UKIAH BICYCLE AND PEDESTRIAN MASTER PLAN

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City of Ukiah

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1 Introduction

The goal of the update to the Ukiah Bicycle and Pedestrian Master Plan (BPMP or Plan) is to improve bicycling and walking in the City of Ukiah as a comfortable and convenient transportation and recreation option. Once approved by the Ukiah's City Council, the City can submit the Plan to the Mendocino Council of Governments (MCOG) for approval and inclusion in the next update to the regional transportation plan. The City can also submit the Plan to the California Department of Transportation (Caltrans) in connection with an Active Transportation Program (ATP) application for implementation funds for active transportation facilities within the City.

This chapter presents an overview of the existing conditions of the City with respect to its bicycle and pedestrian network. Through an inventory and review of the current conditions that may impact bicycle and pedestrian mobility - including goals and objectives, predominant community needs, and adopted plans and policies - this chapter sets the stage for development of the Plan update.

1.1 Setting

The City of Ukiah is located within an area known as the Yokayo Rancho, approximately 30 miles east and inland from the Pacific Ocean in the Ukiah Valley. Yokayo Rancho was one of several Spanish land grants in Alta, California and took its name from the Pomo word meaning "deep valley". It was also the basis for the city name, as Ukiah is an anglicized form of Yokayo. The Ukiah Valley runs north-south for about nine miles, with an average elevation of about 630 feet and with the hills surrounding the Valley ranging up to about 3,000 feet. The Russian River enters the Valley at the north end, and runs south along the Valley floor. The Northwestern Pacific Railroad (NWP) right-of-way and US Highway 101 run parallel to the river through the Valley. Incorporated in 1876, Ukiah developed first around the cultivation of hops and, in the 20th-century, around redwood logging. Today, the City is governed by the Ukiah City Council and serves over 16,000 residents.

1.2 Land Use

Ukiah is a relatively old California city, and early development occurred in a typical grid pattern in the center, which is largely low to medium density residential. Extending east and west from the city center, most of the existing land use can be classified as very low density residential, open space and public lands.. Industrial sites dominate just north of the city center and low density residential and low density commercial are interspersed north up to Lake Mendocino, outside of city limits. The total area of Ukiah is approximately five square miles, per the US Census. **Figure 1** presents the City of Ukiah Zoning Map.

1.3 Benefits of Bicycling and Walking

Bicycling and walking are low-cost and healthy transportation options that provide economic and livability benefits to communities. When residents and visitors bicycle or walk for a trip, it provides an integrated form of exercise, improves quality of life, saves money that can be spent elsewhere, and minimizes greenhouse gas emissions and surface run-off pollutants.

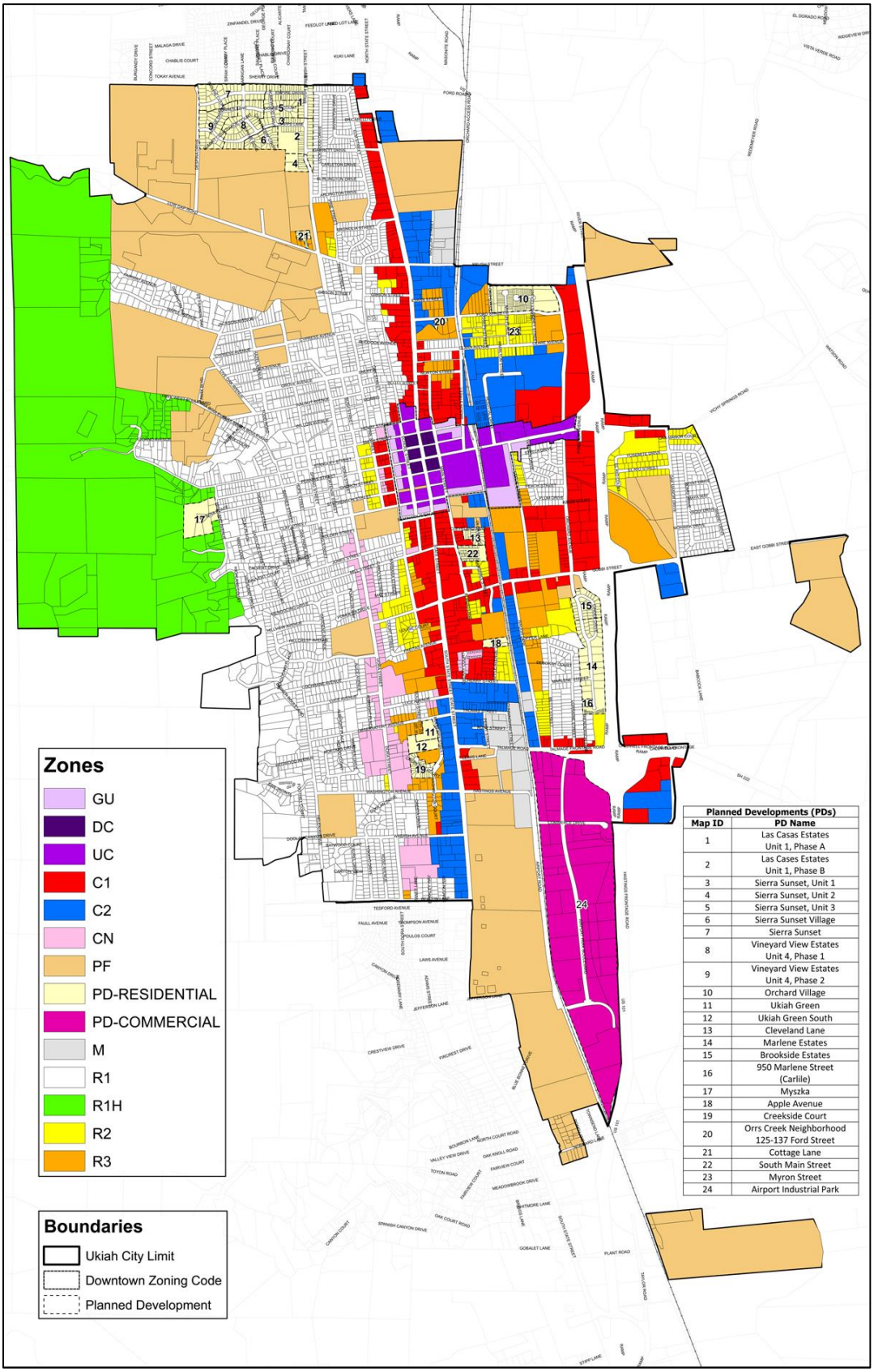


Figure 1: City of Ukiah Zoning Map

1.3.1 Public Health Benefits

Bicycling and walking are not just forms of travel; they are important forms of exercise. Many public health experts associate the rising and widespread incidence of obesity with automobile-dominant development patterns and lifestyles that limit such daily forms of physical activity.[1] This association is perhaps most apparent with respect to children and school travel. After decades of declining rates of bicycling and walking –from roughly half of all non-high school students in 1968 to just 14 percent in 2009 – obesity among youth has become an epidemic.[2] In California, 1 in 3 kids between the ages of 9 and 17 are now at risk of becoming or are already overweight.[3]

For children, the Center for Disease Control and Prevention (CDC) recommends 60 minutes of daily aerobic exercise. The CDC recommends 75 to 150 minutes of vigorous exercise, in combination with muscle strengthening exercises, for adults on a weekly basis. Ukiah's bicycle and pedestrian infrastructure offers adults and children the opportunity to achieve a great portion of the recommended amount of aerobic exercise through bicycling and walking to work or school. Improvements to Ukiah's bicycle and pedestrian will increase the comfort and convenience of using bicycling and walking as a means of active transportation.

Bicycle- and pedestrian-oriented infrastructure also provides transportation choices to those who cannot or do not drive, including people with disabilities, youth, seniors, and people with limited incomes. Families that can replace some of their driving trips with bicycling or walking trips spend a lower proportion of their income on transportation,[4] freeing additional income for local goods and services. For those who individuals do not live within walking distance of her or his place of employment and do not have access to convenient transit routes, bicycling may provide the only affordable and reliable means of commuting.

1.3.2 Economic Benefits

With the fluctuating expense of gasoline, bicycling and walking can be a more economically efficient mode of transportation than driving for the residents of Ukiah. According to the US Census and AAA estimates, expenses related to motor vehicles account for more than 18 percent of a typical household's income.[5] By encouraging bicycling and walking, residents will save money on the purchase of gasoline and unscheduled car maintenance and repairs.

Studies have shown that the money residents saved by bicycling and walking may likely find its way back into the local economy. The Victoria Transport Policy Institute found that households in automobile-dependent communities devote 50 percent more to transportation (more than $8,500 annually) than

[1] October 27, 1999 issue of JAMA
[2] United States Department of Transportation, National Household Travel Survey
[3] The California Endowment. Fighting California's Childhood Obesity Epidemic. http://www.calendow.org/article.aspx?id=348
[4] Center for Neighborhood Technology. (2005). Driven to Spend: Pumping Dollars out of Our Households and Communities.
[5] http://www.walkinginfo.org/why/beneifts_economic.cfm

households in communities with more accessible land use and more multi-modal transportation systems (less than $5,500 annually).[6]

Examples of the economic benefits of an improved bicycling and walking environment in commercial and residential areas are becoming more and more common. A $4.5 million investment in streetscape alterations on School Street in Lodi, California, along with economic development incentives are credited with attracting 60 new businesses, decreasing the vacancy rate from 18 percent to 6 percent, and increasing downtown sales tax revenue by 30 percent.[7] Retail areas often subsidize vehicle parking on the assumption that customers need to drive to make large purchase; however, retail districts worldwide, such as the SoHo neighborhood in Manhattan, have realized commercial gains by increasing bicycle and pedestrian space and reducing space dedicated solely to motor vehicles.[8] One study of consumer expenditures in British towns found higher weekly expenditures by consumers who travel by walking than those who drive or ride transit to downtown shopping districts (£91 on foot compared to £64 by car, £63 by bus and £46 by train).[9]

1.3.3 Environmental Benefits

Due to emissions from "cold starts" (i.e., when a car has not been driven in a few hours and the engine is cool), a one-mile automobile trip emits up to 70 percent as much pollution as a ten-mile excursion. This means that when individuals decide to bicycle or walk even for short trips, she or he is still significantly reducing their individual footprint.[10] From reducing local levels of harmful pollutants that cause asthma and other respiratory illnesses to addressing global climate change, higher rates of walking and bicycling provide tangle air quality benefits.

Walking and bicycling also reduce water pollution compared to automobiles. Cars may leak oil, petroleum products, and other toxins onto road surfaces that eventually make their way to storm drains, creeks, and large bodies of water. This "non-point source" pollution is threat to urban aquatic habitats. Some toxins and metals accumulate in sea life and cause medical problems to people when eaten. Others cause explosive growth of algae, which depletes water of oxygen, killing fish and aquatic life.[11] Every bicycle or pedestrian trip is one less opportunity for these toxins to enter the environment, which on a large scale can make the difference in the health of local water ways and aquatic systems.

1.4 Bicycle and Pedestrian Goals, Objectives, and Policies

The 1999 City of Ukiah Master Bicycle and Pedestrian Plan goals, objectives, and policies have been updated to reflect current conditions and are presented below to guide both bicycle and pedestrian planning in Ukiah. These goals, objectives, and policies relate specifically to bicycling and walking, the physical bicycling and walking networks, and the implementation of programs that support bicycle and pedestrian travel.

[6] Victoria Transport Policy Institute. Economic Value of Walkability. February 1, 2011. http://www.Vtpi.org/walkability.pdf
[7] Local Government Commission for the California Department of Health Services.
[8] http://www.transalt.org/files/newsroom/reports/soho_curing_cars.pdf
[9] http://www.vtpi.org/walkability.pdf
[10] Bay Area Air Quality Management District. (2007). Source Inventory of Greenhouse Gas Emissions.
[11] City and County of Honolulu Department of Environmental Services.

1.4.1 Bicycle and Pedestrian Goals, Objectives, and Policies

Goal 1 - Improve Safety and Education.

Make the City's circulation system safer for all bicyclists and pedestrians and enhance education for bicyclists, pedestrians, and motorists.

- Safety and Education Objective 1: Maximize coordination and responsiveness of the City agencies responsible for the identification, analysis, and resolution of bicycle and pedestrian issues. Ukiah lacks a "one stop" entity that attends to, coordinates and addresses bicycle and pedestrian safety issues. Currently, every City agency has some measure of responsibility for bicycle and pedestrian safety issues, but there is no lead agency charged with bringing multi-faceted safety or connectivity issues to resolution.
    - Safety and Education Policy 1-1: Utilize the City's Traffic Engineering Committee for the identification, analysis, and resolution of safety issues related to bicycle and pedestrian travel within the City of Ukiah. The Traffic Engineering Committee includes representatives from the Mendocino Transit Authority, the public, the Public Works Department, Police Department, Planning Department, and other relevant departments.
    - Safety and Education Policy 1-2: Expand and support school commute safety education, marketing, and physical improvements, including educational curriculum, on-bike training, safety handbooks, helmet subsidy programs, marketing materials on the benefits of bicycling and walking, and a 'toolbox', of physical measures to improve safety on school commute routes for bicyclists and pedestrians.
    - Safety and Education Policy 1-3: Accommodate the needs of all travelers through a "Complete Streets" approach to designing new transportation improvements. Complete Streets are roadways designed to facilitate safe, comfortable, and efficient travel for all roadway users. Complete Streets accommodations include bike lanes, sidewalks, crosswalks, curb ramps, etc.
    - Safety and Education Policy 1-4: Where possible, incorporate traffic calming techniques as described in published documents produced by organizations such as the Institute of Transportation Engineers, including measures to manage vehicle speeds and flows - such as traffic circles, traffic diverters, and raised crosswalks - so as to maximize the safety of bicycle and pedestrian movement in residential and commercial neighborhoods.
    - Safety and Education Policy 1-5: Educate adults on the rights and responsibilities of bicyclists and pedestrians through public information, and education of drivers, cyclists, and pedestrians. Support adult bicycle training courses, and inclusion of bicycle and pedestrian laws as part of traffic school curriculum and driving test questions. Produce a safety brochure that illustrates basic rules of the road and other good practices for distribution in schools and libraries.
    - Safety and Education Policy 1-6: Coordinate with the Ukiah Police Department to enhance enforcement of existing bicycle and pedestrian laws.
- Safety and Education Objective 2: In conformance with Federal policy, double current levels of bicycling and walking in Ukiah by the year 2035 as a commute mode, and reduce bicycle and pedestrian-related collision rate by half (50%) between 2014 and 2035.

- Safety and Education Policy 2-1: Monitor bicycle and pedestrian commute modes and accident statistics over the life of this Plan to measure the effectiveness of improvements and achievement of stated objectives. Prepare annual summary reports on mode split (the percentage of various travel modes used by citizens for work trips, shopping trips, etc.) and accident data.

Goal 2 - Greater Citywide Access.

Provide a system of paths, lanes, routes, and support facilities which enable and encourage convenient bicycle and pedestrian circulation for all transportation needs, including travel to work, school, shopping, or recreation activities.

- Greater Citywide Access Objective 1: Plan, design, implement, and maintain a comprehensive bicycle and pedestrian system in Ukiah.
  - Greater Citywide Access Policy 1-1: Develop and maintain a city-wide system of paths, lanes, and routes which meets the needs of commuter and recreational users, helps reduce motor vehicle trips, and links residential neighborhoods with employment centers and with local and regional destinations.
  - Greater Citywide Access Policy 1-2: Integrate the Ukiah bicycle and pedestrian network of lanes, paths, and routes into the regional system, including direct and via transit connections to Willits, Cloverdale, and Healdsburg.
  - Greater Citywide Access Policy 1-3: Continue development of the Northwestern Pacific Railroad (NWP) Rail Trail and explore the use of other natural, manmade corridors for the development of Class I bicycle and pedestrian pathways that connect major employment centers, shopping and recreation areas, and transit modes.
  - Greater Citywide Access Policy 1-4: Review the allocation of public right-of-way to vehicular, bicycle, and pedestrian movement, and re-allocate sufficient space for bicycles and pedestrians on all streets, especially those identified as the primary corridors and areas in the Plan.
- Greater Citywide Access Objective 2: Coordinate bicycle and pedestrian improvements and funding efforts with other jurisdictions and regional agencies.
  - Greater Citywide Access Policy 2-1: Work with Mendocino County and other public, private, and no-profit agencies to create a well-connected and easily accessible bicycle and pedestrian network for the region.
  - Greater Citywide Access Policy 2-2: Work with Mendocino County to increase mutual gain when applying and competing for funding for projects that have inter-city or inter-agency benefits.
- Greater Citywide Access Objective 3: Use public open space to its greatest public advantage by capitalizing on existing or planned City amenities when completing or upgrading bicycle and pedestrian facilities.
  - Greater Citywide Access Policy 3-1: Designate State Street and/or other local downtown streets as a transit/bicycle corridor and pedestrian promenade, and facilities to encourage bicycle and pedestrian use should be incorporated in any public/private development or redevelopment.

        - Greater Citywide Access Policy 3-2: Evaluate opportunities for mountain bicycling and road bicycle tours around Ukiah, especially for the potential to attract new visitors to the area.
    - Greater Citywide Access Objective 4: Evaluate including facilities for bicyclists and pedestrians when contemplating any changes the City street network in the City of Ukiah.
        - Greater Citywide Access Policy 4-1: The City, Caltrans, Mendocino Transit Authority, and other affected agencies and cities should include the recommendations of this Plan and bicycle/pedestrian needs in general in addition to transit and auto commuters when designing any new freeway by-pass project or street project.
        - Greater Citywide Access Policy 4-2: Incorporate bicycle and pedestrian facilities in public/private development and redevelopment plans in Ukiah.

Goal 3 – A High Quality of Life.

- Quality of Life Objective 1: Foster a sustainable environment by increasing transportation options such as bicycling and walking, and recognizing that increased use of these modes of travel and the associated reduced use of automobiles are essential components of sustainable local and regional environments.
    - Quality of Life Policy 1-1: Develop and showcase Ukiah's bicycle and pedestrian network by identifying outstanding scenic rides, walks, trails, and destination points, thereby enhancing the character, livability, and attractiveness of Ukiah.
    - Quality of Life Policy 1-2: Integrate the bicycle and pedestrian system and facilities with other travel modes as a vital and essential part of the City's transportation system.
    - Quality of Life Policy 1-3: Create a streetscape and path system in Ukiah that is not only physically adequate, but aesthetically pleasing and inviting to pedestrians and bicyclists alike. Designers of bicycle and pedestrian systems and facilities should strive to improve the physical quality of the system while maintaining elements that tell the story of Ukiah's history, character, and the aesthetic and cultural diversity of our city.
    - Quality of Life Policy 1-4: Incorporate aesthetically pleasing bicycle and pedestrian friendly design elements, both on and off the road system in new residential and commercial/industrial development in Ukiah.

Goal 4 – Establish an Effective Implementation Strategy.

Incorporate the needs of bicyclist and pedestrians into the city's existing programs, policies, plans, and operations, and involve the community and local agencies in planning and implementing bicycle and pedestrian facilities and programs. Ukiah's residents want the planning efforts they invest in to become real. Implementation of this Plan would result in the eventual completion of an interconnected network of paths and routes, an on-going and aggressive competition for grants and other funding mechanisms, and day-to-day oversight of the planning, building, and maintenance activities of the City with regard to pedestrian and bicycle facilities.

- Effective Implementation Objective 1: Make bicycle and pedestrian improvements a high priority when allocating funding, reviewing development plans, and coordinating interagency and inter-jurisdictional transportation improvement efforts.

- Effective Implementation Policy 1-1: Assign Public Works and Planning staff the responsibility of developing and managing a bi-annual maintenance and operations budget, preparing applications for grants and other funding, assisting with promotional and educational events, and otherwise driving implementation of the Master Plan. Alternatively, the City could create a part-time transportation planner position to assume these responsibilities.
- Effective Implementation Policy 1-2: Update the Bicycle and Pedestrian Master Plan every five years, and provide for an amendment process which includes review and recommendations by the Bicycle and Pedestrian Master Plan Steering Committee.
- Effective Implementation Policy 1-3: Implement a maintenance program insuring adequate upkeep of bicycle and pedestrian improvements and existing amenities.
- Effective Implementation Policy 1-4: Institute a private sponsorship and adoption program of the bicycle and pedestrian system to assist in maintenance and possibly construction, to be acknowledged with small signs where appropriate.

1.4.2 Bicycle-Specific Goals, Objectives, and Policies

Goal 1: Improve Safety and Education

- Bicycle Safety and Education Objective 1: Improve street, path, signs, and signalization systems to increase the safety of bicyclists in Ukiah.
  - Bicycle Safety and Education Policy 1-1: Adhere to Caltrans design standards or other supplementary standards for all bicycle improvements. Incorporate National Association of City Transportation Officials (NACTO) *Urban Bikeway Design Guide* and American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities* recommendations where feasible. Final design should be reviewed and approved by the Director of Public Works.
  - Bicycle Safety and Education Policy 1-2: Many recreational and less experienced cyclists prefer to ride on Class I bike paths rather than arterials streets. Make efforts to obtain, redevelop, or encourage private redevelopment of railroad, utility, and other rights-of-way as linked, multi-use Class I bike paths or trails. Pay special attention to safety at roadway and railroad crossings. Provide adequate width to accommodate a variety of trail users. Identify security and monitoring mechanisms such as lighting, call boxes, emergency access, and bicycle patrols, especially along isolated portions of the pathway.
  - Bicycle Safety and Education Policy 1-3: Identify the cost, funding source, and agency responsibility of future maintenance and operation when contemplating the design of bike paths, bike lanes, or bike routes.
  - Bicycle Safety and Education Policy 1-4: Maximize the separation between bicyclists and vehicles on all streets. Provide Class II bike lanes along the primary bikeway system where feasible. Provide a minimum of 14-foot wide curb lanes on the primary bikeway system where feasible and where bike lanes cannot be provided (Class III bike route). Feasibility of lanes and routes are to be determined through a specific set of planning and design steps listed in the Implementation Chapter.

- Bicycle Safety and Education Policy 1-5: Review intersections on the primary bikeway system for needed improvements, including signal loop detectors, bike lane pockets, curve geometry, striping, and signing.
- Bicycle Safety and Education Policy 1-6: Discourage the use of sidewalks as bicycle facilities where there are numerous curb cuts or cross streets, limited visibility, a significant number of pedestrians, and/or other available options such as bike lanes.

Goal 2: Greater Access

- Greater Bicycle Access Objective 1: Plan, design, implement, and maintain a comprehensive bicycle system in Ukiah. A comprehensive, well-maintained system will meet the needs of both commuter and recreational bicyclists by providing a rational and consistent network of routes which provide a reasonable balance between connectivity, access, and traffic conditions.
  - Greater Bicycle Access Policy 1-1: Develop and maintain a citywide bicycle system of paths, lanes, and routes that is integrated into the regional system of bikeways and which meets the needs of commuter and recreational users, helps reduce motor vehicle trips, and links residential neighborhoods with local and regional destinations.
  - Greater Bicycle Access Policy 1-2: Provide alternative routes for less experienced bicyclists off the State Street/US 101 corridors.
- Greater Bicycle Access Objective 2: Improve the quality and quantity of bicycle parking and support facilities in Ukiah.
  - Greater Bicycle Access Policy 2-1: Secure, safe bike racks should be provided at all public destinations, including the library, parks, museum, schools, hospital, railroad station, and City Hall. Provide specific guidelines on the type of racks, the location, and the required storage capacity based on employees, visitors, etc.
  - Greater Bicycle Access Policy 2-2: Work with the School District to facilitate the construction of bicycle corrals at the elementary, middle, and high school in Ukiah.
  - Greater Bicycle Access Policy 2-3: Require all new commercial development or redevelopment projects to comply with zoning standards for bicycle parking.
  - Greater Bicycle Policy 2-4: Continue to work with Mendocino Transit Authority to provide bike racks on all bus routes that link with major recreational or commuting destinations.

1.4.3 Pedestrian-Specific Goals, Objectives, and Policies

Goal 1. Improve Safety and Education

- Pedestrian Safety Objective 1: Transform City streets and enforcement systems to increase safety for pedestrians in Ukiah. Improving pedestrian safety is paramount for Ukiah. Ukiah must work diligently to ensure safe travel for its children, parents, friends, and neighbors.
  - Pedestrian Safety policy 1-1: Crosswalks should be provided where needed on all access routes to schools, parks, shopping areas, libraries, community centers, and transit stops. Provide new signals and other improvements where warranted and as funding is available.

- Pedestrian Safety policy 1-2: Evaluate and adjust traffic signal phasing if needed to accommodate the pedestrian needs over the vehicle in key pedestrian-oriented locations such as downtown, near schools, senior centers, recreation centers, entertainment and cultural destinations, and neighborhood commercial areas.
- Pedestrian Safety policy 1-3: Improve school area pedestrian safety through joint efforts with the School District and other interested parties by implementing the Safe Routes to Schools Plan (SRTS Plan) and using methods such as: identifying hazardous routes or conditions, analyzing accident data, observing traffic circulation near the schools, and surveying students who walk or ride to school, and then acting promptly to correct the problem.

Goal 2: Greater Access

- Greater Pedestrian Access Objective 1: Identify locations and facilitate the creation of easily identifiable activity centers along the State Street corridor that can serve as safe, inviting, and memorable public gathering places.
  - Greater Pedestrian Access Policy 1-1: The City should continue to focus attention on creating and improving the State Street corridor where needed by residents and visitors. The corridor should be pedestrian-friendly and pedestrian-oriented, using guidelines developed in the Implementation chapter of this Plan.
  - Greater Pedestrian Access Policy 1-2: When contemplating development or street improvements, consider the range of options outlined in the Implementation chapter for improving access and pedestrian traffic flow.
- Greater Pedestrian Access Objective 2: Work to eliminate barriers to pedestrian travel.
  - Identify opportunities to remove barriers and improve crossings of arterial roadways and US Highway 101.
  - Identify gaps in the pedestrian facilities network and needed improvements to and within key pedestrian activity centers and community areas, and define priorities for eliminating these gaps by making needed improvements.

1.5 Relationships to Other Plans and Policies

The planning documents described below summarize the existing and proposed bicycle- and pedestrian-related plans, policies, and projects in Ukiah, as well as relevant regional plans and policies.

1.5.1 City of Ukiah

City of Ukiah Safe Routes to School Plan (2014)

The City of Ukiah Safe Routes to School (SRTS) Plan identifies and prioritizes capital projects, non-infrastructure strategies, and next steps for establishing a Safe Routes to School program in Ukiah. The SRTS Plan's recommendations are based on input gathered from the initial discussions with City and school staff, "walk audit" observations, best practices from other communities, and additional stakeholder input. School improvement concepts were identified for each of the seven Ukiah Schools and evaluated through a ranking system of five criteria (addresses a known safety issue, potential to serve the most

students and increase rate of walking/biking, existing community support, feasibility and cost, communitywide benefits). The highest ranking projects include:

- Reduced and Extended School Zone Speed Limits
- Dora Street and Gobbi Street Intersection Improvements
- Gobbi Street Bike Lanes
- "Level 1" Uncontrolled Crosswalk Enhancement
- Grove Avenue/Bush Street Buffered Bike Lanes
- Dora Street Buffered Bike Lanes
- North Bush Street/Low Gap Roundabout
- Enhanced Uncontrolled Crosswalks
- Helen Ave and Washington Ave Class III Shared Bikeways
- Despina Drive/Low Gap Intersection Improvements
- Clay/Peach Street Sidewalk and Bikeway Gap Closure
- East Perkins Street Road Diet Study
- Leslie Street Curb Extensions and Sidewalk Improvements
- School Parking Lot Redesign Options
- North Bush Street – Island Pathway Access Upgrades
- Arlington Drive at North Bush Street Enhanced Crosswalk and Curb Extensions
- Gobbi Street at Oak Street Curb Ramps and Crosswalk
- Mendocino Drive at Alice Avenue Crossing Improvement
- Despina Drive and Capps Lane Enhanced Intersection
- Low Gap Road/Orr Creek Pathway Study

Ukiah Downtown Streetscape Improvement Plan (2009)

The Ukiah Downtown Streetscape Improvement Plan is part of the City of Ukiah's efforts to resolve traffic, circulation, and urban design issues associated with its downtown area. The purpose of this plan is to upgrade State Street and Main Street from Norton Street to Gobbi Street in order to provide a cohesive, pedestrian-friendly, attractive, and complete downtown core.

The planned alterations to State Street include:

- Gobbi Street Intersection: Enhanced intersection treatment.
- Between Gobbi Street and Mill Street: Raised Median
- Mill Street Intersection: Enhanced crosswalks to highlight pedestrian crossing.
- Seminary Avenue Intersection: Enhanced intersection treatment and bulb-outs to reduce crossing distance.
- Between Stephenson Street and Church Street: Raised median/pedestrian refuge island.
- Perkins Street Intersection: Signal timing changes and enhanced intersection treatment.
- Standley Street Intersection: Signal timing changes.
- Standley Street and Henry Street: Conversion of one-way to two-way.
- Between Smith Street and Henry Street: raised median.
- Gibson Creek Crossing: Gateway and pedestrian crossing with bollards or street lights.
- Widened sidewalks along State Street in order to accommodate new planters, trees, street furniture, outdoor restaurant/café seating, and other pedestrian amenities.

The planned alterations to Main Street include:

- Gobbi Street Intersection: Enhanced intersection treatment.
- Cleveland Lane Intersection: New crosswalks.
- Clay Street to Norton Street: Dedicated bike lanes.
- Smith Street Intersection: Enhanced Crosswalks.
- Continuous sidewalks to fill in existing gaps.

City of Ukiah General Plan (2004)

The City of Ukiah General Plan provides a "big-picture" of long-range development and capital improvement programs over a 20-year period. The Infrastructure Element of the plan states that developing bicycle and pedestrian paths as an integrated part of the transportation and recreation networks can enhance the quality of life in the City and County. Policies to achieve this end include:

- Policy CT-6.1: Work with the Mendocino Council of Governments to develop a safe and integrated circulation system of routes for bicycle transportation.
    - Implementation Measure CT-6.1 (a): Utilize the Land Development Code to ensure that there is secure and safe parking for bicycles in new parking facilities.
    - Implementation Measure CT-6.1 (b): Develop incentives to encourage retrofitting parking lots for bicycle parking.
    - Implementation Measure CT-6.1(c): During routine street cleaning and maintenance, ensure that bicycle lanes – when developed, signed, or striped – are maintained for safe usage.
    - Implementation Measure CT-6.1(d): During the short-term planning period, work with local civic groups to create an "Adopt-a-Bike Lane" program.
- Policy CT-6.2: Promote the use of bicycles as a viable and attractive alternative to cars.
    - Implementation Measure CT-6.2 (a): During the short-term planning period for incorporation into the five year update, develop a plan to extend the system of bicycle lanes and pathways into important locations in the Planning Area.
    - Implementation Measure CT-6.2 (b): Provide incentives and technical support to encourage employers to provide convenient, safe, and secure bicycle parking at places of employment.
- Policy CT-6.3: Provide bicycle lanes or paths along major streets.
    - Implementation Measure CT-6.3 (a): Require that streets linking residential areas with school facilities and shopping areas be designed to include bicycle lanes.
    - Implementation Measure CT-6.3 (b): Consider bicycle operating characteristics in the design of intersections and traffic control systems and include appropriate features in intersection design standards.
- Policy CT-6.4: Promote safe bicycle usage.
    - Implementation Measure CT-6.4 (a): Through the Public Safety Department, maintain an educational program promoting bicycle use and bicycle safety.
    - Implementation Measure CT-6.4 (b): Enforce bicycle safety regulations.
- Policy CT-7.1: Treat pedestrian access as an integrated part of all road improvements within the City and within urbanized development areas of the County.

- Implementation Measure CT-7.1 (a): Utilize incentive programs to encourage attractive pedestrian access to all developed areas.
- Implementation Measure CT-7.1 (b): Pedestrian walkways shall be integrated and designed to provide direct access between areas.
- Implementation Measure CT-7.1 (c): Pedestrian access standards in the Land Development Code shall require sidewalks or paths to be separated from auto travel lanes by an appropriate combination of grade separations, parking lanes, or landscaping.
- Implementation Measure CT-7.1 (d): Pedestrian access shall be accessible to the handicapped with appropriate curb cuts, grades, and ramps.
- Implementation Measure CT-7.1 (e): Pedestrian access design standards shall be included in the land Development Code. The following will be considered within the Code: landscaped areas, tree shading when appropriate, and consider standards to utilize other streetscape amenities, such as lighting and litter baskets.

1.5.2 County of Mendocino

Mendocino County Rail-with-Trail Corridor Plan (2012)

The Mendocino County Rail-with-Trail Corridor Plan provides an analysis of general conditions along the length of the 103-mile NWP corridor and identifies priority projects for the City of Ukiah, the City of Willits, and the Mendocino County. The plan provides jurisdictions along the rail corridor with information to assist with the implementation of the Rail-with-Trail project.

There are three segments of the proposed corridor within the City of Ukiah:

- Segment S10 from East Gobbi Street to Clara Avenue: The southern half of this segment between Gobbi Street and Perkins Street is funded for construction in 2015.
- Segment S9 from Norgard Lane to East Gobbi Street: Along with Segment S10, this paved pathway would connect NWP Rail Trail, Phase 1 (East Gobbi Street-Clara Avenue) to the south and provide a connection from the south and north ends of the city.
- Segment S11 from Clara Avenue to Brush Street: This segment would connect to Mazzoni Street which provides direct access to the current campus of Redwood Academy/Accelerated Achievement Academy.

Mendocino County Regional Bikeway Plan (2012)

Mendocino Council of Governments' (MCOG) Regional Bikeway Plan incorporates proposals for bikeway alterations within all jurisdictions of Mendocino County into a single document. The plan includes a description of existing and proposed bikeways, a short-range implementation plan, non-motorized transportation policies, and a description of funding sources.

The high-priority projects identified for the City of Ukiah include:

- Empire Drive Bikeway: Located along Empire Drive between Despina Drive and North State Street, this 0.21-mile Class II bikeway would connect the Bush Street/Dora Street bikeway to the North State Street bikeway. Parking would need to be eliminated from one side of Empire Drive in order to complete the project.

- Gobbi Street Bikeway: Consists of two segments and extends for approximately 0.76 miles. Class II alterations are proposed for the segment of Gobbi Street between Dora Street and Oak Street and Class I alterations are proposed for the segment of Gobbi Street between Oak Manor Drive and the eastern terminus of Gobbi Street at Riverside Park/Little League Fields/BMX track. This project will provide direct bicycle access to residential areas, commercial activities in the central business district, and Yokayo Elementary School. The proposed Class I section is located outside the City limits, but connects to Riverside Park, a City facility.
- Orchard Avenue Bikeway: This proposed Class II facility would fill in the remaining segments on Orchard Avenue between Gobbi Street and Perkins Street that were not installed during the former Big K-Mart store project. The proposed bikeway would serve two significant shopping centers which are located at opposing corners of the Perkins Street intersection.

Mendocino County Regional Transportation Plan (2011)

The Non-Motorized Transportation Element of the Regional Transportation plan establishes goals, objectives, and policies for bicycle and pedestrian facilities throughout Mendocino County. The primary goal of this element is to reduce the region's dependence on vehicular travel and improve the health of Mendocino County residents. In order to achieve this goal, the following policies are included:

- Update the Regional Bikeway Plan on a timely basis to ensure local agency eligibility for Bicycle Transportation Account funds and other grant programs.
- Provide support to local agencies in pursuing grant funding such as Safe Routes to Schools and the Bicycle Transportation Account.
- Continue to reserve and allocate two percent of Local Transportation Funds for bicycle and pedestrian projects.
- Seek funding for needed improvements, and consider regional improvement funding (RIP) funding and other state and federal grant resources.
- Prioritize improvements providing access to schools, employment, and other critical services.
- Prioritize projects that link to existing facilities or provide connectivity.
- Fund planning activities in MCOG's Work Program to identify priority improvements for commute purposes, such as Safe Routes to Schools plans.
- Consider the addition/alteration of bicycle and pedestrian facilities when planning and implementing local street and road improvements.
- Coordinate with health organizations to promote active forms of transportation.
- Support educational programs to promote increased walking and bicycling.
- Encourage the addition of bicycle and pedestrian alterations in local business areas and existing residential areas.

The Ukiah Valley Area Plan (2010)

The Ukiah Valley Area Plan (UVAP) is an individual element of the Mendocino County General Plan and represents a commitment to a comprehensive, long-range, and inter-jurisdictional planning document designed to meet the needs of the County, as well as the shared needs of the City. The Circulation and Transportation section of the UVAP seeks to coordinate driver, pedestrian, bicyclist, and transit user needs with land use, air quality, plant and animal habitat, stormwater runoff, noise, energy consumption,

and greenhouse gas emission goals. The plan states that acquisition of land for road widening and new road construction is expensive and has social and environmental cost implications, and therefore, the County and City will be proactive in facilitating the use of alternative modes of transportation such as bicycling and walking. Goals and policies to increase bicycle and pedestrian activity include:

- Goal CT-2: Enhance pedestrian, bicycle, and transit connectivity between land use types.
    - Policy CT-2.1: Integrate pedestrian access into the circulation system of the urbanized areas of the Ukiah valley.
        - Implementation Measure CT-2.1 (a); The land development code shall develop pedestrian access design standards that address:
            - Accessibility to the disabled, with appropriate grades, ramps, and curb cuts.
            - Separation of sidewalks or paths from auto travel lanes by an appropriate combination of grade separations, parking lanes or landscaping when feasible.
            - Requirements for landscaped areas and tree shading when appropriate and with respect to solar access.
            - Streetscape amenities such as lighting.
        - Implementation Measure CT-2.1 (b): Pedestrian Walkways
            - To the extent allowed under state law, require private development projects provide pedestrian walkways that provide direct access between key destinations.
        - Implementation Measure CT-2.1 (c): When considering new development projects, the County shall require bicycle and pedestrian access across the property to provide connections for a route between the center of Calpella (along North State Street) and the Brush Street Triangle or between the City and the center of Talmage. The County will request that MCOG develop a map of these pedestrian linkages and include that map in the next Regional Transportation Plan update.
    - Policy CT-2.2: Develop a safe and integrated bicycle transportation system in order to promote the use of bicycles as a viable and attractive alternative to the automobile.
        - Implementation Measure CT-2.2 (a): Bicycle Route Standards
            - The land development code shall include standards for safe bicycle lanes or paths, as appropriate, for development projects. Consider bicycle safety in the design of roadways, intersections, and rights-of-way encroachments.
        - Implementation Measure CT-2.2 (b) Bicycle Route Requirements
            - Require that roads linking residential areas with schools, shopping, services, or employment be designed to include bicycle lanes.
        - Implementation Measure CT-2.2 (c): Bicycle Route Construction
            - Construct and maintain bicycle routes and lanes in accordance with the Area Plan Bicycle Route map and the Mendocino County Regional Bikeway Plan.

- Seek funds through MCOG for the construction of bicycle lanes on routes identified in a County bicycle plan, including in conjunction with County road improvement or widening projects.
- Ensure that bicycle routes connect residential, retail, and employment centers.
- Work with Human Health Services (HHS) in applying for funding to plan and implement bicycle projects.

▪ Implementation Measure CT-2.2 (d): Bicycle Parking
- Adopt and implement standards for safe and secure bike storage in new development. Develop incentives to place bike storage facilities at exiting places of employment and parking lots.

▪ Implementation Measure CT-2.2 (e): Bicycle Route Updates
- Periodically update plans to extend the system of bicycle lanes and routes in appropriate locations throughout the Ukiah Valley.

o Policy CT-2.3: Coordinate transportation planning needs, developer obligations, and construction responsibilities.

▪ Implementation Measure CT-3.2 (d): Mitigation and Impact Fees
- Require development impact fees, development agreements and other secured funding sources where necessary to fund transportation improvements to maintain an acceptable level of service on County roads and for all transportation modes.

▪ Implementation Measure CT-3.2 (e): Travel Demand Management Strategies
- Mitigate trips generated by new development using travel demand management strategies, such as: free transit passes, mixed use development with concentrated employment centers and residential communities, efficient walking, and bicycle connections.

Mendocino County ADA Comprehensive Access Plan for the County Maintained Road System (2010)

The Mendocino County ADA Comprehensive Access Plan addresses aspects of the county maintained road system that are appropriate for pedestrian infrastructure features to provide path of travel in compliance with the federal Americans with Disabilities Act. Components in the plan are comprehensive in nature and designed to result in a document suitable for the user to understand Mendocino County's current status relative to disabled access barriers and provide a planning tool for implementing work scope in the road right-of-way to remove barriers. This plan includes over 100 notes regarding City of Ukiah's pedestrian infrastructure.

County of Mendocino General Plan (2009)

Policies in the Development Element of the County of Mendocino General Plan provide for expanded bicycle and pedestrian systems that support improved community livability, improve linkages between modes of transportation, and reduce vehicle emissions. Relevant policies include:

- Policy DE-152: The County shall ensure that bicycle facilities are safe, attractive, and useful for both recreational and commuting bicyclists. This shall include:

  - Requiring that bicycle facilities be designed in accordance with the State Bikeway Design criteria.
  - Periodically reviewing, and updating if needed, street standards to accommodate bicycle lanes where indicated on the Bikeway Master Plan.
  - Designing bridges, overpasses, underpasses, etc. to be compatible with bicycle travel.
  - Considering bicycle safety when implementing alterations for automobile traffic.
  - Providing an information/education program to encourage use of the system and to promote safe riding.
- Policy DE-153: Provide pedestrian and bicycle ways along public roadway systems consistent with community area goals and policies and where sufficient right-of-way is available.
- Policy DE-154: Include bicycle and pedestrian facilities, where feasible, when County roads, bridges, buildings, and other facilities are renovated or replaced.
- Policy DE-155: Connect bicycle, pedestrian, and trail routes to form local and regional networks. Link bicycle, pedestrian, and trail routes with other transportation modes to maximize local and regional non-motorized transportation.
- Policy DE-156: Concentrate pedestrian alterations along school and transit routes, in areas of established pedestrian activity, and adjacent to sites serving senior citizens and/or people with disabilities.
- Policy DE-157: When development occurs, require installation of pedestrian and bicycle systems or, if feasible, the payment of in-lieu fees to fund alterations to bicycle and pedestrian facilities.
- Policy DE-158: Promote bicycle use and safety through development standards, education, promotional activities, incentives, safe bicycle parking, facility design, and maintenance.
- Policy DE-159: Preserve abandoned railroad right-of-way for trail use and investigate the feasibility of co-locating bicycle paths on unused portions of existing rights-of-way.

2 Existing Conditions

2.1 Existing Bicycle Facilities

There are limited formal bikeways in the City of Ukiah, with major parts of the city having no designated facilities. There are currently Class II bike lanes on Bush Street, Dora Street, Despina Drive, Gobbi Street, Grove Avenue, Hastings Avenue, Low Gap Road and Orchard Avenue. Class 1 bicycle paths, Oak Manor Trail and the NWP Rail Trail have recently been added to the City's bicycle network. Nearby regional bicycle facilities include bicycle lanes (shoulders) on North and South Street and Talmage Road. **Figure 2** presents a map displaying existing bicycle facilities. **Table 1** summarizes existing mileage by bikeway type.

Table 1: Existing Bike Facility Mileage

Type of Bikeway	Mileage
Class I Bike Path	1.12
Class II Bike Lanes	7.97

The bicycling community, ranging from experienced club riders to school children, has developed their own system of streets and routes which provide connectivity and safety for their purposes. For example, bicyclists ride on east-west streets such as Washington Avenue, Mill Street, and Empire Drive despite the absence of bicycle lanes. Some observations on existing bicycling conditions are as follow:

- Ukiah is an ideal bicycling environment. The small size, climate, and topography mean that virtually all residents are within a few minutes' bicycle ride of all destinations, whether for work or pleasure.
- Local bicyclists include experienced adult riders and school children.
- The elementary schools, middle school, and the high school are located such that many students who bicycle or walk to school must cross the heavily trafficked State Street, Perkins Street, and/or Talmage Road.
- Observations revealed a substantial number of bicyclists riding on the wrong side of the street and crossing major streets at unprotected locations.
- Streets in Ukiah such as Dora Street, Low Gap Road, Clay Street, Bush Street, and Orchard Avenue generally provide good bicycling alternatives to more heavily traveled roadways such as Perkins Street and State Street.
- Oak Street, School Street, and other streets off of State Street in downtown Ukiah are already relatively bicycle- and pedestrian-friendly, with slower moving traffic and lower volumes. This could be supplemented by other alterations such as providing bicycle racks near destinations such as shops, medical offices, and public uses which do not already have bicycle racks.

2.1.1 Terminology

The terminology for bikeway facilities is often misunderstood. In order to help the reader understand the definitions of various facilities, the **Figure 3** depicts each type of facility as shown in the California Highway Design Manual (Caltrans HDM). It should be noted that additional concepts for bikeways have been promoted and implemented throughout the United States; however, they have not yet been adopted for use in the Caltrans HDM.

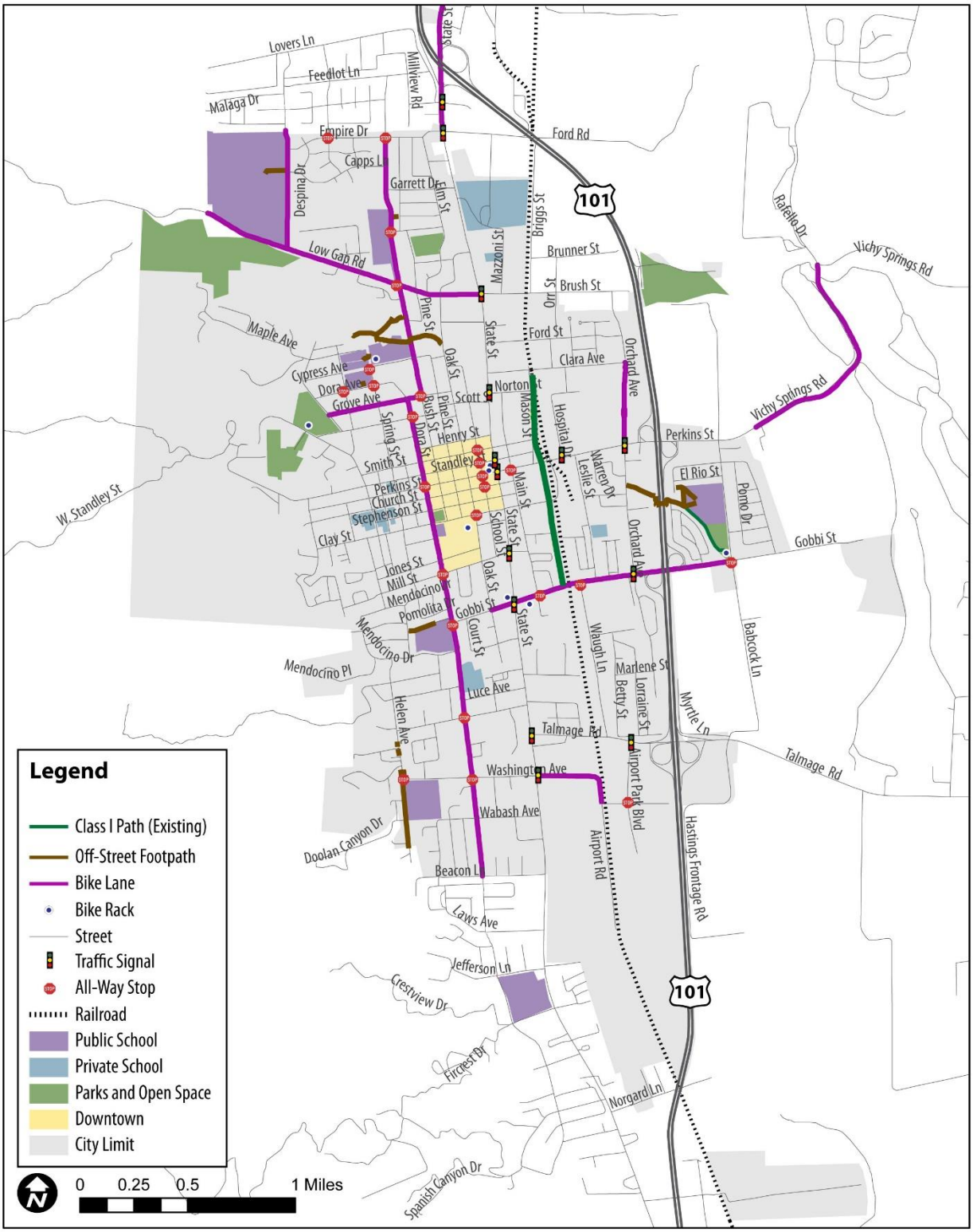
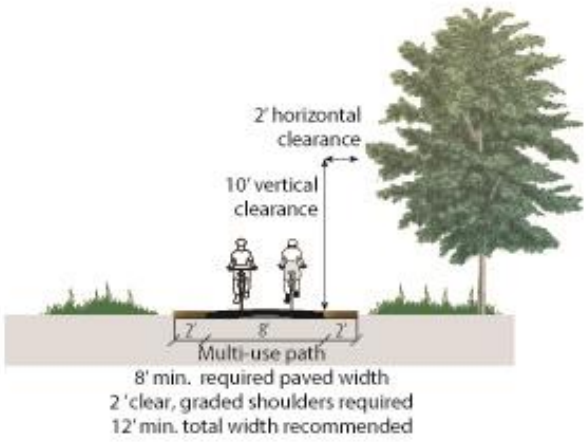


Figure 2: Existing Bicycle Facilities

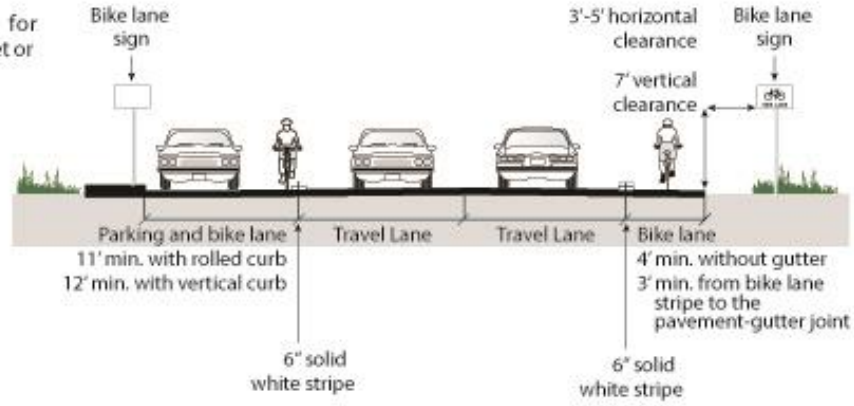
CLASS I
Multi-Use Path

Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.



CLASS II
Bike Lane

Provides a striped lane for one-way bike travel on a street or highway.



CLASS III
Bike Route
Signed Shared Roadway

Provides for shared use with pedestrian or motor vehicle traffic, typically on lower volume roadways.

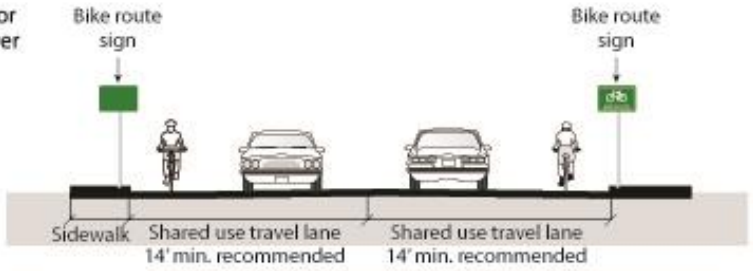


Figure 3: Caltrans Bikeway Classifications

Sources: Caltrans Highway Design Manual (2013), Federal Highway Administration's MUTCD (2009), California MUTCD (2012).

