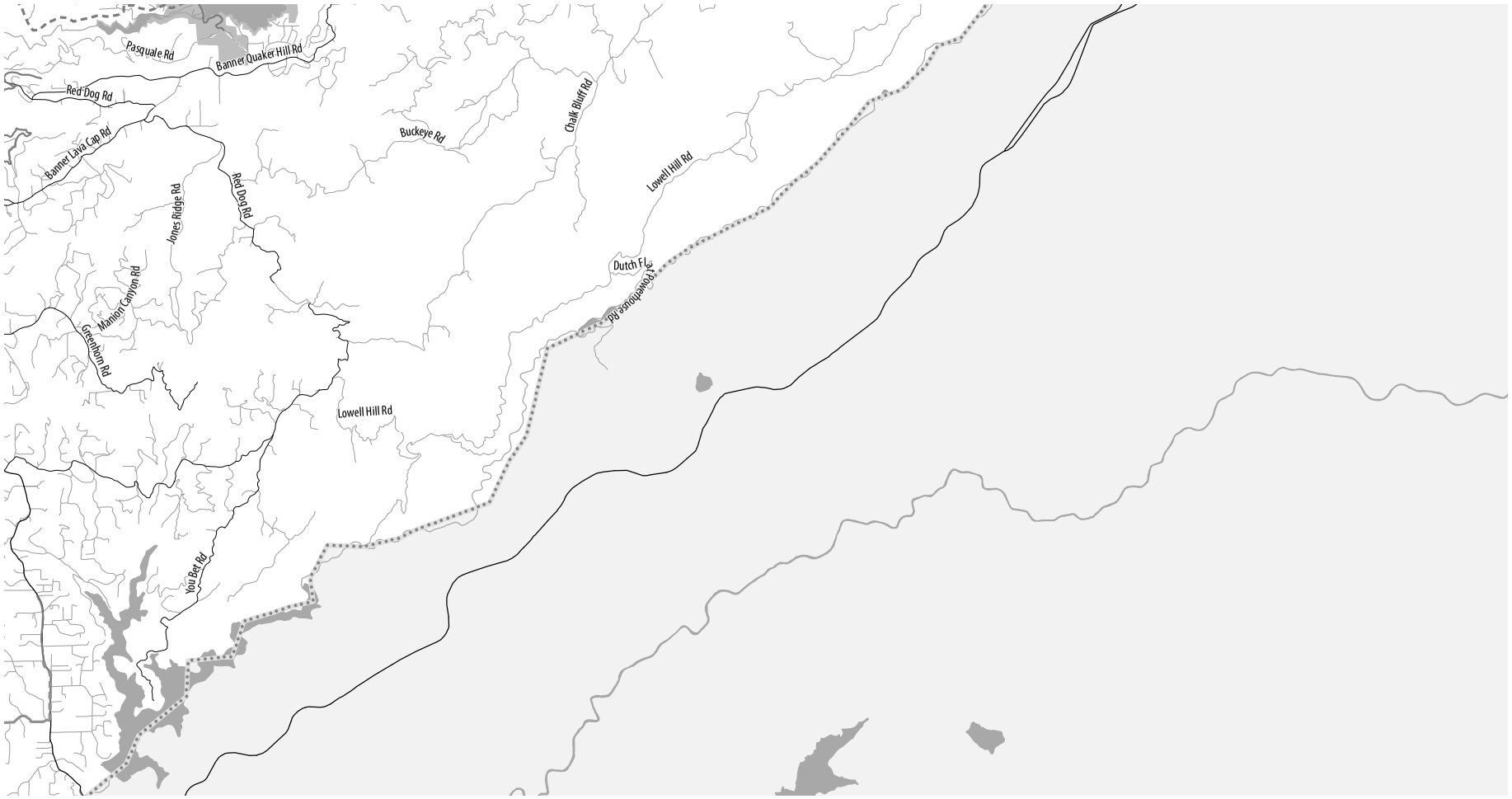
Figure 38: Truckee Planned Trail Networks

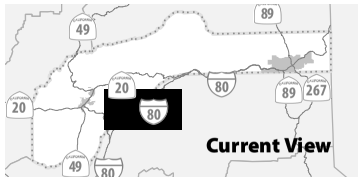
Figure 39: Nevada County Planned Trail Networks




Cruzon Grade Rd
Snow Tent Rd
North Bloomfield-Graniteville Rd
Robbins Ranch Rd
Spanish Mine Rd
Ancho Fire Mine Rd
Ancho Mine Rd
Mooney Rd
Gaston Rd
Grouse Ridge Rd
Back Bone Rd
Lake City Rd
Dempsey Springs Rd
Arctic Mine Rd
Rucker Lake Rd
Relief Hill Rd
Relief Hill Spur Rd
Washington
Maybert Rd
Buck Rd
Missouri Bar Trailhead
Pan Ravine Rd
Jeffers on Creek Rd
Washington Rd
Alpha Rd
Last Chance Mine Rd
Bowman Lake Rd
Madrone Springs Rd
Gaspi Rd
Omega Rd
Last Chance Mine Rd
Cooper Rd
Excelsior Point Rd
Zeibright Rd
Rock Creek Rd
Comesalong Way
Chalk Bluff Rd
Lowell Hill Rd
Banner Quaker Hill Rd
North Remington Rd
Lower Greenhorn Rd
Headwaters Rd
Rose Mountain Mine Rd
Scotts Flat Rd
Existing Trail Facilities
Class I Bike Path
Earthen Trail
Planned Trail Facilities
Class I Bike Path
Earthen Trail
Water
Park
Incorporated City Limits
Sphere of Influence
Current View


John Born Rd
Pleasant Valley Rd
Lake Wildwood Dr
Bitney Springs Rd
Newtown Rd
Champion Rd
Red Dog Rd
Pasquale Rd
Nevada City
Banner Mountain Trail
North Ponderosa Way
Ridge Rd
Banner-Lava Cap Rd
Lake Wildwood
Rough and Ready
Rough And Ready Rd
Rough And Ready Hwy
Slate Creek Rd
Grass Valley
Idaho Maryland Rd
Squirrel Creek Rd
Loma Rica Dr
Rex Reservoir Rd
East Bennett Rd
Brunswick Rd
Greenhorn Rd
Lost Lake Rd
Mooney Flat Rd
Penn Valley Dr
South Ponderosa Way
Wild Turkey Lane
Penn Valley
La Barr Meadows Rd
Big Oak Dr
Rattlesnake Rd
Brooks Rd
Allison Ranch Rd
Long Valley Rd
Indian Springs Rd
Spenceville Rd
Hidden Valley Rd
Hutto Rd
Lower Colfax Rd
McCourtney Rd
Dog Bar Rd
Alta Sierra Dr
Auburn Rd
Alta Sierra
Retreat Way
Wolf Mountain Rd
Hatchet Creek Rd
49
89
20
80
267
Current View
Existing Trail Facilities
Class I Bike Path
Earthen Trail
Planned Trail Facilities
Class I Bike Path
Earthen Trail
Water
Park
Incorporated City Limits
Sphere of Influence



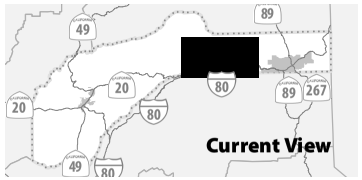


Existing Trail Facilities
Class I Bike Path
Earthen Trail

Planned Trail Facilities
Class I Bike Path
Earthen Trail

Water
Park
Incorporated City Limits
Sphere of Influence

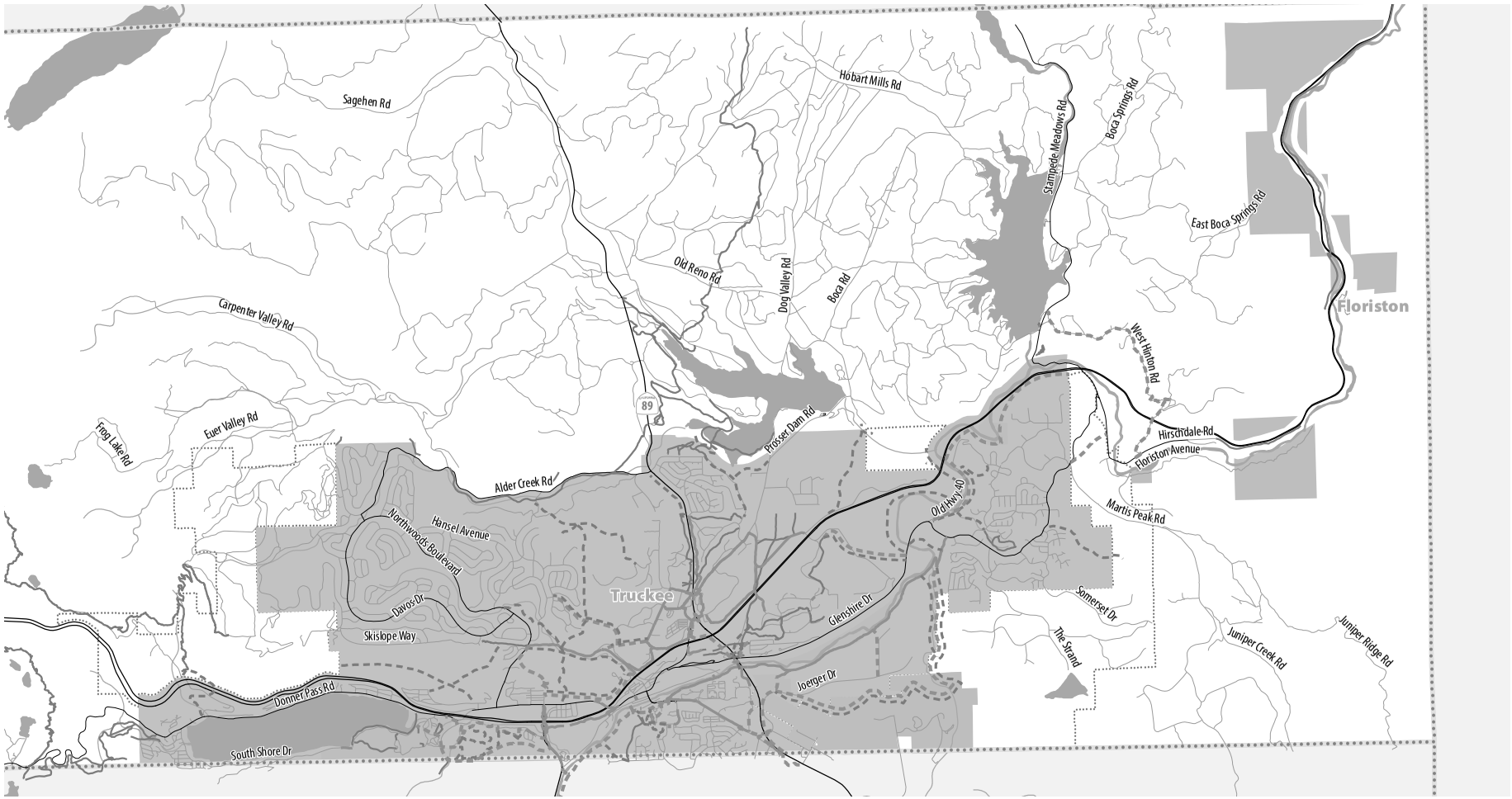

Beyers Lane
Ballantree Lane
Spenceville Rd
Nicholls Rd
Big Spring Dr
Long Ravine Rd
Perimeter Rd
McCourtney Rd
Wolf Rd
Garden Bar Rd
Streeter Rd
Retreat Way
Lime Kiln Rd
Alta Sierra
Norlene Way
Tiger Tail Rd
Wolf Creek Rd
Brewer Rd
Lodestar Dr
Dog Bar Rd
River Ranch Rd
Adamson Dr
Magnolia Rd
Lakeshore North
Lake of the Pines
Torrey Pines Dr
Combie Rd
Darkhorse Dr
Table Meadow Rd
Current View
Existing Trail Facilities
Class I Bike Path
Earthen Trail
Planned Trail Facilities
Class I Bike Path
Earthen Trail
Water
Park
Incorporated City Limits
Sphere of Influence

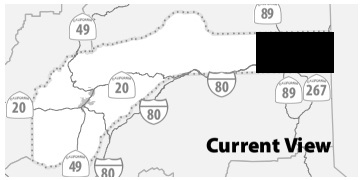


Existing Trail Facilities
Class I Bike Path
Earthen Trail

Planned Trail Facilities
Class I Bike Path
Earthen Trail

Water
Park
Incorporated City Limits
Sphere of Influence





Existing Trail Facilities
- Class I Bike Path
- Earthen Trail

Planned Trail Facilities
- Class I Bike Path
- Earthen Trail

- Water
- Park
- Incorporated City Limits
- Sphere of Influence

Crossing and Intersection Improvements

Many crossing improvement projects are included (as shown in Figure 36) to increase pedestrian comfort and safety. The decision to install a marked crosswalk or other crosswalk enhancement should be based on good engineering judgement, engineering study, and/or other necessary considerations as appropriate for each individual case. Some of these considerations include:

- Pedestrian travel demand, typically 20 pedestrians/hour or more.
- Service of a facility or use that generates higher pedestrian travel or serves a vulnerable population (e.g., children, elderly, persons with disabilities). This may include schools, hospitals, senior centers, recreation/community centers, libraries, parks, or trails. Service of such facilities can justify pedestrian improvements to areas of less demand than 20 pedestrians/hour.
- Sight distance requirements, using appropriate stopping sight distance guidance from AASHTO's A Policy on Geometric Design for Highways and Streets or Caltrans' Highway Design Manual.
- Delay to pedestrian movements.
- Distance to nearest crossing.
- Guidance of the California Manual on Uniform Traffic Control Devices (MUTCD).

Bicycle Parking

Recommended additions to bicycle parking are presented in Figure 41 to Figure 43. New bicycle parking should meet the standards discussed in Chapter 1, Introduction. However, bicycle parking does not need to be limited to these locations. Business owners should be encouraged to work with local jurisdictions to provide bicycle parking in visible areas in commercial districts to entice riders to stop and frequent local businesses.

Wayfinding

Wayfinding signage can be used on both bicycle and pedestrian facilities to direct users to connecting facilities and key destinations. Good wayfinding signs can also encourage pedestrians and bicyclists to visit local business. These signs provide the most value at trail junctions and at intersections of key bicycling and walking routes. Chapter 9B of the 2014 California MUTCD provides guidance on sign design and installation. Truckee uses these signs to help guide bicyclists through the Town. These standard signs may also be augmented by signs depicting distances in miles to encourage walking and bicycling. Cities can also include branding in these signs to further call attention to them and support broader tourism efforts. An example of wayfinding signage is in Figure 40.

Figure 40: Example Wayfinding Signage

Figure 41: Nevada County Planned Bicycle Parking

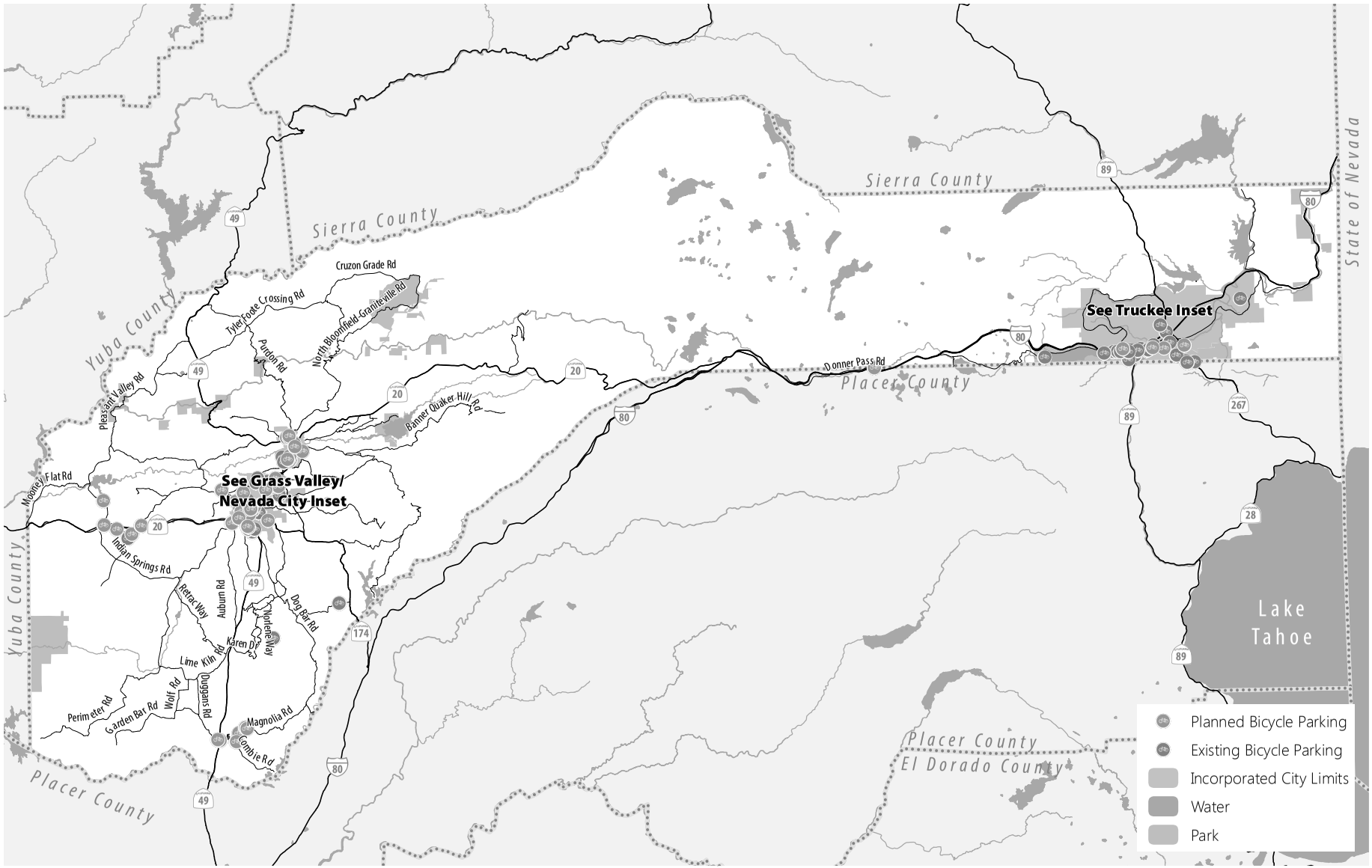


Figure 42: Grass Valley and Nevada City Planned Bicycle Parking

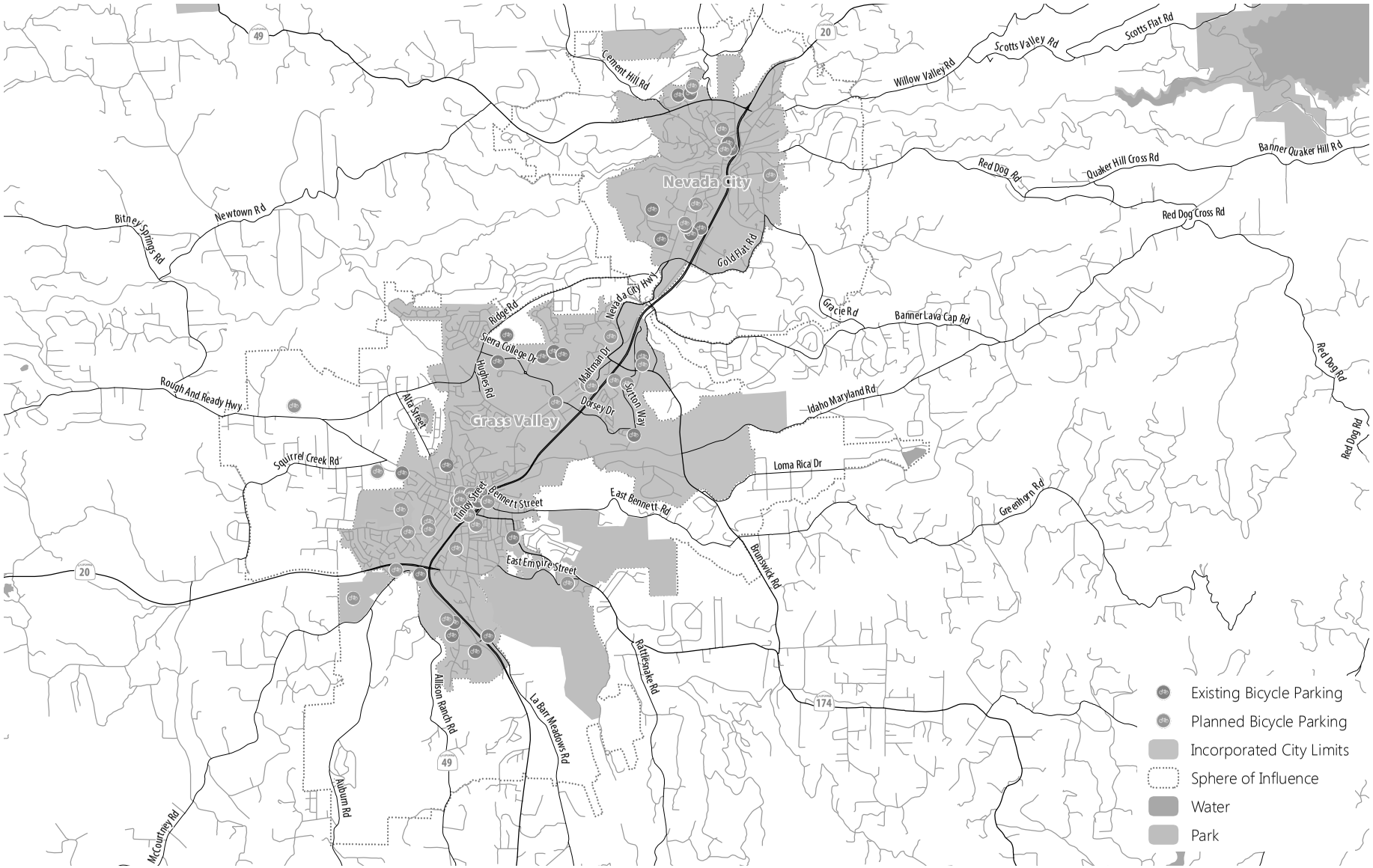
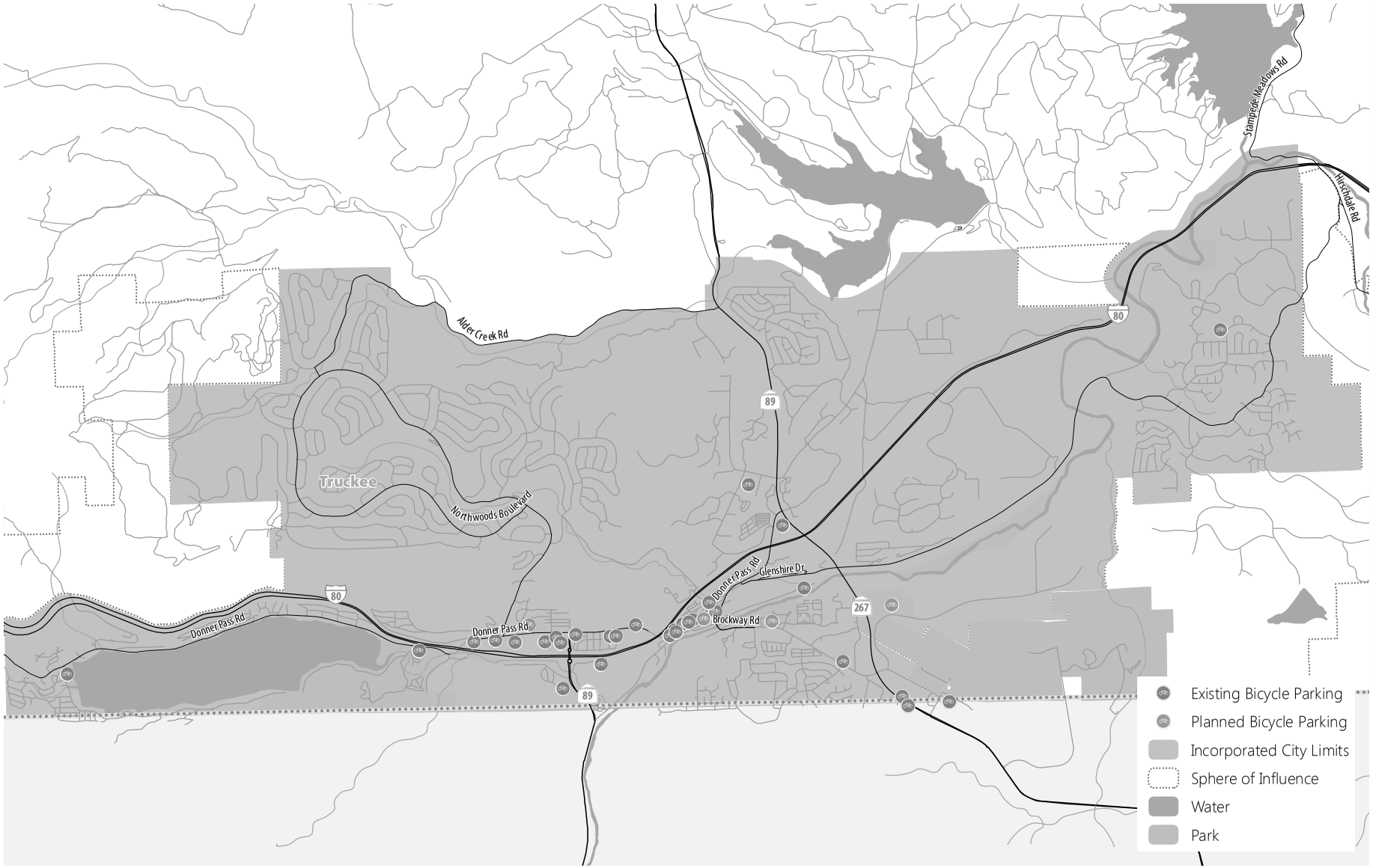


Figure 43: Truckee Planned Bicycle Parking



Non-Infrastructure Programs

Several improvements to other supporting programs are also recommended for the jurisdictions covered by this plan. Details on recent programs are provided in Appendix C, Existing Conditions Supporting Data. The California Office of Traffic Safety also provides grants for education, encouragement, and enforcement efforts aimed at improving pedestrian and bicyclist safety. Appendix B, Funding Sources, provides more details on these grants.

Education

Nevada County schools, in partnership with local law enforcement and bicycle groups, have held bike rodeos and other bicycle educational programs. These programs should be made a regular part of the curriculum at the elementary school and middle school level. Safe walking programs should be included as well at the elementary level.

Encouragement

Local schools have encouraged biking and walking through bike rodeos, fun runs, walkathons, and walking to local school events. Bike and walk to school events have also been held some years at some locations. These programs should continue and be held regularly at all schools. Programs such as "walking school buses," a program where kids and families walk to school in groups, are other good opportunities for neighborhood schools to encourage walking.

Many local running, walking, hiking, and biking events also encourage active engagement for adults. Adding activities for bike to work events and increasing the number of casual walking events could expand this effort.

Enforcement

Local law enforcement partners well with local schools to step up enforcement of good motor vehicle behaviors around pedestrians and bicyclists at the beginning of the school year. Continuing this effort periodically throughout the school year and expanding it to other places frequented by pedestrians can further help pedestrians and bicyclists.

Evaluation

Truckee has trail counters in use, but evaluation data has not been collected at other locations in the County. Creating a countywide counter program, with counters that could be shared by the jurisdictions to count bicyclists and pedestrians on on-street facilities as well as trails, would allow collection of data to support future grant applications and direct future improvement efforts.

Bicycle and pedestrian counts can also be included as part of traffic counts that are often performed when developing roadway improvements, then collected centrally.

Maintenance

With one exception, the County and Cities mostly have informal maintenance policies for bicycle and pedestrian facilities, and they often rely on citizen reports for issues. While this is acceptable for some maintenance issues, such as pedestrian signals and other facilities that need infrequent maintenance, more formal policies would provide benefit for other issues. Truckee has implemented a formal trail maintenance policy which addresses both incidental and periodic maintenance. Implementing similar policies for other bicycle and pedestrian facilities would systemize existing good practices, ensuring that they carry forward, and address other ongoing or periodic maintenance issues.

One concern heard frequently from the public was that bike lanes and shoulders are often filled with debris, gravel, or pine needles, and that overgrown vegetation frequently obstructs sidewalks, bike lanes, shoulders, and trails. These conditions often require bicyclists to move into vehicle traffic or deter bicyclists from riding. Wheelchair users may also be unable to uses some sidewalks due to overgrown vegetation.

To address these concerns, jurisdictions could add policies for regular shoulder or bike lane sweeping on corridors frequently used by bicyclists, incidental sweeping policies to address debris that accumulates especially after the first fall rainstorms. Similarly, a regular program of vegetation maintenance would reduce these concerns on bikeways, sidewalks, and trails.

Sidewalk maintenance is frequently the responsibility of the property owner. The cities generally have good programs in place to provide property owners assistance with sidewalk improvements. Adding assistance or advisory programs for sidewalk and vegetation maintenance would also help improve pedestrian conditions.

Mill Street, Downtown Grass Valley

Implementation

Donner Pass Road, Downtown Truckee

Implementation of the planned bicycle and pedestrian networks is anticipated to occur

- through active transportation projects pursued to implement this plan;
- in conjunction with adjacent land development projects; and
- in conjunction with maintenance and capacity enhancement projects, such as slurry seals, pavement reconstruction, roadway widening, or sidewalk rehabilitation projects.

Implementation will require many years to complete. Implementation of priority projects will be targeted for completion in the next five to ten years. Implementation of each project is dependent upon availability and acquisition of funding. Projects requiring land acquisition or utility relocation will require extra time to implement. Improvements associated with work on adjacent roadways or development of adjacent land uses will provide opportunities for implementation relatively easily or at lower cost than if implemented separately. In these cases, lower priority improvements may be implemented before higher-priority improvements, depending on the location of these land development and roadway projects. Implementation of each project is also dependent on detailed feasibility and design studies based on local conditions.

Completion of projects in this plan will be reported by jurisdiction staff to the city councils and board of supervisors and on each city's website. NCTC will periodically update this plan to reflect evolving needs and progress toward completion.

Prioritization

The projects identified to create these networks were prioritized as high, medium, or low based on several criteria:

» proximity to key destinations, including schools, parks, bus stops, and activity centers;

» collision locations;

» disadvantaged community indicators;

» population density;

» recreation and tourism potential;

» public comment; and

» judgement of local jurisdiction staff.

Lists of projects with priorities and further explanation of the prioritization process are provided in Appendix A, Project Priorities and Cost Estimates.

Costs

The estimated costs to implement each type of facility are provided in Appendix A and summarized in Table 6 to Table 10. If utilities must be relocated or land acquired to implement any of these facilities, costs will increase. However, many of these facilities may be implemented during development of adjacent land uses or in conjunction with other projects. Therefore, some of these costs will not be directly borne by the jurisdiction.

