City of Redding

Bikeway Action Plan
2010-2015

City of Redding, Community Services Department | April 2010

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Executive Summary

In an era of rising gas prices, increased concern for the impact of pollution on the environment, and greater awareness of the need to improve personal fitness, bicycling is steadily gaining in popularity as both a fun recreational activity and a viable mode of daily commuting. Bicycling offers not only the benefits of traffic relief, cleaner air and improved personal health, but also significant economic advantages and tourism opportunities. With its climate and typography, Redding is particularly well suited to become a bicycle-friendly city. This is the ultimate vision of the *Bikeway Action Plan 2010-2015*.

The *Bikeway Action Plan* is the first document specifically dedicated to the bikeway system in more than a decade, since the *1998 Redding Bicycle Plan*. The *Action Plan* significantly expands the scope of that original plan, encompassing both the general bikeway goals outlined in the *City of Redding General Plan 2000-2020* as well as the bikeway element of the *Parks, Trails and Open Space Master Plan 2004*.

However, none of these previous documents provided a detailed inventory and analysis of the existing bikeway system, identified and prioritized specific service improvements, and specified policies and program goals to be adopted. The *Bikeway Action Plan 2010-2015* exists to fill this need.

The *Action Plan* was developed over an 18 month period in partnership with a number of agencies and local organizations and benefited from a great deal of community input. These organizations and individuals – noted in the *acknowledgments* – invested their time and energy to study legislation, assess the current state of the Redding's bikeway system, and develop realistic recommendations and goals for improvement. Their involvement has resulted in an *Action Plan* that best represents the needs of this community.

The goals of the *Action Plan* are threefold:

1. **Improve and add bikeways, connections and facilities;**
2. **Develop bicycle-friendly policies; and**
3. **Develop bicycle-related education, promotion and enforcement initiatives.**

Redding's current bikeway network, including paved multi-use paths such as the Sacramento River Trail, extends 124.11 miles. The *Bikeway Action Plan* seeks to expand this system by another 38.70 on-street miles to a total of 162.81 miles. This expansion will improve the connections for cyclists to prime destinations.

The *Action Plan* also recommends upgrading 57.62 miles of Class 3 bike routes (signed only, where bicyclists share the road) to Class 2 bike lanes (where cyclists have their own dedicated lane). This higher level of service will provide greater safety for cyclists on major bikeway connections. It is envisioned that 24.61 miles of these upgrades can be completed during the life of the *Action Plan*.

Other recommendations include improved signage, added bicycle parking and improving access through intersections.

With the passage of the Complete Streets Act by the State of California, the City will be adopting a Complete Streets Ordinance in 2011 which will establish design standards for streets so that they are car, pedestrian and bicyclist-friendly, particularly where these three modes of transportation intersect.

In addition to this ordinance, the *Bikeway Action Plan* recommends training to City staff and policy-makers on Complete Streets concepts, ensuring that projects provide bicycle accommodation.

The *Action Plan* also recommends a number of initiatives with various partner agencies to improve bicycle-related education, promotion and enforcement

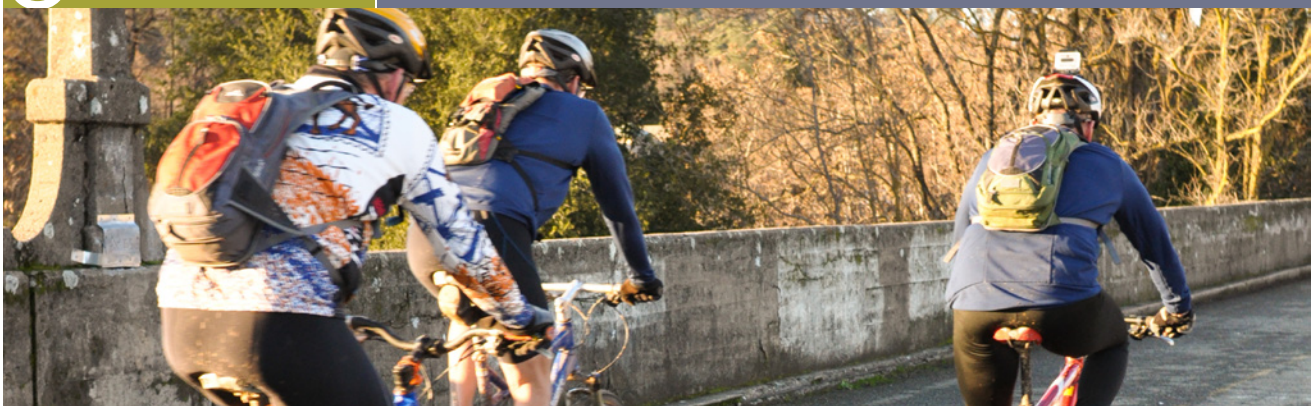
Finally the *Action Plan* calls the establishment of a Bikeway Advisory Committee to monitor the progress of the *Action Plan* and make recommendations to City Council and the Planning Commission, and for the City to apply to the League of American Bicyclists for recognition as a bicycle-friendly community.

The establishment of this *Action Plan* sets the vision for the bicycle-friendly community that Redding can become. Its goals and recommendations will substantially improve the bikeway system we enjoy today, while its details and findings provide the necessary basis to seek grants to help realize those goals.

While it is a challenging time to be setting goals, given the current economy, many of the recommendations in the *Bikeway Action Plan* can be undertaken and realized at minimal cost and often incorporated into current maintenance activities. Conversely, the benefits of this investment are substantial, both today and in the years to come.

When I see an adult on a bicycle, I do not despair for the future of the human race.

~H.G. Wells



Section One – Introduction

Purpose of the *Bikeway Action Plan*

Bicycles, both for commuting and recreational use, must be an integral element of the transportation network of any thriving community. The purpose of the *Bikeway Action Plan 2010-2015* is to improve bicycle transportation within the City of Redding by identifying and prioritizing necessary system improvements, establishing bicycle-friendly policies, and outlining needed bicycle-related education, promotion and enforcement standards.

Nothing compares to the simple pleasure of a bike ride.

~John F. Kennedy

The City's *Bikeway Action Plan 2010-2015* is the first document exclusively dedicated to the bicycle system in Redding since the *1998 Redding Bicycle Plan*. In the interim, the City's *2000-2020 General Plan* adopted on October 3, 2000, established general goals and referenced the need for a more comprehensive bikeway plan. Further development occurred with the City's *Parks, Trails and Open Space Master Plan 2004*, adopted on May 4, 2004. However, neither document provided a detailed inventory and analysis of the existing bikeway system, identified and prioritized specific service improvements, and specified policies and program goals to be adopted. The *Bikeway Action Plan 2010-2015* exists to fill this need.

The information contained in this *Action Plan* has been developed by and in cooperation with local agencies, individuals and community organizations to arrive at a workable solution to many of the issues facing local cyclists. The *Action Plan*'s recommendations are realistic and it is anticipated many of them can be integrated into current daily maintenance activities with minimal impact on personnel and operating budgets.

Bicycling in Redding Today

In the years following the adoption of the *1998 Redding Bicycle Plan*, the City of Redding's embryonic bikeway system has emerged as a patchwork quilt of multi-use paths and trails, dedicated Caltrans bike paths (Class 1 bikeways), specifically designated signed and striped bicycle right-of-way lanes on streets (Class 2 bikeways), and signed bike routes on streets with no bicycle lane striping (Class 3 bikeways).

The current official bikeway system provides 124.11 designated miles of paved multi-use paths and signed on-street bike lanes and routes, distributed as follows (see sidebar).

The City has invested during the last decade approximately $4.96 million to create the Class 2 and Class 3 on-street bikeway system. Another $6.0 million has been invested by the City – primarily through Park Development funds and various grants – to develop the multi-use path and trail system including trailhead facilities.

Type	Current
Paved Multi-Use Paths	20.56 miles
Class 1– Bike Paths	1.95 miles
Class 2– Bike Lane	24.61 miles
Class 3– Bike Route	76.99 miles

In Fall 2008, a single day, weekday PM peak-hour audit of 23 different sections of the bikeway system recorded 498 unique bicycle commuter trips. In Fall 2009, a similar single day weekday PM peak-hour audit of 22 different sections of the bikeway system recorded 425 unique bicycle commuter trips. These findings indicate regular and consistent usage of the existing bikeway system.

While the current bikeway system is geographically extensive and generally accommodates a number of dedicated users, there remain considerable challenges related to connectivity and accessibility, primarily due to physical barriers (both natural and man-made) and inconsistent route quality between destination points.

As discussed in detail within Section Two, the *Action Plan* makes specific recommendations designed to improve bike access to key destinations and increase ridership.

Benefits of Bicycling

Encouraging greater bicycle travel in Redding will result in numerous benefits to residents and visitors, such as:

Health Benefits – Increased levels of bicycling will improve the health of Redding residents. Biking to the store, school or work provides a time-efficient, low-cost way of attaining the U.S. Surgeon General's recommended daily allowance of physical activity. Bicycle exercise can help reduce heart disease, diabetes, obesity and other chronic illnesses.

Traffic Relief – Increasing bicycle travel reduces the number of motor vehicles on municipal roadways. Improving intersections, completing bicycle routes to key destinations, and providing more paved shoulder space for bike lanes will provide convenient transportation options for our growing population.

Environmental Benefits – The primary source of air pollution in the Redding region is automotive emissions. Substituting bicycle trips for short car trips will reduce the amount of pollutants generated by motorized vehicles.

Economic Benefits – Motor vehicles are the second-highest household expense after housing itself. The option of bicycling can improve the mobility of hundreds of Redding residents without access to a car, and allow households to own one motorized vehicle rather than two. Pairing bike facility improvements with programs such as car-pooling and mass transit gives residents greater transportation options at a lower cost.

