













## Cheyenne On-Street Bicycle Plan and Greenway Plan Update, Volume I

June 2012

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**PREPARED FOR:** The City of Cheyenne, Wyoming, and Cheyenne Metropolitan Planning Organization



#### **Acknowledgments**

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### 1. Summary/Vision

The Cheyenne On-Street Bicycle Plan and Greenway Plan Update ("the Plan") provides the Cheyenne area with the projects, programs and policies necessary to create a first-class on-street bicycling system, enhance and expand the existing greenway system, deliver supportive education and encouragement programs and provide a well-designed, integrated, safe, and efficient multimodal transportation system. This Plan proposes that the Cheyenne area pursue a robust bikeway network that includes a total of 280 miles of new designated facilities into the future (see Table 1 below). Over half the facilities recommended by this Plan are long greenway corridors and shoulder bikeways that provide continuous connections to outlying areas of the region. The remaining mileage consists of bicycle boulevards, bike lanes, shared roadways, and buffered bike lanes that close gaps between existing bikeways and greenways within the city boundary.

Phasing	Facility Type	Length (Mi)
Near	Greenway	15.24
Near	Bike Boulevard	3.35
Near	Bike Lane	20.46
Near	Buffered Bike Lane	7.33
Near	Shared Lane Markings	6.01
Near	Shoulder Bikeway	0.49
Near	Future Bikweay	N/A
	Total	52.88
Medium	Greenway	23.77
Medium	Bike Boulevard	18.20
Medium	Bike Lane	18.43
Medium	Buffered Bike Lane	1.51
Medium	Shared Lane Markings	2.20
Medium	Shoulder Bikeway	0.00
Medium	Future Bikweay	N/A
	Total	63.67
Longer	Greenway	31.13
Longer	Bike Boulevard	17.63
Longer	Bike Lane	19.36
Longer	Buffered Bike Lane	14.03
Longer	Shared Lane Markings	4.70
Longer	Shoulder Bikeway	75.77
Longer	Future Bikweay	43.05
	Total	206.11
	Grand Total	322.66

#### **Table 1: Network Recommendations**



Visiting other communities allowed the Bicycle Advisory Committee to see how cycling facilities are implemented in other areas.

This document is Volume I of the Plan. It contains a summary of the planning process, recommendations, and implementation strategies including a flexible phasing plan for infrastructure recommendations, conceptual details for high priority projects, and programmatic recommendations. Volume I provides context for the additional technical information contained in Volumes II and III of the Plan. Volume II includes additional information on infrastructure design, policies, and details, as well as programmatic recommendations, and should be consulted by anyone looking for details of facility design or program implementation. Volume III is a compilation of the technical memoranda used to develop the plan and includes more details of existing conditions, end of trip facilities, the public involvement process and potential funding sources. Volume III is intended to serve as a technical reference for anyone seeking additional information on development of the Plan.

### 2. Planning Process

This section summarizes the process used to develop the Cheyenne On-Street Bicycle Plan and Greenway Plan Update.

#### 2.1. Project Management

The project management team consisted of representatives from the City of Cheyenne, Cheyenne Metropolitan Planning Organization (MPO) and the consulting team. The project management team met regularly throughout the project to guide the technical work and review project deliverables.

The City of Cheyenne and Cheyenne MPO invited representatives from various agencies and advocacy groups to form a Bicycle Advisory Committee (BAC) to represent their organizational perspective throughout the On-Street Bicycle Plan and Greenway Plan Update planning effort. BAC members were invited to comment on draft project deliverables. The BAC also met in person four times and once via phone between November 2010 and completion of the Plan to discuss the existing conditions, system recommendations and plan policies. The BAC meeting held in June 2011 also included a tour of bicycle friendly infrastructure in Fort Collins, Colorado, so members could experience firsthand the operation of bicycle facilities not currently in use in the Cheyenne region.

#### 2.2. Public Involvement

Two public open houses were hosted as part of the project in March and June 2011. The first open house invited members of the public to comment on goals and objectives, existing conditions and preliminary facility design concepts. Attendees were also asked to share



Open house events allowed community members to learn more about the planning process, share ideas for recommendations and interact with the project team.

their ideas for on-street and greenway facility recommendations. The second open house offered community members the chance to give feedback on the draft recommendations for system improvements. A summary of each event is included in Volume III of this Plan.

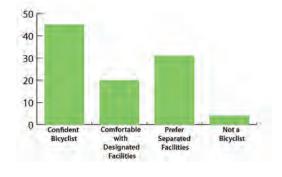
The project team also conducted a web based survey to better understand current bicycling behavior and perceptions in the Cheyenne area. Approximately 90 people responded. Survey results indicate that while nearly all respondents feel comfortable on the Cheyenne area's greenway network, fewer people are comfortable riding on the roadways. Similarly, bicyclists favor separated trails and bike lanes, but the survey also found that people feel comfortable on low traffic neighborhood roadways. A second survey was conducted during July and August of 2011 to allow the public to comment on project recommendations. Approximately 100 people submitted feedback, which was used to inform the network recommendations. Maps and graphics summarizing the results of these efforts are included in Volume III of this Plan.

#### 2.3. Plan and Policy Review

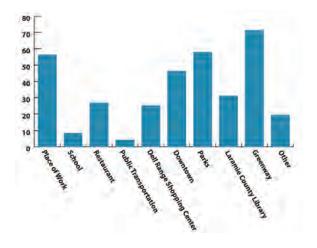
At the beginning of the project, staff reviewed numerous local planning documents to inform the goals, policies and projects developed in this Plan. Documents reviewed include Wyoming Bicycle and Pedestrian Transportation Plan, WYDOT Operating Policy 40-2, Cheyenne Area On-Street Bicycle Plan and Map Report of Investigation, Plan Cheyenne Transportation Plan, Plan Cheyenne Community Plan, Plan Cheyenne Parks and Recreation Plan, Cheyenne Metropolitan Area Pedestrian Plan, Cheyenne Metropolitan Area Safe Routes to School Plan, and the Greenway Development Plan. Working Paper #1, Summary of Existing Background Documents and Plans, is included in Volume III. The documents listed above recognize that people bicycle and use the greenway for a variety of reasons and support increasing bicycling activity and greenway use.

This Plan is consistent with the principles contained in Cheyenne's current Transportation Plan. The City and MPO should continue working with WYDOT to further clarify the designation of selected rural highway facilities as official bikeways.

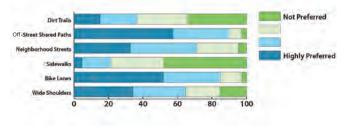
## Who is bicycling?



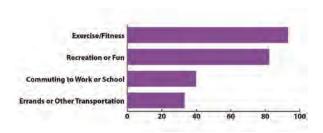
## Where do they bike?



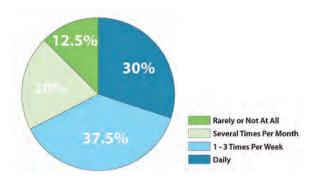
# What are the preferred facilities?



## Why do they bike?



## When do they bike?



Source: Results of online Survey #1 conducted Spring 2011.

#### 2.4. Vision, Goals, and Objectives

The vision, goals and objectives of the Plan are principles that will guide the development and implementation of the Plan in coming decades. Goals and objectives direct the way the public improvements are made, where resources are allocated, how programs are operated and how City/MPO priorities are determined. The goals and policies in this Plan were developed through an analysis of existing City, County and MPO policies and review of best practices in other similar communities. The goals and policies can be found in the accompanying Policy Handbook, and the background research is included in Volume III as Working Paper #2: Existing Goals, Objectives and Policies Review and Analysis and Working Paper #3: Vision, Goals and Objectives. Many objectives are measurable and allow tracking and benchmarking to demonstrate the extent of the City's progress toward the goals and overall vision over time.

The Plan has three levels in its framework:

**Vision:** Pursuit of this statement underpins all of the Plan's goals and objectives.

**Goals:** The four principal goals provide guidance for achieving the Plan vision.

**Objectives:** Objectives guide the City and community members on how to achieve and measure progress toward realizing each goal.



Providing support facilities such as trash receptacles and bike parking can enhance Cheyenne's existing greenway system.

The vision set forth in this Plan states that the Cheyenne area will become a place that is increasingly friendly for bicyclists and trail users of all types and abilities. The Plan's goals are built around the 5 E's of Engineering and Maintenance; Education and Encouragement; Enforcement; Evaluation and Implementation. The Plan goals are to:

- Develop a complete and continuous on-street bikeway and greenway system that serves recreation and utilitarian trips, provide intermodal connectivity, and provide a range of transportation options throughout the MPO area.
- Maintain existing and future on-street bicycle and greenway facilities to a high standard in accordance with guidelines established in this Plan.
- Implement comprehensive education and encouragement programs targeted to all populations in the city.
- Increase enforcement of safe and legal bicyclist and motorist behaviors throughout the bikeway system.
- Pursue implementation of the On-Street Bicycle Plan and Greenway Plan Update.
- Monitor implementation of the On-Street Bicycle Plan and Greenway Plan Update.

Table 2 on the following page illustrates how various Plan recommendations support each goal.

## 2.5. Existing Conditions and Needs Assessment

The project team evaluated existing conditions for bicycling in the Cheyenne area as a basis for recommending future facilities. The existing conditions analysis was based on a field review by the project team as well as review of data made available through the Cheyenne area Geographic Information System, planning and public works units, crash data, existing facility quality, existing local, regional, and state plans and policies, and public input provided through surveys and a public workshop.

The team evaluated existing conditions, deficiencies, and bicycling and trail use through several methods including a narrative of citywide conditions, an analysis of system gaps and existing facility quality, and zonal analysis of the city.

#### 2.5.1. Summary of Existing On-Street Facilities – Greenway Network

The Cheyenne area's existing ADA-accessible greenway system includes over 30 miles of physically separated trails that accommodate users throughout the year. The original vision of the greenway system was to build a continuous loop trail around the city. To date, nearly three quarters of the original loop trail has been completed and 96% of Cheyenne area residents are within one mile of a greenway segment. (See Greenway Proximity Map, page 10.) In recent years, City, county and MPO staff have worked aggressively to expand the existing greenway system. As a result, nearly nine miles of greenway have been included in the 2010 – 2013 MPO Transportation Improvement Plan. Integral to the greenway system are trailheads, grade separated crossings and amenities, such as public art; these access points, connections and amenities all contribute to system cohesiveness and legibility.

While cyclists are legally allowed to use all roadways in Wyoming, jurisdictions distinguish on-street bikeways as preferential roadways that have facilities to accommodate bicycles. The Cheyenne area's system of on-street bikeways includes approximately six miles of bike lanes and 50 miles of designated shared roadways. In addition, many roadways have wide shoulders that are commonly used by bicyclists, but are not formally

Table 2: Plan Recommendations and Goals	Continuous bikeway system	Bikeway maintenance and design	Implement comprehensive education and encouragement	Increase enforcement of safe and legal behavior	Implement On-Street Bicycle Plan and Greenway Plan Update	Monitor implementation of On-Street Bicycle Plan and Greenway Plan Update
Development of comprehensive on-street bikeway and greenway network	•	•				
Development of high priority bikeway project sheets	•	•			•	
Develop short term bikeway network	•	•			•	
Cyclist detection at intersections	•	•		•	•	
Bicycle wayfinding signage	•					
Enhanced bicycle parking	•					
Transit integration	•					
Annual count program			•		•	•
Municipal code update				•	•	
Establish permanent bicycle advisory committee			•	•	•	•
Social rides			•		•	
Bike month			•		•	
Cheyenne history ride			•		•	
Bike valet program			•		•	
Media campaign			•		•	
Summer or year round events assistant			•		•	
Volunteer ambassador program			•		•	
Municipal bike sharing program			•		•	
Automated counts			•		•	•
Report card			•		•	•
Apply for Bicycle Friendly Community status			•		•	•
Partner with law enforcement on safe and legal cycling activities				٠		



Formalizing short, unpaved off-street connections can significantly improve travel conditions for cyclists and trail users of all types.

designated as part of the bikeway system. Existing designated bikeways are supported by bicycle parking and connections to transit. Bicycle detection is possible at some of Cheyenne's traffic signals with proper calibration. Additional details on these conditions are included in Working Paper #4: Existing Conditions and Working Paper #10: Bicycle Support Facilities. These documents are located in Volume III of this Plan.

#### 2.5.2. Gap Analysis

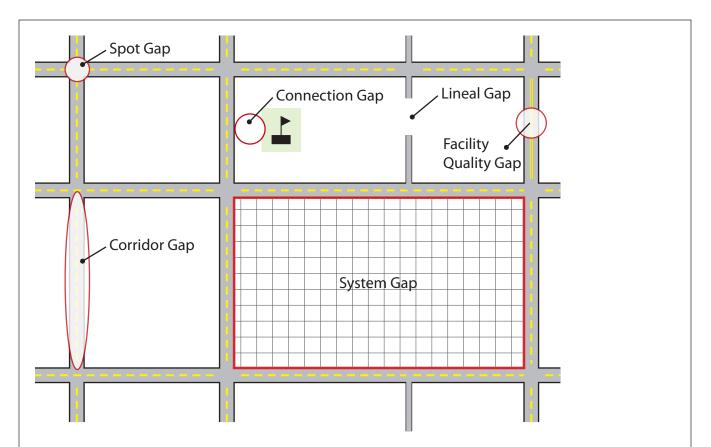
The Cheyenne area already includes many elements of a good bicycling system; however, there are gaps throughout the system that can lead to uncomfortable bicycling conditions. Bikeway gaps exist in various forms, ranging from short "missing links" on a specific street or path corridor to larger geographic areas with few or no facilities at all. The review, shown in Map 1: System Gap Analysis, page 39, identifies gaps based on the existing and funded on-street network, shared use paths and greenways. Roadways with wide shoulders that are suitable for bicycling but are not officially part of the existing bikeway network are noted as system gaps in several locations. Gaps were classified into categories based on length and character (e.g., dropped bike lane). Gaps typically exist where physical or other constraints impede bikeway network development. Example of constraints include bike lanes "dropping" at an intersection to provide space for vehicle turn lanes, or narrow bridges on existing roadways. In some cases,

a formalized bikeway itself may represent a gap despite its status as part of a designated network. This condition typically occurs when a corridor (often a major street) lacks the type of bicycle facilities to comfortably accommodate a broader user base (e.g., a shared lane on a major commercial corridor with high motor vehicle use). Complete documentation of the Gap Analysis is included in Working Paper #5: Bikeway System Gap Analysis, in Volume III.

The downtown area north of I-80 has the best system connectivity, where the denser street grid and lower traffic speeds and volumes allow bicyclists a greater range of route choices. The facilities in this area consist mainly of shared roadways that provide a system of established, intermittently signed routes. Despite the relative connectedness of the downtown area, access leading into and out of the central business district is more challenging due to corridor gaps on Pershing Boulevard and Lincolnway, as well as system gaps east of Holliday Park. Of note are the corridor gaps along Warren and Central Avenues, though existing parallel bicycle routes are available on Pioneer and Carey Avenues. If developed, these two north/south roads would lead to the existing Evans Avenue Greenway north of downtown and provide greater access to the neighborhoods north of Lions Park. Smaller connection gaps exist west of downtown, between the South Cheyenne Greenway and Parsley Boulevard. A narrow bridge on Parsley Boulevard over I-80 is a spot gap that further restricts north-south travel in this area. The general lack of facilities along and across the I-25



A spot gap can include an intersection where cyclists must cross multiple lanes of traffic to continue on a designated route.



#### **Gap Types**

**Spot gaps:** Spot gaps refer to point-specific locations lacking dedicated facilities or other treatments to accommodate safe and comfortable bicycle travel. Spot gaps primarily include intersections and other areas with potential conflicts with motor vehicles. Examples include bicycle lanes on a major street "dropping" to make way for right turn lanes at an intersection.

**Connection gaps:** Connection gaps are missing segments (one-quarter mile or less) on a clearly defined and otherwise well-connected bikeway. Major barriers standing between destinations and clearly defined routes also represent connection gaps. Examples include bicycle lanes on a major street "dropping" for several blocks to make way for on-street parking, or a freeway standing between a major bicycle route and a school.

**Lineal gaps:** Similar to connection gaps, lineal gaps are one-quarter to one-half mile long missing link segments on a clearly defined and otherwise well-connected bikeway.

**Corridor gaps:** On clearly defined and otherwise well-connected bikeways, corridor gaps are missing links longer than one-half mile. These gaps will sometimes encompass an entire street corridor where bicycle facilities are desired but do not currently exist.

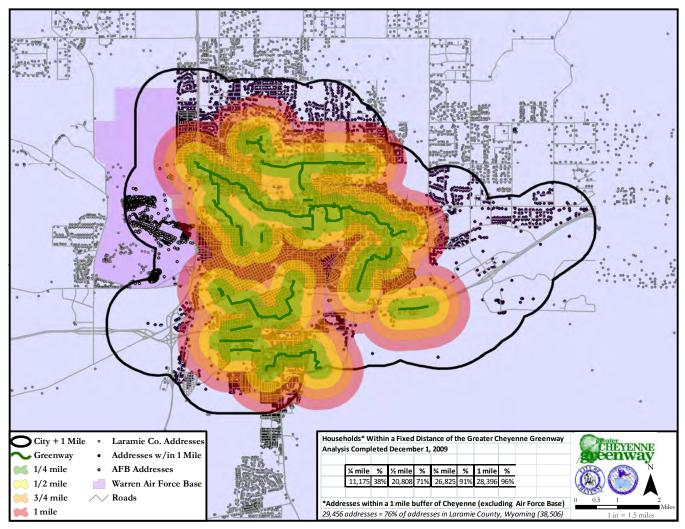
**System gaps:** Larger geographic areas (e.g., a neighborhood or business district) where few or no bikeways exist would be identified as system gaps. System gaps exist in areas where a minimum of two intersecting bikeways would be required to achieve the target network density.

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corridor is a significant impediment to travel west of downtown. This issue has been identified as a corridor gap along most of the freeway's length, in addition to other corridor gaps identified at important crossing points, such as Missile Drive and Central Avenue.

Another large system gap exists just east of the central business district, between Holliday Park and Hot Springs Avenue. The density of residential units in the Fairview Heights and Mountain View neighborhoods indicate that this area could serve a number of bicyclists safely and comfortably on low-speed and low-volume roadways. Several spot gaps exist (e.g., Hot Springs Avenue and Nationway), which restrict travel into and out of this area. Development of a bikeway network and improvements at spot gaps could enhance access between the commercial core and the residential neighborhoods to the east. Pershing Boulevard, one of the main east/west arterials through Cheyenne, is a long corridor gap in the bikeway network. Pershing Boulevard is one of the few uninterrupted east/west connections through the city.

Given the lack of continuous streets parallel to Pershing Boulevard, there are few alternative options available to improve connectivity along this main thoroughfare. Instead, it is likely that Pershing Boulevard or alternative corridors will need to be analyzed further to assess its potential for safe bicycle travel. Future roadway reconstruction plans do call for extension of the existing



Nearly all residents in the Cheyenne area are within one mile of an existing greenway.

eight-foot side path between Converse Avenue and Concord Road, which will enhance bicycle connectivity in the corridor. For travel farther east beyond Pershing Boulevard, Dell Range Boulevard offers the greatest possibility for direct access. However, this potential is limited by a long corridor gap leading up to the Archer Parkway interchange at I-80. (See Map 1: System Gap Analysis, page 39.)