Table 6: Unit Cost Estimates

Type	Unit	Cost per unit
Sidewalks[1]	per mile per side	$818,500
Class I Bike Paths (Multi-Use)	per mile	$1,018,000
Class II Bike Lanes	per mile	$175,000
Class III Bike Routes	per mile	$1,187,000
Class III with Multi-Use Shoulder	per mile	$18,000
Class IV Separated Bikeways	per mile	$978,000
Earthen Trails (Recreational)	per mile	$214,000
High-Visiblity Crosswalk	per crossing	$5,000
Rectangular Rapid Flashing Beacons	per crossing	$25,000
Pedestrian Hybrid Beacon	per crossing	$200,000
Bike Rack (with installation)	each	$2,800
Wayfinding Signage (with installation)	each	$750

Source: Fehr & Peers, 2018

Table 7: Grass Valley Cost Estimates

Type	Priority			Total
	High	Medium	Low	
Sidewalks[1]	$367,600	$980,400	$1,819,600	$3,167,600
Class I Bike Paths (Multi-Use)	$245,300	$4,672,600	$4,139,900	$9,057,800
Class II Bike Lanes	$1,887,700	$3,110,100	$2,290,700	$7,288,500
Class III Bike Routes	$52,200	$27,600	$12,900	$92,700
Class III with Multi-Use Shoulder			$5,080,800	$5,080,800
Intersection Improvements	$1,040,000	$335,000	$1,935,000	$3,310,000
Total	$3,592,800	$15,791,800	$8,612,800	$27,997,400

Source: Fehr & Peers, 2018

Table 8: Nevada City Cost Estimates

Type	Priority			Total
	High	Medium	Low	
Sidewalks[1]	$88,000	$843,800	$2,714,900	$3,646,700
Class I Bike Paths (Multi-Use)	$611,600		$394,800	$1,006,400
Class II Bike Lanes	$166,100	$686,300		$852,400
Class III Bike Routes	$61,800	$24,400	$10,400	$96,600
Class III with Multi-Use Shoulder		$1,867,800	$533,400	$2,401,200
Earthen Trails (Recreational)	$88,800	$94,400	$2,600	$185,800
Intersection Improvements	$66,600	$270,000	$250,800	$587,400
Total	$1,082,900	$3,786,700	$3,906,900	$8,776,500

Source: Fehr & Peers, 2018

Table 9: Truckee Cost Estimates

Type	Priority			Total
	High	Medium	Low	
Sidewalks[1]	$1,908,400	$3,022,100	$3,921,700	$8,852,200
Class I Bike Paths (Multi-Use)	$11,366,900	$10,490,200	$17,668,800	$39,525,900
Class II Bike Lanes	$2,966,600	$1,035,200	$3,340,200	$7,342,000
Class III Bike Routes			$59,800	$59,800
Earthen Trails (Recreational)		$3,126,000	$3,567,900	$6,693,900
Total	$16,241,900	$17,673,500	$28,558,400	$62,473,800

Source: Fehr & Peers, 2018

Table 10: Unincorporated Nevada County Cost Estimates

Type	Priority			Total
	High	Medium	Low	
Sidewalks[1]	$6,117,500	$1,776,200	$3,170,900	$11,064,600
Class I Bike Paths (Multi-Use)	$683,200		$6,675,400	$7,358,600
Class II Bike Lanes	$6,659,600	$8,542,100	$8,370,400	$23,572,100
Class III Bike Routes	$27,700	$226,300	$909,700	$1,163,700
Class III with Multi-Use Shoulder	$11,059,600	$31,825,700	$112,336,900	$155,222,200
Earthen Trails (Recreational)		$809,700	$1,619,300	$2,429,000
Intersection Improvements		$25,000	$95,000	$120,000
Total	$24,547,600	$43,205,000	$133,177,600	$200,930,200

Source: Fehr & Peers, 2018

Project cost estimates are based on local unit cost estimates. These estimates were developed based on relevant project experience in the area. Assumptions for each bikeway type and details of these estimates are described in Appendix A, Project Priorities and Cost Estimates. Note that these cost estimates are high-level, therefore more detailed study and design of individual project will be required to refine them.

Funding

Federal, state, regional, county, and local organizations provide funding for pedestrian and bicycle projects and programs. A summary of funding sources is provided in Appendix B, Funding Sources.

Potential Outcomes

Following implementation of the planned networks and supporting programs, substantial improvements may be achieved in active transportation use and safety of pedestrians and bicyclists.

By increasing the facilities available to users, mode share may increase to levels seen in other comparable cities. Table 11 presents the expected future mode share and increase in number of biking and walking trips used for commuting. Because these numbers do not include shopping, school, recreational, or other non-work trips, the actual number of future trips may be higher than these estimates. These estimates are further explained in Appendix G, Mode Share Increase.

By implementing this plan, pedestrian and bicyclist safety will also be improved and the number of collisions involving pedestrians and bicyclists will also be reduced. A 50% or greater reduction in injuries and fatalities is a reasonable expectation if all aspects of this plan, including supporting programs, are implemented. In addition to these direct health improvements due to collision reduction, implementation will also support increased physical activity by region residents, improving community health by reducing incidence of heart disease, high blood pressure, Type 2 diabetes, mental illness, and obesity.

Table 11: Potential Increase in Nevada County Biking and Walking Commuters

Mode	2016		2038		Increase	
	Mode Share	Commuters	Mode Share	Commuters	Mode Share	Commuters
Bicycling	1.2%	405	2.0%	801	396	792
Walking	2.8%	1,037	4.5%	1,801	764	1,528

Source: Fehr & Peers, 2018

Broad Street, Nevada City

Nevada County Active Transportation Plan

Appendices

Draft April 2019

Appendix A

Project Priorities and Cost Estimates

This appendix provides lists of prioritized projects for the County and each City, including lengths, costs, and if the project is in a disadvantaged community, and explains how projects were prioritized and costs were estimated.

Prioritization

As discussed in the Implementation chapter, the projects identified to develop the network were prioritized as high, medium, or low based on several criteria. For projects in Truckee, priority for projects identified in the 2015 Truckee Trails and Bikeways Master Plan was determined by the weighting from that recent plan. For Nevada County, Grass Valley, and Nevada City projects, these criteria were weighted based on relative importance:

» High priority

- Bicycle and pedestrian collision history
- Proximity to schools
- Disadvantaged community indicators (household income)
- Tourist destinations
- Critical gap closures
- Feasibility

» Medium priority

- Proximity to senior centers and housing
- Proximity to other key destinations, including parks, bus stops, retail, and activity centers
- Population density
- Proximity to transit stops
- Number of public comments
- Previous plan priority

» Low priority

- Recreation destinations

Judgment of local jurisdiction staff was applied for a few projects to adjust for other jurisdiction priorities.

Cost Estimation

Cost estimates are based on unit costs developed from recent local projects. These unit costs are identified in Table E-1 below. In a few cases, more detailed cost estimates were available and used. All project cost estimates are high-level, and more detailed study of individual project will be required to refine them. Engineering, land acquisition, road widening, and utility relocation costs are not included unless otherwise noted. Specific costs will vary based on local conditions.

Pedestrian crossing improvements are based on the typical costs shown in Table E-2. These criteria for cost estimating purposes, the actual design of the crossing treatment will require additional study and must meet California MUTCD standards.

Costs for planned projects in each jurisdiction are provided in Tables E-3 to E-14.

Table E-1: Bicycle and Pedestrian Improvement Unit Costs

Facility	Cost	Unit	Assumptions
Sidewalks	$818,500	Per side per mile	Curb, gutter and 5' sidewalk
Class I Bike Path	$1,018,000	Per mile	Asphalt concrete with decomposed granite shoulder
Class II Bike Lane	$175,000	Per mile	Slurry seal with striping, markings, and signage
Class II Bike Lane (with roadway widening)	$1,187,000	Per mile	Asphalt concrete with striping, markings and signage
Class III Bike Route	$18,000	Per mile	Signage only
Class III Bike Route (with multi-use shoulder)	$978,000	Per mile	4' asphalt concrete shoulder with signage
Earthen Trail	$214,000	Per mile	Aggregate with signage

Source: Fehr & Peers, 2018

Table E-2: Intersection Treatment Levels and Costs

Facility	Cost
Stop signs and high visibility crosswalks	$5,000
Reduced turn radii, ADA ramps, stop signs, and high visibility crosswalks	$30,000
Rectangular rapid flashing beacons (alternatives: in-pavement flashers or LED stop signs)	$25,000
Pedestrian hybrid beacon or pedestrian signal	$200,000

Source: Fehr & Peers, 2018

Table E-3: Grass Valley Bicycle Facilities Projects

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class II Bike Lanes (widening)	Ridge Rd	Within Grass Valley city limits	High	Yes	0.75	$885,000
Class II Bike Lanes (widening)	Dorsey Dr	Pampas Dr to Sutton Wy	High	Yes	0.40	$478,200
Class II Bike Lanes (widening)	Sutton Wy	Idaho Maryland to existing bike lanes south of Plaza Dr	High	Yes	0.40	$472,600
Class II Bike Lanes	McCourtney Rd	Brighton St to Freeman Ln	High	Yes	0.24	$245,300
Class II Bike Lanes	Sierra College Dr	Litton Trail to E Main St	High	Yes	0.21	$37,900
Class III Bike Route	S Auburn St	W Main St to E McKnight Wy	High	Yes	1.33	$23,900
Class III Bike Route	Mill St	W Main St to McCourtney Rd	High	Yes	0.81	$14,600
Class II Bike Lanes	E Main St	Scandling Ave to Idaho Maryland Rd roundabout	High	Yes	0.08	$14,000
Class III Bike Route	Main St	Alta St to Idaho Maryland Rd	High	Yes	0.76	$13,700
Class I Bike Path	Wolf Creek / Idaho Maryland Rd	SR 20 ramps to Sutton Wy	Medium	Yes	2.45	$2,491,200
Class II Bike Lanes (widening)	Idaho Maryland Rd	SR 20 ramps to Brunswick Rd	Medium	Yes	1.55	$1,843,800
Class I Bike Path	Sierra College Litton Trail	Sierra College Dr north of campus to Sierra College Dr south of campus	Medium	Yes	1.03	$1,053,000
Class I Bike Path	Sierra College	Litton Trail Segment 1 to Nevada Union High School dwy	Medium	Yes	0.45	$454,000
Class II Bike Lanes (widening)	Old Tunnel Rd	Brunswick Rd to Grass Valley city limits	Medium	Yes	0.21	$248,800
Class I Bike Path	Sierra College	Sierra College Dr to Sierra College southwest parking lot	Medium	Yes	0.14	$141,700
Class II Bike Lanes	Colfax Ave	Auburn St to Ophir St	Medium	Yes	0.40	$73,500
Class II Bike Lanes	Packard Dr	Walker Dr to Brighton St	Medium	Yes	0.37	$68,300
Class II Bike Lanes	Brighton St	McCourtney Rd to Packard Dr	Medium	Yes	0.22	$40,900
Class II Bike Lanes	Morgan Ranch Dr	Vistamont Dr to Ridge Rd	Medium	Yes	0.08	$15,400
Class III Bike Route	Chapel St / Brighton St	Mill St to Packard Dr	Medium	Yes	0.66	$12,000
Class III Bike Route	S Church St	W Main St to Chapel St	Medium	Yes	0.44	$8,000
Class III Bike Route	Bennett St/Ophir St	E Main St to Colfax Ave	Medium	Yes	0.42	$7,600
Class III with multi-use shoulder	Allison Ranch Rd	McCourtney Rd to southern city limits	Low	Yes	3.40	$3,321,300

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class II Bike Lanes (widening)	Centennial Dr, Whispering Pines Ln, Crown Point Cir, Crown Point Ct	All	Low	Yes	1.80	$2,130,700
Class I Bike Path	Loma Rica new development	Sutton Wy to Wolf Creek	Low	Yes	1.05	$1,070,700
Class III with multi-use shoulder	Idaho Maryland Rd	Brunswick Rd Grass Valley City SOI	Low	Yes	1.02	$995,400
Class II Bike Lanes (widening)	Brunswick Rd	City limit north of Idaho Maryland to City limit south of Idaho Maryland	Low	Yes	0.70	$831,100
Overcrossing	Boston Ravine	Freeman Ln to SR 20 NB off ramp	Low	Yes	other	$773,900
Class I Bike Path	Brunswick Rd	City limit north of Idaho Maryland to City limit south of Idaho Maryland	Low	Yes	0.73	$743,100
Class I Bike Path	Extension of Litton Trail	Hughes Rd to Dee Mautino Park	Low	Yes	0.54	$548,100
Class III with multi-use shoulder	Colfax Hwy 174	Ophir St to Mercury Dr	Low	Yes	0.46	$449,700
Class I Bike Path	Condon Park	Packard Dr gate to Arboretum Dr	Low	Yes	0.42	$431,800
Class I Bike Path	Loma Rica new development	Segment 4 to Brunswick Rd	Low	Yes	0.34	$345,700
Class III with multi-use shoulder	La Barr Meadows Rd	McKnight Wy to southern city limits	Low	Yes	0.32	$314,400
Class I Bike Path	Condon Park	Arboretum Rd to Lyman Gilmore Middle School and W Main St	Low	Yes	0.24	$246,600
Class I Bike Path	Condon Park	Minnie St to Walsh St	Low	Yes	0.22	$227,500
Class II Bike Lanes	Freeman Ln	McCourtney Rd to E McKnight Wy	Low	Yes	0.81	$148,300
Class III Bike Route	Richardson St	Alta St to E Main St	Low	Yes	0.43	$7,800
Class III Bike Route	Alta St	Grass Valley city limits to W Main St	Low	Yes	0.28	$5,100

Source: Fehr & Peers, 2018

Table E-4: Grass Valley Pedestrian Facilities Projects

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Crosswalk improvement, ADA improvement, sidewalk improvement: Redesign the Auburn St / Neal St / Tinloy St triangle to improve pedestrian access, including sidewalks improvements and curb ramp improvements (Caltrans right-of-way)	Auburn St / Neal St / Tinloy St triangle	NA	High	Yes	other	$885,000
Crosswalk improvement: install crosswalk improvements, including pedestrian refuge islands and bulbouts (Caltrans right-of-way)	Colfax Ave	Hansen Wy and Central Ave	High	Yes	other	$478,200
Sidewalk	Hansen Wy	Colfax Ave and Bennett St (east side only)	High	Yes	0.18	$472,600
Sidewalk	Pleasant St	Walsh St and Brighton St (north side only)	High	Yes	0.11	$44,300
Sidewalk	Olympia Park Cir (north side only)	Gaps between traffic circle and Olympia Glade	High	Yes	0.07	$37,900
Crosswalk improvement: RRFB	E Main St at Scandling Ave	NA	High	Yes	other	$23,900
Crosswalk improvement: RRFB	W Main St at Church St	NA	High	Yes	other	$14,600
Sidewalk	Walsh St	Mill St and Columbia Ave, and east of Church Street	High	Yes	0.03	$14,000
Sidewalk	E Main St	Dorsey Dr and Brunswick Rd (north side only)	Medium	Yes	0.45	$549,400
Sidewalk	S Auburn St	Empire St and McKnight Wy	Medium	Yes	0.52	$427,800
Sidewalk	Empire St	Auburn St and parking for Empire Mine State Park (south side only)	Medium	Yes	0.23	$187,600
Sidewalk	Ridge Rd	Hughes Rd and Upper Slate Creek Rd	Medium	Yes	0.22	$182,800
Sidewalk	Joerschke Dr	Maltman Dr and Dorsey Dr (north side only)	Medium	Yes	0.15	$120,800
Crosswalk improvement: reduce corner radius; provide sidewalks, crosswalks, and curb ramps	Mill St / McCourtney Rd	NA	Medium	Yes	other	$120,000

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Sidewalk	Butler St	Brighton St and Packard Dr (south side only)	Medium	Yes	0.12	$100,300
Sidewalk	Brunswick Rd	Old Tunnel Rd to Town Talk Rd	Medium	Yes	0.10	$79,100
Sidewalk	Richardson St	Alta St to Maiden Ln	Medium	Yes	0.09	$74,200
Sidewalk	Dalton St (north side only)	Pleasant St to School St	Medium	Yes	0.09	$72,500
Crosswalk improvement: reduce radius of right turns to shorten crosswalks (Caltrans right-of-way)	Hansen Wy / Colfax Ave	NA	Medium	Yes	other	$60,000
Crosswalk improvement: reduce corner radius for right turns to shorten crosswalks (shares Caltrans right-of-way)	SR 49 Northbound Off-ramp / Auburn St	NA	Medium	Yes	other	$30,000
Sidewalk	Walsh St	Townsend St to Pleasant St	Medium	Yes	0.03	$25,100
Crosswalk improvement: Improve pedestrian access to parking lot beneath SR 49, between Auburn St and Colfax Ave (Caltrans right-of-way)	Park and Ride lot between Auburn St / Tinloy St / Colfax Ave / Hansen Wy	NA	Medium	Yes	other	$25,000
Crosswalk improvement: RRFB	W Main St at School St	NA	Medium	Yes	other	$25,000
Crosswalk improvement: RRFB	S Auburn St at Mohawk St	NA	Medium	Yes	other	$25,000
Crosswalk improvement: add marked crosswalk and curb ramps to western approach	Nevada City Hwy / Brunswick Rd	NA	Medium	Yes	other	$15,000
Crosswalk improvement: Provide sidewalk improvements and pedestrian refuge islands on Ridge Rd in front of Nevada Union High School (shares County right-of-way)	Ridge Rd / Nevada Union HS Theater lot entrance	Nevada Union High School	Medium		other	$15,000
Pedestrian signal improvement	Main St / Auburn St	NA	Medium	Yes	other	$10,000
Crosswalk improvement: add advance yield limit lines ("sharks teeth"), high visibility crosswalk striping, and pedestrian signage (R1-5) to channelized right turns	Ridge Rd / Hughes Rd	NA	Medium	Yes	other	$10,000
Class I Bike Path	Brunswick Rd	City limit north of Idaho Maryland to City limit south of Idaho Maryland	Low	Yes	0.73	$743,100

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class I Bike Path	Extension of Litton Trail	Hughes Rd to Dee Mautino Park	Low	Yes	0.54	$548,100
Class III with multi-use shoulder	Colfax Hwy 174	Ophir St to Mercury Dr	Low	Yes	0.46	$449,700
Class I Bike Path	Condon Park	Packard Dr gate to Arboretum Dr	Low	Yes	0.42	$431,800
Class I Bike Path	Loma Rica new development	Segment 4 to Brunswick Rd	Low	Yes	0.34	$345,700
Class III with multi-use shoulder	La Barr Meadows Rd	McKnight Wy to southern city limits	Low	Yes	0.32	$314,400
Class I Bike Path	Condon Park	Arboretum Rd to Lyman Gilmore Middle School and W Main St	Low	Yes	0.24	$246,600
Class II Bike Lanes	Freeman Ln	McCourtney Rd to E McKnight Wy	Low	Yes	0.81	$148,300
Class III Bike Route	Richardson St	Alta St to E Main St	Low	Yes	0.43	$7,800
Class III Bike Route	Alta St	Grass Valley city limits to W Main St	Low	Yes	0.28	$5,100
Crosswalk improvement, ADA improvement, sidewalk improvement	Brighton St	Packard Dr to Chapel St	Low	Yes	other	$720,000
Crosswalk improvement, ADA improvement, sidewalk improvement	Race St	S Auburn St to SR 174	Low	Yes	other	$600,000
Sidewalk (new), Sidewalk (widen), Crosswalk improvement	McCourtney Rd	Mill St and Brighton St	Low	Yes	0.38	$307,400
Crosswalk improvement, ADA improvement, sidewalk improvement	Bennett St	Hansen Way to Ophir St	Low	Yes	other	$240,000
Sidewalk	South side of Glenwood Rd	Glenwood Pines Ct to Nevada City Hwy	Low	Yes	0.21	$168,800
Sidewalk	Catherine Ln	Presley Wy and Dorsey Dr	Low	Yes	0.20	$160,800
Crosswalk improvement: support interchange improvements that improve pedestrian access/ safety (Caltrans right-of-way)	SR 49 / McKnight Wy	NA	Low	Yes	other	$120,000
Sidewalk	Idaho Maryland Rd	E Main St and Sutton Wy	Low	Yes	0.12	$95,900
Sidewalk	Minnie St	Condon Park	Low	Yes	0.10	$82,300
Sidewalk	Old Tunnel Rd	Town Talk Rd and Brunswick Rd	Low	Yes	0.08	$68,500
Crosswalk improvement: reduce corner radius and provide curb ramps	Empire St / S Auburn St	NA	Low	Yes	other	$60,000

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Sidewalk	Neal St	High St and Lloyd St	Low	Yes	0.07	$54,100
Sidewalk	Memorial Park	Central Ave to Race St	Low	Yes	0.05	$42,600
Crosswalk improvement: create an orthogonal intersection alignment ("square-up the intersection"); improve crosswalk at Oak St (shares Caltrans right-of-way)	Colfax Ave / Ophir St and Colfax Ave / Oak St	NA	Low	Yes	other	$30,000
Crosswalk improvement: install crosswalk improvements (shares Caltrans right-of-way)	SR 49 Northbound / Idaho Maryland Rd	NA	Low	Yes	other	$30,000
Crosswalk improvement: RRFB	Sierra College Dr at Litton Trail		Low	Yes	other	$25,000
Crosswalk improvement: RRFB	E Main St at Murphy St	NA	Low	Yes	other	$25,000
Crosswalk improvement: RRFB	W Main St at Gilmore Wy	NA	Low	Yes	other	$25,000
Crosswalk improvement: RRFB	Hughes Rd at Lidster Ave	NA	Low	Yes	other	$25,000
Crosswalk improvement: Provide sidewalk improvements and pedestrian refuge islands on Ridge Rd in front of Nevada Union High School (shares County right-of-way)	Ridge Rd / Ventana Sierra Dr	Nevada Union High School	Low		other	$15,000
Crosswalk improvement: install new crosswalk and ramps and reduce turn radius	SR 20 ramp at Mill St	NA	Low	Yes	other	$15,000
Pedestrian Path	Grass Valley downtown parking lot	Church St and Mill St	Low	Yes	other	$5,000

Source: Fehr & Peers, 2018

Table E-5: Nevada City Bicycle Facilities Projects

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class I Bike Path	Behind Seven Hills and Deer Creek Schools	Reward St to Deer Creek Elementary School	High	Yes	0.60	$611,600
Class II Bike Lanes	Zion St / Sacramento St	Ridge Rd to S Pine St	High	Yes	0.75	$137,600
Class II Bike Lanes (one side)	S Pine St	Sacramento St to Spring St (uphill sides only)	High	Yes	0.31	$28,500
Class III Bike Route	Nevada St	Boulder St to SR 20	High	Yes	0.86	$15,400
Class III Bike Route	Broad St / Boulder St	W Broad St to Nevada City city limits	High	Yes	0.61	$11,000
Class III Bike Route	Old Downieville Hwy / Monroe St	Nevada City city limits to Broad St	High	Yes	0.58	$10,500
Class III Bike Route	S Pine St	Sacramento St to Broad St	High	Yes	0.51	$9,200
Class III Bike Route	W Broad St	SR 49 to Broad St	High	Yes	0.49	$8,800
Class III Bike Route	E Broad St	SR 49 to Broad St	High	Yes	0.38	$6,900
Class III with multi-use shoulder	SR 49	W Broad St to SR 20	Medium	Yes	0.92	$903,500
Class III with multi-use shoulder	Gold Flat Rd	Gracie Rd to Pittsburg Rd	Medium	Yes	0.86	$843,200
Class II Bike Lanes (widening)	Gold Flat Rd	Zion St to Pittsburg Rd	Medium	Yes	0.41	$481,100
Class II Bike Lanes (widening)	Sacramento St	S Pine St to Clark St	Medium	Yes	0.16	$192,200
Class III with multi-use shoulder	Cement Hill Rd	SR 49 to Nevada City limit	Medium	Yes	0.12	$121,100
Class III Bike Route	Searls Ave	Ridge Rd to Sacramento St	Medium	Yes	0.79	$14,200
Class II Bike Lanes	Ridge Rd	Nevada City city limits to Nevada City Hwy	Medium	Yes	0.07	$13,000
Class III Bike Route	Sacramento St	Clark St to Broad St	Medium	Yes	0.31	$5,600
Class III Bike Route	Willow Valley Rd	Nevada St to Nevada City city limits	Medium	Yes	0.15	$2,600
Class III Bike Route	Reward St	Reward St to Heilman Ct	Medium	Yes	0.11	$2,000
Class III with multi-use shoulder	SR 20	Uren St and Nevada St Extension	Low	Yes	0.55	$533,400
Class I Bike Path	Parking lot connector and bridge	Clark St to Cabin St	Low	Yes	0.20	$203,500
Class I Bike Path	Pioneer Park	Loop trail	Low	Yes	0.10	$104,500
Class I Bike Path	Nevada City Hwy to Lower Grass Valley Rd	NA	Low	Yes	0.09	$86,800
Class III Bike Route	Nimrod St / Park Ave	Boulder St to Gracie Rd	Low	Yes	0.58	$10,400

Source: Fehr & Peers, 2018

Table E-6: Nevada City Pedestrian Facilities Projects

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Sidewalk	Reward St	Reward St to Heilman Ct	High	Yes	0.11	$88,000
Crosswalk improvement: provide high visibility crosswalk, bulbouts, red curb, curb ramps	Broad St	Nevada City Hall	High	Yes	other	$66,600
Sidewalk	Nursery St	Nevada St to Willow Valley Rd	Medium	Yes	0.53	$436,800
Crosswalk improvement: install PHB or other appropriate treatment, reduce turn radii	SR 49 / W Broad St	NA	Medium	Yes	other	$200,000
Sidewalk	Searls Ave	Sacramento St and Valley St (north side only)	Medium	Yes	0.19	$156,700
Sidewalk	Ridge Rd	Zion St and Searls Ave	Medium	Yes	0.16	$129,400
Sidewalk	Sacramento St	SR 49 Interchange	Medium	Yes	0.10	$79,600
Crosswalk improvement: improve alignment, add marked crosswalks, improve crosswalk across Sacramento St at Prospect St with high visibility striping and signage	Sacramento St / Railroad Ave / Prospect St	NA	Medium	Yes	other	$60,000
Sidewalk	Argall Wy	Zion St and Searls Ave	Medium	Yes	0.05	$41,300
Crosswalk improvement: realign Zion St and relocate crosswalk across Sacramento St	Zion St / Sacramento St	NA	Medium	Yes	other	$10,000
Sidewalk	Gold Flat Rd	Clay St to New Mohawk Rd (west side only)	Low	Yes	0.50	$405,500
Sidewalk	Railroad Ave	Sacramento St to Woods Ct (north side only)	Low	Yes	0.44	$363,000
Sidewalk	Uren St	B St and Nevada St Extension	Low	Yes	0.43	$350,900
Sidewalk	Bost Ave	Hollow Wy to Gold Flat Rd	Low	Yes	0.43	$349,800
Sidewalk	Hollow Wy	Gold Flat Rd to north (east side only)	Low	Yes	0.38	$309,600
Crosswalk improvement: install PHB or other appropriate treatment	SR 49 at Maidu Ave and Orchard St		Low	Yes	other	$200,000
Sidewalk	Nevada St Extension	Uren St and SR 20	Low	Yes	0.24	$197,900
Sidewalk	Nevada St Extension	Nihell St and Uren St	Low	Yes	0.18	$143,700

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Sidewalk	Willow Valley Rd	Nevada St to Nevada City city limits	Low	Yes	0.15	$125,800
Sidewalk	Clay St	Turpentine Dr and Gold Flat Rd (east side only)	Low	Yes	0.14	$114,000
Sidewalk	Cement Hill Rd	Nevada City limit and SR 49 (west side only)	Low		0.12	$98,500
Sidewalk	Ridge Rd	Zion St and western city limits	Low		0.12	$97,200
Sidewalk	W Broad St	SR 49 and E Broad St (south side only)	Low	Yes	0.12	$95,400
Sidewalk	Zion St	Doane Rd and Ridge Rd	Low	Yes	0.08	$63,600
Crosswalk improvement: Improve midblock crosswalk on Argall Wy with high visibility striping and add curb ramps	Argall Wy mid-block	NA	Low	Yes	other	$15,000
Crosswalk improvement: reduce corner radii, add crosswalks	Searls Ave / Ridge Rd	NA	Low	Yes	other	$15,000
Signal Detection	SR 49 / E Broad St	SR 49 / E Broad St	Low	Yes	other	$10,800
Crosswalk improvement: improve crosswalk across Searls Ave with high visibility striping	Searls Ave / Bridge Wy	NA	Low	Yes	other	$5,000
Crosswalk improvement: improve uncontrolled marked crosswalks with high visibility striping	Argall Wy / Searls Ave	NA	Low	Yes	other	$5,000

Source: Fehr & Peers, 2018

Table E-7: Nevada City Trails Facilities Projects

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Earthen Trail	Providence Mine Rd	Zion St to Loop Trail	High	Yes	0.41	$88,800
Earthen Trail	Trail connection Nevada City	Tobiassen Park to Sugarloaf Mountain	Medium	Yes	0.44	$94,400
Earthen Trail	Nevada City Airport Trails	Connector to Airport Rd near Tower Hill Rd	Low		0.01	$2,600

Source: Fehr & Peers, 2018

Table E-8: Truckee Bicycle Facilities Projects

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class I Bike Path	Truckee River Legacy Trail Phase 4	Palisades Dr to SR 89 (including bridge near SR 89)	High		2.47	$7,500,000
Class II Bike Lanes (widening)	SR 89	Henness Rd to northern Truckee Town limits	High		2.37	$2,812,400
Class I Bike Path	Truckee River Legacy Trail Phase 5A	SR 89 to Coldstream	High		1.38	$1,409,300
Class I Bike Path	Trout Creek Trail to Lausanne Wy/Basel Place	End of Trout Creek Trail Phase I to Lausanne Wy	High		1.09	$1,105,500
Class I Bike Path	Truckee River Legacy Trail Phase 5B	Coldstream to Donner Memorial State Park	High		0.99	$1,003,200
Class I Bike Path	Joerger Ranch-Riverview Sports Park Connector	Joerger Dr at north end of Joerger Ranch to Joerger Ranch/Martis Valley Trail Connector	High		0.34	$348,900
Class II Bike Lanes	SR 89	Donner Pass Rd to south Town limits	High		0.84	$154,200
Class I Bike Path	Martis Creek Lake Trail	Truckee River Legacy Trail to Martis Creek Dam Rd to Riverview Sports Park	Medium		4.20	$4,275,600
Class I Bike Path	Pioneer Bike Path Extension	Indian Jack Rd to Frates Ln	Medium		1.25	$1,275,000
Class I Bike Path	Joerger Ranch-Martis Valley Trail Connector	South end of Joerger Ranch to south Town limits	Medium		1.24	$1,260,100
Class I Bike Path	Old Greenwood-Glenshire Dr Bridge Connector	Overland Trail/Fairway Dr intersection to Glenshire Dr Truckee River bridge	Medium		1.16	$1,175,900
Class I Bike Path (Bridge)	Truckee River Bridge	W River St connecting the Truckee River Legacy Trail and W River St in the vicinity of Riverside Dr	Medium		0.09	$1,090,000
Class II Bike Lanes (widening)	Railyards Master Plan Area	Railyards Master Plan Area (Donner Pass Rd Extension, Church St, Street A)	Medium		0.85	$1,007,900
Class I Bike Path	Joerger Ranch-Brockway Rd Connector	Western side of Joerger Ranch to Brockway Rd	Medium		0.84	$850,500
Class I Bike Path	Trout Creek Trail-Pioneer Bike Path Connector	Comstock Dr to Trout Creek Trail	Medium		0.55	$563,100