Tourism – Bicycling can also help bring tourist dollars into the city. Active vacations are one of the fastest growing sectors of the tourist industry. Bicycling allows tourists to explore Redding without driving, having to walk long distances, or being tied to a bus schedule. Improved connectivity of our bikeways allows for increased access from the hotel district to shopping and cultural/recreational attractions such as the Convention Center, Turtle Bay Exploration Park, and the Sacramento River Parkway.

Action Planning Process and Findings

The development the City of Redding's *Bikeway Action Plan* consisted of three major tasks: data collection, developing goals and objectives, and designing the bikeway network.

To best address these issues, the City convened a Bikeway Plan Committee in spring 2008 which included City staff, Shasta County Public Health staff, representatives from local bicycle organizations, and interested citizens. The tasks assigned to and completed by this Committee ultimately resulted in this *Action Plan*.

A major task in evaluating the current conditions of local cycling involved a strategic approach to data collection. The 2008 Bikeway Assessment for Redding's roadways was conducted in the spring during an optimal cycling time for the region. Participants in the assessment included, among other interested cyclists, several representatives to the newly formed Bikeway Plan Committee. Over a period of two months, the approximately 25 member Assessment Team established guidelines for data collection and took to the streets to evaluate the current conditions for cycling around Redding.

The assessment was modeled after an existing assessment completed by the City of Atlanta, Georgia. The resulting map – labeled *Redding Bike Plan–Suitability* in Appendix F – depicts bikeways with the best cycling conditions (shown in green), with medium cycling conditions (shown in yellow), and with difficult cycling conditions (shown in red). Bikeways under construction or additions proposed to the bikeway system in this *Action Plan* which have not yet been rated are shown in blue.

To arrive at these designations, the Assessment Team developed a suitability form that evaluated the following factors which were compiled with several known conditions such as speed and traffic counts:

1. **Safety factors**
   a. Shoulder width / spacing for bike travel
   b. Vehicle parking
   c. Volume of driveways
   d. Vegetation obstacles
2. **Pavement conditions**
   a. Broken pavement & potholes
   b. Uneven surfaces due to asphalt overlays, railroad crossings, etc
   c. Dangerous drain grates, utility covers, etc
   d. Debris

3. **Intersections**
   a. Issues of through travel
   b. Problems with turning

Points were assigned by the Assessment Team for the various factors that when totaled provided a recommendation for the ranking of each individual bikeway. All data was analyzed and mapped. The rating system, when combined with speed and traffic counts, categorized the quality of each bikeway. The resulting map was presented to the Bikeway Plan Committee for evaluation based on general experience with the conditions of cycling in Redding.

Special consideration was given to cross-town bicycling routes for improved connectivity. Several major roadways and bridges were under construction at the time of the assessment, including Cypress Avenue, Hilltop Drive, South Bonnyview Road, and Churn Creek Road. (These projects were assessed as they were completed and the map updated.)

The goal of this activity was to prioritize existing bikeways for future funding and improvement so as to provide more "best cycling condition" bikeways. In addition to establishing priorities, the resulting map and table provides the cycling community and local decision-makers with a visual depiction of the current number of miles of bikeways that fall into the these three qualitative categories.

The table below lists total mileage for best, medium and poor conditions of existing Class 2 and Class 3 bikeways, regardless of the route classification or if the street is officially signed a bike lane / bike route. (Please refer to the *Redding Bike Plan – Suitability* map in Appendix F.)

Current Conditions	Miles
Best	30.4
Medium	67.9
Difficult	31.7
Not Rated (Construction Only)	2.2

In addition, the Assessment Team also calculated the current mileage of multi-use paths and trails, dedicated Caltrans bike paths (Class 1 bike paths), specifically designated signed and striped bicycle right-of-ways on streets (Class 2 bike lanes), and signed bike routes on streets with no lane striping (Class 3 bike routes).

The current Redding bikeway system provides 124.11 miles of paved multi-use paths, bike paths, and signed on-street bike lanes and bike routes. The improvements envisioned by this *Action Plan* will expand the system by an additional 38.70 miles of new on-street bike lanes and bike routes, and upgrade an existing 57.72 miles of Class 3 bike routes to Class 2 bike lanes. This will result in a bikeway network of 162.81 miles. (This sum does not include 59.72 miles of planned expansion of the multi-use path and trail system approved in the *Parks, Trails and Open Space Master Plan 2004* for completion by 2024).

The table below details the current distribution between the various classes and the projected distribution after completion of the various system improvements identified in this *Action Plan* and the *Parks Master Plan*:

Type	Current	Current/Planned
Paved Multi-Use Paths	20.56 miles	80.27 miles
Class 1 – Bike Paths	1.95 miles	1.95 miles
Class 2 – Bike Lane	24.61 miles	103.80 miles
Class 3 – Bike Route	76.99 miles	36.50 miles

Note approximately 25 percent of the current on-street system (Class 2 and 3) is presently rated as Class 2. The ultimate aim of the *Action Plan* is to increase the mileage of Class 2 Bike Lanes through additions and upgrades so that almost 75 percent of the on-street bikeway system is rated at a Class 2 level.

With this information, the Bikeway Plan Committee began the process of developing recommendations of priority bikeway system improvements, and developing policies to foster improved bicycle usage in the Redding community.

Melancholy is incompatible with bicycling.

~James E. Starrs

Action Plan Updates

The *Bikeway Action Plan 2010-2015* is a living document and regular updates will be necessary in the future to assess the progress of implementation, to take advantage of emerging opportunities, and to re-evaluate priorities. As new connections, features and facilities are developed and added to the bikeway system, and as new technologies are adopted, it is anticipated that bicycling as a mode of transportation share will increase and intra-city travel patterns will evolve. New needs will arise, new opportunities will become apparent, and priorities will need to shift. These changes will be reflected in regular updates to and reprioritization of the project list

In addition, as neighboring communities and the County of Shasta continue to develop their bikeway and multi-use trail systems, the *Action Plan* must be responsive to the opportunities and needs arising from those efforts.

The City of Redding's GIS Division will continuously update and map improvements to accurately reflect the current state of the Redding bikeway system.

The goals and priorities of the *Bikeway Action Plan* will be updated every five years, realizing the goal in the Transportation Element of the City of Redding's *General Plan 2000-2020* to both develop and maintain a comprehensive bikeway plan. The regular updates to the *Action Plan* will also maintain eligibility for Bicycle Transportation Account (BTA) and similar capital grant funding.

Guiding Principles and the Five "Es"

Early in the process, the Bikeway Plan Committee established three fundamental guiding principles that are at the heart of every recommendation made within this report:

1. **Residents can conveniently use bicycles as transportation for their recreational, occupational and educational needs, and to complete other daily errands.**
2. **Every bicycle trip improves the quality of life for all.**
3. **Bicycles can be used safely.**

To encourage the use of bicycles as a transportation mode and achieve the goals of this *Action Plan*, the City of Redding will utilize the Five "E's" of bikeway planning:

Evaluation and Planning consists of identifying and prioritizing improvements to the system that benefit the greatest number of users, or which address the most significant connectivity issues at a reasonable cost.

Engineering means ensuring roadway design, bicycle-parking facilities, and other infrastructure are developed to better support bicycle use.

Education covers the need to provide instruction to bicyclists and motorists on the safe use of bicycles in traffic.

Enforcement is the responsibility of the police to enforce the existing traffic laws and rules of the road for both motorists and bicyclists.

Encouragement refers to programs, policies or events that can be implemented to encourage the use of bicycles as a transportation choice.

The *Bikeway Action Plan 2010-2015* resulting from these guiding principles and Five "Es" provides a solid framework to improve, promote and further encourage the use of bicycle transportation throughout the City of Redding.

Ongoing Community Involvement

The *Bikeway Action Plan* identifies a number of ways that Redding residents can participate in improvements to the bikeway system.

Many of the recommendations in Section 2 offer residents the opportunity to become part of the planned Bikeway Advisory Committee or to assist with a number of the educational and promotional activities that will help achieve the Five "Es".

Additionally, Appendix D provides information on how residents can alert the City to hazards on the bikeway system.

The community involvement fostered from this *Action Plan*, coupled with the forthcoming Complete Streets Ordinance (discussed more fully in Section 2), will help lead to a better, safer and more comprehensive bikeway network in the City of Redding.

Section Two—Recommendations

This section lists the key recommendations to establish a comprehensive bicycle transportation system within the City of Redding. The strategies below will increase bicyclist safety and security while improving the connectivity and accessibility of key destinations throughout Redding.

For instance, the bicycle is the most efficient machine ever created: Converting calories into gas, a bicycle gets the equivalent of three thousand miles per gallon.

~Bill Strickland,
The Quotable Cyclist

Redding citizens have shown significant interest in this *Action Plan* by serving on the Bikeway Plan Committee and providing considerable feedback during the planning process. Input from the Committee, recommendations from other key planning efforts, and a thorough inventory and analysis of the City's existing bikeway system have combined to form the basis for the goals and recommendations detailed below.

Goal 1: Improve and Add Bikeways, Connections and Facilities

In addition to prioritizing route improvements for better overall system connectivity, the *Action Plan* recognizes there are other facility improvements necessary. Facilities encapsulate all the physical improvements to the city's bicycle infrastructure, such as trails, bike lane striping, signage, and bicycle parking.

All bicycle network segments should have some type of visual cue – such as bike lane pavement markings, bike lane signs, bike route signs, etc. – near intersections and at key transfer points to indicate that accommodations have been made for bicyclists.

Bicyclists are permitted to use all roads in Redding, except where designated (i.e. some portions of Interstate 5, parts of State Route 299 and segments of State Route 44 are excluded from bicycle use for safety reasons). That said, a network of specific and clearly-marked bike lanes and bike routes will serve as the core system for bicyclists to access destinations in the City safely.

Developing safe, connected routes between north-to-south and east-to-west is essential to encourage the use of bicycles for transportation. Additional bike lanes and bridge/intersection improvements are some of the facility improvements needed in many areas in order for bicyclists to reach key destinations safely and efficiently.