System gaps blanket the northeast and eastern portions of the Cheyenne area. Land use in these areas consists mainly of residential housing that is less dense than older neighborhoods, like the Avenues. During the development of several of these neighborhoods (e.g., Mustang Ridge), the installation of bicycle facilities was a lower priority. These neighborhoods do benefit from the existing Dry Creek Greenway and several existing on-street facilities (e.g., Van Buren Avenue). However, the area does boast a comparatively high number of existing greenway trails that provide access to nearby schools (e.g., Goins Elementary, Johnson Junior High, and South High School). Filling in a number of connection gaps between Parsley Boulevard and Cribbon Avenue could greatly improve access to these trails from existing neighborhoods. Several of these gaps will be filled with funded greenway links, with construction scheduled to occur in the next two to three years.

The Cheyenne area has a number of roadways with wide shoulders that are both unmarked and unsigned, which can accommodate bicycle traffic. Of special note is the area south of the Union Pacific Railroad where the inclusion of wide shoulders along College Drive and Campstool Road strongly enhances connectivity of the bikeway network. Other important roadways include Yellowstone Road and Prairie Avenue, both north of the central business district. Formalizing these facilities with signing and markings will enhance overall bicycle system connectivity.

There are a number of spot gaps along existing bicycle facilities. Spot gaps typically occur in the Cheyenne area at intersections with heavy volumes of right turning traffic or slip lanes that do not require vehicles to stop (e.g., Missile Drive at West 24th Street, Morrie Avenue at East 1st Street, College Drive at Dell Range Boulevard, Pershing Boulevard, 12th Street and South Greeley



Bike route signs exist along some designated routes. Providing signing and pavement markings on shared routes in Cheyenne can enhance visibility of the system and remind all roadway users to share the road.

Highway), along roadways with numerous driveways (e.g., South Greeley Highway, Pershing Boulevard and Lincolnway), and at locations where the on-street facility or greenway does not extend to the intersection. In many situations, application of minimal treatments would result in enhanced system connectivity. Additional spot gaps are marked at locations identified by community members as "problem areas" during public meetings.

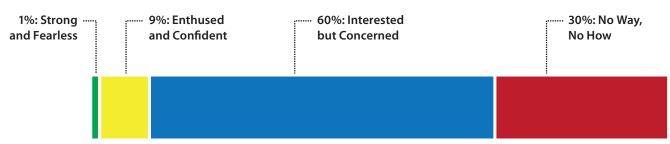
## 2.5.3. Cycle Zone Analysis and Bikeway Quality Index

The Cycle Zone Analysis is a GIS-based methodology that considers the relationship between the built environment and bicycling behavior. The analysis predicts the quality of the bicycling environment and identifies areas having the greatest potential to improve bicycling conditions. Each cycle zone consists of a moreor-less homogeneous bicycling environment based on employment and population density, land use mix, road network density and connectivity, and topography. Cycle zone boundaries also reflect barriers in the bicycling environment, such as Union Pacific Railroad tracks, I-80, I-25 and South Greeley Highway. Zones near the center of the city provide the highest quality bicycling experience under existing conditions. The qualities that make these zones pleasant places to ride include good roadway connectivity and density, proximity to destinations and many potential riders. Improvements made near the city center will likely improve many people's bicycling experiences, because they allow for shorter, more direct and more convenient bicycle trips. The complete analysis and methodology can be found in Working Paper # 7: Cycle Zone Analysis (in Volume III).

A qualitative measure of bikeway quality, the Bikeway Quality Index (BQI) was developed as an input to the Cycle Zone Analysis. The Index constructs a snapshot of the current condition of existing on-street bikeways and greenways in relation to each other. This analysis allows planners and decision makers to visualize and understand the quality of existing facilities, identify deficiencies in the existing network and identify improvement opportunities. The analysis found that, while the Cheyenne area benefits from numerous high quality greenway facilities, lack of on-street connections between the greenway links, such as Powderhouse Road and Nationway, may act as barriers to bicyclists and trail users. (See Map 2: Existing Bikeway Quality, page 40.)

#### 2.5.4. Crash Analysis

There were 169 reported crashes involving bicycles during the ten-year period from 2000 to 2009. One crash resulted in a fatality, while 163 resulted in an injury, of which 18 were incapacitating. Only five of the reported crashes resulted in no injury and 39 crashes resulted in possible injury (additional information was not available on the status of these crashes). The single fatality occurred on a clear, dry day as a motorist overtook a bicyclist (as shown on Map 3: Crash Analysis, page 41). These crashes are concentrated within the city boundaries and are located along several corridors including Dell Range Boulevard, Lincolnway, South Greeley Highway, Yellowstone Road, 19th Street, Ridge Road and Pershing Boulevard. The greatest number of crashes was reported in summer months, with the frequency of reported incidents peaking in August. This is consistent with observed patterns of bicycle use in the Cheyenne area, which peaks between Memorial Day and Labor Day and roughly coincides with summer vacation and increased activity downtown and throughout the park system. A complete discussion of bicycle related crash trends is included in Working Paper #8: Collision Analysis (Volume III).



Riding a bicycle should not require bravery. Yet, all too often, that is the perception among cyclists and non-cyclists alike. No person should have to be "brave" to ride a bicycle; unfortunately, this is a sentiment commonly expressed to those who regularly ride bicycles by those who do not. One thing that many cities with high cycling rates share is the fact that they have removed the perception of fear from urban bicycling. Many cities in the U.S. describe four types of urban cyclists. These groups are typically refered to as "Strong and Fearless," "Enthused and Confident," and "Interested but Concerned." The fourth group are nonriders, called the "No Way, No How" group.

The "Strong and Fearless" comprise perhaps one percent of ridership. These are people who will ride regardless of roadway conditions. They are 'bicyclists'; riding is a strong part of their identity and they are generally undeterred by roadway conditions. The "Enthused and Confident" are comfortable sharing the roadway with automotive traffic, but prefer to do so operating on their own facilities. They appreciate bicycle lanes and bicycle boulevards.

A much larger demographic is the "Interested but Concerned" group. These residents are curious about bicycling. They like riding a bicycle, remembering back to their youths, but they are afraid to ride. Perhaps one-third of the city's population falls into the last category – the "No Way, No How" group that is currently not interested in bicycling at all, for reasons of topography, weather, inability, or simply a complete and utter lack of interest.

Adapted from: Geller, Roger. Four Types of Cyclists. Portland Bureau of Transportation. Web. 10 October 2010.

### **3. Recommendations**

Recommendations for on-street bicycle facilities and greenways were developed to meet the goals of this Plan and help make the Cheyenne area a place that is increasingly friendly for bicyclists and trail users of all types and abilities. To realize this vision, recommendations are focused and prioritized around gaps between greenway segments as well as short connections to popular destinations such as parks and schools.

#### 3.1. Methodology for Development of the On-Street Bicycle and Greenway System

The City of Cheyenne and Cheyenne MPO recognize the importance of developing a well-connected bikeway network that provides safe and convenient connections for a broad spectrum of users.

The following principles and inputs guided development of the network:

- Development of a robust network of on-street facilities and greenways to accommodate the many types of bicyclists and trail users present in the Cheyenne area
- The Plan's goals, policies and evaluation criteria (developed earlier in this planning process)
- Input received from the Bicycle Advisory Committee and Cheyenne area residents through public events and the online survey
- The technical needs assessment (including field work and review of available data)
- Review of background documents, plans and studies
- Agency staff and public review of the preliminary network recommendations

#### 3.1.1. Proposed Network Facility Types

The recommended projects (following) refer to on-street bicycle and greenway facility types that are described briefly in Table 3 (pages 14-15) and more fully in the accompanying Design Handbook. Visualizations of facility implementation are included in Section 3.2 and described as Priority Project Sheets in Volume III of this Plan.

## 3.2. Proposed On-Street Bicycle and Greenway System

Shown on Map 4: Existing and Proposed Network, page 42, the proposed on-street bicycle and greenway system includes approximately 280 miles of new recommended projects to be built. There are a wide variety of techniques for selecting the type of facility for a given context. Roadway characteristics that are often used include:

- Motor vehicle speed and volume
- Presence of heavy vehicles/trucks
- Roadway width
- Demand for bicycle facilities
- User preference
- Land use/urban or rural context

No 'hard and fast' rules exist to determine the most appropriate type of facility for a particular location; engineering judgment and planning skills are critical elements of this decision. The chart on pages 16-17 is a useful tool in understanding generally where increased bicycle and motor vehicle separation is desirable.

The Cheyenne Unified Development Code (Design Standards) provides information on how bike lanes can be integrated with various functional roadway classifications. However, this Plan recommends facilities that are new to the Cheyenne area (e.g., buffered bike lanes). The Cheyenne On-Street Bikeway and Greenway Design Handbook expands on the existing Design Standards and provides guidance on a range of design options for on-street bicycle and greenway facility treatments. (See Map 4: Existing and Proposed Network, page 42.)

#### **Table 3: Proposed Network Facility Types**

#### **Shoulder Bikeways**

Shoulder bikeways, or paved shoulders, include roadways that provide adequate shoulder width for safe bicycling. Located on streets without curb and gutters, shoulder bikeways include signing and striping, but do not always include bicycle stencils.

#### **Bike Lanes**

Designated exclusively for bicycle travel, bike lanes are separated from vehicle travel lanes with striping and include pavement stencils. Bike lanes are typically most appropriate on major streets (e.g., Arterials and Collectors) where higher traffic volumes and speeds create a greater need for separation between cyclists and motorists. In locations where roadways already exist, there is potential to fit bicycles in the existing right-of-way through strategies such as roadway restriping.

#### **Buffered Bike Lanes**

Buffered bike lanes are designed to increase the space between the bicycle lane and the travel lane or parked cars. They are appropriate on streets with high automobile traffic volumes and speeds, on-street parked cars, and higher volumes of truck or oversized vehicle traffic.

#### **Shared Lane Markings**

Shared lane markings (also known as "sharrows") are high-visibility pavement markings that heighten the awareness of cyclists sharing the road with motorists. These markings are often used on streets where bike lanes are desirable but are not possible due to physical or other constraints. The markings are positioned strategically in the travel lane to encourage cyclists to ride in a straight line so their movements are predictable to motorists, while also riding at an appropriate distance from the "door zone" of adjacent parked cars. In some communities, the use of shared lane markings has also expanded to the "bicycle boulevard" network, both to heighten awareness of the street's function as a bicycle route, and to serve as a bicyclist wayfinding tool.







#### **Bicycle Boulevards**

Bicycle boulevards are lower-volume and lower-speed streets that are optimized for bicycle travel through treatments such as traffic calming, bicycle wayfinding signage, pavement markings, and intersection crossing treatments. The treatments are intended to prioritize bicycle circulation while discouraging non-local cut-through traffic.

#### Greenways

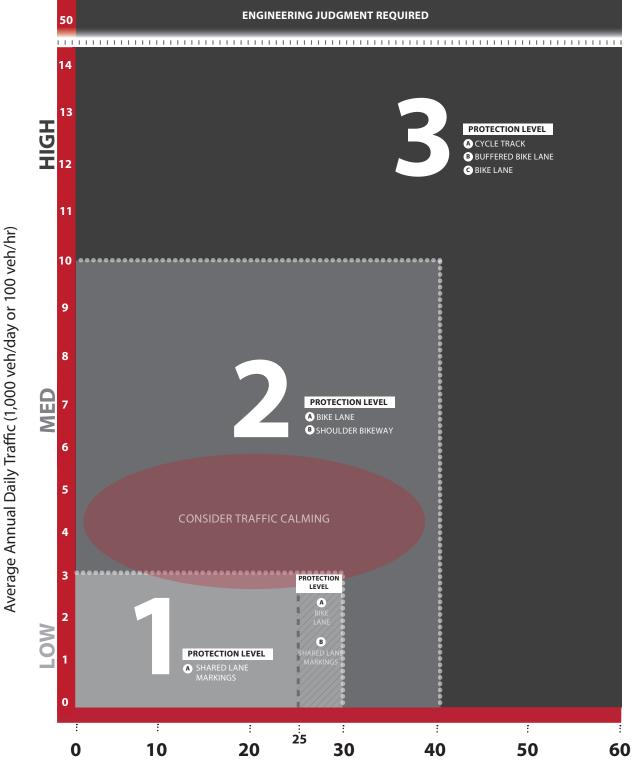
Cheyenne has made great strides in developing a comprehensive greenway system. Significant opportunities exist to expand the network serving transportation and recreation purposes, and a variety of users including pedestrians, cyclists, in-line skaters and others. Some proposed greenway corridors would involve upgrading existing sidewalks passing through parks, or upgrading existing unpaved paths to accommodate a broader range of users.

#### **Intersection Treatments**

Opportunities to enhance bicyclist crossing movements exist throughout the Cheyenne area. Such improvements typically occur in tandem with longer corridorwide upgrades. More detailed information on intersection treatments is found in the Design Handbook.







Posted Travel Speed (mph)







#### 3.2.1. Greenway Projects

A total of 70.1 miles of recommended greenways are shown on Map 4. Many recommended greenway links are short and enhance system connectivity mostly within Cheyenne's city limits. Several projects are longer corridors and are very long-term, like the SE Ridgeline Greenway that will provide connectivity in less developed areas of the MPO. Table 4 lists the recommended greenway projects, including facility extent and length. Planning level cost opinions were not developed for greenway projects.

#### **Table 4: Proposed Greenway Projects**

Phasing	Corridor	From	То	Length (Mi)
Near	N College Drive	E 8th Street	E Fox Farm Road	1.19
Near	Allison Draw Phase III	Park Avenue	W College Drive	0.97
Near	Avenue C	Reiner Court	E College Drive	0.57
Near	Converse Avenue	Grandview Avenue	Dell Range Boulevard	0.47
Near	Cribbon Avenue	Leisher Road	South Cheyenne Greenway	0.21
Near	Cribbon Avenue	South Greenway	W Allison Road	0.23
Near	Crow Creek	1-25	Westland Road	0.40
Near	Crow Creek	Westland Road	Martin Luther King Park	0.38
Near	Downtown Connector	Ames Avenue	15th Street	0.30
Near	Dry Creek	Mason Way	Dell Range Boulevard	0.15
Near	Dry Creek	Pershing Boulevard	UPRR	0.90
Near	Existing I-80 Overpass	Leisher Road	Cribbon Greenway	0.09
Near	Henderson Ditch	Sparks Road	East Extension	0.67
Near	Holliday Park Connector	Holliday Park	Dunn Avenue	0.12
Near	I-25 Corridor	Kennedy Road	Crow Creek	1.91
Near	I-25 Corridor	Western Hills Boulevard	Lions Park to Country Club	1.55
Near	Lincolnway	15th Street	Holliday Park Connector	0.12
Near	Morrie Avenue	Teton Street	Fox Farm Road	0.22
Near	Morrie Avenue	E 1st Street	Teton Street	0.32
Near	Pershing Boulevard	Taft Avevnue	Dry Creek Greenway	0.23
Near	Pershing Boulevard	Dunn Avenue	Converse Avenue	0.75
Near	Pershing Bypass	Evans Avenue	Airport Parkway	0.52
Near	Pointe Connector	Pointe Park	E Four Mile Road	0.58
Near	Polk Avenue	US 30	E Pershing Boulevard	0.24
Near	South Park Connector	South Greenway	Crow Creek Greenway	0.43
Near	US 30	Hayes Avenue	Whitney Road	0.63
Near	Walterscheid Boulevard	WAPA Corridor Underpass	W Allison Road	0.13
Near	Walterscheid Underpass	WAPA Corridor Underpass	W Allison Road	0.26
Near	Whitney Road	US 30	Pershing Boulevard	0.70
Medium	7th Street	Carey Avenue	Crow Creek	0.06
Medium	Abandoned CB&Q Corridor	Taft Avenue	HR Ranch Road	0.56
Medium	Allison Draw I	Arp Elementary	S College Drive	0.79
Medium	Allison Road	Walterscheid Boulevard	Allison Draw Greenway	0.52
Medium	Crow Creek	Carlin Avenue	1-25	0.71
Medium	Crow Creek	Morrie Avenue	Allison Draw	3.78
Medium	Dry Creek Parkway Connector	Rock Springs Street	Dry Creek Greenway	0.04
Medium	East High School Connector	E Pershing Boulevard	Charles Street	0.43
Medium	Grove Drive	Pershing Boulevard	Dry Creek Greenway	0.94

Phasing	Corridor	From	То	Length (Mi)
Medium	HR Ranch Road	Banner Drive	Campstool Road	1.75
Medium	JL Ranch WAPA Soft Surface	BNSF Rail Trail	Banner Drive	0.45
Medium	Powderhouse Road	Storey Greenway	Gardenia Drive	0.19
Medium	Romero Park	YACC	Cribbon Avenue	0.32
Medium	Romero Park	Crow Creek Greenway	YACC	0.27
Medium	Romero Park	Ames Avenue	Snyder Avenue	0.39
Medium	S Greeley Loop - East	E College Drive	SE Ridgeline	2.44
Medium	Saddle Ridge School Connector	E Pershing Boulevard	Whitney Road	0.93
Medium	Sun Valley Open Space (N)	N College Drive	Taft Avenue	0.87
Medium	Swan Ranch Connector	Otto Road	WAPA Corridor	3.71
Medium	UPRR Corridor	Taft Avenue	Whitney Road	1.16
Medium	US30	Whitney Road	Christensen Road	1.06
Medium	US30	Christensen Road	Westedt Road	2.00
Medium	Walterscheid Boulevard	W Fox Farm Road	WAPA Corridor Underpass	0.40
Longer	Allison Draw II	S College Drive	Hereford Ranch Reservoir	1.90
Longer	Allison Draw III	Hereford Ranch Reservoir	Burlington Trail	0.88
Longer	BNSF Rail Trail	HR Ranch Road	Campstool Road	2.65
Longer	Christensen Road Viaduct	Pershing Boulevard	Commerce	0.11
Longer	Dry Creek	UPRR	Campstool Road	0.71
Longer	Dry Creek	1-80	Water Reclamation Facility	0.36
Longer	Dry Creek	Campstool Road	1-80	0.45
Longer	Dry Creek	Dry Creek Wetlands	UPRR	0.34
Longer	Dry Creek	US 30	E Pershing Boulevard	0.32
Longer	NE Ridgeline	N College Drive	Whitney Road	2.12
Longer	North Cheyenne Park	Chief Washakie Avenue	Storey Boulevard	0.61
Longer	Pershing Boulevard	Windmill Avenue	Whitney Road	2.49
Longer	Pershing Boulevard	1-25	Dunn Avenue	1.77
Longer	Rossman School Connector	South High School Loop	Little Ditty Lane	0.37
Longer	S Greeley Loop - West (1)	Allison Draw	Afflerbach Elementary School	0.74
Longer	S Greeley Loop - West (2)	Afflerbach Cutoff	High Plains Road	1.37
Longer	SE Ridgeline	South Greeley Highway	Campstool Road	9.00
Longer	South High School Loop	South Cheyenne Greenway	W Allison Road	1.40
Longer	Sun Valley Open Space (S)	N College Drive	Raleigh Drive	0.64
Longer	WAPA Corridor	Campstool Road	Archer Parkway	2.90

Summary	Miles
Near	15.24
Medium	23.77
Longer	31.13
Total	70.14

#### 3.2.2. Bike Lane Projects

A total of 59.5 miles of recommended bike lanes are shown in Map 4 which will be implemented in coming decades. Bike lanes were recommended where they complete gaps in the existing bike lane network, where they serve streets that by City, County, and WYDOT design standards should have bike lanes, and/or where demand for bicycle facilities has been demonstrated.