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class II Bike Lanes	McIver Crossing	Donner Pass Rd to W River St	Medium		0.15	$27,300
Class I Bike Path overcrossing	W River St Railroad Crossing	Donner Pass Rd to W River St at Spring St	Low		0.06	$15,900,000
Class II Bike Lanes (widening)	Palisades Dr/Ponderosa Dr/Martis Valley Rd	Brockway Rd/Palisades Dr intersection to Brockway Rd/ Martis Valley Rd intersection	Low		2.06	$2,440,200
Class I Bike Path	Northwoods Trail	Trail junction at Northwoods to Frates Ln	Low		0.98	$999,700
Class II Bike Lanes (widening)	East River St Extension (2025 General Plan)	Brockway Rd to end of Railyards Master Plan Area	Low		0.76	$900,000
Class I Bike Path	Hilltop Master Plan	Palisade Dr at Ponderosa Dr to Hilltop	Low		0.76	$769,100
Class III Bike Route	Armstrong Tract	Highway Rd East to Sierra Dr East, loop Martis St Palisade St & Thomas Dr	Low		1.72	$31,000
Class III Bike Route	Donner Lake Rd	Donner Pass Rd to I-80 interchange	Low		1.18	$21,200
Class III Bike Route	Coldstream Rd	I-80 to end of Cold Stream Rd	Low		0.42	$7,600

Source: Fehr & Peers, 2018

Table E-9: Truckee Pedestrian Facilities Projects

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Sidewalk	Donner Pass Rd	Coldstream Rd to McIver Crossing	High		1.53	$1,253,900
Sidewalk	Donner Pass Rd	McIver Crossing to E Main St	High		0.80	$654,500
Sidewalk	W River St	SR 89 to Bridge St	Medium		2.67	$2,185,500
Sidewalk	Bridge St/Brockway	E Keiser Ave to Palisades Dr (portions one side only)	Medium		0.41	$333,500
Sidewalk	Meadow Wy	Donner Pass Rd to Rocky Ln (west side only)	Medium		0.20	$163,500
Sidewalk	Brockway Rd	Martis Valley Rd to Hope Ct (south side only)	Medium		0.19	$153,300
Sidewalk	Jibboom St	Spring St to Bridge St	Medium		0.18	$144,200
Sidewalk	Donner Trail Rd	Donner Pass Rd to Edmunds Dr (south side only)	Medium		0.05	$42,100
Sidewalk	Palisades Dr	Brockway Rd along Palisades & Ponderosa to south intersection of Palisade/Ponderosa (west side only)	Low		0.93	$764,400
Sidewalk	Donner Pass Rd	Keiser Ave to Interstate 80	Low		0.85	$693,300
Sidewalk	E River St	Bridge St to E River St east end (north side only)	Low		0.80	$654,800
Sidewalk	Jibboom St	Bridge St to Truckee Cemetery (north side only)	Low		0.71	$579,900
Sidewalk	Keiser Ave	Bridge St to Donner Pass Rd - includes E Main St (portions only)	Low		0.42	$342,100
Sidewalk	Church St	Bridge St to Donner Pass Rd	Low		0.24	$197,300
Sidewalk	Martis Valley Rd	Brockway Rd to Sugar Pine Rd (south side only)	Low		0.21	$172,000
Sidewalk	Levon Ave	Donner Pass Rd to Pine Ave	Low		0.18	$145,600
Sidewalk	Estates Dr	Brockway Rd to Crest View Dr (west/north side only)	Low		0.18	$145,500
Sidewalk	Frates Ln	Donner Pass Rd to Glen Rd	Low		0.10	$80,000
Sidewalk	School St	Church St to E Main St (west side only)	Low		0.07	$60,300
Sidewalk	SR 89	Shell station dwy to Deerfield Dr	Low		0.06	$48,500
Sidewalk	Spring St	Keiser Ave to north of High St (west side only)	Low		0.05	$38,000

Source: Fehr & Peers, 2018

Table E-10: Truckee Trails Facilities Projects

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Earthen Trail	Martis Creek Trail Network	All paved segments of Martis Creek Trails	Medium		4.38	$936,300
Earthen Trail	Trout Creek Trail Network	All paved segments of Trout Creek Trail	Medium		2.96	$633,500
Earthen Trail	Tahoe-Donner South Trails	North of Interstate 80, south of Tahoe-Donner	Medium		2.89	$618,100
Earthen Trail	Coldstream Specific Plan Trail	Coldstream Specific Plan area	Medium		2.17	$463,800
Earthen Trail	Old Greenwood Glenshire Connector	Old Greenwood to Glenshire Dr	Medium		1.12	$240,300
Earthen Trail	Bridge St Gateway Connector	Bridge St to Frates Ln	Medium		1.09	$234,000
Earthen Trail	Alder Hill Trails	East of Tahoe-Donner, north of Trout Creek	Low		3.61	$772,600
Earthen Trail	Glenshire Dr-Prosser Creek Trail	Glenshire Dr Truckee River bridge to Prosser Creek	Low		2.45	$523,300
Earthen Trail	Glenshire Trails	East of Truckee River in Glenshire	Low		2.35	$502,400
Earthen Trail	Prosser Creek Reservoir Trails	South of Prosser Creek Reservoir	Low		2.05	$439,700
Earthen Trail	Prosser Village Rd-Prosser Creek Trail	Prosser Village Rd/Interstate 80 interchange to Prosser Creek	Low		1.38	$294,600
Earthen Trail	West End Trail	Donner Pass Rd near Donner Lake Rd to Billie Mack Rd	Low		1.15	$246,900
Earthen Trail	Hilltop-Truckee River Legacy Trail Connections	Hilltop to Truckee River Legacy Trail	Low		1.10	$234,700
Earthen Trail	Eastern Glenshire Trail	Glenshire Dr toward eastern town limits	Low		1.09	$233,200
Earthen Trail	State Route 89 N	Rainbow Dr to Alder Creek Rd	Low		0.68	$145,900
Earthen Trail	Northwoods Blvd-Lausanne Rd Connector	Northwoods Blvd to Lausanne Rd	Low		0.55	$118,600
Earthen Trail	Old Greenwood -Donner Pass Rd Connector	Old Greenwood to Donner Pass Rd at the Town of Truckee Public Service Center	Low		0.26	$56,000

Source: Fehr & Peers, 2018

Table E-11: Nevada County Bicycle Facilities Projects

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class III with multi-use shoulder	Red Dog Rd	Nevada City city limits to Quaker Hill Cross	High	Yes	2.45	$2,396,700
Class III with multi-use shoulder	Cement Hill Rd	Nevada City limit to Augustine Rd	High	Yes	2.28	$2,227,600
Class II Bike Lanes (widening)	Pleasant Valley Rd	Lake Wildwood Dr to SR 20	High	Yes	1.40	$1,667,300
Class III with multi-use shoulder	Auburn Rd	McCourtney Rd to Archery Rd	High	Yes	1.27	$1,246,100
Class II Bike Lanes (widening)	Ridge Rd	Rough & Ready Hwy to Grass Valley city limits	High	Yes	1.05	$1,244,500
Class II Bike Lanes (widening)	Ridge Rd	Grass Valley city limits to Pear Orchard Wy	High	Yes	0.96	$1,144,900
Class III with multi-use shoulder	SR 174	Mercury Dr to Rattlesnake Rd	High	Yes	1.16	$1,133,300
Class III with multi-use shoulder	SR 49	Old Downieville Hwy to Nevada City city limits	High	Yes	1.09	$1,062,600
Class II Bike Lanes (widening)	Rough & Ready Hwy	Ridge Rd to Grass Valley city limits	High	Yes	0.72	$852,200
Class III with multi-use shoulder	North Bloomfield Rd	SR 49 to Coyote Rd	High	Yes	0.85	$827,100
Class III with multi-use shoulder	Dog Bar Rd	Wheeler Cross Rd to Alta Sierra Dr	High	Yes	0.81	$796,700
Class II Bike Lanes (widening)	Ridge Rd	Pear Orchard Wy to Nevada City city limits	High	Yes	0.59	$695,800
Class III with multi-use shoulder	Allison Ranch Rd	Grass Valley city limits to SR 49	High	Yes	0.65	$633,900
Class II Bike Lanes (widening)	Old Tunnel Rd	Banner Lava Cap Rd to Grass Valley city limits	High	Yes	0.41	$486,800
Class I Bike Path	SR 174	Mercury Dr to Empire St	High	Yes	0.41	$413,000
Class III with multi-use shoulder	Adam Ave	Rough & Ready Hwy to Squirrel Creek Rd	High	Yes	0.40	$389,600
Class III with multi-use shoulder	Squirrel Creek Rd	Adam Ave to Crestwood St	High	Yes	0.35	$346,000
Class II Bike Lanes (widening)	Brunswick Rd	Town Talk Rd south to Grass Valley City limit	High	Yes	0.26	$306,700

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class I Bike Path	Brunswick Rd	Town Talk Rd to City limit north of Idaho Maryland Rd	High	Yes	0.27	$270,200
Class II Bike Lanes (widening)	Brunswick Rd	Grass Valley city limits to Bet Rd	High	Yes	0.22	$261,400
Class III Bike Route	Squirrel Creek Rd / Walker Dr / Butler Rd	Adam Ave to city limits	High	Yes	0.92	$16,500
Class III Bike Route	Alta St	Ridge Rd to Grass Valley city limits	High	Yes	0.62	$11,200
Class III with multi-use shoulder	SR 49	Auburn Rd to Combie Rd	Medium	Yes	5.91	$5,780,300
Class III with multi-use shoulder	N Bloomfield Rd	Coyote Rd to Rock Creek Rd	Medium		5.21	$5,091,800
Class II Bike Lanes (widening)	Donner Pass Rd	I-80 to Donner Summit	Medium		3.73	$4,424,400
Class III with multi-use shoulder	SR 20	Nevada St to Willow Valley Rd	Medium	Yes	3.51	$3,430,900
Class III with multi-use shoulder	Oak Tree Rd	SR 49 to Tyler Foote Crossing	Medium	Yes	2.69	$2,633,300
Class III with multi-use shoulder	SR 49	Crestview Dr to Allison Ranch Rd	Medium	Yes	2.66	$2,600,100
Class III with multi-use shoulder	Pleasant Valley Rd	Bitney Springs Rd to Wildflower Dr	Medium	Yes	2.56	$2,501,000
Class III with multi-use shoulder	SR 49	Allison Ranch Rd to Auburn Rd	Medium	Yes	2.26	$2,209,500
Class II Bike Lanes (widening)	Pleasant Valley Rd	Wildflower Dr to Lake Wildwood Dr	Medium	Yes	1.64	$1,946,300
Class III with multi-use shoulder	Bitney Springs Rd	Empress Mine Rd to Rough & Ready Hwy	Medium	Yes	1.89	$1,852,900
Class III with multi-use shoulder	Bitney Springs Rd	Gold Fork Rd to Empress Mine Rd	Medium		1.74	$1,699,400
Class II Bike Lanes (widening)	Loma Rica Dr	Brunswick Rd to Wawona Madrona entrance	Medium	Yes	1.40	$1,655,900
Class III with multi-use shoulder	Brunswick Rd	Bet Rd to Hwy 174	Medium	Yes	1.48	$1,448,400

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class III with multi-use shoulder	Rough & Ready Hwy	Bitney Springs Rd to Ridge Rd	Medium	Yes	1.35	$1,315,500
Class III with multi-use shoulder	SR 174	Rattlesnake Rd to Brunswick Rd	Medium	Yes	1.29	$1,260,000
Class III with multi-use shoulder	Greenhorn Rd	Brunswick Rd to Yama Wy	Medium	Yes	1.17	$1,140,100
Class III with multi-use shoulder	Penn Valley Dr	SR 20 to Spenceville Rd	Medium	Yes	0.60	$588,300
Class II Bike Lanes (widening)	Pittsburg Rd	Gold Flat Rd to Pittsburg Mine Rd	Medium		0.38	$453,800
Class III with multi-use shoulder	La Barr Meadows Rd	Grass Valley city limits to Amsel Wy	Medium	Yes	0.43	$416,800
Class III with multi-use shoulder	Rattlesnake Rd	SR 174 to Lower Colfax Rd	Medium	Yes	0.31	$301,100
Class III with multi-use shoulder	Dog Bar Rd	Alta Sierra Dr to Mt Olive Rd	Medium		0.19	$189,600
Class III Bike Route	Lower Colfax Rd	Rattlesnake Rd to SR 174	Medium	Yes	6.59	$118,600
Class III Bike Route	Auburn Rd	Archery Rd to SR 49	Medium	Yes	4.46	$80,300
Class II Bike Lanes	McCourtney Rd	Auburn Rd to Brighton St	Medium	Yes	0.34	$61,700
Class III Bike Route	Old Downieville Hwy	SR 49 to Nevada City city limits	Medium	Yes	1.52	$27,400
Class III with multi-use shoulder	SR 49	Tyler Foote Crossing to Newtown Rd	Low		7.99	$7,817,000
Class III with multi-use shoulder	SR 20	Chalk Bluff Rd to county limits	Low		6.33	$6,193,400
Class II Bike Lanes (widening)	McCourtney Rd	Auburn Rd to Indian Springs Rd	Low	Yes	4.66	$5,536,700
Class III with multi-use shoulder	Dog Bar Rd	Mt Olive Rd to Magnolia Rd	Low		5.49	$5,373,100
Class III with multi-use shoulder	Pasquale Rd	Red Dog Rd to Banner Quaker Hill Rd	Low		5.04	$4,932,700

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class III with multi-use shoulder	McCourtney Rd	Indian Springs Rd to Lime Kiln Rd	Low		5.02	$4,907,000
Class III with multi-use shoulder	SR 20	Casci Rd to Washington Rd	Low		4.76	$4,658,100
Class III with multi-use shoulder	Stampede Meadows Rd	County limits to Hinton Rd	Low		4.32	$4,228,800
Class III with multi-use shoulder	Rough & Ready Hwy	SR 20 to Bitney Springs Rd	Low	Yes	4.27	$4,179,900
Class III with multi-use shoulder	SR 20	Willow Valley Rd to Casci Rd	Low		4.04	$3,949,300
Class III with multi-use shoulder	Magnolia Rd	Dog Bar Rd to Class I at Kingston Rd	Low		4.03	$3,945,900
Class III with multi-use shoulder	Rattlesnake Rd	Lower Colfax Rd to Dog Bar Rd	Low		3.87	$3,788,900
Class I Bike Path	Hinton Rd	Glenshire Dr to Hirschdale Rd	Low		3.58	$3,647,000
Class III with multi-use shoulder	SR 89	Hobart Mills Rd to county limits	Low		3.70	$3,615,300
Class III with multi-use shoulder	Indian Springs Rd	Spenceville Rd to McCourtney Rd	Low	Yes	3.61	$3,535,000
Class III with multi-use shoulder	SR 174	You Bet Rd to Lower Colfax Rd	Low		3.49	$3,414,900
Class III with multi-use shoulder	SR 20	Nevada County line to Penn Valley Dr	Low		3.42	$3,346,600
Class III with multi-use shoulder	Tyler Foote Crossing	SR 49 to Oak Tree Rd	Low		3.28	$3,207,000
Class III with multi-use shoulder	Newtown Rd	Champion Mine Rd to Bitney Springs Rd	Low		3.18	$3,114,500
Class III with multi-use shoulder	SR 20	Washington Rd to Chalk Bluff Rd	Low		3.11	$3,045,200

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class III with multi-use shoulder	Lake Vera - Purdon Rd	N Bloomfield Rd and Rector Rd	Low		2.56	$2,505,000
Class III with multi-use shoulder	SR 49	County limits to Oak Tree Rd	Low	Yes	2.52	$2,468,400
Class III with multi-use shoulder	SR 49	Oak Tree Rd to Pleasant Valley Rd	Low	Yes	2.50	$2,441,800
Class III with multi-use shoulder	Tyler Foote Crossing	Oak Tree Rd to Kamena Rd	Low		2.46	$2,405,800
Class III with multi-use shoulder	Lime Kiln Rd	McCourtney Rd to SR 49	Low		2.35	$2,300,300
Class III with multi-use shoulder	SR 174	Brunswick Rd to You Bet Rd	Low	Yes	2.29	$2,243,300
Class III with multi-use shoulder	Banner Lava Cap Rd	Nevada City Hwy to Gracie Rd	Low	Yes	2.26	$2,213,800
Class III with multi-use shoulder	SR 49	Combie Rd to county limits	Low		2.25	$2,197,200
Class II Bike Lanes (widening)	SR 89	Hobart Mills Rd to Truckee town limits	Low		1.74	$2,064,000
Class III with multi-use shoulder	Idaho Maryland Rd	Grass Valley SOI to Banner Lava Cap Rd	Low	Yes	2.06	$2,014,300
Class III with multi-use shoulder	Willow Valley Rd	Nevada City city limits to Planned Snow Mountain Ditch Trail Extension	Low	Yes	2.03	$1,988,900
Class III with multi-use shoulder	Indian Springs Rd	Penn Valley Dr to Spenceville Rd	Low	Yes	1.96	$1,920,800
Class III with multi-use shoulder	Spenceville Rd	Penn Valley Dr to Indian Springs Rd	Low	Yes	1.51	$1,479,400
Class III with multi-use shoulder	Banner Lava Cap Rd	Gracie Rd to Idaho Maryland Rd	Low		1.26	$1,227,600
Class III with multi-use shoulder	SR 174	Lower Colfax Rd to county limits	Low		1.20	$1,177,500

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class III with multi-use shoulder	SR 49	Pleasant Valley Rd to Tyler Foote Crossing	Low		1.11	$1,088,100
Class III with multi-use shoulder	Penn Valley Dr	SR 20 to Pleasant Valley Rd	Low	Yes	1.10	$1,071,500
Class I Bike Path	Powerlines	SR 20 east end to Eagle Lakes Rd	Low		0.84	$852,300
Class I bike path	SR 174 NID ditch	Powerline Rd to Mt Olive Rd	Low		0.76	$772,000
Class III with multi-use shoulder	Dog Bar Rd	Magnolia Rd to County limit	Low		0.73	$715,500
Class II Bike Lanes (widening)	Pittsburg Mine Rd	Pittsburg Rd to Banner Lava Cap Rd	Low		0.49	$583,700
Class I Bike Path	Glenshire Drive alternate	Glenshire Drive to Hirschdale Rd	Low		0.57	$577,000
Class III with multi-use shoulder	Empress Rd	Bitney Springs Rd to Newtown Rd	Low		0.57	$555,600
Class III with multi-use shoulder	SR 49	Newtown Rd to Old Downieville Hwy	Low		0.45	$436,200
Class I Bike Path	South Yuba River	New Lincoln to Hampshire Rocks Rd	Low		0.41	$414,200
Class I Bike Path	Ridge Rd	Rough and Ready Hwy and Ridgeview Dr	Low	Yes	0.41	$412,900
Class II Bike Lanes	Glenshire Dr	Hirschdale Rd to Martis Peak Rd	Low		1.01	$186,000
Class III Bike Route	Pleasant Valley Rd	SR 49 to Bitney Springs Rd	Low		9.16	$164,900
Class III Bike Route	Mooney Flat Rd	SR 20 to Pleasant Valley Rd	Low		5.13	$92,400
Class III Bike Route	Scotts Flat Rd	SR 20 to Scotts Flat Pines Rd	Low		4.51	$81,100
Class III Bike Route	Donner Pass Rd	Hampshire Rocks Rd to Brennan Ave	Low		3.95	$71,100
Class III Bike Route	Hampshire Rocks Rd	West end near Cisco Rd to Donner Pass Rd	Low		3.48	$62,600
Class III Bike Route	Bitney Springs Rd	Pleasant Valley Rd to Gold Fork Rd	Low		3.31	$59,600
Class III Bike Route	Birchville Rd	Pleasant Valley Rd to SR 49	Low		2.77	$49,800
Class III Bike Route	Eagle Lakes Rd / New Lincoln	West end to South Yuba River path near Cisco Rd	Low		2.30	$41,400
Class III Bike Route	Donner Pass Rd	Brennan Ave to I-80	Low		2.26	$40,700
Class III Bike Route	Banner Lava Cap Rd	Idaho Maryland Rd to Red Dog Rd	Low		2.19	$39,500
Class III Bike Route	Purdon Rd	Tyler Foote Crossing to Murphy Rd	Low		1.98	$35,700

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Class III Bike Route	Banner Quaker Hill Rd	Banner Lava Cap Rd to Pasquale Rd	Low		1.93	$34,800
Class III Bike Route	Jones Bar Rd	Newtown Rd to Yuba Crest Dr	Low		1.87	$33,700
Class III Bike Route	Willow Valley Rd	Scotts Valley Rd to SR 20	Low		1.59	$28,500
Class III Bike Route	Red Dog Rd	Quaker Hill Cross to Banner Lava Cap Rd	Low		1.58	$28,500
Class III Bike Route	Pyramid Trail / Hirschdale Rd	Glenshire Dr to Hinton Rd	Low		1.22	$21,900
Class III Bike Route	Pyramid Trail / Hirschdale Rd	Hinton Rd to end of road	Low		0.96	$17,300
Class III Bike Route	Laws Ranch Cross Rd	SR 174 to Lower Colfax Rd	Low	Yes	0.21	$3,700
Class III Bike Route	Pyramid Trail / Floriston Wy	Floriston	Low	Yes	0.14	$2,500

Source: Fehr & Peers, 2018

Table E-12: Nevada County Pedestrian Facilities Projects

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Sidewalk	Ridge Rd	Existing sidewalk at Nevada Union High School to Nevada City limits	High	Yes	2.55	$2,090,700
Sidewalk	Rough & Ready Hwy	Squirrel Creek Rd and Adam Ave	High	Yes	1.25	$1,023,000
Sidewalk	Old Tunnel Rd	Banner Lava Cap Rd and Town Talk Rd	High	Yes	0.81	$661,700
Sidewalk	Ridge Rd	Ridgeview Dr to Alta St	High	Yes	0.61	$495,400
Sidewalk	Squirrel Creek Rd	Adam Ave to Cedar Ave	High	Yes	0.57	$470,500
Sidewalk	Ridge Rd	Alta St and Upper Slate Creek Rd (south side only)	High	Yes	0.47	$388,200
Sidewalk	Squirrel Creek Rd	W Main St and Cedar Ave	High	Yes	0.46	$376,000
Sidewalk	Rough & Ready Hwy	Gilmore Wy to Squirrel Creek Rd	High	Yes	0.25	$208,500
Sidewalk	Spenceville Rd (west side only)	Shopping center south of Penn Valley Dr to Ready Springs Elementary School	High	Yes	0.23	$188,200
Sidewalk	Alta St	Dolores Dr and Ridge Rd (east side only)	High	Yes	0.18	$147,000
Sidewalk	Alta St (east side only)	Dolores Dr and Devere Mautino Park	High	Yes	0.08	$68,300
Sidewalk (new), Sidewalk (widen), Crosswalk improvement	McCourtney Rd	Brighton St to west side of Nevada County Fairgrounds	Medium	Yes	0.77	$631,600
Sidewalk	Penn Valley Dr (west side only)	Spenceville Rd to SR 20	Medium	Yes	0.58	$476,700
Sidewalk	Penn Valley Dr (north side only)	Crosswalk west of Pheasant Ln to Spenceville Rd	Medium	Yes	0.39	$322,800
Sidewalk	Boulder St	Nevada City city limits to Red Dog Rd	Medium	Yes	0.21	$172,700
Sidewalk	Cement Hill Rd	Nevada City limit and Indian Flat Rd (west side only)	Medium		0.21	$172,400
Crosswalk improvement: RRFB	Rough & Ready Hwy	Adam Ave	Medium	Yes	other	$25,000
Sidewalk	Donner Pass Rd	East of I-80 to 500 feet east of Soda Springs Rd	Low		1.58	$1,289,700
Sidewalk (new), pedestrian paths	SR 49 in North San Juan	School St to Oak Tree Rd	Low	Yes	0.70	$572,200
Sidewalk	Combie Rd (south side only)	Lake Combie Mobile Home Village dwy and Magnolia Rd	Low		0.54	$446,000

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Sidewalk	Higgins Rd (west side only) and future parkway road (north side only)	Higgins Village dwy to SR 49	Low		0.33	$269,200
Sidewalk	Combie Rd (south side only)	SR 49 and Lake Combie Mobile Home Village dwy	Low		0.29	$238,100
Sidewalk	Spenceville Rd / Penn Valley Dr (east side only)	Fire station to Plaza Tire dwy	Low		0.20	$160,200
Sidewalk	Wolf Rd (south side only)	Jennifer Dr to SR 49	Low		0.10	$83,800
Sidewalk	Magnolia Rd (south side only)	Combie Rd to Lakeshore North	Low		0.10	$83,600
Intersection improvement: install new crosswalk and ramps and reduce turn radius	N Bloomfield Rd / Lake Vera - Purdon Rd	Reduce turn radii, consider traffic calming	Low		other	$60,000
Sidewalk	Combie Rd (east side only)	Magnolia Rd to existing sidewalk	Low		0.03	$28,100
Crosswalk improvement: RRFB	Donner Pass Rd at Lola Montez Ln	NA	Low		other	$25,000
Crosswalk improvement: install new crosswalk	SR 49 in North San Juan	School St to Oak Tree Rd	Low	Yes	other	$5,000
Crosswalk improvement: install new crosswalk	Donner Pass Rd at Soda Springs Rd	NA	Low		other	$5,000

Source: Fehr & Peers, 2018

Table E-13: Nevada County Trails Facilities Projects

Facility	Location	Extent	Priority	Disadv. Comm.	Length (miles)	Cost
Earthen Trail	Miners Trail	Round Mountain to Harmony Ridge	Medium		2.91	$623,300
Earthen Trail	Deer Creek Tribute Trail	Connect BLM loop to Providence Mine Rd	Medium	Yes	0.49	$104,400
Earthen Trail	Deer Creek Tribute Trail	Alternative to road section, move to flume alignmenet	Medium	Yes	0.38	$82,000
Earthen Trail	Snow Mountain Ditch	Willow Valley Road (the end of the existing trail) to the trail at the north end of the Scotts Flat Reservoir dam	Low		2.91	$622,600
Earthen Trail	Connection from Sugarloaf Mountain to South Yuba River		Low		2.32	$496,500
Earthen Trail	Lake Van Norden Rd and Old Donner Summit Rd	Soda Springs Rd to County line	Low		1.17	$251,200
Earthen Trail	South Yuba River	Donner Pass Rd to Soda Springs Rd	Low		0.54	$116,600
Earthen Trail	Haskell Rd to Snow Mountain Ditch		Low		0.42	$90,200
Earthen Trail	Gracie Rd	Extend trail or sidewalks from Nevada City to existing trail	Low		0.20	$42,200

Source: Fehr & Peers, 2018

Appendix B
Funding Sources

Federal, state, regional, county, and local organizations provide funding for pedestrian and bicycle projects and programs. The most recent federal surface transportation funding program, Fixing America's Surface Transportation Act (FAST), was signed into law in December 2015. FAST funding is distributed to federal surface transportation programs. Most of these resources are available through Caltrans and NCTC.

California Senate Bill 1, The Road Repair and Accountability Act of 2017, was signed in April 2017. It increased funding for the Active Transportation Program by $100 million statewide and encourages complete streets improvements in a majority of its funding allocations for local roadways.

Most federal and state programs do not provide funding for trails whose primary purpose is recreation. The Recreational Trails Program is the largest source of governmental funding for recreational trails. However, trails that serve active transportation purposes (such as multi-use paths, Class I bikeways, etc.) are eligible in the Active Transportation Program. Truckee Measure R specifically provides sales tax funds for trail improvements. Non-profit organizations such as the Bear Yuba Land Trust and the Truckee Donner Land Trust have also developed many recreational trails in the area. Other organizations such as the Gold Country Trails Council and Bicyclists of Nevada County have partnered with the U.S. Forest Service and other agencies to build trails on public lands.

Table F-1 summarizes the applicability of these and other various funding sources to projects, planning efforts, and programs proposed in this plan.

Descriptions of the grant funding sources and programs as of December 2018 are also provided below.

Federal Programs

The majority of public funds for bicycle, pedestrian, and trails projects are derived through a core group of federal and state programs. Federal funding is authorized through the Surface Transportation Block Grant Program (STBGP). The STBGP provides flexible funding that may be used by states and localities for projects on any federal-aid highway. In the past this funding was authorized by the Surface Transportation Program (STP) in the Moving Ahead for Progress in the 21st Century Act (MAP-21). Funding for STBGP is now authorized through the Fixing America's Surface Transportation (FAST) Act, with the same goals as STP funding.

FAST continues the Highway Safety Improvement Program (HSIP). These federal funds are allocated by Caltrans and described in further detail below.

The Transportation Alternatives Program (TAP), authorized through MAP-21, provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, transit access, mobility, and recreation trails program. This program is now part of the STBGP in FAST instead of a stand-alone program as it was under MAP-21.

The Congestion Mitigation and Air Quality Improvement Program (CMAQ) also authorizes federal funds, including education programs. FAST maintains the existing CMAQ program from MAP-21.

Federal funds from STBGP, TAP, and CMAQ programs are allocated to NCTC. Distribution is allocated either competitively or proportionally according to jurisdiction population.

The HUD-DOT-EPA Interagency Partnership for Sustainable Communities periodically offers funding opportunities. Previous programs have included Urban Circulator grants, TIGER grants, and Sustainable Communities Planning grants.

State Programs

There are several statewide funding sources and regionally administered funds.

Active Transportation Program

The Active Transportation Program was created by SB 99 / Assembly Bill 101 to encourage increased use of active modes of transportation such as biking and walking. The program consolidates five existing state funded programs: Transportation Alternatives Program, Recreational Trails program, Safe Routes to Schools, Environmental Enhancement and Mitigation Program and the Bicycle Transportation Account. It provides a comprehensive program that improves program planning and flexibility and is more efficient than multiple programs. Another benefit is that funds can be directed to multi-year projects to make greater long-term improvements to active transportation.