2.1.2 Bicycle Parking

Bicyclists need secure, well-located bicycle parking to support nearly all utilitarian and many recreational bicycle trips. Lack of parking can be a major obstacle to using a bicycle. A field review of Ukiah revealed bike racks at parks, schools, the Civic Center, and at some businesses. Most of the racks at schools are in fenced corral areas at schools, and appear to be used by students. Otherwise, bicyclists visiting stores, restaurants, placed of employment, medical facilities and community facilities are largely left to their own devices to temporarily store their bikes.

2.1.3 Other Support Facilities

Support facilities, such as showers and lockers for employees, further improve safety and convenience for bicyclists. The team is not aware of any of these other types of support facilities in the City.

2.1.4 Transit Access

Mendocino Transit Authority (MTA) public transit services for Mendocino County, including Ukiah. Routes that service Ukiah include Routes 20, 65, and 75. Each MTA bus has a bike rack which holds two bikes. Rack space is available on a first-come, first-serve basis and passengers are responsible for their own bikes. Due to the tight turns in downtown Ukiah, bikes are not allowed between the certain stops on select days of the week.

2.2 Existing Pedestrian Facilities

The City of Ukiah has an excellent network of sidewalks. The downtown and surrounding neighborhoods provide amenities which tend to encourage pedestrian trips inclduing narrow streets, tree coverage, close building proximity to the street, short crossing distances on public streets, and a mix of office and commercaial uses. Although more auto-oriented, there is a significant amount of pedestrian activity along North and South State Streets. This activity consists of transit riders as well as other pdestrians walking to their destinations. There are several barriers to walking trips in Ukiah including wide crossing distances, a lack of adequate pedestrian facilities on intermittent sections of State Street, and various gaps in sidewalks throughout the City. **Figure 4** presents a map of existing pedestrian facilities in Ukiah.

Some oberservations on existing pedestrian activities are as follows:

- Ukiah is an ideal walking environment. The small size, climate, and topography mean that the majority of reisdents are within a ten minute walking time of commercial opportunities along State and Perkins Street.
- The most significant pedestrian activity is in the downtown where the mix of land use and narrow streets encourages pedestrian trips.
- The neighborhoods surrounding the downtown that are within a half-mile or less generate the most walking trips.
- The elementary schools, middle school, and the high school also generate a significant amount of pedestrian trips.

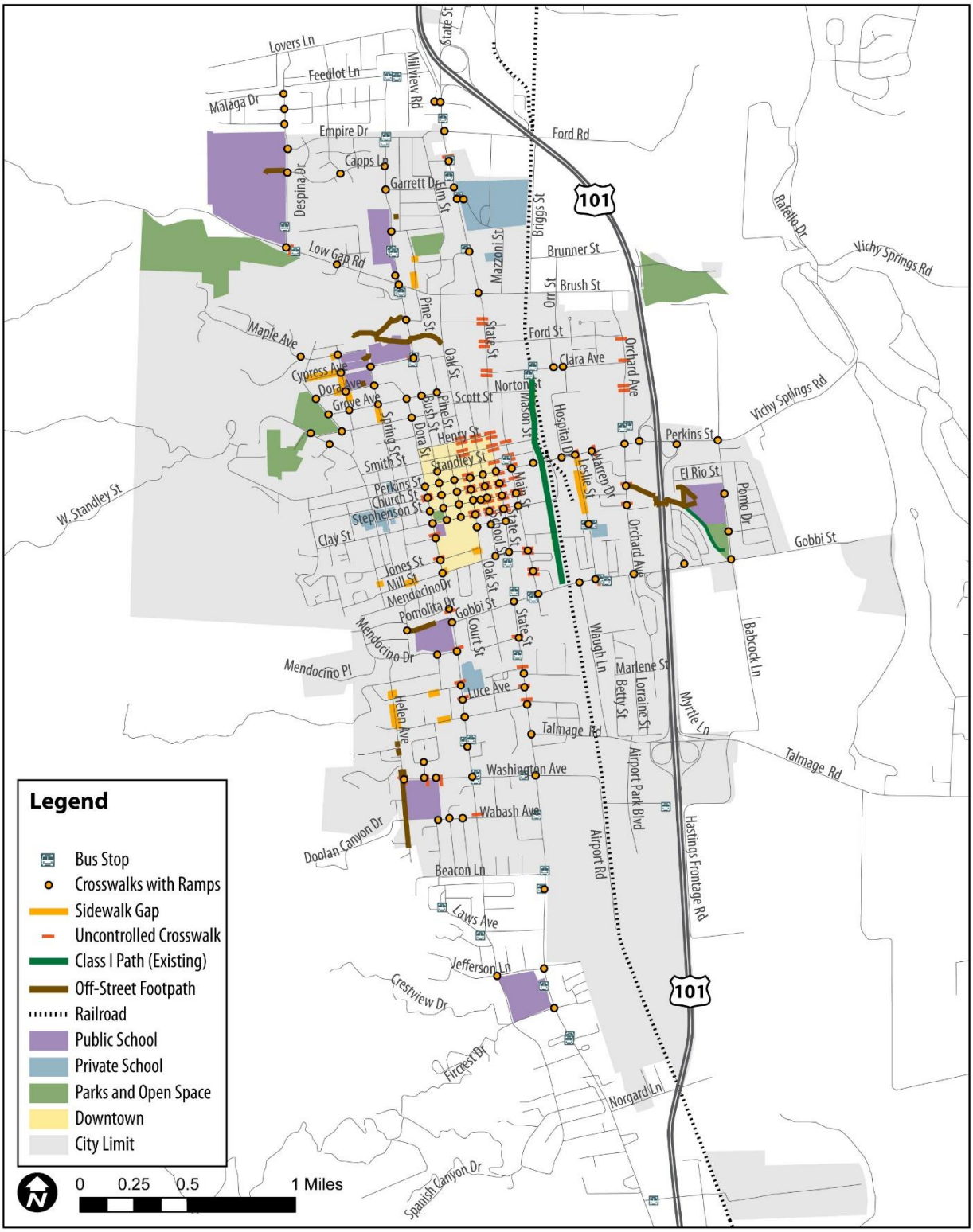


Figure 4: Existing Pedestrian Facilities

2.2.1 Transit Access

Figure 4 shows bus stop locations within Ukiah. Some bus stops along arterial roadways include bus shelters with seating, trash receptacles, and signage; however, most include signage only. All MTA buses are wheelchair accessible.

2.2.2 Roadway Crossings

Safe roadway crossings are the most critical component of a circulation system which encourages pedestrian traffic. Along State Street and Perkins Street, there are many signalized intersections which have protected pedestrian crosswalks. However, there are a significant number of crosswalks which are unprotected either by a traffic signal or stop sign. These types of locations are the most susceptible to pedestrian crossing collisions. A field survey of uncontrolled pedestrian crossings was conducted on all City arterial and collector streets. Locations of these uncontrolled crosswalk locations are shown in **Figure 4**.

2.2.3 Sidewalk Continuity

There are many small missing sections of sidewalk within the City due to undeveloped lots. These gaps in the sidewalk disturb the continuity of pedestrian travel and discourage some walking trips. A field inventory was conducted on all City arterial and collector streets. Locations along these streets which had missing sections of sidewalk are shown in **Figure 4**. The most noticeable gaps were Main Street near the Grace Hudson Museum and on Leslie Street north of the River Oak Charter School.

2.2.4 Shade Trees

Shade trees provide cooler areas for pedestrians to walk, beautify neighborhoods, clean the air, raise property values, and reduce polluted stormwater runoff. Although many of the historical neighborhoods, west of State Street, have significant numbers of shade trees, there are other neighborhoods and areas of downtown in which shade trees are not provided.

2.3 Existing Programs

2.3.1 Walk and Bike Mendocino

Walk and Bike Mendocino (W&B) promotes walking and biking as a primary transportation choice in short distance travel in Mendocino County. Functioning as a non-profit organization, W&B staff support pro walking and biking governmental policies and infrastructure, provide public education, and collaborate with other organizations working on similar or supportive projects to meet shared goals.

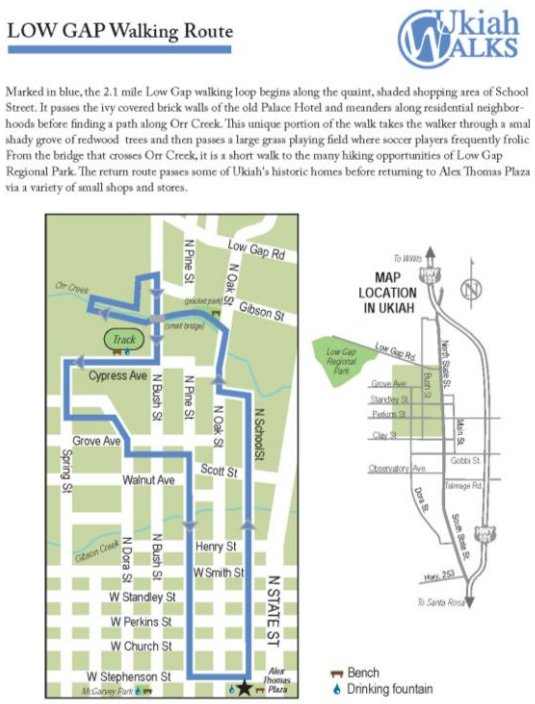
Walk & Bike Mendocino staff share rules of the road and bicycle handling instruction at a First Gear Bike Class for Adult Bicyclists

Upcoming bike safety, education and encouragement programs that W&B is involved in include:

- Every Saturday 10-12:30 – Ukiah Bike Kitchen at the Farmers Market

- Every Friday Evening – Ukiah's Cyclestrians Bike Ride (Unsponsored Group ride with intent of having experienced cyclists teach inexperienced riders how to ride safely)

The Ukiah Valley Trail Group's (UVTG) Ukiah Walks maps illustrate four walking routes around Ukiah: the Low Gap, Observatory Park, Todd Grove, and Ukiah Alleys walking routes, including the locations of benches and water fountains. The UVTG is a volunteer organization comprised of individuals and participating organizations dedicated to preserving, enhancing, and establishing trails in the Inland of Mendocino County. The UVTG acts as an information center for trail work in Mendocino County, promotes trail work and recruits volunteers, helps plan and coordinate projects with land managers and partners, and trains crews and crew leaders.



The Ukiah Valley Trail Group's Ukiah Walks maps illustrate four walking routes around Ukiah, including the Low Gap Walking Route

Source: http://www.mendotrails.org

2.3.2 Bicycle Rodeos

The Prevention & Planning Unit of Mendocino County Health & Human Services Agency (HHSA)/Public Health offered eight bicycle safety courses in Ukiah and Willits funded through a grant from the California Office of Traffic Safety (OTS) through the National Highway Traffic Safety Administration. The courses in Ukiah were held at schools and the Boys and Girls Club of Ukiah. Bicycle rodeos provide instruction on property safety while driving bicycles onstreet. The rodeos were for 4 to 13 year olds. The course presents real life situations for the children with opportunities to encounter traffic lights, stop signs, pedestrian crossing signs, and roadway intersections. The children learn to handle riding their bikes in life-like settings. Bicycle Rodeo operators handed out 200 helmets purchased with the grant funds.

Mendocino County Health & Human Services Agency staff guide elementary school students though a Bicycle Rodeo course

Source: The Ukiah Daily Journal

2.3.3 Media Dissemination and Announcements

The City of Ukiah website, http://www.cityofukiah.com, is currently (Summer 2014) featuring a banner/link on its homepage for Walk & Bike Mendocino.

In 2013/14, MCHH Services Agency/Public Health disseminated of media about bicycle and pedestrian safety and working on advocacy using grant money awarded through OTS. They also had public safety announcements around bicycle and safety tips using public service announcements.

For National Bike Month 2014, the Ukiah Daily Journal published Ukiah Police Department Chief Chris Dewey submitted an article titled "Bike safety." In the article, Chief Dewey encourages bicyclists to wear their helmets and bright clothes, follow the rules of the road, and ride defensively. He encourages divers to share the road with bicyclists; allow extra space while passing; slow down when approaching bicyclists; and pay attention while driving, instead of allowing distractions to grab their attention.

2.3.4 National Bike Month

National Bike Month activities (held annually in May) in Ukiah included Energizer Stations at the Natural Foods Co-op, Schat's Bakery, and other locations, where bicyclists could get breakfast foods, coffee, tea, 5-minute massages, bike repair advice, and participate in activities. After work, a Bicycle Fashion Show was held on Church Street.

2.4 Past Expenditures

2.4.1 Construction

The following bicycle and pedestrian projects have been completed by the City of Ukiah since 2000. The projects are listed with date of completion and final project cost.

Bicycle Facilities

- Gobbi Street Class 2 Bicycle Lanes (Orchard Ave. to Oak Manor Drive) - November 2003 - $132,112.76
- Oak Manor Trail (Class 1 Bicycle Path from Oak Manor Park to wooden bridge crossing Gibson Creek) - April 2014 - $169,092.92

Pedestrian Facilities

- ADA Curb Ramps, Phase 4 – September 2002 - $48,682.20
- Mendocino Drive Sidewalk (along Yokayo School frontage) - September 2002 - $67,992
- N. State St. Sidewalk (Redwood Empire Fairgrounds frontage) - August 2003 - $81,244.10
- ADA Curb Ramps, Phase 5 & 6 - July 2009 - $53,894.15
- ADA Curb Ramp – Bulb Out on Hospital Drive - July 2011 - $48,082

2.4.2 Maintenance

The City performs street sweeping weekly during leaf season and at least monthly for the remainder of the year. Bicycle lane striping and street striping is scheduled for annual repainting. Bicycle lane pavement markings are repainted as needed. The City has an app for residents to report potholes. The app is on the City's website and submitted reports go to the maintenance division. The City performs vegetation management related to bikeways and sidewalks as needed when resources are available. The

City conducts sidewalk repair (e.g., ramping of offset joints of sidewalks) upon observation of the offset joint. Sidewalks damaged by City street trees are scheduled for repair by the City street maintenance crew. All other repair and maintenance of damaged sidewalk (by private trees, etc.) is the responsibility of the property owner.

3 Needs Analysis

The needs analysis examines where bicycle and pedestrian alterations are most needed in Ukiah. The examination begins with a review of trip attractors and generators to identify where pedestrians are likely to walk to and roam. How people access these destinations – whether on foot, by motor vehicle, by bicycle, or with transit – and typical travel times are then reviewed to understand the current and potential rates of walking. Bicycle and pedestrian collision locations and rates are also examined in order to understand locations likely in need of bicycle- and pedestrian-related alterations.

3.1 Bicycle and Pedestrian Needs

3.1.1 Bicyclist Needs

The skill level of the bicyclist affects her or his expected reaction time and behavior. As such, there are several systems of classification currently in use within planning and engineering professions. These classifications can be helpful in understanding the characteristics and infrastructure preferences of different bicyclists. However, it should be noted that these classifications may change in type or proportion over time as infrastructure and culture evolve. An instructional course can rapidly change a less-confident bicyclist into one that can comfortably and safely share the roadway with vehicular traffic. Bicycle infrastructure should be planned and designed to accommodate as many user types as possible. Separate or parallel facilities should be considered to provide a comfortable experience for the greatest number of bicyclists.

A classification system that is used in the 2012 AASTHO *Guide for the Development of Bicycle Facilities* looks at comfort level, physical ability, and trip purpose. This system provides a way to determine approximate level of comfort on the road and preferences for facility types.

Trip Purpose

Utilitarian trips: These are trips that are made for daily activity including commuting to work or school, work-related trips that are not commuting, shopping and errands, and taking children to school. Common characteristics or considerations for utilitarian trips include:

- Directness of route and connected, continuous facilities
- Trips generally travel from residential neighborhoods to schools, shopping, or work areas and back
- Trips are generally 1-10 miles in length
- Short-term and long-term bicycle parking is needed at stores, transit stations, schools, and workplaces
- Flat topography is desired
- Individuals often ride alone
- The bicycle is the primary transportation mode for the trip or riders may transfer to transit
- Lack of access to a car

Some trips occur during morning and evening commute hours (commute to work and school), but generally may occur at any hour of the day

School-aged children may use bicycles as a means of transportation to and from school, a type of utilitarian trip that calls for careful attention. The age range of children means that there is a significant difference in sizes and abilities. An indication of size and ability is the type of school that they are traveling to and from (e.g. elementary, middle, or high school). The types of roadways near schools that have bicycle facilities are also important information while considering the accessibility to schools. Bicycle safety and awareness programs may help children obtain a better understanding of safe bicycle routes and rules of the road.

Recreation trips: These trips are made for exercise and leisure. Riders of all age groups, abilities, and comfort levels can be recreational riders. Recreation and discretionary trips can range from short- to long-distance trips, and do not serve as a trip for the purpose of reaching a destination. Some riders will only use bicycles for recreation and discretionary trips, while others may advance their skill and comfort levels to include utilitarian trips. Common characteristics of recreational trips include:

- Directness of route is not as important as visual interest, shade, and protection from wind
- Loop trips may be preferred to backtracking, start and end points are often the same
- Trips may range from less than one mile to over 50 miles
- Short-term bicycle parking is needed at recreational sites, parks, trailheads, and other recreational activity centers
- Varied topography may be desired, depending on the fitness and skill level of the bicyclist
- Individuals may be riding in a group
- Individuals including out of town recreational riders may drive vehicles, with their bicycles in tow, to the starting point of a ride
- Trips usually occur on the weekend or on weekdays before morning commuting hours or after evening commuting hours

Bicycle networks should be designed to accommodate the range of trip purposes that they are used for each day.

Level of User Skill and Comfort

Rider Age

Age may play a role in the comfort and skill level of riders. Adults, in comparison to children, are generally more able to start and stop quickly, be more visible to motorists, and have greater awareness of potential conflicts on roadways. Seniors are a special type of adult that may ride at a slower pace and have slower reactions to conflicts.

Children are generally slower in recognizing and responding to changes on the roadway, thus making them more vulnerable to conflicts with motorists. They have a relatively narrow field of vision, and may assume that motorists are able to see them if they can see the vehicle. Children also have difficulties accurately judging the speed and distance of vehicles approaching them, judging risks, and concentrating

on more than one thing at a time. Since children do not drive vehicles, they have less experience with the rules of the road.

Experienced and Confident

Experienced and confident riders are comfortable using most types of bicycle facilities, including roads without any special treatments for bicyclists. This group also includes those riding for utilitarian and recreational purposes. These riders are confident in their abilities to reach their destination safely. Also included in this group are commuters, long-distance road bicyclists, racers, and those who often participating in organized rides by bicycle clubs. General characteristics of experienced and confident bicyclists include:

- Most are comfortable riding with vehicles on streets, and are able to navigate like a vehicle
- While comfortable on most streets, some prefer on-street bike lanes, paved shoulders, or shared-use paths when they are available
- Some prefer a more direct route
- Riding with the flow of traffic on the streets and avoiding sidewalk riding
- May ride at speeds up to 25 miles per hour on level grades, and 45 miles per hour on steep descents
- May cycle for longer distances

Casual and Less Confident

Interested but concerned bicyclists represent the majority of the population. This group likely rode a bike during childhood and may own a bicycle now, but may not ride for transportation purposes. This group typically enjoys bicycling and may occasionally ride for recreation (e.g., during summer months or on a shared-use path), but may hold concerns about riding on major streets with higher vehicle speeds and volumes, especially if few or no accommodations are made to separate motor vehicle traffic from bicycle traffic. Riding on residential streets is a possibility, but these riders would not likely consider bicycling for transportation if much of the trip requires riding on or across major streets in the absence of formalized bicycle infrastructure accommodations. General characteristics of casual and less confident bicyclists include:

- Prefer shared-use paths, bicycle boulevards, or bike lanes along low-volume, low-speed streets
- May have difficulty gauging traffic and may be unfamiliar with the rules of the road. They may want to bike across intersections.
- May use less direct routes to avoid arterials with heavy traffic
- If no on-street facility is available, may ride on sidewalks
- May ride at speeds from 8 to 12 miles per hour
- A typical trip distance is 1 to 5 miles

3.1.2 Pedestrian Needs

Pedestrian needs encompass more than walking trips from one place to another. At some point in nearly any journey, a person walks. After disembarking from a bus or parked car, individuals expect to be able to walk comfortably and safely to their final destinations.

Regardless of the nature of a walking trip, pedestrian needs include safety, connectivity, and accessibility to destinations. Pedestrian infrastructure should also consider those with special needs, including children, seniors, and people with mobility impairments. The Americans with Disabilities Act (ADA) mandates the provision of reasonable accommodations for individuals whose accessibility needs require such assistance.

The most critical needs of pedestrians include:

- Direct connections: Pedestrians must sometimes walk long distances to access adjacent destinations when the street network does not directly connect them to destinations.
- Clearly indicated crossings: Pedestrians and motorists must be aware of the marked crossing locations for pedestrians.
- Continuous facilities: Sidewalk gaps, missing sidewalks, and worn crosswalks are all barriers to pedestrian travel.
- Well-designed walkways: Narrow sidewalks, sidewalks that are directly adjacent ot heavy-volume roadways without vegetation or parking buffer, and sidewalks obstructed by utility boxes or lighting poles detract from the walking environment and can make it difficult or impossible for the mobility-impaired to use the sidewalk.
- Slow traffic speeds: The likelihood of pedestrian injury or death increases dramatically with increasing motor vehicle speeds.

3.2 Public Engagement

Public engagement for the Plan included community and business surveys, a public comment table at four consecutive Farmers Markets, and a presentation with opportunity for feedback with a group of seniors. Walk & Bike Mendocino used Facebook (over 2300 people reached) and their website to promote the opportunity to provide input, and advertised in the Ukiah Daily Journal and local radio stations. Walk & Bike Mendocino staff went door to door in the downtown area and procured an additional fifteen business surveys.

3.2.1 Steering Committee

Meeting #1: Bike Tour

The City hosted a bike tour on Monday, June 2nd from 10:00 to noon to tour the City and observe walking and bicycling conditions. The approximately 7-mile long tour route included six designated stops and began and ended at the City's Civic Center. Two members of the Bicycle and Master Plan Stakeholder Group attended.

Challenges discussed include pinch points at the Commerce Road/Airport Road and Talmage Road/Airport Park Boulevard intersections where vehicle turning right have been observed jumping the curb. Opportunities included recommended walking and bicycling routes and locations for sharrows or other bikeway treatments.

The BPMP Steering Committee and project team observed conditions along City bikeways, sidewalks, and pathways during the Bike Tour

Meeting #2: Project Recommendations

The second Steering Committee Meeting was held on August 19, 2014 at the North Coast Opportunities, Inc. conference room. Participants included representatives from Mendocino County, the City of Ukiah, Friends of Gibson Creek, Walk and Bike Mendocino, city residents, and the consulting team. Walk and Bike Mendocino and the consulting team shared summaries of outreach activities from the First Gear Bike Classes for adults, a bike tour, four Farmers Markets, a community survey, and a business survey. The Farmers Market outreach and the two surveys were all conducted in July and August of 2014 and collected feedback from over 200 individuals.

After a brief overview of the survey responses, the consulting team presented a supplemental collision analysis, reviewed changes to the bicycle and pedestrian network that took place after the 1999 Ukiah Bicycle Master Plan, and shared relevant projects from recent plans with bicycle and pedestrian components. The committee then discussed project recommendations and priority projects during a working session. High priority projects that developed out of the discussion included:

- The NWP Rail Trail Project
- The Orr Creek Greenway
- Bicycle treatments along Clay Street and extending over the proposed NWP crossing
- Bicycle treatments along Gobbi Street
- Bicycle treatments along Orchard Avenue

In addition, the committee expressed interest in conducting outreach to local schools, developing a Share the Road campaign, adopting Vision Zero as a policy, and incorporating NACTO guidelines into the updated BPMP.

Walk & Bike Mendocino staffed four consecutive Farmers Markets to gather input on walking and bicycling conditions and community member priorities.

3.2.2 Farmers Market Tabling

Walk & Bike Mendocino staffed comment tables at the Ukiah Farmers Market on July 12, 19 and 26 and on August 2, 2014 from 9:00 a.m. to noon. The Farmers Market table was prominent in the main corridor of the market and staff remained busy receiving public comment approximately ninety percent of the time, engaging in over 30 interactions per day, and collecting over 100 comments. **Appendix A** includes a photo of the marked-up map and a table with comments received.

Common themes included:

- Support for extension of the rail trail to the city limits
- Support for an Orr Creek Greenway path extending from Low Gap Park to the Softball fields
- Need for crossing improvements at intersections and overpasses, including:
    - All intersections along State Street
    - Talmage Road and Airport Park Boulevard
    - Orchard Avenue and Gobbi Street
    - Orchard Avenue and Perkins Street
- Support for the State Street road diet and for extension of the road diet (particularly to the south)
- Perkins Street is undesirable to bicycle and walk along and feels unsafe
- Support for improving access and usability of the Pedestrian Freeway Overpass (alternative route to Perkins)
- Crossing State Street is challenging and feels unsafe
- Support for completing gaps in the sidewalk network
- Support for removing sidewalk obstructions

3.2.3 Community Survey

The Project Team prepared an 18-question community survey to learn about community preferences and concerns related to walking and bicycling in Ukiah. Sixty-one responses were received. **Appendix B** includes the community survey responses.

Survey Respondent Characteristics

By better understanding user characteristics, we can better anticipate their priorities, where they like to walk and bike, and what their preferred facility types may be. Most respondents stated they live (80%), shop (68%), and/or work (59%) in Ukiah, emphasizing the importance for safe and convenient walking and biking routes between homes and retail and employment areas. Respondents encompassed a wide age range, with most respondents (53%) between the ages of 30 and 49. Additional respondents are between 50 and 59 years old (18%), between 20 and 29 years (14%), over 70 years (8%), and 10 to 19 years (6%). Most respondents (61%) identify with the female gender and 39% identify with the male gender. Many respondents walk regularly (between one and four days per week) to parks and trails, to shop and run errands, for recreation, to houses of friends, to work, to restaurant and bars, and to the gym or community center. Few respondents walk regularly to school or transit stops. Fewer respondents stated they bike regularly than those who stated they walk regularly; however a small number of respondents bike daily. Respondents stated they bicycle for recreation, to shop and run errands, to parks and trails, to houses of friends or family, and to work. Fewer respondents bike to school, restaurants or bars, the gym or recreation centers, or to transit stops.

Summary of Responses Related to Walking and Bicycling Preferences

Most respondents (54%) rate the overall walking conditions in Ukiah as fair (see **Figure 5**).

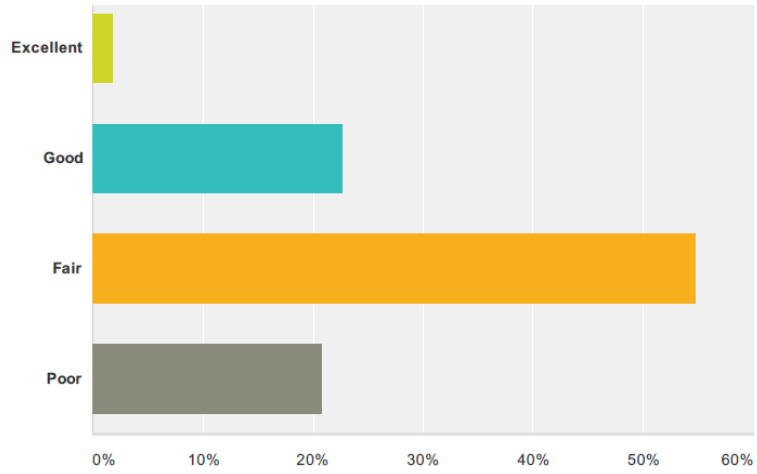


Figure 5: How do you rate overall walking conditions in Ukiah?

Aspects of walking they find most appealing include health and fitness (83% agree), time spent outdoors (72%), pleasure (72%), reducing the amount of time spent in the car (45%), less impact on the environment (45%), and money saved on fuel (4%) (see **Figure 6**).

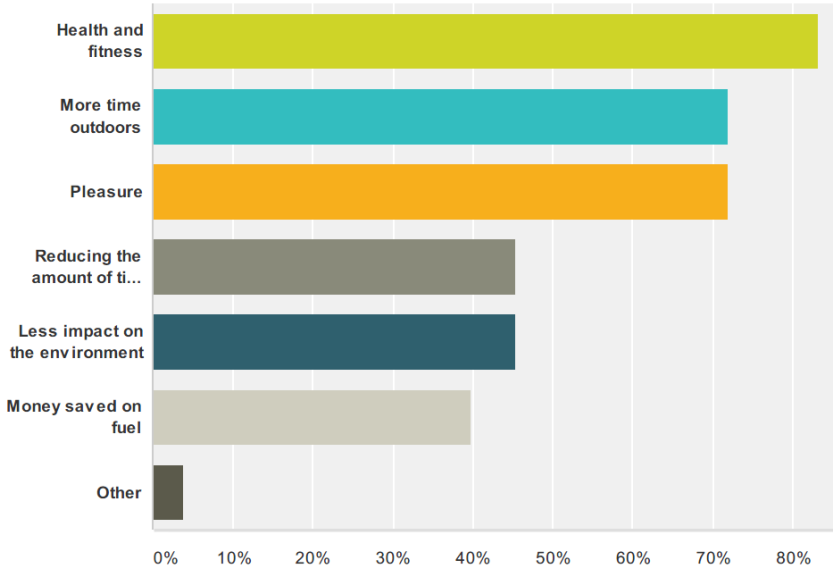


Figure 6: What aspects of walking are most important to you (check all that apply)?

Most respondents rate the overall bicycling conditions in Ukiah as poor (47%) to fair (43%) (see **Figure 7**). As discussed in Section 3.1, different types of bicyclists prefer different types of facilities. Ukiah bicyclists generally classify themselves as enthused and confident (51%); these bicyclists are comfortable riding in bike lanes and on low traffic streets and are comfortable making their own routes to reach their destinations. A number of bicyclists are interested, but concerned (26%); these bicyclists are comfortable biking on trails and greenways, but biking on roads makes them nervous. Other bicyclists are strong and fearless (17%); these bicyclists are comfortable biking anywhere at any time. A small number of respondents (6%) stated they have no interest in bicycling (see **Figure 8**).

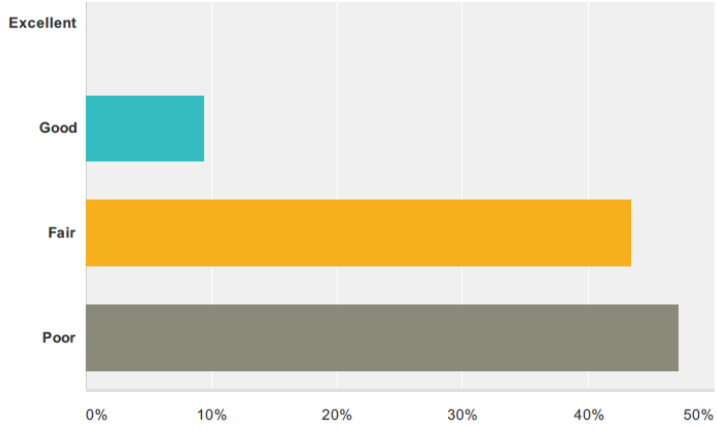


Figure 7: How do you rate the overall bicycling conditions in Ukiah?

Aspects of bicycling respondents find most appealing include health and fitness (85% agree), time spent outdoors (72%), money saved on fuel (55%), less impact on the environment (55%), pleasure (72%), and reducing the amount of time spent in the car (51%) (see **Figure 9**).

Respondents' top three obstacles or concerns that may prevent them from biking include the streets/trails do not feel safe (67% agree), bike lanes/trails do not go where they need to travel (48%), aggressive drivers (31%), and street crossings feel unsafe (27%) (see **Figure 10**). Facility types respondents feel would influence them to bicycle more include offstreet paths, cycletracks, buffered bike lanes, intersection improvements, and bike lanes, communicating a general desire for greater separation from vehicles (see **Figure 11**).

Several of the survey questions included open-ended responses. With their responses, respondents noted destinations they find challenging to access by bicycling, street segments and crossing locations they feel need improvement, and desired bicycle parking locations (see **Figure 12**).

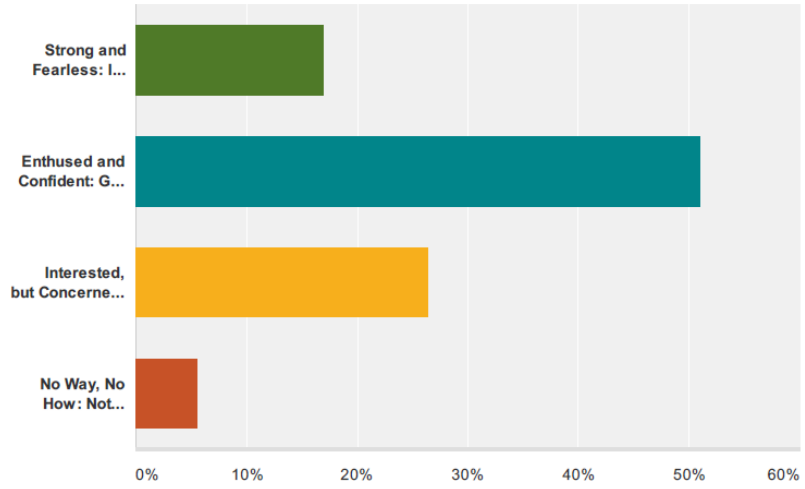


Figure 8: What type of bicyclist are you?

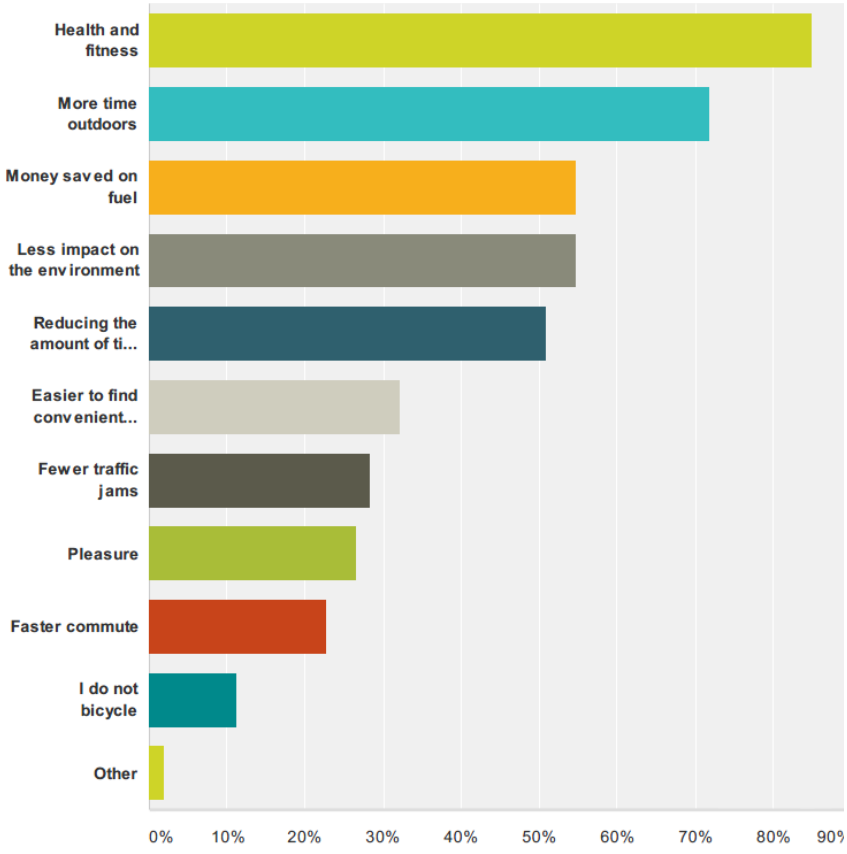


Figure 9: What aspects of bicycling are most important to you (check all that apply)?

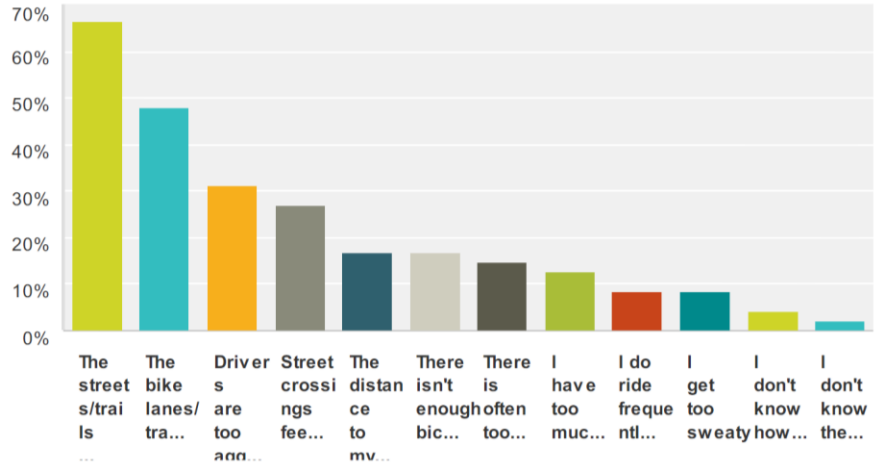


Figure 10: What are the top three obstacles or concerns that may prevent you from biking? (check up to 3 answers)

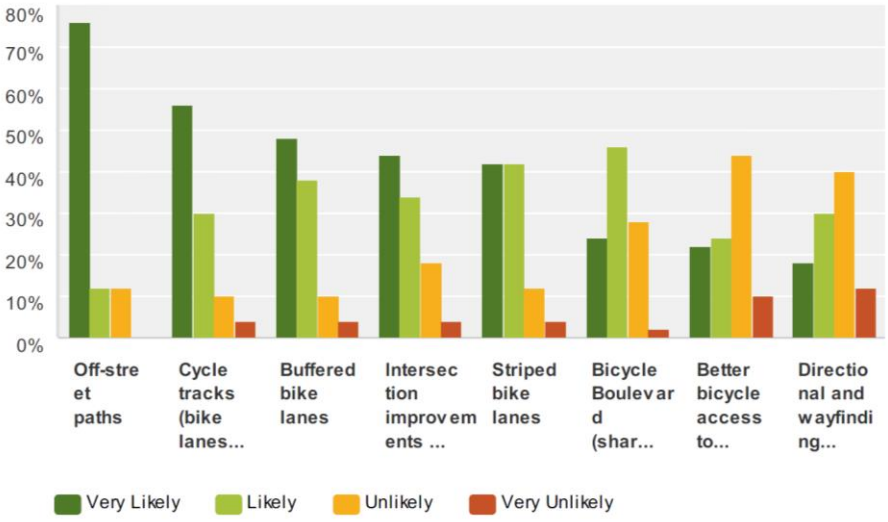


Figure 11: What is the likelihood that the following types of bicycling facilities would influence you to bike more often?

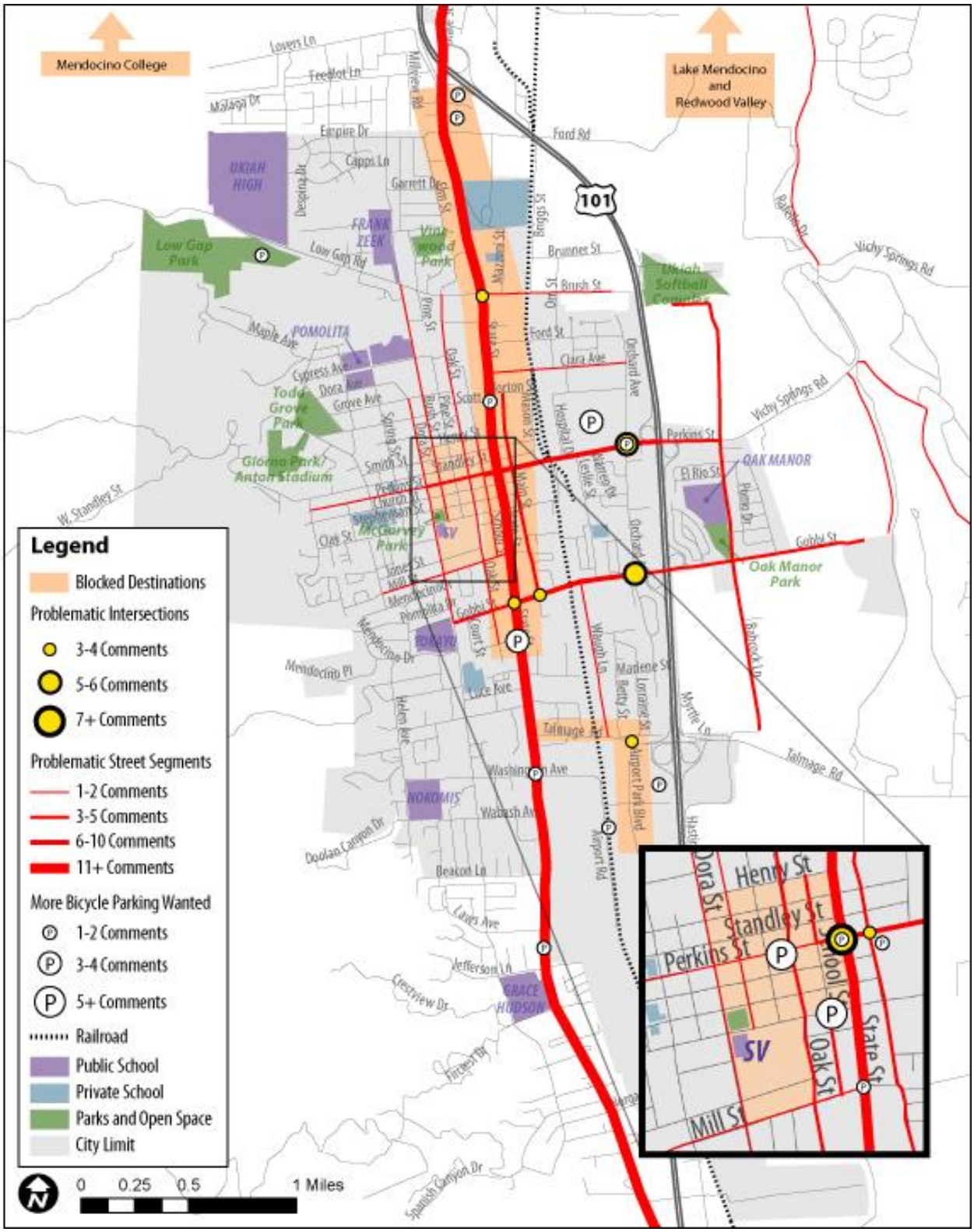


Figure 12: Public Survey Responses Related to Destinations Repsondents Find Challenging to Access, Problemmatic Street Segments and Crossing Locations, and Desired Bike Parking Locations

3.2.5 Business Survey

The Project Team prepared an 11-question community survey to learn about community preferences and concerns related to walking and bicycling in Ukiah. Twenty-five responses were received. **Appendix C** includes the business survey responses.

Most respondents own commercial/retail businesses (64%) or provide professional services (23%) and have 1 to 4 employees (52%), though some (20%) have 20 to 99 employees. Most businesses do not provide services or incentives for employees or clients who walk to bike to the business location. Those who do, provide bike parking, participate in Bike to Work Day, and/or engage in community planning efforts related to walking and biking.

3.3 Bicycle and Pedestrian Attractors and Generators

Bicycling and walking can be a viable means of transportation if schools, employment centers, shopping centers, and parks are accessible by bikeways and walkways. These pedestrian "attractors" and "generators" are examined below and are used to identify potential recommended pedestrian facilities. Attractors are land uses such as retail centers, schools, transit, major employers, senior centers, community centers, medical facilities, and parks (see **Figure 13)**. Generators are land uses such as senior housing developments that bring new pedestrians to live within a given area.

3.3.1 Retail Centers

Retail centers are among the highest bicycle and pedestrian trip generators in any community. Retain centers in Ukiah include the downtown area and the Pear Tree Center on Perkins Street.

Pear Tree Center

Located adjacent to the Ukiah Valley Medical Center, Pear Tree Center features big box anchor stores flanked by smaller retailers and surface parking. While the much of the retail center is surrounded by sidewalks in good condition, these sidewalks often lack ADA-compliant curb ramps, buffer space between the roadway and sidewalk, points of visual interest, and tree shading. Pear Tree Center is also absent of bicycle facilities.

Downtown Ukiah

Primarily located along North State Street, the downtown Ukiah shops and restaurants are well-served by sidewalks buffered by on-street parking and tree saplings. However, many of the intersections are missing ADA-compliant curb ramps.

3.3.2 Schools

Over 3,000 students are enrolled at school in Ukiah, representing a large population of potential bicyclists and pedestrians. Many of these students attend kindergarten through high school at Ukiah schools that are located within neighborhoods and attract bicyclists and pedestrians. **Table 2** lists the schools in Ukiah and their enrollment and **Figure 14** shows school locations in Ukiah.

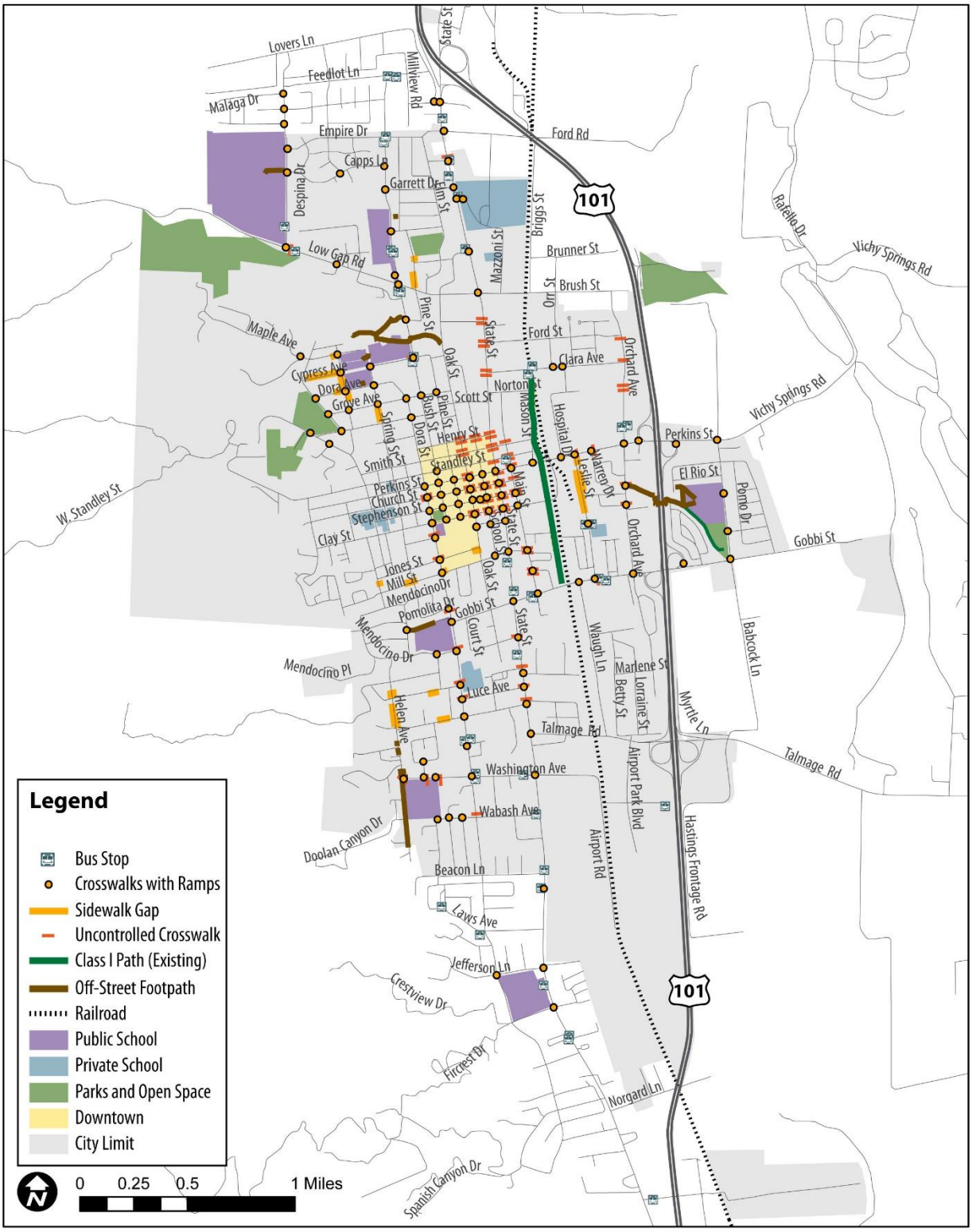


Figure 13: Bicycle and Pedestrian Attractors and Generators

Table 2: Ukiah School Enrollment

School	Enrollment	School	Enrollment
Ukiah High School	1,194	Accelerated Achievement Academy School	136
Pomolito Middle School	589	Redwood Academy of Ukiah School	102
Yokayo Elementary School	357	Capella Elementary School	101
Frank Zeek Elementary School	294	Tree of Life Charter School	48
Oak Manor Elementary School	278	South Valley High School	41
Nokomis Elementary School	263	Orr Creek School	13
Grace Hudson Elementary School	241	West Hills Juvenile Hall Court School	10
River Oak Charter School	143	Ukiah Adult School	-
		Total Enrollment	**3,810**

Source: City-Data.com (2014)

3.3.3 Transit

Transit opportunities in Ukiah include limited service, jitney, local service, and regional bus routes, with a major transfer point located outside the Ukiah Library. These routes connect between destinations within Ukiah, Mendocino College, Fort Bragg to the north, and Novarro River Junction and Santa Rosa to the south. **Figure 4** shows bus stop locations.

3.3.4 Major Employers

Major Employers in Ukiah include Mendocino County, Ukiah Valley Medical Center, Walmart, Raley's, and Pacific Gas & Electric Company. These employers constitute a large number of potential bicycle and pedestrian trips. The location of these employers is shown in **Table 3**. While many of the Mendocino County and City of Ukiah government jobs are located in Ukiah's downtown center, the larger shopping centers and medical facilities are located on large plots east of the residential areas. For the most part, these locations are well connected by sidewalk facilities but largely lack bicycle facilities.

Table 3: Large Employers in Ukiah

Employer	Address	Employer Class Size
Ukiah Valley Medical Center	275 Hospital Drive	500-999 employees
Hillside Health Center	333 Laws Ave	250-499 employees
Mendocino County	Various locations	200-499 employees
City of Ukiah	300 Seminary Avenue	100-249 employees
Pacific Gas & Electric Co.	776 S State Street, #103	100-249 employees
Raley's	1315 N State Street	100-249 employees
Redwood Empire Packing Inc.	2750 Ruddick Cunningham Road	100-249 employees
Ukiah Campus	1000 Hensley Creek Road	100-249 employees
Ukiah City Civic Center	300 Seminary Avenue	100-249 employees
Walmart	1155 Airport Boulevard	100-249 employees

Source: State of California Employment Development Department (2014)

3.3.5 Medical Facilities

The Ukiah Valley Medical Center (UVMC) is a 78-bed, not-for-profit hospital and the largest such facility in Mendocino County and is located at 275 Hospital Drive. The west side of the medical center is separated from downtown by the NWP Railroad and primary access to UKVC and its associated medical facilities is Hospital Drive via Clara Avenue to the north and East Perkins Street to the south. The sidewalks along Hospital Drive are in good condition but lack curb ramps at some locations.

3.3.6 Parks and Community Centers

Ukiah has a variety of park facilities, including tennis courts, a golf course, a skate park, and a conference center that serve as recreational. Ukiah's more prominent park destinations include:

- **Low Gap Park** is an 80-acre park and includes an archery range, off-leash dog park, tennis courts, disc golf course, amphitheater horseshoe pits, and playgrounds. Low Gap Park is located across Low Gap Road from Ukiah High School.
- **Ukiah Sports Complex** features playground equipment, picnic tables, softball and baseball diamonds, soccer, Frisbee, and rugby fields. It is located at the River Street exit off of US 101.
- **Ukiah Skate Park** features a smooth pool and a variety of wall ride-banks, pockets, and rails. The skate park is located directly across from Ukiah High School next to the Low Gap Park tennis courts.
- **Vinewood Park** features playground equipment, picnic tables, barbeques, group areas, volleyball and basketball courts. The park is located east of Frank Zeek Elementary School and Ukiah Adult School and west of the Twelfth District Fairgrounds.
- **Todd Grove Park** is home to many of the same features as Vinewood Park but is also home to the City's "Sundays in the Park Free Concert Series," one of the largest and most recognized community events in Mendocino County that entertains more than 20,000 music fans every summer.
- **Riverside Park** is a City park outside City limits with picnic tables and benches. It is and will increasingly be a significant destination.