Two specific projects recommend an uphill bike lane paired with a downhill shared lane marking (projects on Bishop Boulevard and Hynds Boulevard). This facility combination assists bicyclists by providing separated space on a climb, but allows bicyclists to mix with traffic when traveling at higher speeds downhill. Uphill bike lanes/downhill shared lane markings may be used in other areas subject to engineering study and review. Table 5, showing proposed bike lane projects, including facility extent, length. Based on planning level cost opinions, bike lanes may cost between \$3.40 and \$7.60 per linear foot. See Volume III for additional information.



Installation of bike lanes can significantly improve the safety and comfort of cyclists riding along the roadway.

Phasing	Corridor	From	То	Length (Mi)
Near	Airport Parkway	E Pershing Boulevard	Converse Avenue	1.66
Near	Bishop Boulevard	Vandehei Avenue	Central Avenue	1.13
Near	Carey Avenue	8th Avenue	25th Street	0.99
Near	Carey Avenue	Kennedy Road	8th Avenue	0.55
Near	Chestnut Drive/Hot Springs Ave	Henderson Drive	East Greenway Extension	0.96
Near	E 19th Street	Central Avenue	Converse Avenue	1.50
Near	E 20th Street	Central Avenue	Logan Avenue	1.04
Near	Henderson Drive	E Pershing Boulevard	Omaha Road	0.56
Near	Hynds Boulevard	Kennedy Road	2nd Avenue	0.78
Near	Hynds Boulevard	Vandehei Avenue	Walker Road	1.23
Near	Logan Avenue	E Pershing Boulevard	Nationway	0.88
Near	Morrie Avenue	E Pershing Boulevard	15th Street	0.76
Near	Nationway/E 12th Street	E Lincolnway	N College Drive	1.86
Near	Pioneer Avenue	2nd Avenue	Randall Avenue	0.50
Near	Powderhouse Road	Storey Boulevard	Dell Range Boulevard	0.99
Near	Prairie Avenue	Dell Range Boulevard	Dry Creek Greenway opposite Old Chicago	1.33
Near	Ridge Road	Douglas Street	E 12th Street	2.13
Near	W Fox Farm Road	Walterscheid Boulevard	S Greeley Highway	0.31
Near	Walterscheid Boulevard	Deming Drive	W College Drive	1.29
Medium	8th Avenue	Hynds Boulevard	House Avenue	0.96
Medium	Bishop Boulevard	Horse Creek Road	Vandehei Avenue	2.41

#### Table 5: Proposed Bike Lane Projects

Phasing	Corridor	From	То	Length (Mi)
Medium	Carlson Street	Education Drive	Yellowstone Road	0.22
Medium	Converse Avenue	E 19th Street	E 8th Street	0.85
Medium	Deming Drive	Ames Drive	Walterschied Boulevard	0.88
Medium	E Lincolnway	Omaha Road	E 15th Street	1.12
Medium	Evans Avenue	E Pershing Boulevard	E Lincolnway	0.89
Medium	Hynds Boulevard	Vandehei Avenue	Horse Creek Road	2.41
Medium	Leisher Road/W Fox Farm Road	S Cribbon Avenue	Walterschied Boulevard	0.79
Medium	N College Drive	Rawlins Street	Bridge over UPRR	1.54
Medium	Parsley Boulevard	1-80	Ames Avenue	0.84
Medium	Randall Avenue	Hynds Boulevard	Carey Avenue	1.04
Medium	Taft Avenue	E Pershing Boulevard	E 12th Street	0.66
Medium	W Lincolnway	1-80	Ames Avenue	2.10
Medium	Westland Road/W 24th Street	Snyder Avenue	W Lincolnway	1.28
Longer	Carlson Street	Yellowstone Road	Powderhouse Road	1.02
Longer	Cleveland Avenue	E Lincolnway	E 12th Street	0.47
Longer	College Drive	S Greeley Highway	Bridge over UPRR	3.42
Longer	Education Drive	Western Hills Boulevard	Carlson Street	0.22
Longer	Evans Avenue	E 8th Avenue	E Pershing Boulevard	0.52
Longer	Evers Boulevard	Sterling Drive	Oakhurst Drive	0.34
Longer	Happy Jack Road	1-25	MPO Boundary	4.32
Longer	Holmes Street	Ridge Road	McCann Avenue	0.25
Longer	Kennedy Road	Central Avenue	Hynds Boulevard	0.44
Longer	Manhattan Lane	Gardenia Drive	Montclair Drive	0.21
Longer	Missile Drive	Happy Jack Road	W Lincolnway	1.13
Longer	N College Drive	Carla Drive	Rawlins Street	0.87
Longer	Omaha Road	E Lincolnway	Ridge Road	0.78
Longer	Powderhouse Road	Gardenia Drive	E Four Mile Road	1.13
Longer	S Parsley Boulevard	Interstate 80	W College Drive	0.96
Longer	Van Buren Avenue	Dell Range Boulevard	US 30	0.65
Longer	W Allison Road	Arp Avenue	Walterscheid Boulevard	0.98
Longer	Weaver Road/Seminoe Road	Montclair Drive	Dell Range Boulevard	1.05
Longer	Yellowstone Road	Four Mile Road	Vandehei Avenue	0.51
Longer	Yellowstone Road	Dell Range Boulevard	Central Avenue	0.53

Summary	Miles
Near	20.46
Medium	18.43
Longer	19.36
Total	58.25

#### 3.2.3. Buffered Bike Lane Projects

Buffered bike lanes provide additional dedicated space for bicyclists, improving bicyclists' safety and comfort. A total of 21.6 miles of recommended buffered bike lanes are shown in Map 4. Buffered bike lanes were recommended where agency staff indicated that street width is likely to be sufficient to implement this facility type along roadways with higher speeds and volumes. Table 6, showing proposed buffered bike lane projects, including facility extent and length. Based on planning level cost opinions, buffered bike lanes may cost between \$4.60 and \$8.10 per linear foot. See Volume III for additional information.



Buffered bike lanes, such as those proposed on I-180, provide additional separation between motor vehicles and bicyclists, which can enhance user comfort.

Phasing	Corridor	From	То	Length (Mi)
Near	Central Avenue	Bishop Boulevard	E 8th Ave	1.56
Near	E Fox Farm Road	S Greeley Highway	Morrie Avenue	0.70
Near	Greeley Highway/I-180	Lincolway	College Drive	2.30
Near	Storey Boulevard	Hynds Road	Powderhouse Road	1.53
Near	Yellowstone Road	Vandehei Drive	Dell Range Boulevard	1.24
Medium	E Lincolnway	Omaha Road	E Pershing Boulevard	1.51
Longer	Clear Creek Parkway	1-25	High Plains Road	3.25
Longer	Dell Range Boulevard	Yellowstone Road	Highway 30	5.93
Longer	E Fox Farm Road	Morrie Avenue	N College Drive	1.14
Longer	S Greeley Highway	College Drive	Wallick Road	1.00
Longer	W College Drive	1-25	S Greeley Highway	2.71

#### Table 6: Proposed Buffered Bike Lane Projects

Summary	Miles
Near	7.33
Medium	1.51
Longer	14.03
Total	22.87

#### 3.2.4. Shared Lane Marking Projects

Projects recommended for shared lane markings are roadways on which no other treatment (such as bicycle boulevard treatments) is recommended. Shared lane markings are recommended where the street type is part of the downtown grid, where constrained conditions do not allow for the installation of a bike lane, or are otherwise inappropriate for bicycle boulevard treatment, but where bicyclists will benefit from an enhanced shared roadway. A total of 12.9 miles of proposed shared lane markings are shown on Map 4.

Table 7, below, shows proposed shared lane marking projects, including facility extent and length. Based on planning level cost opinions, shared lane markings may cost between \$2.80 and \$6.20 per linear foot. See Volume III for additional information.



Shared lane markings can be used to highlight shared roadway connections where a bike lane is desired but not feasible, or to mark bicycle boulevards.

Phasing	Corridor	From	То	Length (Mi)
Near	Carey Avenue	25th Street	15th Street	0.68
Near	Central Avenue	8th Avenue	Lincolnway	1.48
Near	E 22nd Street	Snyder Avenue	Evans Avenue	0.72
Near	Pioneer Avenue	Randall Avenue	15th Street	0.80
Near	Snyder Avenue	29th Street	W Lincolnway	0.89
Near	Warren Avenue	8th Avenue	Lincolnway	1.44
Medium	Sheridan Street	Mountain Road	Ridge Road	0.77
Medium	Snyder Avenue	8th Avenue	29th Street	0.83
Medium	Snyder Avenue	Leisher Road	Allison Road	0.42
Medium	Western Hills Boulevard	Antelope Avenue	Bishop Boulevard	0.18
Longer	18th Street	Martin Luther King Jr. Park	Morrie Avenue	1.29
Longer	Hilltop Avenue/Plain View Road	Point Bluff	Dell Range Boulevard	1.26
Longer	Montclair Drive	Yellowstone Road	Weaver Road	0.52
Longer	Mountain Road	Plain View Road	Sheridan Street	0.56
Longer	O'Neil Avenue	22nd Street	15th Street	0.48
Longer	Snyder Avenue	Deming Drive	South Cheyenne Greenway	0.59

#### **Table 7: Proposed Shared Lane Marking Projects**

Summary	Miles
Near	6.01
Medium	2.20
Longer	4.70
Total	12.91

#### 3.2.5. Bicycle Boulevard Projects

One of this Plan's primary goals is to create an on-street bicycle and greenway network that is safe and comfortable for all users. To encourage new bicyclists or bicyclists who do not feel comfortable riding in traffic, some low traffic routes are recommended that parallel arterials where bike lanes are also proposed (e.g., Yellowstone Road and Sunset Avenue). This low-traffic, low-stress network connects community destinations such as schools and paths, and provides routes to existing or potential crossings of major roadways. A total of 39.2 miles of recommended bicycle boulevards are shown on Map 4. Bicycle boulevards can vary greatly in design and cost (see the Design Handbook for a detailed discussion of bicycle boulevard levels). The cost opinions used are intended to represent an average bicycle boulevard treatment, but each project may vary depending on design. Table 8, below, shows proposed bicycle boulevard projects, including facility extent and length. Based on planning level cost opinions, bicycle boulevards may cost between \$2.90 and \$48.40 per linear foot. See Volume III for additional information.

Phasing	Corridor	From	То	Length (Mi)
Near	15th Street	Bent Avenue	E Lincolnway	1.08
Near	22nd Street	Evans Avenue	Logan Avenue	0.85
Near	Dillon Avenue	W 24th Street	W Lincolnway	0.55
Near	Olive Drive/Lilac Court/E18th Street	Converse Avenue	Forest Drive	0.87
Medium	29th Sreet/Talbot Court	E Pershing Boulevard	Pioneer Park	1.11
Medium	2nd Avenue	Hynds Boulevard	Bent Avenue	0.50
Medium	3rd Avenue	Bent Avenue	Evans Avenue	0.54
Medium	7th Street	Central Avenue	Carey Avenue	0.13
Medium	7th Street	Warren Avenue	Norris Viaduct	0.79
Medium	8th Street	Baldwin Drive	Cleveland Avenue	0.47
Medium	Basin Street	Pineridge Avenue	Ridge Road	0.40
Medium	Bomar Drive	Lafayette Boulevard	Dalcour Drive	0.49
Medium	Cleveland Avenue	E 12th Street	Sun Valley Open Space	0.47
Medium	Cleveland Avenue	Rio Verde Street	Dry Creek Greenway	0.11
Medium	Concord Road/Andover Drive	Airport Parkway	E Pershing Boulevard	0.48
Medium	Continental Place	Taft Avenue	Meadow Drive	0.38
Medium	Cribbon Avenue	4th Street	W Fox Farm Road	0.25
Medium	Cribbon Avenue	8th Avenue	26th Street	1.30
Medium	E 14th Street	Taft Avenue	East Greenway	0.58
Medium	E 16th Street	Holliday Park	Hot Springs Avenue	0.75
Medium	E 6th Street	Cleveland Avenue	Taft Avenue	0.17
Medium	Fillmore Avenue	Rio Verde Street	Dry Creek Greenway	0.21
Medium	Gettysburg Drive	E 12th Street	UPRR	0.25
Medium	Greenway Street/McCann Avenue	Holmes Street	E Lincolnway	0.37
Medium	Marshall Road/Pasadena Road	Gardenia Drive	Melton Street	0.98
Medium	Melton Street	Weaver Road	Powderhouse Road	0.50
Medium	Moccasin Avenue	Prairie Hills Drive	Western Hills Boulevard	0.21
Medium	Ocean Loop/Everton Drive	Linda Court	Rio Verde Street	0.98
Medium	Pine Drive/Forest Drive	E Pershing Boulevard	Omaha Road	0.28
Medium	Point Bluff	Plain View Road	Converse Avenue	0.33
Medium	Prairie Hills Drive/North Gate Avenue/Main Street	Vandehei Avenue	Yellowstone Road	0.80

#### **Table 8: Proposed Bicycle Boulevard Projects**

Phasing	Corridor	From	То	Length (Mi)
Medium	Prosser Road	Walterschied Boulevard	Avenue C	1.02
Medium	Seymour Avenue	7th Street	1st Street	0.41
Medium	Seymour Avenue	E Pershing Boulevard	15th Street	0.85
Medium	Sunset Street/Townsend Place/Sunset Drive	Storey Boulevard	Dell Range Boulevard	0.79
Medium	Taft Avenue	E 12th Street	Raleigh Drive	0.48
Medium	US 30 Service Road	Cleveland Avenue	Polk Avenue	0.47
Medium	W 7th Street	Deming Drive	Snyder Avenue	0.35
Longer	5th Street/4th Street	Parsley Boulevard	Snyder Avenue	0.51
Longer	Avenue C-1	E Fox Farm Road	Reiner Court	0.42
Longer	Bent Avenue/Reed Avenue	8th Avenue	31st Street	0.63
Longer	Buckskin Trl/Tranquility Road/Chief Washakie Avenue	Converse Avenue	Storey Boulevard	1.15
Longer	Canyon Road	Storey Boulevard	Hilltop Avenue	0.48
Longer	Cleveland Avenue	Rawlins Street	E Pershing Boulevard	0.51
Longer	E 10th Street/Old Trail Road/Green Valley Road	Logan Avenue	Henderson Ditch	1.11
Longer	Eastridge E-W Connector	Airport Parkway	Airport Parkway	1.35
Longer	Green River Street/Rio Verde Street	Cleveland Avenue	Van Buren Avenue	0.50
Longer	Green River Street/Woodcrest Avenue/ Liberty Street/Greenmeadow Drive	Van Buren Avenue	Whitney Road	0.85
Longer	Harmony Meadows Loop	Center Drive	Walterscheid Boulevard	0.84
Longer	Hitching Post/Saddle Ridge	Woodhouse Drive	Foster Avenue	0.91
Longer	Jazz Drive	S. Parsley Boulevard	South High School Loop	0.20
Longer	Jefferson Road	Walterscheid Boulevard	Avenue C-1	1.14
Longer	Lafayette Boulevard	Bomar Drive	Legacy Parkway	0.38
Longer	Laramie Street	Monroe Avenue	Cleveland Avenue	0.12
Longer	Laramie Street	Grove Drive	N College Drive	0.51
Longer	Legacy Parkway	E Four Mile Road	Gardenia Drive	0.76
Longer	Manhattan Lane	Lafayette Bouelvard	Gardenia Drive	0.28
Longer	New Bedford Drive/Pasadena Road	Manhattan Lane	Gardenia Drive	0.28
Longer	O'Neil Avenue	Bent Avenue	22nd Street	0.65
Longer	Park Avenue	W College Drive	Plum Street	0.37
Longer	Pineridge Avenue/Pattison Avenue	Mountain Road	Sheridan Street	0.69
Longer	Rawlins Street	Cleveland Avenue	Van Buren Avenue	0.49
Longer	Ridge Road/Hillcrest Road	E 12th Street	Barbell Court	0.44
Longer	Rue Royal/Dalcor Drive	Storey Boulevard	Bomar Drive	0.34
Longer	Spirit Ln/Montclair Drive	Weaver Road	Gardenia Drive	0.58
Longer	Stevens Drive/Henderson Drive/ Homestead Avenue/Eda Place	Hillcrest Road	East Greenway	0.53
Longer	Wills Road	Charles Street	E Pershing Boulevard	0.25

Summary	Miles
Near	3.35
Medium	18.20
Longer	17.63
Total	39.18

26

#### 3.2.6. Shoulder Bikeway Projects

A total of 76.2 miles of shoulder bikeways are shown on Map 4. Shoulder bikeways are typically recommended along roadways without full curb and gutter, outside the dense area. Roadway shoulders serve a number of purposes (e.g., break down lanes and snow storage). Currently, the Wyoming Bicycle and Pedestrian Transportation Plan allows the roadway shoulder to be utilized as a shoulder bikeway in rural circumstances. WYDOT, Laramie County, the City, and MPO should work closely in coming years to coordinate expectations and use of roadway shoulders as bikeway facilities. Table 9, below, shows proposed shoulder bikeway projects, including facility extent and length. Based on planning level cost opinions, shoulder bikeways may cost between \$3.40 and \$148.40 per linear foot. See Volume III for additional information.



Shoulder bikeways are appropriate bikeway facilities on more rural roadways without curb and gutter.

Phasing	Corridor	From	То	Length (Mi)
Near	Ridge Road	Storey Boulevard	Douglas Street	0.49
Longer	Allison Road	Walterscheid Boulevard	Avenue C	1.02
Longer	Archer Parkway	US 30	Archer WAPA Station	0.95
Longer	Campstool Road	N College Drive	Christensen Road	3.61
Longer	Campstool Road	1-80	MPO Boundary	3.59
Longer	Campstool Road/E 5th Street	Logan Avenue	Livingston Avenue	2.06
Longer	Chalk Bluff Road	US 85	7 Mi. east of US 85	6.91
Longer	Christensen Road	E. Riding Club Road	US 30	3.00
Longer	Christensen Road	UPRR	Campstool Road	0.52
Longer	Converse Avenue	E Four Mile Road	Buckskin Trail	0.25
Longer	E Four Mile Road	Heavenly Drive	Christensen Road	0.67
Longer	E Pershing Boulevard	Whitney Road	I-80 Service Road	2.85
Longer	Four Mile Road	Hynds Boulevard	Ridge Road	3.61
Longer	Horse Creek Road	MPO Boundary	I-25	4.45
Longer	Iron Mountain Road	1-25	E of Powderhouse Road	3.60
Longer	N College Drive	Ridge Road	Carla Drive	1.90
Longer	Otto Road	1-80	MPO Boundary	3.65
Longer	Powderhouse Rd	E Four Mile Road	Iron Mountain Road	2.08
Longer	Reese Road	E Four Mile Road	E Pershing Avenue	2.51
Longer	Ridge Road	E Riding Club Road	Storey Boulevard	2.01
Longer	Riding Club Road	Hynds Boulevard	Ridge Road	3.63
Longer	Roundtop Road	Hildreth Road	Otto Road	5.09
Longer	S Greeley Highway	Wallick Road	Chalk Bluff Road	3.10
Longer	Southwest Drive	W Lincolnway	W Lincolnway W College Drive	
Longer	Terry Ranch Road	Speer Road	S Greeley Highway	4.21

#### **Table 9: Proposed Shoulder Bikeway Projects**

Phasing	Corridor	From	То	Length (Mi)
Longer	US 30	Westedt Road	Archer Parkway	1.00
Longer	Venture Drive/I-80 Service Road	Christensen Road	E Pershing Boulevard	1.49
Longer	Westedt Road	E Four Mile Road	US 30	2.00
Longer	Whitney Road	Iron Mountain Road	US 30	4.31
Longer	Yellowstone Road	MPO Boundary	W Four Mile Road	3.01

Summary	Miles
Near	0.49
Medium	0.00
Longer	75.77
Total	76.26



An on-street cycling network that is comfortable for all users will increase cycling activity in and around Cheyenne.