The Active Transportation Program mixes state and federal funds and provides approximately $130 million annually, with a focus on implementing active transportation improvements to support the goals of local SB 375 sustainable community strategies. This program is funded from a combination of federal and state funds from appropriations in the annual state budget act. Forty percent of the funding will go toward metropolitan planning organizations in urban areas with populations greater than 200,000. Ten percent of the funds go to small urban and rural regions. The remaining funds will go to the California Transportation Commission for statewide projects. The ATP ensures that disadvantaged communities fully share in the benefits of the program by requiring that a minimum of 25% of funds be distributed to disadvantaged communities.

In order to maximize the effectiveness of program funds and to encourage the aggregation of small projects into a comprehensive bundle of projects, the minimum request for statewide Active Transportation Program funds that will be considered is $250,000. This minimum does not apply to non-infrastructure projects, Safe Routes to Schools projects, recreational trails projects, and plans.

Project types allowed under the ATP include: new bikeways serving major transportation corridors, new bikeways to improve bicycle commuting options, bicycle parking at transit and employment centers, traffic control devices to improve pedestrian and bicycle safety, improving and maintaining safety on existing bikeways, recreational facilities, Safe Routes to School projects, Safe Routes To Transit projects, education programs, and other improvements to bicycle-transit connections and urban environments.

For a project to contribute toward the Safe Routes to School funding requirement, the project must directly increase safety and convenience for public school students to walk and/or bike to school. Safe Routes to Schools infrastructure projects must be located within two miles of a public school or within the vicinity of a public school bus stop. Other than traffic education and enforcement activities, non-infrastructure projects do not have a location restriction.

Highway Safety Improvement Program

Caltrans administers the Highway Safety Improvement Program (HSIP) specified as part of the FAST Act. This program uses cost-benefit ratios as a primary factor in the awarding of applications. Because the program focuses on roadway safety, projects with documented collision history – through frequency of collision but particularly collision severity – are typically ranked higher. Roadways with documented bicycle and pedestrian

collision history may be well qualified for HSIP applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
- Bicycle lane striping
- Crosswalk striping
- In-pavement flashers and rectangular rapid flashing beacons (RRFB) at crossings

Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects.

More information is available at http://www.dot.ca.gov/hq/LocalPrograms/hsip.htm.

Other Statewide Funding Programs

Caltrans Sustainable Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies including Safe Routes to Schools, traffic calming and safety measures, complete streets, and improved access for disadvantaged communities. The maximum funding available per project is $1,000,000.

Limited amounts (2%) from the Local Transportation Fund (LTF), which is part of the Transportation Development Act (TDA) and derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities. Article 3 funds for planning and construction of pedestrian and bicycle facilities are administered locally through NCTC.

California State Parks and Caltrans administer the state's Recreational Trails Program (RTP). The RTP provides funds for recreational trails and trails-related projects. The program requires an applicant match of 12 percent of the total project cost.

The National Park Service and California State Parks administer the Land and Water Conservation Fund (LWCF). The LWCF Program provides matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities. Grants require a 50 percent local match.

The Affordable Housing and Sustainable Communities (AHSC) Program is administered by the Strategic Growth Council. AHSC funds can be used for projects which demonstrate VMT reduction through fewer or shorter vehicle trips or mode shift to transit use, bicycling or walking within areas lacking high quality transit, with an emphasis on providing disadvantaged community benefits. The project area must be served by at least one transit stop. More information is available at http://www.hcd.ca.gov/grants-funding/active-funding/ahsc.shtml.

The Office of Traffic Safety provides grants for safety outreach to schools and community groups. More information is available at https://www.ots.ca.gov/grants/.

Local Funding

Local cities have local funds available, often designated specifically for transportation improvements, that can be used for bicycling and pedestrian needs. These include Grass Valley Measure N, Nevada City Measure S, and Truckee Measure V sales tax funds.

Table F-1: Funding Sources

Funding Source	Class I Bicycle Paths	Class II Bicycle Lanes	Class III Bicycle Routes	Class IV Separated Bikeways	Sidewalks and Other Pedestrian Projects	Recreational Trails, Including Earthen Trails	Other Projects	Planning and Programs
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	★	■	■	■	■	□	★	★
Surface Transportation Block Grant Program (STBGP)	■	■	■	■	■	□	■	■
Highway Safety Improvement Program (HSIP) Grants	★	■	★	■	■	□	■	□
Caltrans Transportation Planning Grants	□	□	□	□	□	□	□	■
Local Transportation Fund (LTF)	■	■	■	■	■	□	■	□
California State Parks Recreational Trails Program (RTP)	★	□	□	□	□	■	□	★
Land and Water Conservation Fund (LWCP)	■	□	□	□	□	■	□	□
Active Transportation Program (ATP)	■	■	■	■	■	★	■	★
Affordable Housing and Sustainable Communities Program (AHSC)	★	★	★	★	★	□	★	★
California Office of Traffic Safety Pedestrian and Bicycle Safety Grants	□	□	□	□	□	□	□	■
Grass Valley Measure N, Nevada City Measure S, and Truckee Measure V	■	■	■	■	■	□	□	□
Truckee Measure R	■	□	□	□	□	■	□	□

Notes:
■ indicates that funds may be used for this category;
□ indicates that funds may not be used for this category
★ indicates that funds may be used, though restrictions apply.
Source: Fehr & Peers, 2018

Appendix C

Existing Conditions Supporting Data

Current Zoning

Figure D-2 and Figure D-2 depict current zoning, identifying residential, commercial, and industrial areas.

Existing Trips

Based on data collected through the U.S. Census American Community Survey, approximately 1.1% of Nevada County workers commute to work by bicycling and 2.9% commute to work by walking, as shown in Table D-1. Although these shares are comparable to the statewide average, these estimates may be significantly higher or lower, due to the large margins of error reported by the ACS.

Additionally, these statistics only include workers who walk or ride every day, not those who do so occasionally. Reliable data on non-commute trips, including trips to school, trips for shopping, and recreational trips is not readily available and not included in these estimates. Thus, the total number of biking and walking trips is likely greater than those indicated by Table D-1

Past Expenditures

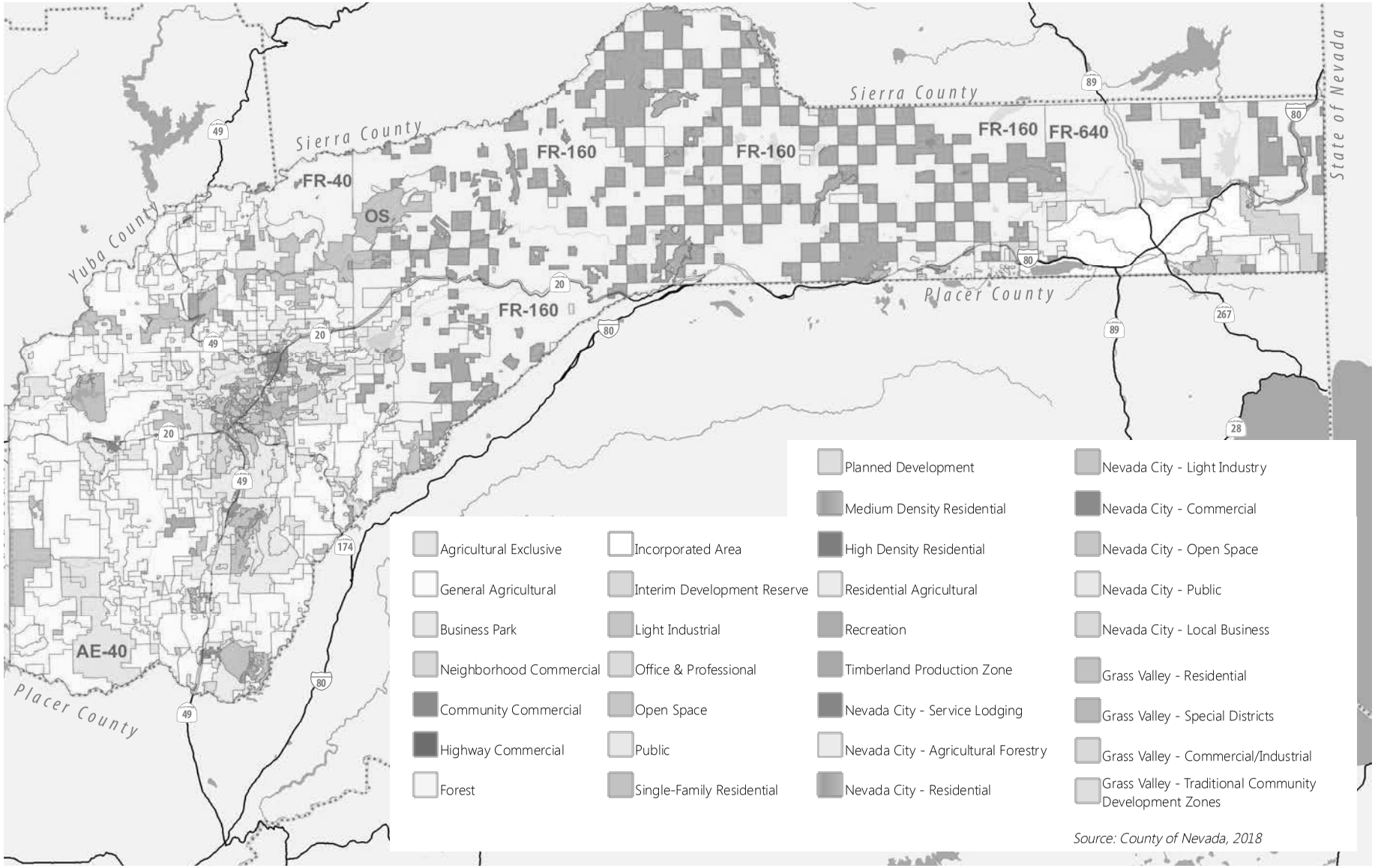
Information on recent expenditures on bicycle and pedestrian facilities in each jurisdiction is provided in Table D-2 through Table D-5.

Table D-1: Commute to Work by Bicycling and Walking

Location	Bicycling[1]			Walking[1]		
	Commuters	Trips	Share[2]	Commuters	Trips	Share[2]
Nevada County	405	810	1.1%	1,037	2,074	2.9%
Grass Valley	54	108	1.3%	455	910	10.7%
Nevada City	96	192	7.8%	63	126	5.1%
Truckee	161	322	2.0%	165	330	2.1%
California	190,130	380,260	1.2%	463,369	926,738	2.8%

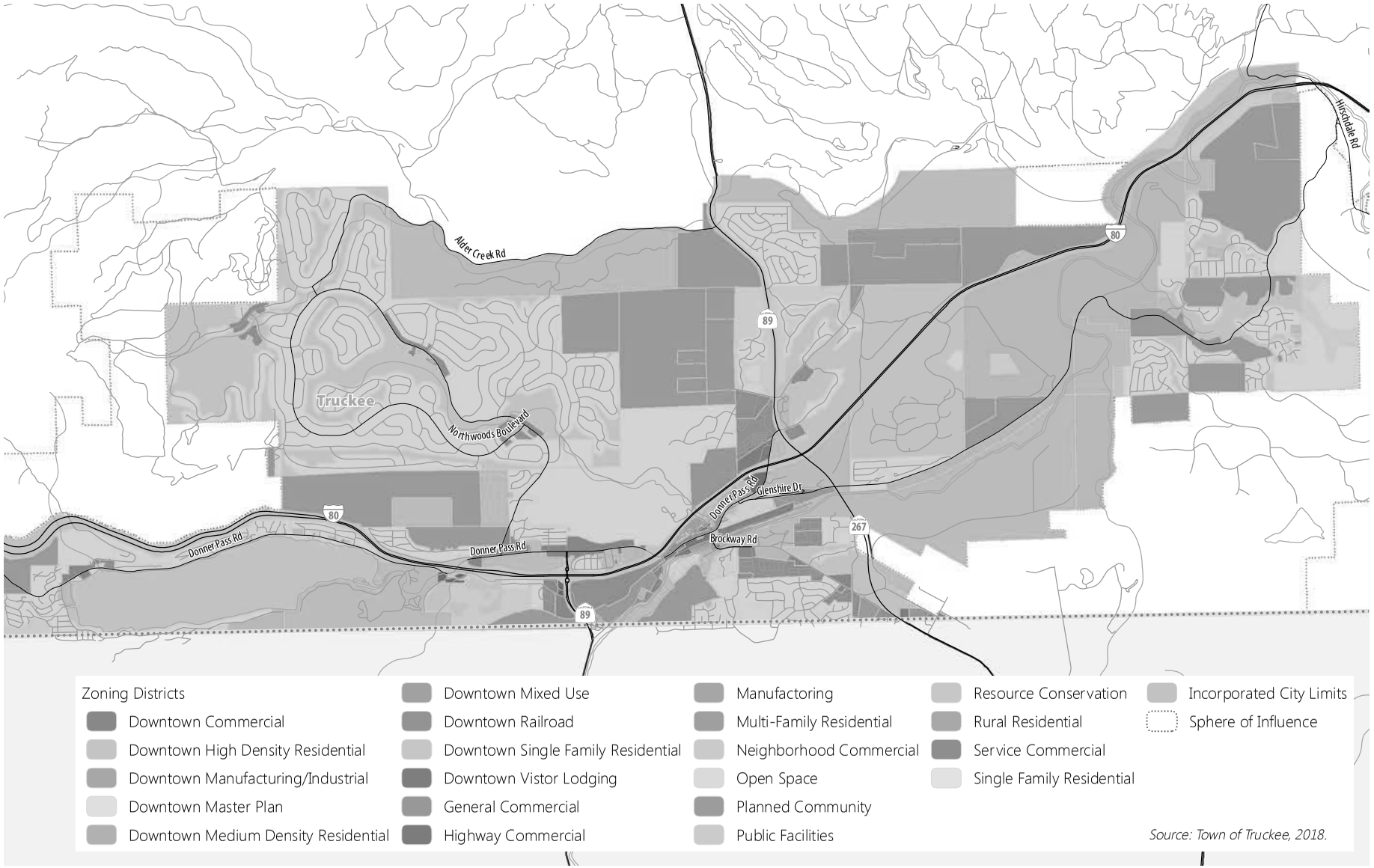
Notes: [1]Numbers and shares are estimates. Actual numbers may be lower or higher.
[2]Excludes employees working at home.
Source: U.S. Census 2012-2016 American Community Survey; Fehr & Peers, 2018

Figure D-1: Current Nevada County Zoning (excluding Truckee)



Source: County of Nevada, 2018

Figure D-2: Current Truckee Zoning



Source: Town of Truckee, 2018.

Table D-2: Grass Valley Bicycle and Pedestrian Improvements, 2013-2018

Project	Year	Cost
Memorial/Condon Parks Accessibility Project – Install missing sidewalk, raised crosswalk and 4 accessible curb ramps	2013	$200,000
Dorsey Drive Interchange – New freeway interchange including 0.5+ miles of new sidewalks and bike lanes, accessible transit stops, 14+ accessible curb ramps, accessible push buttons and bicycle detection loops	2013-2014	$16,700,000
E Main/Hughes Pedestrian Improvements – Pedestrian and bicycle improvements to replace missing sidewalk and install new bike lanes. 9+ accessible ramps and 1+ miles new bike lanes	2013-2014	$200,000
Sutton Way Rehabilitation – Pavement rehabilitation project including 7 accessible curb ramps, and 1.5+ miles of new bike lanes/routes	2014	$400,000
ADA Transition Plan	2015	$25,000
Traffic signal LED upgrades – Install countdown pedestrian timers and accessible push buttons at all signalized crossings	2015	$50,000
Brunswick Rehabilitation - Pavement rehabilitation project including 4 accessible curb ramps, and 1+ miles of new bike lanes/routes	2015-2016	$900,000
Love Building Parking Lot Project – New parking lots with accessible spaces and accessible route to community building	2016	$70,000
W Main St Rehabilitation – Street rehabilitation with new accessible curb ramps and crosswalks. Striping of bike routes/sharrows	2016	$380,000
Race St Sidewalk – Sidewalk replacement where existing wooden walkway had failed	2016	$62,000
N School St Rehabilitation – Pavement rehabilitation project including 2 new accessible curb ramps	2016	$200,000
Love Building Project – Community building rehabilitation including complete accessibility modernizing	2016-2017	$700,000
Brunswick/Nevada City Highway/E Main Rehabilitation – Pavement rehabilitation project including 15+ accessible curb ramps, and 2+ miles of new bike lanes/routes	2017	$1,200,000
E Main/ Murphy Intersection – Intersection improvements to remove stairs and install 3 accessible curb ramps	2017	$200,000
Wolf Creek Stabilization and Trail Project – New gravel trails at accessible grades, 0.5+ miles	2017	$300,000
Annual Sidewalk Accessibility Project – Cost sharing program to assist in sidewalk replacement and miscellaneous sidewalk and curb ramp upgrades	2013-2018	$25,000 annually

Source: City of Grass Valley, 2018

Table D-3: Nevada City Sidewalk and Trail Improvements, 2012-2018

Project	Date completed	Approximate amount
Sidewalk Cost Share – Removal/Replacement	ongoing	300 sf/yr
North Pine Street and Nevada Street – Sidewalk Reconstruction	9/30/2012	4,300 sf
Boulder Street / Cottage Street Sidewalk – Reconstruction	12/18/2013	1,000 sf
Deer Creek Tribute Trail Phase 2 – Construction	2014	2 miles
Nevada City Highway Sidewalk – Construction	8/1/2014	8,600 sf
CDBG/ADA/Curb Cuts Sidewalk Improvements – Rehabilitation	3/8/2015	1,225 sf
Inn Town Campground Trail – Construction	11/15/2015	0.5 mile
Street Improvements on East Broad Street And Main Street - Construction	1/13/2016	3,400 sf
Broad Street and Pine Street Sidewalk Replacement – Rehabilitation	7/6/2016	4,200 sf
York Street Sidewalk Replacement – Rehabilitation	10/31/2016	1,200 sf
Pine Street Cross and Clark Improvements – Rehabilitation	8/7/2017	800 sf
South Pine Street, Coyote Street, and East Broad Street Sidewalk Replacement – Rehabilitation	12/1/2017	1,800 sf
Street Improvements on Adams Street and Nile Street – Construction	ongoing	5,800 sf

Source: City of Nevada City, 2018

Table D-4: Truckee Bicycle and Pedestrian Improvements, 2013-2018

Project	Cost	Type
Truckee River Legacy Trail Phase 3A	$633,332	Class I Bike Path
Truckee River Legacy Trail Phase 3B	$2,629,290	Class I Bike Path
Trout Creek Trail (phase 1)	$1,105,429	Class I Bike Path
Trout Creek Trail (phase 2)	$1,183,523	Class I Bike Path
Brockway Road Trail	$728,992	Class I Bike Path
Mousehole Bicycle and Pedestrian Tunnel under UP Railroad	$11,511,628	Class I Bike Path
Truckee River Legacy Trail Phase 4	$327,769	Class I Bike Path
2016 Seal Coat	$44,380	Class I Bike Path
Glenshire Trailhead	$407,618	Class I Bike Path
Glenshire Drive Bike Lane Project (Phase 1)	$2,875,000	Class II Bike Lanes
Glenshire Drive Bike Lane Project (Phase 2)	$3,400,000	Class II Bike Lanes
Glenshire/Highland Avenue Safety (Includes Bike Lanes)	$1,169,889	Class II Bike Lanes
West River Street Widening & Bike Lane	$2,337,103	Class II Bike Lanes
Brickelltown Streetscape Improvement	$8,899,000	Approximately 75% related to sidewalks and other pedestrian improvements
2016 Paving and Drainage Project	$4,927,000	Approximately 15% related to bike lanes
Brockway Road Corridor Improvement Project	$3,091,000	Includes bike lanes
Glenshire/Dorchester Paving and Widening	$2,999,827	Includes bike lanes
Dorchester Safe Routes to School	$440,358	Sidewalk and crosswalk improvements

Source: Town of Truckee, 2018

Table D-5: Nevada County Bicycle and Pedestrian Improvements, 2013-2018

Project	Year	Cost
Magnolia Road/Sunset Signalized Crosswalk	2013	$45,000
Newtown Road Class II Bike Lanes	2014	$1,370,000
Combie Road Pedestrian Path	2015	$481,824
Nevada City Sidewalk Extension	2017	$713,350
Share the Road signage installed at various places throughout the County	2013-2018	$713,350

Source: Nevada County, 2018

Maintenance Policies

Maintenance policies and procedures for bicycle and pedestrian facilities in each jurisdiction are discussed below.

Nevada County

Nevada County maintenance policies and practices include:

» Pavement maintenance is based on pavement condition index and a five-year pavement management plan.

» Vegetation control and maintenance are conducted as needed annually. Property owners may choose to prohibit spraying; in such cases, the owners are responsible for vegetation maintenances.

» Traffic control devices and lighting are maintained as required.

» Striping is refreshed annually.

Grass Valley

Grass Valley maintenance policies and practices include:

» Sidewalk repair is usually complaint driven. Property owner is sent a letter to repair in a certain amount of time, otherwise City may contract to repair. A cost sharing program is available for the City to assist property owners in sidewalk repairs.

» Pavement surfaces are evaluated for maintenance as part of a pavement management program and as deemed necessary based on public complaints, Streets Department requests, and Engineering evaluation.

» Encroaching vegetation maintenance is usually complaint driven. Property owner is sent a letter to remedy in a certain amount of time, otherwise the City will remove encroachment.

» Maintenance of traffic control devices is conducted as needed. Devices are evaluated for updating if part of pavement rehabilitation project, otherwise routine maintenance is performed by City crews or under the annual street maintenance project.

» Striping is refreshed as needed based on Street Department requests and Engineering evaluation. Typically an annual project is completed and roadway sections are refreshed every 3-5 years based on condition, unless thermoplastic striping allows for longer time between restriping.

» All City street lights were recently retrofitted to LED. Very little annual maintenance is required, but would be complaint driven or as observed. New lighting requests are evaluated for merit by Engineering.

Nevada City

Restriping in Nevada City is conducted annually. In school zones, restriping and sidewalk cleaning is conducted before school starts. Other routine maintenance is conducted on an as-needed basis. The City also has a sidewalk cost-sharing program to assist property owners in the repair of displaced and damaged sidewalks by providing up to 50 percent reimbursement of costs.

Truckee

Truckee maintenance policies and practices include:

» Class II bike lanes and Class III bike routes are maintained on the same schedule as roads. Non-arterial roads are slurry sealed every 3-5 years depending on location, and repaved according to the Town's Pavement Management Plan (arterials 8 years, local roads 20-30 years).

» The Town maintains infrastructure as required in the Town right of way, such as signs, flashing beacons, roundabouts, and median islands. Caltrans maintains most of the signals.

» Road striping is performed every spring, recessed thermoplastic approximately every three years.

» Street lighting is provided at some crosswalks and arterial/arterial intersections, or where required to maintain the design speed sight distance on roadways. Lighting is full cut-off and night sky compliant.

» Class I trails have a separate maintenance programs. Maintenance includes monthly sweeping May-September, snow removal after storms, annual vegetation maintenance, patching as necessary, with full sealant every five years and overlay every 25 years, and drainage maintenance annually or as necessary.

Non-Infrastructure Programs

In addition to infrastructure, supporting programs are important to increasing biking and walking and to improving safety for pedestrians and bicyclists. These efforts can be summarized by the following categories:

» Education – programs to teach safe walking and bicycling, such as safety rodeos or bike street skills classes.

» Encouragement – programs and events to increase participation in walking and bicycling. Examples include community walks and bike rides and walk and bike to school days.

» Enforcement – efforts by law enforcement to ensure laws relating to pedestrians and bicyclists are enforced. These efforts may be directed at motorists as well as pedestrians and bicyclists, for example, monitoring drivers yielding to pedestrians in crosswalks.

» Evaluation – review of data related to pedestrians and bicyclists. Collision data and bicycle, pedestrian, or trail counts are examples.

Non-infrastructure programs are summarized below:

Nevada County

The Nevada County Sheriff's Office has sponsored and participated in the Keeping Kids Safe Carnival, which has included a bike rodeo and helmet fitting and giveaway. The Sheriff's Office has also supported the Rotary Club of Grass Valley Gold Country Challenge, a century ride which travels through the cities and rural areas of western Nevada County.

Schools in Nevada County also support various activities supporting walking and biking. Nevada Union High School holds an annual walkathon as a fundraiser for athletic programs. Nevada Union High School also has a mountain biking team.

Youth Bicyclists of Nevada County sponsor many activities, including "Take a Kid Mountain Biking" events at local middle schools, a local mountain biking racing series, and school bike clubs to encourage bicycling on and off road.

The Gold Country Grand Prix is a series of ten 5K/10K running races at different locations around Western Nevada County

Grass Valley

The Grass Valley Police Department regularly sponsors and participates in events and programs encouraging safe walking and bicycling. They have also regularly participated in the Keeping Kids Safe Carnival and Day of the Young Child, with a bike rodeo and helmet giveaway and fitting. The department has also held a bike rodeo at the Nevada County Fairgrounds in conjunction with the Roamin' Angels Car Show. In the past, small scale outreach has been conducted at local apartment complexes.

When police officers observe kids riding bicycles without helmets, the officers will arrange for pick up of donated helmets. The police have also donated unclaimed bicycles to the Seven Hills Middle School Bicycle Recycle Project, which repairs the bikes and makes them available for donation to families.

Grass Valley elementary and middle schools have frequently held bike rodeos to encourage biking. They also sponsor an annual Donation Day parade, and teachers walk students to events and performances in town. The middle school has a bike club. At the beginning of the school year, police will provide extra presence to ensure vehicles are operating safely around kids walking and bicycling to school.

Nevada City

The Nevada City Police Department has participated in a number of events to promote safe biking and walking. The police department participates in National Night Out, held in August, where it promotes general safety practices, including for bicyclists and pedestrians. They have regularly participated in the annual Keeping Kids Safe Carnival, giving away bike helmets, and conducted outreach and education to second grade students. Nevada City schools have held walk and bike to school days, and the police department has increased attention on vehicle enforcement on those days. Additionally, the police department focuses on areas of pedestrian safety concerns, such as vehicles yielding to pedestrians in crosswalks on Zion Street.

Seven Hills Middle School hosts the Bicycle Recycle Project. In this award-winning program, students repair donated bikes, learning hands-on skills while making repaired bicycles ready for donation to the community. Seven Hills Middle School students can also participate in the Trail Raiders Bicycle Club, where they learn to ride safe biking and bike repair skills.

The elementary schools also have hosted Bike Blasts, a bike rodeo with water bottle giveaways. The schools have also held a 5K/10K running fundraiser. Teachers regularly walk their students from school to events in town.

Nevada City also hosts the annual Nevada City Bicycle Classic bike race, which has been held since 1961 and is the second oldest continuously running bicycle race in the country. The event includes a kid's bike parade, and other bike-related events are often held the same weekend.

Truckee

The Town of Truckee Police Department has previously implemented bike education programs at public events, most recently in 2015. These events included giveaways for helmet and bike lights, as well as providing safety education. For some events, police patrols are conducted on bicycles.

The Town has also included bike and pedestrian education programs at schools. These programs have included presentations to physical eduction classes mostly focused on pedestrians, handouts of activity books, lights, and stickers.

Truckee Bike Park holds events for biking for all ages, such The Little Big Bike Festival. Northstar at Tahoe and Tahoe Donner have kids camps, clinics, and other bike events.

Events are held throughout Truckee and the region for walking, running, and biking. These events include AMGEN bicycle race, Tough Mudder race, Sagan Fondo cycling event, Donner Lake Triathlon, Big Blue Adventure races, Turkey Trot race, Firecracker Mile race, and more.

Town staff worked with Truckee Trails Foundation to develop trail etiquette education material and maps. This information can be found on the Town of Truckee Website and Truckee Trails website. The Tahoe Donner Homeowners Association website also contains maps and trail information for the Tahoe Donner neighborhood trail network.

The Town has four trail counters that are on the trails at all times and are moved to different areas of the Class I trail system as needed. Staff also conducts surveys from trail users, and has recently installed new trail signs for picking up trash and pet waste. The Town also hands out pet waste bags at events throughout the summer (in support of the storm water program). Some trail and sidewalk design and construction projects include pedestrian counts and simulations.

Appendix D
Public Participation

Obtaining input from the residents of Nevada County was an important part of the ATP development process. The public helped identify recommended improvements to the bicycling and walking facilities as well as priorities for projects. Many opportunities were provided for public input to the ATP.

Outreach at Local Farmers Markets

Three outreach events were held early in the project at local farmers markets and street fairs.

» Truckee Thursdays, June 14, 2018, 97 booth visitors

» Grass Valley Thursday Night Market, June 28, 2018, 30 booth visitors

» Nevada City Farmers Market, June 30, 2018, 35 booth visitors

Posters with public inputs from these meetings are presented in the following pages.

Online Crowdsourced Interactive Map

An online crowdsourced interactive map was made available to the public prior to development of the draft bicycle and pedestrian networks. The public could use the map to recommend improvements and vote for improvements recommended by others. A total of 133 comments were received and reviewed in development of the draft networks and plan. A screen shot of the mapped comments is shown in the following pages.

Project Web Page

NCTC hosted a web page dedicated to development of the ATP. This page included general information about the project, the project schedule, information about public meetings, and links to project documents.

Local Workshops to Review Draft Networks

After the project team created draft project networks, workshops were held in Truckee and Grass Valley to receive public input on the proposed networks.

» Truckee Town Hall, October 17, 2018, 5 attendees

» Grass Valley City Hall, October 18, 2018, 8 attendees

Posters with public inputs from these meetings are presented in the following pages.