3.4 Bicycling and Walking Demand and Benefits Model

This model estimates the number of bicycling or walking trip currently taken in a community and provides a future estimate. The model is built on the understanding that Census journey-to-work is a readily-available statistic, but community members take many trips by bike and on foot other than adults going to and from work. These bicycling and walking trips could have been vehicle trips, and therefore they benefit the community by saving vehicle miles traveled (VMT), which leads to greenhouse gas emissions (GHGs).

The model uses adult commute trips from the U.S. Census Bureau's American Community Survey (ACS) journey-to-work data to extrapolate utilitarian trips. The 2009 National Household Travel Survey (NHTS) provides information about the ratio of work trips to other trip purposes. The model extrapolates school and college trips based on national mode split numbers for those populations.

3.4.1 Data Used in the Model

The foundation of this analysis is the ACS 2008-2012 five-year estimate for Ukiah. Model variables from the ACS include: total population, employed population, school enrollment (grades K-12 and college students), and journey-to-work mode split.

The 2009 NHTS provides a substantial national dataset of travel characteristics, particularly for trip characteristics of bicycling and walking trips. Data used from this survey include:

- Student mode split, grades K-12
- Trip distance by mode by trip purpose
- Ratio of walking/bicycling work trips to utilitarian trips
- Ratio of work trips to social/recreational trips
- Average trip length by trip purpose and mode

Several of these variables provide a way to estimate the number of walking and bicycling trips made for other reasons than work trips, such as shopping and running errands. NHTS 2009 data indicate that for every bicycle work trip, there are slightly less than two utilitarian bicycle trips made. Although these trips cannot be directly attached to a certain group of people (not all of the utilitarian bicycling trips are made by people who bicycle to work), these multipliers allow a high percentage of the community's walking and bicycling activity to be captured in an annual estimate.

Safe Routes to School hand tallies conducted at Yokayo Elementary School and River Oak Charter School in 2012 were used to assume mode share of school children for the entire city, as ACS five-year data was not available for school enrollment. The Safe Routes to School Baseline Data Report (2010) was used to determine the percent of students who walk or bicycle by the parents' estimate of distance as well as the frequency of carpooling for trip replacement.

Due to the lack of school enrollment data, college students are not taken into account in this model.

Disclaimer

As with any model, the accuracy of the result is dependent on the accuracy of the input data and other assumptions. Effort was made to collect the best data possible for input to the model.

3.4.2 Demand Model

Table 4 presents commute to work data estimates for Ukiah, as well as nearby cities and comparison geographies, as reported in the 2008-2012 American Community Survey 5-year estimates. This information for Ukiah is one of several inputs of the demand model.

Geography	Walk	Bike	Transit	Carpool	Drive Alone
Ukiah	**3.7%**	**2.7%**	**0.1%**	**9.3%**	**74.4%**
Talmage	19.0%	2.5%	0.0%	28.8%	69.6%
Redwood Valley	0.0%	0.0%	0.0%	4.4%	84.1%
Calpella	0.0%	0.0%	0.0%	30.1%	66.1%
Mendocino County	4.9%	1.1%	0.7%	12.2%	71.8%
California	2.8%	1.0%	5.1%	11.5%	73.0%
United States	2.8%	0.6%	5.0%	10.0%	76.1%

Source: 2008-2012 American Community Survey 5-year estimates

Table 4: Mode Split Comparison with Neighboring Cities/Communities

Table 5 shows the estimated number of daily bicycling and walking trips. Based on the model input data from NHTS 2009, the majority of trips are non-work utilitarian trips, which include medical/dental services, shopping/errands, family personal business, meals, and other trips. These daily estimates can be extrapolated to annual trips using the total number of annual work, school, and college days in a year.

Table 5: Current Weekday Bicycling and Walking Trips

	Bicycling	Walking	Source
Bicycling/walking trips	345	473	Employed population from ACS multiplied by mode split from ACS, doubled for round-trips
Walk- or bike-to-transit trips	0	4	Number of transit commuters from ACS multiplied by transit mode split from TCRP Report 153, doubled for round-trips
K-12 bicycle/walking trips	46	693	School children population from ACS multiplied by mode split from SRTS Baseline Data Report (2010), doubled for round-trips
College bicycle/walking trips	0	0	Employed population from ACS multiplied by mode split from NHTS 2009, doubled for round-trips
Daily utilitarian trips	556	2,045	Bicycle/walking commute trips (above) multiplied by mode-specific utilitarian trip multiplier from NHTS 2009
Daily social/recreational trips	1,645	1,850	Bicycle/walking commute trips (above) multiplied by mode-specific social/recreational trip multiplier from NHTS 2009
Current daily walking and bicycling trips	**2,592**	**5,065**	
Annual Extrapolation			
Annual commute trips	86,595	119,727	Bicycle/walking and walk- or bike-to-transit trips multiplied by annual work days
Annual K-12 trips	8,280	124,740	K-12 bicycle/walking trips multiplied by annual K-12 school days
Annual college trips	0	0	College bicycle/walking trips multiplied by annual college class days
Annual utilitarian trips	139,514	517,634	Annual commute trips multiplied by mode-specific utilitarian trip multiplier

3.4.3 Trip Replacement

To estimate the total distance residents travel to work or school by walking and bicycling, the model isolates different walking and bicycling user groups and applies trip distance information for walking or bicycling trips by mode based on NHTS 2009. **Table 6** shows the trip replacement factors and results.

Table 6: Current Walking and Bicycling Trip Replacement (Annual)

	Bicycling	Walking	Source
Vehicle commute trips replaced	70,353	98,281	Redistribution of bikers/walkers using existing mode split if that mode were not available
K-12 vehicle trips replaced	3,527	60,714	SR2S Baseline Data Report, 2010
College vehicle trips replaced	0	0	NHTS 2009
Utilitarian vehicle trips replaced	113,346	424,911	Redistribution of bikers/walkers using existing mode split if that mode were not available
Vehicle Miles Traveled			
Commute VMT replaced	249,049	65,848	NHTS 2009 average bicycle trip distance for "Work" trips
K-12 VMT replaced	2,709	21,561	SRTS 2010, percent of students who walk or bicycle by parent's estimate of distance
College VMT replaced	0	0	NHTS 2009 average trip distance for "School/Daycare/Religious" trips
Utilitarian VMT replaced	214,602	283,274	Derived from NHTS 2009
Total VMT reduced	466,360	370,683	
Per capita VMT reduced	**29**	**23**	

3.4.4 Current Benefits

To the extent that bicycling and walking trips replace vehicle trips, they reduce emissions of several potentially harmful air pollutants. These benefits are shown in **Table 7**.

Table 7: Annual Benefits of Current Bicycling and Walking Trips

	Bicycling	Walking	Total
Yearly vehicle miles reduced	466,360	370,683	837,043
Air Quality Benefits			
Reduced Hydrocarbons (pounds/year)	1,398	1,111	2,510
Reduced Particulate Matter (pounds/year)	10	8	19
Reduced Nitrous Oxides (pounds/year)	977	776	1,753
Reduced Carbon Monoxide (pounds/year)	12,749	10,133	22,883
Reduced Carbon Dioxide (pounds/year)	379,387	301,553	680,939

Source: EPA report 420-F-05-022 "Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks." 2005.

3.4.5 Potential Future Bicycling and Walking Trips

Estimating future benefits requires additional assumptions regarding Ukiah's future population and anticipated commuting patterns in 2035. Future population predictions as determined by the CA Department of Finance Projections were used in this model. **Table 8** shows the projected future demographics used in the future analysis.

Table 8: Projected Future Demographics

Demographics	Value	Percent of Current Population	Source
Population	17,673	111%	CA Dept. of Finance Projections
Employed population	7,078	40%	Same as current model estimate
Total enrollment K-12	4,218	24%	Same as current model estimate
Total college/graduate	0	0%	Same as current model estimate

The analysis predicts that the bicycle mode split will double by 2035, due in part to bicycle network implementation and education/encouragement programs. This results in a future bicycling mode split of 5.2 percent. The results of the model are shown in **Table 9**.

Table 9: Estimated Future Weekday Bicycling and Walking Trips

	Bicycling	Walking	Source
Bicycling/walking trips	764	1,048	Employed population multiplied by mode split, doubled for round-trip
Walk- or bike-to-transit trips	0	4	Number of transit commuters multiplied by transit mode split from TCRP Report 153, doubled for round-trip
K-12 bicycle/walking trips	141	575	School children population multiplied by mode split, doubled for round-trip
College bicycle/walking trips	0	0	Employed population multiplied by mode split, doubled for round-trip
Daily utilitarian trips	1,231	4,531	Bicycle/walking commute trips multiplied by mode-specific utilitarian trip multiplier
Daily social/recreational trips	3,643	4,100	Bicycle/walking commute trips multiplied by mode-specific social/recreational trip multiplier
Future daily walking and bicycling trips	**5,779**	**10,258**	

3.4.6 Future Benefits

The trip replacement factors remain the same as in the model of current trips. **Table 10** shows the air quality benefits of the future projected walking and bicycling trips.

Table 10: Annual Benefits of Current Bicycling and Walking Trips

	Bicycling	Walking	Total
Yearly vehicle miles reduced	1,035,000	788,000	1,823,000
Air Quality Benefits			
Reduced Hydrocarbons (pounds/year)	3,103	2,362	5,466
Reduced Particulate Matter (pounds/year)	23	18	41
Reduced Nitrous Oxides (pounds/year)	2,168	1,650	3,818
Reduced Carbon Monoxide (pounds/year)	28,296	21,538	49,834
Reduced Carbon Dioxide (pounds/year)	842,024	640,930	1,482,953

Source: EPA report 420-F-05-022 "Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks." (2005)

3.5 Collision Analysis

Safety is a major concern for current and potential bicyclists and pedestrians and can be a determining factor in the decision whether or not to bicycle or walk. This sections reviews collision data from the Statewide Integrated Traffic Report System (SWITRS) to identify the risk to bicyclists and pedestrians in the collisions involving a motor vehicle, where collisions frequently occur, and where roadway design alterations may be needed.

From 2008 to 2012, there were 20 bicycle-involved collisions and 34 pedestrian-involved collisions. These collisions resulted in 47 minor injuries, 5 severe injuries, and two fatalities (one bicyclist fatality and one pedestrian fatality). The bicyclist and pedestrian injuries are reported in **Table 11**. One collision resulting in the death of a pedestrian occurred at the North State Street and Ford Street in 2009, and one bicycle and truck collision resulting in the death of a bicyclist occurred at South Orchard Avenue and East Gobbi Street in 2012.

Table 11: Bicyclist and Pedestrian Injuries and Fatalities (2008-2012)

Injury Type	Number of Bicyclists	% of All Collisions Involving Bicyclists	Number of Pedestrians	% of All Collisions Involving Pedestrians
Fatality	1	0.32%	1	0.32%
Injury	52	6.43%	33	11.58%
Annual average	13.25	--	8.50	--
Number of collisions per capita in Ukiah between 2008 and 2012	0.00026	--	0.00046	--
Average number of collisions per capita in CA between 2008 and 2012	0.00034	--	0.00035	--

Source: SWITRS (2008-2012), American Community Survey (2008-2012)

The location where bicycle or pedestrian collisions occurred most frequently over the five-year window was at the intersection of East Perkins Street and Leslie Street (three collisions). The intersection is a one-way stop-controlled intersection, with Leslie Street yielding to East Perkins Street. East Perkins Street is a four lane roadway with signage indicating eastbound through traffic merge right immediately after passing the Leslie Street intersection. A map of bicycle- and pedestrian-involved collisions is shown in **Figure 14** and a list of collision locations is in **Appendix D**.

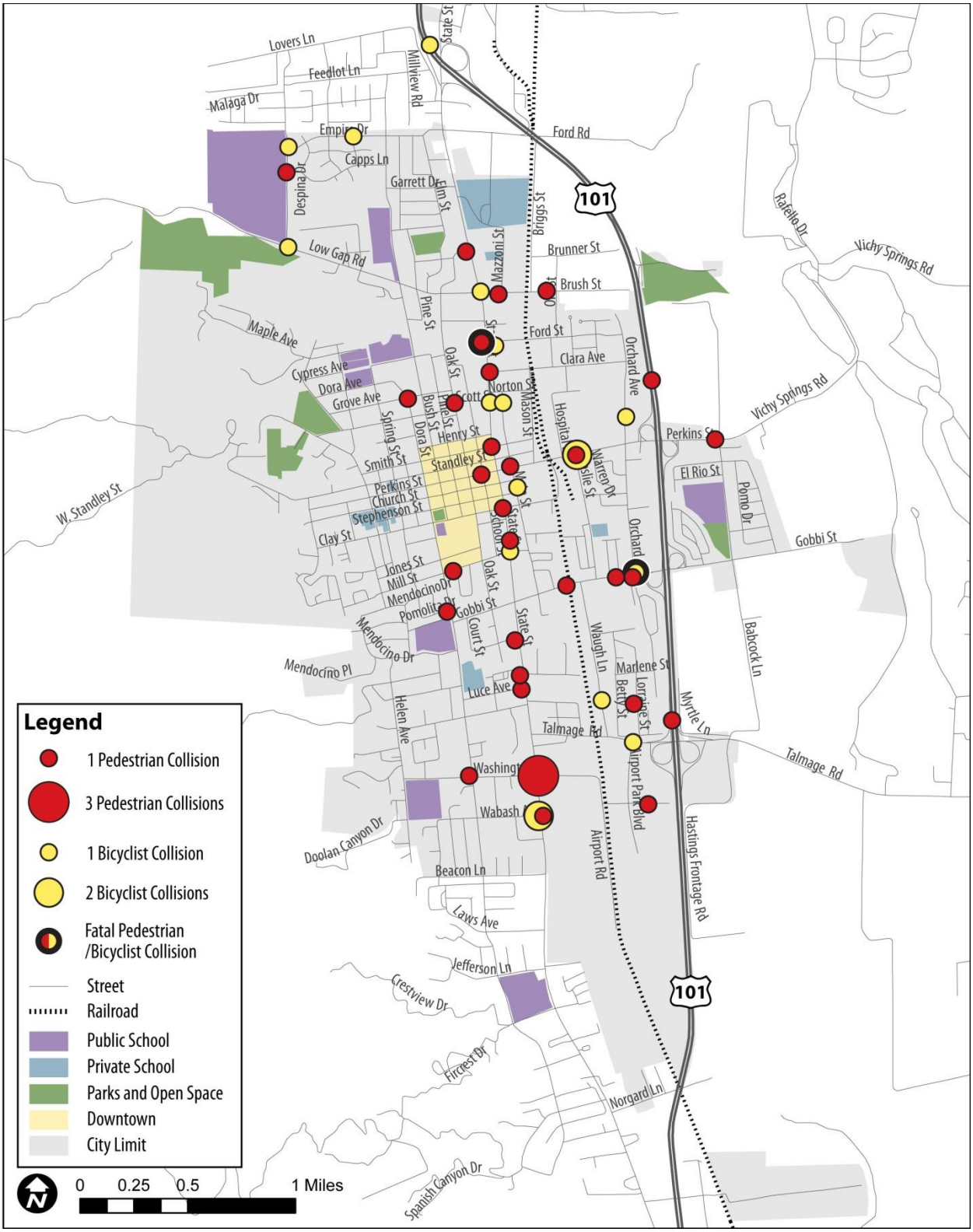


Figure 14. Bicycle- and Pedestrian-Involved Collisions (2008-2012)
Source: The Statewide Integrated Traffic Records System (SWITRS), 2014

4 Recommendations

This chapter presents proposed bicycle and pedestrian facilities identified through input from the community, City staff, and the needs analysis. The proposed improvements are intended to make bicycling and walking more comfortable and accessible for bicyclist and pedestrians of all skill levels and trip purposes. This chapter presents the following improvement types:

- Network improvements fill gaps in the existing network so the community has a seamless bicycle and pedestrian network to use.
- Spot improvements identify specific locations for focused improvement.
- Studies identify potential improvements for consideration and further analysis.
- Bicycle parking identifies key locations citywide for bicycle parking installation.

4.1 Bicycle Network

This section includes bikeway network, pavement markings and signage improvements as well as a Complete Streets policy recommendation. The bikeway recommendations include over 11 miles of new facilities to increase Ukiah's bikeway connectivity and to create a comprehensive, safe, and logical network. At full build-out of the proposed bikeways, Ukiah will have 20.2 bikeway miles, improving connections from residential neighborhoods to attractors such as retail, transit and jobs. The pavement markings and signage will support the bikeway network by providing network identity. The Complete Streets policy will encourage future Ukiah transportation network design to consider all users.

Figure 15 shows the existing and proposed bikeway network and **Tables 12** through **Table 16** list the bikeways by type and mileage. The proposed bikeways were developed with consideration for roadway widths, traffic volumes and speeds, connections to destinations. This Plan proposes five bikeway types, listed below:

- Class I Multi-Use Paths
- Class II Bicycle Lanes
- Class II Buffered Bicycle Lanes
- Class III Bicycle Routes
- Class III Bicycle Routes with Shared Lane Markings

4.1.1 Class I Multi-Use Paths

A Class I Multi-Use Path provides for bicycle and pedestrian travel on a paved right-of-way completely separated from streets or highways. These recommended facilities can be popular for recreational bicycling as well as for commuting.

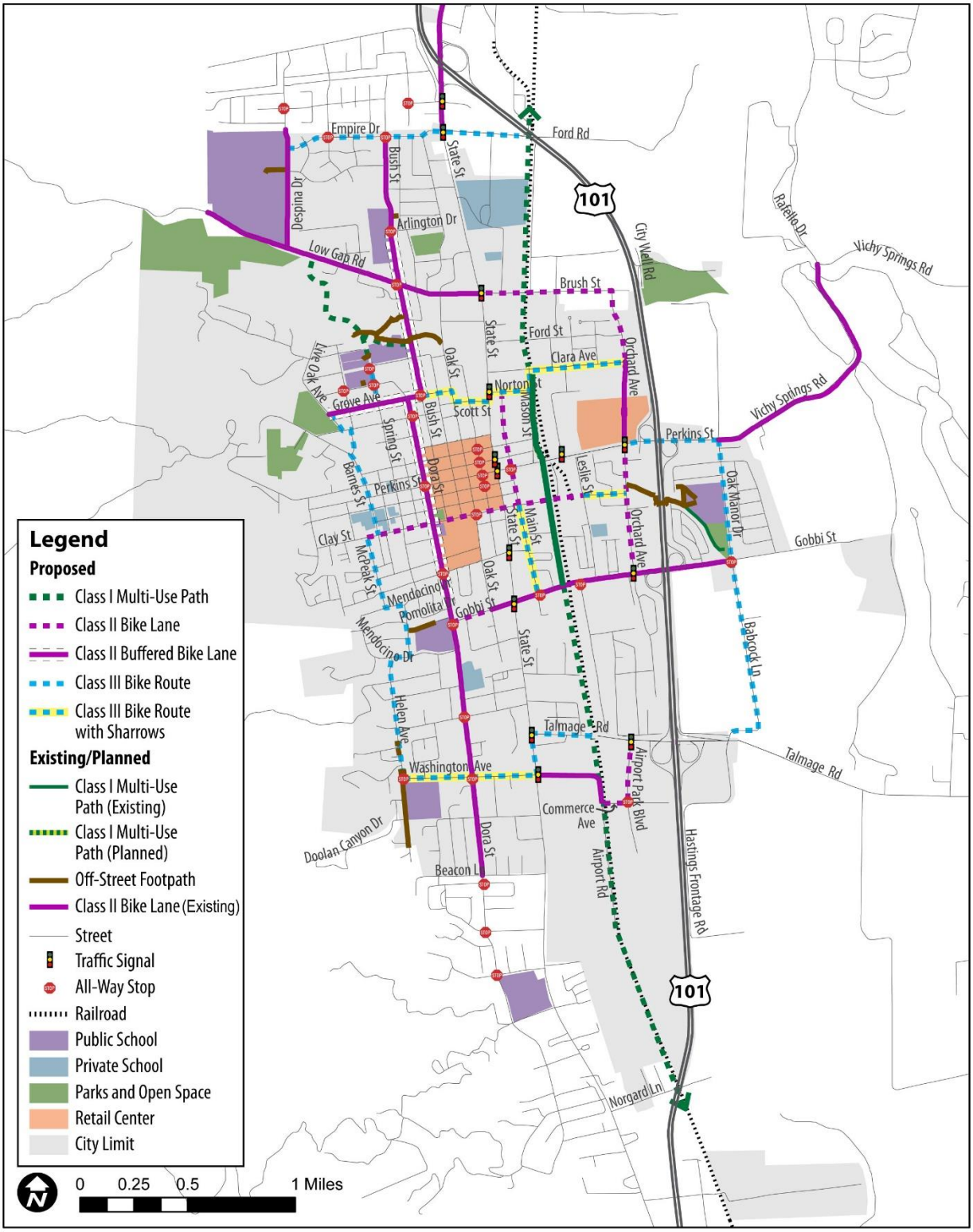


Figure 15: Proposed Bicycle Facilities

Recommendations

The recommended Class I Multi-Use Path would extend the NWP Rail Trail Phase 1 project (located between Clara Avenue and Gobbi Street) to the northern and southern City limits. This Rail Trail can serve recreation and commuting needs as the path would run north-south through central Ukiah and connect with Ukiah's major east-west roadways.

Table 12: Recommended Class I Paths

Location	Bikeway Class	From	To	Length (Miles)
NWP ROW	I	Brush Street	Clara Avenue	0.27
NWP ROW	I	Gobbi Street	Commerce Drive	0.80
NWP ROW	I	Commerce Drive	Norgard Lane	1.07
Class I Bicycle Path Total Miles				**2.14**

4.1.2 Class II Bicycle Lanes

Bicycle lanes provide a signed, striped and stenciled lane for one-way travel on both sides of a roadway. Class II bicycle lanes are often used by commuters, bicycle enthusiasts and casual riders (if on lower volume and lower speed roadways). Bicycle lanes are often recommended on roadways with moderate traffic volumes and speeds and where separation of users facilitates safer operation.

Recommendations

Class II Bicycle Lanes are recommended on higher volume roadways that serve as important connections in the bikeway network.

Table 13: Recommended Class II Bike Lanes

Location	Bikeway Class	From	To	Length (Miles)
Brush Street	II	State Street	City Limit	0.28
Orchard Avenue	II	Clara Avenue	City Limit	0.19
Main Street	II	Clay Street	Norton Street	0.41
Orchard Avenue	II	Gobbi Street	Perkins Street	0.47
Clay Street	II	McPeak Street	Leslie Street	0.79
Gobbi Street	II	Dora Street	Oak Street	0.15
Class II Bike Lane Total Miles				**2.29**

4.1.3 Class II Buffered Bicycle Lanes

Buffered bike lanes are bike lanes with a two- to three-foot wide striped buffer between the bike lane and the motor vehicle lane. The buffer provides additional shy space between bicyclists and vehicles, improving roadway user comfort and safety.

Recommendations

Grove Avenue, Dora Street, and Bush Street have wide travel lanes and minimum width bike lanes. The corridor created by these three roadways is the most important in the City for student travel, directly

serving three schools (Yokayo Elementary, St Mary's Catholic School, and South Valley Continuation High) as well as middle and high school students traveling from greater distances. Class II Buffered Bicycle Lanes are recommended to enhance the attractiveness of the existing core bikeway network serving these schools by providing visual and physical separation between cyclists and vehicle traffic.

Table 14: Recommended Class II Buffered Bike Lanes

Location	Bikeway Class	From	To	Length (Miles)
Bush Street	II Buffered	Arlington Drive	Grove Avenue	0.47
Grove Avenue	II Buffered	Bush Street	Dora Street	0.06
Dora Street	II Buffered	Grove Avenue	North of Pomolita Drive	0.82
Class II Buffered Bicycle Lane Total Miles				**1.35**

4.1.4 Class III Bicycle Routes

Class III Bicycle Routes provide for shared roadway use and are generally only identified with signing. Bicycle Routes may have a wide travel lane or shoulder that allow for parallel travel with automobiles.

Recommendations

The recommended Bicycle Routes provide connections through residential areas connecting residents to schools, retail districts and other community destinations.

Table 15: Recommended Class III Bike Routes

Location	From	To	Length (Miles)
Empire Drive/Ford Road	Despina Drive	City Limit	0.58
Perkins Street	Orchard Avenue	Oak Manor Drive	0.34
Helen Avenue/Mendocino Drive/Gardens Avenue/Mendocino Drive/Barnes Street/Todd Road/Walnut Avenue/Live Oak Avenue	Washington Avenue	Grove Avenue	1.60
Oak Manor Drive/Babcock Lane	Perkins Street/Vicky Springs Road	City Limit	0.57
Talmage Road	State Street	NWP Corridor	0.24
State Street	Talmage Road	Washington Ave	0.14
Class III Bicycle Route Total Miles			**3.47**

4.1.5 Class III Bicycle Routes with Shared Lane Markings

Class III Bicycle Routes with Shared Lane Markings (SLMs) are signed bicycle routes with shared lane marking stencils in the travel lane.

Class III Bicycle Routes with SLMs are proposed on narrow roadways without wide travels lanes, roadways with high street parking turnover in retail districts, and near schools to facilitate student travel. These bikeways will help bicycle mobility and access while increasing driver and bicycle awareness.

The 2012 California Manual on Uniform Traffic Control Devices (MUTCD) identifies that SLMs should generally not be used on roadways that have a speed limit over 35 mph.

Recommendations

This Plan recommends SLMs be used on Class III Bicycle Routes where there are narrow travel lanes, high parking turn over, when bicyclists may need assistance with lane positioning, and where drivers may need additional notice to expect bicyclists regardless of the auto parking configuration. This Plan also recommends the SLMs be placed in the center of the travel lane to reduce maintenance and to direct bicyclists outside the door zone.

Table 16: Recommended Class III Bike Routes with Shared Lane Markings

Location	Bikeway Class	From	To	Length (Miles)
Grove Avenue/Snuffin Street/Oak Street/Scott Street/State Street/Norton Street/Mason Street/Clara Avenue	III+SML	Bush Street	Orchard Avenue	0.89
Peach Street	III+SML	Leslie Street	Orchard Avenue	0.16
Main Street	III+SML	Clay Street	Gobbi Street	0.33
Washington Avenue	III+SML	Helen Avenue	State Street	0.48
Class III Bicycle Route + SLM Total Miles				**1.86**

4.1.6 Bicycle Parking

Bicycle parking is an essential element of any bikeway network. There are two classifications of bicycle parking and there are also standards regarding the acceptable types of bike parking. Bicycle parking can be categorized into short-term and long-term parking. Bicycle racks are the preferred device for short-term bike parking. These racks serve people who leave their bicycles for relatively short periods of time, typically for shopping or errands, eating or recreation. Bicycle racks provide a high level of convenience and moderate level of security. Long-term bike parking includes bike lockers and bike stations and serve people who intend to leave their bicycles for longer periods of time and are typically found at transit stations, multifamily residential buildings and commercial buildings. These facilities provide a high level of security, but are less convenient than bicycle racks.

Recommendation

Through outreach events associated with this BPMP, community members expressed desire for bicycle parking at employment centers and in Downtown Ukiah. This Plan recommends the City create an inventory identifying the location, type, number of spaces, and any maintenance needs for existing short-term bicycle parking. Using this inventory, City staff can build upon the existing bicycle parking by identifying new locations based on anticipated demand and consideration of available space free of fixtures and utilities.

This Plan recommends the City and private developers only install bicycle parking that meets the following criteria.

- Short-term parking should support the bicycle at two points and have a design that is intuitive to use. A "U-rack" is an example of a standard and accepted bicycle rack and is the recommended standard for the City of Ukiah, while "wave racks" and "wheelbender" are not acceptable because they do not provide two points of contact, among other issues.
- Long-term bike parking should provide some weather protection and greater security than provide by bicycle racks. Bicycle lockers (electronic) and bike cages are examples of acceptable types of long-term bicycle parking.

Bicycle parking requirements for development ensures bicyclists have somewhere secure and convenient to park their bicycles at newly constructed buildings. The City Zoning Code (§9199) includes a bicycle parking facility exemption, which may be granted to projects involving new construction at a rate of one vehicle space for every five bicycle spaces provided and not to exceed two vehicle parking spaces per parcel. This Plan recommends the City develop language and rates of required bicycle parking for inclusion in the City's Zoning Code. The recommended rates may be based on the Association of Pedestrian and Bicycle Professional's "Bicycle Parking Guidelines" and best practices. Identifying bicycle parking requirements would ensure the type and rate of required bicycle parking meets the City's needs and to provide developers a clear understanding of requirements at project initiation.

4.1.7 Complete Streets Policy

There is a growing movement in the U.S. to integrate non-motorized transportation in the planning, design and operation of roads, bridges and transit projects, called "Complete Streets". At the national level, the US Department of Transportation (USDOT) developed a model bicycle and policy framework in 2001. The policy is based on the principle that bicyclists and pedestrians have the right to move along or across all roadways unless specifically prohibited from doing so. The national policy has served as guidance for State DOT's and public works agencies throughout the U.S. It has recently evolved into the idea that streets are only complete when they address the needs of all modes of transportation, including walking and bicycling. This approach includes providing for transit, ADA compliance and facilities for people of all ages and abilities.

Complete Streets principles are "federal, state, local, or regional level transportation laws, policies, or principles which ensure that the safety and convenience of all users of a transportation system, including pedestrians, bicyclists, public transit users, children, older individuals, motorists, and individuals with disabilities, are accommodated in all phases of project planning and development."

Caltrans adopted complete streets policies in 2001 and 2008, and has been working to integrate complete streets throughout Department. This policy is supported by Federal law requiring safe accommodation for all users and State law that Caltrans provide an integrated multi-modal system. It also helps local governments meet their requirement under State law (AB 1358) to include Complete Streets in their General Plans.

4.2 Pedestrian Network

This chapter presents the following pedestrian network improvement types:

- Pedestrian Corridor Network identifies a corridor network intended to provide a distinguished pedestrian friendly network.
- Major Infrastructure Improvements identify locations for sidewalk installation, paths, curb reconstruction, and pedestrian scale lighting.
- Intersection and Crossing Improvements identify specific locations for focused improvements including curb ramps, curb extensions, crosswalks, and other pedestrian related improvements.
- Studies identify potential improvements for consideration and further analysis.

4.2.1 Pedestrian Corridor Network

Figure 16 presents a recommended Pedestrian Corridor Network: a connected network of streets intended to improve pedestrian connections to neighborhood destinations, transit and recreational opportunities and serve high volumes of existing or expected pedestrian activity. The Pedestrian Corridor Network is intended to provide a distinguished pedestrian friendly network.

The network includes corridors that have the following characteristics:

- Retail shopping areas
- Transit
- Schools
- Parks and community centers
- Higher density residential development
- Libraries
- Community centers
- Senior centers or senior living facilities

Recommendations

The Pedestrian Corridor Network is a starting point for a pedestrian priority corridor network designed to focus improvements where people are most likely to walk most often. The network should provide high quality pedestrian connections to residential areas, transit, recreation, and retail. The City may consider additional street trees, plantings, wide sidewalks, and public art on many of these corridors.

The City should prioritize pedestrian travel on this network and consider implementation of pedestrian improvements with roadway and planning projects along these corridors (see Figure 16 and Table 17).

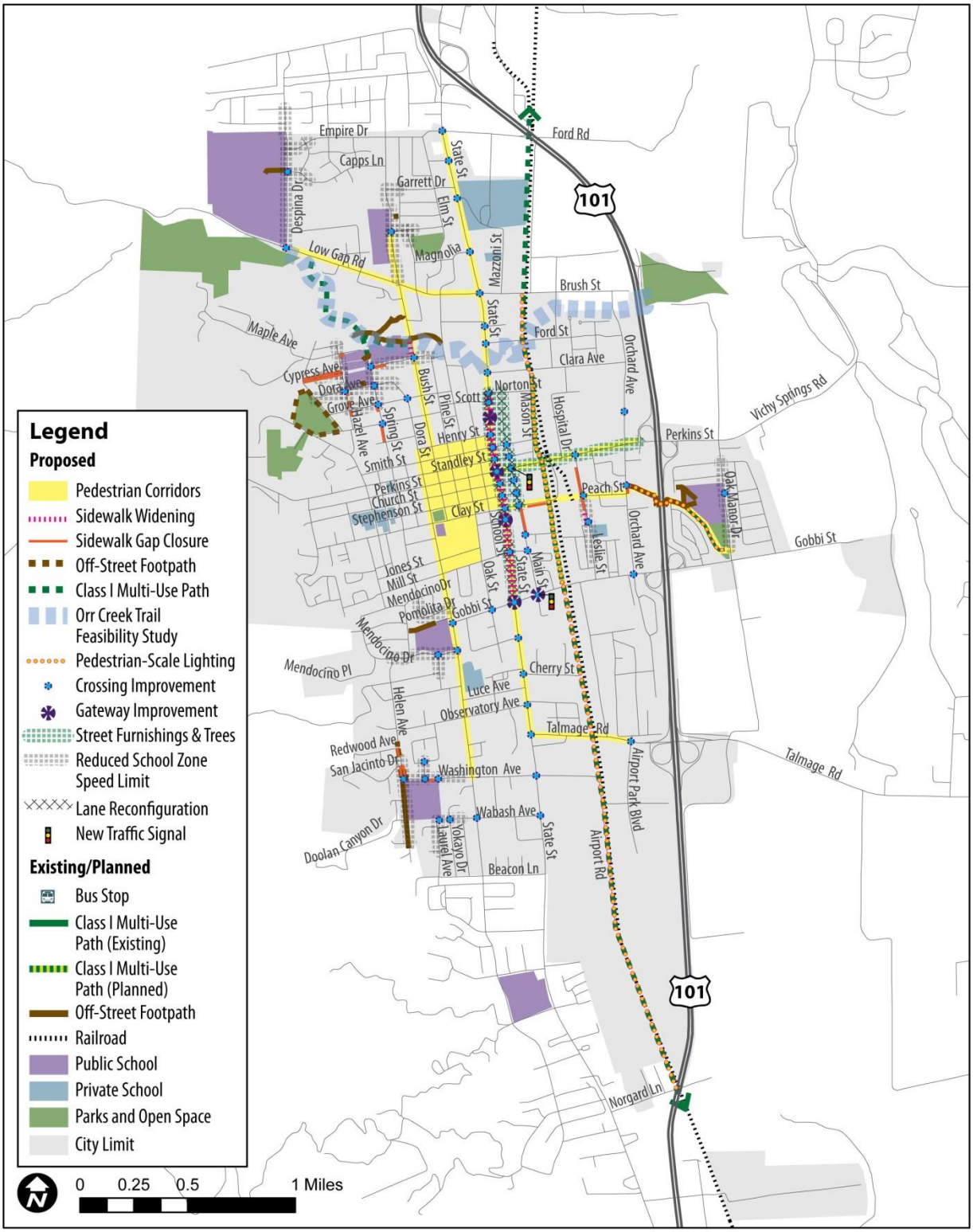


Figure 16: Proposed Pedestrian Facilities

Table 17: Recommended Pedestrian Corridor Network

Location	From	To	Length (Miles)
Bush Street/Dora Street	Arlington Drive	Washington Ave	1.85
State Street	Ford Road	Talmage Road	2.19
Perkins Street	State Street	US 101 Ramps	0.53
Low Gap Road	Despina Drive	State Street	0.72
Clay Street/Peach Street/Oak Manor Trail	State Street	Oak Manor Drive	0.89
Talmage Road	State Street	Airport Park Boulevard	0.37
Pedestrian Corridor Network Miles			**6.55**

4.2.2 Roadway and Pathway Segment Infrastructure Improvements

Sidewalks

The majority of the City street network includes sidewalks on both sides of the street; however there are several street segments that do not have sidewalks and present gaps in the network or are too narrow to accommodate pedestrian traffic and amenities (e.g., planters, trees, street furniture, and outdoor restaurant/café seating). Areas without sidewalks (sidewalk gaps) may force pedestrians to walk in the roadway which can be problematic on streets with higher traffic volumes. Sidewalk gaps also present a serious mobility issue for those who use assistive mobility devices and strollers.

Recommendations

Recommendations include sidewalk widening in select locations and closure of priority sidewalk gaps. This Plan recommends the City prioritize sidewalk installation citywide. As a first priority, the City should install sidewalks identified in **Table 18** and **Figure 16**. The recommended streets are through streets that provide access to schools and community centers (e.g., the Grace Hudson Museum) and would benefit from separating pedestrians from vehicle traffic. In addition, the City should install sidewalks with all new development projects and as requested by the community.

In general, State Street between Norton Street and Gobbi Street would have widened sidewalks that would accommodate new planters, trees, street furniture, outdoor restaurant/café seating opportunities, and other street beautification and pedestrian amenities, consistent with the Ukiah Downtown Streetscape Improvement Plan. Sidewalks would range between 8 to 15.5 feet wide, depending on the existing right-of-way. Main Street sidewalks would be filled in wherever gaps currently occur to give continuity to the streetscape. Additional sidewalk widening is proposed along Leslie Street and State Street for improved school access.

Table 18: Recommended Sidewalk Improvements

Roadway	Extent or Location	Side of Roadway	Approx. Linear Feet
Sidewalk Widening			
Bush Street	Orr Creek to Cypress Ave.	W	300
Leslie St.	Peach St. to crosswalk at Senior Center	W	180
State St.	Norton St. to Gobbi St.	W,E	7,000
Total			**7,480**
Sidewalk Gap Closures			
Clay St.	Main St. to NWP corridor	S	450
Cypress Ave.	Live Oak Ave. to Hazel Ave.	N,S	600
Cypress Ave.	Spring St. to Bush St.	S	140
Hazel Ave.	South of Maple Ave.	E	60
Hazel Ave.	Dora Ave. to Grove Ave.	E	180
Hazel Ave.	Grove Ave. to Walnut Ave.	E	90
Helen Ave.	Washington Ave. to San Jacinto Dr.	W,E	440
Helen Ave.	South of Redwood Ave.	W	130
Leslie St.	Gibson Creek to Peach St.	W	530
Leslie St.	Peach St. to crosswalk at Senior Center	W	300
Main St.	Clay St. to Cleveland Ln.	E	360
Maple Ave.	East of Hazel Ave.	S	100
Orchard Ave.	Gibson Creek to Peach Street	E	120
Spring St.	Grove Ave. to Walnut Ave.	W	160
Spring St.	Walnut Ave. to Willow Ave.	W	320
Washington Ave.	East of Marwen Dr.	S	200
Total			**4180**

Pedestrian Pathway

As part of the pedestrian street enhancements, create a Todd Grove Park Pedestrian Loop. Provide a pedestrian path around Todd Grove Park either through the use of pavement striping and/or barrier separating the path from the parking and travel lanes. **Table 19** and **Figure 16** present the recommended pedestrian pathway.

Table 19: Recommended Pedestrian Pathway Improvements

Project	Route	Approx. Mileage
Todd Grove Pedestrian Loop	Live Oak Ave., Walnut Ave., Park Blvd., and Clubhouse Dr.	0.5
Total		**0.5**

Pedestrian Scale Lighting

Pedestrian scale lighting is a category of lighting with frequent lampposts of lower height that illuminate the pedestrian walking area. It typically includes shorter poles, 12 to 15 feet tall, directly above pedestrian walkways. Combined, street and pedestrian lighting increase visibility of pedestrians for motor vehicles at night, promote perceived personal security for pedestrians, illuminate potential hazards, and can help create a vibrant and inviting streetscape.

The City of Ukiah has invested in pedestrian scaled lighting; however community surveys indicate a need for additional pedestrian lighting. Results from the Community Survey and Farmers Market Tabling indicate a need for lighting along existing pathways and the US 101 pedestrian overcrossing. The NWP Rail Trail Phase 1 project has installed pedestrian-scale lighting.

Recommendations

This Plan recommends the City install pedestrian scale lighting along pathways not lit by adjoining street lights and work with Caltrans to identify the feasibility of lighting the US 101 pedestrian overcrossing (see **Table 20** and **Figure 16**.

Table 20: Recommended Pedestrian-Scale Lighting

Location	From	To	Approx. Mileage
Pedestrian Pathway	Orchard Avenue	Pedestrian Overcrossing	0.11
Pedestrian Pathway	Pedestrian Overcrossing	Oak Manor Park	0.30
NWP Rail Trail	Brush Street	Clara Avenue	0.27
NWP Rail Trail	Gobbi Street	Commerce Drive	0.80
NWP Rail Trail	Commerce Drive	Norgard Lane	1.07
Total			**2.55**

Lane Reconfigurations

A lane reconfiguration - also called a road diet, lane reduction, or road rechannelization – is a technique in transportation planning whereby the number of vehicular travel lanes and/or effective width of the road is reduced. The reduction of lanes allows the roadway to be reallocated for other uses such as bike lanes, pedestrian refuge islands, and/or parking. Road diets have multiple safety and operational benefits for roadway users, such as:

- Decreasing vehicle travel lanes for pedestrians to cross
- Providing room for a pedestrian refuge island
- Improving safety for bicyclists when bike lanes are added
- Providing the opportunity for on-street parking (also a buffer between pedestrians and vehicles)
- Reducing rear-end and side-swipe crashes when a center turn lane is added
- Improving speed limit compliance and decreasing crash severity when crashes do occur

Recommendations

As discussed in the Ukiah Downtown Streetscape Plan, road diets on State Street would reduce the current two through lanes in each direction to a single travel lane in each direction with a two-way left-turn lane that would operate as a left-turn lane at appropriate intersections (see **Figure 16**). Parallel parking would be maintained on both sides of the street. This lane configuration would allow flexibility for widened sidewalks or buffer zones on State Street between the travel lanes and parking. Main Street (from Caly Street to Norton Street) would continue to have a single travel lane in each direction with parallel parking, but travel lanes would be reduced to 10 feet wide to accommodate 5-foot Class II bicycle lanes in each direction.

Street Furnishings

Street furnishings provide amenities for pedestrians by adding functionality and vitality to the pedestrian realm. They announce that pedestrians are welcome and that the street is a comfortable place to be. These amenities provide functional service as well as visual detail and interest.

Recommendations

Street furniture all along State Street and Main Street such as benches, trash receptacles, bollards, lights, etc. would improve the pedestrian experience of the downtown (see **Figure 16**). The street furniture would have a cohesive style that would reflect Ukiah's historic character and be consistent with recommendations included in the Ukiah Downtown Streetscape Plan.

Street Trees

Street trees create more pleasant walking environments, provide a buffer between the pedestrian and vehicular realms, contribute to aesthetics and placemaking, and provide traffic calming and ecological benefits.

Recommendations

As discussed in the Ukiah Downtown Streetscape Plan, new trees on both State Street and Main Street would provide additional landscaping where existing trees are not present to create a continuous canopy within the downtown (see **Figure 16**). Additional trees would be added to the sidewalk on the State Street side of the plaza to provide much-needed shade to the space. Accent trees at sidewalk corners would signify gateways at the Gibson Creek crossing and at the Perkins Street and State Street and Seminary Avenue and State Street intersections.

Street trees on State Street and Main Street would be consistent with the City's Downtown Perkins and Street Code tree list and would add character to Ukiah's streets without interfering with current utilities, signs, and other infrastructure. Given Ukiah's hot and dry summer weather, use of native, drought-tolerant street trees that would be carefully selected and spaced depending on their respective planter sizes to encourage growth and long-term survival is recommended.

4.2.3 Intersection and Crossing Improvements

Recommended intersection and crossing improvements include curb ramps, crosswalk, curb extensions, refuge islands, gateway treatments, new and modified traffic signals, and a new roundabout. **Table 21**

presents an overview of recommended crossing improvements by intersection. **Table 21** through **Table 25** identify intersections by improvement type.

Curb Ramps

Curb ramps bridge the transition between a sidewalk and the street and are important for those using assistive mobility devices and those with strollers. Raised truncated domes provide a cue to visually impaired pedestrians that they are entering a street or intersection.

Recommendations

This Plan recommends the City install curb ramps citywide. As a first priority, perpendicular curb ramps should be installed on community identified locations (e.g., along State Street) and City collector and arterial streets. Priority should be given to locations near schools and senior facilities. Although the City is not required to install truncated domes on existing curb ramps constructed prior to 2002, this Plan recommends the City install these devices on all the recommended Pedestrian Corridors.

Crosswalks

There are a number of different marked crosswalk types (see **Figure 17**). Ukiah typically uses standard (also called transverse) crosswalks at signalized and stop-controlled intersections and transverse or zebra crosswalks at uncontrolled crossings. Zebra, continental, and ladder crosswalks are considered high visibility crosswalks because they are more noticeable to drivers. High visibility crosswalks are typically used where there is existing or anticipated high pedestrian activity, where slower pedestrians are expected, at uncontrolled crossings, and where high numbers of pedestrian-related collisions have occurred.

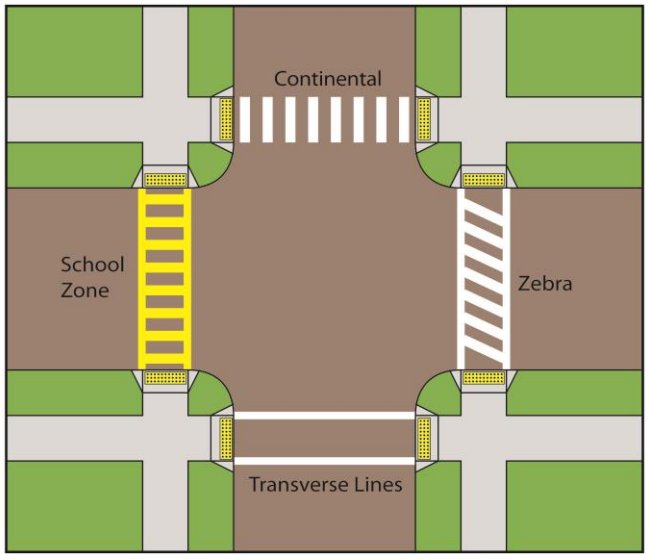


Figure 17: Crosswalk Types

Recommendations

This Plan recommends the City adopt the continental crosswalk as the City standard for high visibility crosswalks and retain the transverse crosswalk for use at signalized and stop-controlled crossings. The Ukiah Downtown Streetscape Plan recommends brick or enhanced paving at all crosswalks within the Streetscape Plan area to give the crossings more prominence than transverse lines alone, thereby increasing pedestrian safety.

This Plan also recommends the city prioritize installation of high visibility crosswalks at the locations listed in **Table 21**. Additional recommended treatments include advance stop bars at signal or stop-controlled intersections. Yield teeth and warning signage, such as Assembly B signs (see **Figure 18**), are recommended at uncontrolled crossings.

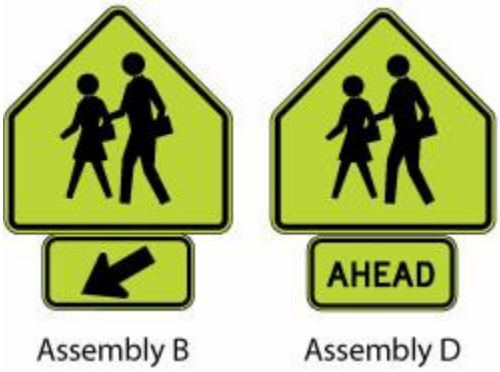


Figure 18: Assembly B and D Signage

Curb Extensions

Curb extensions (also called bulb-outs) are an effective method to improve pedestrian visibility and reduce pedestrian crossing time. Curb extensions (see **Figure 19**) extend the sidewalk or curb line out into the parking lane, reducing the effective street width. Despite their advantages, curb extensions can require major re-engineering of the street and can be costly. Curb extensions can only be used where there is on-street parking and they should not encroach into bicycle lanes. Curb extensions would reduce street crossing distances for pedestrians, slow down traffic, and provide additional space for sidewalk improvements.

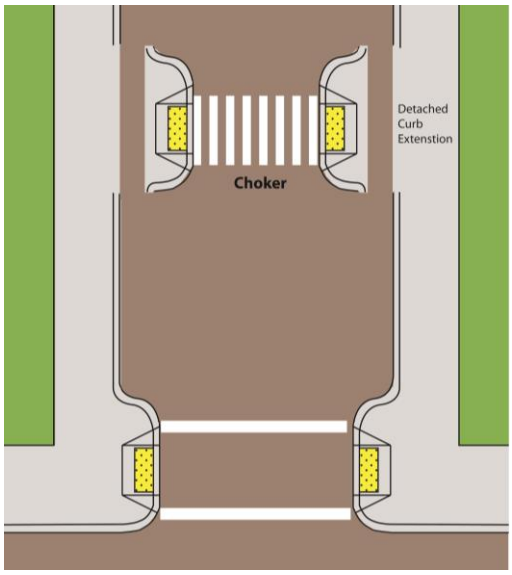


Figure 19: Curb Extensions

The location of planned curb extensions should include a number of considerations. Curb extensions should be designed so they allow buses to complete turning movements and load and unload passengers safely. Curb extension geometry should allow mechanical street sweepers to clean transitions from the parking lane to the extended curb. Curb extensions may also require storm drainage re-engineering.

Recommendations

This Plan recommends the City institute a policy to install curb extensions at uncontrolled marked crosswalks citywide. It is also recommended the City prioritize installation of curb extensions at the locations presented in **Table 22**. The locations were selected based on a number of factors, including pedestrian-related collision history, vehicle volume, pedestrian demand, and whether they are along a suggest route to school as identified in the 2012 Ukiah Safe Routes to School Plan.

All of the intersections on State Street within the Ukiah Downtown Streetscape Improvement Plan area would be retrofitted with curb extensions except at Henry Street, Mill Street, Scott Street, Gobbi Street, and Norton Street to preserve right turn movements. In addition, mid-block extensions are proposed where Seminary Avenue, Stephenson Street, and dead-end at State Street.

Refuge Islands

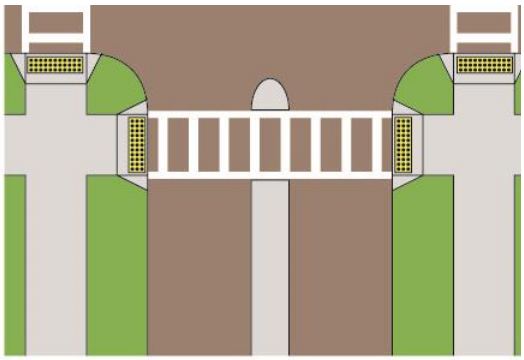


Figure 20: Refuge Island

Refuge islands (also known as crossing islands, center or median islands, and pedestrian islands) are raised islands placed in the center of the street at intersections or midblock to help protect crossing pedestrians from motor vehicles (see **Figure 20**). Refuge islands allow pedestrians to negotiate one direction of traffic at a time, and they enable them to stop partway across the street and wait for an adequate gap in traffic before crossing the second half of the street. Refuge islands have been demonstrated to significantly decrease the percentage of pedestrian involved crashes. The factors contributing to pedestrian safety include reduced conflicts, reduced vehicle speeds approaching the island (the approach can be designed to force a greater slowing of cars, depending on how dramatic the curvature is), greater attention called to the existence of a pedestrian crossing, opportunities for additional signs in the middle of the road, and reduced time in the roadway (referred to as "exposure time") for pedestrians.