#### 3.2.7. Future Bikeway Corridors

Approximately 43 miles of future bikeways are recommended along roadways that are not paved or along corridors where the roadway has not yet been constructed, and specifying a bikeway facility type is premature. In these instances, City, County, and MPO staff should consult the Design Handbook for direction on how to select the correct facility type. These corridors are shown on Map 4 and listed in Table 10 below.

#### **Table 10: Future Bikeway Corridors**

Phasing	Corridor	From	То	Length (Mi)
Longer	Beckle Road	Whitney Road	Reese Road	2.00
Longer	Carlson Road Conceptual Corridor	Powderhouse Road	Converse Avenue	1.03
Longer	Chief Washakie Avenue	E Four Mile Road	Tranquility Road	0.74
Longer	Christensen Road	US 30	Tate Road	0.88
Longer	Christensen Road	Iron Mountain Road	E Riding Club Road	1.00
Longer	Converse Avenue	Columbia Drive	Storey Boulevard	0.75
Longer	Cutoff Road	Storey Boulevard	Prairie Avenue	0.83
Longer	Division Avenue	W College Drive	Wallick Road	1.00
Longer	E Four Mile Road	N College Drive	Heavenly Drive	1.91
Longer	E Four Mile Road	Christensen Road	Westedt Road	2.00
Longer	Eagle Drive	Powderhouse Boulevard	Converse Avenue	0.81
Longer	Everton Drive	Ridge Road	Linda Court	0.12
Longer	High Plains Conceptual Connector	1-25	US 85	4.48
Longer	Iron Mountain Road/Child Road	E of Geronimo Road	Bell Ranch Road	5.00
Longer	Laramie St/Parsons Place	Cleveland Avenue	US 30	0.43
Longer	Laramie Street	N College Drive	Monroe Avenue	0.12
Longer	Powderhouse Road	MPO Boundary	Iron Mountain Road	1.00
Longer	Roundtop Road	Horse Creek Road	Hildreth Road	3.22
Longer	Roundtop Road Conceptual Corridor	Otto Road	Clear Creek Parkway	2.93
Longer	Wallick Road Conceptual Corridor	1-80	Roundtop Road	9.02
Longer	Westedt Road/Bell Ranch Road	Child Road	E Four Mile Road	2.35
Longer	Whitney Road	US 30	Dry Creek	1.09
Longer	Wills Road	Laramie Street	Charles Street	0.13
Longer	Woodhouse Drive	Dell Range Boulevard	US 30	0.21

Summary	Miles
Near	N/A
Medium	N/A
Longer	43.05
Total	43.05

#### 3.2.8. Citywide Efforts

Recommendations for citywide efforts are non-location-specific improvements that would enhance use of the network and improve conditions for bicycling throughout the city. Additional details of these recommendations are found in Working Paper #10: Bicycle Support Facilities (Volume III).

**Bicyclist Detection at Intersections.** The City of Cheyenne can improve detection of bicycles and use of traffic signals by bicyclists through the following recommendations:

- Work with cyclists to develop a list of intersections along frequently used routes where existing signals can be modified to detect cyclists better at a relatively low cost. Prioritize these locations for signal improvements.
- Ensure that all new signals provide a means of cyclist activation.
- Consider adjusting signal timing plans to provide a minimum bicycle timing at appropriate intersections.
- Use pavement markings to identify the most sensitive spots of in-pavement loop detectors.



Wayfinding signing for the on-street bicycle system should harmonize with existing greenway signing.

**Wayfinding Signs:** The City of Cheyenne should develop a signing program with the specific uniform standards. Members of the public can provide guidance on sign design and layout, as well as which destinations should be included. Existing "Bicycle Route" signs on roadways not designated as bike routes should be removed.

The signing program can be implemented in several phases to make use of available funding and construction opportunities. Signs should be integrated with the Cheyenne area's existing greenway signing. Installation of signage on bikeways outside the current city limits or on bikeways managed by Laramie County or WYDOT will require coordination with these agencies.

**Bike Parking:** The Cheyenne area can significantly improve availability and quality of bicycle parking with the following action items:

- Require bicycle parking with new development and redevelopment projects.
- Provide incentives for developers to encourage bicycle parking facilities beyond the minimum requirements.
- Provide guidance on the design and placement of bicycle parking facilities, including staple racks, lockers, bike rooms, and bike cages.



Providing an adequate amount of bicycle parking is integral to increasing cycling in the Cheyenne area.

30

- Encourage partnerships between private business that may not have shower facilities and health clubs (e.g., Curves and Smart Sports).
- Establish a bike rack program that assists in locating, designing, and funding bicycle racks in the public right-of-way.
- Update existing bike parking requirements included in the City of Cheyenne Unified Development Code to match recommendations contained in Working Paper #10: Bicycle Support Facilities (Volume III).

**Count Program:** An annual data collection program would provide information to help determine this Plan's success at increasing bicycling rates. The data collection program should use methodology developed by the National Bicycle and Pedestrian Documentation Project (NBPDP) at locations shown in the Policy Handbook selected to capture greenway trips and bicycling activity near popular destinations. The results of these counts should be compiled in an annual count report and presented to the governing bodies as part of an annual bicycling report card.<sup>1</sup>

**Enhanced Bicycle-Transit Integration:** The City and MPO already work with the Cheyenne Transit Program (CTP) to provide linkages between bicycle and transit use. Recommendations to strengthen this partnership include:

- Provide lockers near the Transfer Station in down-town Cheyenne.
- Continue to support the CTP bikes-on-buses policy.
- Explore grant funding to provide bicycle racks near transit stops that experience high use.
- Partner with agencies such as Laramie County Community College that may have a high potential transit use to promote the benefits of linked bicycle/ transit trips.



Cyclists can use transit as a supplemental form of transportation in case of inclement weather, illness or simply to expand their range.

### 4. Implementation

This Plan provides a comprehensive set of greenway and on-street bicycle improvement projects that, once constructed, can allow Cheyenne area residents to bicycle more often for more types of trips. The order in which projects in this Plan are constructed will depend on many factors, including budget and grant availability, community support and local government policies.

: This long range plan is a conceptual document that provides a roadmap to implement future projects to improve the bicycling environment in the Cheyenne area. The Plan provides a vision and direction to the community, however at the same time allows flexibility to prioritize and implement projects according to changing conditions, including availability of funding. All designs proposed in this plan are conceptual in nature and should undergo final engineering design and review through coordination between all concerned departments such as Engineering, Public Works, and Parks and Recreation. Appropriate public outreach will be part of final design for all projects to ensure that there is buy in from residents, developers and concerned public.

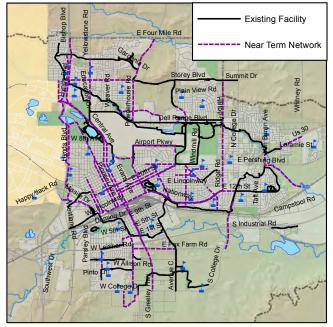
The recommended on-street bikeway and greenway projects represent the Cheyenne area's ambitious efforts to create a comprehensive and well-connected on-street and greenway network serving users of all types and abilities.

<sup>1</sup> This recommendation is described in greater detail in the Policy Handbook.

Approximately 350 projects comprise the proposed system. These projects are shown on specific roadways, but it is understood that sometimes a neighboring roadway may serve as a more appropriate bikeway and the Plan was written with this flexibility in mind. Based on the evaluation framework described below, the proposed bicycle network projects have been organized into three tiers representing priorities and a general implementation timeline:

- Tier l, Near-term
- Tier 2, Medium-term
- Tier 3, Longer-term

The near-term network shown in the map below contains projects that scored highly in project prioritization process as well as projects that close gaps in the existing on-street bikeway and greenway network. The complete prioritization process is described in Working Paper #11 Project Evaluation Criteria and the Preliminary Phasing Plan Summary (in Volume III). Map 5: Network Prioritization on page 43 shows the relative implementation timeframe for the complete on-street



When constructed, the near-term network of on-street and greenway facilities will provide increased opportunity for travel via a network of designated cycling facilities.

bikeway and greenway network. The tiering recommendations for each project are included in tables in Section 3.2.

The City, County, and MPO should regularly revisit the project list to schedule near term projects, as there are many factors that can and should affect project implementation, including:

- Any changes to existing grant programs, or creation of new grant or funding programs, that affect the type or number of large-budget projects that can be implemented
- Any changes in City/County/MPO policy that could affect how local, state or federal funds can be spent
- Changes to zoning and land use that will affect where and how development occurs in the Cheyenne area (such as through Plan Cheyenne, the long-term land use planning project currently underway)
- Changes to staff capacity to manage on-street and greenway projects
- Community input (e.g., through the Bicycle Advisory Committee, Greenway Advisory Committee or advocate groups)
- Directives (policy or otherwise) from elected officials and other governing bodies
- Interest from partners (such as Laramie County and WYDOT) in implementing projects that are partially or entirely within their jurisdiction

#### Table 11: Near Term Priority Projects

Length (Mi)	Facility	Project	From	То
1.08	Bike Boulevard	15th Street	Bent Avenue	E Lincolnway
0.85	Bike Boulevard	22nd Street	Evans Avenue	Logan Avenue
0.55	Bike Boulevard	Dillon Avenue	W 24th Street	W Lincolnway
0.87	Bike Boulevard	Olive Drive/Lilac Court/E18th Street	Converse Avenue	Forest Drive
1.66	Bike Lane	Airport Parkway	E Pershing Boulevard	Converse Avenue
1.13	Bike Lane	Bishop Boulevard	Vandehei Avenue	Central Avenue
1.55	Bike Lane	Carey Avenue	8th Avenue	25th Street
0.96	Bike Lane	Chestnut Drive/Hot Springs Avenue	Henderson Drive	East Greenway Extension
1.50	Bike Lane	E 19th Street	Central Avenue	Converse Avenue
1.04	Bike Lane	E 20th Street	Central Avenue	Logan Avenue
0.56	Bike Lane	Henderson Drive	E Pershing Boulevard	Omaha Road
0.78	Bike Lane	Hynds Boulevard	Kennedy Road	2nd Avenue
1.23	Bike Lane	Hynds Boulevard	Vandehei Avenue	Walker Road
0.88	Bike Lane	Logan Avenue	E Pershing Boulevard	Nationway
0.76	Bike Lane	Morrie Avenue	E Pershing Boulevard	15th Street
1.86	Bike Lane	Nationway/E 12th Street	E Lincolnway	N College Drive
0.50	Bike Lane	Pioneer Avenue	2nd Avenue	Randall Avenue
0.99	Bike Lane	Powderhouse Road	Storey Boulevard	Dell Range Boulevard
1.33	Bike Lane	Prairie Avenue	Dell Range Boulevard	Dry Creek Greenway opposite Old Chicago
2.13	Bike Lane	Ridge Road	Douglas Street	E 12th Street
0.31	Bike Lane	W Fox Farm Road	Walterscheid Boulevard	S Greeley Highway
1.29	Bike Lane	Walterscheid Boulevard	Deming Drive	W College Drive
1.56	Buffered Bike Lane	Central Avenue	Bishop Boulevard	E 8th Ave
0.70	Buffered Bike Lane	E Fox Farm Road	S Greeley Highway	Morrie Avenue
2.30	Buffered Bike Lane	Greeley Highway/I-180	Lincolway	College Drive
1.53	Buffered Bike Lane	Storey Boulevard	Hynds Road	Powderhouse Road
1.24	Buffered Bike Lane	Yellowstone Road	Vandehei Avenue	Dell Range Boulevard
0.97	Greenway	Allison Draw Phase III	Park Avenue	W College Drive
0.57	Greenway	Avenue C	Reiner Court	E College Drive
0.47	Greenway	Converse Avenue	Grandview Avenue	Dell Range Boulevard
0.21	Greenway	Cribbon Avenue	Leisher Road	South Cheyenne Greenway
0.23	Greenway	Cribbon Avenue	South Greenway	W Allison Road
0.40	Greenway	Crow Creek	1-25	Westland Road
0.38	Greenway	Crow Creek	Westland Road	Martin Luther King Park
0.30	Greenway	Downtown Connector	Ames Avenue	15th Street
0.15	Greenway	Dry Creek	Mason Way	Dell Range Boulevard
0.90	Greenway	Dry Creek	Pershing Boulevard	UPRR
0.09	Greenway	Existing I-80 Overpass	Leisher Road	W Fox Farm Road
0.67	Greenway	Henderson Ditch	Sparks Road	East Extension
0.12	Greenway	Holliday Park Connector	Holliday Park	Dunn Avenue
1.91	Greenway	I-25 Corridor	Kennedy Road	Crow Creek

Length			_	
(Mi)	Facility	Project	From	То
1.55	Greenway	I-25 Corridor	Western Hills Boulevard	Lions Park
0.12	Greenway	Lincolnway	15th Street	Holliday Park Connector
0.22	Greenway	Morrie Avenue	Teton Street	Fox Farm Road
0.32	Greenway	Morrie Avenue	E 1st Street	Teton Street
1.19	Greenway	N College Drive	E 8th Street	E Fox Farm Road
0.23	Greenway	Pershing Boulevard	Taft Avevnue	Dry Creek
0.75	Greenway	Pershing Boulevard	Dunn Avenue	Converse Avenue
0.52	Greenway	Pershing Bypass	Evans Avenue	Airport Parkway
0.58	Greenway	Pointe Connector	Pointe Park	E Four Mile Road
0.24	Greenway	Polk Avenue	US 30	E Pershing Boulevard
0.43	Greenway	South Park Connector	South Greenway	Crow Creek Greenway
0.63	Greenway	US 30	Hayes Avenue	Whitney Road
0.13	Greenway	Walterscheid Boulevard	WAPA Corridor Underpass	W Allison Road
0.26	Greenway	Walterscheid Underpass	WAPA Corridor Underpass	W Allison Road
0.70	Greenway	Whitney Road	US 30	Pershing Boulevard
0.49	Shoulder Bikeway	Ridge Road	Storey Boulevard	Douglas Street
0.68	Shared Lane Marking	Carey Avenue	25th Street	15th Street
1.48	Shared Lane Marking	Central Avenue	8th Avenue	Lincolnway
0.72	Shared Lane Marking	E 22nd Street	Snyder Avenue	Evans Avenue
0.80	Shared Lane Marking	Pioneer Avenue	Randall Avenue	15th Street
0.89	Shared Lane Marking	Snyder Avenue	29th Street	W Lincolnway
1.44	Shared Lane Marking	Warren Avenue	8th Avenue	Lincolnway
1.44	Shared Lane Marking	Warren Avenue	E Pershing Boulevard	E Lincolnway

#### 4.1. Process for Future Prioritization

This Plan is a longe-range planning document. While all projects represent important steps for improving the Cheyenne area's cycling environment, prioritizing projects will allow the City, County, and MPO to program limited financial and staff resources in the most strategic way. For this reason, the Plan provides criteria that staff can use to rank the relative benefit derived from projects within each project tier and develop the bikeway network in a coherent fashion. Table 12 shows proposed secondary project ranking criteria used to refine the implementation order for near term projects. The 'Ranking' column contains the number of points that would be assigned to each project that meets the measurement (e.g., more than half of funding already secured). The weight of each of the criterion may change annually based on the economic climate or other changes in the areas surrounding each of the projects. Therefore, it is recommended that the evaluation be used to select projects competing for capital funding during every budget cycle, or as grant opportunities arise.

It is likely that several links within corridors included in the near-term priorities may require significant time to implement fully (e.g., the I-25 Greenway). Development and construction of these links was recognized as a priority by the Bicycle Advisory Committee though full project implementation will likely span into the medium or long-term timeframe.



Providing on-street connections to the greenway system will reduce the number of bikeway system gaps.

It should be strongly noted that the purpose of prioritization is to understand the relative priority of projects so that the City, MPO, and/or other agency partners may apportion available funding to the highest priority projects. Medium- and longer-term projects are also important, and may be implemented at any point in time as part of a development or public works project, or as additional funding becomes available. The ranked lists should be considered a "living document" and should be frequently reviewed to ensure they reflect current priorities.

#### 4.2. Priority On-Street Bikeway and Greenway Project Description Sheets

Ten on-street bikeway and greenway projects were selected for conceptual design as they represent critical closures in the network (see project description sheets at the end of this Volume).

Criteria	Ranking	Measurement
Pudget Need	2	More than half of funding is already secured
Budget Need	1	Less than half of funding is already secured
	3	Project expected to receive exemption or exclusion (local or state funding)
Expected Environmental Process or Discretionary	2	Project expected to receive exemption or exclusion (federal funding)
Funding	1	Project expected to require minor environmental/discretionary review
	0	Project expected to require significant environmental/discretionary review
	3	Project requires departmental coordination with minimal involvement from other agencies
Jurisdictional Complexity	2	Project requires coordination with two agencies
	1	Project requires coordination with three or more agencies
Potential to Leverage Other	2	Initiating project now will secure 80% or more of the funds
Funding	1	Initiating project now will secure less than 80% of the funds
Policy Directive	1	Project specified by policy

#### Table 12. Potential Secondary Project Ranking Criteria

On-street projects were selected for gap closure and their representative nature. The priority on-street bikeway and greenway description sheets were developed for the following corridors:

- I-25 Greenway Connector
- Converse Avenue (Greenway)
- Polk Avenue (Greenway)
- South Park (Greenway)
- Downtown Connector (Greenway)
- Yellowstone Road (Buffered Bike Lanes)
- 22nd Street (Bicycle Boulevard)
- Carey Avenue/Pioneer Avenue (Shared Lane Markings/Bike Lanes)
- Bishop Boulevard (Uphill Bike Lane/Down Hill Shared Lane Markings)
- Logan Avenue (Bike Lanes)

## 4.3. Cost Opinions

A project cost range for each type of on-street bikeway facility is listed in Section 3.2 and described in Volume III in greater detail. These estimates were developed based on initial planning-level examples of similar constructed projects and industry averages. These costs were then refined with the assistance of the City of Cheyenne Engineering Services department. These costs are provided in 2011 dollars rounded to the nearest hundred and do not include costs for right-of-way acquisition. Additional assumptions are discussed in detail in Volume III. Maintenance cost opinions assume no additional street sweeping or snow plowing above and beyond standards already in place for existing roadways. For example, if a roadway with a bike lane is not scheduled for clearance after a storm event, neither the motor vehicle travel lane or the bike lane would be cleared.