Figure C-1: Truckee Thursdays, June 14, 2018

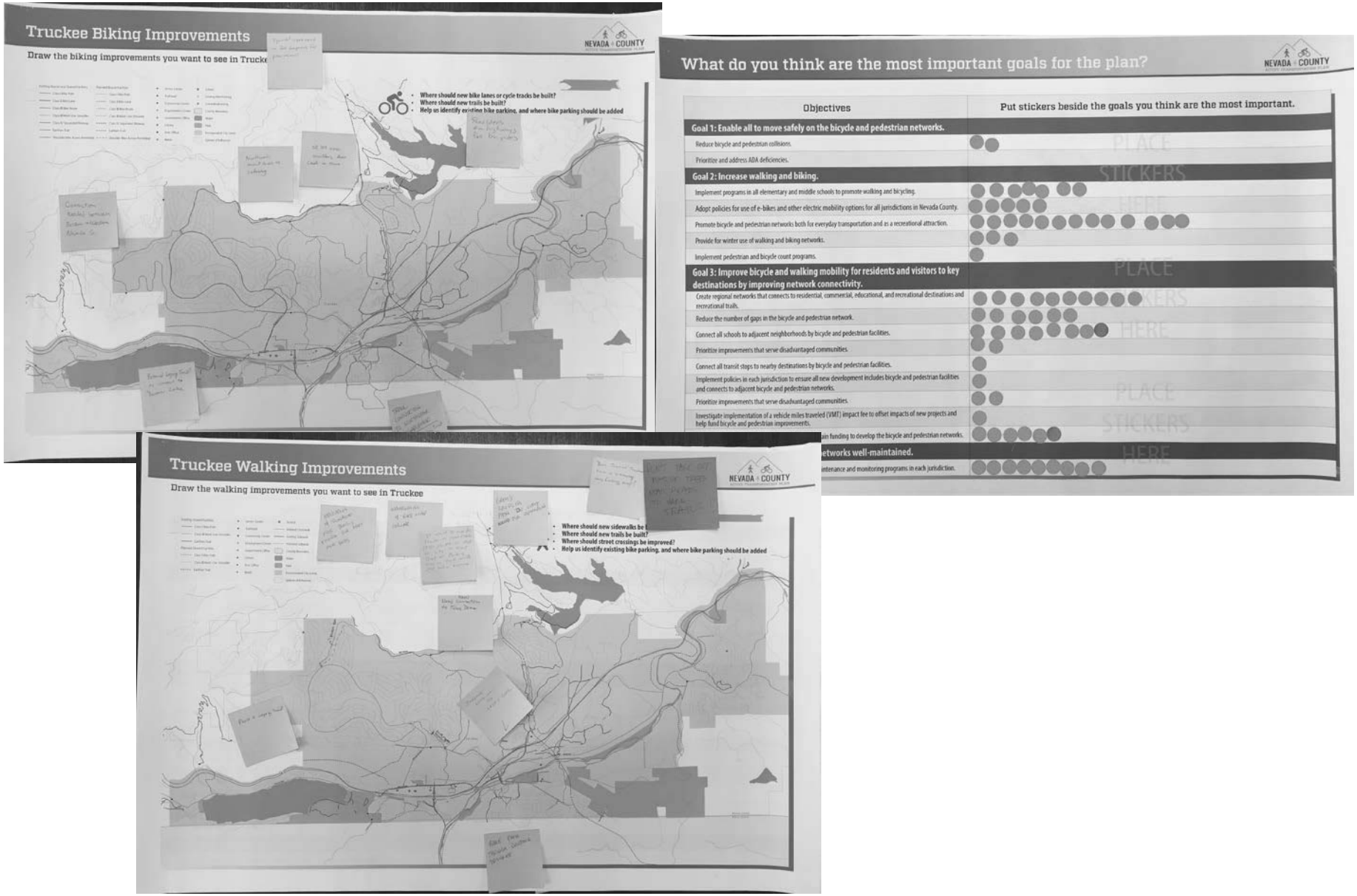
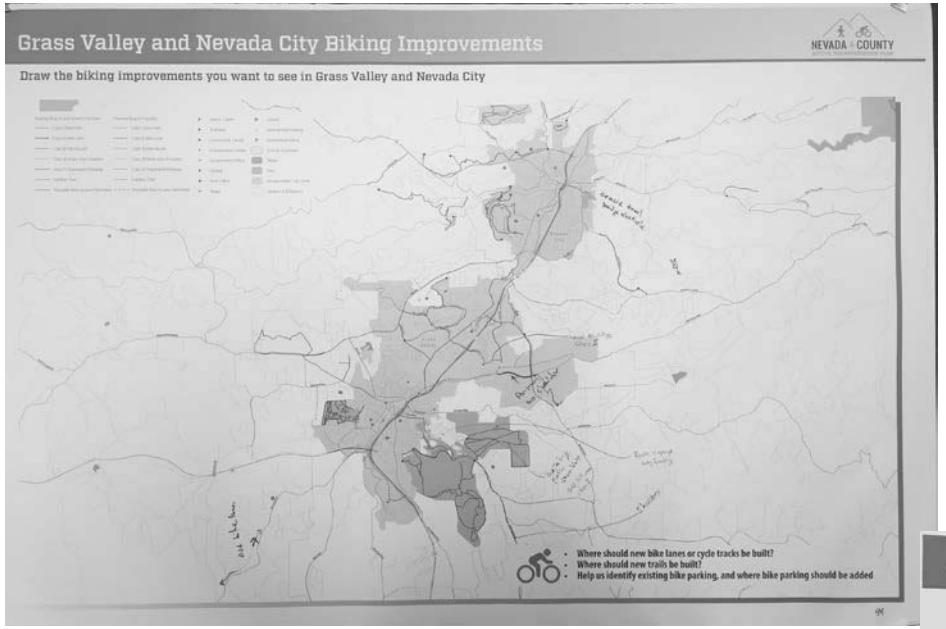


Figure C-2: Grass Valley Thursday Night Market, June 28, 2018



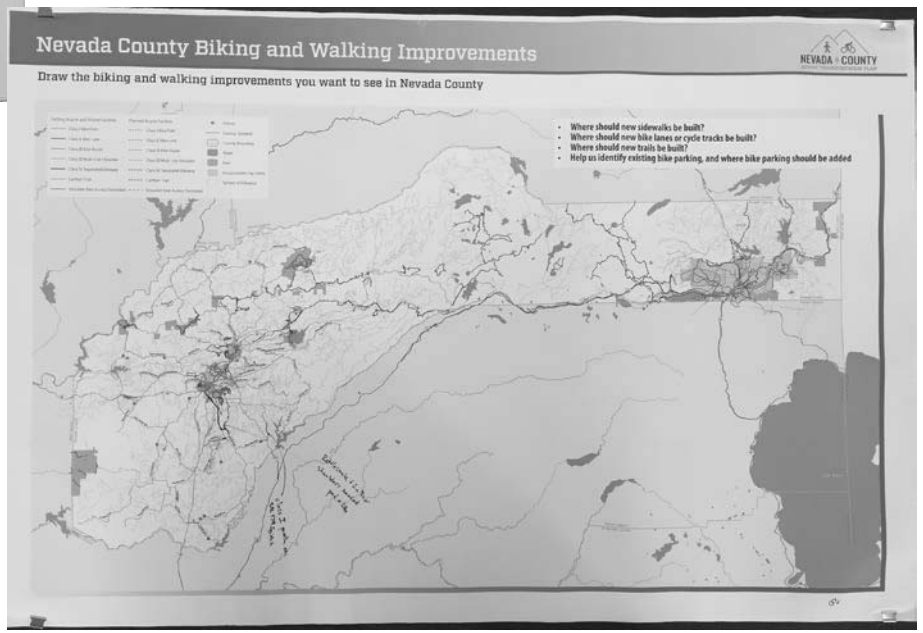


Figure C-3: Grass Valley Thursday Night Market, June 28, 2018

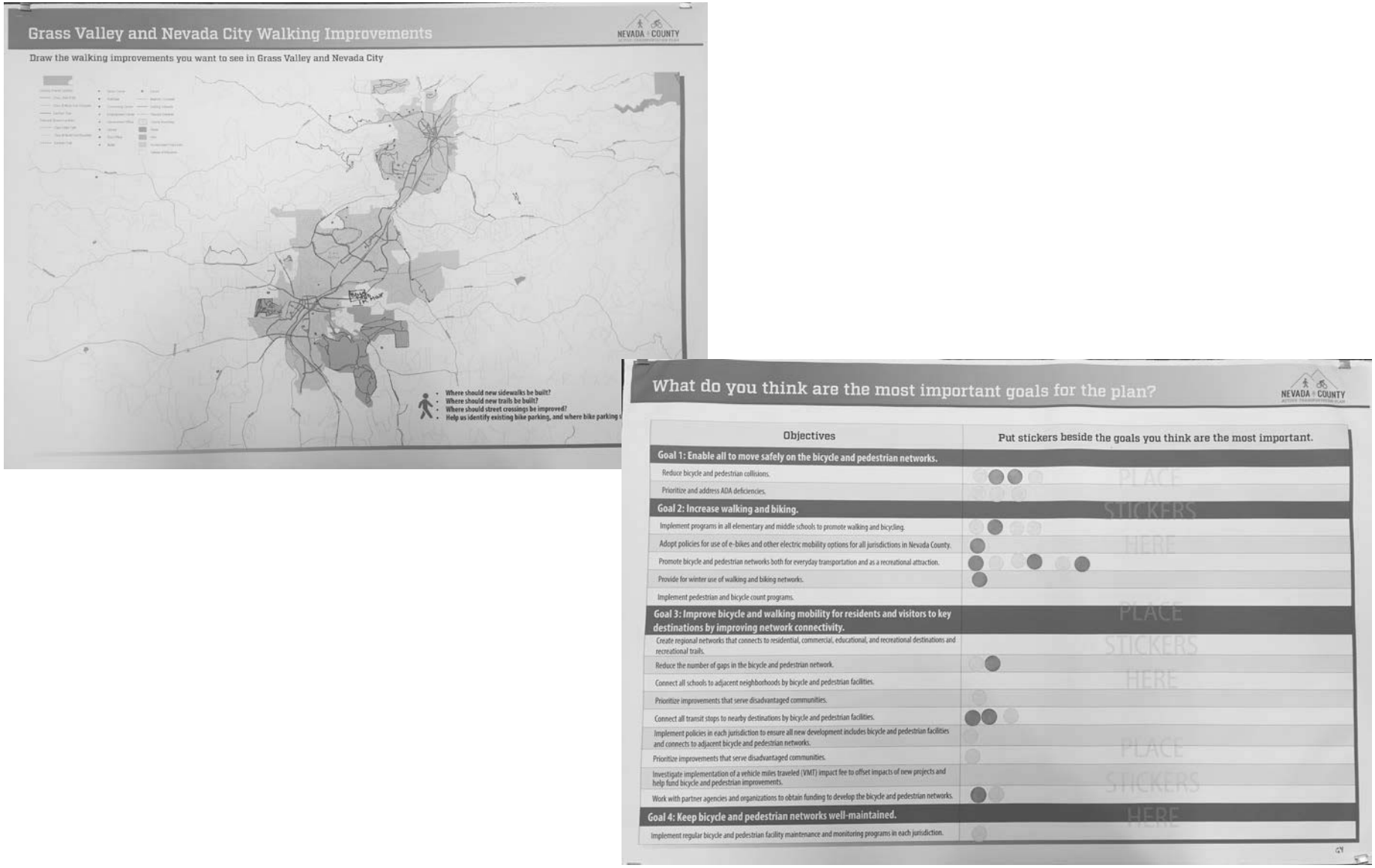


Figure C-4: Nevada City Farmers Market, June 30, 2018

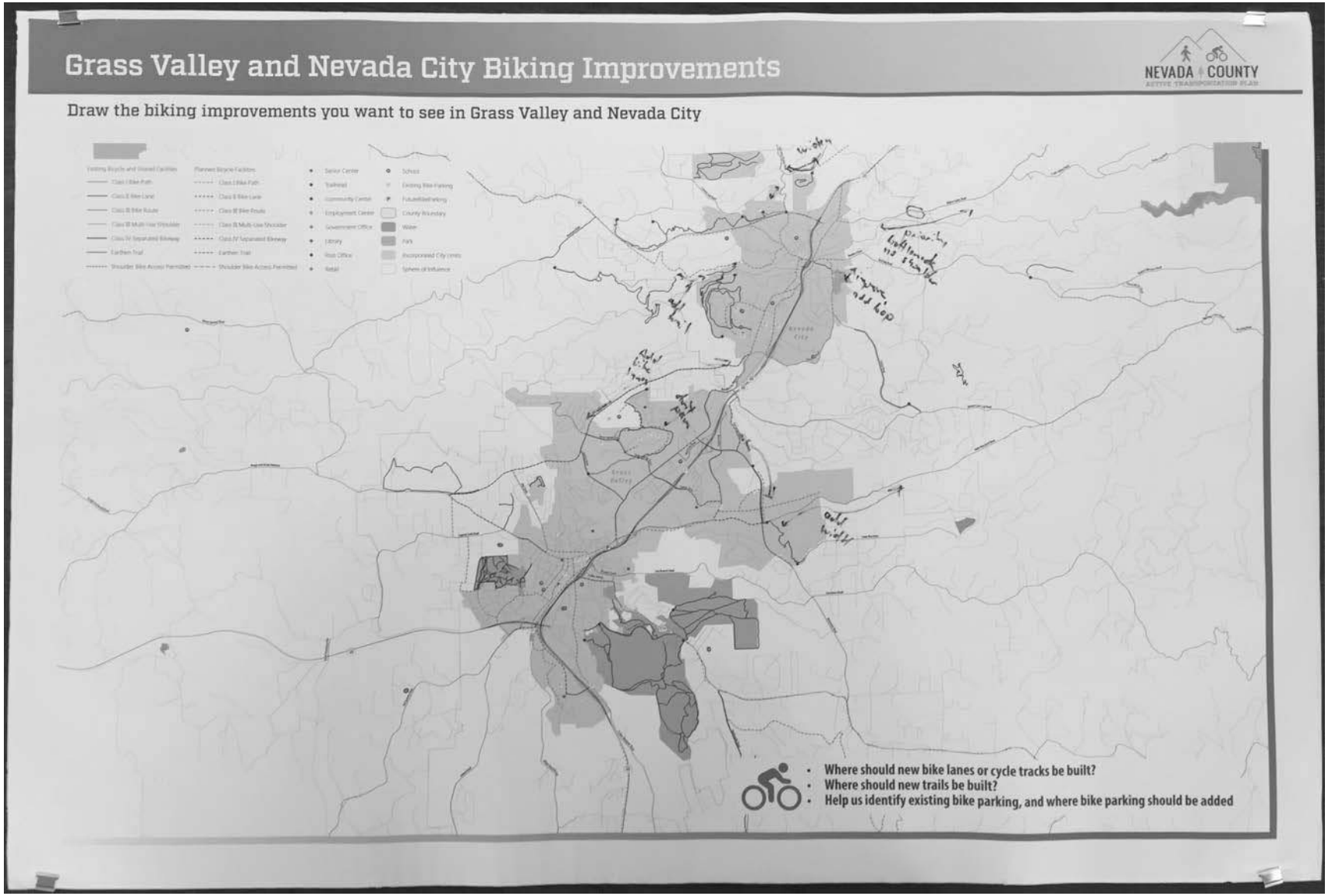


Figure C-5: Nevada City Farmers Market, June 30, 2018

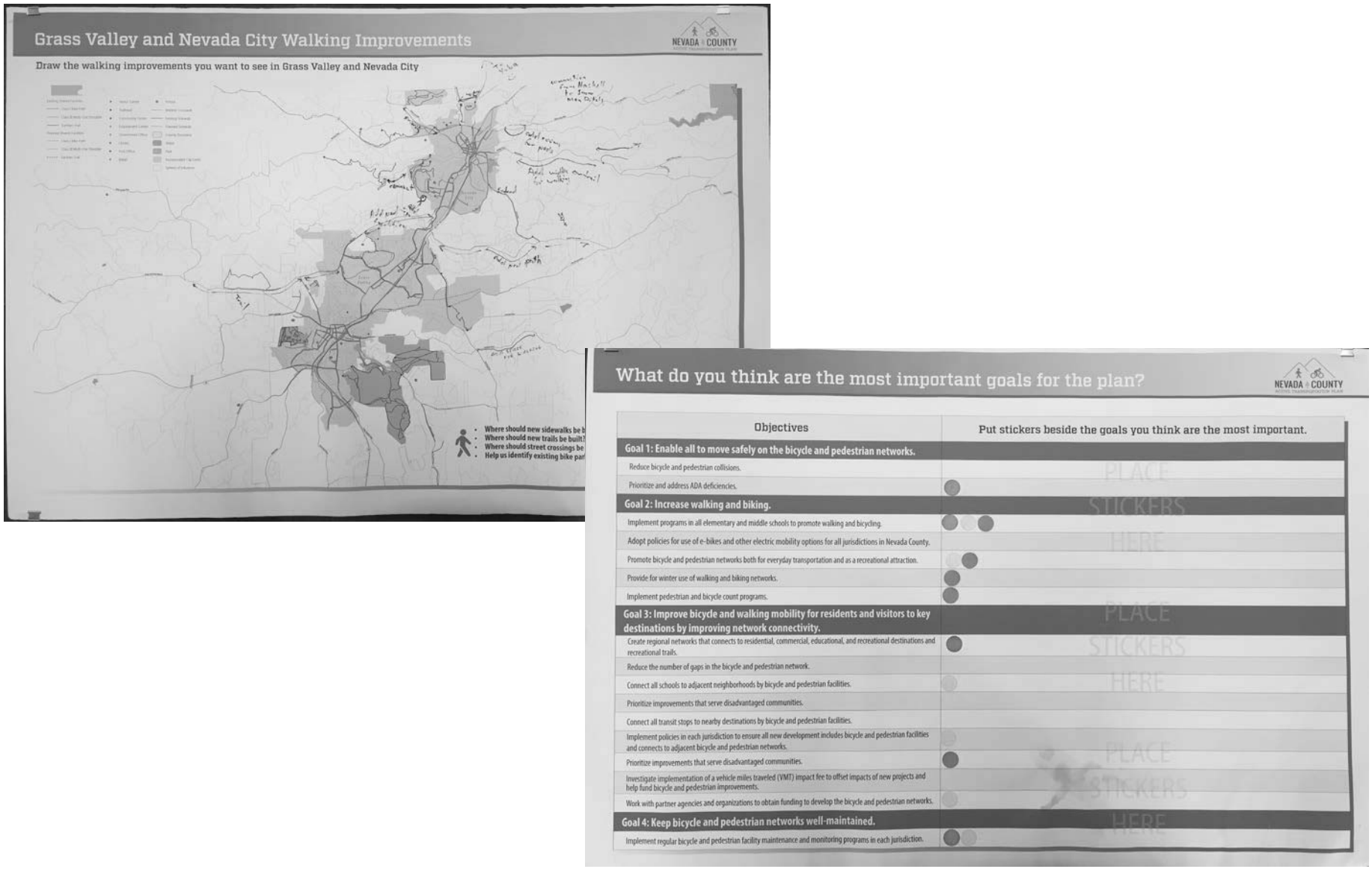
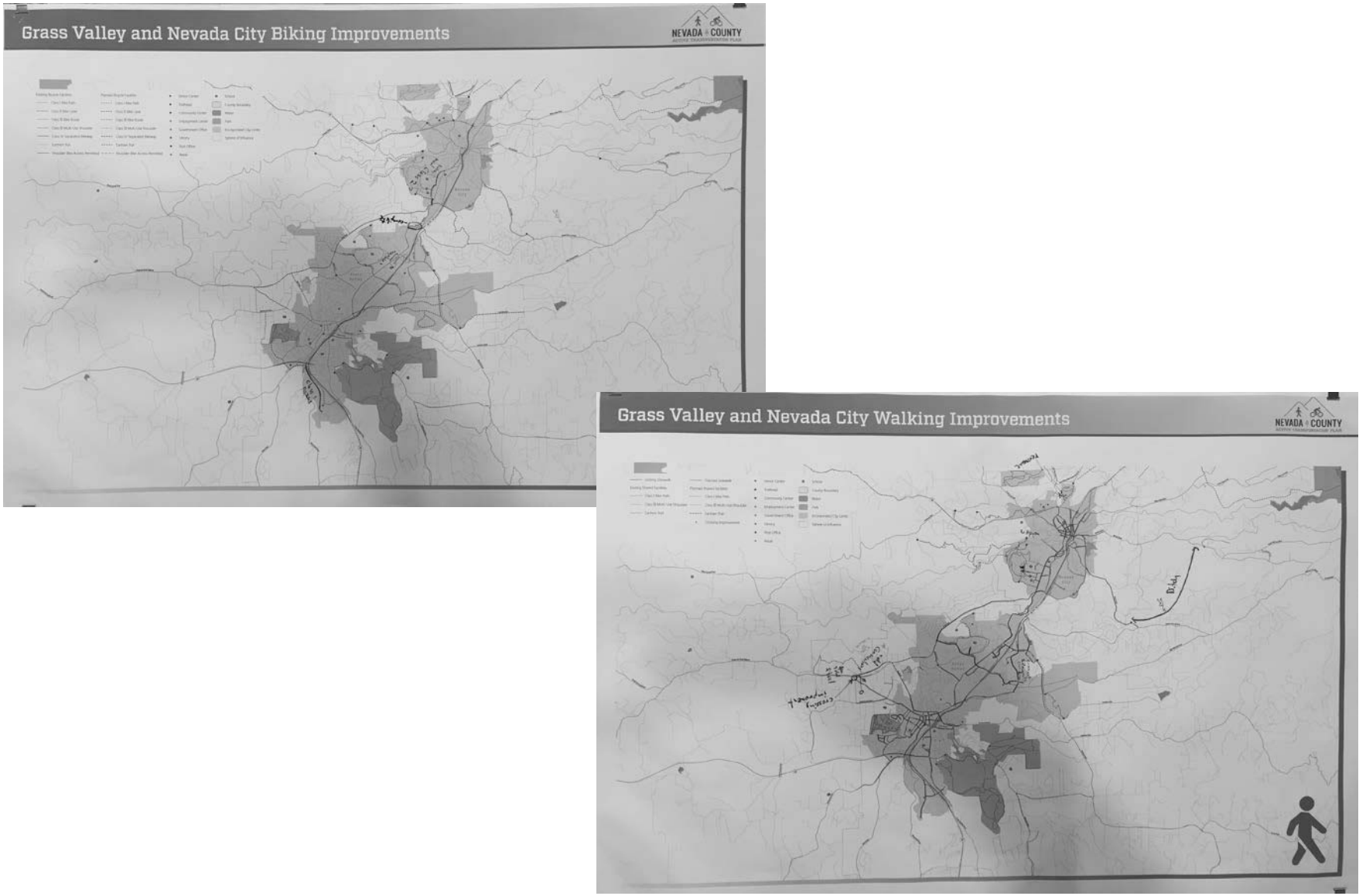


Figure C-6: Online Crowdsourced Interactive Map

Figure C-7: Project Web Page

Figure C-8: Workshop at Truckee Town Hall, October 17, 2018

Figure C-9: Workshop at Grass Valley City Hall, October 18, 2018



Appendix E
Other Plans and Policies

Many local, regional, state, and federal plans and other documents were reviewed in development of this ATP. These plans and documents contain goals and policies as well as specific requirements related to active transportation.

Local Jurisdictions

Each jurisdiction has its own policies and requirements related to bicycling and walking. The documents containing these policies and requirements include

- existing bicycle and pedestrian plans,
- general plans,
- standard drawings,
- municipal codes, and
- specific plans and other plans.

City of Grass Valley

Grass Valley General Plan (1999)

Circulation Goals and Objectives

1-CG: Provide a circulation system that utilizes a variety of transportation modes, including alternative means of transportation.

1-CO: Development of a viable pedestrian and bicycle transportation network (sidewalks, paths, lanes and trails) providing alternatives to motorized vehicular transportation.

3-CO: Inclusion of alternative transportation in local and regional transportation plans, as appropriate.

2-CG: Ensure that street and roadway improvements complement and support land use goals, objectives, policies and plans.

5-CO: Convenient, safe and functional facilities for pedestrians, bicyclists and equestrians.

3-CG: Provide for the safe and efficient movement of people and goods in a manner that respects existing neighborhoods and the natural environment.

11-CO: Development and implementation of a comprehensive traffic safety program, including improvement of facilities serving pedestrian needs.

Circulation Policies

1-CP: Coordinate bikeway and trail system planning with Nevada County, linking the city network with similar facilities in unincorporated areas.

2-CP: Plan for multi-purpose transportation/recreation bicycle and pedestrian facilities to optimize facility usage and enhance potential funding.

8-CP: Incorporate separated, non-motorized paths in street cross-section designs whenever feasible.

12-CP: Adhere to high safety standards where pedestrians and bicyclists are exposed to motorized vehicles.

13-CP: Assure the continuity of sidewalks by instituting a city-wide sidewalk planning/construction programs.

Recreation Policies

5-RP: Formalize and enhance walking trails in existing City parks.

6-RP: Provide non-motorized linkages between parks and open spaces.

7-RP: Include a map in the General Plan designating a trails network for the Planning Area.

Community Design Goals and Objectives

1-CDG: Preserve and enhance the existing community

5-CDO: Improvement of automobile circulation and/or circulation for pedestrians and bicycles.

Community Design Policies

4-CDP: Provide connections for automobiles, bicycles and/or pedestrians between neighborhoods and commercial districts when neighborhood safety and character are not compromised.

11-CDP: Provide connections for automobiles, bicycles and or pedestrians in new development wherever needed to facilitate convenient access and connections with the larger community.

13-CDP: Revise City street standards to minimize paved surface area, encourage slower vehicle speeds and enhance pedestrian access and safety.

15-CDP: Provide internal pedestrian and bicycle connections and connections to the broader planning area in all major new development.

16-CDP: Provide a mix of uses within walking distance in all major new development to promote pedestrian access and to provide definition of the area as a place.

Grass Valley Municipal Code

Chapter 10.26 – Bicycles: Discusses bicycle licensing requirements

Chapter 10.28 – Pedestrians: Requires city engineer to establish marked crosswalks and pedestrians to use marked crosswalks in business districts. Also requires pedestrians to obey pedestrian signals.

Section 12.16.020 - Bicycles on sidewalks prohibited

Grass Valley Design Standards

Section 6-6 – Sidewalk Requirements: Provides standards for construction of sidewalks. Minimum required width is five feet.

Section 6-7 – Pedestrian Walks and Bike Paths: Provides standards for these facilities. Minimum sidewalk width is five feet and minimum bikeway width is ten feet.

Section 12 – Bikeways: Provides additional standards for construction of transportation and recreational bikeways.

Loma Rica Ranch Specific Plan (2011)

Loma Rica Ranch is a planned community east of Grass Valley. The approved specific plan includes an extensive network of trails, sidewalks, and bicycle facilities.

Whispering Pines Corporate Community Specific Plan (1984)

Whispering Pines Corporate Community Specific Plan includes ten-foot bike lanes along Whispering Pines Lane and other interior roads and an area reserved for the Wolf Creek Parkway. Five-foot sidewalks, "where required," are also included on all road sections. City Street development standards are referenced.

Construction Standards

Standard Drawing ST-3 shows the required cross section for both rolled and vertical curb and gutter. In both cases the minimum sidewalk width is five feet.

Standard Drawings ST-4, ST-5, and ST-6 show the required details for different cases of curb ramps. Each case requires truncated domes and slopes that are compliant with ADA requirements. No details are provided as to the provision of directional curb ramps.

Standard Drawing ST-12 shows the required details for a shared use path. The required width is ten feet.

Standard Drawings ST-14 and ST-15 show the required details for various minor residential streets. The minimum required sidewalk width is five feet. Sidewalks can either be attached or detached from the curb.

Standard Drawing ST-16 shows the required details for a primary residential street. The minimum required sidewalk width is five feet. Sidewalks can either be attached or detached from the curb.

Standard Drawing ST-17 shows the required details for a collector street. The minimum required sidewalk width is five feet. Sidewalks can either be attached or detached from the curb.

Standard Drawing ST-18 shows the required details for a modified collector street (1). The minimum required sidewalk width is five feet. Sidewalks are detached from the curb with a landscaped buffer four feet wide.

Standard Drawing ST-19 shows the required details for a modified collector street (2). The minimum required sidewalk width on one side is five feet; that sidewalk is attached to the curb. The other side of the roadway has a path detached from the curb that is ten feet wide. The minimum required bike lane width is five feet if adjacent to parking or six feet if adjacent to the curb.

Standard Drawing ST-20 shows the required details for a collector street with parking. The minimum required sidewalk width is five feet. Sidewalks can either be attached or detached from the curb. The minimum required bike lane width is four feet.

Standard Drawing ST-21 shows the required details for an arterial street. The minimum required sidewalk width is five feet. Sidewalks can either be attached or detached from the curb.

Standard Drawing ST-25 shows the required details for a residential raised intersection. The intersection includes a stamped asphalt section. Angled curb ramps provide access to the crosswalks.

Grass Valley ADA Title II Self-Evaluation & Transition Plan (2015)

The Grass Valley ADA Transition Plan contains an inventory of non-compliant ADA facilities throughout the City, including missing or non-compliant curb ramps and traffic signals with non-compliant pedestrian signal heads or push buttons.

City of Grass Valley Parks & Recreation Master Plan Update (2004)

To assist in maintaining Grass Valley's livability, the Parks and Recreation Commission and the City created the first Grass Valley Parks and Recreation Master Plan. The plan describes how the City will provide parks and recreation opportunities to residents on a 20-year timeline. The plan identifies bicycle-related goals, policies and proposals from the City of Grass Valley 2020 General Plan.

Wolf Creek Parkway Master Plan (2006)

The Wolf Creek Parkway Alignment Study and Conceptual Master Plan establishes potential routing for a multi-use non-motorized trail along the Wolf Creek Corridor, provides guidelines for design development, and outlines alternative strategies for implementation.

City of Nevada City

Nevada City General Plan (1980)

Land Use and Economic Development Element:

States that the Railroad Avenue District should protect a pedestrian trail easement along the old Narrow Gauge Railway right-of-way. Development in this area should strive to allow the roadway, railroad, and pedestrian/bike paths to exist in harmony.

Circulation Element

One policy is to "encourage the construction of pedestrian and bicycle pathways where appropriate, to provide safe alternatives to vehicular travel."

City Resources Element

This element notes that additional future recreational opportunities include the possibility of extending pedestrian trail links along Deer Creek and Little Deer Creek through the city. Identified locations include the Old Seven Hills property, the Rough and Ready Ditch easement, and the flume at Pine Street Bridge.

One policy is to "develop and implement a program to secure special easements to protect streamside zones as potential open space or pedestrian/bike trails, wildlife habitat, and permanent open space."

Nevada City Municipal Code

Section 16.04.650 - Pedestrian walkways: Improved pedestrian ways not less than ten feet in width may be required where needed for traffic safety, or for access to schools, playgrounds, shopping facilities or other community facilities.

16.04.660 - Hiking, bicycle and equestrian trails: Suitable trails and paths for hiking, bicycle and equestrian use shall be provided in locations established by the general plan or any specific plan pertaining to such uses.

Section 17.30.090: Requires one bicycle parking space per unit of high density residential development.

Town of Truckee

Truckee Trails & Bikeways Master Plan (2015)

The Truckee Trails & Bikeways Master Plan includes an inventory of existing bikeways, trails, and walkways and a plan for future bikeways, trails, and walkways in the Town. This plan was a starting point for development of this Active Transportation Plan.

Town of Truckee 2025 General Plan (2006)

The Town of Truckee 2025 General Plan provides direction on how Truckee might best fulfill its community vision and how the Town wishes to develop in the future.

Land Use Element

Policy DSA-P4: Increase opportunities for pedestrian circulation, including improved access across the railroad tracks, and improved access between parking areas and businesses.

Policy P6.3: Improve the quality and character of development along Donner Pass Road in the Gateway Area, including improvements that encourage a pedestrian-oriented environment and that facilitate walking and bicycle use.

Community Character Element

Policy P6.9: Provide open spaces and gathering areas in Downtown to encourage public activities. Provide an integrated pedestrian and bicycle network that links these open spaces and other destination points within Downtown.

Policy P6.10: Create pedestrian and bicycle connections in the Downtown that encourage people to walk between different activity centers such as Commercial Row, Jibboom Street, Brickeltown, West River Street and the new Railyard area.