Recommendations

Table 23 presents recommended refuge island locations included in the Ukiah Downtown Streetscape Improvement Plan and Ukiah Safe Routes to School Plan. The Ukiah Downtown Streetscape Improvement Plan examined the possibility of adding center medians on State Street between Norton Street and Gobbi Street. Ukiah Downtown Streetscape Improvement Plan examined the possibility of adding additional center medians on State Street, but turning movements and the large number of curb cuts/driveways along State Street would make this difficult.

Table 21: Recommended Crosswalk Improvements

Intersection/Location	Inter-section Leg	Number of Crosswalks	Style	Additional Treatments
New Crosswalks				
Main St./Cleveland Ln.	N, E	2	Transverse with brick/paving	
Leslie St./Peach St.	S	2	High visibility (Leslie St.) and transverse (Peach St.)	Assembly B signage, SLOW SCHOOL XING pavement marking, curb extensions (SW and SE corners)
State St./Wabash Ave.	N	1	High visibility	Yield teeth, warning signage, curb extensions (NW and NE corners)
Total		**5**		
Enhanced Crosswalks				
Airport Park Blvd./Talmage Rd.	All	4	Transverse(refresh markings)	
Alice Ave./Mendocino Dr.	E	1	High visibility	Assembly B or in-road paddle warning signage, SLOW SCHOOL XING pavement markings
Despina Dr./Capps Ln.	N, S	2	High visibility	Assembly B and D signage, SLOW SCHOOL XING pavement markings, curb extensions (west side and NE and SE corners)
Despina Dr./Low Gap Rd.	N,W,E	3	High visibility	Advance stop bars, curb extensions (NW and NE corners)
Dora St./Grove Ave.	W	1	High visibility	Pedestrian refuge island, Assembly B signage, curb extensions (NW and SW corners), SLOW SCHOOL XING pavement marking
Dora St./Gobbi St.	N,S	2	High visibility	Advance stop bars, curb extensions (west side and NE and SE corners)
Dora St./Wabash Ave.	N	1	High visibility	Curb extensions (NW and NE corners)
Dora St./Mendocino Dr.	N	1	High visibility	In-road paddle warning signage, curb extensions (NW and NE corners)

Intersection/Location	Inter-section Leg	Number of Crosswalks	Style	Additional Treatments
Hazel Ave./Dora Ave.	E	1	High visibility	Advance stop bar
Helen Ave./Washington Ave.	N,E	2	High visibility (Washington Ave.) and transverse (Helen Ave.)	Advance stop bars
Laurel Ave./Wabash Ave.	Midblock	1	High visibility	Assembly B signage, SLOW SCHOOL XING pavement marking
Leslie St./Perkins St.	W	1	High visibility	Relocate crosswalk to west leg to line up with expected sidewalk improvements
Leslie St./southern Senior Center driveway	N	1	High visibility	Assembly B signage, SLOW SCHOOL XING pavement marking, curb extensions (NW and NE corners)
Main St./Smith St.	All	4	Transverse with brick/paving	
Main St./Standley St.	All	4	Transverse with brick/paving	
Main St./Perkins St.	All	4	Transverse with brick/paving	Advance stop bar
Main St./ChurchSt.	W,S	2	Transverse with brick/paving	
Main St./StephensonSt.	N,W	2	Transverse with brick/paving	
Main St./Clay St.	All	4	Transverse with brick/paving	
Main St./Mill St.	N, W, S	3	Transverse with brick/paving	
Main St. /Gobbi St.	All	4	Transverse with brick/paving	Advance stop bar
Marwen Dr./Nokomis Dr.	E	1	High visibility	Assembly B or in-road paddle warning signage
Marwen Dr./Washington Dr.	W	1	High visibility	Assembly B or in-road paddle warning signage, SLOW SCHOOL XING pavement marking
N. Bush St./Arlington Dr.	N,S	2	High visibility	Advance stop bars, curb extensions (west side and NE and SE corners)
N. Bush St./Cypress Ave.	S	1	High visibility	Assembly B signage with optional Rectangular Rapid Flash Beacon (RRFB), SLOW SCHOOL XING

Intersection/Location	Inter-section Leg	Number of Crosswalks	Style	Additional Treatments
				pavement markings, curb extensions (SW and SE corners)
Oak Manor Dr. at school entrance	Midblock	1	High visibility	In-road paddle warning signage, consider moving crosswalk north approx. 40 feet
Oak St./Gobbi St.	N,W,S	3	High visibility (Gobbi St.) and transverse (Oak St.)	
Orchard Ave. at Pear Tree Center	Midblock	1	High visibility (refresh markings)	Yield teeth, warning signage
Orchard Ave./Gobbi St.	All	4	Transverse(refresh markings)	WB bike box on Gobbi St., green conflict markings through intersection on Gobbi St.
Orchard Ave./Gibson Creek	Midblock	0	Existing high visibility	Assembly B signage
Spring St./Cypress St.	S	1	High visibility	
Spring St./Dora St.	W	1	High visibility	
Spring St./Grove Ave.	W,E	2	High visibility	Pedestrian refuge island, Assembly B signage, curb extensions (NW and SW corners)
Spring St./Walnut St.	W,E	2	High visibility	Assembly B signage
State St./Ford Rd./S. Empire Dr.	All	4	Transverse(refresh markings)	Curb extensions (NE and SE corners), advance stop bars
State St./Bricarelli Dr.	N	1	High visibility	Yield teeth, warning signage, curb extension (NW corner)
State St./Magnolia St.	N	1	High visibility	Yield teeth, warning signage, curb extensions (NW and NE corners; requires narrowing driveway to 24 feet)
State St./Low Gap Rd.	All	4	Transverse(refresh markings)	
State St./Evans St.	N,S	2	High visibility	
State St./Ford St.	N,S	2	High visibility	Curb extensions (west side, NE, SE corners)

Intersection/Location	Inter-section Leg	Number of Crosswalks	Style	Additional Treatments
State St./Clara Ave.	N,S	1	High visibility	Curb extensions (SW and SE corners); consider removing northern crosswalk, which aligns with driveway
State St./Norton St.	N,E	2	Transverse(refresh markings)	
State St./Scott St.	W,S	2	Transverse with brick/paving	
State St./Henry St.	N,W,S	3	Transverse with brick/paving	Curb extensions (east side)
State St./Smith St.	All	4	Transverse with brick/paving	Curb extensions (all four corners)
State St./Standley St.	All	4	Transverse with brick/paving	Curb extensions (all four corners)
State St./Perkins St.	All	4	Transverse with brick/paving	Curb extensions (all four corners)
State St./Church St.	All	4	Transverse with brick/paving	Curb extensions (all four corners)
State St./Stephenson St.	N,E,S	3	Transverse with brick/paving	Curb extensions (west side and NE and SE corners)
State St./Clay St.	All	4	Transverse with brick/paving	Curb extensions (all four corners)
State St./Seminary Ave.	N,W,S	3	Transverse with brick/paving	Curb extensions (east side and NW and SW corners)
State St./Mill St.	All	4	Transverse with brick/paving	
State St./Gobbi St.	All	4	Transverse with brick/paving	
State St./Freitas Ave.	S	1	High visibility	Curb extensions (SW and SE corners)
State St./Cherry St.	N	1	High visibility	Consider moving to south leg (northern leg aligns with driveway), yield teeth, warning signage, curb extensions (SW and SE corners)
State St./Luca Ave.	S	1	High visibility	Yield teeth, warning signage, curb extensions (SW and SE corners; requires narrowing gas station driveway to 24 feet)
State St./Observatory Ave.	S	1	High visibility	Yield teeth, warning signage, curb extensions (SW and SE corners)
State St./Talmage Rd.	All	3	Transverse(refresh markings)	

Intersection/Location	Inter-section Leg	Number of Crosswalks	Style	Additional Treatments
State St./Airport Rd/Washington Ave.	All	4	Transverse(refresh markings)	
Washington Ave. between Marwen Dr. and Dora St.	Midblock	1	High visibility	Assembly B or in-road paddle warning signage, SLOW SCHOOL XING pavement marking
Yokayo Dr./Wabash Ave.	E	1	High visibility	Assembly B or in-road paddle warning signage, SLOW SCHOOL XING pavement marking
Total		**137**		

Table 22: Recommended Curb Extensions

Intersection	Corner or Side of Roadway	Number of Curb Extensions
Despina Dr./Capps Ln.	NE, SE, West side	3
Despina Dr./Low Gap Rd.	NW,NE	2
Dora St./Wabash Ave.	NW,NE	2
Dora St./Grove Ave.	NW,SW	2
Dora St./Gobbi St.	NE, SE, West side	3
Dora St./Mendocino Ave.	NW,NE	2
Leslie St./Peach St.	SW,SE	2
Leslie St./southern Senior Center driveway	NW,NE	2
N. Bush St./Arlington Dr.	NE, SE, West side	3
N. Bush St./Cypress Ave.	SW,SE	2
Spring St./Grove Ave.	NW,SW	2
State St./Henry St.	East side	1
State St./Smith St.	NW, SW, NE, SE	4
State St./Standley St.	NW, SW, NE, SE	4
State St./Perkins St.	NW, SW, NE, SE	4
State St./Church St.	NW, SW, NE, SE	4
State St./Stephenson St.	NE, SE, West side	3
State St./Clay St.	NW, SW, NE, SE	4
State St./Seminary Ave.	NW, SW, East side	3
Total		**52**

Table 23: Recommended Refuge Islands

Roadway	Extent	Type	Number
Grove Ave.	At Spring St. intersection	Pedestrian refuge island	2
Grove Ave.	At Dora St. intersection	Pedestrian refuge island	1
State St.	Between Henry St. and Gibson Creek	Median and pedestrian refuge	2
State St.	Between Church St. and Stephenson St.	Median and pedestrian refuge	1
State St.	Between Smith St. and Henry St.	Median and pedestrian refuge	1
State St.	Between Gobbi St. and Mill St.	Median	1
Total			**8**

Recommended Crosswalk Removal

This Plan recommends the removal of two crosswalks, as follows:

- Remove the eastern crosswalk at the Dora Street/Grove Avenue intersection in conjunction with implementation of recommended improvements to the crosswalk on the west side of the intersection. This would direct pedestrians to cross in a location outside a predominant vehicular route to Pomolita Middle School.
- Remove the crosswalk on the west leg of the Rose Avenue/Wabash Avenue intersection to better channelize pedestrians to crossings at Yokayo Drive and near the back gate at Nokomis Elementary School. Remove the crosswalk in conjunction with implementation of reduced speed zone signage (Assembly C signage), curb ramps, and SLOW SCHOOL XING pavement markings on Wabash Avenue and Laurel Avenue.

Downtown Intersection Treatments and Gateways

Gateway treatments and elements serve the purpose of marking the entranceways into Downtown Ukiah and providing a sense of arrival. Consistent intersection treatments create a stronger sense of unity and placemaking.

Recommendations

The Ukiah Downtown Streetscape Improvement Plan suggests enhancing the existing paving treatment at several intersections to help denote the significance of the intersections through Downtown. **Table 24** presents the Downtown Streetscape Improvement Plan recommendations.

Table 24: Recommended Intersection Treatments and Gateways

Intersection	Intersection Significance	Description of Treatments
State St./Gibson Creek	Northern Gateway to Downtown	Paving, bollards or street lighting, curb extension
Perkins St./State S.	Eastern Gateway to Downtown	Intersection paving, curb extensions, enhanced crosswalks
Seminary Ave./State St.	Connection to City Hall	Intersection paving, curb extensions, enhanced crosswalks
Gobbi St./State St.	Southern Gateway to Downtown	Intersection paving and enhanced crosswalks
Gobbi St./Main St.	Southern gateway to Downtown	Intersection paving and enhanced crosswalks

Traffic Signals

Table 25 presents traffic signal recommendations from the Ukiah Downtown Streetscape Improvement Plan. The Downtown Streetscape Improvement Plan traffic analysis proposed installation of new traffic signals at the Gobbi Street/Main Street and Perkins Street/Main Street intersections. The existing traffic signal controllers at the Standley Street/State Street and Perkins Street/State Street intersections would be reprogrammed to improve traffic movement.

Table 25: Recommended New and Modified Traffic Signals

Intersection	Description
Main St./Gobbi St..	New signal
MainSt./Perkins St.	New signal
State St./Standley St.	Reprogram existing traffic signal controllers
State St./ Perkins St.	Reprogram existing traffic signal controllers

Roundabout

The City has secured funding to reconstruct the intersection of Low Gap Road and N. Bush Street to provide a modern single-lane roundabout with pedestrian and bicycle accommodation, including median-protected crossings and bicycle ramps. This project will relieve congestion and improve safety at a key intersection in Ukiah. There are a substantial number of movements through the intersection: through, left turns, bicycle lanes, and pedestrians. A roundabout will encourage regular, defined flow through the intersection.

4.3 Studies

The section outlines studies intended to investigate the feasibility of proposed concepts or to further investigate opportunities for improvements.

4.3.1 Orr Creek Trail Feasibility Study

The Orr Creek Trail project envisions development of a paved two-mile pedestrian and bicycle pathway along Orr Creek from Low Gap Road to the Ukiah Sports Complex, on the east side of US 101, including a grade-separated crossing of US 101 (see Figure 16). The 2012 Ukiah Safe Routes to School Plan Tier I recommendations include study of options for formalizing a multi-use path connection between Ukiah High and Pomolita Middle School/Orr Creek via County property.

Recommendation

This Plan recommends the City conduct a feasibility study in order to address right-of-way, site engineering, safety, security, privacy, delivery of emergency services, maintenance and operations, community interests and needs, a grade-separated US 101 crossing, and other unknowns associated with the development of a trail in this location.

4.4 Programs

Pedestrian, bicycle, and Safe Routes to School (SRTS) programs, such as education and enforcement programs, are essential in increasing the desirability and safety of walking and biking. Programs support

a pedestrian and bicycle friendly culture, and encourage more people to walk or bike. Many programs can be categorized according to the "Four E's":

- Education programs are designed to improve safety and awareness. They can include in-classroom or after school programs that teach students how to safely cross the street or bicycle in the road. They may also include brochures, posters, or other information that targets pedestrians, bicyclists, or drivers.
- Encouragement programs provide incentives and support to help people leave their car at home and try walking or bicycling instead. Bicycle encouragement programs, in particular, target "interested but concerned" bicyclists who would like to ride a bike but who may not be confident in their skills or in their interactions with motorists.
- Enforcement programs enforce legal and respectful walking, bicycling, and driving. They include a variety of tactics, ranging from police enforcement to neighborhood signage campaigns.
- Evaluation programs are an important component of any investment. They help measure project success at meeting the goals of this plan and to identify adjustments that may be necessary.

This section presents a number of recommendations aimed to improve the walking and bicycling environment and encourage more community members to try walking and bicycling.

4.4.1 Education

Education programs are important for teaching safety rules and laws as well as increasing awareness regarding walking and bicycling opportunities and existing facilities. Education programs may need to be designed to reach groups at varying levels of knowledge and there may be many different audiences: pre-school age children, elementary school students, teenage and college students, workers and commuters, families, retirees, the elderly, new immigrants, and non-English speakers. Education plays a key role for all these groups in reducing risk and the number of crashes.

Media Safety Campaign

A marketing campaign that highlights cyclists' and pedestrian safety is an important part of creating awareness of bicycling and walking. Such campaigns are an effective way to reach the general public and reinforce other education and outreach messages. A well-produced safety campaign will be memorable and effective.

It is recommended that Ukiah create a safety campaign that places safety messages near high-traffic corridors (e.g., on billboards and in print publications). It is also suggested that this campaign be kicked off in conjunction with Bike to Work Month (May) or back to school in the fall.

Adult Bicycling Skills Classes

Adult bicycling skills classes enable community members to learn safe bicycling skills. The most common program is the League of American Bicyclists (LAB) courses, taught by League Certified Instructors. Courses cover bicycle safety checks, fixing a flat, on-bike skills, crash avoidance techniques, and traffic negotiation.

Education programs can occur inside the classroom or in an assembly with transportation experts

Recommendation

This Plan recommends the City continue to support other agency or organization efforts to provide adult bicycling skills classes.

Student Bicycle and Pedestrian Traffic Safety Education Classes

Student education programs are an essential component of a Safe Routes to School effort. Students are taught traffic safety skills that help them understand basic traffic laws and safety rules. Potential pedestrian education curriculum elements include traffic sign identification and how to use a crosswalk.

Typical school-based bicycle education programs educate students about the rules of the road, proper use of bicycle equipment, biking skills, street crossing skills, and the benefits of biking. Education programs can be part of a Safe Routes to School program. These types of education programs are usually sponsored by a joint City/County/School District committee that includes appointed parents, teachers, student representatives, administrators, police, active bicyclists and engineering department staff.

Recommendation

This Plan recommends the community pursue a comprehensive Safe Routes to School Program that includes annual youth pedestrian and bicycle safety education classes.

Sample programs:

- LAB's Kids I and Kids II curriculum: http://www.bikeleague.org/content/take-class
- Marin County Safe Routes to Schools Curriculum: http://www.saferoutestoschools.org/curriculum.html
- Alameda County Walk and Roll K-5 Educator Guide: http://alamedacountysr2s.org/programs/educators-guide

Student Bike Rodeos

Bike rodeos often include a bicycle safety check, helmet giveaway and fit check, and hands-on instruction for pulling out of driveways, bicycling in traffic, safe turning, and identifying and managing hazardous situations.

Recommendation

This Plan recommends the implementation of a youth bicycle rodeo program.

Student bicycle education classes teach bicycle traffic safety and rules of the road

Back-to-School Blitz

Families set transportation habits during the first few weeks of the school year and many families are not aware of the many transportation options available to them. Because of this, most families will develop the habit of driving to school. A "Back to School Blitz" can be used at the beginning of the school year to promote bus, carpool, walking, and bicycling as school transportation options.

The "Back to School Blitz" can include many of the other recommended programs, including Suggested Route Maps, articles in school newsletters, and enforcement activity. An additional element can be a packet given to each family containing information about the Safe Routes to School plan/program and transportation options, including:

- Cover letter signed by the principal encouraging parents to create transportation habits with students that promote physical activity, reduce congestion, increase school safety and improve air quality
- School transportation maps or suggested routes to school maps that include bicycling and walking routes, transit and school bus stops, drop-off and parking areas and bike parking locations, transit schedules, SRTS bumper stickers
- Pledge forms about reducing the number of times that families drive to school; entries go in raffle for a prize donated by local businesses

In addition to the packet, the following strategies can be included:

- A table at back-to-school night with materials and trained volunteers who can answer questions about transportation issues, including upcoming construction projects in the area
- An article in first school newsletter about transportation options and resources
- The kick-off of organized walking school buses/bike trains or school competitions, as described above
- Local law enforcement activities, such as regular school zone speed and crosswalk enforcement, and targeted oversight of parking and drop-off/pick-up policies during first month of school

School Zone Traffic Safety Campaign

A School Zone Traffic Safety Campaign at school in Ukiah would help create awareness of students walking and bicycling to school. A safety campaign is an effective way to reach the general public (those affiliated with the school and those not) and encourage drivers, including parents and bus drivers, to slow down

and look for students walking and biking to school. This could be done in combination with schools throughout the city or for one school at a time.

A School Zone Traffic Safety Campaign uses signs and banners located near schools (for example, in windows of businesses, yards of people's homes, and print publications) to remind drivers to slow down and be careful in school zones. The campaign can also include a pledge for parents and bus drivers to take (like the one that is part of the Traffic Tamers program, link below). The pledge commits parents and bus drivers to driving slower in school zones and can help educate parents about new policies such as drop-off/pick-up procedures. The campaign can kick off at the start of each school year or in conjunction with special events or policy changes.

Large banners with memorable catch phrases may be hung along roadways near schools cautioning traffic to slow down, stop at stop signs, or watch for students in crosswalks.

4.4.2 Encouragement

Becoming a Bicycle - [and Walk-] Friendly Community

The Bicycle Friendly Community (BFC) Campaign is a national awards program that recognizes municipalities that actively support bicycling. A similar program called Walk Friendly Communities (WFC) is currently in development. A Bicycle-Friendly Community provides safe accommodations for cycling and encourages its residents to bike for transportation and recreation. The Bicycle Friendly Community Campaign is administered by the League of American Bicyclists, an education and advocacy organization working to bring better cycling to communities around the country. The BFC designation is awarded at one of four levels (from lowest to highest): bronze, silver, gold, and platinum. To date, only three communities have achieved platinum status: Portland, OR; Davis, CA; and Boulder, CO.

What Does it Take?

Determining whether a community is bicycle-friendly involves considering many factors and conditions. The application is an audit of a community's efforts to provide a more bicycle-friendly environment. The audit reviews engineering, education, encouragement, enforcement, and evaluation and planning efforts for bicycling. The entire application and feedback from cyclists in the community is sought to determine whether the League will award the BFC designation. The application is available online at http://apply.bikeleague.org/member.php?act=login. The BFC campaign effort can be initiated by anyone; however, the application process requires information that only the City and City staff would possess, and requires the enthusiastic support of Ukiah.

Strategies

There are a number of short- and long-term steps Ukiah can take to become a "Bicycle Friendly Community." The League of American Bicyclists provides an "Action Plan for Bicycle Friendly Communities," which identifies ten specific steps that the community should take to improve bicycling conditions.

Strategies: Action Plan for Walk- and Bicycle-Friendly Communities

There are a number of short- and long-term steps Ukiah can take to become a Bicycle and Walk Friendly Community. The League of American Bicyclists provides an "Action Plan for Bicycle Friendly

Communities," which identifies ten specific steps that the community should take to improve bicycling conditions. The recommended strategies below have been adapted to including walking. In general, this plan is designed to help Ukiah achieve Walk and Bicycle Friendly status.

1. Adopt a target level of bicycle and pedestrian trips (e.g., percent of trips) and safety to be achieved within a specific timeframe, and improve data collection necessary to monitor progress.
2. Provide safe and convenient pedestrian and bicycle access to all parts of the community through a network of on-and off-street facilities, low-speed streets, and secure bicycle parking. Local pedestrians and cyclists should be involved in identifying maintenance needs and on-going improvements.
3. Establish information programs to promote walking and bicycling for all purposes, and to communicate the many benefits of walking and bicycling to residents and businesses (e.g., with walking and bicycle maps, public relations campaigns, neighborhood walks and rides, a walk or ride with the Mayor).
4. Make the City a model employer by encouraging walking and bicycle use among its employees (e.g., by providing bicycle parking, showers and lockers, and establishing a city bicycle fleet).
5. Ensure all city policies, plans, codes, and programs are updated and implemented to take advantage of every opportunity to create a more pedestrian- and bicycle-friendly community. Staff in all departments should be offered training to better enable them to complete this task.
6. Educate all road users to share the road and interact safely. Road design and education programs should combine to increase the confidence of pedestrians and bicyclists.
7. Enforce traffic laws to improve the safety and comfort of all road users, with a particular focus on behaviors and attitudes that cause motor vehicle-pedestrian/bicycle crashes.
8. Develop special programs to encourage walking and bicycle use in communities where significant segments of the population do not drive and where short trips are most common, such as the Safe Routes to School program.
9. Promote intermodal travel between local transit and bicycles (e.g., when transit service is initiated, install bicycle racks on buses, providing bicycle parking and improving bicycle access to future transit stops.)
10. Establish citywide, multi-disciplinary committee(s) for walking and bicycling to submit to the Mayor/Council a regular evaluation and action plan for completing the items in this action plan.

The City should educate community members and City staff on how to become more bicycle- and pedestrian-friendly. This could entail holding a workshop or other public forum to introduce community leaders to the basic elements of a BFC. The City should also work with groups such as Walk Bike Mendocino and Safe Routes to School programs to further the education effort. Finally, the City should implement the Action Plan. Once the Action Plan has been adopted, the City needs to ensure that the Plan is implemented, and prepare and submit its BFC application.

Street Smarts - Share the Road Outreach

Street Smarts and Share the Road outreach campaigns are a way for the city and county to communicate with road users to safely share the road.

A marketing campaign that highlights driver, bicyclist, and pedestrian safety is an important part of encouraging safer behavior and encouraging bicycling and walking. This type of high-profile campaign is an effective way to reach the public, highlight bicycling and walking as viable forms of transportation, and reinforce safety for all road users.

Davis, CA Street Smarts Campaign Posters

A well-produced safety campaign will be memorable and effective. One good example is the Sonoma County Transit "You've got a friend who bikes!" campaign. It combines compelling ads with an easy-to-use website focused at motorists, pedestrians, and bicyclists.

The City of Davis hosts a student traffic safety poster contest. Elementary students draw posters with traffic safety messages and the project culminates with an art show and ceremony. The winning posters are then produced and mounted throughout the city on bus shelters and street poles.

This type of campaign is particularly effective when kicked off in conjunction with other bicycling/walking events or back to school in the fall. The safety and awareness messages could be displayed near high-traffic corridors (e.g., on banners), printed in local publications, and broadcast as radio and/or television ads.

Recommendation

This Plan recommends the City, Mendocino County, and Mendocino Council of Governments seek funding to implement a Street Smarts-Share the Road outreach campaign.

Walk and Bike to Work Days

Walking and biking to work has many benefits, including reducing the stress associated with driving in rush-hour traffic, reducing health costs by improving worker health, and helping businesses market their environmental sustainability. Many communities participate in Bike to Work Day (May) and Walk to Work Day (April).

Bike to Work event hosted by a local business

Recommendation

This Plan recommends the School Districts and Public Health consider organizing Walk/Bike to Work Days. Local businesses and organizations can host events like energizer stations, education efforts about the benefits of walking and bicycling, and host bicycle education classes.

Walking School Buses and Bike Trains

Walking school buses and bike trains are organized groups of children walking or biking to school with an adult. They address parental concerns about children walking or biking to school alone. In addition, shifting parents away from driving to school may reduce congestion, improve air quality, and encourage active communities. http://guide.saferoutesinfo.org/walking_school_bus/index.cfm

This sort of program is appropriate for families who live within a mile of school and where there are parent champions who are willing to lead the walking school bus.

Recommendation

This Plan recommends the School Districts and Public Health consider the development of walking school buses and bike trains.

Walk and Bike to School Days

Walk and Bike to School Day is a special event encouraging students to try walking or bicycle to school. Walk and Bike to School Day can be held yearly, monthly, or even weekly— depending on the level of support and participation from students, parents, and school and local officials. Some schools organize more frequent days—such as Walk and Roll Fridays—to give people an opportunity to enjoy the event on a regular basis. Parents and other volunteers accompany the students and staging areas can be designated along the route to school where groups can gather and walk or bike together. These events can be promoted through press releases, articles in school newsletters, and posters and flyers for students to take home and circulate around the community.

Recommendation

This Plan recommends the School Districts and Public Health consider the development of monthly walk and bike to school days.

Suggested Route to School Maps

Suggested Route to School maps show stop signs, signals, crosswalks, sidewalks, trails, overcrossings, and crossing guard locations around a school. These can be used by families to identify the best way to walk or bike to school. Suggested Route to School Maps should be distributed at the beginning of the school year as part of the Back-to-School Blitz and at any other appropriate times such as during special events. Maps should also be made available on an ongoing basis, either online or in paper form from the school office. Maps should be updated annually, if needed, to account for changes to the walking and bicycling routes due to construction, new facilities or treatments, or other changes.

Wayfinding/Signing Program

The ability to navigate through a town or city is informed by landmarks, natural features, and other visual cues. A signage system is a key component of a navigable environment and would inform pedestrians, bicyclists, and motorists, while also enhancing the identity of Ukiah. Placing signs throughout the city indicating to bicyclists and pedestrians their direction of travel, location of destinations, and the time/distance to those destinations will increase users' comfort and accessibility to the bicycle and pedestrian system. Wayfinding signs are a relatively cost-effective means for improving the walking and bicycling environment.

Signage can serve both wayfinding and safety purposes including:

- Helping to familiarize users with the bikeway system
- Helping users identify the best routes to destinations
- Helping to address misperceptions about time and distance
- Helping overcome a "barrier to entry" for people who do not bicycle often (e.g., "interested but concerned" cyclists)

A community-wide Bicycle Wayfinding Signage Plan would identify:

- Sign locations along existing and planned bicycle routes
- Sign type – what information should be included and design features
- Destinations to be highlighted on each sign – key destinations for bicyclists
- Approximate distance and riding time to each destination

4.4.3 Enforcement

Targeted Enforcement

Targeted enforcement is focused efforts of police officers. For example, the Police Department conducts pedestrian stings at locations where pedestrians and motorists conflict and do not comply with traffic signals. Similar strategies may be applied to areas with bicycle traffic.

Speed Feedback signs can be an education and enforcement tool

Recommendation

This Plan recommends the City Police Department to conduct targeted enforcement stings at locations known for noncompliance with traffic laws and at high conflict or high bicycle or pedestrian related collision areas.

Crosswalk Sting

In a crosswalk sting operation, the local police department targets motorists who fail to yield to pedestrians in school crosswalk. A plain-clothes "decoy" police officer ventures into a crosswalk or crossing guard-monitored location, and motorists who do not yield are given a citation by a second officer stationed nearby. The police department or school district may alert the media to crosswalk stings to increase public awareness of the issue of crosswalk safety, and news cameras may accompany the police officers to report on the sting.

Speed Feedback Signs and Trailers (Priority Program)

Speed feedback signs and trailers can be used to reduce speeds and enforce speed limit violations in known speeding problem areas. Both the signs and trailers displays the speed of approaching motorists along with a speed limit sign.

These can be used as both an educational and enforcement tool. By itself, it serves as effective education to motorists about their current speed compared to the speed limit. Because speed feedback trailers can be easily removed, they are often deployed on streets where local residents have reported speeding problems.

Recommendation

This Plan recommends the City consider speed feedback signs and trailers in areas with reported speeding challenges.

4.4.4 Evaluation

Bicycle and Pedestrian Counts

Pedestrian and bicycle counts and community surveys act as methods to evaluate not only the effectiveness of specific pedestrian and bicycle improvement projects but can also function as way to

measure progress towards the region's goals. Communities should consider having pedestrian and bicycle counts conducted as a condition of new development and should expand their traffic counting efforts by:

- Conducting before and after pedestrian, bicycle, and vehicle counts on all roadway projects.
- Exploring the possibility of using automatic counters to collect data on key pedestrian and bicycle corridors. Automatic count technologies can be useful for bicycle count efforts. In-pavement loop detectors accurately count bicycle activity on-street and infrared counters can count pedestrian and bicycle activities on paths.

Recommendation

This Plan recommends the City and County conduct bicycle and pedestrian counts along with all vehicle counts on roadway projects.

Student Hand Tallies and Parent Surveys

Student hand tallies and parent surveys are part of any comprehensive Safe Routes to School effort. While distributing and collecting parent surveys is very time- and labor-intensive, hand tally data are relatively easy to collect and can be analyzed quickly. The National Center for Safe Routes to School provides Student Hand Tally and Parent Survey forms and will enter the data from those forms. This can be a cost effective way to understand how families get to and from school and the reasons for their mode choice.

Recommendation

This Plan recommends conducting student hand tallies and parent surveys with all Safe Routes to School projects.

http://www.saferoutesinfo.org/data-central/data-collection-forms

5 Implementation

This BPMP recommends projects and programs intended to improve conditions for those who walk or bicycle in Ukiah; however, implementation of the projects and programs will take a significant amount of funding and time to implement. This Chapter lays out the strategy for implementing the projects and programs and is organized into the following sections:

- Design guidelines for bicycle and pedestrian facilities.
- Project evaluation strategy is intended to measure how well a project meets this Plan's goals and policies.
- Cost estimates presents the unit costs used to determine the overall project cost.
- Project list presents each project, its tier, evaluation score and cost estimate.
- Priority project sheets to assist with grant applications for future priority projects.

5.1 Design Guidelines

Appendix E: Bicycle Design Guidelines and **Appendix F: Pedestrian Design Guidelines** present innovative bicycle and pedestrian facilities that can complement existing standards and guidelines. Despite the experimental nature of some of the recommended treatments, all include U.S. examples and many have been adopted by the National Association of City Transportation Officials (NACTO). The design guidelines are intended to be a toolkit that allows the City flexibility for implementing all future projects. It incorporates the latest thinking from NACTO (which has been endorsed by the FHWA and Caltrans) and reflects recent State policies such as Complete Streets.

5.2 Evaluation Criteria

The intent of an evaluation strategy is to identify achievable, priority projects for near-term implementation as well as projects for mid- and longer-term implementation. In order to do so, evaluation criteria were developed to measure how strongly a project meets this Plan's goals and policies as well how well it as adheres to best practices.

The criteria, explained in **Table 26**, are intended to give weight to those projects that best support the Plan's goals and will therefore receive higher priority.

Table 26: Prioritization Criteria

Criteria	Description	Point Allocation
Schools	The project improves school access	Number of schools within two blocks
Recreation	The project improves park access or provides new recreational trail	Number of parks and recreational trails within two blocks, plus two points per mile of new recreational trail
Employment/Shopping	The project serves employment and/or retail centers	Two points per employment or retail area served

Criteria	Description	Point Allocation
Safety	The project resolves safety concerns	One to two points for safety concerns addressed (e.g., corridors with high traffic volumes and narrow travel lanes, locations where collisions have occurred, desired safety improvement locations identified by the community)
Connectivity	The project closes a gap in the pedestrian or bikeway network	One to two points for gap closure projects

5.3 Cost Estimates: Unit Cost Assumptions

Table 27 presents the planning level cost assumptions used to determine project cost estimates. Unit costs are typical or average costs experienced by California communities. While they reflect typical costs, unit costs do not consider project-specific factors such as intensive grading, landscaping, or other location-specific factors that may increase actual costs. For some segments, project costs may be significantly greater.

Table 27: Unit Cost Assumptions

Item	Unit	Cost Assumption	Cost Assumption + 20% Contingency
Class I Multi-Use Path	Mile	$645,000	$774,000
Class II Bike Lane	Mile	$135,000	$162,000
Class III Bike Route	Mile	$25,000	$30,000
High Visibility Crosswalk	Each	$1,200	$1,440
Paved Shoulder Walkway	Linear foot	$9,200	$11,040
Concrete Sidewalk	Square foot	$32	$38
Traffic Signs	Each	$300	$360
Thermoplastic Pavement Markings	Square foot	$15	$18
Yield Lines	Each	$300	$360

Source: Based on average bid costs from California Department of Transportation Contract Cost Data and UNC Highway Safety Research Center published "Costs for Pedestrian and Bicyclist Infrastructure Improvements".

5.4 Project List

Table 28 presents the list of recommended bikeway and pedestrian projects organized by total score and tier. Based on scoring, projects were placed into three phasing groups: Tier 1, Tier 2, and Tier 3.

- 6 points or greater: Tier 1 projects have the highest potential for addressing this Plan's goals and are intended for near-term project implementation within one to five years.
- 4 – 5 points: Tier 2 projects are intended for development within 6 to 10 years.
- 3 points of fewer: Tier 3 projects are not currently ready for implementation but are included as potential, long-term projects over the next 11 to 20 years.

Table 28: Prioritization Matrix

Facility Type	Location	From	To	Length	School Access	Recreation	Employment Access	Safety	Connectivity	Total Score
Feasibility Study	Orr Creek Trail and Greenway	Low Gap Rd.	Ukiah Sports Complex	2.00 MI	2	5	2	1	1	11
Class III Bike Route	Helen Avenue/Mendocino Drive/Gardens Avenue/Mendocino Drive/Barnes Street/Todd Road/Walnut Avenue/Live Oak Avenue	Washington Avenue	Grove Avenue	1.6 MI	4	2	0	1	1	8
Class I Bike Path	NWP ROW	Gobbi Street	Commerce Drive	0.8 MI	1	1	2	1	1	6
Class II Bike Lane	Orchard Street	Gobbi Street	Perkins Street	0.47 MI	1	0	2	2	1	6
Class II Bike Lane	Gobbi Street	Dora Street	Oak Street	0.15 MI	1	1	1	2	1	6
Class II Buffered Bike Lane	Dora Street	Grove Avenue	North of Pomolita Drive	0.82 MI	3	1	1	1	0	6
Class II Bike Lane	Main Street	Clay Street	Norton Street	0.41 MI	0	1	2	2	0	5
Class II Bike Lane	Clay Street	McPeak Street	Leslie Street	0.79 MI	1	1	2	1	0	5
Class III Bike Route	Empire Drive/Ford Road	Despina Drive	City Limit	0.58 MI	2	0	1	1	1	5
Class III Bike Route +SLM	Main Street	Clay Street	Gobbi Street	0.33 MI	0	2	2	1	0	5

Facility Type	Location	From	To	Length	School Access	Recreation	Employment Access	Safety	Connectivity	Total Score
Sidewalk Gap Closure	Leslie St.	Peach St.	Crosswalk at Senior Center	300 LF	1	1	1	1	1	5
Sidewalk Gap Closure	Main St.	Clay St.	Cleveland Ln.	360 LF	0	2	1	1	1	5
Crossing Improvements	State St./Standley St.	N/A	N/A	N/A	0	1	2	2	0	5
Crossing Improvements	State St./Perkins St.	N/A	N/A	N/A	0	1	2	2	0	5
Crossing Improvements	State St./Church St.	N/A	N/A	N/A	0	1	2	2	0	5
Crossing Improvements	State St./Stephenson St.	N/A	N/A	N/A	0	1	2	2	0	5
Crossing Improvements	State St./Clay St.	N/A	N/A	N/A	0	1	2	2	0	5
Crossing Improvements	State St./Gobbi St.	N/A	N/A	N/A	0	1	2	2	0	5
New Traffic Signal	Main St./Gobbi St..	N/A	N/A	N/A	0	1	2	2	0	5
New Traffic Signal	MainSt./Perkins St.	N/A	N/A	N/A	0	1	2	2	0	5
Class I Bike Path	NWP ROW	Brush Street	Clara Avenue	0.27 MI	1	0.5	2	1	0	4.5
Class II Bike Lane	Brush Street	State Street	City Limit	0.28 MI	1	1	1	1	0	4
Class II Buffered Bike Lane	Bush Street	Arlington Drive	Grove Avenue	0.47 MI	2	1	0	1	0	4
Class III Bike Route	Oak Manor Drive/Babcock Lane	Perkins Street/Vicky Springs Road	City Limit	0.57 MI	1	1	0	1	1	4

Facility Type	Location	From	To	Length	School Access	Recreation	Employment Access	Safety	Connectivity	Total Score
Class III Bike Route +SLM	Grove Avenue/Snuffin Street/Oak Street/Scott Street/State Street/Norton Street	Bush Street	Orchard Avenue	0.89 MI	1	0	1	1	1	4
Class III Bike Route +SLM	Peach Street	Leslie Street	Orchard Avenue	0.16 MI	1	1	1	1	0	4
Class III Bike Route +SLM	Washington Avenue	Helen Avenue	State Street	0.48 MI	1	1	0	1	1	4
Sidewalk Gap Closure	Clay St.	Main St.	NWP corridor	450 LF	0	1	1	1	1	4
Sidewalk Gap Closure	Cypress Ave.	Live Oak Ave.	Hazel Ave.	600 LF	1	1	0	1	1	4
Sidewalk Gap Closure	Cypress Ave.	Spring St.	Bush St.	140 LF	1	1	0	1	1	4
Sidewalk Gap Closure	Hazel Ave.	South of Maple Ave.		60 LF	1	1	0	1	1	4
Sidewalk Gap Closure	Hazel Ave.	Dora Ave.	Grove Ave.	180 LF	1	1	0	1	1	4
Sidewalk Gap Closure	Hazel Ave.	Grove Ave.	Walnut Ave.	90 LF	1	1	0	1	1	4
Sidewalk Gap Closure	Leslie St.	Gibson Creek	Peach St.	530 LF	0	1	1	1	1	4
Sidewalk Gap Closure	Orchard Ave.	Gibson Creek	Peach Street	120 LF	0	1	1	1	1	4
Pedestrian-Scale Lighting	Pedestrian Pathway	Orchard Avenue	Pedestrian Overcrossing	0.11 MI	1	1	1	1	0	4
Crossing Improvements	Main St./Cleveland Ln.	N/A	N/A	N/A	0	2	1	1	0	4

Facility Type	Location	From	To	Length	School Access	Recreation	Employment Access	Safety	Connectivity	Total Score
Crossing Improvements	Leslie St./Peach St.	N/A	N/A	N/A	1	1	1	1	0	4
Crossing Improvements	Dora St./Gobbi St.	N/A	N/A	N/A	1	1	1	1	0	4
Crossing Improvements	Main St./Stephenson St.	N/A	N/A	N/A	0	1	2	1	0	4
Crossing Improvements	Main St./Clay St.	N/A	N/A	N/A	0	1	2	1	0	4
Crossing Improvements	Main St./Mill St.	N/A	N/A	N/A	0	1	2	1	0	4
Crossing Improvements	State St./Bricarelli Dr.	N/A	N/A	N/A	1	0	1	2	0	4
Crossing Improvements	State St./Mazzoni St.	N/A	N/A	N/A	1	0	1	2	0	4
Crossing Improvements	State St./Magnolia St.	N/A	N/A	N/A	1	0	1	2	0	4
Crossing Improvements	State St./Clara Ave.	N/A	N/A	N/A	0	1	1	2	0	4
Crossing Improvements	State St./Norton St.	N/A	N/A	N/A	0	1	1	2	0	4
Crossing Improvements	State St./Scott St.	N/A	N/A	N/A	0	1	1	2	0	4
Crossing Improvements	State St./Seminary Ave.	N/A	N/A	N/A	0	1	1	2	0	4
Crossing Improvements	State St./Mill St.	N/A	N/A	N/A	0	1	1	2	0	4
Crossing Improvements	State St./Cherry St.	N/A	N/A	N/A	0	1	1	2	0	4

Facility Type	Location	From	To	Length	School Access	Recreation	Employment Access	Safety	Connectivity	Total Score
Crossing Improvements	State St./Luca Ave.	N/A	N/A	N/A	0	1	1	2	0	4
Crossing Improvements	State St./Observatory Ave.	N/A	N/A	N/A	0	1	1	2	0	4
Class I Bike Path	NWP ROW	Commerce Drive	Norgard Lane	1.07 MI	0	1	1	1	0	3
Class III Bike Route	Perkins Street	Orchard Avenue	Oak Manor Drive	0.34 MI	0	0	2	1	0	3
Sidewalk Widening	Leslie St.	Peach St.	Crosswalk at Senior Center	180 LF	1	0	1	1	0	3
Sidewalk Gap Closure	Helen Ave.	Washington Ave.	San Jacinto Dr.	440 LF	1	0	0	1	1	3
Sidewalk Gap Closure	Helen Ave.	South of Redwood Ave.		130 LF	1	0	0	1	1	3
Sidewalk Gap Closure	Maple Ave.	East of Hazel Ave.		100 LF	1	0	0	1	1	3
Sidewalk Gap Closure	Spring St.	Grove Ave.	Walnut Ave.	160 LF	1	0	0	1	1	3
Sidewalk Gap Closure	Spring St.	Walnut Ave.	Willow Ave.	320 LF	1	0	0	1	1	3
Sidewalk Gap Closure	Washington Ave.	East of Marwen Dr.		200 LF	1	0	0	1	1	3
Pedestrian-Scale Lighting	Pedestrian Pathway	Pedestrian Overcrossing	Oak Manor Park	0.3 MI	1	1	0	1	0	3
Pedestrian-Scale Lighting	NWP Rail Trail	Brush Street	Clara Avenue	0.27 MI	1	0	1	1	0	3
Pedestrian-Scale Lighting	NWP Rail Trail	Gobbi Street	Commerce Drive	0.80 MI	0	0	2	1	0	3

Facility Type	Location	From	To	Length	School Access	Recreation	Employment Access	Safety	Connectivity	Total Score
Street Furnishings and Trees	Main St.	Norton St.	Clay St.	0.80 MI	0	0	3	0	0	3
Crossing Improvements	Alice Ave./Mendocino Dr.	N/A	N/A	N/A	1	1	0	1	0	3
Crossing Improvements	Despina Dr./Capps Ln.	N/A	N/A	N/A	1	1	0	1	0	3
Crossing Improvements	Despina Dr./Low Gap Rd.	N/A	N/A	N/A	1	1	0	1	0	3
Crossing Improvements	Dora St./Wabash Ave.	N/A	N/A	N/A	1	0	1	1	0	3
Crossing Improvements	Dora St./Mendocino Dr.	N/A	N/A	N/A	1	1	0	1	0	3
Crossing Improvements	Hazel Ave./Dora Dr.	N/A	N/A	N/A	1	1	0	1	0	3
Crossing Improvements	Helen Ave./Washington Ave.	N/A	N/A	N/A	1	1	0	1	0	3
Crossing Improvements	Laurel Ave./Wabash Ave.	N/A	N/A	N/A	1	1	0	1	0	3
Crossing Improvements	Leslie St./Perkins St.	N/A	N/A	N/A	0	1	1	1	0	3
Crossing Improvements	Leslie St./southern Senior Center driveway	N/A	N/A	N/A	1	0	1	1	0	3
Crossing Improvements	Main St./Smith St.	N/A	N/A	N/A	0	0	2	1	0	3

Facility Type	Location	From	To	Length	School Access	Recreation	Employment Access	Safety	Connectivity	Total Score
Crossing Improvements	Main St./Standley St.	N/A	N/A	N/A	0	0	2	1	0	3
Crossing Improvements	Main St./Perkins St.	N/A	N/A	N/A	0	0	2	1	0	3
Crossing Improvements	Main St./ChurchSt.	N/A	N/A	N/A	0	0	2	1	0	3
Crossing Improvements	Main St. /Gobbi St.	N/A	N/A	N/A	0	0	2	1	0	3
Crossing Improvements	Marwen Dr./Washington Dr.	N/A	N/A	N/A	1	1	0	1	0	3
Crossing Improvements	N. Bush St./Arlington Dr.	N/A	N/A	N/A	1	1	0	1	0	3
Crossing Improvements	N. Bush St./Cypress Ave.	N/A	N/A	N/A	1	1	0	1	0	3
Crossing Improvements	Oak Manor Dr. at school entrance	N/A	N/A	N/A	1	1	0	1	0	3
Crossing Improvements	Orchard Ave./Gobbi St.	N/A	N/A	N/A	0	0	1	2	0	3
Crossing Improvements	Orchard Ave./Gibson Creek	N/A	N/A	N/A	0	1	1	1	0	3
Crossing Improvements	State St./Ford Rd./S. Empire Dr.	N/A	N/A	N/A	0	0	1	2	0	3
Crossing Improvements	State St./Low Gap Rd.	N/A	N/A	N/A	0	0	1	2	0	3
Crossing Improvements	State St./Evans St.	N/A	N/A	N/A	0	0	1	2	0	3

Facility Type	Location	From	To	Length	School Access	Recreation	Employment Access	Safety	Connectivity	Total Score
Crossing Improvements	State St./Ford St.	N/A	N/A	N/A	0	0	1	2	0	3
Crossing Improvements	State St./Freitas Ave.	N/A	N/A	N/A	0	0	1	2	0	3
Crossing Improvements	State St./Talmage Rd.	N/A	N/A	N/A	0	0	1	2	0	3
Crossing Improvements	State St./Airport Rd/Washington Ave.	N/A	N/A	N/A	0	0	1	2	0	3
Crossing Improvements	Washington Ave. between Marwen Dr. and Dora St.	N/A	N/A	N/A	1	1	0	1	0	3
Pedestrian Pathway	Todd Grove Pedestrian Loop	Live Oak Ave., Walnut Ave., Park Blvd., and Clubhouse Dr.		0.5 MI	0	1.5	0	1	0	2.5
Class II Bike Lane	Orchard Avenue	Clara Avenue	City Limit	0.19 MI	0	0	1	1	0	2
Class II Buffered Bike Lane	Grove Avenue	Bush Street	Dora Street	0.06 MI	1	0	0	1	0	2
Class III Bike Route	Talmage Road	State Street	NWP Corridor	0.24 MI	0	0	1	1	0	2
Class III Bike Route	State Street	Talmage Road	Washington Ave	0.14 MI	0	0	1	1	0	2
Sidewalk Widening	Bush Street	Orr Creek	Cypress Ave.	300 LF	1	0	0	1	0	2
Pedestrian-Scale Lighting	NWP Rail Trail	Commerce Drive	Norgard Lane	1.07 MI	0	0	1	1	0	2

Facility Type	Location	From	To	Length	School Access	Recreation	Employment Access	Safety	Connectivity	Total Score
Street Furnishings and Trees	Perkins St.	US 101 Ramps	State St.	0.52 MI	0	0	2	0	0	2
Crossing Improvements	State St./Wabash Ave.	N/A	N/A	N/A	0	0	1	1	0	2
Crossing Improvements	Airport Park Blvd./Talmage Rd.	N/A	N/A	N/A	0	0	1	1	0	2
Crossing Improvements	Dora St./Grove Ave.	N/A	N/A	N/A	1	0	0	1	0	2
Crossing Improvements	Marwen Dr./Nokomis Dr.	N/A	N/A	N/A	1	0	0	1	0	2
Crossing Improvements	Oak St./Gobbi St.	N/A	N/A	N/A	0	0	1	1	0	2
Crossing Improvements	Orchard Ave. at Pear Tree Center	N/A	N/A	N/A	0	0	1	1	0	2
Crossing Improvements	Spring St./Cypress St.	N/A	N/A	N/A	1	0	0	1	0	2
Crossing Improvements	Spring St./Dora St.	N/A	N/A	N/A	1	0	0	1	0	2
Crossing Improvements	Spring St./Grove Ave.	N/A	N/A	N/A	1	0	0	1	0	2
Crossing Improvements	Spring St./Walnut St.	N/A	N/A	N/A	1	0	0	1	0	2
Crossing Improvements	Yokayo Dr./Wabash Ave.	N/A	N/A	N/A	1	0	0	1	0	2

5.5 Priority Project Sheets

This BPMP includes priority project sheets for the five projects listed below to assist with future grant applications.

- NWP Rail Trail Project Phase 2 (Gobbi Street to Commerce Drive)
- Clay Street/Peach Street Improvements and NWP Crossing
- Gobbi Street Bike Lanes (Oak Street to Dora Street)
- Orr Creek Greenway Feasibility Study
- Orchard Avenue Bike Lanes (Gobbi Street to Perkins Street)

NWP Rail Trail Project Phase 2 (Gobbi Street to Commerce Drive)

This multi-use path segment extends the Rail Trail Phase 1 project within the Northwestern Pacific Railroad (NWP) corridor from Gobbi Street to Commerce Drive, providing new recreational trail and improved pedestrian and bicycle access to schools, major employers, and retail areas.