## 4.4. Need for Agency Coordination

Construction of projects that may affect state highway facilities must be coordinated with WYDOT and may need to conform to applicable standards and require WYDOT approval. Recommendations from this Plan that may affect state highway facilities include bicycle facilities on state highways and improvements at intersections on state highways. Construction of facilities on or crossing state highways may also require coordination between the City, County, and WYDOT that identifies responsibility for operating and maintaining the facility.

Construction of facilities that cross railroad facilities must be coordinated with Union Pacific Railroad or Burlington Northern Santa Fe (BNSF) Railroad.

Numerous projects in this Plan are outside the City of Cheyenne and fall under the jurisdiction of Laramie County. These projects will be affected by the character of future land use and development of future roadway infrastructure. In all cases, the City of Cheyenne should work closely with Laramie County to plan for bicycle-friendly infrastructure and implement these recommendations.

## 4.5. Potential Funding Sources

Projects in the Plan can be funded from a variety of local, state, regional, and federal sources. Most state funding programs specific to bicycle facilities are competitive grant programs, and each has different eligibility requirements. Locally-administered programs also have different guidelines for how revenues may be spent. In order to implement the projects in this Plan, the City will need to be creative and persistent about assembling monies from various sources. Table 13 on pages 37-38 summarizes federal, state, regional, and local existing funding sources that may be used to implement projects in this Plan. A detailed assessment of current and potential funding sources can be found in Working Paper #12: Potential Funding Sources (in Volume III).

## 4.6. Municipal Code Update

A review of the Cheyenne area's existing Municipal Code was undertaken to identify strengths and weakness of the current law and to recommend language that clarifies and enhances the existing Code. Recommended changes include clarifying facility definitions, bicycle parking requirements, clarification of where sidewalk riding is prohibited, and enhancing portions of municipal code that target bike lane obstruction. The recommendations also remove the bicycle licensing statute, clarify requirements for used bicycle purchase or sale, and recommends provisions that clarify the authority of the Traffic Engineer. Working Paper #16 Cheyenne City Code Review & Recommendations in Volume III provides a complete listing of these recommendations.

## 4.7. Tracking Progress of Plan Implementation

This planning process has developed goals, objectives and performance measures related to bicycling and greenways. It is a useful benchmarking activity to publish an annual report measuring accomplishments and performance against goals. An annual report should include relevant bicycling metrics (count results, new bikeway/greenway facility miles, major completed projects, bicycle-involved crashes, number of organized events, etc.) and may also include information on user satisfaction, public perception of safety, or other qualitative data that has been collected related to



An annual report card is useful to track plan implementation and evaluate the success of current efforts.

Conducting annual bicycle counts is useful for tracking progress towards plan implementation.

cycling. Cumulative bikeway and trail mileage should be shown to demonstrate long-term progress in improving infrastructure.

Based on the goals and objectives contained in the Policy Handbook, minimum recommended metrics include:

- Increased mileage of bicycle facilities
- Number of network gaps closed
- Increases in number of people bicycling (measured through annual counts)
- Reduced number of cyclist-involved collisions
- Increased number of bicycle patrols on the greenway

## 4.8. Education, Encouragement and Enforcement Recommendations

The infrastructure recommendations in the Cheyenne On-Street Bicycle Plan and Greenway Plan Update will provide safer, more comfortable places for further growth in bicycling and greenway use. However, while improving infrastructure is critical to increasing bicycling rates, the importance of outreach, education and evaluation efforts should not be underestimated.

Programs connect more residents to information about new and improved facilities, educate them about the benefits of bicycling and provide positive reinforcement about why and how to integrate bicycling into their everyday lives. In essence, these efforts market bicycling



Media campaigns can reinforce the perception that cycling is a normal, safe and fun activity as well as an effective method of transportation.

to the general public and provide the maximum "return on investment" in the form of more people bicycling and a higher degree of safety and awareness around bicycling in the Cheyenne area.

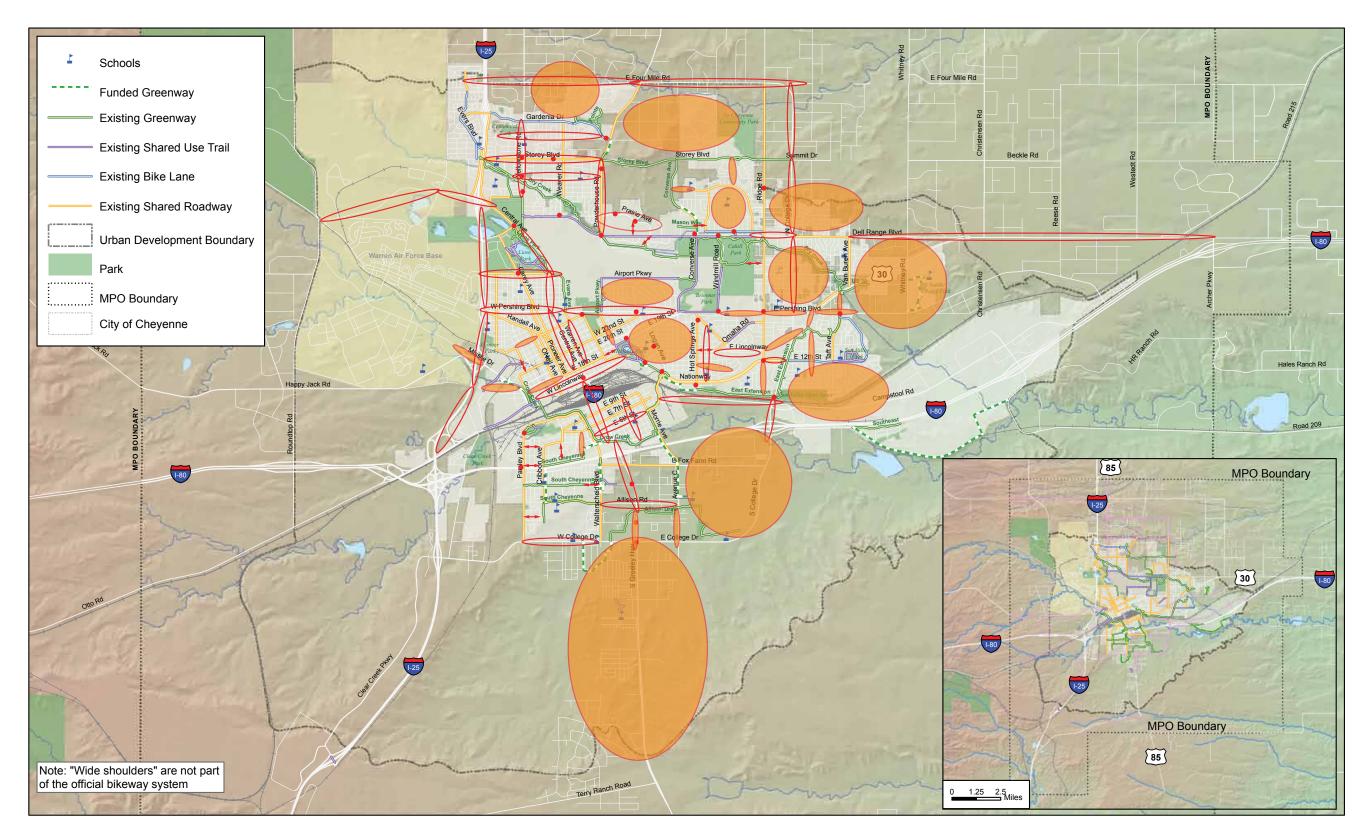
The Policy Handbook in Volume II is a rich resource for programmatic recommendations including establishment of social rides, Media Campaigns and the Bike Valet Program. Integral to the implementation of these programs is the need to increase staff capacity. A Volunteer Ambassador Program, or Events Assistant position should be established to support full time City and MPO staff who regularly plan and oversee bicycle and greenway related activities. Convening a permanent Bicycle Advisory Committee will also increase staff capacity. The BAC may assist in development and monitoring of benchmarks, promoting education and encouragement programs, providing additional volunteer capacity at events and liaising between agency staff, citizens and other advocacy groups.

## **Table 13: Existing and Potential Funding Sources**

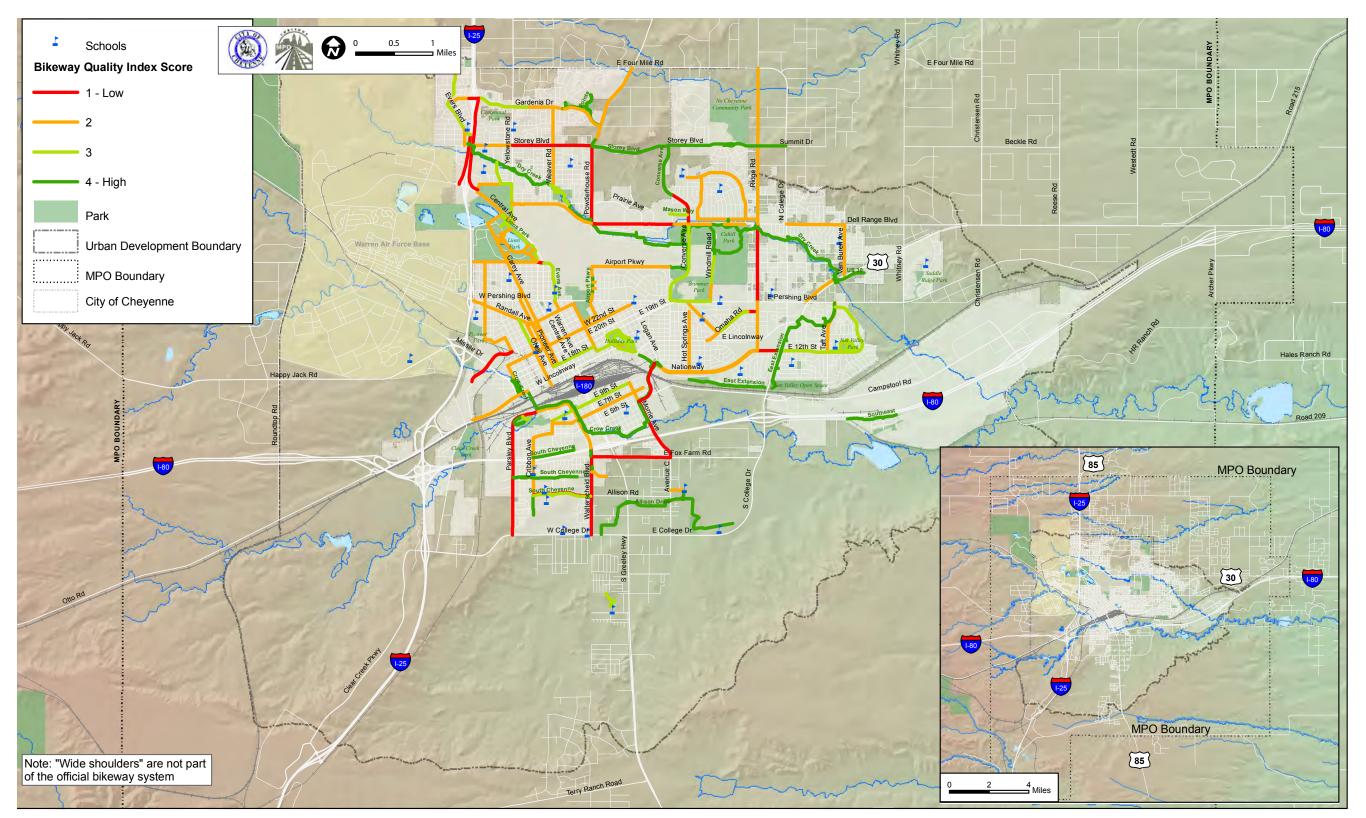
Source	Description	Greenway	<b>On-Street Bicycle Facilities</b>	Education, Encouragement or Enforcement	Managing Agency
Surface Transportation Program	The Surface Transportation Program (STP) provides states with flexible funds which may be used for a wide variety of projects on any Federal-aid Highway including the National Highway System, bridges on any public road, and transit facilities.	•	•	•	WYDOT
Transportation Enhancements	The Wyoming Transportation Enhancement Activities – Local (TEAL) program provides funding for community-based projects that "compliment surface transportation facilities by stressing mobility, protection of human and natural environment, community preservation, sustainability and livability."	•	•	•	WYDOT
Congestion Mitigation/ Air Quality Improvement Program	The Congestion Mitigation/Air Quality Improvement Program (CMAQ) provides federal funding for projects and programs that reduce transportation emissions in air quality non-attainment and maintenance areas for ozone, carbon monoxide, and particulate matter	•	•	•	WYDOT
Highway Safety Improvement Program	This program funds projects designed to achieve significant reductions in traffic fatalities and serious injuries on all public roads, bikeways, and walkways.		•		WYDOT
Recreational Trails Program	Annual competitive grant program; provides funding to states to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses.	•		•	WYDOT
Safe Routes to School	Annual competitive grant program designed to reduce barriers and hazards to children walking or bicycling to school.	•	•	•	WYDOT
Community Development Block Grants	City-managed federal funds from the Federal Department of Housing and Urban Development that can be used to make improvements in low and moderate income neighborhoods, eliminate barriers for people with disabilities, create jobs, and provide affordable housing.	•	•	•	City of Cheyenne

Source	Description	Greenway	<b>On-Street Bicycle Facilities</b>	Education, Encouragement or Enforcement	Managing Agency
Transportation, Community, and System Preservation Program	The Transportation, Community, and System Preservation (TCSP) Program provides federal funding for transit-oriented development, traffic calming, and other projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services, and trade centers.		•		FHWA
Land and Water Conservation Fund	The Land and Water Conservation Fund (LWCF) is a federally-funded program providing grants for planning and acquiring outdoor recreation areas and facilities, including trails.	•			National Parks Service
Transportation Investment Generating Economic Recovery (TIGER) Grants	Competitive grant awards that are intended to provide long-term economic benefits for rural and urban communities.	•	•		FHWA
Motor Vehicle Taxes	Vehicle registration fees and taxes are collected by the State to fund transportation projects.	•	•		City of Cheyenne
Fifth Penny Tax	The Fifth Penny Tax is a one percent general purpose sales tax that generates funding specifically for transportation projects.	•	•		Laramie County/ City of Cheyenne
Neighborhood Matching Grant Funds	This program allows neighborhoods to apply for up to \$5,000 of matching grant funding, assuming they provide at least 50 percent of the overall project cost in cash or labor.	•	•		City of Cheyenne
Sixth Penny Tax	The Sixth Penny Tax is a one percent Laramie County sales tax that generates funding for special community projects such as the Greater Cheyenne Greenway.	•	•		Laramie County/ City of Cheyenne
Business Ready Community Program	Wyoming's Business Council provides financing for publicaly owned infrasctruture that serves t he needs of business and promotes economic development within Wyoming's communities. Cities, towns, counties and tribes are eligible to apply for funding of physical infrastructure (e.g., roads) and recreational facilities.	•	•		Wyoming Business Council
Local Bond Measures	Local bond measures, or levies, are usually initiated by voter-approved general obligation bonds for specific projects.	Potential funding source			
Tax Increment Financing/ Urban Renewal Funds	Tax Increment Financing (TIF) typically occurs within designated Urban Renewal Areas (URA) that meet certain economic criteria and are approved by a local governing body. Enabling legislation for TIF funding has not yet been enacted in the state of Wyoming.	Potential funding source			
System Development Charges/Developer Impact Fees	System Development Charges (SDCs), also known as Developer Impact Fees, are typically tied to trip generation rates and traffic impacts produced by a proposed project.	Potential funding source			
Local Improvement Districts (LIDs)	Local Improvement Districts (LIDs) are most often used by cities to construct localized projects such as streets, sidewalks or bikeways. Through the LID process, the costs of local improvements are generally spread out among a group of property owners within a specified area.	Potential funding source			
Business Improvement Districts	Cycling improvements can often be included as part of larger efforts aimed at business improvement and retail district beautification.	Potential funding source			
Street User Fees	Street user fees are an additional way to fund transportation projects and can take several forms. Some street user fees come in the form of a utility fee, based on the land use type.	Potential funding source			