Policy P6.11: Enhance pedestrian and bicycle connections between the Downtown and to adjacent neighborhoods, the Hilltop area, and the Cemetery area, and enhance the important physical and visual connection to the Truckee River.

Policy P8.4: Improve the pedestrian- and bicycle-friendliness of the corridor through sidewalk and streetscape improvement that address issues such as sidewalk continuity, paving materials and signage, links between adjoining properties, and connections to the town's network of trails and bikeways.

Policy P8.9: Utilize needed street and intersection improvements as an opportunity to incorporate streetscape enhancements and improvements for pedestrians and cyclists, as well as automobiles. Roadway improvements shall be implemented with consideration of the need to balance the need for efficient traffic movement with other broad goals for the corridor.

Policy P9.4: Enhance pedestrian connections from nearby residential areas to local shopping centers so as to enhance the mixed use quality of Truckee's commercial centers and their surrounding residential areas; reduce the need to drive to access daily needed goods and services; and provide safe and convenient pedestrian connections.

Policy P10.4: Improve pedestrian connections and ensure that facilities such as bike racks are provided at all neighborhood centers.

Circulation Element

Goal 9: Reduce vehicle trips as a means to minimize demands on the existing roadway system, reduce the future need for new or expanded road facilities, and reduce energy consumption and air pollution.

Policy P9.1: Promote the use of transportation control measures (TCMs) that divert automobile trips to transit, walking, and bicycling.

Goal 10: Provide a safe, comprehensive, and integrated system of facilities for pedestrians and cyclists and other non-motorized modes of transportation.

Policy P10.2: Implement the network of trails and bikeways described in the Trails and Bikeways Master Plan, with priority given to establishment of a trail from Donner Lake along Donner Creek and the Truckee River to the eastern Town limit. This cross-town trail would serve as the main "artery" of the Town's trail network, with other trails connecting to it along its length, and would provide a critical link to major regional trails including a trail to the west that connects to Donner Summit and the Pacific Crest Trail, and to the east to trails that follow the Truckee River to Nevada.

Policy P10.3: Identify and implement new pedestrian facilities beyond those identified in the Trails and Bikeways Master Plan and Downtown Streetscape Plan. These facilities may include, but not be limited to, pedestrian facilities along Donner Pass Road between Cold Stream Road and South Shore Drive, along Highway 89 South, and along West River Street.

Policy P10.4: Ensure that streetscape and urban design plans for the Gateway corridor and Brockway Road include pedestrian connections to the Downtown's pedestrian network.

Policy P10.5: Link new trails and bikeways with other bikeways, parks and open space areas to provide safe and continuous routes.

Policy P10.6: Use road and intersection improvements as an opportunity to improve bicycle and pedestrian facilities.

Policy P10.7: Encourage the provision of bicycle routes along State

highways, especially a bicycle/pedestrian facility along State Route 89 under the Union Pacific tracks, in association with safety improvements at the Mousehole.

Policy P10.8: Pursue all available sources of funding for the development and improvement of trails for non-motorized transportation (bikeways, and pedestrian and equestrian trails).

Policy P10.9: Promote non-motorized travel (bicycle, pedestrian, and equestrian) through appropriate facilities, programs, and information, including through the school system and local media.

Policy P10.10: Require major development projects to include pedestrian facilities and bikeways.

Policy P10.11: Enforce pedestrian and bicycle access standards for all new development and require developers to finance and install pedestrian walkways, equestrian trails and multi-use trails in new development, as appropriate and necessary to address circulation needs. Consider and work towards a mean by which the requirements of the Trails and Bikeways Master Plan can be met by affordable housing projects.

Policy P10.12: Provide facilities that separate bicycle and pedestrian traffic from vehicular traffic whenever it is feasible to do so.

Conservation and Open Space Element

Goal 9: Link open space areas in Truckee through a well-connected network of open space corridors and earthen trails.

Policy P9.1: Provide for links between open space areas, both within Truckee and beyond the Town limits, to create contiguous habitat areas and enhance public access through greater connectivity.

Policy P9.2: Support the development and construction of a town-wide system of trails and bikeways, including, as priorities, the development of the Donner Lake/Truckee River parkway (see Goal COS-10), and the establishment of trails linking the Downtown with the Gateway Area and surrounding developed areas.

Policy P9.3: Require new development to incorporate trail corridors identified in the Trails and Bikeways Master Plan into the overall project site plan.

Policy P9.4: Preserve existing open space corridors, and connections to adjacent open space areas, and integrate publicly accessible trails and open space corridors into new development to the extent feasible.

Goal 10 – Create a greenway or parkway that extends from Donner Lake, along Donner Creek and the Truckee River, to the eastern Town Limit.

Policy P10.1: Actively support the construction of a parkway or similar linear open space connection from Donner Lake, along Donner Creek and the Truckee River to the eastern Town limit.

Downtown Specific Plan (1997)

The Town of Truckee Downtown Specific Plan was adopted by the Truckee Town Council in November 1997 to implement the Town of Truckee General Plan within the boundaries of the Downtown Study Area. The circulation elements of the Downtown Specific Plan include several infrastructure and program guiding policies for pedestrians and bicyclists:

» Two pedestrian/bicycle crossings of the Union Pacific Railroad:

  - Between Donner Pass Road and West River Street at Spring Street
  - Between the Railyard Master Plan Area and East River Street approximately 1,800 feet east of Bridge Street

» New pedestrian/bicycle bridge crossings over the Truckee River

» Develop and implement a snow removal plan for important sidewalks

» Link the Truckee River Regional Park to the Hilltop Master Plan Area with a trail

Since the adoption of the Downtown Specific Plan, several subsequent plans have been developed to address sub-areas of the Downtown Specific Plan.

Hilltop Master Plan and Design Guidelines (2008)

The Hilltop Master Plan Area is a planning sub-area of the Downtown Specific Plan generally located south of Brockway Road and west of Palisades Drive. The Hilltop Master Plan and Design Guidelines were adopted in August 2008 and provide policies and implementation measures to guide future development of the area.

The Hilltop Master Plan and Design Guidelines includes multiple provisions for bicyclists and pedestrians, including the proposed Legacy Trail on the south side of Brockway Road, a shared use path on the south and west sides of Palisades Drive, and earthen trails in the southwest portion of the plan area.

Truckee Railyard Master Plan (2009)

The Railyard Master Plan Area is a planning sub-area of the Downtown Specific Plan generally bounded by Bridge Street to the west, East River Street to the south, and Glenshire Drive to the north. The Truckee Railyards Master Plan describes the Town's vision for the Railyards Area to guide its future redevelopment.

The Circulation Concept Plan for the Railyard Master Plan Area includes a grid network of arterial, collector, local, and alley streets. The Master Plan envisions an area where people choose to walk or bike rather than drive and includes a network of shared use paths, bike lanes, and walkways. The Master Plan also identifies a study area for an undercrossing of the Union Pacific Railroad approximately 1,800 feet east of Bridge Street.

Downtown River Revitalization Strategy (2005)

The Downtown River Revitalization Strategy provides strategic direction to implement the Downtown Specific Plan along the edges of the Truckee River through Downtown Truckee. The Downtown River Revitalization Strategy outlines a framework for circulation, including circulation for pedestrians and bicyclists. The framework includes a pedestrian figure-eight loop of the Truckee River from Donner Creek to Trout Creek that builds upon the three pedestrian/bicycle bridge crossings over the Truckee River identified in the Downtown Specific Plan.

Grays Crossing Specific Plan (2004)

Gray's Crossing is a planned community located north of Interstate 80 and on both sides of State Route 89. The Specific Plan includes a variety of land uses and a trails plan for shared use paths and earthen trails. As of 2014, several of the shared use paths and earthen trails have been constructed.

Coldstream (Planned Community 1) Specific Plan & Tentative Map (2014)

Coldstream is a planned community located south of Interstate 80, east of Donner Memorial State Park, and west of State Route 89. The approved specific plan and tentative map includes residences, a mixed-use village, open space, and a variety of earthen trails and shared use paths.

Joerger Ranch (Planned Community 3) Draft Specific Plan (2014)

The Joerger Ranch Draft Specific Plan is a planned community located at the four corners of the State Route 267/Brockway Road/Soaring Way intersection. The draft specific plan includes commercial uses, industrial uses, multi-family residences, and open space. Additionally, the draft specific plan includes shared use paths or bike lanes on several roadways within the specific plan area.

Truckee Donner Recreation & Park District Master Plan (1991)

The Truckee Donner Recreation and Park District adopted a Ten-Year Master Plan for the community in 1991 to facilitate the establishment of a balanced park, recreation and open space system. The unmet recreational needs of the community were identified by the District through a survey of the residents and users of the District facilities and programs, concluding the development of shared use paths and earthen trails as the highest community priority. Because the scope of the Master Plan included more than just earthen trail and bikeway facility planning, a detailed analysis of earthen trails and shared use paths was not included within the Plan. The TDRPD Plan appropriately deferred implementation of on-street

bikeways to the Nevada County Transportation Commission and provided only general direction to create a recreational earthen trail system to accommodate casual, passive and low speed uses by many types of users.

Tahoe Donner Trails Master Plan (2013)

Tahoe Donner is a community in northwest Truckee generally located north of Interstate 80 and west of State Route 89. In addition to housing, Tahoe Donner includes a variety of recreational amenities, including an earthen trail system. The Town of Truckee maintains roadways within Tahoe Donner, as well as several on-street bikeways located on Northwoods Boulevard, Ski Slope Way, Hansel Avenue, Lausanne Way, and part of Schussing Way. The Tahoe Donner Association released a draft of its Trails Master Plan in 2013. The Trails Master Plan identifies existing and proposed earthen trails within Tahoe Donner. It includes connections to two shared use paths proposed by the Town of Truckee: the Trout Creek Trail, which will connect Northwoods Boulevard to Downtown Truckee along Trout Creek, and a second shared use path north of the Trout Creek Trail connecting Downtown to Truckee to Mogul Lane.

Truckee Tahoe Airport Trails Master Plan (2016)

The Truckee Tahoe Airport developed a trails master plan to consider opportunities for non-motorized trails that would provide critical connectivity to existing and future local and regional trails in and around Truckee while offering a new venue for recreation in the region.

Truckee ADA Self Evaluation and Transition Plan (2012)

The Truckee ADA Transition Plan identifies funding strategies and priorities for addressing ADA deficiencies, including curb ramps and sidewalks. The plan includes soft surfaced trails, hard surfaced (Class I) trails, and paved paths (sidewalks).

Truckee Municipal Code

10.21.020: Specifically states "'motorized vehicle' means a vehicle that is self-propelled, but excludes a self-propelled wheelchair, motorized tricycle, or motorized quadricycle, if operated by a person who, by reason of physical disability, is otherwise unable to move about as a pedestrian. 'Motorized vehicle' shall also exclude motorized bicycles."

Title 18 – Development Code: specifies design and construction requirements, including bicycle and pedestrian requirements.

18.12.070, Item A: Allows payment of a bicycle parking impact fee in lieu of complying with Section 18.48.090 for uses in the Downtown Commercial District.

18.48.070, Item A.3: Requires bicycle parking spaces to be located as close as is practical to the entrance(s) to the use they are intended to serve.

18.48.090: Identifies requirements for bicycle parking and support facilities, including number of spaces required and construction requirements. Also encourages shower and locker facilities in projects where appropriate, noting that incentives such as reduction of required parking may be provided when it can be demonstrated that the facilities will reduce vehicle trips.

Truckee Improvement and Engineering Standards

Standard Drawings SD#1, SD#2, SD#3, SD#4: Specify road cross sections. Bike lanes are five feet wide and sidewalks are four feet wide, where required.

Standard Drawing SD#9: Specifies Class I Bicycle Path requirements, including eight-foot width. References Town of Truckee Bikeways and Trails Master Plan.

Standard Drawing SD-15: Shows the alternatives for roadway edges. For Type E curb with sidewalk, the sidewalk shall be four feet wide.

Standard Drawings SD#19, SD#20, SD#23: Specify curb ramp details.

Standard Drawing SD#22: Specifies meandering sidewalks, with width to be as shown on improvement plans

County of Nevada

Nevada County General Plan (1995, Circulation Element updated 2010)

Page 4-10 notes that Nevada County has a limited number of exiting bicycle and pedestrian trails and their use is predominantly recreational in nature.

Several goals, policies, and programs of the General Plan relate to bicycle and pedestrian travel:

Policy LU-4.1.4: Consistent with legal and funding constraints, the following types of road improvement projects shall be emphasized in the County Capital Improvement Program:

d. Projects needed to improve the use of other modes of transportation, including, but not limited to, public transportation facilities (transit facilities and stops), park and ride facilities, bikeways, non-motorized trails, and pedestrian facilities.

Program MV-4.2.3: Pursue funding for projects to improve roadway, bicycle, and pedestrian safety on Nevada County roads.

Goal RD-4.1: Reduce dependence on the automobile.

Goal RD-4.2: Increase the availability of alternative modes of transportation.

Goal RD-4.4: Encourage land use patterns that reduce the need for new roadways and promote the use of alternative transportation modes:

Policy RD-4.3.1: All discretionary and ministerial non-residential projects shall consider the feasibility of providing transit alternatives to automobile transportation and ways to reduce the dependence on the automobile. For projects generating 50 or more employees, the applicant shall prepare an analysis documenting means to reduce automobile dependence. Wherever feasible, measures documented in the analysis shall be incorporated into the project. This process shall be coordinated with the applicable Transportation Management Association (TMA) or successor agencies.

Policy RD-4.3.2: Expansion of the County's bikeway network shall focus on corridors with high potential demand. These corridors include the Highway 49/20 corridor between Grass Valley and Nevada City (along Nevada City Highway, Old Tunnel Road, and Sutton Way), the La Barr Meadows Corridor between Alta Sierra and Grass Valley, the Penn Valley/Pleasant Valley Corridors between Lake Wildwood and Penn Valley, and the Combie Corridor bikeway.

Policy RD-4.3.3: Nevada County shall work with local Transportation Management Associations (TMAs) to increase opportunities for ridesharing, transit use and other means of reducing demand for additional roadway capacity.

Policy RD-4.3.6: Sidewalks, walkways, bicycle facilities and paths should be provided where necessary, and on an equitable basis with roadway improvements.

Policy RD-4.3.7: Sidewalks or walkways are encouraged as frontage improvements for all discretionary permits within Community Regions, as shown on the General Plan Land Use Maps, including all non-residential projects and all residential projects with an overall density greater than one dwelling unit per gross acre. To the extent feasible, pedestrian use shall be included within the roadway prism.

Policy RD-4.3.8: County road improvement projects shall incorporate improvements consistent with the Nevada County Pedestrian and Bicycle Master Plans.

Policy RD-4.3.9: Bridges and other public road facilities that are designated as components of or connections for non-vehicular trails and pathways, as shown on the Bicycle, Pedestrian or Non-Motorized Trail Master Plans, shall be designed and constructed to ensure the safety and security of all users.

Program RD-4.3.1: The County shall cooperate with the Nevada County Transportation Commission, to prepare and implement a Pedestrian Master Plan that provides for a comprehensive system of sidewalks,

pathways and trails within established Community Boundaries that are designed to encourage pedestrian use. Emphasis will be placed on connecting residential areas to commercial and industrial areas; development of direct, efficient, safe and aesthetically pleasing routes; and practical mechanisms for utilizing existing public and quasi-public rights-of-way for pedestrian use.

The Plan shall be implemented through (but not limited to) the development review process to ensure that:

1. Routes are analyzed and designed in relation to a project's neighboring uses and development pattern;
2. Convenient and pre-existing access is retained and improve, if feasible; and
3. New development adjacent to or including any designated pedestrian trail shall be designed to connect to the existing pedestrian trails system.

Program RD-4.3.2: The County shall cooperate with the Nevada County Transportation Commission to implement the Nevada County Bicycle Master Plan adopted in 2008. The implementation shall ensure that:

1. Routes are analyzed and designed in relation to a project's neighboring uses and development pattern;
2. Convenient and pre-existing access is retained and enhanced; and
3. New development adjacent to or including any designated bicycle trail shall be designed to connect to the existing bicycle trails system.

Program RD-4.3.3: The County shall seek additional sources of funding to enhance the development of commuter and recreational bicycle facilities from appropriate sources.

Goal EP-4.3: To the extent feasible, encourage the reduction of Greenhouse Gas emissions during the design phase of construction projects.

Goal EP-4.4: To the extent feasible, encourage the development of energy efficient circulation patterns.

Program 4.4.1: Review the feasibility of developing an ordinance that provides incentives for developers in return for pedestrian, bicycle, or transit orientated design features.

Higgins Corner Area Plan (2000)

The Higgins Corner Area Plan includes a continuous multipurpose trail on the north side of Combie and Magnolia Roads from SR 49 to Magnolia Intermediate School. Portions of this trail have been constructed. The plan also included a pedestrian walkway on the south side of Wolf Road, Combie Road and Magnolia Road from the west end of the development west of SR 40 to Lakeshore Drive. Additional pedestrian walkways are planned on the east side of Combie Road from Magnolia Road to the south end of the Lake Center shopping center and the north/west side of the planned parkway extension of Higgins Road.

Loma Rica Drive Industrial Area Plan (2008)

The Loma Rica Industrial Plan notes that "the County-adopted Non-Motorized Transportation Master Plan maps a commuter facility along Loma Rica Drive that is intended to provide for a multipurpose alternative transportation route for commuters, i.e., a bicycle lane." It also notes that "future mixed-use development proposals that provide for increased pedestrian activity should anticipate the need for sidewalk construction."

North San Juan Rural Center Area Plan (2010)

The North San Juan community currently has no sidewalks or bicycling facilities. The plan includes a goal to recognize SR 49 as the Main Street of the community. Several policies support development of sidewalks, crosswalks, and other pedestrian amenities along the corridor. A preliminary pedestrian plan map is included.

Penn Valley Village Center Area Plan (2000)

This plan advocates the development of paths and trails for pedestrians and bicycles, both for safe access and to encourage patronage of village center businesses. The plan notes that development of a path system should be prioritized for high pedestrian/bicycle usage areas, including the length of roadway along Spenceville Road, and from the intersection of Penn Valley Drive and Spenceville Road to SR 20.

Soda Springs Area Plan (2016)

The Soda Springs Area Plan serves as the comprehensive land use and zoning plan for the Donner Summit region and community of Soda Springs. The plan supports improvements to pedestrian and bicycle facilities including continuous sidewalks, walkways, pathways, and trails. The plan also supports development of a Donner Summit Bicycle and Pedestrian Master Plan with trail connections between the Soda Springs Rural Center and Boreal Ski Resort, Castle Valley, Kidd Lake, and between the western and eastern Soda Springs's neighborhoods on the north side of Donner Pass Road.

Western Nevada County Non-Motorized Recreational Trails Master Plan (2010)

The Nevada County Planning department developed this plan to create a comprehensive and, where possible, integrated regional recreational trails system. The plan provides a map of existing trails, goals and policies for the County, design guidelines for trail development, and programs to implement the regional trails system.

Standard Drawings

Standard Drawing A-2 shows the required cross section for the local rural road system minor collector and local class 3 road. No sidewalk is required; four feet paved shoulders are only required if the roadway is on an adopted bicycle route.

Standard Drawing A-3 shows the required cross section for the local urban road system urban/commercial street. The minimum sidewalk width is four feet.

Standard Drawing A-8 shows the required cross sections for Class II bicycle paths, Class II bicycle lanes, and Class III bicycle routes. The drawing notes that design criteria should conform to the State of California Highway Design manual or as stated in the Nevada County Bicycle Master Plan.

Standard Drawing A-11 shows the required cross section for the local community area road system multi lane street with two-way turn lane. The minimum sidewalk width is five feet. A bike path alternative is included with minimum width of five feet (one way) or eight feet (two way).

Standard Drawing A-12 shows the required cross section for multipurpose trails. Type 1 facilities are to be paved, suitable firm surface material, or native material and minimum ten feet wide. Type 2 facilities are to be native material and minimum five feet wide.

Standard Drawing B-5 shows the detail for a sidewalk driveway crossing.

Standard Drawing B-6 shows the detail for a sidewalk driveway crossing with type "E" curb and gutter.

Standard Drawing E-1 shows the required cross section for the local urban road system multi- lane street with two-way turn lane. The minimum sidewalk width is five feet below 3,000 feet elevation and four feet above 3,000 feet elevation.

Nevada County Code

Several sections of the Nevada County Code pertain to bicycle and pedestrian topics.

Section L-II 4.1.8: Pedestrian Pathways:

- Purpose. To encourage the development of pedestrian walkways to, between, and within developments.
- Standards.

1. All projects in Community Regions shall be designed to provide pedestrian paths, trails, sidewalks or other hard-surfacing that links the proposed project with adjacent properties.
2. Discretionary projects in Rural Regions shall be evaluated, and where topography, sensitive resources or other site constraints do not preclude construction of pedestrian pathways, projects shall be designed to provide a link to adjacent properties.
3. All projects shall provide interior linkages between uses, including distinct pedestrian access from parking areas.
4. If a County-wide Pedestrian Master Plan has been adopted, the project shall be consistent with the goals and applicable policies of that Plan.

Sec. L-II 4.1.9: Transportation Alternatives

» Purpose. To consider methods for reducing dependence on the automobile by exploring alternative modes of transportation in all projects.

» Standards. All land use applications requiring a development permit or a use permit shall address alternative transportation opportunities for employees, residents and/or customers served by the project, as follows:

1. Applications for nonresidential Administrative Development Permits and all discretionary permits shall provide the following information:
    a. An identification of the transportation needs generated by the proposed project, including the estimated number of employees or residents.
    b. An identification of existing and potential alternatives to individual automobile use, including but not limited to, access to public transportation services, bicycle racks, or provisions for developer sponsored carpooling or busing.
    c. The developer's proposal to incorporate one or more measures into the project to ensure use of viable alternatives.
4. Projects employing 50 or more persons shall submit a detailed analysis of transportation alternatives, documenting feasible measures for reducing auto dependence.

Section L-II 4.2.9: Parking

» Parking Lot Design Standards.

1. Bicycle Racks Required. Parking lots with 20 or more vehicle spaces shall provide one bicycle rack for each 20 spaces required by this Section. Bicycle racks shall be designed to provide a minimum four bicycle spaces in each rack, and so that a bicycle can be locked to the rack. The number of required bicycle racks may be reduced if the Planning Agency determines that the use of the site does not warrant one bicycle rack for each 20 stalls.

Sec. L-XVII 3.8: Bikeways

All bikeways shall be constructed in locations designated by and designed in conformance with the Nevada County Bicycle Master Plan and the CALTRANS Highway Design Manual, Chapter 1000, "Bikeway Planning and Design."

Sec. L-IV 2.8 Public Access to Public Resources

Neither the Advisory Agency nor the Board of Supervisors shall approve either a tentative or final or parcel map of any proposed subdivision to be fronted upon a public waterway, river, stream, lake or reservoir which does not provide, or have available, reasonable public access by fee or easement from a public highway to that portion of the bank of the river, stream, lake or reservoir bordering or lying within the proposed subdivision. Reasonable public access shall be determined by the Advisory Agency reviewing the tentative map. In making the determination, the Advisory Agency shall consider all of the following:

1. That access may be by highway, foot trail, bike trail, horse trail, or any other means of travel.
2. The size of the subdivision.
3. The type of riverbank and the various appropriate recreational, education, and scientific uses, including but not limited to, swimming, diving, boating, fishing, water skiing, scientific collection, and teaching.
4. The likelihood of trespass on private property and reasonable means of avoiding such trespass.

A public waterway, river or stream for the purpose of this Section means those waterways, rivers and streams defined in Harbors and Navigation Code Sections 100-106, any stream declared to be a public highway for fishing pursuant to Government Code Sections 25660-25662, the rivers listed in Fish and Game Code Section 1505 as spawning areas and all waterways, rivers and streams downstream from any State or Federal or steelhead fish hatchery.

Neither the Advisory Agency nor the Board of Supervisors shall approve either a tentative or final or parcel map of any proposed subdivision to be fronted upon a public waterway, river or stream which does not provide for a dedication of a public easement along a portion of the bank of the river or stream bordering or lying within the proposed subdivision. The extent, width and character of the public easement shall be reasonably defined to achieve reasonable public use of the public waterway, river or stream consistent with public safety. The reasonableness and extent of the easement shall be determined by the Advisory Agency. In making the determination for reasonably defining the extent, width, and character of the public easement, the Advisory Agency shall consider all of the following:

1. That the easement may be for a foot trail, bicycle trail or horse trial.
2. The size of the subdivision.
3. The type of riverbank and the various appropriate recreational, education and scientific uses including but not limited to, swimming, diving, boating, fishing, water skiing, scientific collection and teaching.
4. The likelihood of trespass on private property and reasonable means of avoiding such trespass.

Any public access route or routes and any easement along the bank of a public waterway, river, or stream provided by the subdivider shall be expressly designated on the tentative or final or parcel map, and such map shall expressly designate the governmental entity to which such route or routes are dedicated and its acceptance of such dedication.

Nothing contained in this Section shall require the Advisory Agency to disapprove a map solely on the basis that the reasonable public access otherwise required by this Section is not provided through or across the subdivision itself, if the Advisory Agency makes a finding that such reasonable public access is otherwise available within a reasonable distance from the subdivision. Any such finding shall be set forth on the face of the tentative, parcel or final map.

The provisions of this Section shall not apply to the final or parcel map of any subdivision which has been approved by the Advisory Agency prior to March 1, 1975.

Nevada County Transportation Commission

Nevada County Regional Transportation Plan (2015)

The Regional Transportation Plan contains several goals and objectives related to bicycling and walking.

Goal 1.0: Provide for the safe and efficient movement of all people, goods, and services on the roadway network.

Objective 1.A: Improve safety

Goal 2.0: Create and maintain a comprehensive, multi-modal transportation system to serve the needs of the County.

Objective 2.A: Reduce dependence on the automobile by emphasizing transit, ridesharing, working from home, and pedestrian and bicycle travel

Objective 2.B: Create bicycle, pedestrian, and transit networks that provide access and connections between key destinations including schools and commercial centers

Nevada County Bicycle Master Plan (2013)

The Bicycle Master Plan was developed to meet requirement for Bicycle Transportation Account funding. The plan provided an inventory of existing bicycle facilities and developed prioritized lists of bicycle projects for each jurisdiction in Nevada County. The Bicycle Master Plan was used as a starting point for the bicycle sections of the Active Transportation Plan.

Nevada County Pedestrian Improvement Plan (2011)

The Pedestrian Improvement Plan was developed to guide and influence pedestrian infrastructure, policies, programs, and development standards and to improve conditions for walking in Nevada County. The plan included an inventory of existing facilities and proposed future projects, including proposed Class I bike paths. The Pedestrian Improvement Plan was used as a starting point for the pedestrian sections of the Active Transportation Plan.

Regional

Caltrans District 3 2013 State Highway Bicycle Facility Plan

This plan includes existing and planned bicycle facilities on state highways in Nevada County. The plan also notes where Caltrans recommended facilities differ from local recommended facilities. For Nevada County, this comparison was made to the 2007 Nevada County Bicycle Master Plan. In several cases, Caltrans has recommended “Share the Road” facilities instead of Class II or Class III facilities, due to cost or low ridership.

According to this plan, two segments of I-80 have shoulders open to bicycles: Gold Run to Cisco Grove and Truckee to the county limit.

Caltrans District 3 Bicycling Guide (2011)

This bicycling guide provides information on bicycling on state routes through Nevada County.

According to this guide, all of I-80 in Nevada County has shoulders open to bicycles except for a segment through Truckee.

Caltrans District 3 Complete Streets Plan (2017)

This plan includes an inventory of complete streets features on Caltrans facilities and identifies projects for complete streets improvements in Nevada County.

State Route 49 Corridor Management Plan (2009)

This plan includes an overview of bicycle facilities on SR 49, and identifies improvement projects consistent with the 2007 Nevada County Bicycle Master Plan. Pedestrian facilities are not evaluated but noted to be included in subsequent updates.

State and Federal

Several state and federal plans and other documents contain goals, policies, and requirements relevant to the ATP.

California State Bicycle and Pedestrian Plan

In June 2017, Caltrans finalized "Toward an Active California," the State Bicycle and Pedestrian Plan. The plan sets targets to greatly increase walking and bicycling in California and identifies objectives and strategies to achieve these targets.

California Transportation Plan 2040

A strategy of the 2016 California Transportation, supporting improved multimodal mobility and accessibility goals, is to double bicycle and

pedestrian mode shares.

California Green Building Code

The 2013 California Green Building Standards contain specific requirements for the amount and type of both short-term and long-term bicycle parking. Requirements are mandatory for non-residential projects and voluntary for residential projects. These standards may be superseded by local requirements, if local requirements are stricter.

California Assembly Bill 32 and Senate Bill 375

Senate Bill (SB) 375 is the implementation legislation for Assembly Bill (AB) 32. AB 32 requires the reduction of greenhouse gases (GHG) by 28 percent by the year 2020 and by 50 percent by the year 2050. Greenhouse gases are emissions - carbon dioxide chief among them – that accumulate in the atmosphere and trap solar energy in a way that can affect global climate patterns. The largest sources of these emissions related to human activity are combustion-powered machinery, internal combustion vehicle engines, and equipment used to generate power and heat. SB 375 tasks metropolitan and regional transportation planning agencies with achieving GHG reductions through their Regional Metropolitan Transportation Plans. The reduction of the use of the automobiles for trip making is one method for reducing GHG emissions. This outcome can be achieved by use of modes other than the automobile such as walking, bicycling, or using transit.

California Assembly Bill 1358

Assembly Bill 1358 is the Complete Streets Act. It calls for the inclusion of all modes (pedestrian, bicycle, transit, and automobile) into the design of roadways. AB 1358 stipulates that roadways should be accessible by all users.

California Senate Bill 743

Senate Bill 743 changes how transportation impact analysis is performed as part of compliance with the California Environmental Quality Act (CEQA). The new criteria, currently being finalized by the California Department of Natural Resources, will promote the development of multimodal transportation networks.

US DOT Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations

In 2010, the United States Department of Transportation (US DOT) issued a policy directive in support of walking and bicycling, encouraging transportation agencies to go beyond minimum standards in fully integrating active transportation into projects. As part of the statement, the US DOT encouraged agencies to adopt similar policy statements in support of walking and bicycling considerations such as:

- Considering walking and bicycling equal with other transportation modes
- Ensuring availability of transportation choices for people of all ages and abilities
- Going beyond minimum design standards
- Integrating bicycling and pedestrian accommodations on new, rehabilitated, and limited access bridges
- Collecting data on walking and bicycling trips
- Setting mode share for walking and bicycling and tracking them over time
- Removing snow from sidewalks and shared use paths
- Improving non-motorized facilities during maintenance projects

US Americans with Disabilities Act

The Americans with Disabilities Act Title III is legislation enacted in 1990 that provides thorough civil liberties protections to individuals

with disabilities concerning employment, state and local government services, and access to public accommodations, transportation, and telecommunications. Title III of the Act requires places of public accommodation to be accessible and usable to all people, including those with disabilities. While the letter of the law applies to "public accommodations," the spirit of the law applies not only to public agencies but also to all facilities serving the public, whether publicly or privately funded.