This *Action Plan* promotes the development of a bicycle parking installation program with businesses and developers throughout the City of Redding. In keeping with current development standards, new developments and businesses are required to provide bike parking and should be advised as to which style of racks are recommended and where racks may be placed for optimum safety and convenience for cyclists and other users.

Bicycle racks holding up to three bicycles are currently available on all RABA busses and these racks are well used. According to a survey conducted by RABA drivers in September 2008, over 1,100 bikes were carried throughout all routes over a two week period. Due to the high demand for bus bike racks, in 2008 RABA upgraded all of its busses with racks to handle three bikes instead of two, which is now the current standard.

Recommendation 1.1 – Improve and expand the bike route system and provide functional and distinctive signs and markings for the system.

The current Redding bikeway system designates 124.11 miles of paved multi-use paths and signed on-street bike lanes and routes. The improvements envisioned by this *Action Plan* will expand the system to a total of 162.81 miles.

The City will post bike lane and bike route signage and street markings along key bike network routes that conform to the current California Manual of Uniform Traffic Control Devices. (See Appendixes C and D for additional details.) These bike lane and bike route signs and street markings will be posted frequently, and have arrows that show every network connection clearly. Future improvements may include subplates showing the direction and distance to significant destinations on and near the route. The City will conduct a field inventory of these signs and markings on a regular basis, and replace missing or damaged signs and markings.

Recommendation 1.2 – Upgrade significant Class 3 Bike Routes to Class 2 Bike Lanes when possible.

Redding's existing system of Class 2 Bike Lanes will be expanded to create a comprehensive, interconnected network of high level bicycle facilities. As identified in Section Three - Implementation, bikeways on significant streets will be improved to and/or maintained at a Class 2 level whenever streets are repaved or reconstructed. Special attention will always be given to accommodating bicycles on streets designated as part of the bicycle network.

An effort to upgrade significant Class 3 Bike Routes to Class 2 Bike Lanes based on the priorities designated in this *Action Plan* will be made to provide better connections and improve cyclist safety. A goal of 46.18 total miles of Class 2 Bike Lanes is set to be achieved by 2015.

The City will design and provide on-road bicycle facilities such as bike lanes, wide outside lanes, and on-road separated bike facilities where appropriate. Roadway striping and geometric improvements will be made when streets are repaved. The City will publicize these bicycle improvements when complete.

Recommendation 1.3 – Provide bicycle parking in public spaces.

The City will continue to provide and encourage bicycle parking in public spaces throughout Redding.

Recommendation 1.4 – Encourage bicycle parking in existing uses private spaces and require bicycle parking in new uses private spaces.

As per the Zoning Ordinance the City will encourage building managers and property owners under existing uses to provide and identify with prominent signage bicycle parking at their facilities. New uses are required to provide bicycle parking at their facilities, which the City will encourage be identified with prominent signage.

Recommendation 1.5 – Improve bicycle access through complex intersections.

All intersections should be safe and convenient for bicyclists. City traffic studies will incorporate all modes of transportation, including bicycles. The City will continue to use statistics on bicycle crashes in Redding to select evaluation sites to monitor and audit for improvements. The list of problem intersections will be revised and reprioritized periodically as crash reports are analyzed, intersection audits are completed and locations are improved.

Goal 2: Develop Bicycle-Friendly Policies

Bike-friendly policies encapsulate not only various municipal ordinances and regulations, but also an awareness in the mind-set of City staff and community leaders to ensure that bicyclists are a key consideration in both private and public sector development.

Recommendation 2.1 – Adopt a Complete Streets ordinance and review and recommend necessary changes to Redding ordinances, regulations, policy documents and design standards to address bicycle accommodation.

Complete Streets is a concept where streets are designed to accommodate equally motor vehicles, transit riders, bicyclists, and pedestrians. The *State of California Complete Streets Act* (AB 1358) was enacted into law September 30, 2008 and took effect January 1, 2009. The law requires cities and counties when updating their general plans to ensure that local streets and roads meet the needs of all users. Compliance with this law takes effect January 2011, and the Governor's Office of Planning and Research will issue new general plan update guidelines that reflect Complete Streets planning principles.

Additionally, the US House of Representatives introduced *The Complete Streets Act of 2009* (HR 1443) on March 11, 2009 while the US Senate introduced *The Complete Streets Act of 2009* (S 584) on March 12, 2009. If passed, this legislation will require all federally funded projects to comply with Complete Streets principles.

The City will adopt a local Complete Streets Ordinance that mandates the accommodation of cyclists on all road projects. The Transportation Element of the City of

Redding's *General Plan 2000-2020* and the various City zoning, traffic and parking regulations, ordinances, and design standards will be reviewed and updated as necessary to ensure bicycle accommodation.

Recommendation 2.2 – Provide training to City of Redding staff and policymakers.

Implementing the recommendations in the *Bikeway Action Plan* requires that City of Redding staff and policymakers be familiar with bicycle issues and supportive of the *Action Plan*'s various recommendations. Regular trainings will be scheduled on the *Bikeway Action Plan* and on best practices related to bicycle facility planning, design, operations and maintenance.

If you worried about falling off the bike, you'd never get on.

~Lance Armstrong

Recommendation 2.3 – Review City of Redding projects to ensure they provide bicycle accommodation.

City staff will review land development and transportation projects and studies to ensure bicycles are accommodated in order to facilitate the creation / improvement of key bicycle connections and to prevent the erection of significant barriers that deter bicycle travel.

Bicycle considerations will be included in the planning, scoping, design and construction of all City projects. The development and adoption of a Bicycle Checklist is proposed to ensure that all projects accommodate bicycles.

Goal 3: Develop Bicycle-Related Education, Promotion and Enforcement Initiatives

It makes little sense to implement an extensive bikeway system without efforts to increase the awareness and usage of that system, and endeavoring to make that system as safe as possible for users. To that end, the following recommendations are directed to various initiatives to increase user safety, public awareness and overall system usage.

Recommendation 3.1 – Educate motorists about safe operating behavior around bicyclists.

The City and its community partners will educate motorists about bicycle safety through a "Share the Road" media campaign (grant funded, if possible) and other direct City communication literature such as the quarterly Recreation Guide and the monthly utility bill newsletters.

Recommendation 3.2 – Educate bicyclists about safe bicycling.

The City and its community partners will educate bicyclists about traffic safety. Program materials will emphasize helmet use and obeying traffic laws.

Recommendation 3.3 – Enforce traffic laws related to bicycling.

The City will enforce laws related to bicyclist and motorist behavior. The City will target unsafe bicycling practices, and target motorists who endanger bicyclist safety. Vehicles parked in Class 2 Bike Lanes will be ticketed and towed.

Recommendation 3.4 – Establish a Bikeway Advisory Committee.

The City will establish a Bikeway Advisory Committee to make recommendations to City Council and the Planning Commission and to monitor progress in the implementation of the *Bikeway Action Plan*. The Committee will also provide community input on design standards, assist in the design and delivery of the public education activities discussed above, and to aid in the undertaking of annual or semi-annual bicycle counts. It is anticipated the Committee will meet at least once per quarter and on an as-needed basis.

Recommendation 3.5 – Seek recognition from the League of American Bicyclists as a bicycle friendly community.

The Bicycle Friendly Community Campaign is an awards program through the League of American Bicyclists that recognizes municipalities that actively support bicycling. The League awards a four-year designation to communities that have made impressive, measurable efforts to integrate bicyclists into the community. Seeking recognition under this program will demonstrate the City's commitment and raise public awareness of the bikeway system.

Recommendation 3.6 – Promote increased bicycle usage.

The City and its community partners will promote increased bicycle usage through the development, sponsorship, support and participation in various events such as benefit rides, Bike Commute Week, Bicycling Awareness Month, encouraging employer incentives to employees who regularly cycle to work, and similar activities.

Recommendation 3.7 – Regularly update the Redding Bikeway Map.

The City and community partners will develop and distribute updated City of Redding Bicycle System Maps as significant changes occur to the system and the current map becomes outdated. These maps will also be reproduced on the City of Redding website for convenient access.

Section Three – Implementation

As opposed to a strategic plan or general policy statement, the *Bikeway Action Plan 2010-2015* is specifically designed for implementation. The recommendations herein are realistic and can be achieved as they have been developed through detailed fieldwork, thorough assessment, and close agency-public coordination. In several cases, the facilities and actions identified in this *Action Plan* may require additional traffic analysis and/or neighborhood involvement to ensure proper implementation.

The bicycle is a curious vehicle. Its passenger is its engine.

~John Howard

In addition to the detailed list of capital improvements, many of the recommendations – particularly activities considered under Goal 3: Develop Bicycle-Related Education, Promotion and Enforcement Initiatives – are non-infrastructure programs that are key to the success of the *Action Plan*. The combination of expanding bike system facilities, educational programs and the promotion of bicycling will substantially aid in the effort of making Redding a more bike-able community.

The implementation of these recommendations will also require the commitment and effort of numerous City departments, County and State agencies, elected officials, business leaders, community groups, and others. A variety of partnerships are envisioned for the development and maintenance of bicycle facilities, to support the education of motorists and bicyclists about bicycle safety, and to encourage more people to bicycle for commuting and recreation. (These partnerships are discussed in greater detail in Appendix E.)