Planning Background

- A top priority project in the 2014 Ukiah Bicycle and Pedestrian Master Plan
- Included in 2012 Mendocino Council of Government's Rail-With-Trail Corridor Plan
- Listed in the 2012 Mendocino County Regional Bikeway Plan as a bikeway improvement project with a high need
- Ranked the #1 top priority short-term project in the 1999 Ukiah Bicycle and Pedestrian Master Plan

Key Safety Issues

- Roadway crossings
- Setback from and fencing along rail line
- Creek crossing

Project Description

- Consturct 0.8-miles of Class I bikeway with a barrier fence between the path and railroad tracks and lighting between Gobbi Street and Commerce Drive
- Intall a bridge over Doolan Creek
- Talmage Avenue crossing: Install crosswalk and sidewalk extension
- Commerce Avenue/Airport Road intersection: Install crosswalk, reconstruct northern curb ramp, evaluate for stop warant on Commerce Avenue

Criteria Evaluation

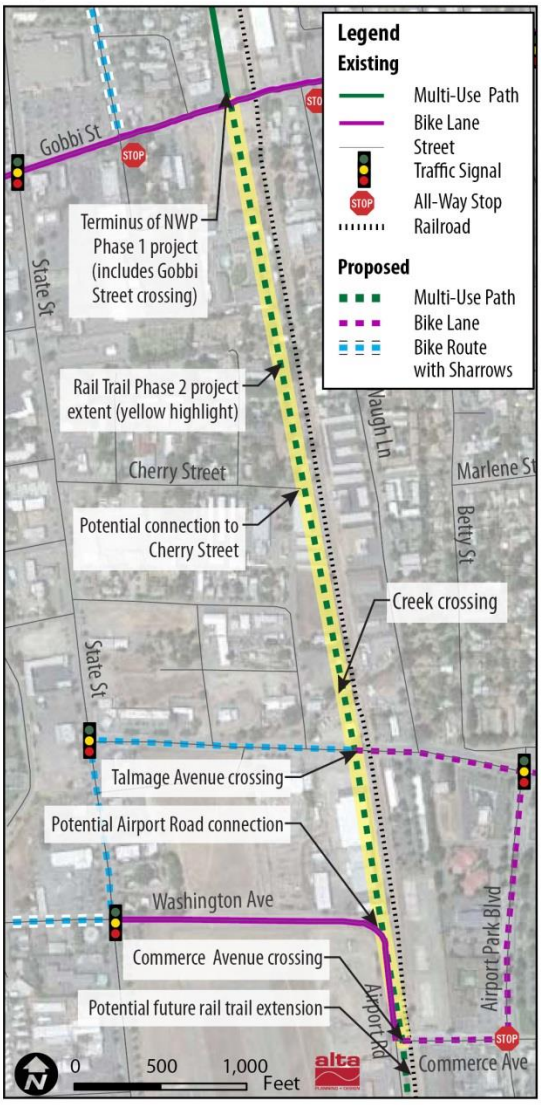
- Improves access to Oak Manor Elementary School and Grace Hudson Elementary School
- Provides new recreational trail
- Major employers and retail areas within two blocks are County of Mendocino Social Services, Safeway, Ukiah Natural Foods, Walmart, Food-4-Less, Staples, and Friedman's Home Improvement
- Provides a facility separate from motor vehicles, except at crossings
- Extends the NWP Rail Trail Phase 1 project to the south

Required Actions by Jurisdiction

City of Ukiah:

- Secure funding for preparation of plans, specifications and estimates and environmental review
- Complete permitting requirements
- Secure funding for construction

Project Illustration



Cost Estimate (From the City's 2014 ATP)

- Trail construction: $676,000
- Solar lights: $350,000
- Doolan Creek crossing: $80,000
- Fencing: $120,000
- Engineering: $200,000
- 10% Contingency: $142,600
- Total = $1,568,600

Clay Street/Peach Street Improvements and Northwestern Pacific Railroad Crossing

This bikeway and sidewalk project provides a new east-west connection between downtown Ukiah and schools, employers, and retail areas along Orchard Avenue, and includes connections to the NWP Rail Trail Phase 1 and Courthouse projects.

Planning Background

- The Clay Street/Peach Street/Gibson Creek Corridor (McPeak Street to Oak Manor Drive) is listed in Mendocino County's 2012 Regional Bikeway Plan as a proposed bikeway improvement project with a moderate need
- The Clay/Peach Street Sidewalk and Bikeway Gap Closure project (east of Main Street to Orchard Avenue) is listed as a Tier 1 project in the 2014 Ukiah Safe Routes to School Plan
- Ranked the #2 top priority short-term project in the 1999 Ukiah Bicycle and Pedestrian Master Plan

Criteria Evaluation

- Improves access to River Oak Charter School
- Improves access to the Grace Hudson Museum and the Sun House, Hudson-Carpenter Park, the NWP Rail Trail Phase 1 project, and the US 101 Pedestrian Overcrossing
- Improves access to downtown, the Ukiah Civic Center (a major employer), and Orchard Avenue employers and retail areas
- Provides an alternative to bicycle and pedestrian travel along Perkins Street
- Improves access between the US 101 Pedestrian Overcrossing, Oak Manor Trail, and Dora Street bike lanes

Key Safety Issues

- Roadway crossings
- Sidewalk gap
- Rail crossing

Project Description

- Clay Street: Stripe bike lanes, narrow travel lanes to 10 feet wide, restrict parking to one side of roadway from approximatley Main Street eastward; fill sidewalk gap on south side of Clay Street next to Hudson-Carpenter Park from future trail to Main Street
- Design Courthouse development with a multi-modal connection between Clay Street and Peach Street; include bicycle markings and signage, sidewalks, railroad safety features as necessary, and priority traffic control for trail users
- Peach Street: Install Class III bike route sigs and sharrows (bike lanes would require removal of parking on one side of the street and are not warranted based on the low vehicular traffic volumes)

Required Actions by Jurisdiction

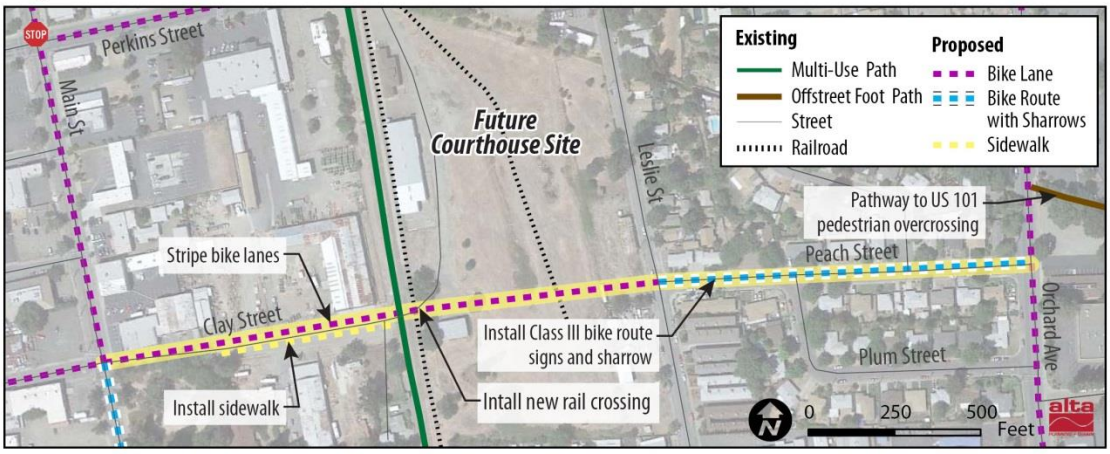
City of Ukiah:

- Finalize design of Courthouse development site
- Secure funding for preparation of plans, specifications and estimates and environmental review
- Complete permitting requirements
- Secure funding for construction

Cost Estimate

- $90,000 (from SR2S Plan; placeholder)

Project Illustration



Orr Creek Greenway Feasibility Study

The Orr Creek Greenway project envisions development of a pedestrian and bicycle pathway along Orr Creek from Low Gap Park to the Ukiah Softball Complex, incuding a new, grade-separated Highway 101 crossing. An unpaved pathway segment exists along the south side of Orr Creek from Bush Street to an existing bridge near the ball fields.

Planning Background

- Low Gap Road/Orr Creek Pathway Study (between Ukiah High and Pomolita Middle School/Orr Creek via County property) is a Tier 1 project from the 2014 Ukiah Safe Routes to School Plan
- The Orr Creek Pathway (Dora Street to Ukiah High School) is listed in Mendocino County's 2012 Regional Bikeway Plan as a proposed bikeway improvement project with a low need
- The 1999 Ukiah Bicycle and Pedestrian Master Plan lists the Orr Creek Pathway (Bush Street and Pomolita School to Ukiah High School) as a mid-long term project

Key Safety Issues

- Roadway crossings
- Railroad crossing
- Narrow right-of-way

Project Description

- Assess the feasibility of constructing a trail from Low Gap Park to the Ukiah Softball Complex along Orr Creek
- Conduct outreach to adjoining property owners
- Identiy alternative onstreet routes around any constrained segments

Criteria Evaluation

- Improves access to Ukiah High, Pomolita Middle School, and Frank Zeek Elementary School
- Provides new recreational trail and improves access to Low Gap Park and the Ukiah Softball Complex
- Improves access to Mendocino County offices (a major employer)
- Provides a facility separate from motor vehicles, except at crossings
- The trail would connect with existing and planned bikeways and sidewalks

Required Actions by Jurisdiction

City of Ukiah:

- Secure funding for preparation of the feasibility study

Cost Estimate

- Feasibility Study:

Project Illustration

Gobbi Street Bike Lanes (Oak Street to Dora Street)

This project would close the gap in dedicated bicycle facilities between S. Dora Street and S. Oak Street on Gobbi Street to link the city's two most important on-street bikeways, both of which serve multiple schools and access emplyment and retail areas.

Planning Background

- Listed in Mendocino County's 2012 Regional Bikeway Plan as a proposed bikeway improvement project with a high need
- Listed as a Tier 1 project in the 2014 Ukiah Safe Routes to School Plan
- Ranked the #3 top priority short-term project in the 1999 Ukiah Bicycle and Pedestrian Master Plan

Criteria Evaluation

- Improves access to Yokayo Elementary School and ultimately to other schools accessible from Dora Street and Gobbi Street
- No parks are within two blocks of this project site
- Improves access to the Ukiah Civic Center (major employer) and other employers and retail areas along Gobbi Street
- Provides bike lanes
- Completes the gap in the bikeway network

Key Safety Issues

- Roadway crossings
- Narrow right-of-way

Project Description

- Stripe bike lanes, restrict parking on the north side of the street
- Gobbi Street/Oak Street intersection: high-visibility white crosswalk across Gobbi Street, ADA curb ramps on NW, SW, and SE corners, and white transverse crosswalks across Oak Street
- Gobbi Street/Dora Street intersection: high visibility crosswalks on north and south crossings, a curb extension on the west side encompassing the full intersection, and curb extensions/ramps on the northeast and southeast corners

Required Actions by Jurisdiction

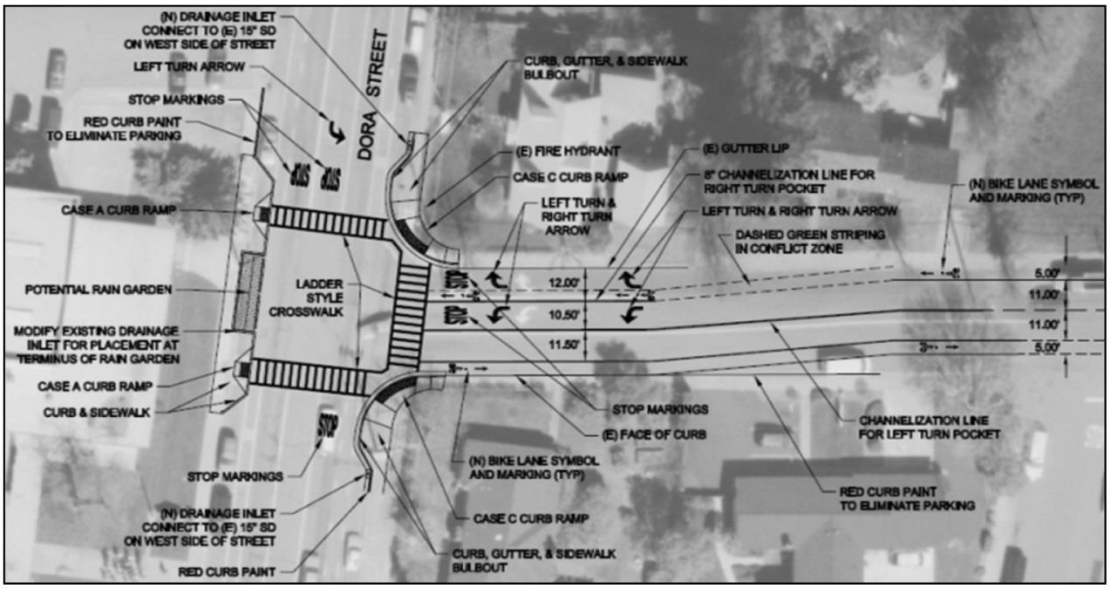
City of Ukiah:

- Secure funding for preparation of plans, specifications and estimates and environmental review
- Secure funding for construction

Cost Estimate

- Gobbi Street bike lanes: $32,000
- Gobbi Street/Oak Street intersection: $12,000
- Gobbi Street/Dora Street intersection: $175,000

Project Illustration



Orchard Avenue Bike Lanes (Gobbi Street to Perkins Street)

This project would improve access to employers and retail areas along Orchard Avenue and allow bicyclists to bypass the busy downtown area and connect directly to existing bike lanes on Orchard Avenue north of Perkins Street and on Low Gap Road.

Planning Background

- Orchard Avenue bike lanes (Gobbi Street to Ford Road) are listed in Mendocino County's 2012 Regional Bikeway Plan as a proposed bikeway improvement project with a high need
- The Orchard Avenue - Bush Street (Gobbi Street to High School) project was ranked the #4 top priority short-term project in the 1999 Ukiah Bicycle and Pedestrian Master Plan

Key Safety Issues

- Roadway crossings
- Narrow right-of-way

Project Description

- Orchard Avenue: restripe to provide two 10.5-foot wide travel lanes (or similar lane widths as determined by the City Engineer), two 5-foot bike lanes, and two 8-foot parking aisles
- Orchard Avenue/Perkins Avenue intersection: Northbound and southbound bike pockets, dash bike lane markings through intersection
- Orchard Avenue/Gobbi Street intersection: Stripe bike lanes to intersection

Criteria Evaluation

- Improves access to River Oak Charter School
- Improves access to the US 101 Pedestrian Overcrossing and Oak Manor Trail
- Improves access to Orchard Shopping Center, the Pear Tree Center, Mendocino Works emplyment center, Economic Development & Financing Corporation, and other employers along Orchard Avenue
- Provides bike lanes
- Completes the gap in the bikeway network

Required Actions by Jurisdiction

City of Ukiah:

- Secure funding for preparation of plans, specifications and estimates and environmental review
- Secure funding for construction

Project Illustration

Cost Estimate

- Placeholder

6 Funding Strategy

This chapter describes various sources of funding available to plan and construct bicycle and pedestrian facilities, including those related to school access and area improvement, as well as sources to provide education or encouragement programs.

Projects such as those described in this Plan can be funded through multiple sources, and not all sources apply to all projects. Many sources require a local funding match and most are competitive based on project merit and adherence to grant criteria.

This chapter covers federal, state, regional, local sources of funding, as well as some non-traditional funding sources that have been used by local agencies to fund bicycle, pedestrian, and safe routes to school infrastructure and programs.

To support City efforts to find outside funding sources to implement projects and programs, a summary by source type is provided below.

6.1 Federal Funding Sources

6.1.1 Transportation Alternatives Program (TAP)

To date, the largest source of federal funding for bicyclists and pedestrians is the US DOT's Federal-Aid Highway Program, which US Congress has regularly reauthorized since the passage of the Federal-Aid Road Act of 1916. In July 2012, Moving Ahead for Progress in the Twenty-First Century (MAP-21) which funds surface transportation improvements was enacted as Public Law 112-141. In July 2015, Congress authorized a three month extension for MAP-21 until October 29, 2015. At the time of this Plan's writing, Congress is working on the Transportation Alternatives Program (TAP) that will replace MAP-21 when it expires. More information on TAP: http://www.fhwa.dot.gov/map21/guidance/guidetap.cfm

In California, federal monies are administered through the California Department of Transportation (Caltrans) and Metropolitan Planning Organizations (MPOs) such as the Mendocino Council of Governments (MCOG). Most, but not all, of these programs are oriented toward transportation versus recreation, with an emphasis on reducing auto trips and providing inter-modal connections. Federal funding is intended for capital improvements and safety and education programs, and projects must relate to the surface transportation system.

6.1.2 Congestion Mitigation and Air Quality Improvement Program (CMAQ)

Congestion Mitigation and Air Quality Improvement funds are programmed by USDOT for projects that are likely to contribute to the attainment of a national ambient air quality standard, and provide congestion mitigation. These funds can be used for a variety of non-motorized transportation projects, particularly those that are developed primarily for transportation purposes. The funds can be used either for construction of bicycle transportation facilities and pedestrian walkways, or for non-construction projects related to safe bicycle and pedestrian use (maps, brochures, etc.). The projects must be tied to a plan adopted by the State of California and the Regional Government Agency.

6.1.3 Partnership for Sustainable Communities

Founded in 2009, the Partnership for Sustainable Communities is a joint project of the Environmental Protection Agency (EPA), the U.S. Department of Housing and Urban Development (HUD), and the U.S. Department of Transportation (USDOT). The partnership aims to "improve access to affordable housing, more transportation options, and lower transportation costs while protecting the environment in communities nationwide." The Partnership is based on five Livability Principles, one of which explicitly addresses the need for bicycle and pedestrian infrastructure ("Provide more transportation choices: Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health").

The Partnership is not a formal agency with a regular annual grant program. Nevertheless, it is an important effort that has already led to some new grant opportunities (including the TIGER grants). The City of Redlands should track Partnership communications and be prepared to respond proactively to announcements of new grant programs.

More information: http://www2.epa.gov/smart-growth/smart-growth-partnerships

Federal Transit Act

Section 25 of the 1964 Urban Mass Transportation Act states that: "For the purposes of this Act a project to provide access for bicycles to mass transportation facilities, to provide shelters and parking facilities for bicycles in and around mass transportation facilities, or to install racks or other equipment for transporting bicycles on mass transportation vehicles shall be deemed to be a construction project eligible for assistance under sections 3, 9 and 18 of this Act." The Federal share for such projects is 90 percent and the remaining 10 percent must come from sources other than Federal funds or fare box revenues. Typical funded projects have included bike lockers at transit stations and bike parking near major bus stops. To date, no projects to provide bikeways for quicker, safer or easier access to transit stations have been requested or funded.

6.1.4 Community Transformation Grants

Community Transformation Grants administered through the Center for Disease Control support community–level efforts to reduce chronic diseases such as heart disease, cancer, stroke, and diabetes. Active transportation infrastructure and programs that promote healthy lifestyles are a good fit for this program, particularly if the benefits of such improvements accrue to population groups experiencing the greatest burden of chronic disease.

More info: http://www.cdc.gov/communitytransformation/

6.2 Statewide Funding Sources

6.2.1 Active Transportation Program (ATP)

In 2013, Governor Brown signed legislation creating the Active Transportation Program (ATP). This program is a consolidation of the Federal Transportation Alternatives Program (TAP), California's Bicycle Transportation Account (BTA), and Federal and California Safe Routes to School (SRTS) programs.

The ATP program is administered by Caltrans Division of Local Assistance, Office of Active Transportation and Special Programs.

The ATP program goals include:

- Increase the proportion of trips accomplished by biking and walking,
- Increase safety and mobility for nonmotorized users,
- Advance the active transportation efforts of regional agencies to achieve greenhouse gas reduction goals,
- Enhance public health,
- Ensure that disadvantaged communities fully share in the benefits of the program, and
- Provide a broad spectrum of projects to benefit many types of active transportation users.

As of this Plan (May 2014), the first call for projects is underway. The California Transportation Commission ATP Guidelines are available here: http://www.catc.ca.gov/meetings/agenda/2014Agenda/2014_03/03_4.12.pdf

Eligible bicycle, pedestrian and Safe Routes to School projects include:

- Infrastructure Projects: Capital improvements that will further program goals. This category typically includes planning, design, and construction.
- Non-Infrastructure Projects: Education, encouragement, enforcement, and planning activities that further program goals. The focus of this category is on pilot and start-up projects that can demonstrate funding for ongoing efforts.
- Infrastructure projects with non-infrastructure components

The minimum request for non-SRTS projects is $250,000. There is no minimum for SRTS projects.

The local match requirement for non-SRTS projects is 11.47%. There is no local match requirement for projects benefiting a disadvantage community, stand along non-infrastructure projects and SRTS projects.

Annual funds will be approximately $130 million for fiscal year 2013-2014. In the initial program, a minimum of $24 million per year is available for SRTS projects, with at least $7.2 million for non-infrastructure grants.

More info: http://www.dot.ca.gov/hq/LocalPrograms/atp/

6.2.2 State Highway Account

Section 157.4 of the Streets and Highways Code requires Caltrans to set aside $360,000 for the construction of non-motorized facilities that will be used in conjunction with the State highway system. The Office of Bicycle Facilities also administers the State Highway Account fund. Funding is divided into different project categories. Minor B projects (less than $42,000) are funded by a lump sum allocation by the CTC and are used at the discretion of each Caltrans District office. Minor A projects (estimated to cost between $42,000 and $300,000) must be approved by the CTC. Major projects (more than $300,000) must be included in the State Transportation Improvement Program and approved by the CTC. Funded projects have included fencing and bicycle warning signs related to rail corridors.

6.2.3 Climate Ready Grant Program - California State Coastal Conservancy

Climate Ready grants are intended to encourage local governments and non-governmental organizations to advance planning and implementation of on-the-ground actions that reduce greenhouse gas emissions and lessen the impacts of climate change on California's coastal communities. The grant program makes eligible "development of multi-use trails with clearly identified GHG reduction goals; (and) protecting and managing open space lands with clearly identified GHG reduction goals." A total of $1,500,000 is available on a competitive basis, with a minimum award of $50,000 and a maximum of $200,000. The size of awarded grants will be based on each project's needs, its overall benefits, and the extent of competing demands for funds.

More info: http://scc.ca.gov/2013/04/24/grant-opportunities/

6.2.4 Office of Traffic Safety (OTS) Grants

Office of Traffic Safety Grants are supported by Federal funding under the National Highway Safety Act and SAFETEA-LU. In California, the grants are administered by the Office of Traffic Safety.

Grants are used to establish new traffic safety programs, expand ongoing programs or address deficiencies in current programs. Bicycle safety is included in the list of traffic safety priority areas. Eligible grantees are governmental agencies, state colleges, state universities, local city and county government agencies, school districts, fire departments, and public emergency services providers. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation, or construction. Grants are awarded on a competitive basis, and priority is given to agencies with the greatest need. Evaluation criteria to assess need include potential traffic safety impact, collision statistics and rankings, seriousness of problems, and performance on previous OTS grants.

The California application deadline is January of each year. There is no maximum cap to the amount requested, but all items in the proposal must be justified to meet the objectives of the proposal.

More info: http://www.ots.ca.gov/

6.2.5 Safe Routes to School

There are two separate Safe Routes to School Programs administered by Caltrans. There is the Federal program referred to as SRTS, and the state-legislated program referred to as SR2S. Both programs are intended to achieve the same basic goal of increasing the number of children walking and bicycling to school by making it safer for them to do so. All projects must be within two miles of primary or middle schools (K-8).

The Safe Routes to School Program funds non-motorized facilities in conjunction with improving access to schools through the Caltrans Safe Routes to School Coordinator. For more information visit: http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm

Eligible projects may include:

- **Engineering improvements.** These physical improvements are designed to reduce potential bicycle and pedestrian conflicts with motor vehicles. Physical improvements may also reduce

motor vehicle traffic volumes around schools, establish safer and more accessible crossings, or construct walkways, trails or bikeways. Eligible improvements include sidewalk improvements, traffic calming/speed reduction, pedestrian and bicycle crossing improvements, on-street bicycle facilities, off-street bicycle and pedestrian facilities, and secure bicycle parking facilities.

- **Education and Encouragement Efforts.** These programs are designed to teach children safe bicycling and walking skills while educating them about the health benefits, and environmental impacts. Projects and programs may include creation, distribution and implementation of educational materials; safety based field trips; interactive bicycle/pedestrian safety video games; and promotional events and activities (e.g., assemblies, bicycle rodeos, walking school buses).
- **Enforcement Efforts.** These programs aim to ensure that traffic laws near schools are obeyed. Law enforcement activities apply to cyclists, pedestrians and motor vehicles alike. Projects may include development of a crossing guard program, enforcement equipment, photo enforcement, and pedestrian sting operations.
- **Planning, designing, or constructing roadways within the right-of-way of former Interstate routes or divided highways.** At the time of writing, detailed guidance from the Federal Highway Administration on this new eligible activity was not available.

6.3 Regional & Local Sources

6.3.1 Developer Impact Fees

As a condition for development approval, municipalities can require developers to provide certain infrastructure improvements, which can include bikeway projects. These projects have commonly provided Class 2 facilities for portions of on street, previously planned routes. They can also be used to provide bicycle parking or shower and locker facilities. The type of facility that should be required to be built by developers should reflect the greatest need for the particular project and its local area. Legal challenges to these types of fees have resulted in the requirement to illustrate a clear nexus between the particular project and the mandated improvement and cost.

6.3.2 New Construction

Future road widening and construction projects are one means of providing on street bicycle facilities. To ensure that roadway construction projects provide bike lanes where needed, it is important that the review process includes input pertaining to consistency with the proposed system. In addition, California's 2008 Complete Streets Act and Caltrans's Deputy Directive 64 require that the needs of all roadway users be considered during "all phases of state highway projects, from planning to construction to maintenance and repair."

More info: http://www.dot.ca.gov/hq/tpp/offices/ocp/complete_streets.html

6.4 Private Sources

Private funding sources can be acquired by applying through the advocacy groups such as the League of American Bicyclists and the Bikes Belong Coalition. Most of the private funding comes from foundations wanting to enhance and improve bicycle facilities and advocacy. Grant applications will typically be through the advocacy groups as they leverage funding from federal, state and private sources. Below are several examples of private funding opportunities available.

6.4.1 Bikes Belong Grant Program

The People For Bikes organization of bicycle suppliers and retailers has awarded $1.2 million and leveraged an additional $470 million since its inception in 1999. The program funds corridor improvements, mountain bike trails, BMX parks, trails, and park access. It is funded by the People For Bikes Pro Purchase Program.

More information: http://www.peopleforbikes.org/pages/community-grants

Bank of America Charitable Foundation, Inc.

The Bank of America Charitable Foundation is one of the largest in the nation. The primary grants program is called Neighborhood Excellence, which seeks to identify critical issues in local communities. Another program that applies to greenways is the Community Development Programs, and specifically the Program Related Investments. This program targets low and moderate income communities and serves to encourage entrepreneurial business development.

More information: http://www.bankofamerica.com/foundation

6.4.2 Robert Wood Johnson Foundation

The Robert Wood Johnson Foundation was established as a national philanthropy in 1972 and today it is the largest U.S. foundation devoted to improving the health and health care of all Americans. Grant making is concentrated in four areas:

- To assure that all Americans have access to basic health care at a reasonable cost
- To improve care and support for people with chronic health conditions
- To promote healthy communities and lifestyles
- To reduce the personal, social and economic harm caused by substance abuse: tobacco, alcohol, and illicit drugs

More information: http://www.rwjf.org/en/how-we-work/grants.html

Community Action for a Renewed Environment (CARE)

CARE is a competitive grant program that offers an innovative way for a community to organize and take action to re-duce toxic pollution in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them. By providing financial and technical assistance, EPA helps CARE communities get on

the path to a renewed environment. Transportation and "smart-growth" types of projects are eligible. Grants range between $90,000 and $275,000.

More information: http://www.epa.gov/care/

6.4.3 Corporate Donations

Corporate donations are often received in the form of liquid investments (i.e. cash, stock, bonds) and in the form of land. Employers recognize that creating places to bike and walk is one way to build community and attract a quality work force. Bicycling and outdoor recreation businesses often support local projects and programs. Municipalities typically create funds to facilitate and simplify a transaction from a corporation's donation to the given municipality. Donations are mainly received when a widely supported capital improvement program is implemented. Such donations can improve capital budgets and/or projects.

6.5 Other Sources

Local sales taxes, fees and permits may be implemented as new funding sources for bicycle projects. However, any of these potential sources would require a local election. Volunteer programs may be developed to substantially reduce the cost of implementing some routes, particularly multi use paths. For example, a local college design class may use such a multi-use route as a student project, working with a local landscape architectural or engineering firm. Work parties could be formed to help clear the right of way for the route. A local construction company may donate or discount services beyond what the volunteers can do. A challenge grant program with local businesses may be a good source of local funding, in which the businesses can "adopt" a route or segment of one to help construct and maintain it.

Appendix A. Farmers Market Tabling Comments

Table A-1: Farmers Market Tabling Comments

Mode*	Date	Comment
1	7/12/2014	More Bike lanes please.
3	7/12/2014	Orr Creek Greenway needs to happen, yeah trails!
3	7/12/2014	No cars within city limits, walk or bike everywhere. Install moving sidewalks for the walking impaired.
1	7/12/2014	At Orchard and Gobbi funnel bike lane away from right hand turn traffic.
3	7/12/2014	Track and trail from Redwoood Valley to Ukiah
3	7/12/2014	Orr Creek Greenway
	7/12/2014	Safe access to Riverside park for kids on bikes.
3	7/12/2014	Extend rail trail North and South Mendocino College to Booneville Road.
3	7/12/2014	I don't like the streetscaping plan for State Street. People want to use that road for driving.
3	7/12/2014	Access to softball field.
1	7/12/2014	More bike sensitive intersections.
3	7/12/2014	Connect Babcock Lane to Talmage. Develop area as business area.
1	7/19/2014	Extend State Street road diet south to Gobbi.
1	7/19/2014	Redemeyer Vichy and El Dorado need decent bike lanes.
1	7/19/2014	Provide bike facility along N. State Street to college and Lake Mendocino Drive.
1	7/19/2014	Complete and build out north south rail trail.
1	7/19/2014	Going west on Perkins between State Street and School Street where lanes shift is dangerous. Please fix.
3	7/19/2014	Provide lights for walkers and cyclists, time them to accommodate walkers priorities over auto traffic.
1	7/19/2014	Bike lanes on the three overpasses over Highway 101; 'Beware of Cyclists' signs at overpass approaches.
1	7/19/2014	Improved street lighting.
3	7/19/2014	Improve walk and bike facilities along State Street.
3	7/19/2014	Improve walk and bike facilities along State Street.
1	7/19/2014	Install barriers between vehicular lanes and bike lanes.
1	7/19/2014	Covered bike parking.
1	7/26/2014	Designated green bike lanes.
2	7/26/2014	Sidewalk in front of Walgreens needs to be improved when the rail trail is improved.
1	7/26/2014	Road work in general.
3	7/26/2014	Don't increase width of streets without providing improvements for pedestrians, particularly seniors.
3	7/26/2014	Replace pedestrian crossing signs on N. Orchard between Ross and JC Penney complex.
3	7/26/2014	Need flashing lights at crosswalks, especially at S. State St; 4 lanes is dangerous for pedestrians.

Mode*	Date	Comment
3	7/26/2014	Don't have sidewalk that is not adequately marked.
3	7/26/2014	Provide Sewer to Tribal land in return for public easement to college "dedicated right."
1	7/26/2014	Move power poles into street and out of sidewalk.
1	7/26/2014	Urban Forestry! Need trees for shade to make walking comfortable.
2	7/26/2014	Bike parking with room for trailers.
1	7/26/2014	Trees and shade for walking.
3	7/26/2014	Improve streets around courthouse - Make it a welcoming plaza for people to hang out.
2	8/2/2014	Bicycles don't trigger stop light at Scott and State Street.
1	8/2/2014	Better walking on Perkins - more shade trees.
3	8/2/2014	Develop business district and make downtown walking- and bicycling-friendly.
3	8/2/2014	Connection to softball fields.
3	8/2/2014	Having bike and walking access to the softball field complex would be great.
1	8/2/2014	Pedestrian flashing lights across State Street triggered by person pressing button or passing between sensor pillars; especially at Frietas where people get hit so often.
	8/2/2014	Lighting on rail trail.
	8/2/2014	Way for cyclists to report to street sweeper.
	8/2/2014	State Street, when repaving happens make sure bike lanes are improved = make it a policy.
	8/2/2014	We want a walking path around Todd Grove Park - This involves white paint. This is already in the old bike plan.
	8/2/2014	Direct access to Hospital Drive from rail trail pass.
	8/2/2014	More gates through fence along rail trail.
	8/2/2014	Human proportioned lighting along rail trail path. As repeatedly recommended by citizen input.
	8/2/2014	Rail trail to Hopland.
	8/2/2014	Smoother bike lanes and sidewalks.
	8/2/2014	We need a bike trail to the college, connecting through to Despina.
	8/2/2014	Orchard Avenue traffic is much heavier lately due to post office relocation, the road is wide and should be improved - add a protected bike lane.
	8/2/2014	Daylight Gibson Creek from freeway to Riverside Park.
	8/2/2014	Extend trail from Oak street to Low Gap.
	8/2/2014	Bike path to college.
1	7/12/2014	Farmers Market needs more bike parking.
1	7/12/2014	Talmage across freeway is dangerous.
1	7/12/2014	Washington Avenue is frightening.
3	7/12/2014	Close School Street to traffic between Standley and Clay to create a pedestrian walkway.
1	7/12/2014	Bigger bike parking areas in town.
1	7/12/2014	Not enough bike racks.
1	7/19/2014	Make Helen north to spring a marked bike route.
1	7/19/2014	Adopt Vision Zero to strive towards 0 pedestrian deaths.

Mode*	Date	Comment
1	7/19/2014	Crossing State Street is terrible near Gobbi and down past Ellie's.
1	7/19/2014	Make Low Gap and east/west corridor along with Tamage Perkins and Gobbi.
3	7/19/2014	20 mile / hour slow speed zones in school and downtown areas.
1	7/19/2014	Multi- purpose trails along western hills.
1	7/19/2014	Unlock the gate to open the pathway on north side of Yakayo School for school traffic.
3	7/19/2014	Improve East Brush Street for walkers and bikers.
3	7/19/2014	Make Perkins Street safer for walkers and bikers.
1	7/19/2014	Make Walmart area bicycle safe. Prioritize over auto improvements.
1	7/19/2014	Dora Street bike lanes work well, feel safe with family.
1	7/19/2014	UPD policy that officers must pursue and ticket if possible any time a cyclist reports a car driver acting in threatening manner.
1	7/19/2014	Marked alternate routes for bikes.
1	7/19/2014	Oak to Main to Waugh have few stop signs and should be a marked alternate route.
1	7/19/2014	Fairgrounds is closed to bikes, should not be, bike parking there is lousy and unsafe; should be protected bike parking there.
1	7/19/2014	More Bike parking.
3	7/19/2014	More education for drivers and riders.
3	7/19/2014	More education for drivers and riders.
3	7/19/2014	More education for drivers and riders.
2	7/26/2014	Hedges and trees growing into sidewalks make them impassable. City should enforce regulations.
2	7/26/2014	Entire city a 25 mph zone. No need for extra signs.
3	7/26/2014	Concerned about safety with homeless and uncontrolled dogs.
3	7/26/2014	More enforcement at crosswalks by police.
3	7/26/2014	Ordinance, if sell property, must put in sidewalk.
2	7/26/2014	Improve bike route along airport Boulevard / in front of Friedmans.
1	7/26/2014	Good walking map with preferred routes.
3	7/26/2014	Intersection at school and seminary is dangerous.
3	7/26/2014	Perkins and State intersection is dangerous/ all of state crossing is bad.
2	7/26/2014	Too much traffic on Dora to feel comfortable.
2	7/26/2014	Develop Helen and Spring as north-south route.
2	7/26/2014	More education for cyclists.
2	7/26/2014	Map of bike friendly routes for tourists and newbies.
3	7/26/2014	Pedestrian/Bike overpass is really dark and needs lights.
1	7/26/2014	More kids entertainment facilities.
2	7/26/2014	Bicyclist training.
1	8/2/2014	Buckets of red flags on both sides of street where crossing is precarious.
3	8/2/2014	Safe north-south corridor.
2	8/2/2014	Clear debris from bike lanes.

Mode*	Date	Comment
3	8/2/2014	Rail trail north to college.
	8/2/2014	Good bike parking.
	8/2/2014	Agree with everything else here!
	8/2/2014	No more obstructions in the sidewalks - We need an ordinance. An ordinance requiring a planting space (for signs, hydrants, cabinets as well as trees) between the sidewalk and the street.
	8/2/2014	Develop walking tours, could charge money.
	8/2/2014	North State Street is bad.
	8/2/2014	Bike path on Vichy Springs is never ever swept
	8/2/2014	Lights on pedestrian overpass. They're there but don't work. It's a CalTrans project.

* 1= Walk, 2 = Bike, 3 = Both

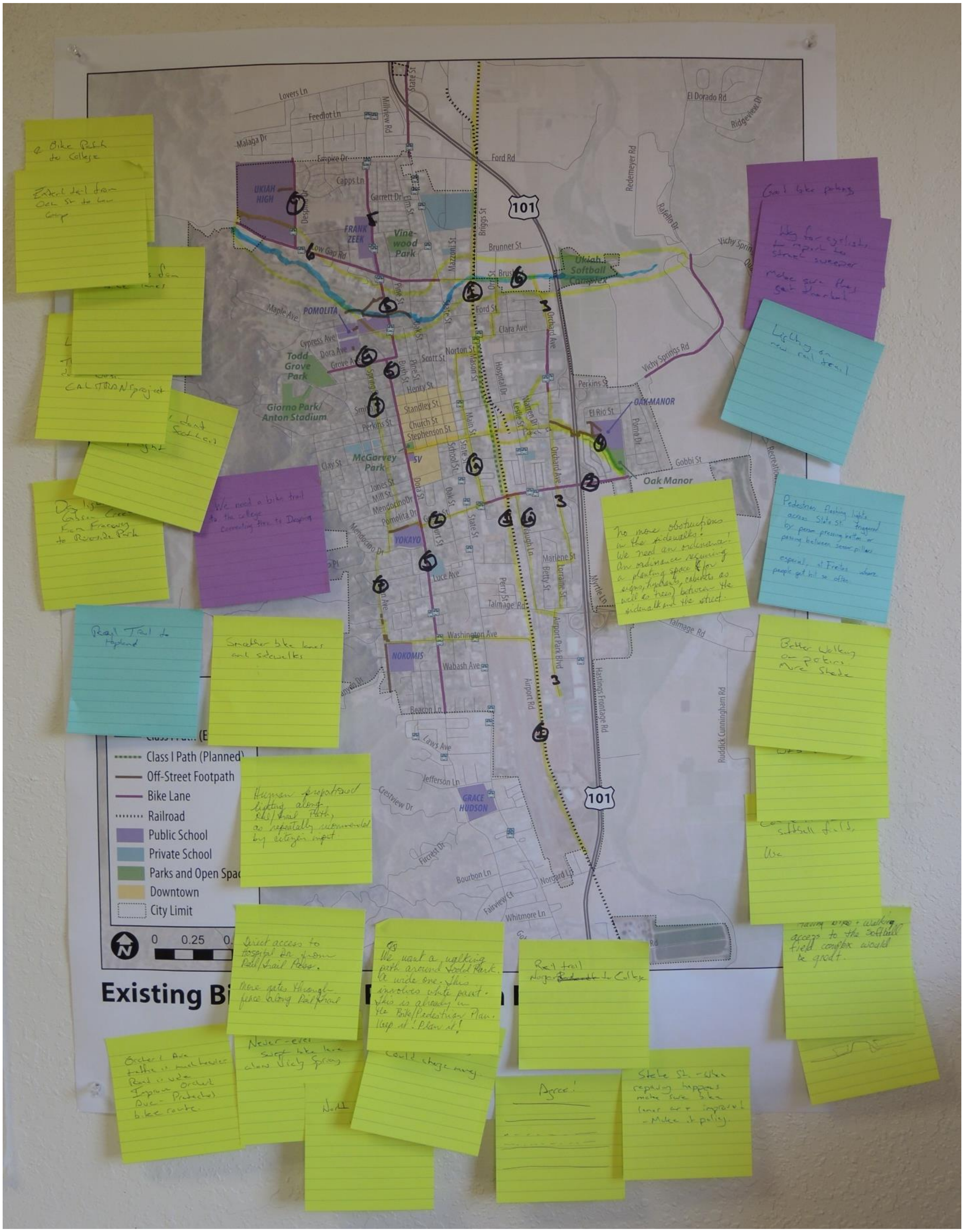
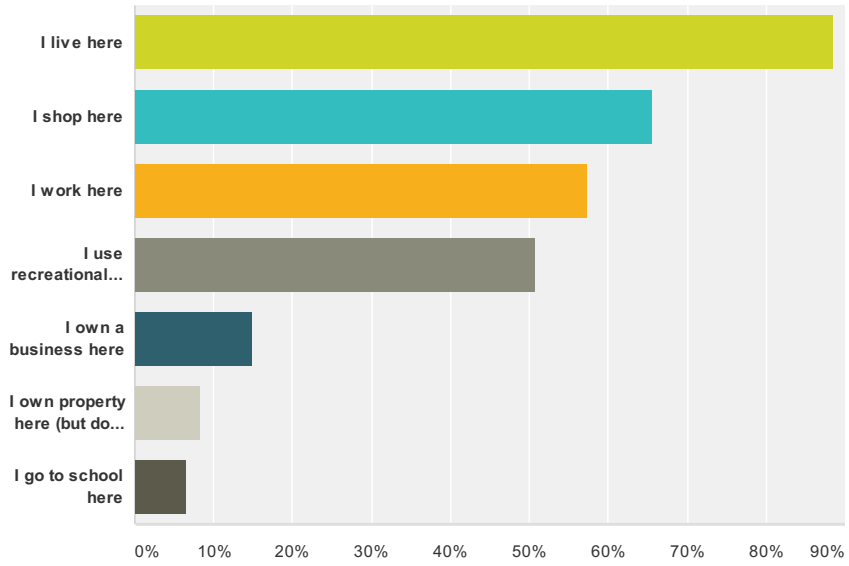


Figure A-1: Farmers Market Tabling Map and Comments

Appendix B. Community Survey Results

Q1 How are you connected to Ukiah? (click all that apply)

Answered: 61 Skipped: 0

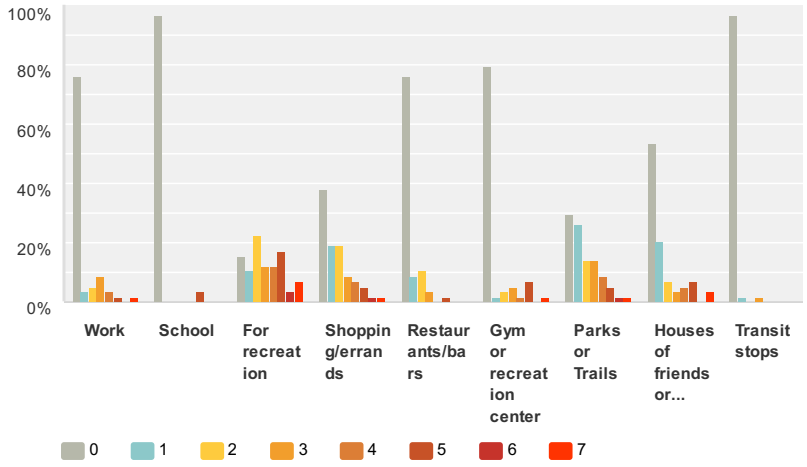


Answer Choices	Responses	
I live here	**88.52%**	54
I shop here	**65.57%**	40
I work here	**57.38%**	35
I use recreational facilities here (e.g. parks and trails)	**50.82%**	31
I own a business here	**14.75%**	9
I own property here (but do not live here)	**8.20%**	5
I go to school here	**6.56%**	4
Total Respondents: 61		

#	Other (please specify)	Date
1	Ride to Ukiah from redwood valley	8/13/2014 3:41 PM
2	I love it here! But would like more places to walk and bike safely!	8/5/2014 1:39 PM

Q2 How many days a week do you walk to:

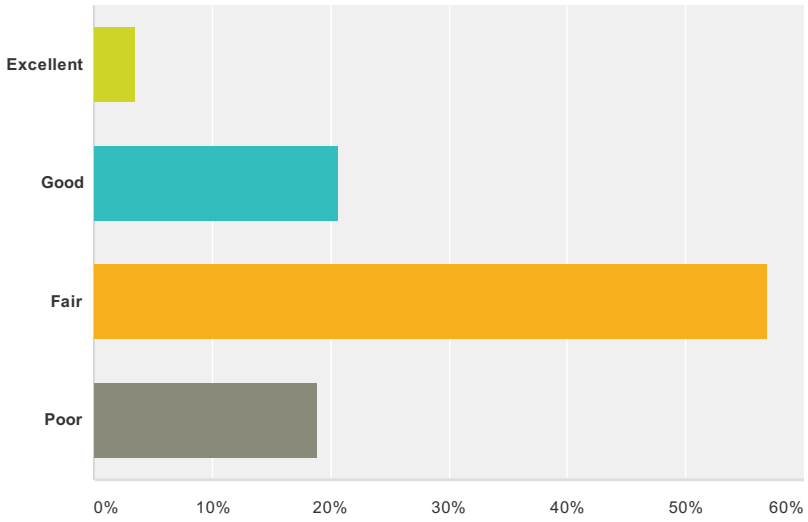
Answered: 58 Skipped: 3



	0	1	2	3	4	5	6	7	Total
Work	**75.86%** 44	**3.45%** 2	**5.17%** 3	**8.62%** 5	**3.45%** 2	**1.72%** 1	**0.00%** 0	**1.72%** 1	58
School	**96.55%** 56	**0.00%** 0	**0.00%** 0	**0.00%** 0	**0.00%** 0	**3.45%** 2	**0.00%** 0	**0.00%** 0	58
For recreation	**15.52%** 9	**10.34%** 6	**22.41%** 13	**12.07%** 7	**12.07%** 7	**17.24%** 10	**3.45%** 2	**6.90%** 4	58
Shopping/errands	**37.93%** 22	**18.97%** 11	**18.97%** 11	**8.62%** 5	**6.90%** 4	**5.17%** 3	**1.72%** 1	**1.72%** 1	58
Restaurants/bars	**75.86%** 44	**8.62%** 5	**10.34%** 6	**3.45%** 2	**0.00%** 0	**1.72%** 1	**0.00%** 0	**0.00%** 0	58
Gym or recreation center	**79.31%** 46	**1.72%** 1	**3.45%** 2	**5.17%** 3	**1.72%** 1	**6.90%** 4	**0.00%** 0	**1.72%** 1	58
Parks or Trails	**29.31%** 17	**25.86%** 15	**13.79%** 8	**13.79%** 8	**8.62%** 5	**5.17%** 3	**1.72%** 1	**1.72%** 1	58
Houses of friends or family	**53.45%** 31	**20.69%** 12	**6.90%** 4	**3.45%** 2	**5.17%** 3	**6.90%** 4	**0.00%** 0	**3.45%** 2	58
Transit stops	**96.55%** 56	**1.72%** 1	**0.00%** 0	**1.72%** 1	**0.00%** 0	**0.00%** 0	**0.00%** 0	**0.00%** 0	58

Q3 How do rate the overall walking conditions in Ukiah?

Answered: 58 Skipped: 3

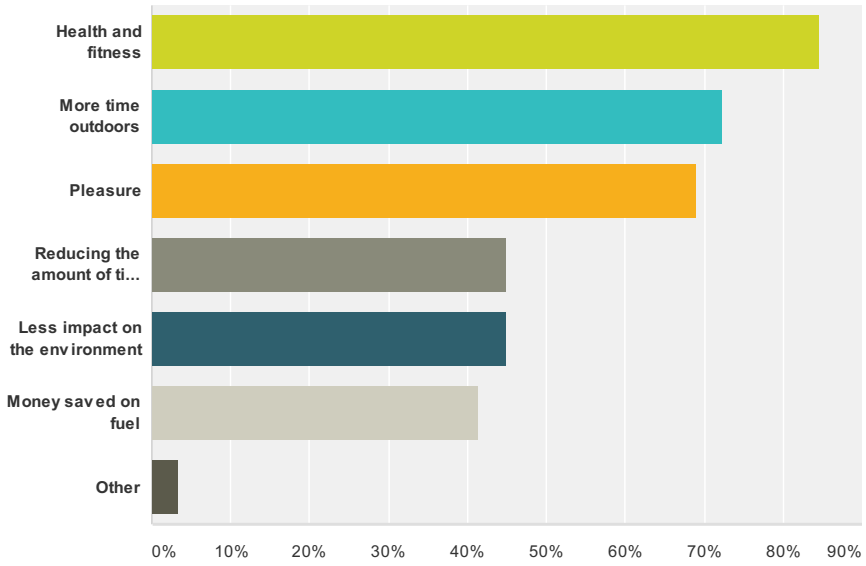


Answer Choices	Responses	
Excellent	**3.45%**	2
Good	**20.69%**	12
Fair	**56.90%**	33
Poor	**18.97%**	11
Total		**58**

#	Tell us why.	Date
1	Some sidewalks in bad shape. Bothered by transients. Must make eye contact with drivers before crossing intersections.	8/15/2014 4:46 PM
2	traffic	8/15/2014 4:35 PM
3	Too much concrete!	8/15/2014 4:17 PM
4	sidewalks very uneven..perkins,school	8/13/2014 3:46 PM
5	The sidewalks are narrow and fraught with trip hazards (raised sidewalks, due to roots). Existing sidewalks need more maintenance, and new sidewalks need to have a clear zone of 6 feet (wide enough for two people to walk side-by-side).	8/13/2014 2:04 PM
6	Poor street conditions	8/6/2014 7:12 PM
7	Other than downtown, little viable walking access. No real access from east side (Oak Manor) to downtown besides ugly Perkins.	8/6/2014 1:38 PM
8	It is dangerous to walk many places, even along Standley Street, where I live, along Low Gap Road, along Ruddick Cunningham Road, along River Road from Ukiah to Hopland, and definitely in all parking lots.	8/5/2014 1:43 PM
9	Some drivers don't like to stop and wait till your out of the road	8/2/2014 3:29 AM
10	Inconsistent and poorly maintained sidewalks. Unsafe motorists.	8/1/2014 10:09 PM
11	I have fallen twice that I reported plus 1plus. The time I fell by Burger King I injured my shoulder but did not go to the Dr. When I called I got a recording but nothing was done until I fell infront of the beauty shop on School and Perkins - the day I fell they came out that afternoon because of the lawsuit. Does it take legal action to correct the problem - no pay someone to study the problem, use the money to solve our BAD streets.	8/1/2014 9:11 PM
12	The Ukiah Walks placards are amazing. And I love being able to walk up Maple Ave. and into the back side of Low Gap park.	8/1/2014 4:30 PM
13	crosswalks across State Street are dangerous. sidewalks are often uneven and too narrow or sometimes non-existent.	8/1/2014 3:45 PM
14	Overal fair but if only if I stay to the west of State Street. Otherwise Poor as you move East from State.	8/1/2014 3:07 PM
15	most of the places I walk have sidewalks. There are some that could be improved and there are some with NO sidewalks	8/1/2014 11:26 AM
16	There are many roads that don't have sidewalks, incomplete sidewalks, and the surfaces are often broken and cracked even when there are sidewalks	7/24/2014 8:27 AM

Q4 What aspects of walking are most appealing to you? (check all that apply)

Answered: 58 Skipped: 3

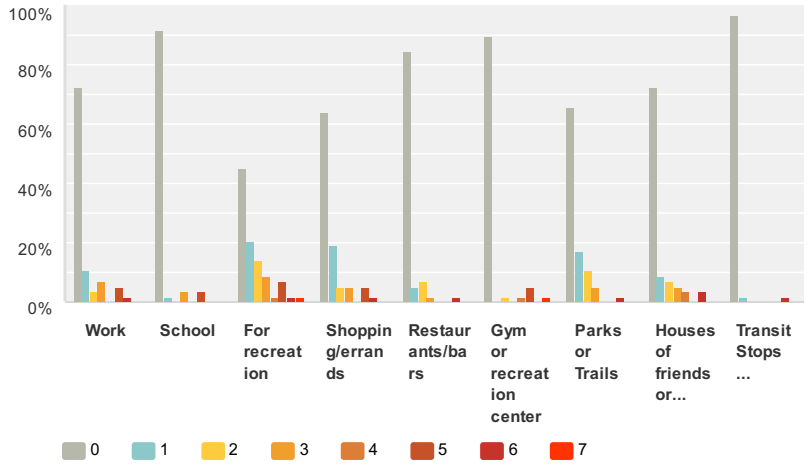


Answer Choices	Responses	
Health and fitness	**84.48%**	49
More time outdoors	**72.41%**	42
Pleasure	**68.97%**	40
Reducing the amount of time spent in a car	**44.83%**	26
Less impact on the environment	**44.83%**	26
Money saved on fuel	**41.38%**	24
Other	**3.45%**	2
Total Respondents: 58		

#	Other (please specify)	Date
1	On my scooter	8/13/2014 3:27 PM
2	Reduced stress	8/5/2014 1:43 PM
3	No parking spots closer	8/2/2014 3:29 AM

Q5 How many days a week do you bike to:

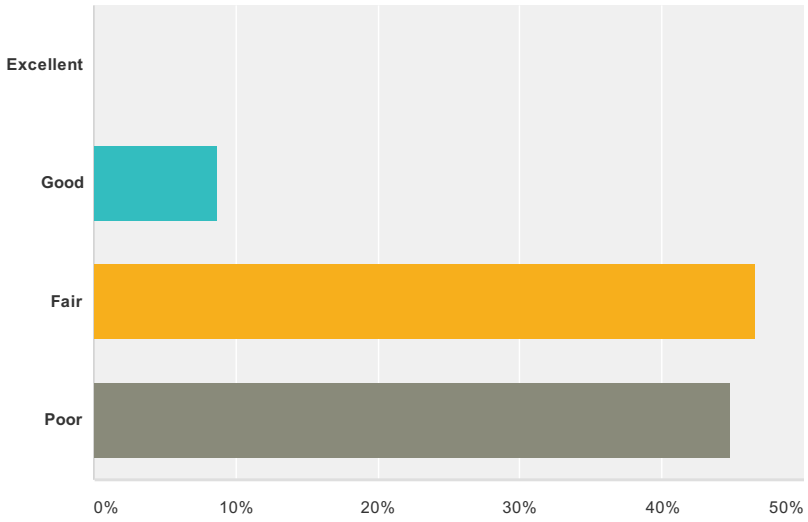
Answered: 58 Skipped: 3



	0	1	2	3	4	5	6	7	Total
Work	**72.41%** 42	**10.34%** 6	**3.45%** 2	**6.90%** 4	**0.00%** 0	**5.17%** 3	**1.72%** 1	**0.00%** 0	58
School	**91.38%** 53	**1.72%** 1	**0.00%** 0	**3.45%** 2	**0.00%** 0	**3.45%** 2	**0.00%** 0	**0.00%** 0	58
For recreation	**44.83%** 26	**20.69%** 12	**13.79%** 8	**8.62%** 5	**1.72%** 1	**6.90%** 4	**1.72%** 1	**1.72%** 1	58
Shopping/errands	**63.79%** 37	**18.97%** 11	**5.17%** 3	**5.17%** 3	**0.00%** 0	**5.17%** 3	**1.72%** 1	**0.00%** 0	58
Restaurants/bars	**84.48%** 49	**5.17%** 3	**6.90%** 4	**1.72%** 1	**0.00%** 0	**0.00%** 0	**1.72%** 1	**0.00%** 0	58
Gym or recreation center	**89.66%** 52	**0.00%** 0	**1.72%** 1	**0.00%** 0	**1.72%** 1	**5.17%** 3	**0.00%** 0	**1.72%** 1	58
Parks or Trails	**65.52%** 38	**17.24%** 10	**10.34%** 6	**5.17%** 3	**0.00%** 0	**0.00%** 0	**1.72%** 1	**0.00%** 0	58
Houses of friends or family	**72.41%** 42	**8.62%** 5	**6.90%** 4	**5.17%** 3	**3.45%** 2	**0.00%** 0	**3.45%** 2	**0.00%** 0	58
Transit Stops (bicycling is part of the trip)	**96.55%** 56	**1.72%** 1	**0.00%** 0	**0.00%** 0	**0.00%** 0	**0.00%** 0	**1.72%** 1	**0.00%** 0	58

Q6 How do rate the overall bicycling conditions in Ukiah?