Neighboring Jurisdictions

Placer County Regional Bikeway Plan (2018)

The Placer County Regional Bikeway Plan provides for a regional system of bikeways for transportation and recreation purposes. Networks in the new plan include Class IV separated bikeways on SR 49 at the Nevada County line, a Class III bike route on SR 174 at the Nevada County line, and Class I bikeways on SR 89 and SR 267 at the Nevada County line.

Sierra County Bicycle Master Plan (2012)

This plan updates the previous 1994 plan and addresses utilitarian and recreational bicycling needs in Sierra County. The plan does not include bicycle facilities at the border between Sierra County and Nevada County.

Yuba County Bicycle Master Plan (2013)

This plan addresses utilitarian and recreational bicycling needs in Yuba County. The plan proposes a Class III with multi-use shoulder facility on State Route 20 at Yuba County's eastern border with Nevada County.

Truckee River Corridor Access Plan (2012)

The Truckee River Corridor Access Plan serves as the guiding vision for the Truckee River corridor between Lake Tahoe and Truckee. The plan's purpose is to help agencies and organizations direct land management activities; enhance, restore, and protect natural resources; and develop earthen trails, staging areas, and other potential low-intensity recreational facilities. The Truckee River Corridor Access Plan identifies a potential shared use path along the Truckee River between Tahoe City and Truckee. The path segment between Tahoe City and Squaw Valley is already complete. This plan is currently being updated.

Martis Valley Community Plan (2003)

Martis Valley is a geographic area bisected by Martis Creek, which flows to the Truckee River, generally located south of the Town of Truckee, north of Brockway Summit on State Route 267, east of the Truckee River, and west of the Nevada state line. The Martis Valley Community Plan sets forth goals, policies, assumptions, guidelines, standards, and implementation measures to guide the physical, social, and economic development of the Martis Valley area.

The Martis Valley Community Plan includes a network of existing and proposed earthen trails and shared use paths. Earthen trails that connect to the Town of Truckee are proposed on the south and east sides of Sierra Meadows, on the south side of Schaffer Mill Road, and on the south side of State Route 267 east of Schaffer Mill Road. Additionally, the Martis Valley Community Plan proposed an earthen trail and a shared use path between Truckee Tahoe Airport and Martis Creek Lake north of State Route 267 towards the Truckee River.

Appendix F

Plan Conformance With ATP Guidelines

Table A-1 identifies the page number of the plan or the specific appendix where each required element for active transportation plans, according to the California Transportation Commission 2019 Active Transportation Program Guidelines, is addressed in this ATP.

Table A-1: Required Active Transportation Plan Elements

Item	Requirement	Pages
A	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.	Existing: App. D Increase: 106
B	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.	Existing: 15-20 Proposed: App. C
C	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.	Existing: 27, 37-45 Proposed: 68, 78-86
D	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.	Existing: 27-36 Proposed: 68-77
E	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.	Existing: 55-58 Proposed: 96-99
F	Wayfinding: A description of existing and proposed signage providing wayfinding along bicycle and pedestrian networks to designated destinations.	Existing: 96 Proposed: 96

Item	Requirement	Pages
G	Non-Infrastructure: A description of existing and proposed bicycle and pedestrian education, encouragement, enforcement, and evaluation programs conduct-ed 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.	Existing: 60, App. C Proposed: 100-101
H	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.	Existing: 59-66 Goal: 106
I	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.	Existing: 20-26 Needs: App. A
J	Community Engagement: A description of the extent of community involvement in development of the plan, including disadvantaged and underserved communities.	8, App. D
K	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.	68, App. E
L	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.	Projects: App. A Programs: 100-101 Methodology: 103 Timeline: 102
M	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.	Costs: 103-106, App. A Revenue Sources: 106, App. B
N	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.	102
O	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.	App. C
P	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.	App. J

Appendix G

Mode Share Increase

Table 11 provides estimated increases in mode share and number of trips if the plan were to be fully implemented. These estimates were developed by comparing Nevada County to similar areas with higher mode shares.

City of Bend, Deschutes County, Oregon

Bend is a city of about 84,000 people in Central Oregon's Deschutes County, which had a population of about 171,000 people. The region has some similarities to Nevada County, with rural, mountainous outlying areas that often experience adverse weather and an economy supported in part by recreation activities like nearby skiing and outdoor areas. However, the two areas also have differences:

- About 77 percent of Deschutes County's employed residents also work within the county, compared to 50 percent for Nevada County.
- 46 percent of Deschutes County employed had commutes of 15 minutes or less, compared to 38 percent of Nevada County workers.
- The most populated areas in Bend and Deschutes County do not have the same topographical challenges as Nevada County, which has steeper grades between major destinations.

Despite these differences, conditions for bicycling and walking in Bend and Deschutes County are a good benchmark for Nevada County. Thanks to improved facilities, community outreach, tourism, and other factors, Bend has 3.5% journey to work bicycle mode share and 3.7% journey to work walking mode share (excluding working at home). Deschutes County has 2.4% journey to work bicycle mode share and 3.0% journey to work walking mode share.

City of South Lake Tahoe, El Dorado County, California

South Lake Tahoe is another city located in the Sierra Nevada with a large share of people bicycling and walking for transportation and recreation. El Dorado County shares many similarities to communities in Nevada County, with concentrations of population separated in the western and eastern ends of the County by the Sierra.

- South Lake Tahoe surrounding areas also have major employers like Heavenly Ski Resort, casinos, destination restaurants, and hotels that employ large amounts of service industry workers. These workers may be more likely to commute by bike and could explain some of South Lake Tahoe's relatively high bicycle mode share.
- Median income in El Dorado County is about $73,000, higher than the $57,000 median income in Nevada County.

However, mode share comparisons are still reasonable. South Lake Tahoe has 4.3% journey to work bicycle mode share and 10.0% journey to work walking mode share (excluding working at home). El Dorado County has 0.9% journey to work bicycle mode share and 2.4% journey to work walking mode share.

Forecasting Mode Share

For Bend and South Lake Tahoe, the average journey to work bicycling mode share is 3.9% and the average walking mode share is 6.9%. Due to differences described above, it is reasonable to expect a lower forecasted mode share for Nevada County. Thus, this plan establishes Nevada County's goal is to achieve a bicycle mode share of 2.0% and a walking mode share of 4.5% after implementing of the plan. These numbers do not meet the California Transportation Plan targets of doubling mode share, but are reasonable considering the rural nature, topography, and development pattern of the County. The California Department of Finance forecasts that Nevada County population will increase to 110,032, or by 12%, in 2038. If a comparable increase in employed residents is projected, the potential impacts of achieving this goal are shown in Table 11. Because these numbers do not include shopping, school, recreational, or other non-work trips, the actual number of future trips are likely to be higher than these estimates.

Appendix H
Electric Mobility Devices

Electric bicycles (e-bikes) and other electric mobility devices such as electric scooters are a rapidly growing new transportation alternative in cities and other areas in California. These devices provide a potential option to cover the longer travel distances and steeper grades experienced in many parts of Nevada County. For example, bike share companies in hilly San Francisco now include electric bikes, and electric scooter rentals are common throughout the City. By improving personal mobility without requiring use of a car, these devices may also be an appealing option to Nevada County's aging but active population.

Recreational use of e-bikes is also growing. E-bikes allow users to climb steep and rugged hills with less effort. Shops such as Tahoe Bike Company already rent electric bikes, and personal e-bike ownership is also expanding. Two manufacturers of e-bikes are currently located in Nevada County.

Recent research supports the idea that e-bikes and other devices are expanding mobility options for many people. A survey of e-bike users across the United States and Canada found that users reported hills and distances as barriers that limited their use of regular riding, and that e-bikes helped overcome those barriers. Older users were particularly appreciative of these e-bike benefits. A 2014 survey of e-bike users in the Sacramento region reached similar conclusions, with riders citing the greater speed and acceleration of e-bikes with less exertion as major reasons for using e-bikes.

E-Bikes

California designates three classes of e-bikes (CVC Section 312.5):

- Class 1 – low-speed pedal-assisted electric bicycle: Bicycle equipped with a motor that provides assistance only when the rider is pedaling and that ceases to provide assistance when the e-bike reaches 20 mph.
- Class 2 – low-speed throttle-assisted electric bicycle: Bicycle equipped with a throttle-actuated motor that ceases to provide assistance when the e-bike reaches 20 mph.
- Class 3 – speed pedal-assisted electric bicycle: Bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the e-bike reaches 28 mph.

Class 1 and 2 e-bikes are generally treated similarly to regular bicycles:

- There is no minimum age to ride.
- Helmets are required for ages 17 and under.
- Allowed on all classes of bikeways, unless prohibited by the local jurisdiction (CVC Section 21207.5).

Class 3 e-bikes have more limitations on their use:

» Riders must be 16 years of age or older.

» A helmet is required for all riders.

» Allowed on Class II bike lanes or Class III bike routes, not allowed on Class I bike paths or Class IV protected bikeways (CVC Section 21207.5).

Electric Scooters

California Vehicle Code defines an electric scooter as a "motorized scooter": any two-wheeled device that has handlebars, has a floorboard that is designed to be stood upon when riding, and is powered by an electric motor. This device may also have a driver seat that does not interfere with the ability of the rider to stand and ride and may also be designed to be powered by human propulsion (California Vehicle Code Section 407.5). Limitations on their use include:

» Motorized scooters must ride in Class II bike lanes when they are present (CVC Section 21229).

» Motorized scooters are not allowed on roads with a speed limit in excess of 35 miles per hour, unless in a Class II bike lane or Class IV separated bikeway (CVC section 21235). This prohibition includes street designated as Class III bicycle routes.

» Motorized scooters are allowed on all classes other classes of bikeways, unless prohibited by the local jurisdiction (CVC Section 21230).

» Motorized scooters are prohibited from using sidewalks, except when entering or leaving adjacent property.

» A helmet is required for all riders under 18 years of age.

» A valid driver's license or instruction permit is required.

» Motorized scooters are limited to 15 miles per hour,

» Leaving a scooter on its side on a sidewalk, or otherwise parking one so that there was not an adequate path for pedestrians, is prohibited.

Electrically Motorized Boards

According to California Vehicle Code, the term "electrically motorized board" is any wheeled device that has a floorboard designed to be stood upon when riding with a maximum speed of 20 miles per hour. The device may be designed to also be powered by human propulsion (CVC Section 313.5).

» Use is restricted to roads with speed limits of 35 miles per hour or less, unless operated in a Class II or Class IV bikeway. On other bikeways, speed is limited to 15 miles per hour (CVC Section 21294).

» Riders must be 16 years of age or older.

» A helmet is required for all riders.

Electric Personal Assistive Mobility Devices

According to California Vehicle Code, the term "electric personal assistive mobility device" (EPAMD) means a self-balancing, non-tandem two-wheeled device that can turn in place, with a maximum speed of 12.5 miles per hour (CVC Section 313). The most common example is the Segway. "Pedestrian" includes use of EPMADs (CVC Section 467). EPAMDs can operate on bikeways and sidewalks unless prohibited by the local jurisdiction, but must yield to pedestrians (CVC Sections 21281.5 and 21282).

Access

Laws for each electric device are different. E-bikes generally have more options for locations to ride, as summarized in Table H-1. Use of e-bikes and other electric mobility devices on earthen trails is determined by the land manager.

Table H-1: Permitted Access of Electric Mobility Devices in California

	Class I Bike Path	Class II Bike Lane	Class III Bike Route	Class IV Separated Bikeway	Additional comments
Class 1 E-Bike	Allowed	Allowed	Allowed	Allowed	
Class 2 E-Bike	Allowed	Allowed	Allowed	Allowed	
Class 3 E-Bike	Prohibited	Allowed	Allowed	Prohibited	
Electric Scooter	Allowed	Allowed	Allowed (if speed limit ≤ 35 mph)	Allowed	Prohibited from roads with speed limit > 35 mph
Electrically Motorized Board	Allowed	Allowed	Allowed	Allowed	
Electric Personal Assistive Mobility Device	Allowed	Allowed	Allowed	Allowed	

Note: Local jurisdictions may enact further restrictions.
Source: California Vehicle Code 2018, Fehr & Peers, 2018

- The U.S. Forest Service and Bureau of Land Management consider e-bikes as motorized vehicles, and thus e-bikes are only allowed where motorized vehicles are allowed.
- California State Parks generally allow Class 1 and Class 2 e-bikes where bicycles are allowed, unless specifically prohibited.
- Truckee Municipal Code Section 10.21.020 states that "motorized vehicle" excludes motorized bicycles. Thus, e-bikes are generally allowed on Truckee trails which allow bicycles.
- In other jurisdictions, e-bikes are generally considered motorized vehicles and thus allowed only where motor vehicles are allowed.
- On trails, electric scooters and EPMADs may be considered motorized vehicles and thus allowed only where motor vehicles are allowed.

Bike and Scooter Share

In addition to private ownership, bikes, e-bikes, and scooters are available through short-term point-to-point rental or "shared" systems. Bike share systems at first were primarily based on docks, or unmanned physical locations where a bike could be rented or returned, with docks located at destinations across an area.

More recently "dockless" systems, where bikes or scooters, equipped with appropriate wireless technology, could be rented at any location or left at any location, have become more widespread. The systems can often be deployed and operated at lower cost that docked systems. However, concerns have arisen in some locations about dockless bikes or scooters being parked in inappropriate locations, in particular when they have blocked pedestrian flows. Some cities have responded to this by developing "corrals," marked pavement locations where bikes or scooters can be left standing out of the way of pedestrians and other traffic.

Considerations When Determining Access Policy

When determining access for electric bicycles and other electric devices, the following issues should be considered:

- Electric mobility devices provide increased mobility for users who are less able to use regular bicycles due to age or disability.
- The terrain of Nevada County frequently contains elevation changes, which may discourage some people from walking or bicycling as

transportation. Electric mobility devices may encourage more people to reduce use of motor vehicles.

» Higher-speed electric mobility devices may generally be faster than most bicycles and pedestrians.

» Some non-electric bike users and pedestrians may consider e-bikes and other powered to detract from their experience on bikeways and trails.

» Consideration should be given to regulating parking and storage of devices so that they do not impede pedestrian or other traffic, in particular through the use of corrals.

» The data that bike and scooter share companies collect can be valuable to a jurisdiction seeking to understand the movement of people and planning for them.

Policy Options

There have been few reports of access issues or conflicts with these devices in Nevada County. There are also no bike or scooter share services operating in Nevada County at this time (December 2018). However, used of these devices is expect to continue to expand, and sharing services are expected to spread. Notably, electric scooters have spread rapidly into different cities, but some concerns have attended their spread. A large concern with scooters has been with their mixing with much slower pedestrian traffic.

Jurisdictions in Nevada County have several policy options for e-bikes and other electric mobility devices. Different policies may be enacted for each device. Access options include:

» Continue with existing access as allowed by state law.

- This option provides the most mobility and accessibility for those who use these transportation options.

» Prohibit access to sidewalks and Class I bike paths, where pedestrians are also present, but continue access to other bikeways.

- This option separates the slowest and some of the fastest users of the path, but will not eliminate all fast riders, as regular bicycles may travel as fast as or faster than e-devices.
- This option would result in more e-devices mixing with motor vehicle traffic.
- In some locations, there may be no access for electric scooters, which are prohibited from roads with speed limits greater than 35 mph unless a bike lane or separated bikeway is available.

» Prohibit access to all bikeways except Class III bike routes.

- This option provides the greatest restriction and separation.
- This option would force e-devices to mix with vehicular traffic, which may be less comfortable or safe and reduce overall use of e-devices, and under some conditions may be prohibited by state law.

When developing these policies, consideration should also be given to other issues:

» Develop policies concerning parking and storage of these devices, especially sharing systems, to minimize impacts on flows of pedestrians and other vehicles. These policies may require use of corrals, prohibit blocking of entrances, or other aspects.

» Develop data sharing agreements in conjunction with permitting new shared services. This subject is evolving rapidly, and best practices should be surveyed at the time of policy development.

Appendix I

Pedestrian and Bicycle Facilities Toolkit

Introduction

This appendix discusses best practices for bicycle and pedestrian projects and programs. It describes both infrastructure treatments and non-infrstructure programs commonly implemented in areas with characteristics similar to Nevada County and its incorporated jurisdictions. This guidance should be used in conjunction with engineering judgment, engineering study, and/or other necessary considerations as appropriate for each individual case.

New projects and programs are most likely to be successful when done in partnership with the community. This can be accomplished by:

- Talking to the community to understand their desires and priorities
- Implementing new types of facilities incrementally to generate feedback and support
- Publicizing projects and educating the public on the changes to be implemented and their benefits

Resources

This chapter is based on a review of existing studies, guidelines, and manuals related to pedestrian and bicycle infrastructure and strategies. The following documents are good general resources for these topics:

- NACTO Urban Bikeway Guide, 2nd Edition
- NACTO Urban Streets Design Guide
- NACTO Transit Street Design Guide
- Federal High Administration (FHWA) Small and Rural Multi-Modal Networks Guide
- AASHTO Guide for the Development of Bicycle Facilities, 4th Edition
- Caltrans Highway Design Manual
- Caltrans Class IV Bikeway Guidance
- Federal Highway Administration (FHWA) Separated Bicycle Lane Planning and Design Guide
- MassDOT Separated Bike Lane Planning and Design Guide
- CROW Design Manual for Bicycle Traffic 2017
- ITE Recommended Practices on Accommodating Pedestrian and Bicyclists at Interchanges
- U.S. Traffic Calming Manual (Ewing & Brown, 2009)
- Traffic Calming: State of the Practice (ITE, 1999)
- Traffic Calming on Main Roads Through Rural Communities (FHWA, 2009)

Bicycle Facilities

Several types of bikeways and supporting facilities come together to form a complete bicycle network.

Bikeways

Bikeways are classified in Chapter 1000 of the Highway Design Manual (Caltrans, 2015) into four primary types:

» Class I bike paths (including shared use paths)

» Class II bike lanes

» Class III bike routes

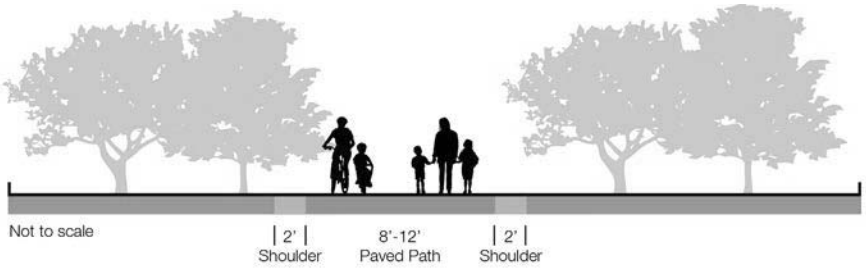
» Class IV separated bikeways

Nevada County also has many recreational trails that do not meet the standards of Class I bike paths.

Class I Bikeway: Bike Path

Bike paths, often referred to as shared-use paths or trails, are off-street facilities that provide exclusive use for non-motorized travel, including bicyclists and pedestrians. Bike paths have minimal cross flow with motorists and are typically located along landscaped corridors. Bike paths can be utilized for both recreational and commute trips. These paths provide an important recreational amenity for bicyclists, pedestrians, dog walkers, runners, skaters, and those using other non-motorized forms of travel. They are frequently designed to offer a benefit to users, such as a connection not previously included in the bicycle or pedestrian network or traversing a barrier such as a freeway or river. Unless specifically allowed by local laws, equestrians are generally prohibited from using bike paths. If horses and riders are allowed to use a bike path, the facility should be designed to accommodate all users, typically with wider widths than traditional multi-use paths.

Key considerations when designing a Class I Bikeway:



» Existing conditions

- Typically located along landscaped corridors.
- Best in locations with little cross-flow.
- Locate where maximum separation from traffic is desired and right-of-way is available.

» Design principles

- For a two-way path, provide a width of at least eight feet with a two-foot shoulder; 10 feet with a two-foot shoulder is preferred.
- For a one-way path, provide a width of at least five feet and a two-foot shoulder.
- Include scenic attributes such as landscaping and trail placement highlighting views.
- Provide shade to encourage use.
- Consider connections with other bikeways and activity centers.
- Include well-designed street crossings with measures such as grade separated crossings, bike and pedestrian activated traffic signals, median islands, and warning signs.
- Include curb ramps and curb cuts that are convenient and conform to the Americans with Disabilities Act (ADA).
- Ensure adequate trail width, sight distance, and drainage.
- Include wayfinding signs for easier navigation.

» Maintenance needs

- Conduct maintenance frequently to avoid hazards such as tree root cracking and debris.
- Refresh faded striping and repair or replace damaged or faded signage.
- Maintain adequate vegetation clearance.

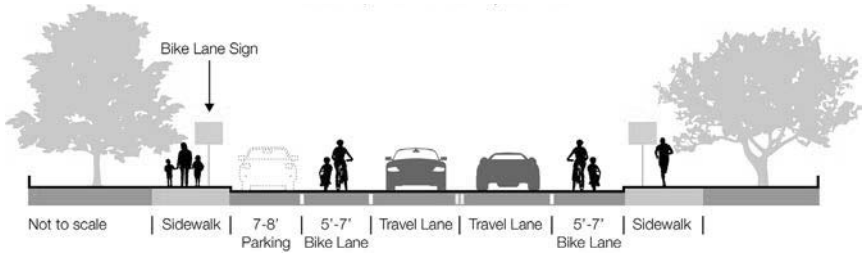
Class II Bikeway: Bike Lane

Class II bike lanes are on-street facilities that use striping, stencils, and signage to denote preferential or exclusive use by bicyclists. On-street bikes lanes are located adjacent to motor vehicle traffic. Bike lanes provide adequate space for comfortable riding and alert drivers about the predictable movements of bicyclists.

Key considerations when designing a Class II Bikeway:

» Existing conditions

- Bike lanes are most beneficial on streets with greater than 3,000 vehicle average daily traffic (ADT) and a posted speed that is greater than 25 miles per hour.
- Curb-to-curb width and parking considerations in older neighborhoods can present challenges to design due to narrow roadways.



» Design principles

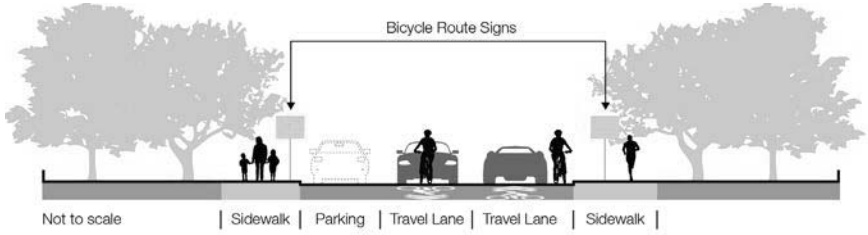
- Provide a width of at least five feet. At least four feet should be clear of any gutter pan.
- Provide the maximum bike lane widths available to allow bicyclists to pass other riders safely and navigate around parked cars and other road hazards.
- Lane striping (six inches wide) should be dashed through heavily trafficked merging areas, including turn lanes at intersection approaches.
- Skipped green markings may also be used in conflict zones.
- Drainage grates must be designed to avoid catching bicycle tires.
- Left-side painted buffers on bike lanes improve separation between bicycles and vehicles in cases with speeds that are greater than 35 miles per hour and high vehicle volumes.
- Right-side painted buffers can be added between parallel parked cars and the bike lane to create a separation in the door zone, an area in which a driver may open their car door and hit a bicyclist.

» Maintenance needs

- Conduct maintenance frequently to avoid roadway hazards such as potholes and debris.
- Refresh faded striping and repair or replace damaged or faded signage.

Class III Bikeway: Bike Route

Class III bike routes are streets with signage and optional pavement markings where bicyclists travel on the shoulder or share a lane with motor vehicles. Class III bike routes are utilized on low-speed and low-volume streets to connect bike lanes or paths along corridors that do not provide enough space for dedicated lanes. Shoulders are preferable but not required on streets with Class III bike routes (Class III bike routes with multi-use shoulders are discussed in the next section). In addition to alerting motorists to the presence of bicyclists, bike routes help bike riders find their way to other bikeways or regional destinations like schools and parks.



Shared-lane markings, or sharrows, are a common Class III pavement marking that alerts drivers that bicyclists are sharing the road and facilitate wayfinding through neighborhoods. They are best used on streets with less than 3,000 ADT. The chevrons in sharrow markings should be painted near the center of the travel lane, out of the parked vehicle door zone.

Key considerations when designing a Class III Bikeway include:

» Existing conditions

- Best on streets with less than 3,000 ADT and a posted speed equal to or less than 25 miles per hour.

» Design principles

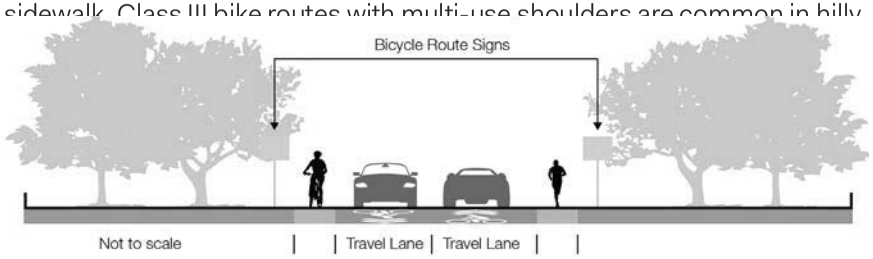
- Shoulders are preferable but not required.
- Sharrow markings can be used to alert drivers to presence of bikes.

» Maintenance needs

- Conduct maintenance frequently to avoid roadway hazards such as potholes and debris.
- Repair or replace damaged or faded signage.

Class III Bike Route with Multi-Use Shoulder

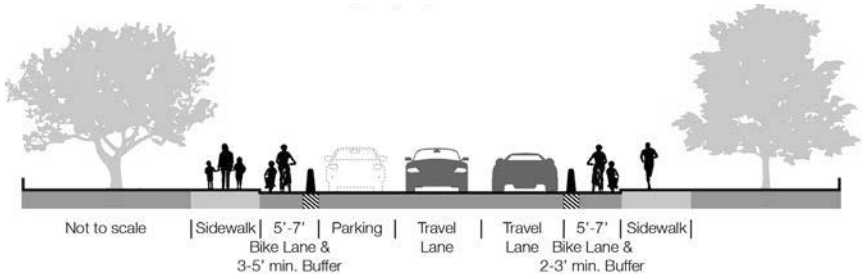
Class III bike routes with multi-use shoulders include the features of Class III bike routes and additionally provides a striped shoulder of variable width (Figure 5). This facility is used when jurisdictions wish to maximize road space for bicycles but do not have sufficient right-of-way to meet minimum requirements for Class II bike lanes. The facility also accommodates pedestrians, but at a much lower level of comfort than a Class I path or sidewalk. Class III bike routes with multi-use shoulders are common in hilly



Class IV Bikeway: Separated Bikeway

Class IV separated bikeways, commonly known as cycle tracks, are physically separated bicycle facilities that are distinct from the sidewalk and designed for exclusive use by bicyclists. They are located within the street right-of-way, but provide comfort similar to Class I bike paths. The key feature of a separated bikeway is a vertical element that provides physical separation from motor vehicle traffic. Common vertical elements used for separation include a vertical curb, a painted buffer with flexible posts, parked cars, a landscaped area, large planters, or a fixed barrier. Separated bikeways may also be constructed by creating a bike lane at a height above the vehicular lanes, with a continuous sloped transition. Separated bikeways can be either one-way or two-way, accommodating a single direction of travel or both directions.

Streets with high vehicular volumes and speeds are appropriate candidates for separated bikeways, which increase the comfort of bicyclists on these higher-stress roads. Separated bikeways require wider right-of-way than Class II and III facilities and, to minimize conflicts with motor vehicles, are best placed in areas with fewer driveways. Because of these factors, separated bikeways require careful planning.



Key considerations when designing a Class IV Bikeway include:

» Existing conditions

- Especially useful on streets with high ADT and a posted speed greater than 30 miles per hour.
- Curb to curb width and post considerations can present challenges to design due to narrow roadway.

» Design principles

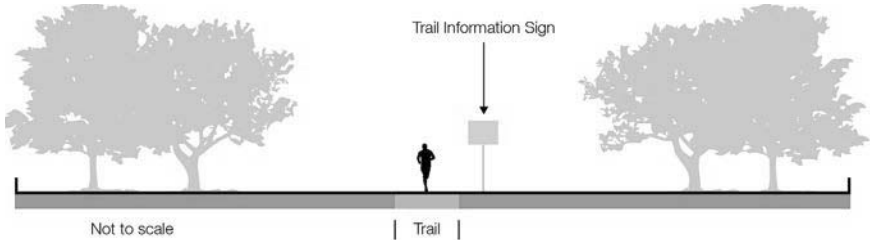
- The preferred bike lane width for a separated bikeway is seven feet to allow for passing and maintenance. Minimum buffer width should be three feet.
- Appropriate intersection treatments should be paired with separated bikeways.
- Skipped green markings may also be used in conflict zones.
- Drainage grates must be designed to avoid catching bicycle tires.
- Careful planning required.

» Maintenance needs

- Conduct maintenance frequently to avoid roadway hazards such as potholes and debris.
- Maintain posts, bollards, or other physical buffer.
- Refresh striping and repair or replace damaged or faded signage.
- Smaller street cleaning equipment may be required.

Earthen Trails

Earthen trails are facilities for use exclusively by non-motorized users such as bicyclists, pedestrians, equestrians, and other non-motorized users, with minimal cross-flow by motor vehicles. These trails have a surface composed of dirt, decomposed granite, or similar materials. Earthen trail width generally varies between two feet to four feet. These trails usually are used for recreation, but may also be used for transportation needs if they connect desired destinations.



Key considerations when designing a Class IV Bikeway include:

» Existing conditions

- Typically located in parks, recreation area, or other natural areas and corridors.
- Located where natural features are prioritized or recreation is most important.

» Design principles

- Trail width typically varies between two and four feet.
- Include scenic attributes such as trail placement highlighting views.
- Route trails to provide shade to encourage use.
- Consider connections with other bikeways, sidewalks, trailheads, and activity centers.
- Where trails intersect roads, include well-designed crossings with measures such as grade separated crossings, bike and pedestrian activated traffic signals, median islands, and warning signs, depending on level of use.
- Ensure adequate trail width, sight distance, and drainage.
- Include wayfinding signs for easier navigation.

» Maintenance needs

- Conduct maintenance frequently to avoid hazards such as erosion.
- Maintain adequate vegetation clearance.
- Repair or replace damaged or faded signage.