Milestones and Metrics

The following are the major elements for measuring progress and success of the *Action Plan*, all to be completed by 2015:

1. **The Redding bikeway system will expand by 38.70 on-street miles to a total City of Redding bikeway network of 162.81 miles.**
2. **The portion of the bikeway system graded as Class 2 – Bike Lanes will almost double from the current 24.61 miles to a total of 46.18 miles at this level of service.**

3. **The number of bicycle trips recorded during the annual Fall audit will increase by 3 percent each year for each section monitored. The trip targets will be as follows:**

Year	Trips per Section	Riders / Sections
2009 Actual	19.32	425 Riders / 22 Sections
2010 Goal	19.90	
2011 Goal	20.50	
2012 Goal	21.12	
2013 Goal	21.75	
2014 Goal	22.40	
2015 Goal	23.07	

4. **Baseline data will be collected on bicycle rider counts, bike accidents, and intersection quality to develop performance metrics for monitoring education and safety events, creating promotional campaigns, and future *Bikeway Action Plans*.**

Funding Options

There are a variety of potential funding sources including local, state, and federal programs. As well, private sector funding may also be available for specific improvements. Most of the federal and state programs are competitive and involve the completion of extensive applications with clear documentation detailing the project need, costs, and benefits. Local funding for bicycle projects typically comes from Transportation Development Act (TDA) funding, which is pro-rated to each county based on the return of gasoline taxes. Local business, organizations, and foundations may also be a source of funding for projects and programs.

The City can take advantage of existing street maintenance and roadway construction funding provided through the General Fund, various initiatives, and other public and private sources, and dedicate portions of this funding to critical bicycle projects. Some of the most significant connections that are needed in Redding (such as multi-purpose trails) will not be implemented through routine roadway repaving and reconstruction projects, and will require independently-funded capital improvements.

In addition, there are a number of street retrofit projects that are important to improving bikeway connections but are hard to fund from traditional sources and are in need of a separate, dedicated funding source.

In the current economic climate, it will be essential to design comprehensive projects that can leverage local dollars with state and federal funds for the maximum benefit.

Potential federal funding options include:

- Federal Transportation Bill;
- Regional Surface Transportation Program;

- Land and Water Conservation Fund; and
- Rivers, Trails and Conservation Assistant Program.

Potential State of California funding sources include:

- Bicycle Transportation Account;
- Transportation Enhancement Program;
- Office of Traffic Safety (OTS) Grants;
- Federal Safe Routes to School (SRTS) and California Safe Routes to School (SR2S);
- Community Based Transportation Planning Demonstration Grant Program; and
- State Parks Office of Grants and Local Services.

Potential local funding sources include

- Transportation Development Act (TDA) Article 3;
- Developer Impact Fees and Transportation Impact Fees;
- Local Bond Measures;
- Business Improvement Districts; and
- Local Improvement Districts (LID).

In addition, the implementation of Complete Streets concepts and an increased support for routine accommodation provides the opportunity to couple pedestrian and bikeway improvements as conditions for development and subdivision approval.

The bicycle is the most civilized conveyance known to man. Other forms of transport grow daily more nightmarish. Only the bicycle remains pure in heart.

~Iris Murdoch,
The Red and the Green

Implementation Schedule – Capital and Non-Capital Projects

Appendix A provides a timeline for the various programmatic and administrative goals setout by the *Action Plan*. A number of these goals are ongoing activities that can be incorporated into current processes with little to no additional staff impact or cost. Others involve activities that will need to be designed and implemented by City staff and/or partner agencies pending appropriate funding.

Systems Changes and Capital Improvement Plan

Appendix B details the recommended bikeway system changes and level of service improvement goals for various bikeways by route sections.

These projects are not specifically prioritized in this plan, but will be combined when possible with street improvement projects identified in the *City of Redding 2009-10 to 2014-15 Capital Improvement Plan*. The actual order of completion will depend on funding availability and the opportunity to pair bikeway improvements with other roadway construction and maintenance over the next five years.

When possible, the highest priority will be given to upgrading key connection sections from Class 3 Bike Routes to Class 2 Bike Lanes as funding and opportunity permits.

APPENDIX A – Implementation Timeline – Part 1

Goal 1: Improve and Add Bikeways, Connections and Facilities

Recommendation	2010	2011	2012	2013	2014	2015
Recommendation 1.1– Improve and expand the bike route system and provide functional and distinctive signs and markings for the system.	Add 1.2 miles of signed Class 2 bike lanes and Class 3 bike routes (total system: 125.31 miles)	Add 7.5 miles of signed Class 2 bike lanes and Class 3 bike routes (total system: 132.81 miles)	Add 7.5 miles of signed Class 2 bike lanes and Class 3 bike routes (total system: 140.31 miles)	Add 7.5 miles of signed Class 2 bike lanes and Class 3 bike routes (total system: 147.81 miles)	Add 7.5 miles of signed Class 2 bike lanes and Class 3 bike routes (total system: 155.31 miles)	Add 7.5 miles of signed Class 2 bike lanes and Class 3 bike routes (total system: 162.81 miles)
Recommendation 1.2– Upgrade significant Class 3 Bike Routes to Class 2 Bike Lanes when possible.	Upgrade 1.57 miles to Class 2 bike lanes (total Class 2 system: 26.18 miles)	Upgrade 4.00 miles to Class 2 bike lanes (total Class 2 system: 30.18 miles)	Upgrade 4.00 miles to Class 2 bike lanes (total Class 2 system: 34.18 miles)	Upgrade 4.00 miles to Class 2 bike lanes (total Class 2 system: 38.18 miles)	Upgrade 4.00 miles to Class 2 bike lanes (total Class 2 system: 42.18 miles)	Upgrade 4.00 miles to Class 2 bike lanes (total Class 2 system: 46.18 miles)
Recommendation 1.3– Provide bicycle parking in public spaces.	Add bicycle parking racks as needed	Add bicycle parking racks as needed	Add bicycle parking racks as needed	Add bicycle parking racks as needed	Add bicycle parking racks as needed	Add bicycle parking racks as needed
Recommendation 1.4– Encourage bicycle parking in existing uses private space and require bicycle parking in new uses private spaces.	Continue outreach to all appropriate current use building managers and property owners	Continue outreach to all appropriate current use building managers and property owners	Continue outreach to all appropriate current use building managers and property owners	Continue outreach to all appropriate current use building managers and property owners	Continue outreach to all appropriate current use building managers and property owners	Continue outreach to all appropriate current use building managers and property owners
Recommendation 1.5– Improve bicycle access through complex intersections.	Determine crash evaluation sites, identify problem intersections	Determine crash evaluation sites, identify problem intersections, and design necessary improvements	Determine crash evaluation sites, identify problem intersections, and design necessary improvements	Determine crash evaluation sites, identify problem intersections, and design necessary improvements	Determine crash evaluation sites, identify problem intersections, and design necessary improvements	Determine crash evaluation sites, identify problem intersections, and design necessary improvements

APPENDIX A – Implementation Timeline – Part 2

Goal 2: Develop Bicycle-Friendly Policies

Recommendation	2010	2011	2012	2013	2014	2015
Recommendation 2.1– Adopt a Complete Streets Ordinance and review and recommend necessary changes to Redding ordinances, regulations, policy documents and design standards to address bicycle accommodation.	Review City ordinances, policy documents, design standards and regulations.	Draft and adopt Complete Streets ordinance, and implement standards and regulations				
Recommendation 2.2– Provide training to City of Redding staff and policy makers.	Train staff about Bike Plan and bike planning, design and engineering; conduct two related trainings.	Train staff about Complete Streets	Conduct training	Conduct training	Conduct training	Conduct training
Recommendation 2.3– Review City of Redding projects to ensure they provide bicycle accommodation.	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Recommendation 2.4– Consider an annual budget line item specific to bikeway capital improvements.		Consider budget line item as part of the FY 2011-13 biennial budget		Consider budget line item as part of the FY 2013-15 biennial budget		Consider budget line item as part of the FY 2015-17 biennial budget

APPENDIX A – Implementation Timeline – Part 3

Goal 3: Develop Bicycle-Related Education, Promotion and Enforcement Initiatives

Recommendation	2010	2011	2012	2013	2014	2015
Recommendation 3.1– Educate motorists about safe operating behavior around bicyclists.	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Recommendation 3.2– Educate bicyclists about safe bicycling.	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Recommendation 3.3– Enforce traffic laws related to bicycling.	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Recommendation 3.4– Establish a Bikeway Advisory Committee.	Establish Bikeway Advisory Committee	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Recommendation 3.5– Seek recognition from the League of American Bicyclists as a bicycle friendly community.		Apply for LAB Bicycle Friendly Community recognition (four year term)				Re-apply for LAB Bicycle Friendly Community recognition
Recommendation 3.6– Promote increased bicycle usage.	Work with partners to promote bicycle usage.	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Recommendation 3.7– Regularly update the Redding Bikeway Map.	Redding Bike Map updated, distribute and post on web			Redding Bike Map updated, distribute and post on web		

APPENDIX B- Recommended System Changes and Capital Improvement Plan

Recommended System Changes

The Bikeway Plan Committee systematically reviewed the current bikeway network to consider various circulation and connectivity improvements, identify safety issues, and grade the overall functionality of the system. The result was a number of recommended additions, deletions or corrections.

The accompanying table in this appendix and the maps included in Appendix F detail the proposed changes to the bikeway system. 2.9 miles of bikeways have been deleted from the system, primarily in the downtown core where bike traffic has been re-routed to less congested streets. Conversely 41.60 miles in bikeways have been added to the system, in the downtown core as mentioned and at other strategic locations throughout the City to improve connectivity. The result is a net gain of 38.70 on-street miles for a system total of 140.30 on-street miles.

Based on the recommendations of the Bikeway Plan Committee, the *Action Plan* anticipates by 2015 the complete bikeway system network totaling 162.81 miles of dedicated paved multi-use paths and on-street signed routes to serve current and future needs, with a significant portion of the on-street system upgraded to a Class 2 Bike Lane level of service.

The Bikeway Plan Committee also identified emerging issues that while not contained in the current *Action Plan* recommendations should be considered in future bikeway system discussions:

- Establishing a connection between Browning Street and the Dana-to-Downtown Trail either via the Caltrans right-of-way next to Interstate 5, or alternatively using the service lane located behind the retail centers on Hilltop Drive.
- Ensuring that bike-friendly elements are incorporated into the traffic circulation designed for the forthcoming Shasta County Courthouse construction.