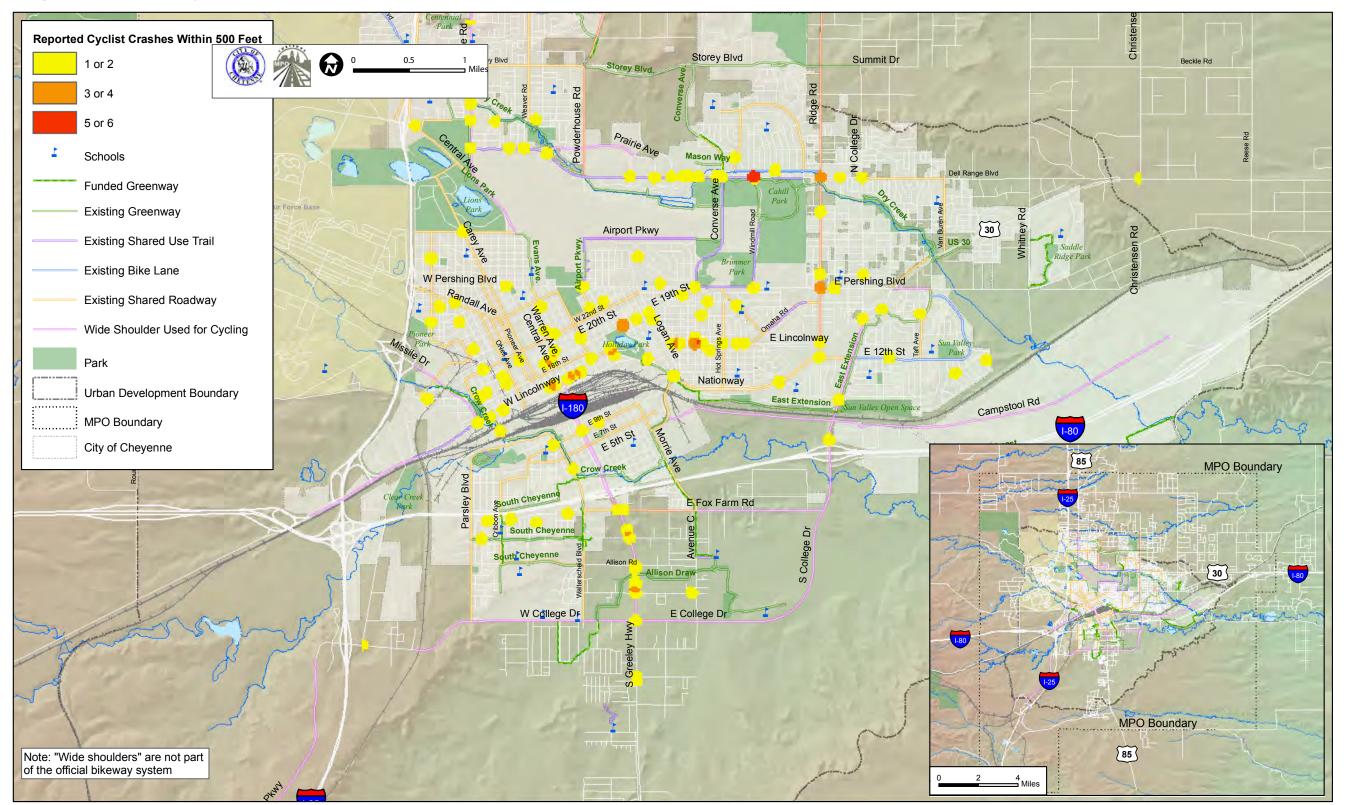
## Map 1: System Gap Analysis



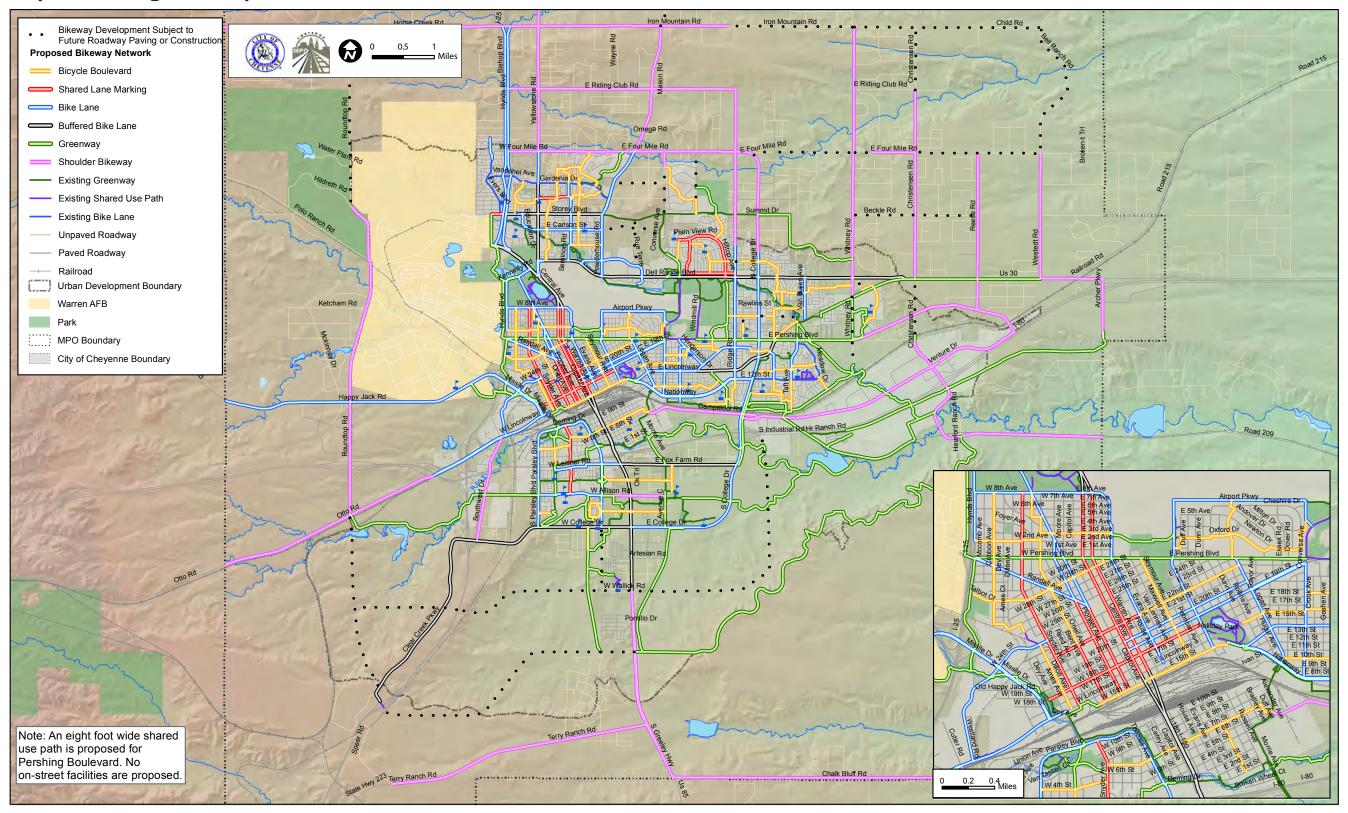
## Map 2: Existing Bikeway Quality



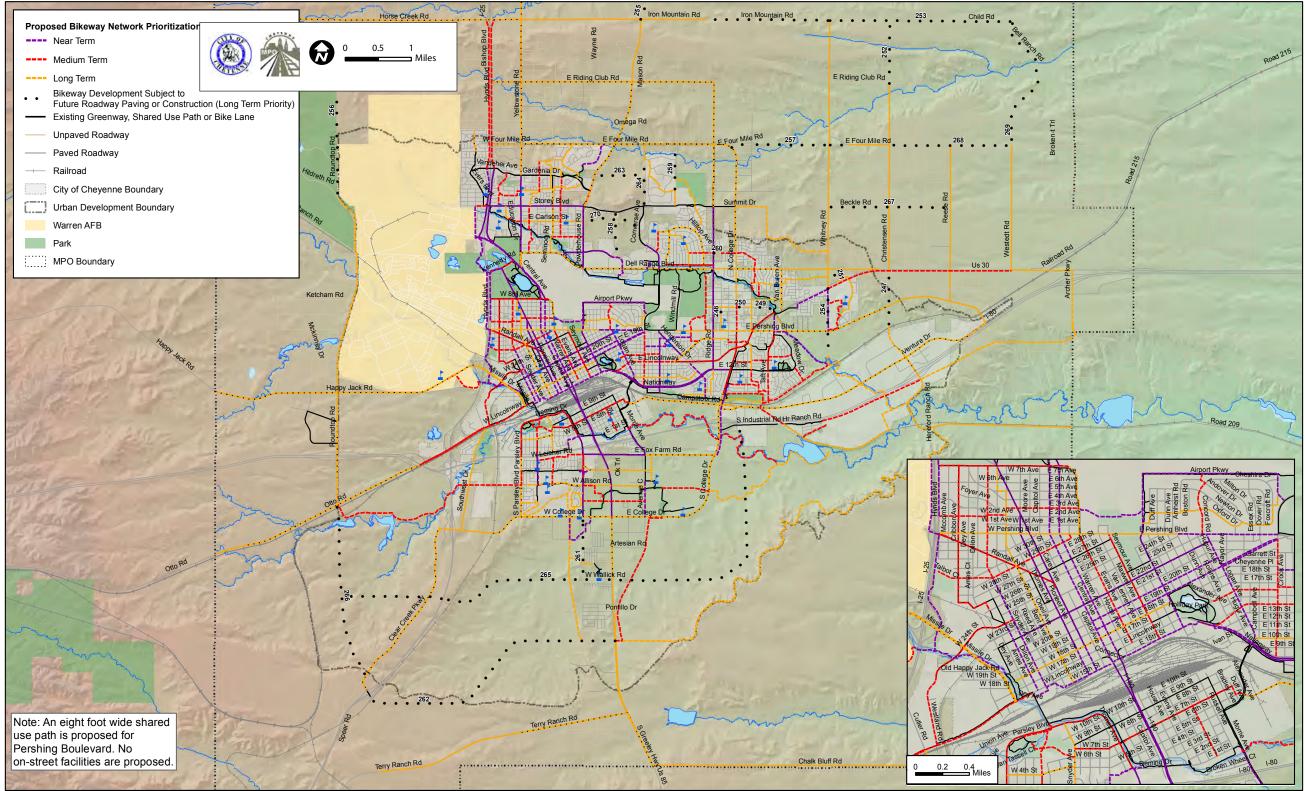
## Map 3: Crash Analysis



## Map 4: Existing and Proposed Network



## Map 5: Network Prioritization



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# Appendix A: Project Description Sheets

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## E.1.1. Bishop Boulevard – Vandehei Avenue to Central Avenue

## Description

Located in the Western Hills South neighborhood, this project on Bishop Boulevard would provide enhanced connectivity between existing bike lanes on Vandehei Avenue, Gardenia Drive, and a proposed greenway beginning at Central Avenue. The proposed facility, an uphill bike lane and downhill shared lane markings, would create dedicated space for slower moving cyclists pedaling uphill within the existing roadway between Central Avenue and Ridgeland Street. North of Ridgeland Street, approximately six feet of additional pavement is necessary to accommodate the proposed facility. Cyclists are accommodated in shared travel lanes and bike lanes in the central and southern part of the corridor. Prior to installation of this facility, a study of 85<sup>th</sup>-percential motor vehicle speeds is recommended. If the results indicate a speed greater than 35 miles per hour full bike lanes or traffic calming should be considered. Land use within the project corridor is primarily residential though several state agency buildings are located at the southern end of the corridor. Other notable features along the corridor include Jessup Elementary School and the bicycle/pedestrian overcrossing of I-25, located near Western Hills Boulevard.

## **Existing Conditions:**

Functional classification: Collector

Posted speed: 30 MPH

No signalized intersections

Roundabout located at Vandehei Avenue

1,100 - 5,000 Vehicles Per Day

No reported cyclist crashes between 2000 and 2009

**Jurisdictional Responsibility:** 

City of Cheyenne

**Proposed Facility Type:** 

Bike lane – uphill climbing lane/downhill shared lane, Shared lane markings and two way bike lanes

## Anticipated User Type:

Strong and Fearless/Enthused and Confident

## **Proposed Improvements**

## Section 1 - Vandehei Avenue to Ridgeland Street

- Northbound uphill bike lanes, southbound shared lane marking as shown in Section 1.
- Add approximately 6 feet of additional pavement to eastern shoulder to accommodate bike lane and maintain 12-foot travel lanes.
- Connections to existing roundabout at Vandehei Avenue roundabout (R) as shown.
- Transition to Section 2 as illustrated.
- Provide wayfinding signs throughout the corridor.

## Section 2 - Ridgeland Street to Manor Lane

- Shared lane markings.
- Provide wayfinding to existing bicycle/pedestrian bridge and Dry Creek Greenway.
- Transition as illustrated from bike lanes to shared lane markings as illustrated (T).

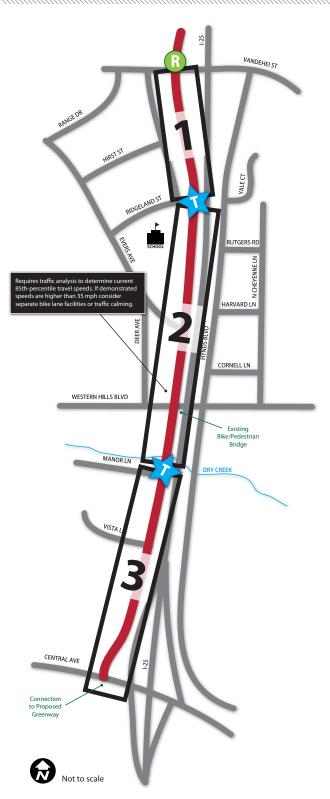
## Section 3 - Manor Lane to Central Avenue

- Uphill bike lane markings and shared lane marking as shown in Section 1, or option to provide bike lanes on both sides.
- Remove curbside parking to provide southbound bike lanes.
- Provide wayfinding signage throughout the corridor.

## **Planning-Level Cost Opinion**

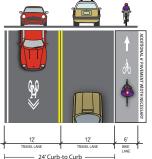
\$18,700 See Volume III for additional information.

# BISHOP BOULEVARD (1 of 2)



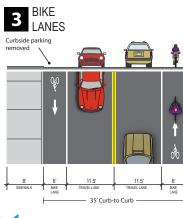
1 UPHILL BIKE LANE; DOWNHILL SHARED LANE MARKINGS

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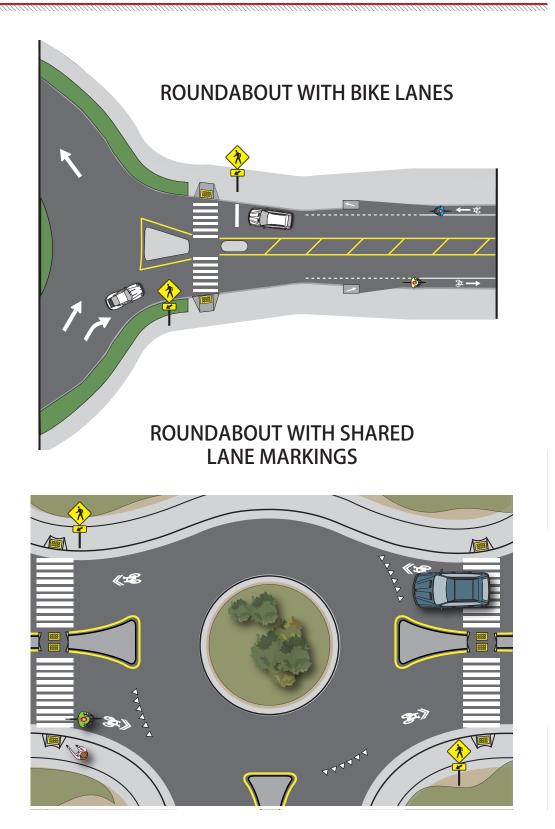
12 12 TRAVELIANE TRAVELIANE 24' Curb-to Curb



TRANSITION ZONE



BISHOP BLVD: ROUNDABOUT CONCEPTS (2 of 2) 🚳 🌋 🚢



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## E.1.2. Carey Avenue/Pioneer Avenue – Kennedy Road to W 15<sup>th</sup> Street

## Description

Extending from Kennedy Road in the north to 15<sup>th</sup> Street in the south, the Carey/Pioneer corridor would provide on-street connectivity between Lions Park, the Frontier Days rodeo grounds, through the Avenues and into Downtown Cheyenne. This project would accommodate cyclists through several facility types including buffered bike lanes, conventional bike lanes, and shared lane markings. Dominant land uses include recreation in the north, single family residential in the central corridor, and retail commercial in the south.

## **Existing Conditions:**

Functional Classification: Minor arterial and collector

Posted speed: 30 MPH north of Randall Avenue, and 20 MPH south of Randall Avenue

Major crossings include 8<sup>th</sup> Avenue, Pershing Boulevard, Randall Avenue and Lincolnway

4,000 – 8,000 vehicles per day south of 24<sup>th</sup> Street; 1,500 – 5,000 between 24<sup>th</sup> Street and 8<sup>th</sup> Avenue, 8,000 – 12,000 north of 8<sup>th</sup> Avenue

Two reported cyclist crashes between 2000 and 2009

## Jurisdictional Responsibility:

City of Cheyenne

## **Proposed Facility Type:**

Buffered bike lanes north of 8<sup>th</sup> Avenue, conventional bike lanes from 8<sup>th</sup> Avenue to Randall Avenue, shared lane markings south of Randall Avenue

## Anticipated User Type:

Strong & Fearless/Enthused & Confident/Interested but Concerned

#### **Proposed Improvements**

## Section 1 – Carey Avenue – Kennedy Road to Lions Park Drive

• Buffered bike lanes with optional bollard installation.

## Section 2 – Carey Avenue – Lions Park Drive to 8th Avenue

- Buffered bike lanes with optional bollard installation.
- Intersection improvement at Carey Avenue/8<sup>th</sup> Avenue intersection (see illustration).

## Section 3 – Carey Avenue – 8th Avenue to 2nd Avenue

• Bike lanes.

## Section 4 – Carey Avenue – 2<sup>nd</sup> Avenue to Pershing Boulevard

- Shared lane markings.
- Intersection improvement at Pershing Boulevard. Median refuge island as illustrated in Carey Avenue/8<sup>th</sup> Avenue illustration.

### Section 5 – Pioneer Avenue – Pershing Boulevard to 26<sup>th</sup> Street

• Left side bike lane.

## Section 6 – Pioneer Avenue – 26<sup>th</sup> Street to 15<sup>th</sup> Street

• Shared lane markings. Option to continue bike lane in place of shared lane markings.

## Section 7 – Carey Avenue – Randall Avenue to 15th Avenue

• Shared lane markings. Option to continue bike lane in place of shared lane markings.

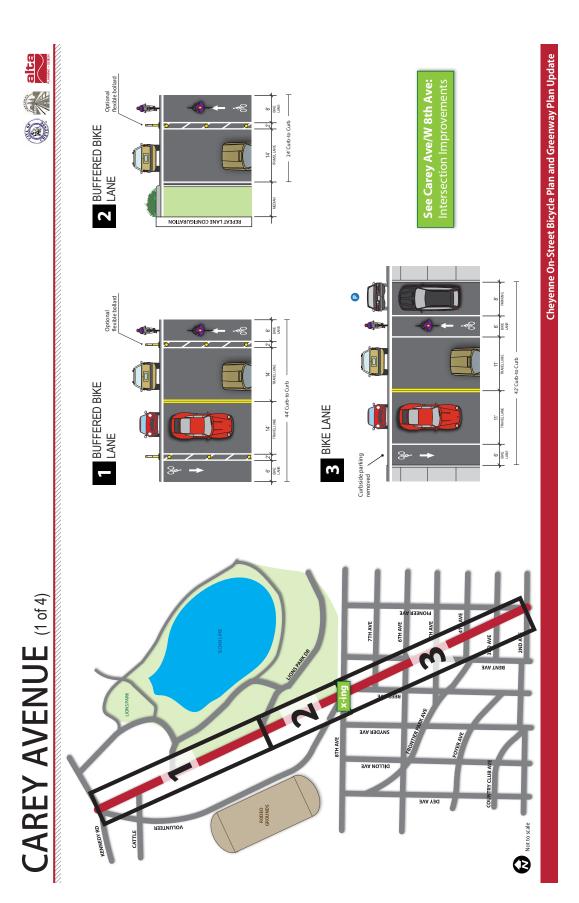
## Section 8 – Carey Avenue – 2<sup>nd</sup> Avenue to Randall Avenue

- Bike lanes. Parking removal along one side of the roadway is necessary to accommodate this configuration.
- Install cyclist detection at Pershing Boulevard intersection.

### Planning-Level Cost Opinion

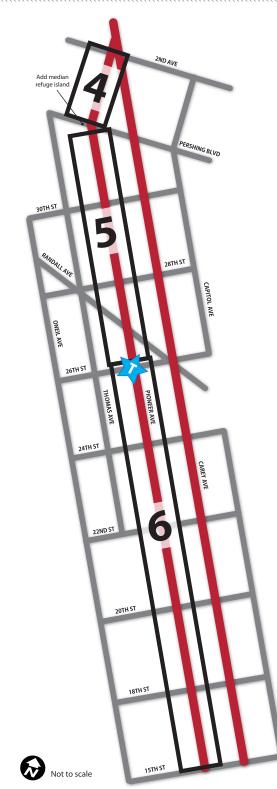
\$38,100 See Volume III for additional information.

## CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE

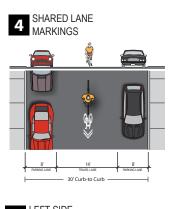


51

# CAREY/PIONEER AVENUE (2 of 4) 🚳 🎡 🏙

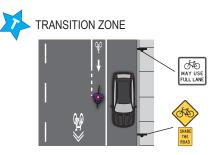


## SOUTHBOUND

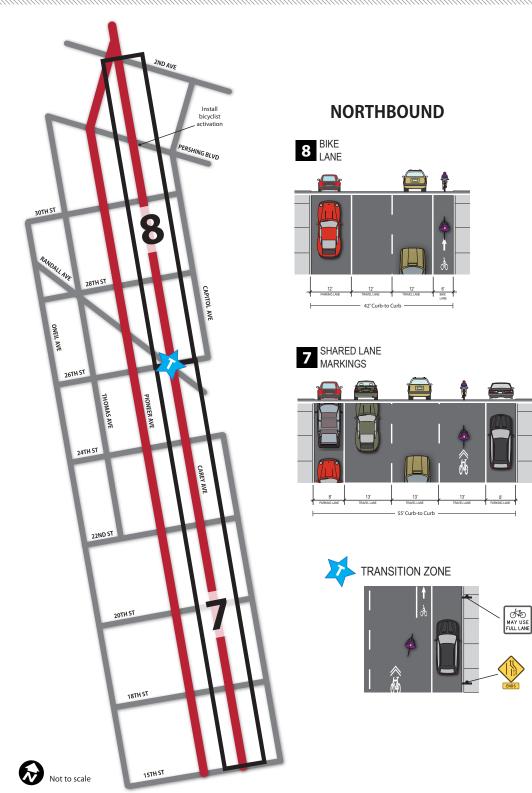






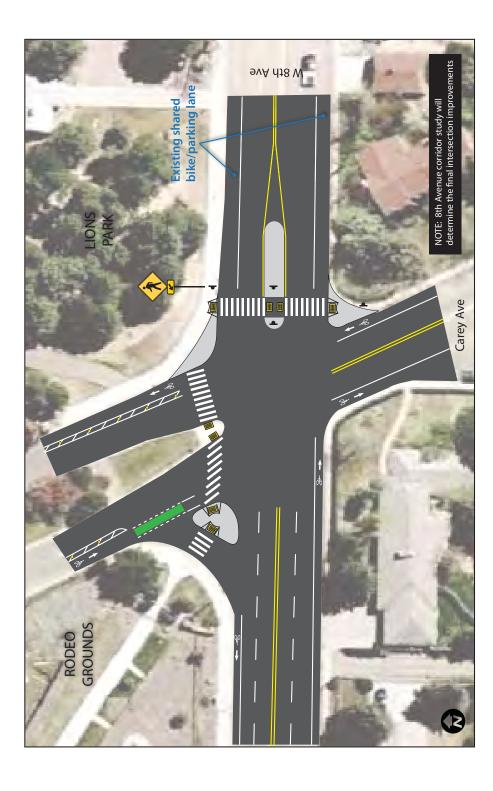


CAREY/PIONEER AVENUE (3 of 4) 🚳 🎡 💒









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## E.1.3. Yellowstone Road - Vandehei Avenue to Dell Range Boulevard

#### Description

The proposed buffered bike lanes on Yellowstone Road would fill a frequently mentioned system gap between existing bike lanes on Vandehei Avenue and a greenway segment terminating at Manewal Drive. The buffered bike lanes would extend to Dell Range Boulevard. Development of on-street facilities extending south to Central Avenue should be considered as part of long-term plan if the intersection of Yellowstone Road and Central Avenue is ever redesigned. Primary land uses along the corridor consist of automobile-oriented commercial, though opportunities to connect to cycling-friendly destinations include Davis Elementary School, the Dry Creek Greenway, and local roadways that provide access to various residential and recreational destinations.

The proposed buffered bike lanes include an option to provide physical separation via flexible bollards that may provide additional comfort for cyclists. This installation of bollards may preclude the use of the outside lane as a vehicle breakdown lane. The proposed design preserves existing right turn pockets at major crossings and driveway access. Driveway consolidation is a long term strategy that can be used to improve the cycling environment for southbound cyclists between Western Hills Boulevard and W Carlson Street.

A primary feature of this design is the proposed entry and egress from to the existing westside running greenway terminating at Manewal Drive and east/west greenway along Manewal Drive. Proposed options include a bicycle-only signal phase (scramble signal) or a signal phase where cyclists may cross with pedestrians. Bicycle-only signals are in use in several states, but have not been used to date in Wyoming. Instituting an additional signal phase would provide the highest level of service for cyclists but should only be considered in conjunction with an engineering study and analysis of signal timing within the corridor to balance the needs of all users.

Existing Conditions:	Jurisdictional Responsibility:				
Functional classification: Principal Arterial	City of Cheyenne				
Posted speed: 40 MPH	Proposed Facility Type:				
Major intersections include Vandehei Avenue, Storey	Buffered bike lane with optional physical separation				
Boulevard, E Carlson Street and Manewal Drive	Anticipated User Type:				
12,000 – 28,000 Vehicles per day	Strong and Fearless/Enthused and				
Nine reported cyclist crashes between 2000 and 2009	Confident/Interested but Concerned				

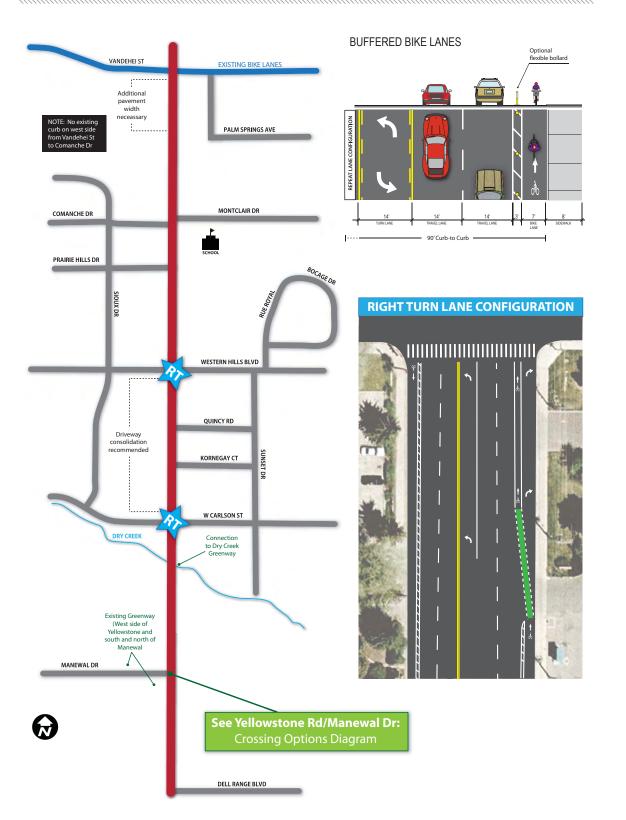
#### **Proposed Improvements**

- Buffered bike lanes.
- Proposed roadway configuration at right turns as shown.
- Cyclist signal detection at Vandehei Avenue, Dell Range Boulevard, Storey Boulevard, Manewal Drive and Carlson Street via video detection or inductive loop.
- Greenway access at Dell Range Bouleavard via bike box or scramble signal.

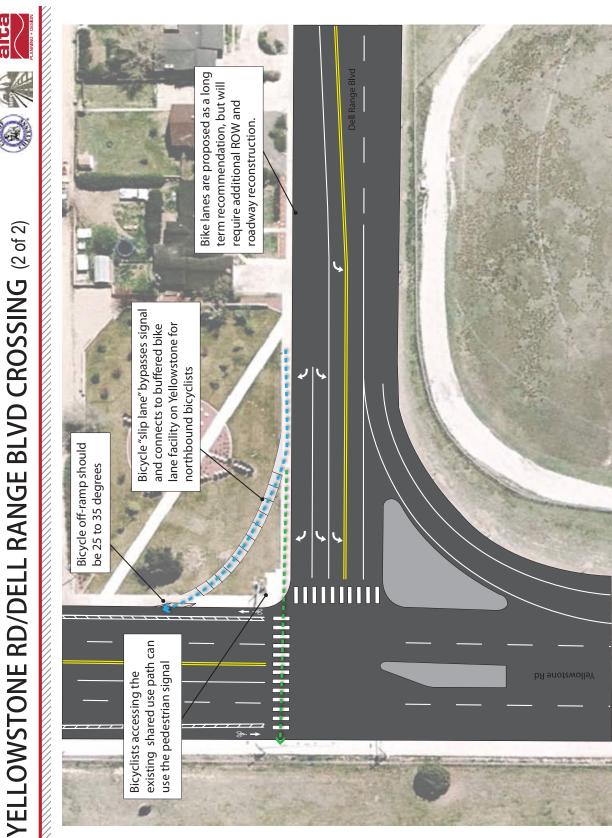
#### **Planning-Level Cost Opinion**

\$29,900 See Volume III for additional information.

# YELLOWSTONE ROAD (1 of 2)

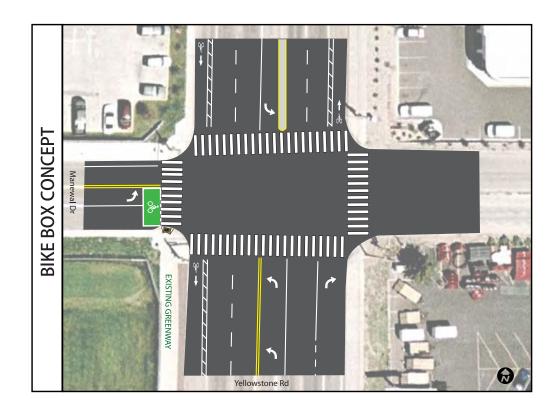


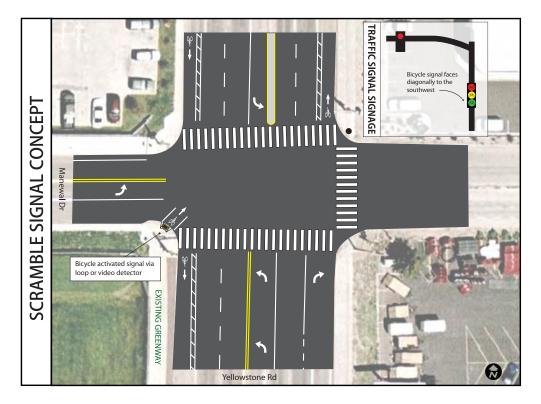
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## YELLOWSTONE RD/MANEWAL DR: CROSSING OPTIONS (2 of 2) 🎡 🌋





## E.1.4. Logan Avenue – Pershing Boulevard to Nationway

### Description

The proposed bike lanes on Logan Avenue would create a north/south connection between an existing shared use pathway on Pershing Boulevard and the recently completed Norris Viaduct. Other destinations along the corridor include Carey Junior High School and Alta Vista Elementary School, and the proposed bicycle boulevard on 22<sup>nd</sup> Street.

In order to provide dedicated bicycle facilities within the existing right-of-way, it will be necessary to remove parking on one side of the roadway. This conversion is consistent with existing city roadway standards though details should be confirmed by further engineering study and removal of parking should be fully vetted through a public process.

The key to successful implementation in this corridor lies in intersection treatments at Pershing Boulevard, Lincolnway and Nationway. The proposed intersection enhancements include cyclist signal actuation and enhancing cyclist visibility.

Existing Conditions:	Jurisdictional Responsibility:				
Functional classification: Collector	City of Cheyenne				
Posted speed: 30 MPH	Proposed Facility Type:				
Major intersections include Pershing Boulevard, E 20 <sup>th</sup> Street, E 19 <sup>th</sup> Street, Lincolnway and Nationway	Bike lanes				
6,500 – 13,000 Vehicles per day	Anticipated User Type:				
Four reported cyclist crashes between 2000 and 2009	Strong and Fearless/Enthused and Confident				
Proposed Improvements					
Section 1 – Pershing Boulevard to 19 <sup>th</sup> Street					
• Intersection improvements as shown in illustration A1 or A2. <sup>1</sup> Another possible solution is a scramble					

- Intersection improvements as shown in illustration A1 or A2.<sup>1</sup> Another possible solution is a scramble signal phase.
- Bike lanes. (Parking removal from one side of the roadway would be necessary.)
- Formalize curb and repair pavement on east side of roadway between 22<sup>nd</sup> Street and Pershing Boulevard.
- Provide cyclist signal detection via video detection or inductive loop at Pershing Boulevard, 19<sup>th</sup> Street and 20<sup>th</sup> Street.
- Bike lanes become shared bike/right turn lanes at intersections

## Section 2 – 19<sup>th</sup> Street to Nationway

- Roadway reconfiguration as shown in Section 2.
- Intersection treatments at Lincolnway and Nationway as shown in illustrations B and C.
- Provide cyclist signal detection via cyclist push button, video detection or inductive loop at Lincolnway and Nationway.

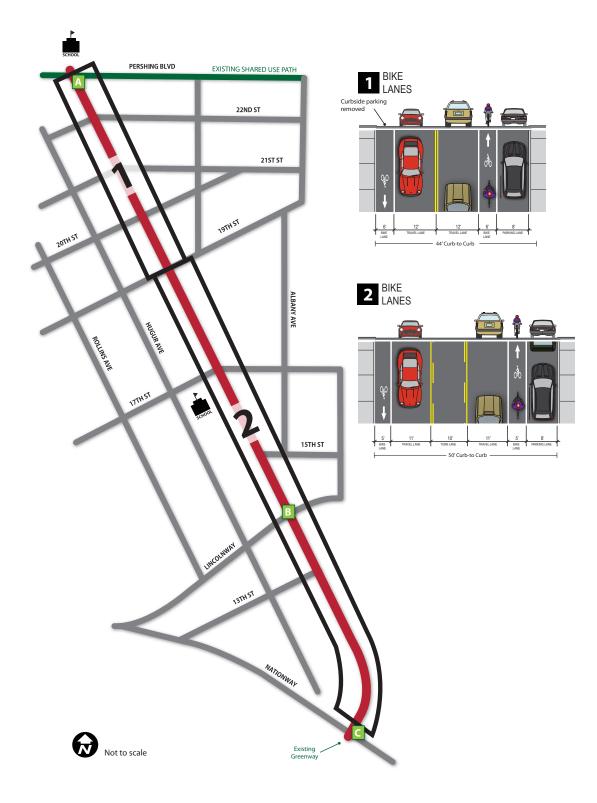
## **Planning-Level Cost Opinion**

Cost opinion is forthcoming

<sup>&</sup>lt;sup>1</sup> Illustrations show proposed conversion of dual-left turn lanes to a single-left turn and final design is dependent on a detailed engineering study and public engagement.

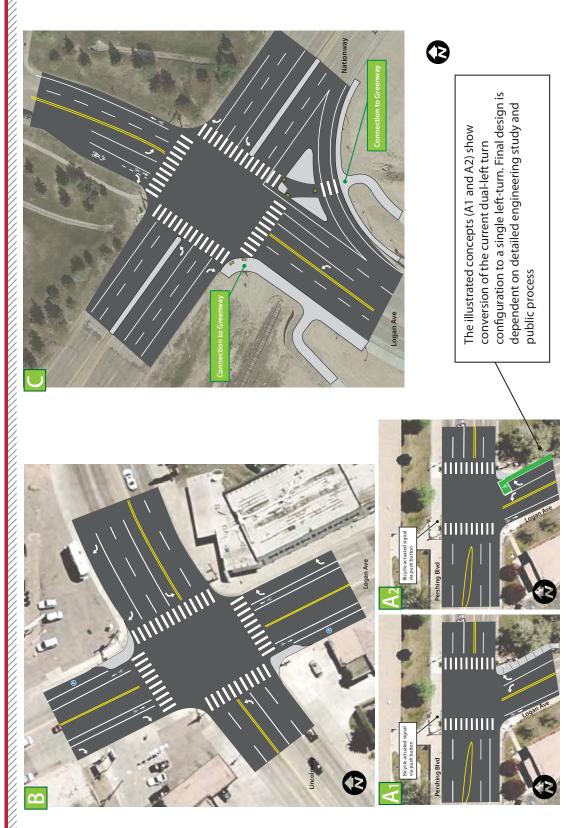
# LOGAN AVENUE (1 of 2)











## E.1.5. W 22<sup>nd</sup> Street – Logan Avenue to Snyder Avenue

### Description

Extending east and west through the original city plat, the W 22<sup>nd</sup> Street bicycle boulevard would create a comfortable on-street connection for cyclists traveling between downtown and Logan Avenue. The eastern end of the corridor is primarily residential while commercial use dominates as 22<sup>nd</sup> Street continues west across Evans Avenue. Key destinations along this corridor include the Laramie County Library, Triumph High School and United Medical Center West.

Recommend treatments for the corridor include the installation of pavement markings and wayfinding signage, re-orienting stop signs east of Evans Avenue and curb bulbs in combination with high-visibility crosswalks at Central Avenue and at Warren Avenue. The intent of these curb bulbs is to reduce the effective crossing distance and improve cyclist visibility at Central Avenue and Warren Avenue; improvements to the pedestrian environment are incidental. Modifications to intersections around the hospital are not proposed at this time, based on the need to prioritize emergency vehicle access.

At the time of bicycle boulevard implementation, it is recommended that the city develop performance targets for the bicycle boulevard. Recommended metrics include average motor vehicle travel speeds and volumes. Monitoring changes in roadway performance can help determine whether additional traffic calming treatments are necessary to meet the desired level of performance.

Existing Conditions:	Jurisdictional Responsibility:
Functional classification: Local	City of Cheyenne
Posted speed: 25 MPH	Proposed Facility Type:
Major crossings include Warren Avenue and Central Avenue 700 – 2,500 vehicles per day No reported cyclist crashes between 2000 and 2009	Bicycle boulevard east of Evans Avenue, shared roadway with shared lane markings west of Evans Avenue
	Anticipated User Type:
	Strong and Fearless/Enthused and Confident/Interested but Concerned

## Proposed Improvements

## 22<sup>nd</sup> Avenue – Logan Avenue to Evans Avenue

- Pavement markings and wayfinding signs (Level I and II bicycle boulevard treatments. See Design Handbook).
- Re-orient stop signs at Duff Avenue.
- Paint curbs along 22<sup>nd</sup> Street to reinforce existing parking restrictions and improve intersection sightlines.
- Consider developing performance metrics with neighbor involvement for average motor vehicle travel speed and vehicle volumes. Monitor the roadway after installation of preliminary bike boulevard treatments. If travel speeds and vehicle volumes exceed the threshold goals for roadway performance, consider installation of traffic calming treatments, such as speed humps.

### 22<sup>nd</sup> Avenue – Evans Avenue to Snyder Avenue

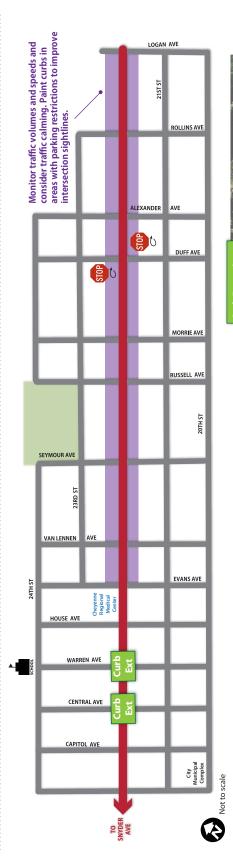
- Shared lane markings and wayfinding signage.
- Intersection treatments as shown at Central Avenue and Warren Avenue to reduce cyclist exposure and enhance existing crossings.