Answered: 58 Skipped: 3



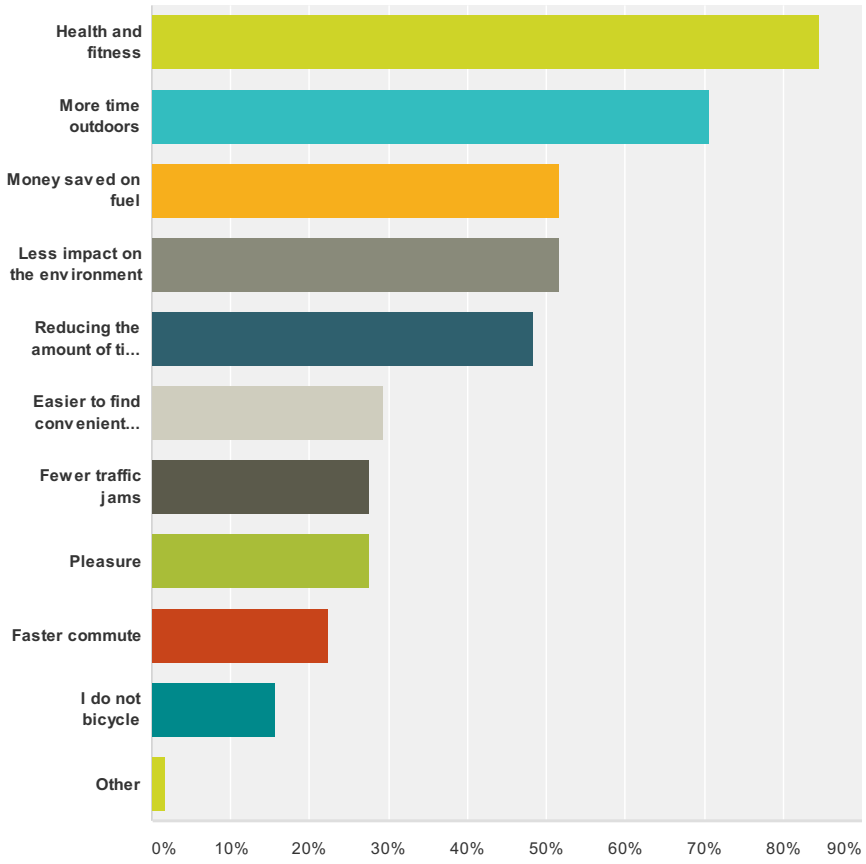
Answer Choices	Responses	
Excellent	**0.00%**	0
Good	**8.62%**	5
Fair	**46.55%**	27
Poor	**44.83%**	26
Total		**58**

#	Tell us why.	Date
1	not enough bike lanes; bikers and cars DO NOT obey traffic rules; I gave up biking when I got in to my 70s because I didn't feel comfortable on my bike anymore	8/15/2014 4:48 PM
2	not enough bike lanes	8/15/2014 4:44 PM
3	bad on State St; rough surface; lots of traffic; there is always a danger from inattentive car drivers	8/15/2014 4:41 PM
4	Scary. Dangerous traffic.	8/15/2014 4:21 PM
5	Some areas are much better than others.	8/13/2014 3:33 PM
6	On my scooter	8/13/2014 3:28 PM
7	Respondent skipped question	8/13/2014 3:07 PM
8	Lots of opportunities for improvements. 1) Continue with rail with trail project, 2) resurface streets, 3) smooth out dedicated bike lanes on roads like Gobbi, where asphalt has separated from concrete gutter, creating a hazard where wheels lock into the gap.	8/13/2014 2:05 PM
9	Poor street condition.	8/6/2014 7:18 PM
10	Not enough bike lanes. Would like to be able to bike safely to Mendocino College, for example.	8/5/2014 1:46 PM
11	I don't ride bikes but some bikers do some dumb stuff. One time I was headed south on state street and was stopped at the light on low gap and state street. The light turned green and cars started rolling and out of no where a girl comes flying into traffic. Some unlucky guy in a blue truck started rolling and hit the girl. Like it sucked for her but that guy has to live with it and it wasnt even his fault.	8/2/2014 3:33 AM
12	No bike lanes! Drivers don't watch for bikes. No space for bikes to me. I've almost been hit so many times.	8/1/2014 10:18 PM
13	I do not ride a bicycle but if I did I would not feel safe with the conditions of our streets and the drivers in our town.	8/1/2014 9:19 PM
14	With a street bike, it seems like all roads lead to State St., which is a bit frustrating to bike on downtown and north of town at e.g. the bridge just past K. Ranch Rd. It's hard to convince friends to bike with me if we ride much on State St. to get where we're going.	8/1/2014 4:36 PM
15	Safety	8/1/2014 4:22 PM
16	there are not that many marked bike lanes.. I often ride down Main Street and up Clay Street for errands, and there's no bike lanes there.	8/1/2014 3:48 PM
17	No respect for bicyclists. Rude and distracted drivers. No clear and visible bike lane markings.	8/1/2014 3:12 PM
18	too many accidents because not enough bike lanes	8/1/2014 11:28 AM
19	Limited bike lanes where we need them and no protected bike lanes.	8/1/2014 9:49 AM

20	Ukiah motorists are shockingly unconcerned with the safety of those they share the road with.	8/1/2014 8:57 AM
21	Many roads simply aren't safe for bicyclists. There are narrow shoulders, no shoulders, many pot holes, broken road surfaces. Lack of bike turn lanes to help with left hand and right turns. Perkin is particularly bad as you cross state and oak. The way the lanes merge it makes it difficult for bicyclists to go straight or make left hand turns. Also, the lack of safe bike racks is a problem. Many of the existing racks are not convenient to access (like the ones at the top of City Hall) or people don't know how to bike there bikes at racks and lock them across the entire rack making it unusable for any other bikers.	7/24/2014 8:33 AM

Q8 What aspects of biking are most appealing to you? (check all that apply)

Answered: 58 Skipped: 3

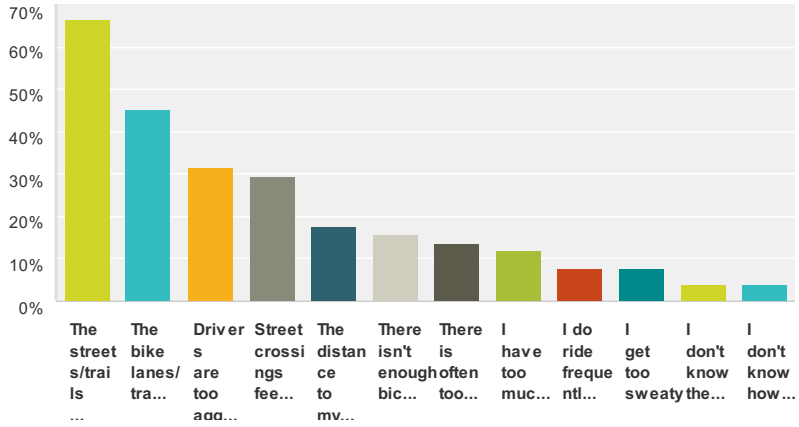


Answer Choices	Responses	
Health and fitness	84.48%	49
More time outdoors	70.69%	41
Money saved on fuel	51.72%	30
Less impact on the environment	51.72%	30
Reducing the amount of time spent in a car	48.28%	28
Easier to find convenient parking	29.31%	17
Fewer traffic jams	27.59%	16
Pleasure	27.59%	16
Faster commute	22.41%	13
I do not bicycle	15.52%	9
Other	1.72%	1
Total Respondents: 58		

#	Other (please specify)	Date
	There are no responses.	

Q9 What are the top three obstacles or concerns that may prevent you from biking? (check up to 3 answers)

Answered: 51 Skipped: 10

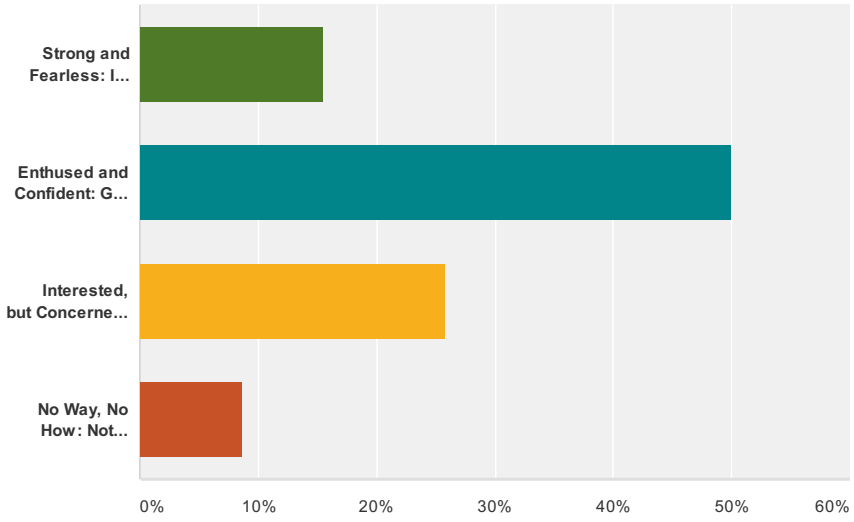


Answer Choices	Responses	
The streets/trails do not feel safe	**66.67%**	34
The bike lanes/trails don't go where I need to travel (e.g. home/work/school)	**45.10%**	23
Drivers are too aggressive	**31.37%**	16
Street crossings feel unsafe	**29.41%**	15
The distance to my destination is too far	**17.65%**	9
There isn't enough bicycle parking/storage at my destinations	**15.69%**	8
There is often too much debris in the bike lane	**13.73%**	7
I have too much to carry	**11.76%**	6
I do ride frequently; no concerns here!	**7.84%**	4
I get too sweaty	**7.84%**	4
I don't know the best routes for biking	**3.92%**	2
I don't know how to bike/I can't bike for other reasons	**3.92%**	2
Total Respondents: 51		

#	Other (please specify)	Date
1	I can't afford a bike/I don't have a bike	8/13/2014 3:48 PM
2	Bike too old	8/13/2014 2:43 PM
3	A few times I've driven because I couldn't think of a logical bike route across tow to my destination. What I mean is I wanted to avoid Perkins (no bike lane) and Gobbi (unsafe bike lane, due to dangerous gap where asphalt street and concrete gutter have separated).	8/13/2014 2:05 PM
4	Putting off brake replacements or other maintenance, proximity to vehicles on the roads during rides longer than 10 mi., general safety around cars	8/1/2014 4:36 PM
5	No clear and visible bike lanes for motorist to respect.	8/1/2014 3:12 PM
6	dont own a bike	8/1/2014 1:54 PM

Q7 What type of bicyclist are you?

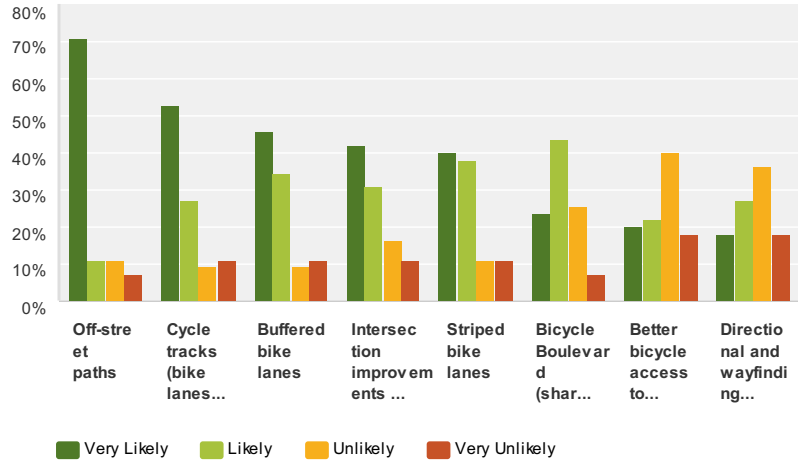
Answered: 58 Skipped: 3



Answer Choices	Responses
Strong and Fearless: I feel comfortable bicycling anywhere, anytime.	15.52% 9
Enthused and Confident: Give me a bike lane or side street, and I am ready to go! I can identify my own route through the City to reach my destination.	50.00% 29
Interested, but Concerned: I think biking is great and sometimes bike on trails or greenways, but biking on roads makes me nervous.	25.86% 15
No Way, No How: Not interested, but thanks for asking.	8.62% 5
Total	**58**

Q10 What is the likelihood that the following types of bicycling facilities would influence you to bike more often?

Answered: 55 Skipped: 6



	Very Likely	Likely	Unlikely	Very Unlikely	Total
Off-street paths	**70.91%** 39	**10.91%** 6	**10.91%** 6	**7.27%** 4	55
Cycle tracks (bike lanes physically separated by curb or parking)	**52.73%** 29	**27.27%** 15	**9.09%** 5	**10.91%** 6	55
Buffered bike lanes	**45.45%** 25	**34.55%** 19	**9.09%** 5	**10.91%** 6	55
Intersection improvements for bicyclists	**41.82%** 23	**30.91%** 17	**16.36%** 9	**10.91%** 6	55
Striped bike lanes	**40.00%** 22	**38.18%** 21	**10.91%** 6	**10.91%** 6	55
Bicycle Boulevard (shared, low-speed streets)	**23.64%** 13	**43.64%** 24	**25.45%** 14	**7.27%** 4	55
Better bicycle access to transit (e.g. parking)	**20.00%** 11	**21.82%** 12	**40.00%** 22	**18.18%** 10	55
Directional and wayfinding signage for bicyclists	**18.18%** 10	**27.27%** 15	**36.36%** 20	**18.18%** 10	55

Q11 What destinations would you most like to get to on your bicycle but currently can't because of barriers or a lack of bike facilities? (e.g. Schools, Parks, Downtown)

Answered: 29 Skipped: 32

Answer Choices	Responses	
1.	**100.00%**	29
2.	**48.28%**	14
3.	**17.24%**	5

#	1.	Date
1	From Potter Valley to Ukiah	8/13/2014 3:54 PM
2	The downtown ukiah area surrounding the courthouse is very narrow and often packed with cars, pedestrians, and bicyclists. This makes driving, walking, and biking a stressful and hazardous experience. Making crosswalks and bike lanes more visible and available would increase the safety greatly.	8/13/2014 3:50 PM
3	work	8/13/2014 3:48 PM
4	I would consider riding more places in general if there was safe bike lanes	8/13/2014 3:40 PM
5	downtown	8/13/2014 3:36 PM
6	Ukiah to Lake Mendocino Dr. There are bike lanes North of Raley's, but it feels dangerous due to the high-speed traffic. South of Raley's there are no bike lanes and lots of traffic. I've taken to using the rail-road tracks to avoid State; but the trail is rough and not ideal for all bikes, but I don't have to worry about getting run-over.	8/13/2014 3:33 PM
7	School	8/13/2014 3:31 PM
8	East of State st. The lake and other places to access nature near town. I don't feel safe on the busier, faster streets.	8/13/2014 3:21 PM
9	Any business on state street. I stay away from State street when on my bike. Talmage/airport part shopping. That intersection is a nightmare for cyclists. I feel VERY unsafe on Talmage road. I work out there and would love a safer commute.	8/13/2014 3:13 PM
10	South side of town	8/13/2014 3:10 PM
11	Safeway	8/13/2014 3:03 PM
12	I would love to be able to cylce along the river from North to South Ukiah, but there are no bike paths and there are too many homeless encampments.	8/13/2014 3:01 PM
13	To downtown	8/13/2014 2:51 PM
14	Lake Mendocino and the College	8/13/2014 2:42 PM
15	Need more bike parking at retail stores. Co-op, Rite Aid come to mind.	8/13/2014 2:06 PM
16	work	8/13/2014 2:01 PM
17	Work	8/12/2014 5:56 PM
18	Downtown	8/6/2014 7:21 PM
19	Mendocino College	8/5/2014 1:49 PM
20	Downtown	8/1/2014 10:18 PM
21	Do not ride a bike	8/1/2014 9:21 PM
22	redwood valley	8/1/2014 4:24 PM
23	from Redwood Valley to Ukiah (needs bike trail)	8/1/2014 3:52 PM
24	Parks	8/1/2014 3:18 PM
25	downtown	8/1/2014 11:31 AM
26	South State Street	8/1/2014 9:58 AM
27	Downtown	8/1/2014 9:01 AM
28	Grocery store	8/1/2014 8:33 AM
29	North State Street	7/24/2014 8:36 AM

#	2.	Date
1	grocery shopping	8/13/2014 3:36 PM
2	work	8/13/2014 3:31 PM
3	near the skating rink	8/13/2014 3:10 PM
4	Walmart	8/13/2014 3:03 PM
5	Lake Mendocino (roads are not bike friendly)	8/5/2014 1:49 PM

6	Work on n. state st	8/1/2014 10:18 PM
7	""""""	8/1/2014 9:21 PM
8	capella	8/1/2014 4:24 PM
9	City of Ukiah Recreation Office (no bike rack in front)	8/1/2014 3:52 PM
10	Downtown	8/1/2014 3:18 PM
11	east side of Ukiah	8/1/2014 11:31 AM
12	any route that requires crossing 101	8/1/2014 9:58 AM
13	state street	8/1/2014 9:01 AM
14	Perkins Street	7/24/2014 8:36 AM
#	**3.**	**Date**
1	Work on s. State st	8/1/2014 10:18 PM
2	" "	8/1/2014 9:21 PM
3	Dept. of Social Services, (only one bike rack down at one end of the complex)	8/1/2014 3:52 PM
4	Schools(Scared for my kids to ride to school) and commute with them	8/1/2014 3:18 PM
5	Main Street	7/24/2014 8:36 AM

Q12 In your opinion, what are the top three streets in need of bicycle or pedestrian improvements in Ukiah? (e.g. Name: Main Street, Start: Norton St, End: Gobbi St, Why? No bike lanes.)

Answered: 40 Skipped: 21

Answer Choices	Responses	
Street 1. Name	100.00%	40
Street 1. Start	77.50%	31
Street 1. End	67.50%	27
Street 1. Why?	75.00%	30
Street 2. Name	60.00%	24
Street 2. Start	47.50%	19
Street 2. End	47.50%	19
Street 2. Why?	52.50%	21
Street 3. Name	52.50%	21
Street 3. Start	42.50%	17
Street 3. End	42.50%	17
Street 3 Why?	47.50%	19

#	Street 1. Name	Date
1	Gobbi	8/13/2014 3:56 PM
2	Potter Valley Westside Road	8/13/2014 3:54 PM
3	State Street	8/13/2014 3:52 PM
4	State street	8/13/2014 3:50 PM
5	Waugh Lane	8/13/2014 3:49 PM
6	perkins	8/13/2014 3:47 PM
7	State st.	8/13/2014 3:43 PM
8	State Street	8/13/2014 3:41 PM
9	State St.	8/13/2014 3:37 PM
10	Redemeyer Rd.	8/13/2014 3:33 PM
11	Dora	8/13/2014 3:31 PM
12	Gobbi Street	8/13/2014 3:26 PM
13	State Street	8/13/2014 3:22 PM
14	State	8/13/2014 3:19 PM
15	State Street	8/13/2014 3:14 PM
16	state street	8/13/2014 3:11 PM
17	Gobbi/ Orchard	8/13/2014 3:08 PM
18	Perkins	8/13/2014 3:04 PM
19	State	8/13/2014 2:51 PM
20	State St. North to south	8/13/2014 2:47 PM
21	Clara	8/13/2014 2:44 PM
22	Oak St	8/13/2014 2:35 PM
23	Gobbi, resurfacing of asphalt to eliminate gap with gutter.	8/13/2014 2:07 PM
24	Gobbi	8/13/2014 2:03 PM
25	State	8/12/2014 5:58 PM
26	State Street	8/12/2014 5:49 PM
27	Perkins	8/6/2014 1:42 PM
28	state street	8/6/2014 8:29 AM

29	State st	8/1/2014 10:19 PM
30	Gobbi	8/1/2014 9:37 PM
31	State Street	8/1/2014 8:32 PM
32	State St.	8/1/2014 4:47 PM
33	state	8/1/2014 4:26 PM
34	Main Street	8/1/2014 3:58 PM
35	State Street	8/1/2014 3:27 PM
36	main street	8/1/2014 11:33 AM
37	State Street	8/1/2014 10:07 AM
38	State	8/1/2014 9:16 AM
39	State Street	8/1/2014 8:47 AM
40	Perkins Street	7/24/2014 8:42 AM
#	**Street 1. Start**	**Date**
1	Dora	8/13/2014 3:56 PM
2	Downtown PV	8/13/2014 3:54 PM
3	Where Black Oak coffee shop is	8/13/2014 3:50 PM
4	Talmage	8/13/2014 3:49 PM
5	Hensley creek road	8/13/2014 3:41 PM
6	Freeway- N. State St.	8/13/2014 3:37 PM
7	Low gap	8/13/2014 3:31 PM
8	All of it	8/13/2014 3:22 PM
9	Calpella	8/13/2014 3:14 PM
10	State Street	8/13/2014 3:04 PM
11	Talmage	8/13/2014 2:51 PM
12	State	8/13/2014 2:44 PM
13	Low Gap	8/13/2014 2:35 PM
14	State Street	8/13/2014 2:07 PM
15	Orchard	8/13/2014 2:03 PM
16	North state freeway exit	8/12/2014 5:58 PM
17	Continuous	8/12/2014 5:49 PM
18	Gobbi to Riverside Park	8/6/2014 1:42 PM
19	downtown	8/6/2014 8:29 AM
20	All of it	8/1/2014 10:19 PM
21	Oak manor	8/1/2014 9:37 PM
22	Talmage Street	8/1/2014 8:32 PM
23	Gobbi St.	8/1/2014 4:47 PM
24	perkins	8/1/2014 4:26 PM
25	Clara	8/1/2014 3:58 PM
26	101 overpass by Mendo Mill (north)	8/1/2014 3:27 PM
27	entire street	8/1/2014 11:33 AM
28	101 (overpass, north end of town)	8/1/2014 10:07 AM
29	the whole thing	8/1/2014 9:16 AM
30	Walnut	8/1/2014 8:47 AM
31	From freeway	7/24/2014 8:42 AM
#	**Street 1. End**	**Date**
1	the east end	8/13/2014 3:56 PM
2	Hwy 20	8/13/2014 3:54 PM
3	Ukiah movie theatre	8/13/2014 3:50 PM
4	Gobbi	8/13/2014 3:49 PM
5	talmage	8/13/2014 3:41 PM
6	entirety	8/13/2014 3:37 PM
7	All of it	8/13/2014 3:22 PM

8	Laws Ave	8/13/2014 3:14 PM
9	Oak Manor	8/13/2014 3:04 PM
10	Rayleys	8/13/2014 2:51 PM
11	Helen	8/13/2014 2:44 PM
12	Freitas	8/13/2014 2:35 PM
13	Orchard	8/13/2014 2:07 PM
14	State	8/13/2014 2:03 PM
15	Redwood health club	8/12/2014 5:58 PM
16	Safety from one end of town to the next	8/12/2014 5:49 PM
17	Along Russian River	8/6/2014 1:42 PM
18	Washo dr	8/1/2014 9:37 PM
19	Perkins Street	8/1/2014 8:32 PM
20	Lake Mendocino Dr.	8/1/2014 4:47 PM
21	East side road redwood valley	8/1/2014 4:26 PM
22	Gobbi	8/1/2014 3:58 PM
23	Talmage Int (South)	8/1/2014 3:27 PM
24	entire street	8/1/2014 11:33 AM
25	101 (at south end of town)	8/1/2014 10:07 AM
26	in its entirety	8/1/2014 9:16 AM
27	Dora Street	7/24/2014 8:42 AM

#	Street 1. Why?	Date
1	It could be a great way to get across the highway	8/13/2014 3:56 PM
2	No current lane, fast traffic	8/13/2014 3:54 PM
3	no room for bikes/heavy traffic	8/13/2014 3:52 PM
4	Narrow street with consistent heavy traffic flow with very little room to navigate as a bicyclist	8/13/2014 3:50 PM
5	No bike lane / not even a side walk at some points	8/13/2014 3:49 PM
6	There are no bike lanes or shoulders and is bumpy most of the way	8/13/2014 3:43 PM
7	there is no bicycle lane	8/13/2014 3:41 PM
8	helter skelter	8/13/2014 3:37 PM
9	Dangerous, no room for bikes.	8/13/2014 3:33 PM
10	Busy & faster. Not enough space for bikes between parked cars and traffic.	8/13/2014 3:22 PM
11	no bike lane	8/13/2014 3:14 PM
12	Two pedestrians have died there in the last few years	8/13/2014 3:08 PM
13	Safety	8/13/2014 3:04 PM
14	Too dangerous	8/13/2014 2:51 PM
15	Needs bike lanes	8/13/2014 2:47 PM
16	Crapy road and not enough room	8/13/2014 2:44 PM
17	It's one of the longest, safest crosstown streets with fewer stop signs	8/13/2014 2:35 PM
18	Gap separating asphalt and concrete gutter	8/13/2014 2:07 PM
19	Dangerous intersections	8/13/2014 2:03 PM
20	Unsafe!	8/12/2014 5:58 PM
21	no room between moving and parked vehicles. not enough bike racks.	8/6/2014 8:29 AM
22	No bike lanes	8/1/2014 10:19 PM
23	Very narrow	8/1/2014 9:37 PM
24	Scary ride, bumpy road, junk on the road, aggressive drivers, lacking "don't kill cyclists" signage at e.g. 101 on-ramp. This is a typical transit area for my longer rides.	8/1/2014 4:47 PM
25	good alternate route to using State Street	8/1/2014 3:58 PM
26	No bike lanes and extremely beat up. Cars in right lane think that extra 10 feet is for them.	8/1/2014 3:27 PM
27	no bike lane	8/1/2014 11:33 AM
28	no bike lanes	8/1/2014 10:07 AM
29	Lack of bike lanes, cramped in downtown area, ridiculous drivers	8/1/2014 9:16 AM
30	No shoulder, lots of traffic, lots of shopping to access	7/24/2014 8:42 AM

#	Street 2. Name	Date
1	Oak	8/13/2014 3:56 PM
2	Hwy 20	8/13/2014 3:54 PM
3	school	8/13/2014 3:47 PM
4	Redemeyer road	8/13/2014 3:41 PM
5	Gobbi	8/13/2014 3:37 PM
6	State Street	8/13/2014 3:26 PM
7	Gobbi	8/13/2014 3:22 PM
8	Talmage	8/13/2014 3:19 PM
9	Talmage	8/13/2014 3:14 PM
10	Perkins/ Orchard	8/13/2014 3:08 PM
11	Talmage	8/13/2014 3:04 PM
12	Dora	8/13/2014 2:51 PM
13	Perkins St	8/13/2014 2:47 PM
14	Main	8/13/2014 2:44 PM
15	Main St	8/13/2014 2:35 PM
16	Rail trail	8/13/2014 2:07 PM
17	Talmage	8/13/2014 2:03 PM
18	Brush	8/12/2014 5:58 PM
19	State street	8/1/2014 9:37 PM
20	Talmage Rd.	8/1/2014 4:47 PM
21	Perkins St.	8/1/2014 3:58 PM
22	perkins street	8/1/2014 11:33 AM
23	Perkins	8/1/2014 9:16 AM
24	State Street	7/24/2014 8:42 AM

#	Street 2. Start	Date
1	South of Freitas	8/13/2014 3:56 PM
2	PV road	8/13/2014 3:54 PM
3	watson road	8/13/2014 3:41 PM
4	all	8/13/2014 3:37 PM
5	Dora	8/13/2014 3:22 PM
6	State	8/13/2014 3:14 PM
7	State Street	8/13/2014 3:04 PM
8	North	8/13/2014 2:51 PM
9	Gobbi	8/13/2014 2:44 PM
10	Norton	8/13/2014 2:35 PM
11	Gobbi	8/13/2014 2:07 PM
12	Talmage	8/13/2014 2:03 PM
13	State	8/12/2014 5:58 PM
14	Talmage	8/1/2014 9:37 PM
15	State St.	8/1/2014 4:47 PM
16	School St.	8/1/2014 3:58 PM
17	entire length	8/1/2014 11:33 AM
18	Orchard	8/1/2014 9:16 AM
19	Talmage	7/24/2014 8:42 AM

#	Street 2. End	Date
1	Magnolia	8/13/2014 3:56 PM
2	Lake Mendo	8/13/2014 3:54 PM
3	uneven	8/13/2014 3:47 PM
4	end	8/13/2014 3:41 PM
5	Orchard	8/13/2014 3:22 PM
6	Old River Road	8/13/2014 3:14 PM

7	Airport Park Blvd	8/13/2014 3:04 PM
8	South	8/13/2014 2:51 PM
9	Norton	8/13/2014 2:44 PM
10	Gobbi	8/13/2014 2:35 PM
11	Old County Road	8/13/2014 2:07 PM
12	State	8/13/2014 2:03 PM
13	Orchard	8/12/2014 5:58 PM
14	Brush st.	8/1/2014 9:37 PM
15	Old River Rd.	8/1/2014 4:47 PM
16	Hwy 101	8/1/2014 3:58 PM
17	entire length to east side of Ukiah	8/1/2014 11:33 AM
18	Dora	8/1/2014 9:16 AM
19	Raley's shopping complex	7/24/2014 8:42 AM
#	**Street 2. Why?**	**Date**
1	It's a nice way to get across town without being downtown	8/13/2014 3:56 PM
2	Wouldn't think of riding there currently with speed of traffic	8/13/2014 3:54 PM
3	blind corners, people drive fast, no room on side of road	8/13/2014 3:41 PM
4	no protection from cars	8/13/2014 3:37 PM
5	I wish for at least one east/west street to get to shopping on the east side of town.	8/13/2014 3:22 PM
6	no bike lane. Lots of heavy vehicle traffic. No shoulder in some parts	8/13/2014 3:14 PM
7	Traffic is horribly congested and visually poor	8/13/2014 3:08 PM
8	Safety	8/13/2014 3:04 PM
9	Too dangerous	8/13/2014 2:51 PM
10	Needs bike lanes	8/13/2014 2:47 PM
11	Not enough room	8/13/2014 2:44 PM
12	Another great cross-town street, but the intersection at Perkins and the Safeway driveway are both accident-prone	8/13/2014 2:35 PM
13	Connects employees and shoppers at retail with housing to the North	8/13/2014 2:07 PM
14	Fast traffic, no bike lanes	8/13/2014 2:03 PM
15	No room for bikes one pedestrians, not marked, and it's an important thoroughfare	8/12/2014 5:58 PM
16	Fast traffic and narrow homeless that do not observe the bike laws	8/1/2014 9:37 PM
17	Barely any support for cyclists, aggressive drivers, junk on the road.	8/1/2014 4:47 PM
18	it's an important route and too dangerous as is	8/1/2014 3:58 PM
19	no bike lane	8/1/2014 11:33 AM
20	Lack of bike lanes, pot holes/debris, ridiculous drivers	8/1/2014 9:16 AM
21	It is the main drag through town and the primary North South route; it would be great to be able to bike from one end of Ukiah to the other in a bike lane	7/24/2014 8:42 AM
#	**Street 3. Name**	**Date**
1	State	8/13/2014 3:56 PM
2	Redemeyer Road	8/13/2014 3:54 PM
3	Oak Street	8/13/2014 3:41 PM
4	Perkins	8/13/2014 3:37 PM
5	Bush Street	8/13/2014 3:26 PM
6	Perkins st	8/13/2014 3:22 PM
7	Perkins	8/13/2014 3:19 PM
8	Babcock Lane	8/13/2014 3:14 PM
9	Gobbi/Main	8/13/2014 3:08 PM
10	State Street	8/13/2014 3:04 PM
11	Perkins	8/13/2014 2:51 PM
12	Old river Rd	8/13/2014 2:47 PM
13	Clara	8/13/2014 2:44 PM
14	Perkins	8/13/2014 2:35 PM
15	Brush	8/13/2014 2:03 PM

16	Gobbi	8/12/2014 5:58 PM
17	Mill street	8/1/2014 9:37 PM
18	State St.	8/1/2014 4:47 PM
19	State Street	8/1/2014 3:58 PM
20	School	8/1/2014 9:16 AM
21	Gobbi	7/24/2014 8:42 AM
#	**Street 3. Start**	**Date**
1	North	8/13/2014 3:56 PM
2	Deerwood	8/13/2014 3:54 PM
3	Low Gap	8/13/2014 3:41 PM
4	fwy	8/13/2014 3:37 PM
5	School st	8/13/2014 3:22 PM
6	Gobbi	8/13/2014 3:14 PM
7	Talmage	8/13/2014 3:04 PM
8	101	8/13/2014 2:51 PM
9	Orchard	8/13/2014 2:44 PM
10	Oak Manor area	8/13/2014 2:35 PM
11	Orchard	8/13/2014 2:03 PM
12	Dora	8/12/2014 5:58 PM
13	State st	8/1/2014 9:37 PM
14	Plant Rd.	8/1/2014 4:47 PM
15	north end of town	8/1/2014 3:58 PM
16	Henry	8/1/2014 9:16 AM
17	Freeway	7/24/2014 8:42 AM
#	**Street 3. End**	**Date**
1	South	8/13/2014 3:56 PM
2	Downtown	8/13/2014 3:54 PM
3	Gobbi street	8/13/2014 3:41 PM
4	State St.	8/13/2014 3:37 PM
5	Orchard	8/13/2014 3:22 PM
6	Talmage	8/13/2014 3:14 PM
7	Empire	8/13/2014 3:04 PM
8	downtown	8/13/2014 2:51 PM
9	State	8/13/2014 2:44 PM
10	Past Dora	8/13/2014 2:35 PM
11	State	8/13/2014 2:03 PM
12	Oak manor	8/12/2014 5:58 PM
13	My peak	8/1/2014 9:37 PM
14	Talmage Rd.	8/1/2014 4:47 PM
15	south end of town	8/1/2014 3:58 PM
16	Mill	8/1/2014 9:16 AM
17	Dora	7/24/2014 8:42 AM
#	**Street 3 Why?**	**Date**
1	This should be bike and pedestrian friendly the whole way!	8/13/2014 3:56 PM
2	That would complete the stretch for me	8/13/2014 3:54 PM
3	no bike lane, good access for students to get from high school to downtown	8/13/2014 3:41 PM
4	no defined bike areas	8/13/2014 3:37 PM
5	I wish for at least one east/west street to get to shopping on the east side of town.	8/13/2014 3:22 PM
6	no bike lane. Would make a nice place for a bike path to avoid traffic	8/13/2014 3:14 PM
7	Very congested/ drivers rushing to make light etc	8/13/2014 3:08 PM
8	Safety	8/13/2014 3:04 PM
9	Too dangerous	8/13/2014 2:51 PM

10	Needs bike lanes	8/13/2014 2:47 PM
11	Crapy street and no bike lane	8/13/2014 2:44 PM
12	Another main crosstown route, it's currently very difficult to get to the east side of the river safely on a bicycle, especially crossing over the freeway	8/13/2014 2:35 PM
13	Bad pavement, no road lanes marked	8/13/2014 2:03 PM
14	Not safe	8/12/2014 5:58 PM
15	Very narrow	8/1/2014 9:37 PM
16	Always seems like there's glass and junk in the shoulder, aggressive drivers.	8/1/2014 4:47 PM
17	pedestrian crosswalks with no signals are too dangerous with four lanes of traffic	8/1/2014 3:58 PM
18	Lack of lanes, no room on the street for parked cars, drivers, AND cyclists.	8/1/2014 9:16 AM
19	Again, a main thorough fare with lots of traffic; a better bike lane would improve bike safety along this route.	7/24/2014 8:42 AM

Q13 In your opinion, what are the top three street intersections in need of bicycle and pedestrian improvements in Ukiah? (e.g. Street Names: Dora St and Gobbi St. Why? Safer routes to school.)

Answered: 28 Skipped: 33

Answer Choices	Responses	
Intersection 1. Street Names	96.43%	27
Intersection 1. Why?	96.43%	27
Intersection 2. Street Names	78.57%	22
Intersection 2. Why?	67.86%	19
Intersection 3. Street Names	57.14%	16
Intersection 3. Why?	46.43%	13

#	Intersection 1. Street Names	Date
1	Gobbi @ Orchard	8/13/2014 3:56 PM
2	Perkins and state	8/13/2014 3:50 PM
3	Gobbi and Orchard	8/13/2014 3:49 PM
4	Perkins and State Street	8/13/2014 3:41 PM
5	State and Lowgap	8/13/2014 3:37 PM
6	Dora and mill	8/13/2014 3:31 PM
7	Dora	8/13/2014 3:29 PM
8	Gobbi and State	8/13/2014 3:26 PM
9	State st, both Perkins & standley lights	8/13/2014 3:22 PM
10	Talmage and Airport Park BLVD	8/13/2014 3:14 PM
11	gobbi st. and main st.	8/13/2014 3:11 PM
12	state/perkins	8/13/2014 3:04 PM
13	state and perkins	8/13/2014 2:51 PM
14	Airport Park blvd & commerce drive	8/13/2014 2:47 PM
15	Orchard and Perkins	8/13/2014 2:39 PM
16	Scott & School	8/13/2014 2:35 PM
17	Gobbi and Main Street	8/13/2014 2:07 PM
18	Gobbi and State	8/13/2014 2:03 PM
19	Gobbi and orchard	8/12/2014 5:58 PM
20	Jefferson	8/1/2014 9:37 PM
21	Talmage & State	8/1/2014 4:47 PM
22	state and perkins	8/1/2014 4:26 PM
23	N. Bush Steet near Cypress St.	8/1/2014 3:58 PM
24	Dora St and Gobbi St	8/1/2014 3:27 PM
25	gobbi and orchard	8/1/2014 11:33 AM
26	E. Gobbi & 101	8/1/2014 10:07 AM
27	Perkins/State; Perkins/Oak	7/24/2014 8:42 AM

#	Intersection 1. Why?	Date
1	Two people (1 bike, 1 pedestrian) have been killed there in the last year	8/13/2014 3:56 PM
2	That intersection is always very busy with pedestrian, automotive, and bicycle traffic, which results in more dangers for all persons involved.	8/13/2014 3:50 PM
3	the death tolls speak for itself just within this last year	8/13/2014 3:49 PM
4	No bike lanes	8/13/2014 3:41 PM
5	load	8/13/2014 3:37 PM
6	During school drop off times its sketchy	8/13/2014 3:31 PM

7	can'r see cuz of plants on curb	8/13/2014 3:29 PM
8	Pedestrian lights make a painful noise, but don't change without button. Confusing traffic pattern at Perkins.	8/13/2014 3:22 PM
9	Dangerous for cyclists	8/13/2014 3:14 PM
10	nobody pays attention to who's turn it is.	8/13/2014 3:11 PM
11	Basically our streets and sidewalks are bad	8/13/2014 3:08 PM
12	space	8/13/2014 3:04 PM
13	Too dangerous	8/13/2014 2:51 PM
14	No cross walk	8/13/2014 2:47 PM
15	southbound cards can't pass for a ways so I end up with a10 cars behind me for a bit.	8/13/2014 2:39 PM
16	Drivers get going fast & rarely stop for pedestrians	8/13/2014 2:35 PM
17	Car congestion, probably needs traffic light,	8/13/2014 2:07 PM
18	Congestion	8/13/2014 2:03 PM
19	Bad bad bad	8/12/2014 5:58 PM
20	Narrow	8/1/2014 9:37 PM
21	Talmage is a poorly architected road	8/1/2014 4:47 PM
22	state and empire	8/1/2014 4:26 PM
23	there's a walking trail that crosses where there's no intersection and no crosswalk	8/1/2014 3:58 PM
24	Safer routes for walkers and bikers	8/1/2014 3:27 PM
25	no safety and someone killed	8/1/2014 11:33 AM
26	very limited lines of sight & heavy car traffic	8/1/2014 10:07 AM
27	The designated turn lanes make it difficult for bicyclists to go straight without worrying about being hit by vehicles turning right	7/24/2014 8:42 AM
#	**Intersection 2. Street Names**	**Date**
1	Perkins @ Mason	8/13/2014 3:56 PM
2	Waugh Lane and Gobbi	8/13/2014 3:49 PM
3	State and Perkins	8/13/2014 3:37 PM
4	Dora gobbi	8/13/2014 3:31 PM
5	Standley	8/13/2014 3:29 PM
6	State and Airport Park Blvd	8/13/2014 3:26 PM
7	All lights	8/13/2014 3:22 PM
8	Gobbi and Orchard	8/13/2014 3:14 PM
9	perkins and main st.	8/13/2014 3:11 PM
10	state/main	8/13/2014 3:04 PM
11	Perkins and orchard	8/13/2014 2:51 PM
12	Mason & Norton	8/13/2014 2:35 PM
13	Gobbi and Orchard	8/13/2014 2:03 PM
14	Prekins and orchard	8/12/2014 5:58 PM
15	Babcock lane	8/1/2014 9:37 PM
16	KUKI Rd & State	8/1/2014 4:47 PM
17	state and calpella	8/1/2014 4:26 PM
18	Perkins and Main Street intersection	8/1/2014 3:58 PM
19	Talmage and State Street	8/1/2014 3:27 PM
20	perkins and orchard	8/1/2014 11:33 AM
21	E. Perkins & 101	8/1/2014 10:07 AM
22	Perkin/Orchard	7/24/2014 8:42 AM
#	**Intersection 2. Why?**	**Date**
1	It's just a crazy intersection for everyone	8/13/2014 3:56 PM
2	not enough crosswalks available on the street	8/13/2014 3:49 PM
3	no protection	8/13/2014 3:37 PM
4	same reason as on Dora	8/13/2014 3:29 PM
5	Install bike loops, please! The lights don't change for bikes.	8/13/2014 3:22 PM
6	I've been hit there by someone drifting into the bike lane. Doug was killed there.	8/13/2014 3:14 PM
7	nobody pays attention to the stop signs or to who's turn it is.	8/13/2014 3:11 PM

8	space	8/13/2014 3:04 PM
9	Too dangerous	8/13/2014 2:51 PM
10	At night this is poorly lit & as a driver I am afraid of hitting cyclists & pedestrians I can't see	8/13/2014 2:35 PM
11	Congestion	8/13/2014 2:03 PM
12	Same	8/12/2014 5:58 PM
13	Narrow	8/1/2014 9:37 PM
14	Coming off of Bush St. onto Feedlot and then on to State via KUKI, I get a bit of extra distance that way, but drivers around here are aggressive	8/1/2014 4:47 PM
15	it's already dangerous for cars, add pedestrians and bikes, and it's even more dangerous	8/1/2014 3:58 PM
16	A lot of vehicles on the road to make any turns. Traveling north on state and making a left on Talmage is a scary.	8/1/2014 3:27 PM
17	too busy	8/1/2014 11:33 AM
18	very limited lines of sight, heavy car traffic, no bike lanes	8/1/2014 10:07 AM
19	There is a lot of traffic, no bike lane and it is hard to turn right or left safely	7/24/2014 8:42 AM
#	**Intersection 3. Street Names**	**Date**
1	State @ Low Gap	8/13/2014 3:56 PM
2	Bush low gap	8/13/2014 3:31 PM
3	State and Empire	8/13/2014 3:26 PM
4	Perkins at main	8/13/2014 3:22 PM
5	KUKI and State	8/13/2014 3:14 PM
6	smith st and state st.	8/13/2014 3:11 PM
7	Airport/Talmage	8/13/2014 3:04 PM
8	by Rayleys	8/13/2014 2:51 PM
9	Talmage and Airport (Walmart) road	8/13/2014 2:03 PM
10	State and low gap	8/12/2014 5:58 PM
11	Mill st	8/1/2014 9:37 PM
12	Gobbi St. and Main St., plus Safeway parking lot entrance/exit	8/1/2014 3:58 PM
13	Talmage from State to 101	8/1/2014 3:27 PM
14	gobbi and state	8/1/2014 11:33 AM
15	Talmage & 101	8/1/2014 10:07 AM
16	Low Gap/State	7/24/2014 8:42 AM
#	**Intersection 3. Why?**	**Date**
1	Very busy, bad curbs, etc	8/13/2014 3:56 PM
2	Drivers don't always seem to see pedestrians at the 4-way stop. Especially frightening in the afternoon.	8/13/2014 3:22 PM
3	no place for a bike	8/13/2014 3:14 PM
4	state street is too narrow for all of the cars that are parked there, cars driving on state street have trouble seeing pedestrians crossing the street.	8/13/2014 3:11 PM
5	safety	8/13/2014 3:04 PM
6	Too dangerous	8/13/2014 2:51 PM
7	Congestion	8/13/2014 2:03 PM
8	Narrow	8/1/2014 9:37 PM
9	There are too many people going in and out of Safeway and the Co-op right next to a busy 4-way stop. Dangerouse for pedestrians, bikes, and cars	8/1/2014 3:58 PM
10	No shoulder for bikers nor pedestrians	8/1/2014 3:27 PM
11	busy street	8/1/2014 11:33 AM
12	very limited lines of sight, heavy car traffic, no bike lanes	8/1/2014 10:07 AM
13	Again, no bike lane on State, hard to turn left onto Low Gap and it goes up to the county offices and high school so lots of traffic	7/24/2014 8:42 AM

Q14 Please list up to three (3) locations where you would like to have more bicycle parking. (e.g. Perkins St and Oak St)

Answered: 21 Skipped: 40

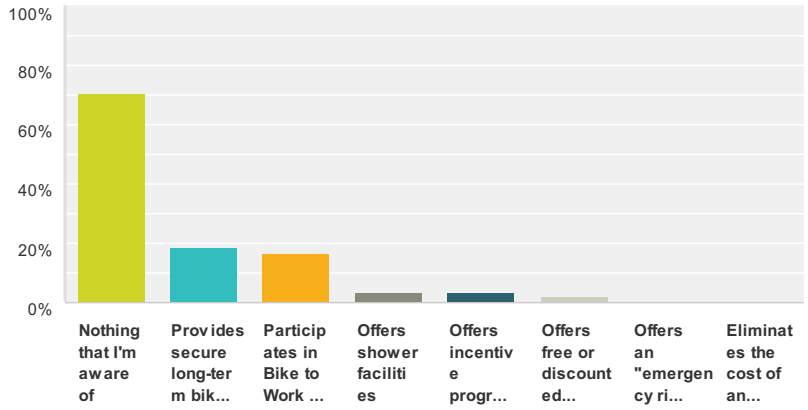
Answer Choices	Responses	
Location 1	100.00%	21
Location 2	71.43%	15
Location 3	33.33%	7

#	Location 1	Date
1	Downtown in general	8/13/2014 3:57 PM
2	Walmart	8/13/2014 3:45 PM
3	Downtown	8/13/2014 3:23 PM
4	yokayo bowling alley.	8/13/2014 3:11 PM
5	downtown	8/13/2014 3:04 PM
6	downtown	8/13/2014 2:51 PM
7	Downtown	8/13/2014 2:44 PM
8	Famers Markt	8/13/2014 2:42 PM
9	everywhere.	8/13/2014 2:39 PM
10	Co-op	8/13/2014 2:07 PM
11	Downtown	8/12/2014 5:49 PM
12	state street downtown	8/6/2014 8:30 AM
13	Farmers Market and other locations on School Street	8/5/2014 1:51 PM
14	School st	8/1/2014 10:20 PM
15	Perkins	8/1/2014 9:38 PM
16	School Street	8/1/2014 8:33 PM
17	Ukiah Boys and Girls Club	8/1/2014 3:59 PM
18	Pear Tree shopping center	8/1/2014 10:10 AM
19	everywhere on school street	8/1/2014 9:17 AM
20	School Street	8/1/2014 8:51 AM
21	Downtown (Perkins and Oak)	7/24/2014 8:43 AM
#	**Location 2**	**Date**
1	Pear Tree Shopping Center	8/13/2014 3:57 PM
2	Raleys	8/13/2014 3:45 PM
3	Low Gap Park	8/13/2014 3:23 PM
4	professional offices	8/13/2014 3:04 PM
5	pear tree	8/13/2014 2:51 PM
6	Downtown	8/13/2014 2:42 PM
7	Rite aid	8/13/2014 2:07 PM
8	Airport Park Blvd	8/12/2014 5:49 PM
9	main street downtown	8/6/2014 8:30 AM
10	School	8/1/2014 9:38 PM
11	State and mill	8/1/2014 8:33 PM
12	Department of Social Services (near Co-op)	8/1/2014 3:59 PM
13	School Street	8/1/2014 10:10 AM
14	pear tree center	8/1/2014 9:17 AM
15	City Hall	7/24/2014 8:43 AM
#	**Location 3**	**Date**
1	Everywhere! :)	8/13/2014 3:23 PM
2	rayleys	8/13/2014 2:51 PM

3	Black Oak Coffee	8/13/2014 2:42 PM
4	Orchard	8/1/2014 9:38 PM
5	Perkins and orchard	8/1/2014 8:33 PM
6	City of Ukiah Parks and Rec offices	8/1/2014 3:59 PM
7	Library (Perkin and Main)	7/24/2014 8:43 AM

Q15 How does your place of work support employees who walk, bike, or take transit?