Capital Improvement Plan

The accompanying table in Appendix B also serves as the Capital Improvement Plan for the *Action Plan* with priorities based on street projects identified in the *City of Redding's 2009-10 to 2014-15 Capital Improvement Plan*.

Adding signage to designate all 140.30 miles of the on-street bikeway system network is a major priority, and the timeline detailed in Appendix A proposes an orderly completion of this task within the *Action Plan* timeframe.

It is anticipated that the improvement of individual Class 3 Bike Routes to a Class 2 Bike Lane level of service will be completed on an as-opportunity-permits basis by incorporating these projects into overall roadway design and construction projects. Some segments were graded as "Almost Class 2" by the Bikeway Plan Committee, and can qualify as full Class 2 Bike Lanes after the completion of minor improvements such as lane striping and leveling out manhole covers. Others will require significantly more work to be improved.

In planning these improvements, priority should be given to segments that provide connectivity to existing Class 1 and 2 bikeways, and improve vital north-south / east-west connections. Because the needs of each individual segment are different, specific project costs will be determined on a case-by-case basis as these projects are designed and developed.

System improvements currently under active consideration, pending Bicycle Transportation Account grant funding, include the installation of Class 2 Bike Lanes on Quartz Hill Road between Snow Lane and Terra Nova Drive (estimated cost $223,000) and the installation of Class 2 Bike Lanes on Old Alturas Road between Edgewood Drive and Shasta View Drive (estimated cost $554,000). These two potential upgrades will significantly improve the bikeway system, particularly the Old Alturas Road segment which was designated the "worst section of road in the City" in the recent assessment undertaken by the Bikeway Plan Committee.

CLASS I - BIKEWAYS

STATUS	ROAD SEGMENT	FROM	TO	MILES
Existing	CalTrans Bikeway	Boulder Creek	Interstate 5	0.24
Existing	CalTrans Bikeway	Interstate 5	College View Dr	0.61
In Process	CalTrans Bikeway	Dana Drive	Sundial Bridge Drive	1.10
EXISTING CLASS I BIKEWAYS:				1.95

CLASS II - BIKE LANES

STATUS	ROAD SEGMENT	FROM	TO	MILES
Existing	Buenaventura Blvd	Keswick Dam Rd	Stanford Hills Trailhead	1.00
Existing	Cedars Rd	Westside Rd	State Route 273	0.03
Existing	Eastside Rd	Polk St	Radio Ln	1.13
Existing	Knighton Rd	Churn Creek Rd	Airport Rd	1.75
Existing	Park Marina Dr	Butte	Parkview Av	1.36
Existing	Polk St	Ellis	Eastside	0.37

Existing	South Bonnyview Rd	State Route 273	Churn Creek Rd	3.06
Existing / Proposed	N. Market St	Lake Blvd	Quartz Hill Rd	1.26
Existing / Proposed	Tarmac Rd	Shasta View Dr	Abernathy Ln	0.97
Existing / Upgrade	Buenaventura Blvd	Buenaventura Trailhead	Railroad Av	3.00
Existing / Upgrade	Hilltop Dr	State Route 299	E. Cypress Av	3.34
Existing / Upgrade	Lake Blvd	Pinegrove	N. Market St	5.02
Existing / Upgrade	Old Alturas Rd	Churn Creek Rd	Old Oregon Trail	2.46
Existing / Upgrade	Shasta View Dr	College View Dr	Rancho Rd	5.97
Existing / Upgrade	Victor Av	Old Alturas Rd	Rancho Rd	3.68
Existing / Upgrade / Proposed	Bechelli Ln	Bechelli River Access	South Bonnyview Rd	3.22
Existing / Upgrade / Proposed	Browning St	Hilltop Dr	Old Alturas Rd	1.11
Existing / Upgrade / Proposed	Churn Creek Rd	State Route 299	Knighton Rd	8.53
Existing / Upgrade / Proposed	Hartnell Av	Cypress Av	Airport Rd	4.14
Upgrade	Benton Dr	Quartz Hill Rd	Sacramento River	0.47
Upgrade	Butte St	Continental St	Park Marina Dr	0.39
Upgrade	Center St	Riverside Dr	Trinity St	0.16
Upgrade	College View Dr	Bodenhamer Blvd (Future)	Old Alturas Rd	2.01
Upgrade	Continental St	Trinity St	Butte	0.31
Upgrade	Court St	Sacramento River	Schley Av / Railroad Av	1.19
Upgrade	Cypress Av	Civic Center Dr	Ishi Dr	2.90
Upgrade	East St	Trinity St	South St	1.14
Upgrade	Keswick Dam Rd	Buenaventura Blvd	Lake Blvd	1.70
Upgrade	Oasis Rd	Lake Blvd	Old Oregon Trail	4.15
Upgrade	Old Oregon Trail	Oasis Rd	State Route 44	7.09
Upgrade	Parkview Av	Market Street	Park Marina Dr	0.96
Upgrade	Quartz Hill Rd	Keswick Dam Rd	N. Market St	3.01
Upgrade	Railroad Av	Schley Av	Buenaventura Blvd	1.35
Upgrade	Riverside Dr	Court St	Center St	0.20
Upgrade	Schley Av	Court St	Railroad Av	0.07
Upgrade	State Route 273	South Bonnyview Rd	City Limits	3.88
Upgrade	Trinity St	Center St	Continental St	0.43
Upgrade	Westside Rd	Buenaventura Blvd	Cedars Rd	1.87
Upgrade / Proposed	Boulder Dr	State Route 299 Bikeway	State Route 299 Bikeway	0.18

Upgrade / Proposed	Hawley St	State Route 299	Proposed Future Trailhead	0.58
Upgrade / Proposed	Placer St	City Limits	Airpark Dr	3.26
Upgrade / Proposed	Rancho Rd	Churn Creek Rd	Venture	2.36
Proposed	Airport Rd	Hartnell Av	Sacramento River	6.15
Proposed	Bechelli River Access	Dana-to-Downtown Bikeway	Bechelli Ln	0.24
Proposed	Future Rd	Future Trailhead	Tanglewood	0.66
Proposed	Loma Vista	Bechelli Ln	Churn Creek Rd	0.50
Proposed	Palisades Av	Hilltop Dr	Dana-to-Downtown Bikeway	0.42
Proposed	Preserve Blvd	Thomason	Airport Rd	0.38
Proposed	Radio Ln / East Bonnyview Rd	Eastside Rd	South Bonnyview Rd	0.46
Proposed	South St	Court St	Park Marina Dr	1.35
Proposed	Venture St	Rancho Rd	Unforgettable Ln	2.34
Proposed	View St	Browning St	Dana-to-Downtown Bikeway	0.25
TOTAL CLASS II BIKEWAYS:				103.80

CLASS III - BIKE ROUTES

STATUS	ROAD SEGMENT	FROM	TO	MILES
Existing	Anita St	Ellis	Rio St	0.16
Existing	Benton Dr	Quartz Hill Rd	N. Market St	1.00
Existing	Branstetter Ln	West City Limits	Westside Rd	2.06
Existing	Cedars Rd	El Reno Ln	Westside Rd	1.50
Existing	Clear Creek Rd	West City Limits	State Route 273	4.01
Existing	Collyer Dr	Mountain View Dr	Old Oregon Trail	2.42
Existing	East St	South St	Locust St	0.21
Existing	Eastside Rd	Radio Ln	Girvan Rd	2.35
Existing	El Reno Ln	Cedars Rd	Westside Rd	0.15
Existing	Ellis St	Polk St	Anita St	0.12
Existing	Freebridge Av	Parkview Av	Rio St	0.39
Existing	Girvan Rd	Eastside Rd	State Route 273	0.04
Existing	Honeybee Rd	Texas Springs Rd	Clear Creek Rd	0.67
Existing	Mountain View Dr	Twin View Blvd	Collyer	0.57
Existing	Rio St	Freebridge Av	Anita St	0.04
Existing	Texas Springs Rd	Honeybee Rd	Branstetter Ln	2.42
Existing	Twin View Blvd	Oasis Rd	Mountain View Dr	1.29
Proposed	8 th St	Mary St	West St	0.08

Proposed	11 th St	West St	Court St	0.08
Proposed	Airpark Dr	Placer St	Gold St	0.16
Proposed	California St	Trinity St	Tehama St	0.24
Proposed	Center St	Trinity St	Division	0.10
Proposed	Churn Creek Rd	Knighton Rd	Airport Rd	3.43
Proposed	Civic Center Dr	Locust St	Cypress Av	0.14
Proposed	Continental St	Butte St	South St	0.32
Proposed	Dersch Rd	Airport Rd	Stillwater Creek Trail	0.81
Proposed	Division	Center St	California St	0.08
Proposed	Foothill Blvd	Lakeside Dr	Knolls Trailhead / Las Animas	0.59
Proposed	Gold St	Airpark Dr	West St	0.52
Proposed	Hemstead	Cypress Av	Bechelli Ln	0.47
Proposed	Hilltop Dr	E. Cypress Av	Maraglia St	0.27
Proposed	Keswick Dam Rd	Sacramento River Trailhead	Buenaventura Blvd	1.48
Proposed	Lakeside Dr	Buenaventura Blvd	Foothill Blvd	0.14
Proposed	Las Animas	Foothill Blvd	Monte Bello	0.05
Proposed	Locust St	East St	Civic Center Dr	0.32
Proposed	Manzanita Hills Av	Knolls Trailhead / Monte Bello	Shasta St	0.11
Proposed	Market St	Placer St	South St	0.11
Proposed	Mary St	Overhill Trailhead	8 th St	0.20
Proposed	Meadow View Dr	Churn Creek Rd	Airport Rd	0.93
Proposed	Monte Bello	Las Animas	Manzanita Hills Av	0.05
Proposed	Overhill	Eureka Way	Overhill Trailhead	0.53
Proposed	Pleasant St	Placer St	Stratford	0.20
Proposed	Quartz Hill Rd	Keswick Dam Rd	Lake Blvd	2.91
Proposed	Railroad Av	South St	Schley Ave / Court St	0.44
Proposed	Shasta St	Stratford	Court St	0.98
Proposed	South St	West St	Court St	0.08
Proposed	Tehama St	West St	Callifornia St	0.28
Proposed	Traveled Way	N. Market St	Sacramento River Trailhead	0.24
Proposed	West St	8 th St	11 th St	0.30
Proposed	West St	Shasta St	Gold St	0.46
Proposed	Willis	Shasta St	Shasta St	0.01
TOTAL CLASS III BIKEWAYS:				36.50
TOTAL ALL TYPES OF BIKEWAYS:				142.25