Complementary Bicycle Treatments

Green Colored Pavement

In 2011, the Federal Highway Administration (FHWA) Manual on Uniform Control Devices (MUTCD) published a memorandum on the "Interim Approval for Optional Use of Green Colored Pavement." This interim approval was adopted by California later in 2011. Green markings are more likely to be used in high volume intersections and busy driveway locations. Bike lane lines can be installed with either paint or thermoplastic. Painted lanes are less expensive to install. Thermoplastic is initially more expensive, but less expensive when considering maintenance lifecycle costs. Use skipped green in weaving areas, following conditions of the Interim Approval.

Recommended for: Supplement to required markings in high conflict areas that impact safety

Benefits:

» Calls attention to vehicle/bicycle conflict areas

Challenges:

» Less effective if overused.

Through Bike Lanes

Travelling at intersections can be particularly challenging if the bike lane ends at an approach with vehicular turn lanes. Continuing the bicycle lane into the intersection approach provides bicyclists the opportunity to avoid conflicts with turning vehicles. Through bike lanes, also known as "bicycle pockets," reduce conflicts by allowing bicyclists to follow the preferred travel path, ideally a straight connection from the preceding bike lane. Through bike lanes should be placed to the left of the right-turn only lane. Dotted lines are used to signify the merge area that motorists traverse to get to the right-turn lane.

Recommended for: Intersections where turn lanes conflict with bike lanes

Benefits:

» Reduce conflict between through bicyclists and turning vehicles

Challenges:

» Can create false sense of security for bicyclists

Source: City of Fresno

Source: City of Fresno

Bicycle Boxes

A bicycle box is dedicated space at a signalized intersection for bicyclists to wait safely and visibly. Because bicyclists are waiting in front of vehicle traffic, they have priority crossing major streets. Bicycle boxes also benefit pedestrians as they minimize vehicle encroachment into crosswalks. They can provide space for the entire approach, allowing bicyclists safe waiting zones for left turns, or can be placed just in front of the right-turn lane. Colored pavement, typically green, should be included in the bike box to encourage compliance by motorists. Bicycle boxes currently have FHWA interim approval which has been adopted by Caltrans.

Recommended for: Signalized intersections with a high volume of bicycles making left turns

Benefits:

» Facilitates left turn movements for bicyclists

» Reduces "right-hook" conflicts between right turning vehicles and bicycles

Challenges:

» Colored pavement increases maintenance costs

Two-Stage Turn Box

A two-stage turn box is a space outside of the vehicle path for bicyclists to make a left turn. During the green signal, the bicycle proceeds through the intersection until reaching the bike box on the right-hand side. The bicycle will be able to turn left in the bicycle box and wait for the green signal to continue through the intersection, thus making a left turn.

Two-stage bicycle turn boxes are under interim approval by FHWA. This approval has been adopted by Caltrans.

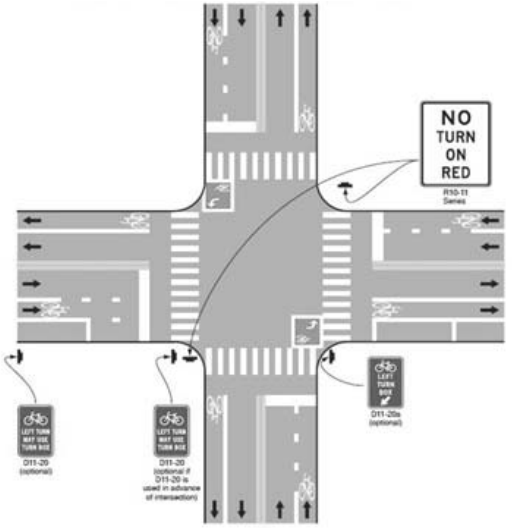
Recommended for: Signalized intersections on roadways with high speeds and multiple lanes

Benefits:

» Increases safety for left turning cyclists

Challenges:

» Colored pavement increases maintenance costs



Source: "Attachment IA-20-2 Example of Two Stage Bicycle Turn Box when Use is Mandatory" Manual on Uniform Traffic Control Devices, 13 July, 2017

Pedestrian Facilities

Pedestrian facilities include sidewalks and crosswalks.

Some types of facilities are shared by both pedestrians and bicyclists. Each of these facilities are described earlier in this toolkit:

» Class I bike path, frequently known as a shared-use path

» Class III bike route with multi-use shoulder

» Earthen trail

Sidewalks

Sidewalks are paved areas immediately adjacent to the vehicular right-of-way for the exclusive use of pedestrians, and may be used by people riding bicycles unless prohibited. Unlike shared-use paths or earthen trails, they are directly adjacent to the main right-of-way.

Factors that can reduce a pedestrian's level of stress while walking on a sidewalk include:

» Usable sidewalk space should generally be a minimum of five feet

» Sidewalk crossings of driveways should be at grade

» Street trees and landscaping provide shade and comfort

» Slower vehicle speeds on the adjacent roadway increase pedestrian comfort

Crosswalks

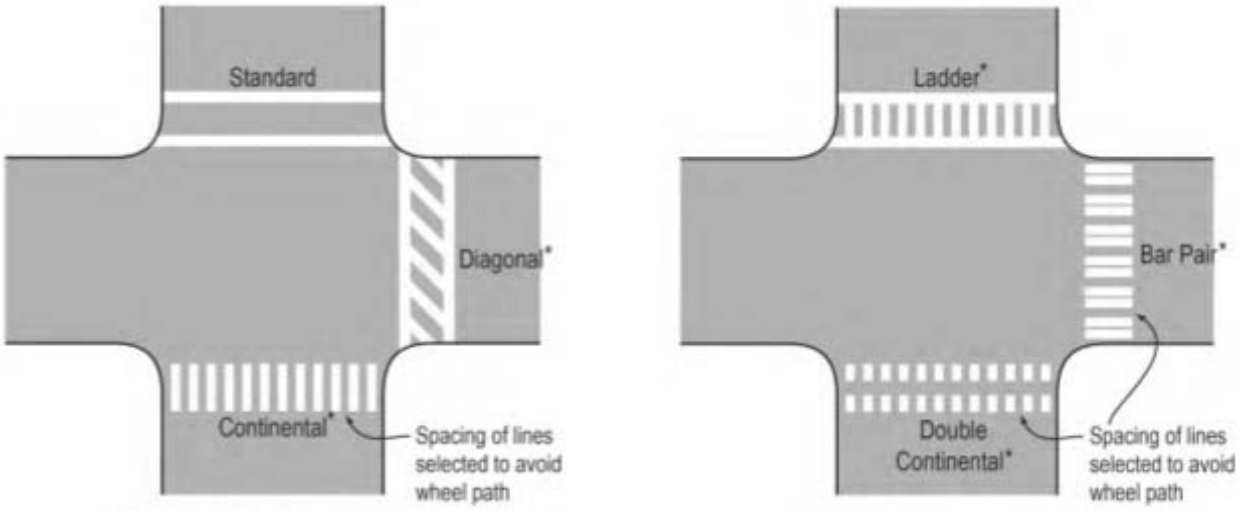
Marked crosswalks feature striping and other enhancements to delineate a street crossing for pedestrians. There are two types of marked crosswalks:

» Controlled crosswalks are located with stop signs or traffic signals.

» Uncontrolled crosswalks are located without stop signs or traffic signals. Under California law, drivers are legally required to yield to pedestrians at uncontrolled crosswalks.

The California MUTCD identifies several crosswalk marking examples as pictured below. Of these six examples, all except the Standard markings are considered to be "High Visibility Crosswalk Markings." If a Continental, Double Continental, or Bar Pair marking is implemented, the lines should be spaced to avoid the wheel path of vehicles and thus reduce striping maintenance.

The California MUTCD provides guidance on using stop lines and yield lines with crosswalks. These lines should be used in conjunction with signs as described later in this document.



Source: Caltrans, 2014. California Manual on Uniform Traffic Control Devices, Figure 3B-19.

Complementary Pedestrian Treatments

The following treatments can be used with sidewalks and crosswalks.

Bulb-Outs

Bulb-outs are a mechanism to decrease the crossing distance at intersections. They are beneficial to pedestrians because they decrease the distance needed to cross lanes of vehicle traffic. In addition, bulb-outs improve the visibility of pedestrians waiting to cross the street.

Recommended for: Wide roadways with high pedestrian volumes

Benefits:

» Reduces time pedestrians are exposed to vehicles

Challenges:

» Expensive

Median Refuge Islands

Refuge islands should be considered in locations with existing medians. In locations without existing medians, roadway width can sometimes be allocated for islands by eliminating on-street parking or narrowing vehicle travel lanes in the vicinity of the crossing. There are two main types of refuge islands:

» Pedestrian median refuge island

» Split pedestrian crossover refuge island

Refuge islands allow pedestrians to cross one direction of traffic then wait in the center of the street to cross the other direction of traffic. Split pedestrian crossover refuge islands, generally used at uncontrolled midblock locations, encourage pedestrians to look towards the oncoming direction of traffic before completing the crossing.

Recommended for: Roadways with few gaps in traffic and high pedestrian volumes

Benefits:

» Reduces time pedestrians are exposed to vehicles

» Narrows roadway, reducing speeds

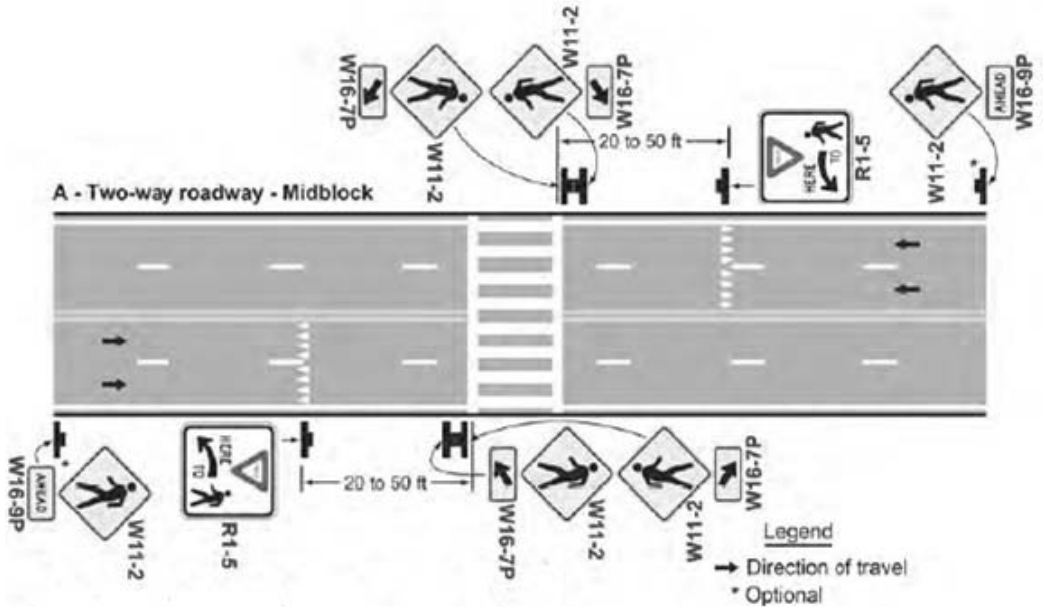
Challenges:

» Expensive

Signing

Pedestrian street signage improves visibility of crosswalks and can increase the likelihood that a driver will yield or stop to pedestrians. In-street signs are ideal for streets with low vehicle speeds and two lanes. In-street signs can be permanently installed or movable for peak hours such as pick-up/drop-off times at schools. Overhead signs are more impactful at busier, wider streets. These are typically installed at mid-block crossings or intersections. Additional signage in school zones helps alert drivers that children, who are known to make unpredictable movements, may be present.

An example from the MUTCD demonstrating use of both pavement markings and signs is shown below.



Source: Caltrans, 2014. California Manual on Uniform Traffic Control Devices, Figure 3B-17.

Pedestrian Activated Warning Beacons

Pedestrian activated warning beacons encompass a variety of flashing lights that are either push-button activated or activated with passive detection. They are generally designated for locations with higher traffic volumes, higher traffic speeds, and more travel lanes.

Rapid Rectangular Flashing Beacons (RRFBs) are a type of pedestrian activated warning beacon that has shown impressive results in improving driver-yielding rates. They consist of rapid-flash system LED beacons that are similar in operation to emergency flashers on police vehicles. RRFBs have generally shown the greatest effectiveness among the types of pedestrian activated warning beacons.

Circular rapid flashing beacons (CRFBs) are another type of pedestrian warning beacon that have been shown to increase driver yielding response rates. In a direct comparison, the improvement in motorist compliance with CRFBs was slightly less than with RRFBs, though still substantial (Final Report, FHWA item 4(09)-8(E), 2013).

Source: FHWA, 2013

Another option for pedestrian warning beacons are signs with flashing LEDs within the border of the sign itself. However, these treatments have not been demonstrated to have efficacy comparable to CRFBs or RRFBs.

Recommended for: Unsignalized intersections and mid-block crossings

Benefits:

» Increases driver yielding

» Can lead to reduction in pedestrian crashes

Challenges:

» Expensive

Pedestrian Hybrid Beacon

Pedestrian Hybrid Beacons (PHBs), also known as High-intensity Activated crossWalKs or HAWK signals, require vehicles to stop at a red light to allow pedestrians to cross. PHBs are ideal for roadways that are higher speeds and volumes than a rectangular rapid flashing beacon, but do not require a full pedestrian signal. They should only be installed in locations that include a marked crosswalk. The California Manual on Uniform Traffic Control Devices (MUTCD) provides details on use of PHBs.

The treatments operate with the following phases:

1. Flashing Yellow – Upon actuation, beacon flashes yellow

2. Solid Yellow – Alerts drivers pedestrians will soon cross

3. Solid Red – Drivers must stop and remain stopped

4. Flashing Red – Drivers stop and proceed when clear, as they would with a stop sign

5. No Indication – When not actuated, signal is dark

Recommended for: Unsignalized intersections and mid-block crossings

Benefits:

» Increases driver yielding

» Can lead to reduction in pedestrian crashes

Challenges:

» Expensive

Traffic Signal

When warranted based on the applicable signal warrants in the California MUTCD, a traffic signal to allow pedestrians to utilize a marked crosswalk safely may be appropriate.

Countdown pedestrian signal heads are recommended at all traffic signals, except where pedestrian crossing is prohibited.

Recommended for: Intersections with high pedestrian volumes

Benefits:

» Reduces pedestrian-vehicle conflict points

Challenges:

» May increase waiting times for pedestrians and drivers

Accessibility

In addition to ADA requirements consideration can be given to other features to address the comfort of those with visual, auditory, and mobility impairments.

Some improvements include:

» Braille labels for street names.

» Push buttons that include vibrating surfaces and speakers. Additional information, such as street names can be incorporated.

Leading Pedestrian Interval

A leading ledestrian interval (LPI) generally allows pedestrians to begin crossing an intersection before vehicles begin moving by providing a walk signal three to seven seconds before the corresponding vehicle signal turns green.

Recommended for: Intersections with high turning volumes conflicting with pedestrians

Benefits:

» Makes pedestrians more visible

» Emphasizes pedestrian right-of-way

Challenges:

» Can increase congestion if used at multiple locations on the same corridor

Tighter Curb-Return Radii

Motorists that navigate intersections with a wide corner radius are more likely to travel at faster speeds. By tightening the curb-return radius, vehicles are forced to slow down, which can substantially improve pedestrian safety. It is recommended that corners are designed to limit turning speeds to 15 miles per hour or less by decreasing the width of the effective radius. The land use context should be considered when reducing radii; industrial areas with frequent truck traffic require larger radii than commercial or residential areas.

Recommended for:

» Urban and suburban settings with high pedestrian volumes

Benefits:

» Slows vehicle speeds

» Reduces pedestrian crossing distances

Challenges:

» Can be expensive on existing streets

Pedestrian Scramble

Pedestrian scrambles are intersection treatments that include a pedestrian-only phase in the signal light cycle. During the pedestrian phase, all motorists are prohibited from entering the intersection. Unlike typical crosswalks, pedestrians are able to cross to the opposite corner by travelling through the middle of the intersection. Diagonal crosswalks allow pedestrians to cross more efficiently, directly to their destination. Scrambles should include Accessible Pedestrian Signals (APS) to maximize accessibility and wayfinding for people who are blind or visually impaired.

Recommended for: Intersections with high pedestrian volumes crossing multiple crosswalks

Benefits:

» Allows pedestrians to cross more directly

» Emphasizes pedestrian right-of-way

Challenges:

» Pedestrian-only phase can increase vehicle congestion

Source: City of Fresno

Traffic Calming

Traffic calming devices include a wide range of design treatments capable reducing vehicle speeds and thus improving the safety and comfort of the transportation network for all users. Reducing vehicle speeds makes travel safer for both bicycles and pedestrians.

Vertical devices cause drivers to experience a physical response that is aggravated when traveling at high speeds. Many existing streets can be retrofitted with vertical measures.

Horizontal devices are used to deflect vehicles from travelling at high speeds. Horizontal measures require drivers to navigate laterally and consequentially reduce speed.

Narrowing traffic calming devices are a sub-category of horizontal traffic calming devices. Collision rates increase as lane widths exceed 10.5 feet. Additionally, wide roads are associated with greater crash rates and higher impact speeds. Narrowing roadways often leads to decreased vehicle speeds and improves safety.

Speed Lump

Rounded raised area placed across the road with wheel cutouts to allow large vehicles such as fire trucks or school buses through with minimal slowing. Apart from the gaps for emergency vehicles, complete coverage of the lane widths prevents motorists from veering into bike lanes to avoid the lumps.

Recommended for: Neighborhoods

Benefits:

» Effective in reducing vehicle speed

» Low cost tool

» Allows large vehicles (such as fire trucks or schools buses) through with minimal slowing

Challenges:

» Can have slightly jarring effect on vehicles

» Should not be used on streets with speed limit over 30 miles per hour

Speed Table

Flat-topped speed hump often constructed with brick or other textured material on flat section. Speed tables are typically 22 feet long, which allows for the entire wheelbase of a passenger car to rest on top.

Recommended for: Downtown, neighborhoods

Benefits:

» Effective in reducing vehicle speed

» Low cost tool

Challenges:

» Slightly higher speed suitability than speed humps

» Some drivers will continue to maintain speed, therefore may not be as effective as other calming devices

» Should not be used on streets with posted speed limit over 30 miles per hour

Raised Crosswalk

A speed table at pedestrian crossings raised to sidewalk level or just below. Raised crosswalks should not be constructed on streets with sharp curves or steep grades. Tactile treatments are needed at the sidewalk/street boundary so that visually impaired pedestrians can identify the edge of the street.

Recommended for: Downtown, schools

Benefits:

» Effective in reducing vehicle speed

» Improves safety for pedestrians and motorists at midblock

» Allows pedestrian to cross at a nearly constant grade without requiring curb ramps

Challenges:

» Can be expensive due to infrastructure needed to maintain drainage canals

» Lack gaps for emergency vehicle wheelbases

» Potential drainage issues

Source: Eric Fischer (Creative Commons)

Raised Intersection

A flat, raised area covering the entire intersection, often with brick or other textured material on flat sections. Tactile treatments are need at the sidewalk/street boundary so that visually impaired pedestrians can identify the edge of the street.

Recommended for: Downtown

Benefits:

» Effective in reducing vehicle speed

» Improves safety for pedestrians and motorists at intersections

» Calms two streets at one location

Challenges:

» Can be expensive due to infrastructure needed to maintain drainage canals

» Potential drainage issues

Source: U.S. Traffic Calming Manual

Longitudinal Rumble Strips

Grooved pavement treatment on inside edges of travel lane that effectively narrows width. Also useful to alert drivers that they are leaving roadway or crossing centerline.

Recommended for: Rural roads

Benefits:

» Reduce collisions due to lane departure

» Reduce vehicles driving on shoulder or bike lane

Challenges:

» Edge-line rumble strips require bicycle-tolerable design to safely accommodate bicyclists on bike lanes or shoulders

» If not used in combination with lane width reduction, may have limited speed reduction effect

Source: FHWA

Chicane

Shifts traffic alternately from side to side of the street to create an S-shaped path of travel. Often formed as a series of lateral shifts.

Recommended for: Neighborhoods

Benefits:

» Effective in reducing vehicle speed

» Provides opportunity for landscaping

Challenges:

» Can be expensive

» Street sweeping may need to be done manually if sharp angles are used or if gutter pan is not accessible to street sweeping vehicles

Lateral Shift

Curb extensions that cause travel lanes to bend one way and then back the other way. Installed away from an intersection at midblock. Especially useful on collectors and even some arterials with high traffic volumes and higher posted speeds that preclude more abrupt measures.

Recommended for: Collectors, minor arterials

Benefits:

» Can accommodate higher traffic volumes than many other neighborhood traffic management measures

Challenges:

» Modest effect on speeds

» Must be designed carefully to discourage drivers from deviating out of the appropriate lane

Choker

Curb extensions at midblock intended to slow vehicles. Chokers work best with a vertical element such as landscaping in the narrowed section to improve visibility for approaching motorists.

Recommended for: Downtown, Neighborhoods

Benefits:

» Effective in reducing vehicle speeds at midblock

» Provides opportunity for landscaping

Challenges:

» Can be expensive

» Street sweeping may need to be done manually if sharp angles are used or if gutter pan is not accessible to street sweeping vehicles

Center Island Narrowing

Raised islands along centerline of street, often at entrance to neighborhoods, creating gateways.

Recommended for: Downtown, Neighborhoods

Benefits:

» Can help make streets more comfortable for pedestrians by providing a mid-point refuge for pedestrian crossings

» Provides opportunity for landscaping

Challenges:

» Can be expensive

» May restrict left turn access and/or reduce left turn capacity

Other Treatments and Support Facilities

Some improvements can serve both bicyclists and pedestrians and can be used in combination with other treatments.

Wayfinding

Wayfinding refers to the network of informational signage posted to guide pedestrians or bicyclists to their destination. Good wayfinding signage presents destination, direction, and distance information in a manner that is easy to read and interpret. Bicycle specific wayfinding must be tailored so that bicyclists can see the information from a comfortable distance. Signs posted at trail junctions and intersections of trails with arterials are particularly helpful. Guidance on sign design and installation is available in Chapter 9B of the 2014 California MUTCD and the National Association of City Transportation Officials (NACTO) design guidelines. Wayfinding signage can also be enhanced with average walk times and bike times to destinations and local branding.

Lighting

Sufficient lighting on bicycle and pedestrian facilities reduces the fear of crime and prevents collisions that occur due to decreased visibility. Pedestrian walkways should have lighting that allows people to identify faces from a distance of about 30 feet. Lighting should be consistent to reduce deep shadows and avoid excessive glare. It is necessary to maintain conventional light fixtures regularly, keeping lamp bowls clean and promptly replacing bulbs that have burnt out. Newer light emitting diode (LED) fixtures, which have much longer bulb life, have greatly decreased maintenance requirements.

Lane Narrowing

Restriping narrower travel lanes for vehicle traffic via centerline and edgeline striping can reduce motor vehicle speed. Cross-hatch pavement marking applied to outer edge of a roadway to create a shoulder and reduce lane widths if the space is not used for a bike lane or parking. In many locations, interior traffic lanes can be narrowed to 10 feet to encourage lower speeds. Narrow lanes can make room in the roadway right of way for painted medians, center turn lanes, bicycle lanes, or parking.

Recommended for: Neighborhoods, downtown

Benefits:

» Can be used to create bicycle lanes

» Also reduces pedestrian crossing length

» Can be implemented in regular roadway maintenance

Challenges:

» Regular maintenance required

Source: Center for Transportation Research and Education at Iowa State University

Road Diets

Road diets reduce the number of travel lanes. This is typically done by converting a four lane road into a three lane road with a two-way-left-turn lane and bike lanes. The space created by removing lanes can also be used for painted medians or parking.

Recommended for: Roadways with current and expected future ADT approximately 20,000 or less

Benefits:

» Help to reduce speeds

» Reduce conflicts at crossings

» Can increase the separation of pedestrians from traffic

Challenges:

» Can be expensive

Bicycle Boulevards

These tools can be combined into pedestrian-friendly streets or bicycle boulevards, for which low traffic volumes and speeds are essential.

Bicycle boulevards are streets with low motorized traffic volumes and speeds designated and designed to give bicycle travel priority. Physical and non-physical measures such as signs, pavement markings, speed lumps, and low or reduced vehicle speeds are utilized to discourage through trips by motor vehicles and create safe, convenient bicycle access.

Source: Payton Chung,
https://www.flickr.com/photos/paytonc/1322594444

Non-Infrastructure Best Practices

In addition to physical changes to the transportation system, other programs can also benefit pedestrians and bicyclists.

Education

Bicycle Education for Adults

The League of American Bicyclists has a number of resources to teach safe bicycling including informational packets, curricula, and courses with trained instructors. The Smart Cycling Quick Guide (http://bikeleague.org/quickguide) is an easy-to-read booklet that outlines the basics of a bike, rules of the road, and the knowledge everyone needs to know to ride a bike on a range of facility types safely and confidently. For a short summary, the League of American Bicyclists has a page of Smart Cycling Tips (http://bikeleague.org/content/smart-cycling-tips-0) for biking safely including maintenance and trail etiquette.

Bicycle Ambassadors

Bicycle ambassadors are either volunteers from the community or employees of local advocacy groups that take a leading role in educating, encouraging, and activating the community to be a safer and more comfortable place for bicyclists. Ambassadors have undergone a safety education course and are also supplied with maintenance and educational resources to distribute to the community both formally and informally. This educational model empowers community members through a bottom-up approach to improving bicycle safety and mode share. Some examples of bicycle ambassador programs include:

- Fort Collins: http://bicycleambassadorprogram.org/
- Missoula: http://www.ci.missoula.mt.us/DocumentCenter/Home/View/4604
- Washington, DC: http://www.waba.org/programs/d-c-bike-ambassador/

Bicycle and Pedestrian Education for Children

Educating school-aged children on safe bicycling is important to establish proper habits and travel behaviors early in life. There are a number of different programs and approaches, both formal and informal, which are effective in educating kids about safe bicycling. Kidical Mass is one event, which closes sections of roadway to vehicles, usually a route near the local elementary school, to allow families to ride their bikes without traffic. This empowers kids and families to get on their bikes and familiarizes them with the bike route to school. For more information on Kidical Mass, visit http://kidicalmassdc.blogspot.com/p/abcs-of-family-biking.html.

Safe Routes to School programs are effective ways to design a program that is customized for the specific needs of the stakeholders in the community. A Safe Routes to School Plan should be developed by a group of stakeholders based on the key issues for school-aged children and geographically centered near schools. This plan should include all five E's—Engineering, Education, Encouragement, Enforcement, and Evaluation. These strategies should be accompanied by a timeline with prioritization and a funding approach. For more information, visit http://guide.saferoutesinfo.org/steps/index.cfm.

Encouragement

Local schools can encourage biking and walking through bike rodeos, fun runs, walkathons, and walking to local school events. Bike and walk to school events are also effective in encouraging biking and walking. Programs such as "walking school buses," a program where kids and families walk to school in groups, are other good opportunities for neighborhood schools to encourage walking. Local running, walking, hiking, and biking events also encourage active engagement for adults. Bike to work events are also useful to encourage adult bicycling.

Enforcement

Proper enforcement is important to ensuring the safety of the street network for bicyclists and pedestrians. This is done through proper training of law enforcement, increasing the safety of bicyclists and pedestrians, theft prevention, and the proper pairing of education and enforcement.

Local law enforcement can partner with schools to step up enforcement of good motor vehicle behaviors around pedestrians and bicyclists at the beginning of the school year. Continuing this effort periodically throughout the school year and expanding it to other places frequented by pedestrians and bicyclists can further help active transportation.

Training

It is important for the police department to include collision reporting and bicycle and pedestrian rules of the road into their training. There are a number of resources from other communities and national sources that can be used, such as this National Highway Traffic Safety Administration video: http://www.nhtsa.gov/multimedia/bicycles/bicycle_safety_LE.wmv.

Bicycle Patrol Units

Bicycle fleet officers improve the relationship between officers and bicyclists and improve the effectiveness of enforcement for all modes as it affects bicyclists' safety.

Police Participation in Education

Safety, as discussed in the Education section, can also be applied as a responsibility of the police department. Officers practice this by distributing literature on safe pedestrian habits as part of enforcement efforts and meetings and events with students and the public. This can include education on proper helmet use, light giveaways, and targeting infractions.

Bicycle Diversion Programs

Bicycle diversion programs provide bicyclists who are cited for certain infractions the option to attend a bicycle safety class rather than paying a ticket. This educational component is associated with a greater degree of lasting behavior change.

Bike Theft

The fear and reality of bike theft can be a barrier to bicycling for all users. Recommendations for reducing bike theft include improving locking practices through education, providing adequate bicycle parking facilities, providing bicycle registration, providing recovery resources and programs, and offender detection such as bait bikes.

Source: MTBR, reviews.mtbr.com/how-to-get-your-stolen-bike-back

Speeding

Raising awareness of speeding is important at a neighborhood level and can be achieved through local events and education. Residents are less likely to speed if they know their neighbors. A Pace Car Program is a more formal approach, where volunteers from the community set an example for driving the speed limit.

Speed monitoring programs train residents in using radar detectors which then distribute warnings to speeding vehicles. This type of program helps residents understand that this is a local and personal issue and the importance of driving the speed limit. Pairing education with enforcement by distributing warnings and educational materials before giving tickets provides drivers with a deeper understanding of the law and its value.

Speed Feedback Sign and Radar Trailer

Speed feedback signs and radar trailers that display real-time signs and flash when drivers exceed the limit. Radar trailers are appropriate on a temporary basis only.

Recommended for: Corridors with prevalent cases of speeding that lack room for physical measures or in conjunction with recent construction of physical measures

Benefits:

» Can be used to address key corridors where posted speed limits change drastically or where enforcement is targeted

Challenges:

» Effectiveness may be temporary

Appendix J

Resolutions Adopting the Plan

(Proposed draft resolution below will be replaced with final resolutions adopted by city councils and board of supervisors.)

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF [CITY NAME] APPROVING THE NEVADA COUNTY ACTIVE TRANSPORTATION PLAN

WHEREAS, the Nevada County Active Transportation Plan complies with the California Transportation Commission 2019 Active Transportation Program Guidelines; and

WHEREAS, the Nevada County Active Transportation Plan is in compliance with the 2016 Nevada County Regional Transportation Plan; and

WHEREAS, the Nevada County Active Transportation Plan is an implementation tool to the [City Name] General Plan Circulation Element; and

WHEREAS, the Nevada County Active Transportation Plan promotes walking and biking for transportation and recreation by all members of the community by creating a connected and complete network of trails, walkways, and bikeways that provides safe, convenient, and enjoyable connections to key destinations and neighborhoods in [City Name]; and

WHEREAS, the Nevada County Active Transportation Plan promotes pedestrian and bicyclist safety and collision reduction; and

WHEREAS, the Nevada County Active Transportation Plan will improve the accessibility of funding for pedestrian and bicycle related-related improvements in [City Name]; and

WHEREAS, approval of the Nevada County Active Transportation Plan meets eligibility requirements for Active Transportation Program funding.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of [City Name] hereby adopts the Nevada County Active Transportation Plan.