Answered: 54 Skipped: 7

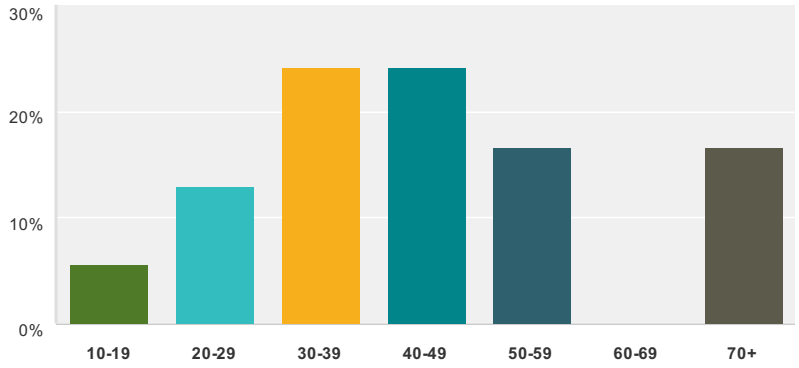


Answer Choices	Responses	
Nothing that I'm aware of	**70.37%**	38
Provides secure long-term bike parking	**18.52%**	10
Participates in Bike to Work Day or other biking/walking events	**16.67%**	9
Offers shower facilities	**3.70%**	2
Offers incentive programs that reward employees who choose not to drive to work	**3.70%**	2
Offers free or discounted transit passes	**1.85%**	1
Offers an "emergency ride home" program	**0.00%**	0
Eliminates the cost of an annual parking pass for employees who do not need one	**0.00%**	0
Total Respondents: 54		

#	Other (please specify)	Date
1	respondent skipped question	8/13/2014 3:50 PM
2	respondent skipped question	8/13/2014 3:37 PM
3	retired	8/13/2014 3:29 PM
4	respondent skipped question	8/13/2014 3:05 PM
5	respondent skipped question	8/13/2014 3:02 PM
6	respondent skipped question	8/13/2014 2:39 PM
7	Some managers are cool with biking, others are hostile -- very mixed message from organization.	8/13/2014 2:31 PM
8	Would consider tho	8/13/2014 2:03 PM
9	I am retired but the two I have checked my former employer participated in.	8/1/2014 9:41 PM
10	Self-employed / work from home	8/1/2014 4:47 PM
11	offers shared bicycle for employees to check out and use for errands	8/1/2014 4:00 PM
12	NA	8/1/2014 8:52 AM

Q16 What is your age?

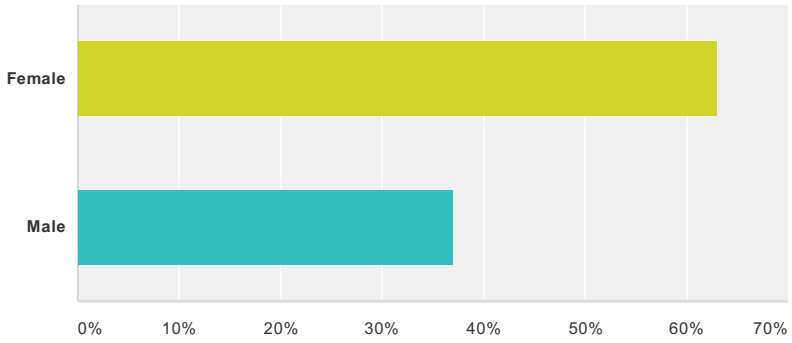
Answered: 54 Skipped: 7



Answer Choices	Responses	
10-19	5.56%	3
20-29	12.96%	7
30-39	24.07%	13
40-49	24.07%	13
50-59	16.67%	9
60-69	0.00%	0
70+	16.67%	9
Total		54

Q17 What is your gender identity?

Answered: 54 Skipped: 7



Answer Choices	Responses	
Female	**62.96%**	34
Male	**37.04%**	20
Total		**54**

#	Fill In:	Date
1	Genderfluid	8/13/2014 3:23 PM

Q18 Do you have any additional comments about the bicycling and walking in Ukiah?

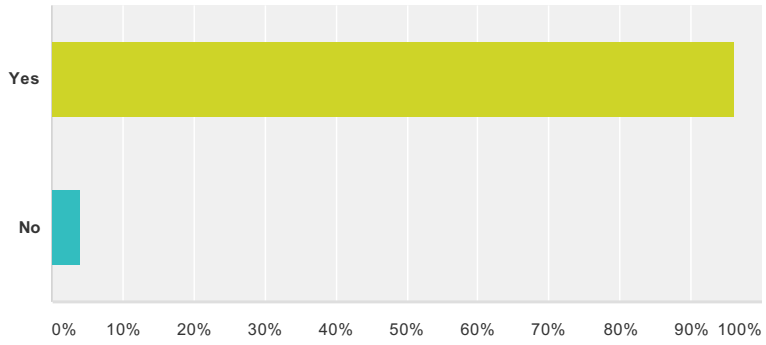
Answered: 22 Skipped: 39

#	Responses	Date
1	The Bicycle Kitchen at the farmer's market is a great resource for help with bicycle maintenance and repair.	8/15/2014 4:35 PM
2	Please implement Complete Streets. Our town will be much better for it and much prettier!	8/13/2014 3:57 PM
3	Yes!	8/13/2014 3:54 PM
4	Make people more aware of the rules of the road and how to drive with cyclists. Police should also enforce those rules	8/13/2014 3:43 PM
5	In general making more room for bicyclist on the roads and having pedestrian lights/signals at busy cross walks	8/13/2014 3:41 PM
6	Too many injuries, being intimidated by cars has occurred here. See Davis, CA, Healdsburg.	8/13/2014 3:37 PM
7	Thanks for doing this work! Again, primarily I'd be interested in a "rail trail" that connects Lake Mendocino Drive to the new trail that will end on Clara. (Would also provide a much safer bike route to the College). Sadly, for me, the new trail does little. Coming from Lake Mendocino Drive, I'm already in town by the time I reach Clara. Would be great if this trail ran all the way through Ukiah.	8/13/2014 3:34 PM
8	I want to go with my kids, but its to scarey...they are learning the biking rules, but it hard when drivers dont pay attention.	8/13/2014 3:32 PM
9	Would like to run my dog, but don't feel safe	8/13/2014 3:29 PM
10	Thanks for asking! I'd love to attend a monthly community ride, if one existed. :)	8/13/2014 3:23 PM
11	I would love to see a bike path for commuters. Protected bike lanes free of broken glass and garbage would also be terrific.	8/13/2014 3:14 PM
12	Traffic congestion is the worst part of trying to walk safely; also I am a little impacted by homeless persons wandering around certain areas (Gobbi St)	8/13/2014 3:08 PM
13	thanks	8/13/2014 2:42 PM
14	It would be nice if there were safe walking routes to the Airport Blvd area. Currently there is no side of Talmage between State & Airport Blvd that has sidewalks for the whole length. It's pretty dicey as a cyclist, too.	8/13/2014 2:35 PM
15	It would be nice if there were more parking central to downtown/coop/safeway so that we could walk our errands, maybe rent small trollys/buggies?	8/13/2014 2:03 PM
16	Orchard Street between Perkins and Gobbi is wide and has ok sidewalks, and has potential for bikes, but is unsafe due to too many driveways, too much and too fast traffic.	8/12/2014 5:59 PM
17	I would love to have more places to walk/hike, and also to bike! Thank you for the new trails at Lake Mendocino, and for the beautiful City View Trail. Love 'em!	8/5/2014 1:53 PM
18	Please fix our streets and side walks and stop spending 40 plus thousand on a consultant firm use the money to help our "best little town" we need help.	8/1/2014 9:44 PM
19	I wonder sometimes if we need "Cyclists must stop too" signs at the intersections on Dora. Mostly so that Drivers know not to sit there and wave you on when they have ROW. They can get really annoyed if you don't notice them; one yelled at me across the intersection when cars were waiting at all sides.	8/1/2014 4:49 PM
20	How about a Greenbelt on the existing railroad tracks through town. Provides a safe thoroughfare through town, safe place for kids to ride, adults to commute, lessens traffic, etc. Thanks to W & B Mendo for all your work you are doing to making our community truly a better place to live.	8/1/2014 3:31 PM
21	Thank you.....love your efforts	8/1/2014 8:53 AM
22	Part of the problem I have with bicyclists in Ukiah is that so many of them don't follow the rules of the road and are erratic. As a driver, this is dangerous, but I have also had near miss accidents on my bike with other bikers who are riding against traffic and not paying attention. I wish that our police department actually enforced traffic citations for bicyclists who don't follow the rules of the road.	7/24/2014 8:46 AM

Appendix C. Business Survey Results

Q1 Do you own or manage a business in Ukiah?

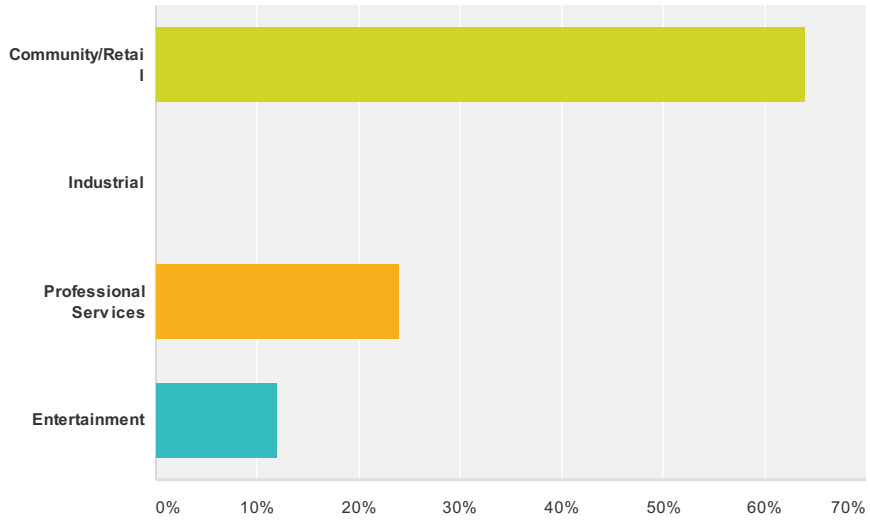
Answered: 25 Skipped: 0



Answer Choices	Responses	
Yes	**96.00%**	24
No	**4.00%**	1
Total		**25**

Q2 What type of business do you own/manage?

Answered: 25 Skipped: 0

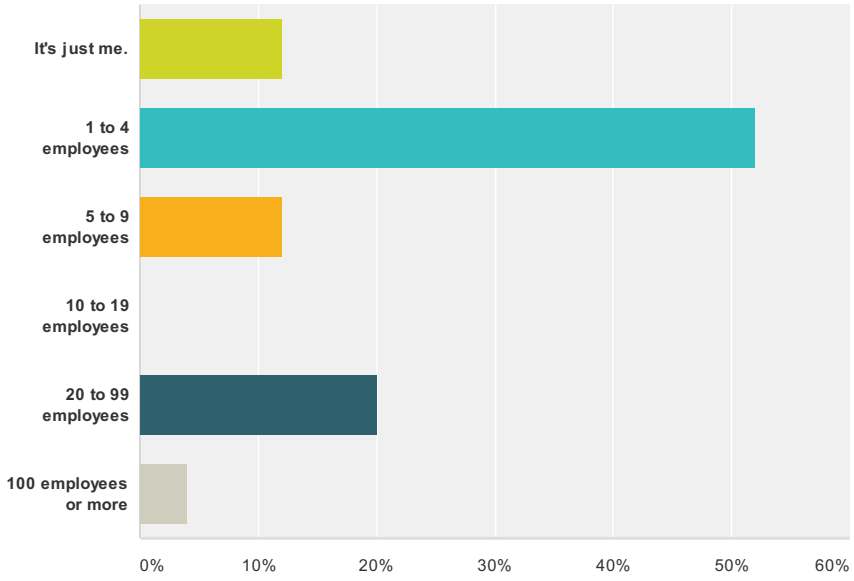


Answer Choices	Responses	
Community/Retail	**64.00%**	16
Industrial	**0.00%**	0
Professional Services	**24.00%**	6
Entertainment	**12.00%**	3
Total		**25**

#	Other (please specify)	Date
1	non-profit	8/15/2014 5:18 PM
2	restaurant	7/31/2014 10:35 PM

Q3 How many employees work onsite at your business? Do not include employees of other branches, or those who telecommute.

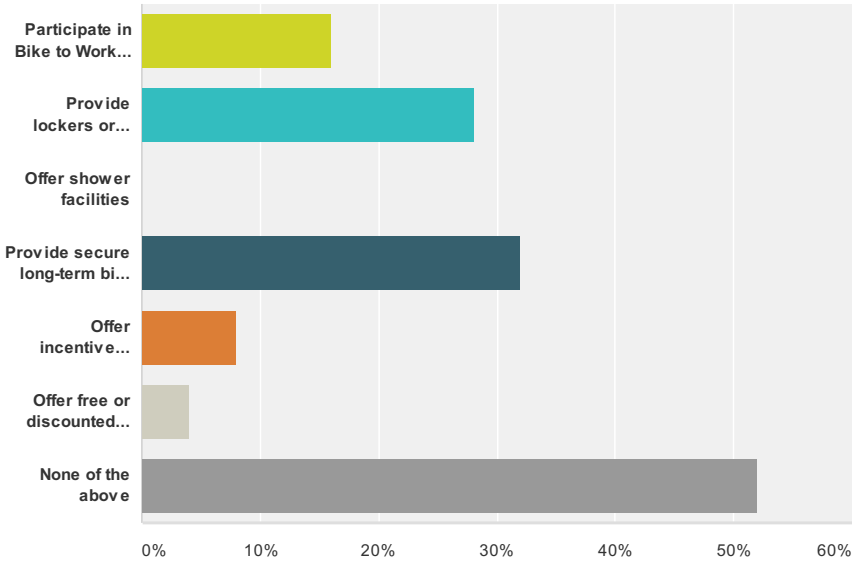
Answered: 25 Skipped: 0



Answer Choices	Responses	
It's just me.	**12.00%**	3
1 to 4 employees	**52.00%**	13
5 to 9 employees	**12.00%**	3
10 to 19 employees	**0.00%**	0
20 to 99 employees	**20.00%**	5
100 employees or more	**4.00%**	1
Total		**25**

Q4 Please mark all the things your business does to support employees who bike or walk to work.

Answered: 25 Skipped: 0

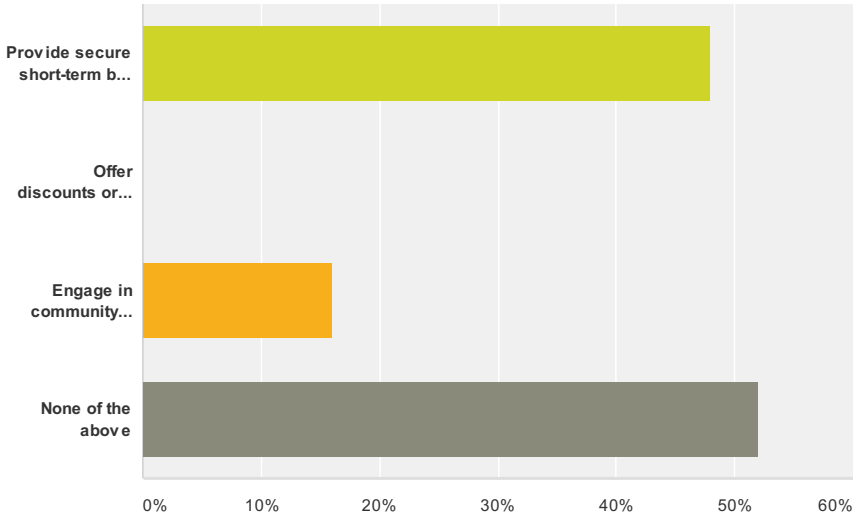


Answer Choices	Responses	
Participate in Bike to Work Month/Day	16.00%	4
Provide lockers or storage for personal items	28.00%	7
Offer shower facilities	0.00%	0
Provide secure long-term bike parking (enclosed and locked, e.g. locker or bike cage)	32.00%	8
Offer incentive programs that reward employees who choose not to drive to work	8.00%	2
Offer free or discounted transit passes	4.00%	1
None of the above	52.00%	13
Total Respondents: 25		

#	Other (please specify)	Date
	There are no responses.	

Q5 Please mark all the things your business does to support customers or clients who walk or bike to your business.

Answered: 25 Skipped: 0

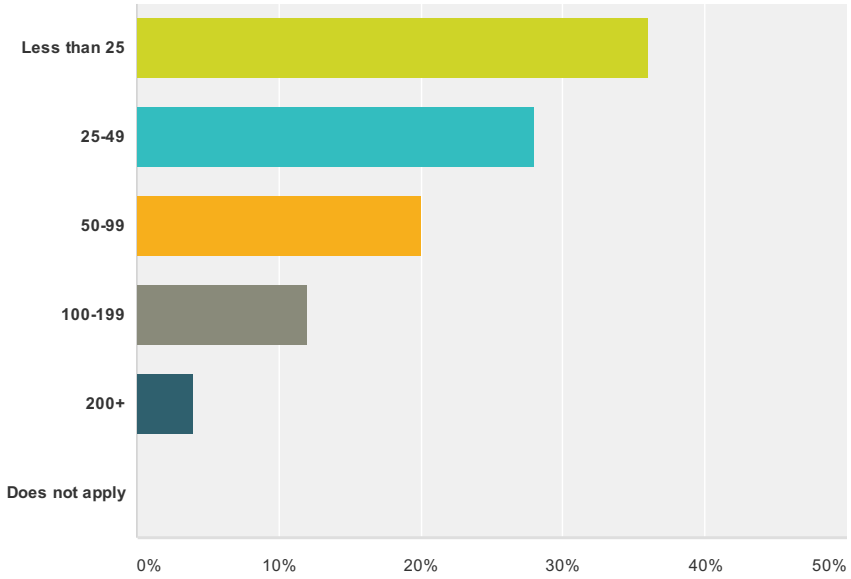


Answer Choices	Responses	
Provide secure short-term bike parking	**48.00%**	12
Offer discounts or promotions for patrons who bike or walk	**0.00%**	0
Engage in community planning processes to support biking and walking	**16.00%**	4
None of the above	**52.00%**	13
Total Respondents: 25		

#	Other (please specify)	Date
	There are no responses.	

Q6 On average, how many customers/clients visit your business on a typical weekday?

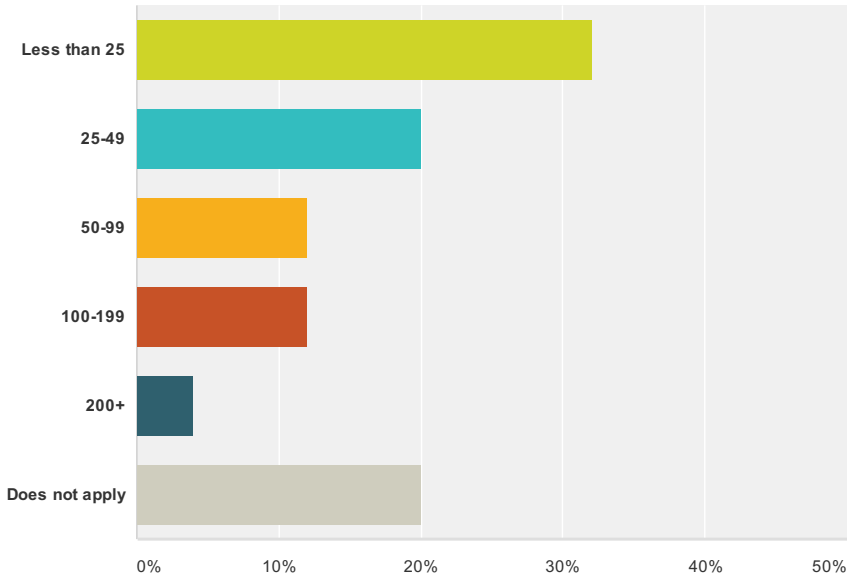
Answered: 25 Skipped: 0



Answer Choices	Responses	
Less than 25	36.00%	9
25-49	28.00%	7
50-99	20.00%	5
100-199	12.00%	3
200+	4.00%	1
Does not apply	0.00%	0
Total		25

Q7 On average, how many customers visit your business on a typical weekend day?

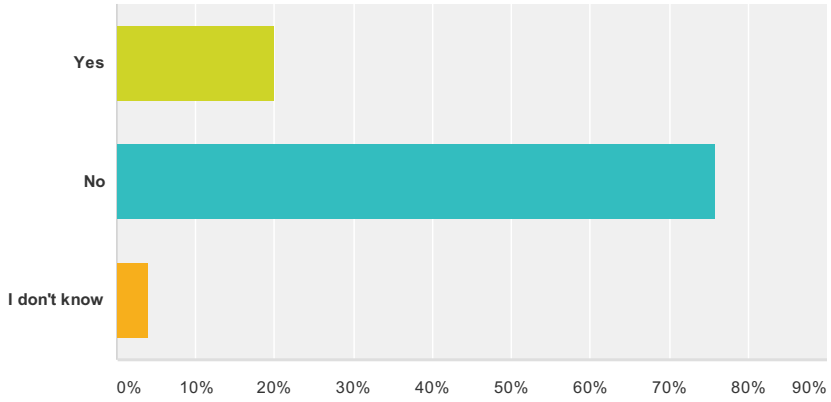
Answered: 25 Skipped: 0



Answer Choices	Responses	
Less than 25	32.00%	8
25-49	20.00%	5
50-99	12.00%	3
100-199	12.00%	3
200+	4.00%	1
Does not apply	20.00%	5
Total		25

Q8 Have you heard from customers, clients, or employers about your business's bike facilities, or lackthereof?

Answered: 25 Skipped: 0



Answer Choices	Responses	
Yes	**20.00%**	5
No	**76.00%**	19
I don't know	**4.00%**	1
Total		**25**

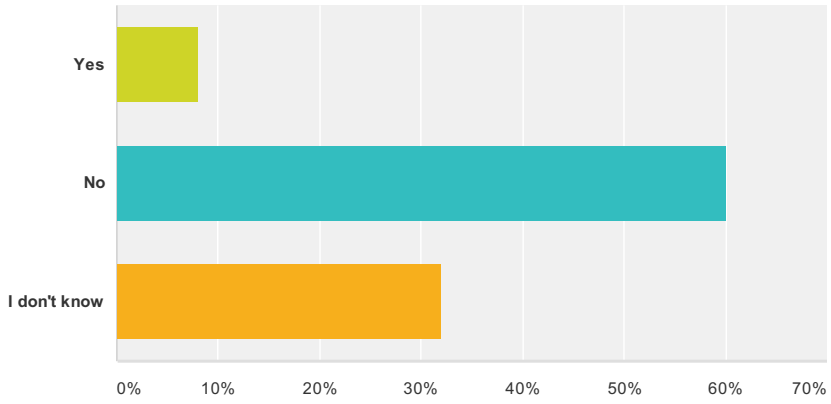
Q9 If yes, what type of feedback have you received?

Answered: 4 Skipped: 21

#	Responses	Date
1	people like our new bike rack	8/15/2014 5:04 PM
2	thankful we have bike parking	8/15/2014 4:59 PM
3	Need a bike rack	7/31/2014 10:35 PM
4	Positive, they like the fact we have a place for bikes to be kept.	7/30/2014 9:47 AM

Q10 Are you a certified Bicycle Friendly Business?

Answered: 25 Skipped: 0



Answer Choices	Responses	
Yes	**8.00%**	2
No	**60.00%**	15
I don't know	**32.00%**	8
Total		**25**

Q11 Do you have any additional comments about bicycling or walking in Ukiah?

Answered: 7 Skipped: 18

#	Responses	Date
1	I commute from Redwood Valley. A "park and ride" (car to bicycle) lot would be a good addition. Also, more bike lanes!	8/15/2014 5:18 PM
2	We could use a bike rack	8/15/2014 5:11 PM
3	Its a good thing. I'd love a bike rack	8/15/2014 5:07 PM
4	Hard! No bike lanes :(	8/15/2014 4:52 PM
5	Bikes and pedestrians need to follow the rules of the road and be curteous as well.	7/31/2014 5:22 PM
6	I think efforts should be focused on employees riding their bikes to work, and their employer providing them with a place to park/store their bike during working hours. Encouraging customers to ride their bikes while shopping is not very practical in my opinion; it doesn't fit most people's lifestyle, whereas biking to work instead of driving one's car would be an easier mindset to change.	7/30/2014 4:38 PM
7	I don't believe walking or biking downtown is safe due to all the inconsiderate, inattentive drivers.	7/30/2014 10:31 AM

Appendix D. Bicycle- and Pedestrian-Involved Collision Locations

Table D-1: Bicycle- and Pedestrian-Involved Collision Locations

Year	Primary Street	Secondary Street	Distance from Intersection (feet)	Number of Injuries	Bicycle-Invloved	Pedestrian-Involved
2008	FORD ST	NORTH STATE ST		1	NO	YES
2008	SOUTH STATE ST	WEST MILL ST	N 269	1	YES	NO
2008	EMPIRE DR	DESPINA DR	E 60	1	NO	YES
2008	RT 101	PERKINS ST	N 1584	1	YES	NO
2008	NORTH STATE ST	NORTON ST	S 192	1	NO	YES
2008	GROVE AV	N DORA ST		2	YES	NO
2008	PERKINS ST	OAK MANOR DR	W 378	1	YES	NO
2008	NORTH STATE ST	RT 101		1	NO	YES
2008	RT 101	COMMISKY STATION RD	N 4752	1	NO	YES
2008	SOUTH STATE ST	LUCE AV	S 6	1	YES	NO
2008	BRUSH ST	RXR TRACKS	E 8	1	NO	YES
2008	CLARA AV	NORTH STATE ST		1	YES	NO
2009	NORTH ORCHARD AV	EAST PERKINS ST	N 503	1	NO	YES
2009	NORTH STATE ST	FORD ST		0	YES	NO
2009	LOW GAP RD	DESPINA DR		1	NO	YES
2009	NORTH MAIN ST	NORTON ST	S 250	1	NO	YES
2009	ELLIS LN	NORTH STATE ST	E 528	1	YES	NO
2009	EAST PERKINS ST	LESLIE ST	E 5	1	NO	YES

Year	Primary Street	Secondary Street	Distance from Intersection (feet)	Number of Injuries	Bicycle-Invloved	Pedestrian-Involved
2011	SOUTH STATE ST	HASTINGS RD		1	YES	NO
2011	SOUTH DORA AV	WASHINGTON AV		1	YES	NO
2011	SOUTH STATE ST	WASHINGTON AV		1	YES	NO
2011	DESPINA DR	CAPPS LN		1	YES	NO
2012	RT 101	RT 222	N 12	1	YES	NO
2012	WEST SMITH ST	NORTH STATE ST		1	YES	NO
2012	EAST PERKINS ST	OAK MANOR DR		1	YES	NO
2012	SOUTH STATE ST	CHERRY ST		1	YES	NO
2012	SOUTH ORCHARD AV	EAST GOBBI ST		0	NO	YES
2012	COMMERCE DR	AIRPORT PARK BL	E 530	1	YES	NO
2012	LORRAINE ST	MARLENE ST	S 503	1	YES	NO
2012	SOUTH STATE ST	WABASH AV	N 154	1	NO	YES
2012	SOUTH MAIN ST	EAST PERKINS ST		2	YES	NO
2012	SOUTH STATE ST	FREITAS ST		1	YES	NO
Total				**55**	**34**	**20**

Year	Primary Street	Secondary Street	Distance from Intersection (feet)	Number of Injuries	Bicycle-Invloved	Pedestrian-Involved
2009	SOUTH MAIN ST	STEPHENSON ST	N 130	1	NO	YES
2009	SCOTT ST	OAK ST	E 3	1	YES	NO
2009	DORA ST	POMOLITA DR	S 34	1	YES	NO
2009	NORTH STATE ST	MAGNOLIA		1	YES	NO
2010	TALMAGE RD	AIRPORT PARK BL		1	NO	YES
2010	WEST MILL ST	CAROLYN ST		1	YES	NO
2010	SOUTH SCHOOL ST	PERKINS ST		1	YES	NO
2010	BRUSH ST	NORTH STATE ST	E 41	1	NO	YES
2010	MAZZONI RD	BRUSH ST		1	YES	NO
2010	WAUGH LN	TALMAGE RD	N 752	1	NO	YES
2010	SOUTH STATE ST	MILL ST		1	NO	YES
2010	EMPIRE DR	HOMEWOOD DR	W 27	1	NO	YES
2010	EAST GOBBI ST	WAUGH LN	W 174	1	YES	NO
2010	SOUTH ORCHARD AV	EAST GOBBI ST		2	YES	NO
2010	EAST GOBBI ST	SOUTH ORCHARD AV	W 285	1	YES	NO
2010	LESLIE ST	EAST PERKINS ST		1	NO	YES
2011	SOUTH STATE ST	WASHINGTON AV	S 9	1	YES	NO
2011	BRUSH ST	ORR ST	W 182	1	YES	NO
2011	SOUTH STATE ST	WABASH AV	N 186	1	YES	NO
2011	EAST PERKINS ST	LESLIE ST		1	YES	NO
2011	SOUTH STATE ST	CLAY ST	N 27	1	YES	NO
2011	SOUTH STATE ST	WABASH AV		1	NO	YES

Appendix E. Bicycle Design Guidelines

The design guidelines presented in this appendix are a combination of minimum standards outlined by the California Highway Design Manual's design guidelines, recommended standards prescribed by the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, and the CA MUTCD, as supplemented by National Association of City Transportation Officials (NACTO) and Federal Highway Administration (FHWA) best practices. The minimum standards for bicycle facilities used in combination with the design recommendations for issues specific to Ukiah should provide the foundation for a safe, functional and inviting bicycle network.

Additional design guidance and details can be found in the following documents:

- California Manual on Uniform Traffic Control Devices (2014): http://www.dot.ca.gov/hq/traffops/engineering/mutcd/ca_mutcd2014.htm
- Caltrans Highway Design Manual.: http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm
- Caltrans Design Information Bulletins: http://www.dot.ca.gov/hq/oppd/dib/dibprg.htm
- Caltrans Standard Plans.: http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/06_plans_disclaim_US.htm
- National Association of City Transportation Officials Urban Bikeway Design Guide (endorsed by Caltrans, April 2014): http://nacto.org/publication/urban-bikeway-design-guide/

This appendix is not intended to replace existing state or national mandatory or advisory standards, nor the exercise of engineering judgment by licensed professionals.

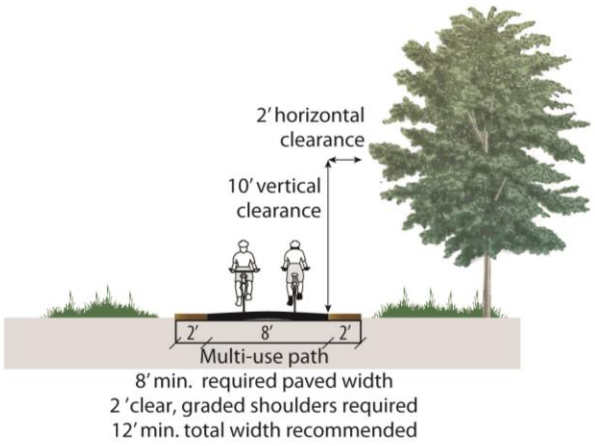
This Appendix includes the following guidelines:

E.1 Caltrans Bikeway Classification Overview

Caltrans has defined three types of bikeways in Chapter 1000 of the Highway Design Manual: Class I, Class II, and Class III. Minimum standards for each of these bikeway classifications are shown below.

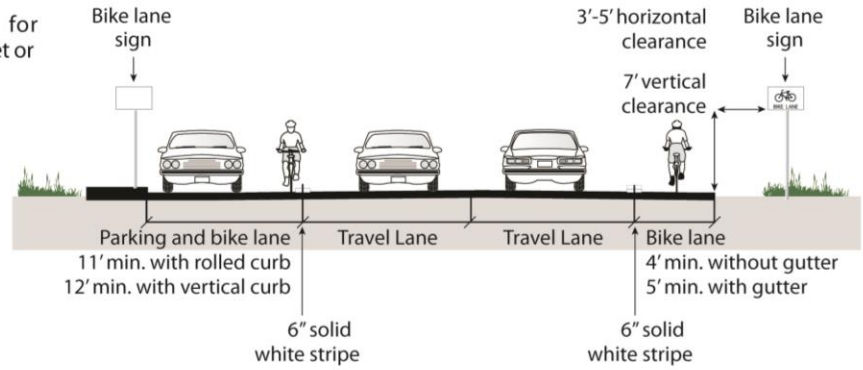
CLASS I
Multi-Use Path

Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.



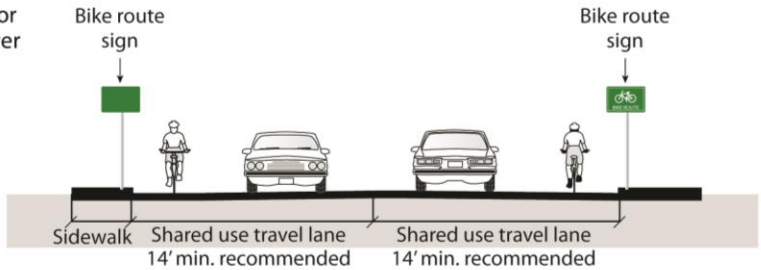
CLASS II
Bike Lane

Provides a striped lane for one-way bike travel on a street or highway.



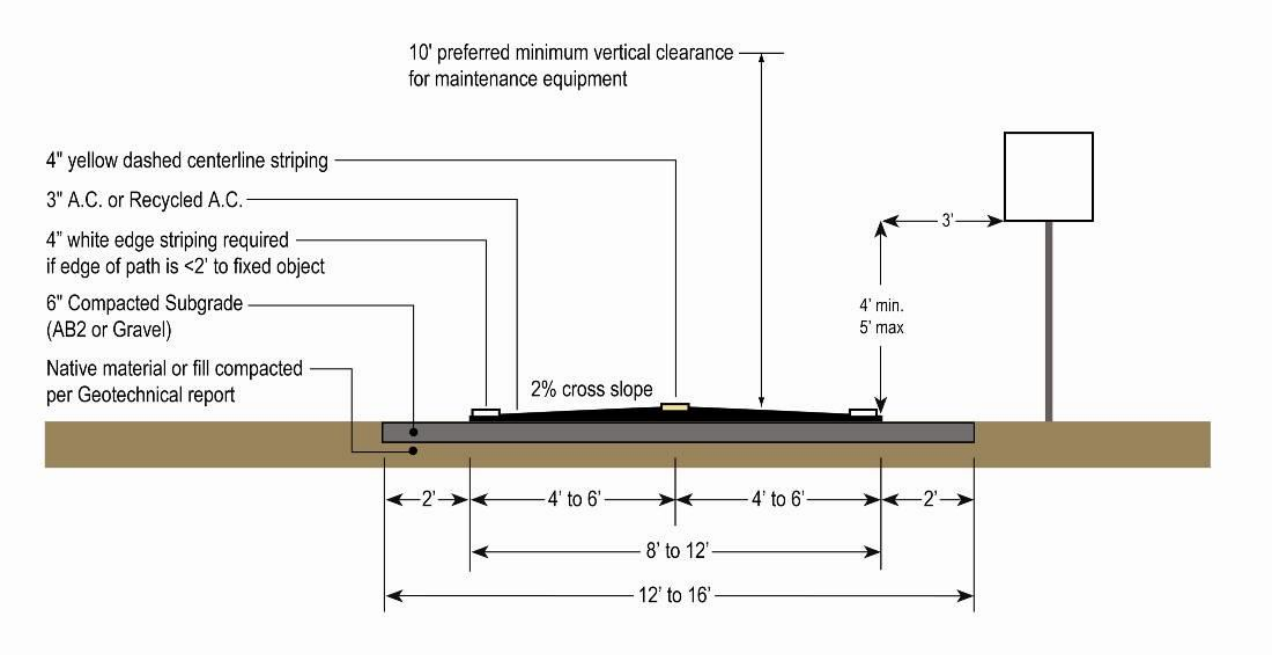
CLASS III
Bike Route
Signed Shared Roadway

Provides for shared use with pedestrian or motor vehicle traffic, typically on lower volume roadways.



E.2 Class I Bike Path Minimum Standards

In order to accommodate both bicyclists and pedestrians, Class I paths should be designed to the minimum Caltrans standards shown below. In locations with high use, or on curves with limited sight distance, a yellow centerline should be used to separate travel in opposite directions. High use areas of the pathway should also provide additional width (up to 12 feet) as recommended below. Lighting should be provided in locations where evening use is anticipated, or where paths cross below structures.



Summary of Standards

- Eight feet is the minimum width for Class I facilities.
- Eight feet may be used for short neighborhood connector paths (generally less than one mile in length) due to low anticipated volumes of use.
- Ten feet is the recommended minimum width for a typical two-way bicycle path.
- Twelve feet is the preferred minimum width if more than 300 users per peak hour are anticipated, and/or if there is heavy mixed bicycle and pedestrian use.
- A minimum 2-foot wide graded area must be provided adjacent to the path to provide clearance from trees, poles, walls, guardrails, etc. A 2% cross slope is optimum. On facilities with expected heavy use, a yellow centerline stripe is recommended to separate travel in opposite directions.
- Paths should be constructed with adequate subgrade compaction to minimize cracking and sinking, and should be designed to accommodate appropriate loadings, including emergency vehicles.
- A 2% cross slope shall be provided to ensure proper drainage.
- Stopping sight distance should conform to the California Highway Design Manual.

Additional Considerations

Multi-use path facilities that serve primarily a recreation rather than a transportation function, and will not be funded with federal transportation dollars, may not be required to be designed to Caltrans standards. However, state and national guidelines have been created with user safety in mind, and should be followed. Wherever any multi-use pathway intersects with a street, roadway, or railway, standard traffic controls should always be used.

- Class I bike path crossings of roadways require preliminary design review. Generally, bike paths that cross roadways with average daily trips (ADTs) over 20,000 vehicles will require signalization or grade separation. Consider using bicycle signal heads at locations where paths meet signalized intersections.
- Landscaping should generally be low-water-consuming native vegetation and should have minimum debris.
- Lighting should be provided where commuters will use the bike path during hours of darkness. Illumination should be no less than 0.17-foot candle average maintained. Lighting should be spaced at a maximum of every 100 feet.
- Barriers at pathway entrances should be clearly marked with reflectors and ADA accessible (minimum five feet clearance).
- Bike path construction should take into account impacts of maintenance and emergency vehicles on shoulders, as well as vertical and structural requirements. Paths should be constructed with adequate subgrade compaction to minimize cracking and sinking.
- The width of structures should be the same as the approaching pathway width, plus minimum two-foot wide clear areas.
- Where feasible, provide two-foot wide unpaved shoulders for pedestrians/runners, or a separate treadway.
- Direct pedestrians to the right side of the pathway with signing and/or stenciling.

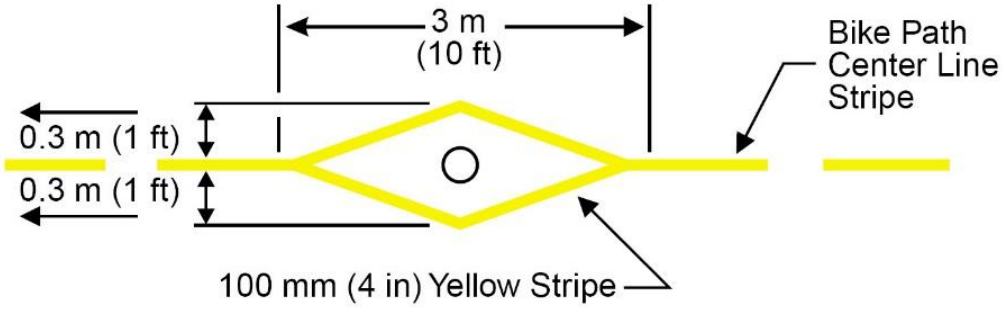
E.3 Class I Bike Path Bollards

Minimize the use of bollards to avoid creating obstacles for bicyclists. Bollards, particularly solid bollards, have caused serious injury to bicyclists. The California MUTCD explains, "Such devices should be used only where extreme problems are encountered" (Section 9C.101). Instead, design the path entry and use signage to alert drivers that motor vehicles are prohibited.

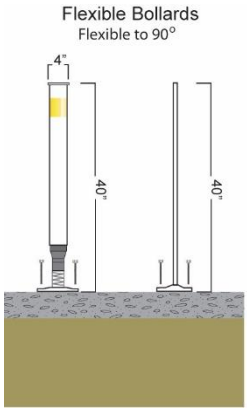
- Bollards are ether fixed or removable and may be flexible or rigid. Flexible bollards and posts are designed to give way on impact and can be used instead of steel or solid posts. Bollards are typically installed using one of two methods: 1) The bollard is set into concrete footing in the ground; and 2) the bollard is attached to the surface by mechanical means (mechanical anchoring or chemical anchor).
- Where removable bollards are used, the top of the mount point should be flush with the path's surface so as not to create a hazard. Posts shall be permanently reflectorized for nighttime visibility and painted a bright color for improved daytime visibility.
- Striping an envelope around the post is recommended.

- When more than one post is used, an odd number of posts at 5-foot spacing is desirable. Wider spacing can allow entry by adult tricycles, wheelchair users and bicycles with trailers.

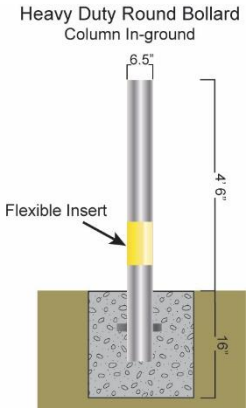
Barrier Post Striping



Flexible Bollards

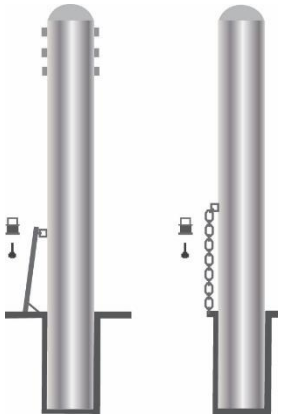


Source: Lighthouse Bollards Sales



Source: Andian

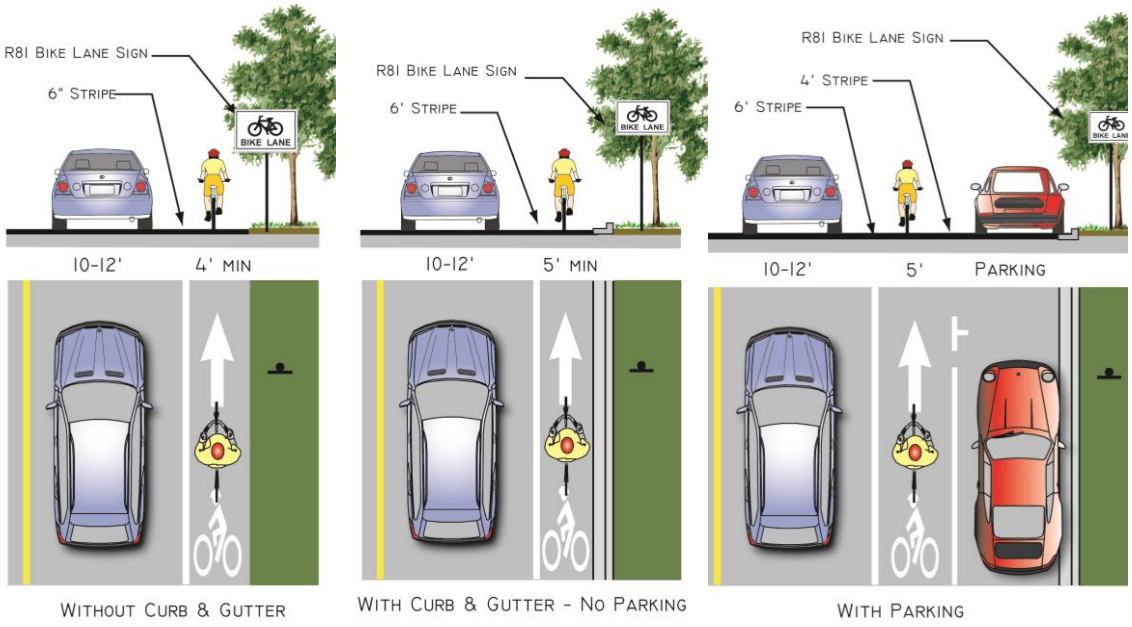
Removable Bollards



Source: Reliance Foundry Co. Ltd

E.4 Class II Bike Lane Minimum Standards

Chapter 1000 of the Caltrans Highway Design Manual provides standards for bicycle facilities planning and design. These standards outline minimum dimensions, proper pavement markings, signage and other design treatments for bicycle facilities.



Summary of Standards

- Bicycle lanes shall be one-way facilities, running with the direction of traffic.
- Bike lanes are generally recommended along major roads that provide direct, convenient, quick access to major land uses; on collector roads and busy urban streets with slower speeds; and any road where the design speed is more than 25 mph.
- Where on-street parking is allowed, bicycle lanes must be striped between the parking area and the travel lanes.
- Width of bicycle lane:
    - Without an existing gutter, bicycle lanes must be a minimum of four feet wide.
    - With an existing gutter, bicycle lanes must be a minimum of five feet wide measured from the curb face (within the bike lane, a minimum width of three feet must be provided outside the gutter).
    - Where on-street parking stalls are marked and bicycle lanes are striped adjacent to on-street parking, bicycle lanes must be a minimum of five-feet wide.
    - Where on-street parking is allowed but stalls are not striped, bicycle lanes must be a minimum of 12-feet wide measured from the curb face. Depending on the type and frequency of traffic, wider bicycle lanes may be recommended.
- Bicycle lane striping standards:
    - Bicycle lanes shall be comprised of a six-inch solid white stripe on the outside of the lane, and a four-inch solid white stripe on the inside of the lane.

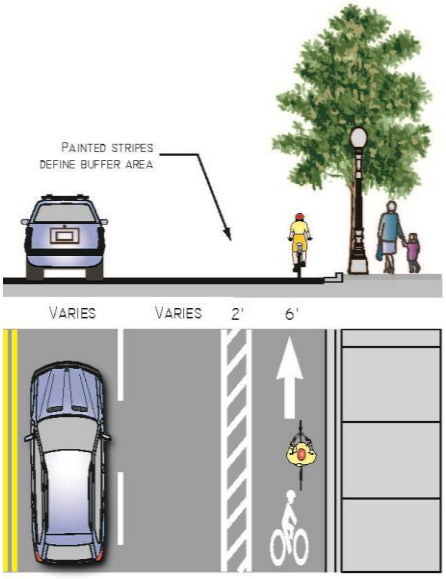
Class II Bikeway - Additional Design Recommendations:

Intersection and interchange treatment—Caltrans provides recommended intersection treatments in Chapter 1000 including bike lane "pockets" and signal loop detectors. The County should develop a protocol for the application of these recommendations, so that improvements can be funded and made as part of regular improvement projects.

- Bike lane pockets (min. four-feet wide) between right turn lanes and through lanes should be provided wherever available width allows, and right turn volumes exceed 150 motor vehicles/hour.
- Word and symbol pavement stencils should be used to identify bicycle lanes, as per Caltrans and MUTCD specifications.
- Bicycle lanes constructed on roadway shoulders that share use with slow moving agricultural equipment should be constructed with three-inch asphalt concrete over six-inches of aggregate base rock.

E.5 Class II Buffered Bike Lanes

Bike lanes on high-volume or high-speed roadways can be dangerous or uncomfortable for cyclists, as automobiles pass or are parked too close to bicyclists. Buffered bike lanes are designed to increase the space between the bike lanes and the travel lane or parked cars. This treatment is appropriate on roads with high automobile traffic volumes and speed or high volumes of truck or oversized vehicles; on bike lanes used by less experienced cyclists (e.g., students), and on bike lanes adjacent to parked cars. If there is a high frequency of right turns by motor vehicles at major intersections, buffer striping should be truncated approaching the intersection.



Recommended buffered bike lane design

Summary of Standards

- Minimum of 2' buffer area

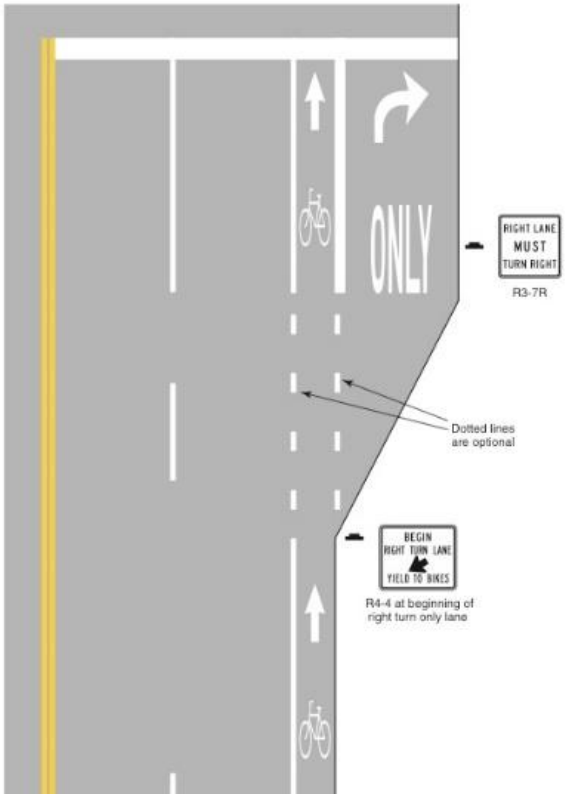
E.6 Class II Bike Lane at Intersection with Right Turn Only Lane

A bicyclist continuing straight through an intersection from the right of a right turn lane would be inconsistent with normal traffic behavior and would violate the expectations of right-turning motorists. Specific signage, pavement markings and striping are recommended to improve safety for bicyclists and motorists.

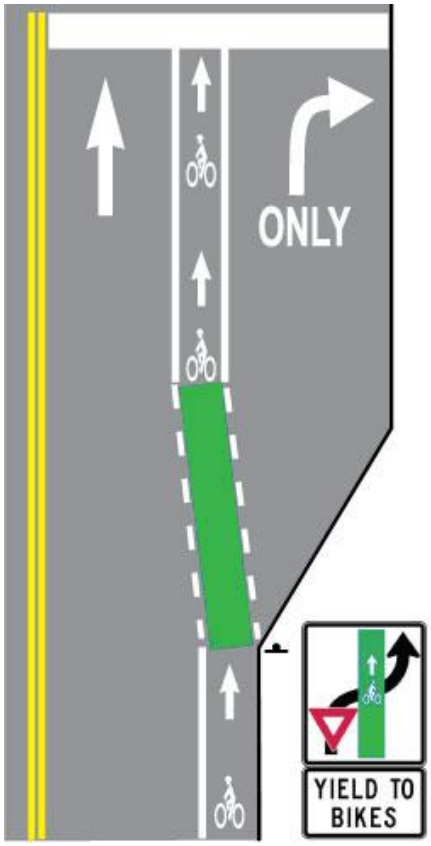
The appropriate treatment for right-turn only lanes is to place a bike lane pocket between the right-turn lane and the right-most through lane or, where right-of-way is insufficient, to drop the bike lane entirely approaching the right-turn lane. The design (right) illustrates a bike lane pocket, with signage indicating that motorists should yield to bicyclists through the merge area.