MULTI-USE TRAILS

STATUS	TRAIL NAME	FROM	TO	MILES
Existing - Paved	Blue Gravel Mine Trail	Placer St	Canyon Creek Rd	2.04
Existing - Paved	Buckeye Park Trail	Internal Loop	Internal Loop	0.29
Existing - Paved	Buenaventura Trail	Lakeside Dr	Sunflower Dr	0.45
Existing - Paved	Canyon Creek Trail	Blazingwood Dr	Buenaventura Blvd	0.51
Existing - Paved	Cascade Park Trail	Internal Loop	Internal Loop	0.50
Existing - Paved	Civic Center Perimeter Trail	Internal Loop	Internal Loop	0.89
Existing - Paved	Clover Creek Preserve	Internal Loop	Internal Loop	2.00
Existing - Paved	Enterprise Park Trail	Internal Loop	Internal Loop	1.53
Existing - Paved	Knolls Trail	Foothill Blvd	Eureka Way	0.19
Existing - Paved	Lema Ranch Trails (Private, Open to public)	Internal Loop	Internal Loop	3.58
Existing - Paved	Mary Lake - Westside Trail Connector	Mary Lake Park	Westside Trail	0.30
Existing - Paved	Mary Lake Trail Loop	Internal Loop	Internal Loop	0.75
Existing - Paved	Mary Street / Overhill Extension	Sacramento River Trail	Overhill St	0.31
Existing - Paved	Park Marina River Front	Cypress Av	Park Marina Blvd	0.11
Existing - Paved	Parkview Riverfront Park Trail	Civic Center	Cypress Av	0.55
Existing - Paved	Peppertree Park Trail	Internal Loop	Internal Loop	0.37
Existing - Paved	Sacramento River to Rail Trail	Motion Creek	Keswick Dam Rd	12.00
Existing - Paved	Sacramento River Trail - North	Keswick Dam Rd	Hilltop Drive	6.72
Existing - Paved	Sacramento River Trail - South	Court St	Keswick Dam Rd	3.40
Existing - Paved	Sacramento River Trail - Turtle Bay West	Convention Center	State Route 44	1.00
Existing - Paved	Stanford Hills Trail	Sutro Mine Rd	Sacramento River Trail - North	0.86
Existing - Paved	Sundial Bridge	Riverfront Park	State Route 44 / Auditorium Dr	1.32
Existing - Dirt	Buenaventura Trail	Sunflower Dr	Sacramento River Trail - South	0.70
Existing - Dirt	Candlewood Trail	State Route 44	Candlewood Dr	0.55
Existing - Dirt	Churn Creek Open Space Trails (Private, Open to public)	Tidmore Ln	Minder Park	4.00
Existing - Dirt	Clover Creek Preserve	Internal Loop	Internal Loop	2.50
Existing - Dirt	Fishermens Trail	Keswick Dam Rd	Sacramento River to Rail Trail	0.40
Existing - Dirt	Hornbeck Trail	Quartz Hill Rd	Walker Mine Rd	4.00
Existing - Dirt	Lower Sacramento Ditch Trail	Internal Loop	Internal Loop	3.30
Existing - Dirt	Old 99 Spur Trail	Lake Blvd	North Market St	0.96
Existing - Dirt	Palatine Trail	Scenic Dr	Sacramento River Trail - South	0.50

Existing - Dirt	Swasey Trails	Swasey Rd	Mule Town Rd	10.80
Existing - Dirt	Upper Sacramento Ditch Trail	Walker Mine Rd	Shasta Dam	10.00
Existing - Dirt	Westside Trails	Placer Rd	Mary Lake Park	6.08
Proposed - Paved	ACID Trail	Butte St	Cypress Av	0.89
Proposed - Paved	Boulder Creek Trail	State Route 299 Bikeway	Churn Creek	1.69
Proposed - Paved	Canyon Creek Trail Extension	Placer St	Blazingwood Dr	2.13
Proposed - Paved	Churn Creek Trail	Minder Park	Churn Creek Rd	4.03
Proposed - Paved	Clear Creek Trail	State Route 273	Cascade Park	1.66
Proposed - Paved	Clover Creek Trail	Sports Park	Sacramento River	8.30
Proposed - Paved	Jenny Creek Trail	Eureka Way	Mary Lake	0.62
Proposed - Paved	Lema - Nash Trail	Shasta View Dr	Old Oregon Trail	0.98
Proposed - Paved	Linden Creek Trail	Placer St	Sheridan St	1.64
Proposed - Paved	Little Churn Creek Trail	Hartnell Av	Churn Creek	1.07
Proposed - Paved	Manzanita Trail	Manzanita Hills Av	Almond Av	0.27
Proposed - Paved	Middle Creek Trail	Old Shasta / State Route 299	Sacramento River Trail	1.86
Proposed - Paved	Palisades Trail	Hilltop Dr	North Bechelli Ln	1.43
Proposed - Paved	Riverside Trail	Sacramento River Trail	Center St	0.38
Proposed - Paved	Sacramento River Trail - Expansion	Cypress Av	Anderson River Park	11.50
Proposed - Paved	Sacramento River Trail - Hatchcover Spur	Hemstead Dr	Cypress Av	0.29
Proposed - Paved	Sacramento River Trail - Park Marina	State Route 299	Cypress Av	2.12
Proposed - Paved	Stillwater Creek Trail	Old Oregon Trail	Sacramento River	15.45
Proposed - Paved	Stillwater Plant Trail	State Route 44	Dersch Rd	1.85
Proposed - Paved	Sulpher Creek Trail - South	North Market St	Aboretum Perimeter	0.38
Proposed - Paved	Upper Churn Creek Trail	Pine Grove Av	Oasis Rd	1.75
Proposed - Paved	Wentz Creek Trail	Mistletoe School	Cypress Av	0.55
Proposed - Dirt	Avalon Trail	Shasta View Dr	Old Oregon Trail	1.00
Proposed - Dirt	China Dam Trail	Placer Rd	Texas Springs Rd	2.43
Proposed - Dirt	Greenwood Trail	Walnut Av	Sonoma St	0.83
Proposed - Dirt	Mercedes Trail	Arboretum Perimeter Trail	Mercedes Ln	0.21
Proposed - Dirt	Olney Creek Trail	Texas Springs Rd	Cascade Park	3.67
Proposed - Dirt	Ridgeview Trail	Ridgeview Park	Blue Gravel Mine Trail	0.65
Proposed - Dirt	Salt Creek Trail	Lower Springs Rd	Sacramento River Trail	2.00
Proposed - Dirt	Sulpher Creek Trail - North	Quartz Hill Rd	North Market St	3.30
TOTAL MULTI-USE TRAILS - EXISTING AND PROPOSED:				158.39

APPENDIX C
Legal Requirements and Related Planning Documents

Life is like a ten speed bicycle. Most of us have gears we never use.

~Charles M. Shultz

State of California Bicycle Transportation Act and Streets and Highways Code

The City of Redding *Bikeway Action Plan 2010-2015* has been prepared pursuant to the *California Bicycle Transportation Act* and is directed towards meeting the provisions of the *Act* and the *California Street and Highways Code Chapter 517, Article 3, Sections 890 – 894.2*. The *Act* outlines the required elements for inclusion in a bicycle transportation plan in order for cities or counties to be eligible for Bicycle Transportation Account (BTA) funds. *The Bicycle Transportation Act* provides state funds for city and county projects that improve safety and convenience for bicycle commuters. The City of Redding's *Bikeway Action Plan 2010-2015* addresses these requirements through narrative, tables, and maps.

Reproduced below are the relevant section of the *Code*.

California Streets and Highways Code Section 891.2:

A city or county may prepare a bicycle transportation plan, which shall include, but not be limited to, the following elements:

The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan.

A map and description of existing and proposed land use and settlement patterns which shall include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers.

A map and description of existing and proposed bikeways.

A map and description of existing and proposed end-of-trip bicycle parking facilities. These shall include, but not be limited to, parking at schools, shopping centers, public buildings, and major employment centers.

A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These shall include, but not be limited to, parking facilities at transit stops, rail and transit terminals, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles.

A map and description of existing and proposed facilities for changing and storing clothes and equipment. These shall include, but not be limited to, locker, restroom, and shower facilities near bicycle parking facilities.

A description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code pertaining to bicycle operation, and the resulting effect on accidents involving bicyclists.

A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.

A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, programs that provide incentives for bicycle commuting.

A description of the projects proposed in the plan and a listing of their priorities for implementation.

A description of past expenditures for bicycle facilities and future needs for projects that improve safety and convenience for bicycle commuters in the plan area.

I thought of that while riding my bicycle.

~Albert Einstein, on the theory of relativity

City of Redding General Plan 2000-2020

The City of Redding's *General Plan 2000-2020*, adopted October 3, 2000, directed that a Comprehensive Bikeway Plan be adopted and provided policy guidance prior to the adoption of that plan.

Reproduced below is relevant section from the Transportation Element of the General Plan detailing goals and policy elements for the bikeway system.

Bicycle System

Bicycles can be an integral part of a city's transportation system. As lifestyles and land use patterns continue to change, there is every reason to expect that this transportation mode will increase considerably. To make the most of commuter bicycle use, a comprehensive system of bikeways needs to be established. There are many opportunities within Redding's existing arterial and collector street system to establish a viable commuter system. In many instances this system can be linked to the system of multi-use trails that have been and will be constructed along the river, its tributary streams, and other areas. It will take commitment on the part of the City to ensure that proper facilities are provided as new streets are constructed and to establish an active program to retrofit existing streets to accommodate bike facilities. This work may consist of re-striping streets to provide adequate width for bike facilities and/or providing additional paved width along shoulders. The preparation of a properly docu-

mented Bikeway Plan is necessary to identify existing deficiencies, recommend upgrades, and establish timing and funding priorities.

Until a Comprehensive Bikeway Plan is adopted, Figure 2-3 [map, not reproduced] should be used to plan for a well-integrated bikeway system. The system should include all classes of facilities as addressed in table 2-1 [not reproduced].

GOAL T8
Make it Easier and Safer for People to Travel by Bicycle

Policies to achieve this goal are to:

If constellations had been named in the 20th century, I suppose we would see bicycles.

~Prof. Carl Sagan

T8A. Develop and maintain a Comprehensive Bikeway Plan geared to establishing an integrated bicycle system.

T8B. Incorporate facilities suitable for bicycle use in the design of interchanges, intersections, and other street-improvement/maintenance projects.

T8C. Make improvements to streets, signs, and traffic signals as needed to improve bicycle travel.

T8D. Keep bikeways free of overhanging shrubbery, debris, and other obstacles.

T8E. Install bicycle parking in the Downtown area and at City parks, civic building, and other community centers.

T8F. Support the efforts of the Redding Area Buss Authority (RABA) to provide bicycle racks on all buses within the system.

T8G. Require new development to provide bicycle facilities or pay in-lieu fees based on the fair share of that development's impacts on the bikeway system and needs identified on the Comprehensive Bikeway Plan.

City of Redding Parks, Trails and Open Space Master Plan 2004

Between 2001-2004, the City of Redding's Community Services Department developed the *Parks Master Plan*, comprehensive planning document for the City's park system through 2024. Adopted in 2004, the *Parks Master Plan* provided additional policy guidance for the bikeway system in advance of a more specific plan.

Bikeways
Goal TB4
Make it Easier and Safer for People to Travel by Bicycle

Policies to achieve this goal include:

TB4A Bicycle Plan. Implement the goals and policies found in the "1998 Redding Bicycle Plan." Incorporate the bikeway components of this document into subsequent revisions of that Plan.

TB4B Improvements. Make improvements to existing streets, signs, and traffic signals as need to improve bicycle travel.

Use this document and the map entitled "Redding Parks, Trails and Bikeways Map" [not reproduced] and all subsequent revisions to guide bikeway development.

TB4C Safety. Separate bicyclists and pedestrians from vehicular traffic, and pedestrian facilities from bicycle facilities, whenever feasible.

TB4D Bicycle Parking. Install bicycle parking in the Downtown area and at City parks, trailheads, civic buildings, and other community centers.

TB4E Planning. Designate a bikeway planner or coordinator to work with bicycle advocacy groups and bike race organizers to plan for and accommodate future improvements to the bicycle system.

TB4F Jurisdictional Coordination. Continue to work with surrounding jurisdictions and agencies to create a regional network of bikeways that connect Shasta County communities and destinations.

TB4G Maintenance. Keep bikeways free of overhanging shrubbery, debris, and obstacles, and periodically re-grade earthen and gravel shoulders next to bikeways to prevent drop-offs.

TB4H Funding. Continue to seek funding for bikeway system expansion, improvement, and maintenance.

Require new development to provide bicycle facilities or pay in-lieu fees based on the fair share of that development's impacts on the bikeway system and need identified in this document.

Use all available state and federal funding programs.

Encourage cooperation among agencies and volunteers for jointly funding bikeway facilities.

When the spirits are low, when the day appears dark, when work becomes monotonous, when hope hardly seems worth having, just mount a bicycle and go out for a spin down the road, without thought on anything but the ride you are taking.

~Sir Arthur Conan Doyle

APPENDIX D
Acquisition and Development, Design Standards, and Maintenance

Acquisition and Development

Multi-use paths with separate right-of-ways are generally developed as capital projects on City-owned land or acquired through land dedications related to the subdivision process for open space or recreation trail purposes. These dedications may be made as conditions for map approval, or through requirements pursuant to Section 17.41.020 of Redding's Municipal Code. This code section requires developers of subdivisions of two hundred or more parcels to dedicate additional land as may be necessary and feasible to provide bicycle paths for use and safety of the residents of the subdivision.

Class 2 Bike Lanes and Class 3 Bike Routes, which are part of the street system, are developed as new road construction occurs, or as special federal and state funds become available to widen shoulders, upgrade existing roadways, and to stripe and sign them.

Design Standards

The City of Redding has design standards for recreational multi-use paths as well as Class 2 Bike Lanes and Class 3 Bike Routes. The City does not have design standards for nor does it envision constructing Class 1 Bike Paths. All existing Class 1 Bike Paths in the Redding bikeway system have been constructed by Caltrans.

The City's current design standards are subject to revision and update as the City plans to adopt a Complete Street Ordinance in 2011, pending forthcoming guidelines expected from the Governor's Office. Future editions of the *Bikeway Action Plan* will incorporate these revised standards in this appendix.

The most current design standards can be viewed at the following web links:

http://mutcd.fhwa.dot.gov/pdfs/2009/par9.pdf

http://ci.redding.ca.us/transeng/engineering/pwstdsearch_results.cfm?search=2

Maintenance

Maintenance for bikeway facilities on streets and roadways is a Municipal Utilities function. Parks Division is responsible for maintenance of multi-use paths. Both activities are funded via appropriations from the City's General Fund.

Maintenance is a key component to ensuring a safe and enduring bikeway system. Maintenance has many components and can include the use of volunteers, citizen

input through a website to report debris and other hazards, and regularly-scheduled street maintenance that includes the full travel lanes.

The Street Service Request form is currently found on the City's Department of Transportation and Engineering, Streets Division website through this link:

http://ci.redding.ca.us/transeng/streets/srvreq.cfm

This online form is applicable to several of the obstacles encountered by cyclists in Redding. The form will be modified to include additional road hazards and supplemented with a checkbox to signify mode of transportation as vehicle, bicycle, pedestrian, etc.

Currently, all streets within the City are swept every four weeks. As a standard practice, street sweeping should include the full width of the bicycle travel area, and not just the parking lane.

The following table is provided to establish maintenance standards and recommend the frequency of various maintenance activities for bike lanes and bike routes.

Optimal Maintenance Frequencies

Major damage response (fallen trees, washouts, flooding)	Schedule based on priorities
Pavement sealing; pothole repair	5-15 years
Maintain clean walkways / roadside areas	80% of areas maintained to a "satisfactory" level
Sweep roadways	100% of roadways with frequent bike use every two weeks
Pavement markings replacement	1-3 years
Signage replacement	1-3 years
Maintain landscaping encroachment onto roadway or that obscures sight distance	100% within 24 hours of report
Sweep during construction	Daily
Culvert inspection	Before rainy season; after major storms
Maintaining culvert inlets	Inspect before onset of wet season
Inspections	Seasonal – at both beginning and end of summer

APPENDIX E
Other Agencies and Potential Partners

Bicycling is a big part of the future. It has to be. There's something wrong with a society that drives a car to workout in a gym.