- Dropping the bike lane is not recommended, and should only be done when a bike lane pocket cannot be accommodated.
- Travel lane reductions may be required to achieve this design.

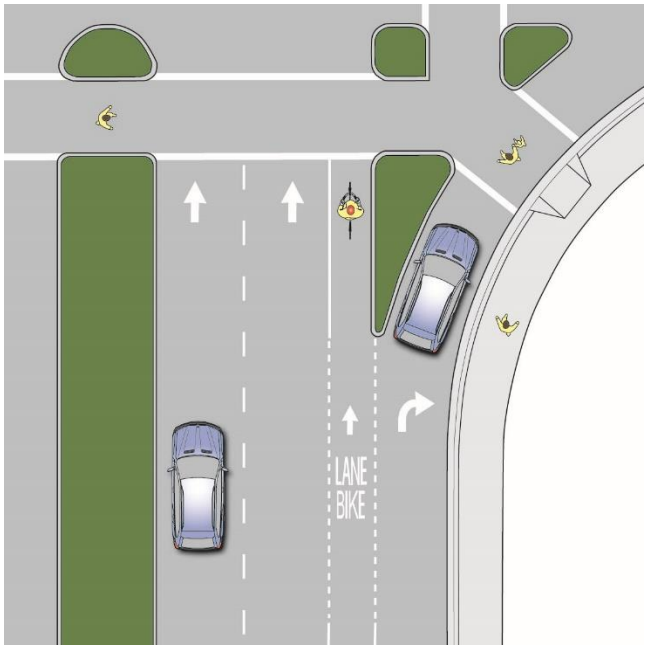
Some communities use colored bicycle lanes through the conflict zone.



Bike lane next to a right turn only lane



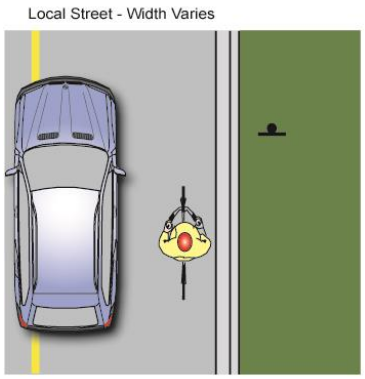
Colored bike lanes used to designate a conflict zone



Bike lane next to a right turn only lane separated by a raised island

A.6. Class III Bike Route Minimum Standards

Bike routes, or Class III bicycle facilities—(Caltrans designation) are defined as facilities shared with motor vehicles. They are typically used on roads with low speeds and traffic volumes, however can be used on higher volume roads with wide outside lanes or with shoulders. Bike routes can be established along through routes not served by shared use paths (Class I) or bike lanes (Class II), or to connect discontinuous segments of bikeway. A motor vehicle driver will usually have to cross over into the adjacent travel lane to pass a bicyclist, unless a wide outside lane or shoulder is provided.



Bicycle routes can employ a large variety of treatments from simple signage to complex treatments including various types of traffic calming and/or pavement stenciling. The level of treatment to be provided for a specific location or corridor depends on several factors.

D11-1 Sign

Summary of Standards

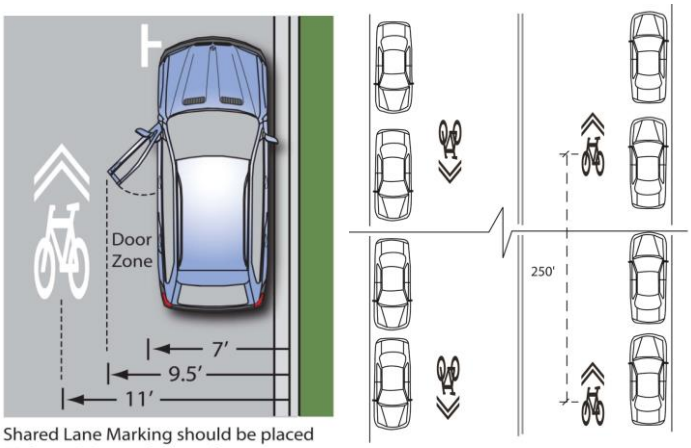
- Class III bikeways provide routes through areas not served by Class I or II facilities or provide connections between discontinuous segments of Class I or II bikeways.
- Class III facilities can be shared with either motorists on roadways.
- Bicycle routes on local streets should have vehicle traffic volumes under 1,000 vehicles per day. Traffic calming may be appropriate on streets that exceed this limit.
- Bicycle routes may be placed on streets with outside lane width of less than 15 feet if the vehicle speeds and volumes are low.
- Bicycle route signage standards:
    - The D11-1 (CA) bicycle route sign shall be placed along the roadways at decision points, where users can turn onto or off the bikeway.
    - Standard signage is shown in Chapter 9 of the 2012 California MUTCD.

E.7 Shared Lane Markings

The primary purpose of this shared use arrow is to provide positional guidance to bicyclists on roadways that are too narrow to be striped with bicycle lanes. Markings may be placed on the street to inform motorists about the presence of cyclists and also to inform cyclists how to position themselves relative to parked cars and the travel lane. The 2012 California MUTCD has approved the Shared Lane Marking for use in California jurisdictions on streets with or without on-street parallel parking.

Potential Applications

- Bicycle network streets that are too narrow for standard striped bicycle lanes.
- Bicycle network streets that have moderate to high parking turnover.
- Areas that experience a high level of "wrong-way" riding.



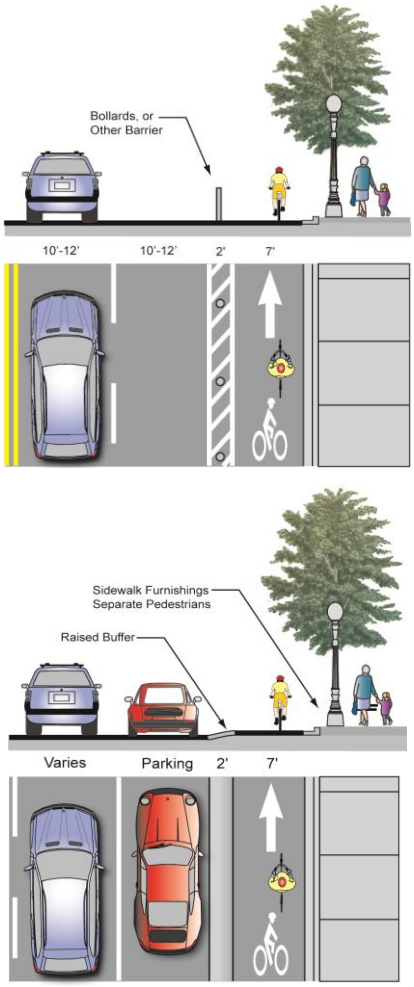
Shared Lane Marking should be placed 11 feet minimum from curb.

Guidelines

- Shared lane markings should be installed in conjunction with “share the road” signs.
- Shared lane markings should be spaced approximately 250 feet center to center, with the first arrow on each block or roadway segment placed no further than 100 feet from the nearest intersection.

E.8 Cycletracks

Cycletracks combine the user experience of a separated path with the on-street infrastructure of a conventional bike lane. Cycletracks have different forms, but all share common elements. They are separated from vehicle traffic lanes, parking lanes and sidewalks and provide space exclusively for bicyclists. When on-street parking is available, cycletracks are located on the outside of the parking lane. Cycletracks can be either one-way or two-way, on one or both sides of a street, and are separated from vehicles and pedestrians by pavement markings or coloring, bollards, curbs/medians or a combination of these elements.



Recommended cycletrack design

Summary of Standards

- Bikeways separated from adjacent motor vehicles by a physical barrier or line of parked cars.
- Separation can be achieved in multiple ways, including grade separation, mountable curb, bollards, planters and markings.
- Most appropriate on wide, high-volume, high-speed roadways that are on major bike routes; and roadways with infrequent cross streets, curb cuts and long blocks.
- Separation creates additional considerations at intersections that must be addressed. Right turning

motorists conflicting with cycletrack users is the most common conflict. Both roadway users have to expand their visual scanning to see potential conflicts. To mitigate for this issue, several treatments can be applied at intersections:

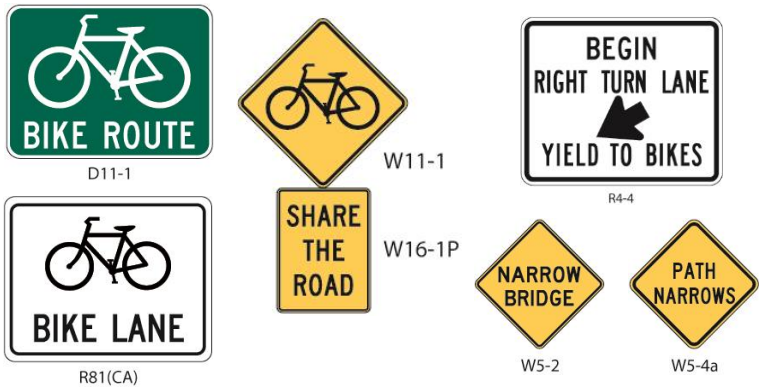
- Protected Phases at Signals. This treatment must have separate signal phases for bicyclists and will potentially increase delay.
- Advanced Signal Phases. Signalization utilizing a bicycle signal head can also be set to provide cycletrack users a green phase in advance of vehicle phases.
- Unsignalized Treatments. At non-signalized intersections the same conflicts exist. Warning signs, special markings and the removal of on-street parking (if present) in advance of the intersection can all raise visibility and awareness for bicyclists.
- Access Management. Medians, driveway consolidations, or restricted movements reduce the potential for conflict.

Guidelines

- Cycletrack Width:
  - 7 feet minimum for passing/obstacle avoidance
  - 12 feet minimum for two-way facility

E.9 On-Street Bikeway Regulatory & Warning Signage

Signage for on-street bikeways includes standard BIKE LANE and BIKE ROUTE signage, as well as supplemental signage such as SHARE THE ROAD and warning signage for constrained bike lane conditions. The CA MUTCD provides further guidance on bikeway signage.



Potential Applications

- Various situations, specific to each site.
- The City should install SHARE THE ROAD signs along all Class III Bike Routes in addition to standard BIKE ROUTE signage.
- SHARE THE ROAD signs may be installed at one-half mile intervals along the designated route.

Guidelines

- Signage should be installed on existing signposts if possible, reducing visual clutter along the path or roadway.

- Bike route and bike lane signs should be placed at decision points.
- Where there is significant distance between decision points, bike route and bike lane signs should be repeated at regular intervals to confirm the route.

E.10 Wayfinding Signage

Wayfinding signage acts as a "map on the street" for bicyclists and is an important component of a bikeway network. Caltrans D11-1 and D-1 signage should be used on all designated bikeways at decision points, where users can turn onto or off the bikeway such as at an intersection.

Example Decision Wayfinding Sign

Potential Applications

- On all bikeways at decision points to inform bicyclists of route direction.

Guidelines

- Wayfinding signage should be place at all intersections on the bikeway network, at minimum.
- Signage should be installed on existing signposts if possible, reducing visual clutter along the path or roadway.
- Where there is significant distance between decision points, wayfinding signage should be located at intervals of one-mile.
- Each sign should have a maximum of three destinations.
- Signage should be focused on major destinations such as cities and counties; transit stations; and community centers such as parks, schools and recreation centers.

Example Confirmation Wayfinding Sign

E.11 Bicycle Detection at Actuated Traffic Signals

Traffic Operations Policy Directive 09-06, issued August 27, 2009 by Caltrans modified CA MUTCD 4D.105 to require bicyclists to be detected at all traffic-actuated signals on public and private roads and driveways. If more than 50 percent of the limit line detectors need to be replaced at a signalized intersection, then the entire intersection should be upgraded so that every line has a limit line detection zone. Bicycle detection must be confirmed when a new detection system has been installed or when the detection system has been modified.

The California Policy Directive does not state which type of bicycle detection technology should be used. Two common types of detection are video and in pavement loop detectors. Push buttons may not be used as a sole method of bicycle detection.

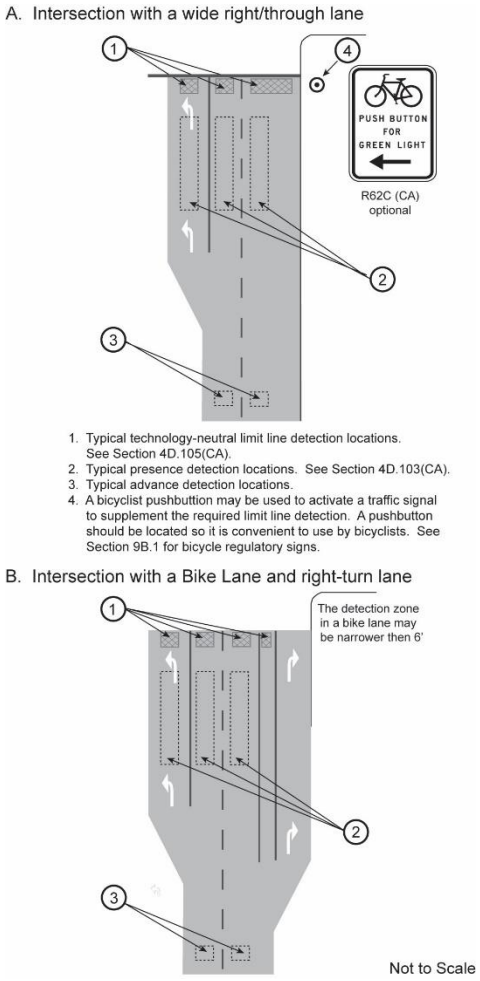
Potential Applications

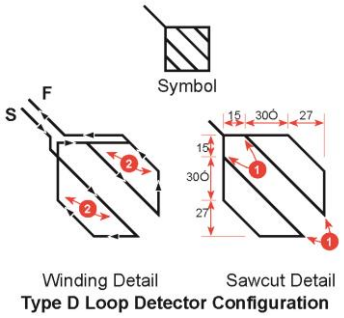
- At actuated signalized intersections.

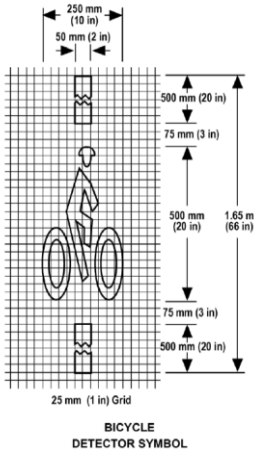
Guidelines

- Type A, C, or D loop detectors should be used.

- Pavement markings should identify proper cyclist position above the loop detector.
- Loop detectors should provide adequate time for cyclists to cross the intersection, keeping in mind the slower travel speed (10-15 mph) of bicyclists.
- Bicycles must be detected with 95% accuracy within the 6-foot by 6-foot Limit Line Detection Zone.
- Where Limit Line Detection Zones are provided, minimum bicycle timing should be 14.7 feet per second, plus a 6-second start-up time.







Source: Traffic Operations Policy Directive 09-06

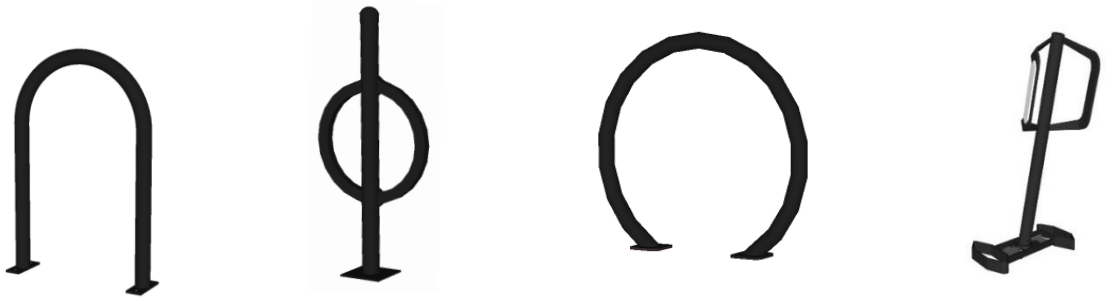
E.12 Bicycle Parking

Secure bicycle parking is an essential element of a functional bicycle network. Bicycle racks are a common form of short-term secure bicycle parking and can be installed in various locations, including sites adjacent to retail such as parking lots, as well as in the public right of way in the furnishings zone of the sidewalk. Racks are appropriate for locations where there is demand for short-term bicycle storage.

Bicycle lockers provide secure and sheltered bicycle parking and are recommended in locations where long-term bicycle storage is needed, such as transit stations.

Potential Applications

- Bicycle parking should be installed throughout the City, with priority given to significant destinations such as parks, schools, shopping centers, transit hubs and job centers.



U-Rack | *Post and Loop* | *Horseshoe* | *Lightning Bolt™ or Varsity Rack™*

Recommended types of bicycle parking

Guidelines

- Bicycle parking should be a design that is intuitive and easy to use.
- Bicycle parking should be securely anchored to a surface or structure.
- Bicycle parking spaces should be at least six feet long and two-and-a-half feet wide. Overhead clearance should be at least seven feet.
- The rack element (part of the rack that supports the bicycle) should keep the bicycle upright by supporting the frame in two places. The rack should allow one or both wheels to be secured.
- A standard U-Rack is a simple and functional design that takes up minimal space on the sidewalk and is easily understood by users. Avoid use of multiple-capacity "wave" style racks. Users commonly misunderstand how to correctly park at wave racks, placing their bikes parallel to the rack and limiting capacity to one or two bikes.
- Position racks so there is enough room between parked bicycles If it becomes too difficult for a bicyclist to easily lock their bicycle, they may park it elsewhere. Racks should be situated on 36-inch minimum centers.
- A five-foot aisle for bicycle maneuvering should be provided and maintained beside or between each row of bicycle parking
- Empty racks should not pose a tripping hazard for visually impaired pedestrians. Position racks out of the walkway's clear zone.
- Racks should be located close to a main building entrance, in a lighted, high-visibility, covered area protected from the elements. Long-term parking should always be protected.

Additional Considerations

All bicycle parking should be in a safe, secure area visible to passersby. Commuter locations should provide secure indoor parking, covered bicycle corrals, or bicycle lockers. Short term bicycle parking facilities, such as bicycle racks, are best used to accommodate visitors, customers, messengers and others expected to depart within two hours. They are usually located at schools, commercial locations, and activity centers such as parks, libraries, retail locations, and civic centers. Bicycle parking on sidewalks in commercial areas should be provided according to specific design criteria, reviewed by merchants and the public, and installed as demand warrants. The following table provides recommended guidelines for bicycle parking locations and quantities.

Recommended Guidelines for Bicycle Parking Location and Quantities

Land Use or Location	Physical Location	Quantity
Parks	Adjacent to restrooms, picnic areas, fields, and other attractions	8 bicycle parking spaces per acre
Schools	Near office and main entrance with good visibility	8 bicycle parking spaces per 40 students
Public Facilities (libraries, community centers)	Near main entrance with good visibility	8 bicycle parking spaces per location
Commercial, retail and industrial developments over 10,000 square feet	Near main entrance with good visibility	1 bicycle parking space per 15 employees or 8 bicycles per 10,000 square feet
Shopping Centers over 10,000 square feet	Near main entrance with good visibility	8 bicycle parking spaces per 10,000 square feet
Transit Stations	Near platform, security or ticket booth	1 bicycle parking space or locker per 30 automobile parking spaces

Appendix F. Pedestrian Design Guidelines

The following pedestrian design guidelines provide design requirements for compliance with Americans with Disabilities Act (ADA), as well as design recommendations intended to create inviting, walkable environments for pedestrians.

The design guidelines presented in this appendix are a combination of minimum standards outlined by the California Highway Design Manual's design guidelines and the CA MUTCD. The minimum standards for pedestrian facilities used in combination with the design recommendations for issues specific to Ukiah should provide the foundation for a safe, functional and inviting pedestrian network.

Additional design guidance and details can be found in the following documents:

- California Manual on Uniform Traffic Control Devices (2014): http://www.dot.ca.gov/hq/traffops/engineering/mutcd/ca_mutcd2014.htm
- Caltrans Highway Design Manual.: http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm
- Caltrans Design Information Bulletins: http://www.dot.ca.gov/hq/oppd/dib/dibprg.htm
- Caltrans Standard Plans.: http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/06_plans_disclaim_US.htm

This appendix is not intended to replace existing state or national mandatory or advisory standards, nor the exercise of engineering judgment by licensed professionals.

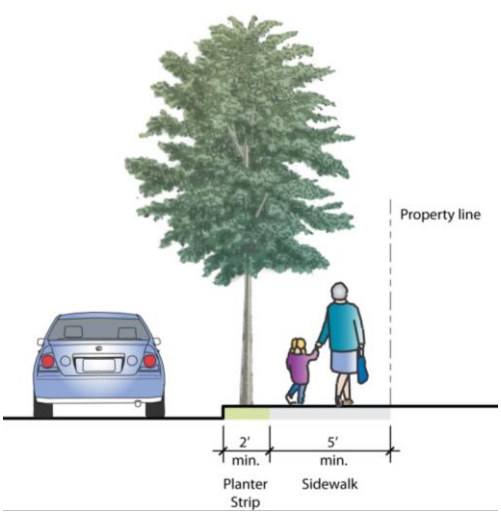
This Appendix includes the following guidelines:

F.1 Sidewalk Widths

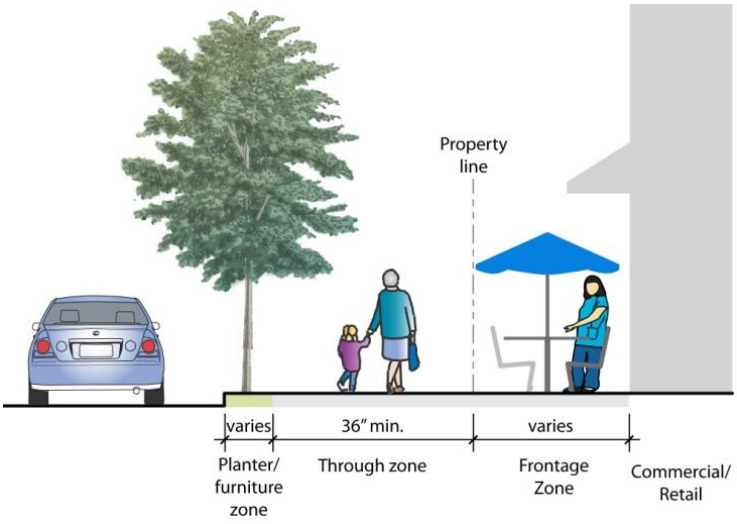
Pedestrian zones located in areas with commercial or retail activity provide excellent opportunities to develop an inviting pedestrian environment. The frontage zone in retail and commercial areas may feature seating for cafés and restaurants, or extensions of other retail establishments, like florists shops. The furnishings zone may feature seating, as well as newspaper racks, water fountains, utility boxes, lampposts, street trees and other landscaping. The medium to high-density pedestrian zone should provide an interesting and inviting environment for walking as well as window shopping.

Design Summary

Walkway width recommendations in current transportation industry guidelines generally exceed the 36-inch minimum needed for accessible travel under the Americans with Disabilities Act. The Institute of Transportation Engineers (ITE), in its 1998 recommended practice publication, "Design and Safety of Pedestrian Facilities," recommends planning sidewalks that are a minimum of five feet wide with a planting strip of two feet on local streets and in residential and commercial areas.



Typical Residential Sidewalk



Typical Commercial Area Sidewalk

F.2 Sidewalk Grade and Cross Slope

Sidewalk grade and cross slope affect user control, stability and endurance. Gentle grades are preferred to steep grades,

F.2.1 Design Summary

Grade

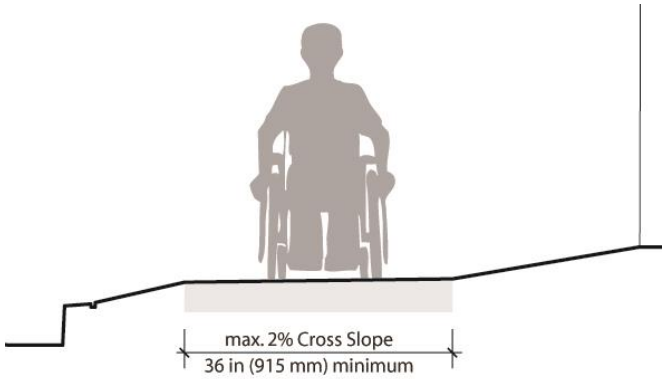
The grade of a sidewalk affects the issues of control, stability and endurance. Gentle grades are preferred to steep grades, allowing more people to go uphill, providing more control on the downhill, and minimizing loss of footing. The maximum grade of a sidewalk should be no more than 14 percent in any 2-foot section, while the running grade for a sidewalk should not exceed 5 percent.

The following terms apply to standards for grades:

- Grade is the slope parallel to the direction of travel.
- Running grade is the average grade along an entire continuous path.
- Maximum grade covers a section of the sidewalk that is larger than the running grade. It is measured over a two-foot section.
- Rate of change is the change of the grade over a distance of two feet.
- Counter slope is the grade running opposite to the running grade.

Cross Slope

- Cross-slope describes the angle of the sidewalk from the building line to the street, perpendicular to the direction of travel. All sidewalks require some cross-slope for drainage, but a cross-slope that is too great will present problems for people who use wheelchairs, walking aids, or who have difficulty walking but do not use aids. The maximum cross-slope should be no more than 2 percent (1:50) for compliance with ADA.
- If a greater slope is anticipated because of unusual topographic or existing conditions, the designer should maintain the preferred slope of 1:50 within the entire Through Passage Zone, if possible. This can be accomplished either by raising the curb so that the cross-slope of the entire sidewalk can be 1:50, or by placing the more steeply angled slope within the Furnishings Zone and/or the Frontage Zone.
- If the above measures are not sufficient and additional slope is required to match grades, the cross slope within the Through Passage Zone may be as much as 1:25, provided that a 3-ft wide portion within the Through Passage Zone remains at 1:50 cross slope.



Sidewalk cross slope should not exceed 2% to comply with ADA accessibility standards.

F.3 Sidewalk Materials

Sidewalks should be firm and stable, and resistant to slipping. Sidewalks are normally constructed out of Portland cement concrete. Although multi-use pathways may be constructed out of asphalt, asphalt is not suitable for sidewalk construction due to its shorter lifespan and higher maintenance costs.

Concrete is the most common surface for sidewalks; however, some sidewalks are designed using decorative materials, such as brick or cobblestone. Although these surfaces may improve the aesthetic quality of the sidewalk, they may also present challenges to people with mobility impairments. For example, tiles that are not spaced tightly together can create grooves that catch wheelchair casters.

F.3.1 Design Summary

Concrete

- Preferred material for use on standard sidewalks.
- Maintenance life: 75 years plus (with no tree root damage).

Concrete Pavers

- Acceptable material for use where aesthetic treatment is desired. May be best suited for the Furnishings Zone as streetscape accent where pedestrian through travel is not expected. Not recommended for use on sidewalk through-zone.
- Maintenance life: 20 years plus.

Concrete Sidewalk

Concrete Pavers

F.4 Sidewalk Furnishings

The furnishings zone is the area between the curb zone and the through passage zone, where pedestrians pass. The furnishings zone creates an important buffer between pedestrians and vehicle travel lanes by providing horizontal separation.

F.4.1 Design Summary

Width

A minimum width of 24 in (48 in if planting trees) is recommended (FHWA). On sidewalks of ten feet or greater, the furnishings zone width should be a minimum of four feet. A wider zone should be provided in areas with large planters and/or seating areas.

Transit Stop/Shelter Placement

To discourage midblock crossings by pedestrians, bus stops at or near intersections are generally preferred to midblock crossings. An 8 foot by 5 foot landing pad must be provided. A continuous 8 foot pad or sidewalk the length of the bus stop, or at least from the front to rear bus doors, is recommended. At stops in areas without curbs, an 8 foot shoulder should be provided as a landing pad. Bus shelters should be provided where possible to provide visible, comfortable seating and waiting areas for

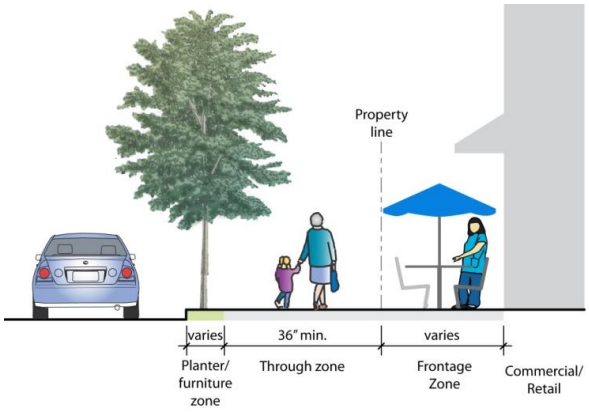
pedestrians. Bus shelters must have a clear floor area of 2.5 feet by 4 feet, entirely within the perimeter of the shelter, connected by a pedestrian access route to the boarding area (AASHTO).

Street Trees and Plantings

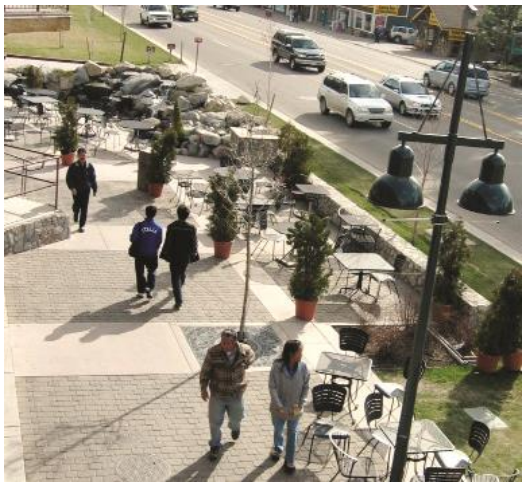
Wherever the sidewalk is wide enough, the furnishings zone should include street trees. In order to maintain line of sight to stop signs or other traffic control devices at intersections, when planning for new trees, care should be taken not to plant street trees within 25 feet of corners of any intersection.

Street Furniture and Amenities

Street furniture should be placed in the furnishings zone to maintain through passage zones for pedestrians and to provide a buffer between the sidewalk and the street.



Recommended Design



Design Example

F.5 Curb Ramps

Curb ramps are necessary for people who use wheelchairs to access sidewalks and crosswalks. ADA requires the installation of curb ramps in new sidewalks, as well as retrofitting existing sidewalks. Curb ramps may be placed at each end of the crosswalk (perpendicular curb ramps), or between crosswalks (diagonal curb ramps). The ramp may be formed by drawing the sidewalk down to meet the street level, or alternately building up a ramp to meet the sidewalk.

F.5.1 Design Summary

Orientation and Alignment

Perpendicular curb ramps should be used at large intersections. Curb ramps should be aligned with crosswalks, unless they are installed in a retrofitting effort and are located in an area with low vehicular traffic.

Width

The minimum width of a curb ramp should be 36 inches, in accordance with ADAAG Guidelines. Curb ramps should be designed to accommodate the level of use anticipated at specific locations, with sufficient width for the expected level of peak hour pedestrian volumes and other potential users.

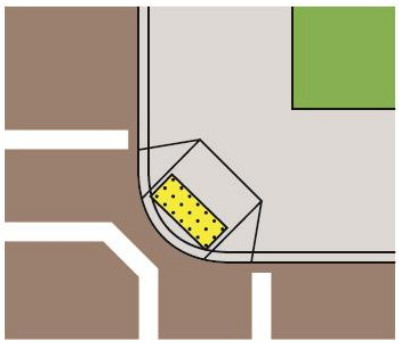
Drainage

Adequate drainage should be provided to prevent flooding of curb ramps.

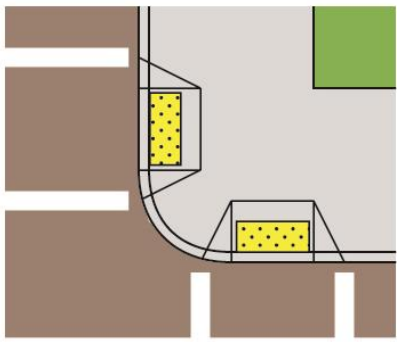
Detectable Warnings

Tactile strips must be used to assist sight-impaired pedestrians in locating the curb ramp. Certain exemptions apply (see ADAAG Section 4.29 and the ADA Access Board Guidelines on Accessible Public Rights of Way).

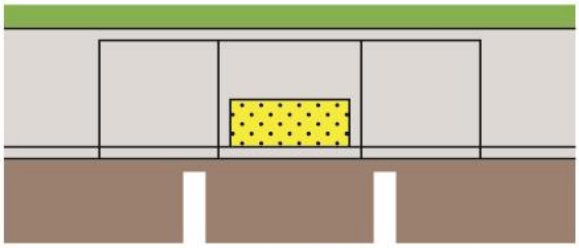
Detectable warnings shall consist of raised truncated domes with a diameter of nominal 0.9 inches, a height of nominal 0.2 inches and a center-to-center spacing of nominal 2.35 inches and shall contrast visually with adjoining surfaces, either light-on-dark, or dark-on-light (ADAAG).



Diagonal Curb Ramp



Perpendicular Curb Ramp



Parallel Curb Ramp

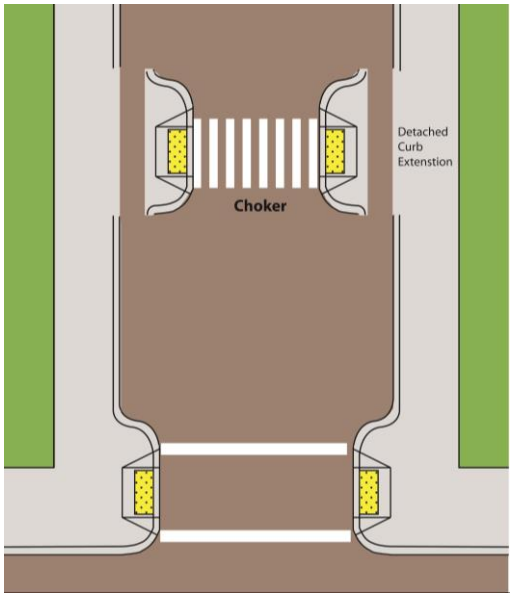
F.6 Curb Extensions

Curb extensions are a traffic calming device used to narrow roadway widths and shorten pedestrian crossing distances. Curb extensions may be installed on one side of a roadway or on both sides of the roadway to create additional traffic calming affects. Curb extensions installed at alternating frequencies on both sides of a roadway creates a “chicane” or S curve. Curb extensions installed on both sides of a roadway in the same location creates a “choker” or extra narrow roadway section.

Curb extension design should facilitate roadway drainage. Such designs may include detaching the curb extension from the curb. Detaching curb extensions provides the opportunity for “cycle” slips, which allow bicyclists to travel straight through the curb extension. Conversely, the channel of the detached curb extension may be covered with a grate to bridge the curb extension and sidewalk, allowing water to drain along the gutter.

F.6.1 Design Summary

- Emergency vehicle operators should be consulted to ensure curb extensions do not negatively affect emergency response times.
- Mid-block installation with where pedestrians cross should consider raised crosswalks.
- Detaching curb extensions facilitates drainage and provides the opportunity for cycle slips.
- Installed at alternating frequencies on both sides of a roadway prevents motorists from "straight line racing", especially if curbs are extended into one full travel lane.
- Installed in a series of three effectively slows motorists.



Curb extensions can be used in a variety of locations to calm traffic speeds.

F.7 Crosswalks

Crosswalks should be used:

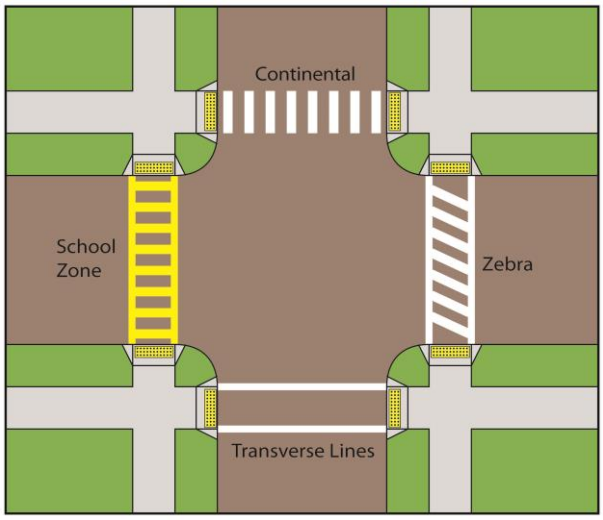
- At signalized intersections, all crosswalks should be marked.
- At unsignalized intersections, crosswalks should be marked when they:
  - help orient pedestrians in finding their way across a complex intersection, or
  - help show pedestrians the shortest route across traffic with the least exposure to vehicular traffic and traffic conflicts, or
  - help position pedestrians where they can best be seen by oncoming traffic.
- At mid-block locations, crosswalks are marked where:
  - there is a demand for crossing, and
  - there are no nearby marked crosswalks.

Advance yield lines should be considered at crosswalks where additional space between crosswalks and stopped motorists is desired. Advance yield lines should not place motorists in a position where sight lines are obstructed.

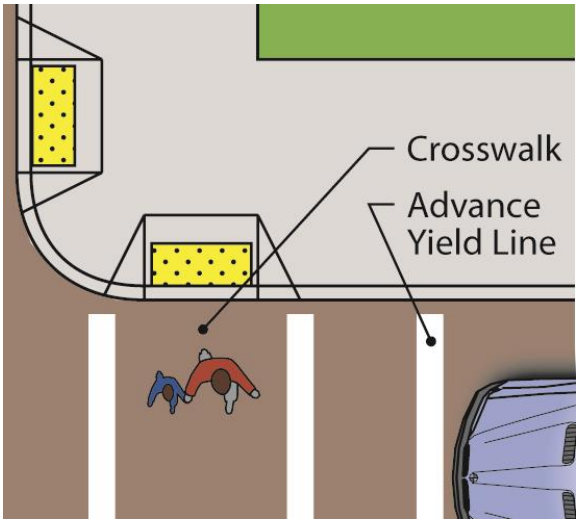
F.7.1 Design Summary

Continental crosswalk markings are recommended for high-volume crosswalks including school crossings, across arterial streets for pedestrian-only signals, at mid- block crosswalks, and where the crosswalk crosses a street not controlled by signals or stop signs.

- A continental pavement marking consists of two foot swide bars spaced 2 feet apart and should be located such that the wheels of vehicles pass between the white stripes.
- Transverse lines consist of one foot wide bars spaces not less than 6 feet apart.
- Advance yield lines, if used, should be installed at least four feet in advance of crosswalks.
- In California, school zone crossings can be painted yellow in color.



Latitudinal striping should be used in uncontrolled crosswalks



Advance yield lines should be installed at least four feet in advance of a crosswalk

F.8 Crosswalks at Mid-Block and Uncontrolled Crossing Placement

The table on the following page is a summary for implementing at-grade roadway crossings. The number one (1) indicates a ladder style crosswalk with appropriate signage is warranted. (1/1+) indicates the crossing warrants enhanced treatments such as flashing beacons, or in-pavement flashers. (1+/3) indicates Pedestrian Light Control Activated (Pelican), Puffin signal, or Hybrid Beacon (HAWK) should be considered.

F.8.1 Design Summary

Placement

Mid-block crosswalks may be installed where there is a significant demand for crossing and no nearby existing crosswalks.

Yield Lines

If yield lines are used for vehicles, they shall be placed 20 to 50 feet in advance of the nearest crosswalk line to indicate the point at which the yield is intended or required to be made and 'Yield Here to

Pedestrians' signs shall be placed adjacent to the yield line. Where traffic is not heavy, stop or yield signs for pedestrians and bicyclists may suffice.

Warning Signs

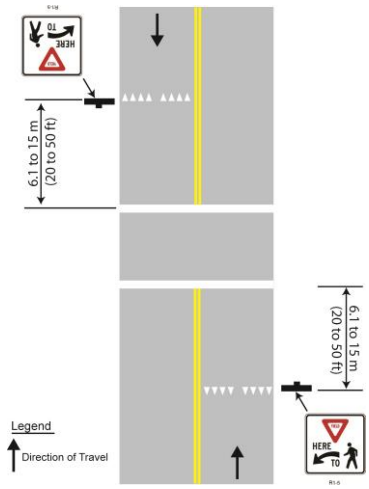
The Pedestrian Warning (R1-5) sign alerts the road user to unexpected entries into the roadway by bicyclists, and other crossing activities that might cause conflicts.

Pavement Markings

A continental crosswalk should be used. Warning markings on the path and roadway should be installed.

Other Treatments

See table on the following page to determine if treatments such as raised median refuges or flashing beacons should be used.



Source: California MUTCD, Figure 3B-15

Roadway Type (Number of Travel Lanes and Median Type)	Vehicle ADT ≤ 9,000			Vehicle ADT > 9,000 to 12,000			Vehicle ADT > 12,000 to 15,000			Vehicle ADT > 15,000		
	Speed Limit**											
	≤ 30 mi/h	35 mi/h	40 mi/h	≤ 30 mi/h	35 mi/h	40 mi/h	≤ 30 mi/h	35 mi/h	40 mi/h	≤ 30 mi/h	35 mi/h	40 mi/h
2 Lanes	1	1	1/1+	1	1	1/1+	1	1	1+/3	1	1/1+	1+/3
3 Lanes	1	1	1/1+	1	1/1+	1/1+	1/1+	1/1+	1+/3	1/1+	1+/3	1+/3
Multi-Lane (4 or more lanes) with raised median***	1	1	1/1+	1	1/1+	1+/3	1/1+	1/1+	1+/3	1+/3	1+/3	1+/3
Multi-Lane (4 or more lanes) without raised median	1	1/1+	1+/3	1/1+	1/1+	1+/3	1+/3	1+/3	1+/3	1+/3	1+/3	1+/3

*General Notes: Crosswalks should not be installed at locations that could present an increased risk to pedestrians, such as where there is poor sight distance, complex or confusing designs, a substantial volume of heavy trucks, or other dangers, without first providing adequate design features and/or traffic control devices. Adding crosswalks alone will not make crossings safer, nor will they necessarily result in more vehicles stopping for pedestrians. Whether or not marked crosswalks are installed, it is important to consider other pedestrian facility enhancements (e.g., raised median, traffic signal, roadway narrowing, enhanced overhead lighting, traffic-calming measures, curb extensions), as needed, to improve the safety of the crossing. These are general recomendations; good engineering judgment should be used in individual cases for deciding which treatment to use.
For each trail-roadway crossing, an engineering study is needed to determine the proper location. For each engineering study, a site review may be sufficient at some locations, while a more in-depth study of pedestrian volume, vehicle speed, sight distance, vehicle mix, etc. may be needed at other sites.
**Where the speed limit exceeds 40 mi/h (64.4 km/h), marked crosswalks alone should not be used at unsignalized locations.
***The raised median or crossing island must be at least 4 ft (1.2 m) wide and 6 ft (1.8 m) long to adequately serve as a refuge area for pedestrians in accordance with MUTCD and AASHTO guidelines. A two-way center turn lane is not considered a median.
1= Type 1 Crossings. Ladder-style crosswalks with appropriate signage should be used.
1/1+ = With the higher volumes and speeds, enhanced treatments should be used, including marked ladder style crosswalks, median refuge, flashing beacons, and/or in-pavement flashers. Ensure there are sufficient gaps through signal timing, as well as sight distance.
1+/3 = Carefully analyze signal warrants using a combination of Warrant 2 or 5 (depending on school presence) and EAU factoring. Make sure to project usage based on future potential demand. Consider Pelican, Puffin, or Hawk signals in lieu of full signals. For those intersections not meeting warrants or where engineering judgment or cost recommends against signalization, implement Type 1 enhanced crosswalk markings with marked ladder style crosswalks, median refuge, flashing beacons, and/or in-pavement flashers. Ensure there are sufficient gaps through signal timing, as well as sight distance.

F.9 Pedestrian Refuge Islands

Pedestrian refuge islands provide additional protection for pedestrians crossing at intersections. They can also prevent vehicles from encroaching into the refuge area when making left turns. Pedestrian refuge islands may not be feasible to install due potential to turning movement restrictions.

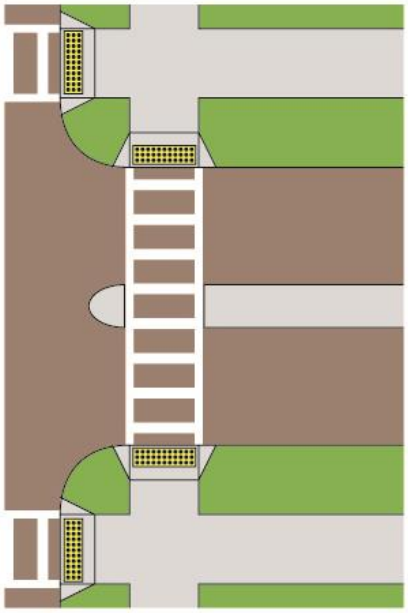
F.9.1 Design Summary

Pedestrian refuge islands should be placed at wide multi-lane roadways. Depending on the signal timing, median islands should be considered when the crossing distance exceeds 60 feet, but can be used at intersections with shorter crossing distances where a need has been recognized.

ADA Access Board Guidelines on Accessible Public Rights of Way has a section on median islands. The following guidelines are applicable:

- Medians and pedestrian refuge islands in crosswalks shall contain a pedestrian access route, including passing space connecting to each crosswalk.

- Medians and pedestrian refuge islands shall be 6.0 feet minimum in length in the direction of pedestrian travel.
- Ramped up and cut-through refuge islands should be permitted. Factors to consider include slope, drainage and width of the island. Median curb ramps can add difficulty to crossing for some users.
- Medians and refuge islands should have detectable warnings, with detectable warnings at cut-through islands separated by a 2-foot minimum length of walkway without detectable warnings.



Pedestrian Refuge Island

F.10 Guidelines for Signage

Caltrans categorizes signs into warning and regulatory. Pedestrian warning signs should be fluorescent yellow green to call the attention from motorists. Pedestrian regulatory signs govern pedestrian and motorist movements, such as "Yield Here to Pedestrians." The signs to the right provide examples of regulatory and warning signs.

F.10.1 Design Summary

- Pedestrian warning signs should accompany all non-controlled crosswalks.
- Yield Here to Pedestrians signs should be installed at yield lines or "teeth."
- In-street Yield to Pedestrian signs should be considered at non-controlled crosswalks where motorists frequently violate pedestrian right of way.

In-Street Yield to Pedestrian Sign

Pedestrian Crossing Warning

School Area Signs

F.11 Guidelines for Signalized Pedestrian Crossings

Pedestrian pushbuttons should be used at any signalized intersection without a dedicated pedestrian phase. Push buttons allow pedestrians to actuate a walk phase.

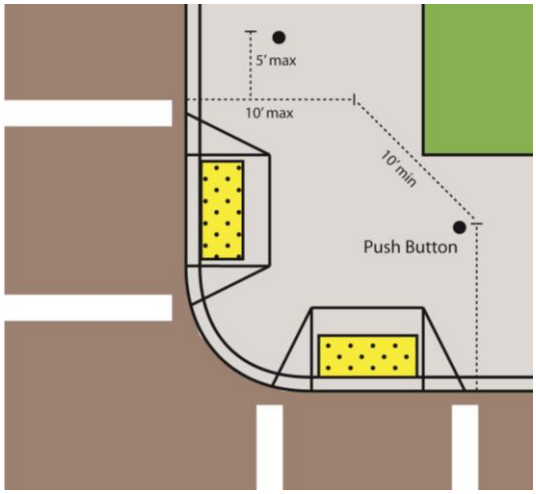
All new and modified traffic signals should include accessible pushbuttons that are large and vibrate during a walk phase for visually impaired pedestrians.

F.11.1 Design Summary

Signal Timing

- CA MUTCD requires a walk signal phase to accommodate a 4.0 feet/second pace or slower.
- CA MUTCD provides the option of a walk signal phase to accommodate a 2.8 feet/second pace.
- Push buttons should be located within five feet outside of the transverse crosswalk line extended.
- Push button location should be adjacent to an all weather surface to facilitate accessibility.
- Push buttons should be installed within 10 feet of the curb unless impractical.

Pedestrian Push Button



Push button placement

F.12 Crossing Beacons

Beacons enhance uncontrolled crosswalks by using devices that call attention to pedestrians. Beacons may be actuated by pedestrians wishing to cross at a crosswalk or may flash on a continuous basis to warn motorists of potential pedestrian activity ahead.

The standard beacon uses a yellow round light that flashes at regular intervals. Over time, motorists have become complacent with this type of beacon, resulting in a lower yielding compliance. New beacon designs incorporate high-visibility elements to increase compliance. The 2012 California MUTCD approved hybrid beacons for use in California.

- Pedestrian hybrid beacons utilize yellow warning and red stop lights similar to a traffic signal. After pedestrian actuation, the yellow light will flash and then turn solid to warn motorists to

slow for a cued pedestrian. A red light follows to stop motorists the yellow and flashes red after the pedestrian crossing phase expires.

- Rectangular Rapid Flash beacons (RRFBs) utilize rectangular LED lights installed below a pedestrian crosswalk sign that flash in an alternating pattern when activated. The beacon is dark when not activated. Caltrans has received approval from the FHWA for use of RRFBs on a blanket basis at uncontrolled pedestrian and school crosswalk locations in California, including State highways and all local jurisdictions' roadways (Approval number IA-11-83-RRBF-California Statewide).

Pedestrian Hybrid Beacon (HAWK)

F.12.1 Design Summary

- Application must be at least 100 feet from an intersection.
- Does not need to meet signal warrant; however consideration should be made based on an engineering study that considers vehicle volumes, widths, and gaps in conjunction with pedestrian volumes, walking speeds, and delay.
- Crosswalk warning beacons should be actuated to maximize yield to pedestrian compliance.

Rectangular Rapid Flashing Beacon (RRFB)

See the CA MUTCD Section 4F.01 for more information.

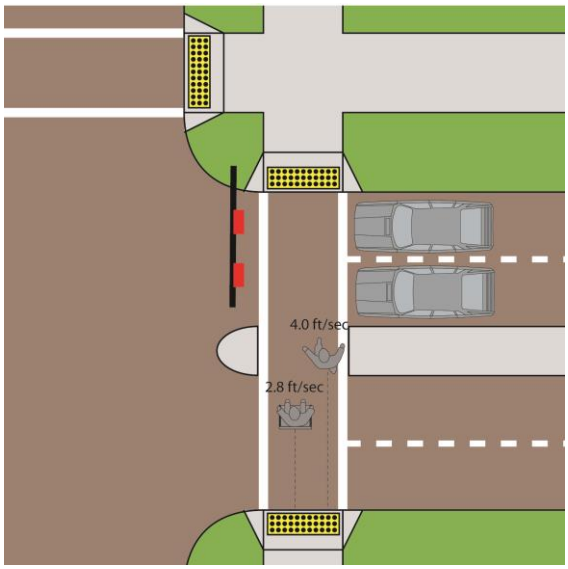
F.13 Pedestrian Friendly Signal Timing

Pedestrian speed determines the duration of a pedestrian phase. CA MUTCD standard pedestrian speed for calculating pedestrian phasing is 3.5-4.0 feet per second. This speed does not accommodate slow moving pedestrians such as children, seniors and people with disabilities. CA MUTCD provides the option of using 2.8 feet per second as a pedestrian speed to accommodate slow moving pedestrians.

Countdown pedestrian heads display the remaining time of a pedestrian phase, informing crossing pedestrians. Countdown heads are most applicable at multi-lane arterial roadways where pedestrians have a long distance to cross. If a median is provided, pedestrians may rest and wait for the next pedestrian phase to cross the remaining roadway.

F.13.1 Design Summary

- A pedestrian speed of 2.8 feet per second should be considered at locations used by slow moving pedestrians, i.e. children, seniors and people with disabilities.
- Countdown heads should be installed at multi-lane arterial roadway intersections.
- Countdown heads should incorporate audible instructions.



Pedestrian timing should be derived from 2.8 feet per second pedestrian speed in areas with children, seniors and people with disabilities

Countdown Signal