~Bill Nye, *the Science Guy*

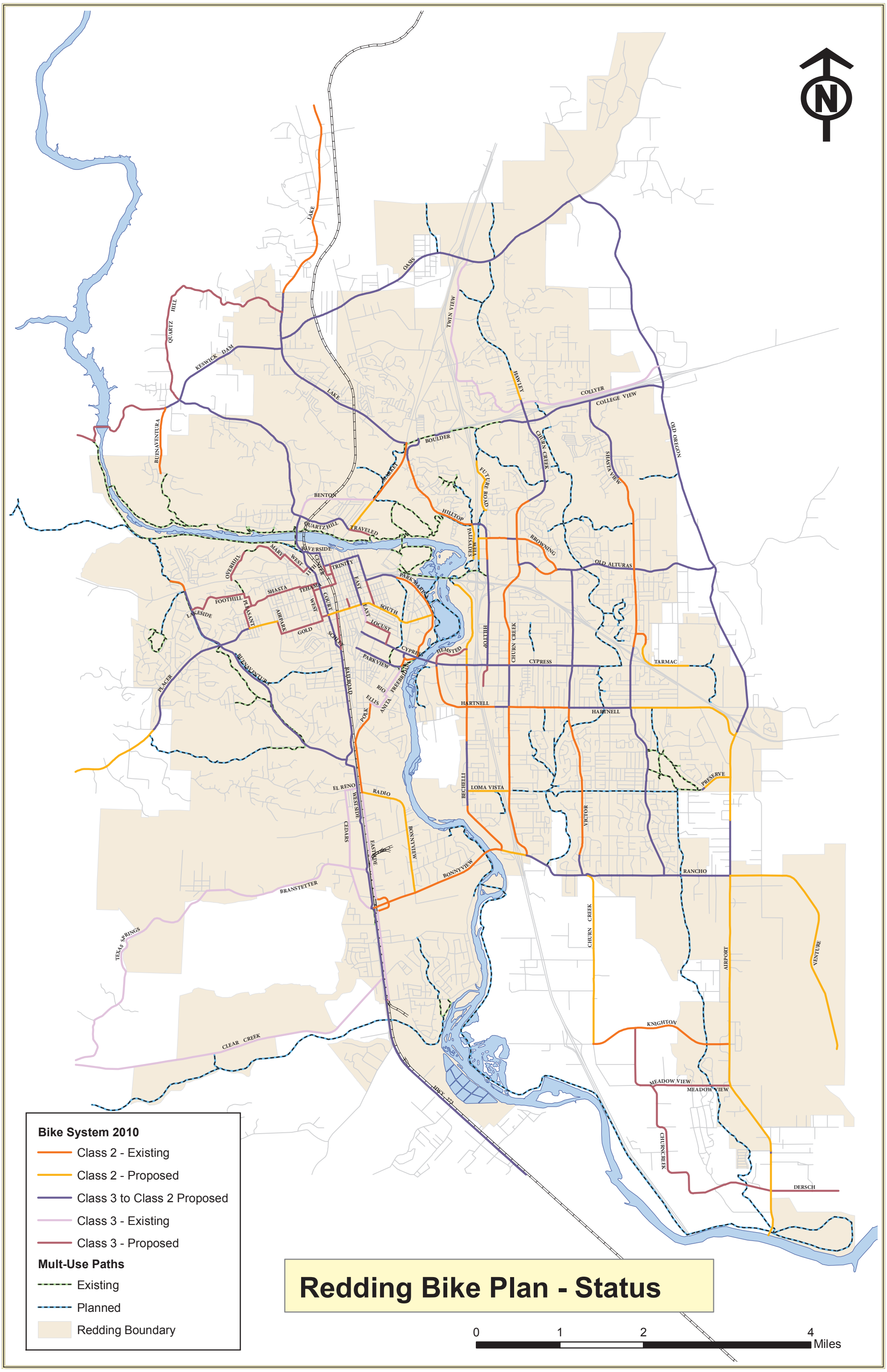
Partnering with other public agencies and establishing public-private partnerships with appropriate organizations is a necessary and growing trend to address a variety of community needs. Such partnerships are essential to increase the capacity in our bikeway system and promote the bike-friendly initiatives envisioned by the *Bikeway Action Plan*. In addition, working closely with neighboring jurisdictions will ensure that the various individual bikeway plans complement each other and integrate to form a region-wide bikeway network.

The City of Redding's long record of successful partnership projects is a testament to a community-oriented planning approach. These efforts allow for local dollars to be leveraged against state and federal dollars to create outstanding projects, in addition to fostering community enthusiasm and civic pride in our public landscape.

Past and potential partners for achieving the various goals set out in the *Bikeway Action Plan* include:

- American Trails
- California Department of Parks and Recreation
- California Conservation Corps
- Caltrans (State Department of Transportation)
- County of Shasta
- City of Anderson
- City of Shasta Lake
- Healthy Shasta
- The McConnell Foundation
- Norcal Bicycle Partnership
- Northern California Outdoor Adventures
- RABA (Redding Area Bus Authority)
- Redding Mountain Biking
- Redding Velo
- Shasta College
- Shasta County Public Health
- Shasta Wheelmen
- Trails and Bikeway Council of Greater Redding
- We Ski II Outdoor Adventure Club

Additional assistance is anticipated from a variety of service clubs, non-profit agencies and the private sector, as well as individuals and groups who participate in the Adopt-A-Street and Adopt-A-Trail programs.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BOULDER
CHURN CREEK
SHASTA VIEW
FUTURE ROAD
BENTON
HILLTOP
PALISADES VIEW
BROWNING
OLD ALTURAS
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TRAVELED
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OVERHILL
SHASTA
TEHAMA
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FOOTHILL
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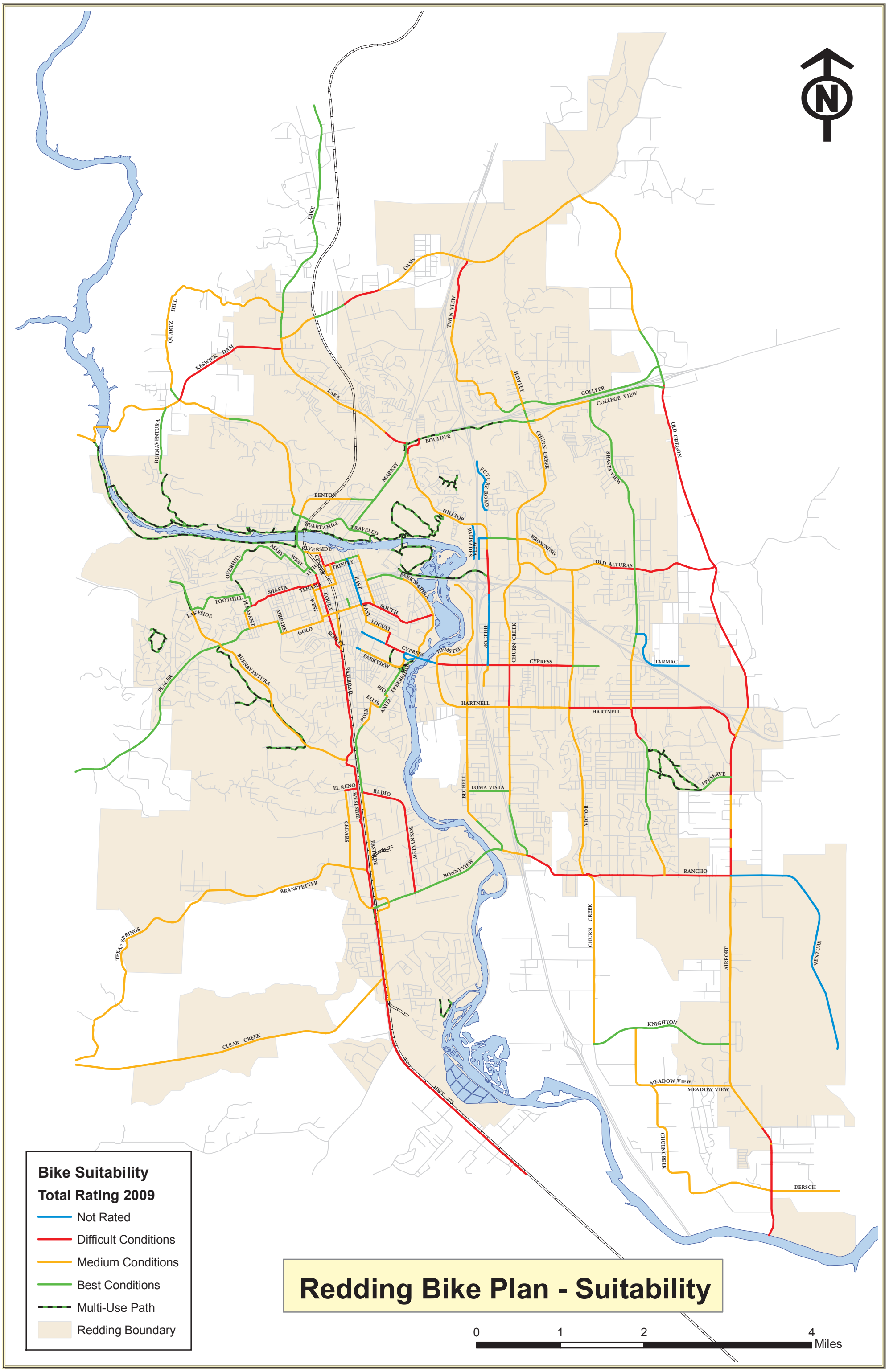
SOUTH
LAKESIDE
AIRPARK
GOLD
SCHOOL
EAST LOCUST
CYPRESS
HEMSTED
HILLTOP
CHURN CREEK
CYPRESS
TARMAC
PARKVIEW
BUENAVENTURA
PLACER
RAILROAD
RIO
FREEBRIDGE
ELLIS
ANITA
POLK
HARTNELL
HARTNELL
PRESERVE
LOMA VISTA
BECHELLI
EL RENO
WESTSIDE
RADIO
CEDARS
EASTSIDE
BONNYVIEW
VICTOR
BONNYVIEW
RANCHO
BRANSTETTER
TEXAS SPRINGS
CHURN CREEK
AIRPORT
VENTURE
KNIGHTON
CLEAR CREEK
MEADOW VIEW
MEADOW VIEW
HWY 273
CHURNCREEK
DERSCH
Bike System 2010
Class 2 - Existing
Class 2 - Proposed
Class 3 to Class 2 Proposed
Class 3 - Existing
Class 3 - Proposed
Mult-Use Paths
Existing
Planned
Redding Boundary
Redding Bike Plan - Status
0
1
2
4
Miles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HILLTOP
CHURN CREEK
CYPRESS
TARMAC
HARTNELL
HARTNELL
HAWLEY
COLLYER
COLLEGE VIEW
OLD OREGON
BECHELLI
LOMA VISTA
VICTOR
PRESERVE
RANCHO
CHURN CREEK
AIRPORT
VENTURE
KNIGHTON
MEADOW VIEW
MEADOW VIEW
CHURNCREEK
DERSCH
Bike Suitability
Total Rating 2009
Not Rated
Difficult Conditions
Medium Conditions
Best Conditions
Multi-Use Path
Redding Boundary
Redding Bike Plan - Suitability
0
1
2
4
Miles

Redding Bike Plan - Landuse

Bike System 2010

- Existing Bike Routes
- Planned Bike Routes

Mult-Use Paths

- Existing
- Planned

Schools

- COLLEGE
- ELEMENTARY
- HIGH SCHOOL
- MIDDLE
- SPECIAL

Land Use

- Dense Residential
- Residential
- Retail and Office
- Industrial
- Public
- Open Space

0 1 2 4 Miles

Redding Bike Plan
Connection with other Transportation Modes

Bike System 2010
Multi-Use Path
Bus Routes
Bus Stops
Park and Ride lot with Bike Rack

All RABA Buses have bike racks

0 1 2 4 Miles