#### **Planning-Level Cost Opinion**

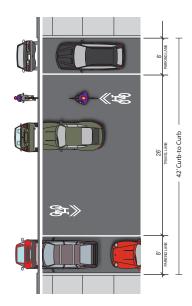
\$189,800 See Volume III for additional information.







SHARED LANE MARKINGS



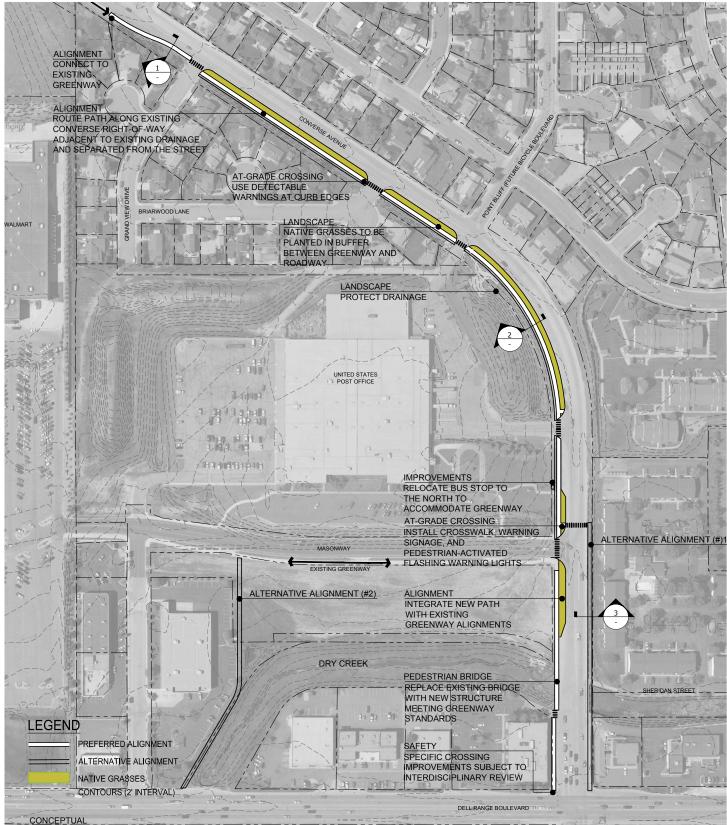
SAMPLE WAYFINDING SIGNAGE



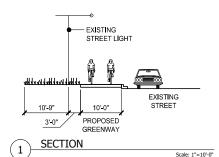


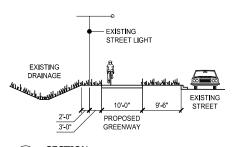


## CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE

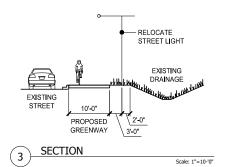


NOT FOR CONSTRUCTION









#### Project Description

This project would connect the northern portion of the Converse Greenway to Dutcher Fields and existing greenways to the south. From Grand View Drive to Masonway, the greenway would be located in the Converse Avenue right-of-way between the existing drainage corridor and the street. Between the greenway and the existing street will be a generous landscape buffer seeded with native grasses and wildflowers that do not require additional irrigation.

From Dry Creek to Dell Range Boulevard is an existing commercial block. Several utility boxes and signage would need to be relocated to accommodate the 10-foot wide concrete greenway. In addition, an interdisciplinary review of the Converse Avenue and Dell Range intersection would be important to create a solution that provides a safe and comfortable crossing for pedestrians and cyclists.

An alternative (#1) to crossing Dell Range Boulevard at Converse Avenue is shown on the plan (section 3). At Masonway, the proposed greenway crosses Converse Avenue to the east side of the street. The greenway follows Converse south to Sheridan Street where it would connect with an existing shared-use roadway and also continues along Converse Avenue to Dell Range Boulevard. Two streetlights would need to be relocated to the east in order to accommodate the greenway.

In order to implement a crosswalk at Converse and Masonway, the transit stop will need to be relocated to the north, as shown on the plan. Street furnishings associated with the transit stop will need to be located to the west of the greenway to maintain the 10-foot wide unobstructed path. Americans with Disabilities Act accessibility of the main sidewalk leading to the building entrance will need to be maintained. Curb cuts and additional pavement will be required for a bus pullout at the new transit stop.

A second alternative (#2) for crossing Dell Range includes following the existing Greenway along Masonway, and continuing south through existing access easements and under the roadway at the Dry Creek channel. This is a long range priority and requires significant capital investment to install a new larger box culvert.

In the immediate future, the Cheyenne Metropolitan Planning Organization will be working with a consultant on a Dell Range Corridor Study that will include addressing pedestrian and greenway crossings along Dell Range to provide greater access to business along the corridor. The study will provide a final and detailed recommendation for a greenway crossing at Dell Range and Converse Avenue.

#### Proposed Improvements

- 10-foot wide concrete greenway from the existing Converse Greenway to Dell Range Boulevard
- Advanced warning signage and high-visibility crosswalks at trail/roadway crossings
- Relocation of the existing bus shelter at Masonway to the north to allow sufficient space for the greenway
- Protection and enhancement of existing drainage, seed for native grasses and wildflowers in the area between the greenway trail and street
- Reconstruction of the bridge over the drainage way to accommodate the 10-foot greenway
- Signal improvements at Converse Avenue and Dell Range Boulevard intersection, pending engineering review

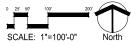
#### Project Summary

- 2,200 feet of 10-foot wide concrete greenway
- Six at-grade trail/roadway crossings
- Wayfinding signage

## CONVERSE AVENUE

JUNE 2012

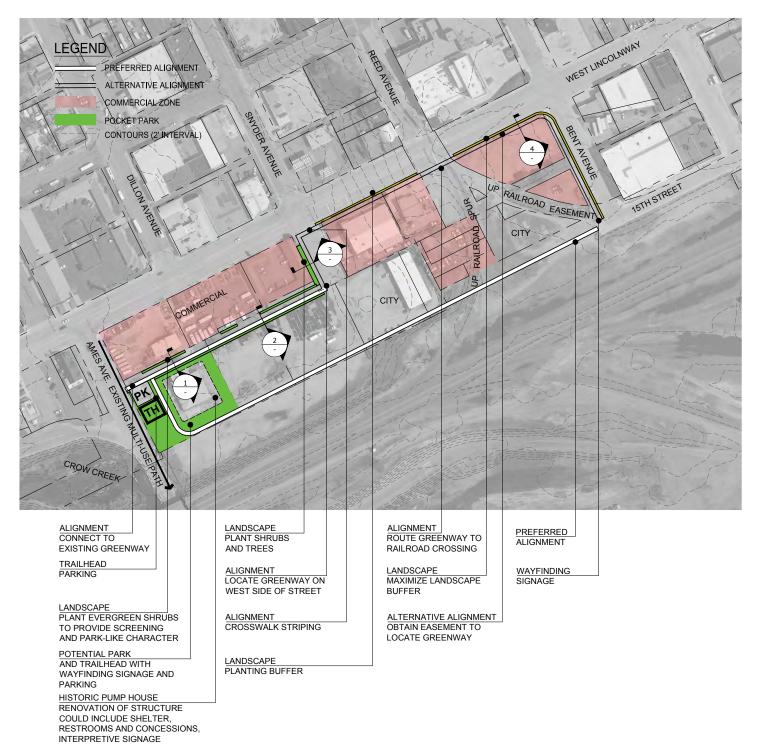
CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE

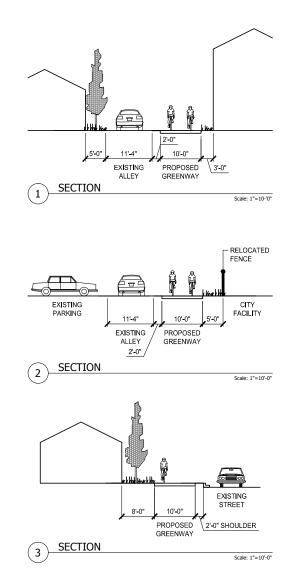


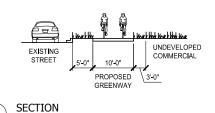




## 67 CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE







## DOWNTOWN CONNECTOR

## Project Description

This greenway segment would connect downtown Cheyenne with the Crow Creek Greenway. The Crow Creek Greenway runs under the Union Pacific Railroad, providing a critical north-south connection. The urban character of this greenway segment will add to the diversity of experiences in the greenway system.

Two potential alignments are shown. The preferred alignment is shown at the southern edge of the City property and accomplishes the connection in one straight line. This option has been explored by the City before, but acquiring the easement was not possible at that time. The preferred alignment will require coordination with Union Pacific Rairload to obtain an easement to locate a rail-road crossing point for the greenway.

An alternative alignment follows Bent Avenue and West Lincolnway to Synder Avenue in order to connect to the alley. The City will need to work with the local property owners to obtain an 18-foot easement. With this alignment, the greenway would cross the tracks at the existing railroad crossing on Lincolnway. Signage and parking along Lincolnway would need to be relocated to accommodate the greenway.

At Snyder Avenue, the greenway would turn south to connect with an alley. From Snyder Avenue to Ames Avenue, the proposed greenway is located on the south side of the alley. This will provide a comfortable travel lane for cyclists of all experience levels. City-owned property south of the alley contains a chain link fence Cheyenne will allow to be moved 17 feet south; this will accommodate a 2-foot buffer, a 10-foot multi-use path, and 5-foot planting buffer adjacent to the fence. The colored concrete greenway will be textured, ADA compliant, along the alley section and pedestrian-scaled lighting along this segment will make the urban space inviting during all times of day or evening.

At the intersection of the alley and Ames is a historic pump house, constructed from the same stone blocks as the Union Pacific Depot. With restoration, the building could become a prominent feature and focal point on the edge of the future urban greenway segment. The building could be improved, providing restrooms, concessions, and interpretive opportunities for the area. A survey of the site and the building would be needed to assess the possibility of accomplishing a retrofit.

Future improvements associated with the Capital Basin flood control project could change the landuse between Bent Avenue and Reed Avenue creating a new greenspace and additional opportunities to route the greenway in this section of Cheyenne.

#### Proposed Improvements

- 10-foot wide greenway from 15th Street to Ames Avenue
- Buffer landscaping along greenway alignment
- Alley paving from Snyder Street to Ames Avenue
- Pedestrian-scaled lighting along alley segment
- A "pocket park" and trailhead adjacent to historic pump house

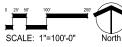
#### Project Summary

- 1,700 feet of 10-foot wide colored concrete greenway path (for alternate alignment). The segment along the alley will be textured
- 4,295 square feet of irrigated landscape improvements
- Wayfinding signage
- 16 pedestrian-scaled light fixtures
- Two benches and trash receptacles

JUNE 2012

CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE

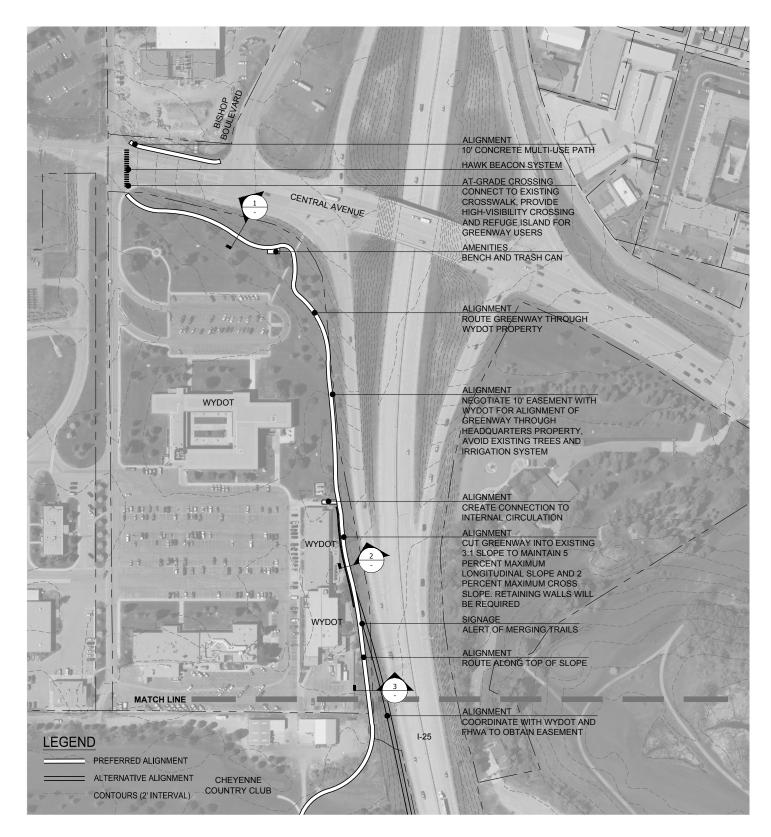
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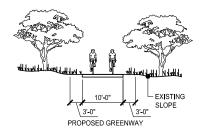




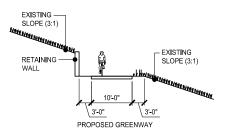
## CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE



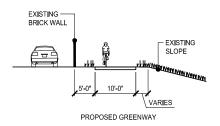
CONCEPTUAL NOT FOR CONSTRUCTION











SECTION 3 Scale: 1"=10'-0"

#### **Project Description**

This greenway segment was identified by the residents of Cheyenne as a high priority for development. The segment provides a contiguous north-south alignment on the west side of the city from Central Avenue to Stinner Road, where it crosses I-25 via shared lane markings and joins a greenway segment starting at Stinner Road and Hynds Boulevard and continues south to West 2nd Avenue. This greenway is shown on the next three project sheets.

This project sheet shows the proposed improvements from Central Avenue to the Cheyenne Country Club. At Central Avenue, the proposed greenway will connect to a proposed bike lane on Bishop Boulevard. Advanced warning signs, high-visibility crosswalk markings, an island refuge, and a pedestrian-activated flashing warning light would create a more comfortable crossing for greenway users. Further analysis and coordination with WYDOT will be necessary for the Central Avenue crosswalk. Engineering improvements should be accompanied by enforcement efforts to increase driver yielding compliance at this crosswalk. The future design of the intersection may change and the final greenway design should take this into account.

From the crossing at Central Avenue, the proposed greenway meanders through the existing park-like landscape of the Wyoming Department of Transportation (WYDOT) Headquarters Property. The City will need to coordinate with WYDOT and obtain an easement for the greenway path. The new improvements should minimize impacts to existing vegetation and the irrigation system. The landscape between the proposed greenway and I-25 could be enhanced with additional vegetation to provide a buffer from the interstate for the greenway users.

At the southern end of the parcel, the greenway will go uphill on a side-slope. Retaining walls will be necessary for the construction of the greenway in this area. At the top of the slope, the greenway follows south to the Cheyenne Country Club, as shown on sheet 2.

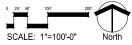
#### **Proposed Improvements**

- New 10-foot greenway in WYDOT headquarters property
- Wayfinding signage where the greenway connects to Central Avenue
- Retaining walls and slope stabilization for trail development at the southern end of the property

#### **Project Summary this sheet**

- 1,400 feet of 10-foot wide concrete path (shown on this project sheet)
- Wayfinding signage
- 250 feet of retaining walls (approximate)

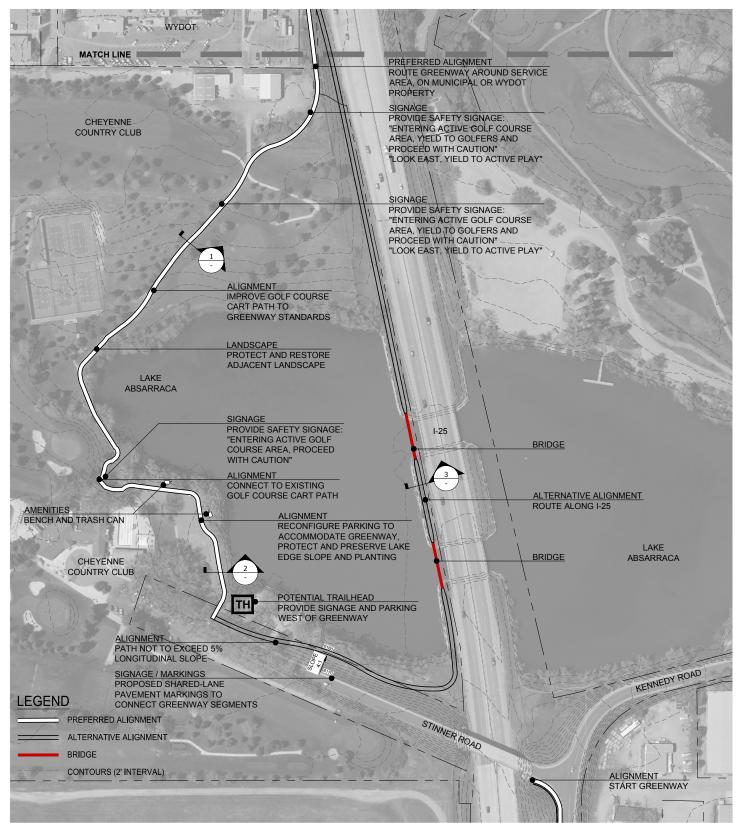
# I-25 GREENWAY CONNECTOR (SHEET 1 OF 3) CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE



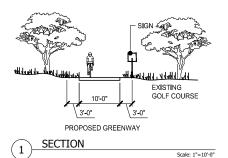


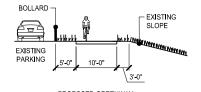


### 71 CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE



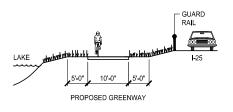
CONCEPTUAL NOT FOR CONSTRUCTION







Scale: 1"=10'-0"



3 SECTION Scale: 1"=10'-0"

### Project Description

This project sheet illustrates the greenway segment that goes through the Cheyenne Country Club. The greenway alignment follows the existing golf cart path and can function as a thoroughfare in its current condition. It is recommended that any improvements to the cart path be brought up to City of Cheyenne greenway standards. At several locations along the trail, signs are posted to warn greenway users that they are entering an "active play" area and to enter with caution.

At the Cheyenne Country Club, the proposed greenway alignment follows the eastern edge of the Country Club parking lot adjacent to the Lake Absarraca. Parking would need to be reconfigured to accommodate the path. A pathway on the lake edge would improve visual access to the water and create an amenity for both the Country Club and the greenway system. Seating areas would be located at the lake edge where appropriate. Viewing the water is encouraged, but fishing, swimming, or contact with water is not allowed.

At Stinner Road, a trailhead with wayfinding signage and parking will be located in the southeast parking lot. Stinner Road is too narrow to add a greenway, therefore shared lane markings are proposed for the bridge crossing I-25 to reconnect with the greenway on Hynds Boulevard, as shown on sheet 3.

An alternative to routing the greenway through the golf course is shown adjacent and west of I-25. This alignment follows the WYDOT ROW south and connects the islands via bridges. This alignment avoids the active play area of the golf course but would be significantly more expensive to construct. Cheyenne would need to coordinate with both WYDOT and the Federal Highway Administration (FHWA) to obtain an easement for the greenway.

Warren Air Force Base is planning on updating the Installation Development Plan in the immediate future. With the update, the base planner has indicated there are plans to include provisions for incorporating the greenway along the west ROW fence line of I-25. An additional fence could be added on base property to ensure a secure facility. Connectivity to future hike-and-bike trails on base is a goal, with points of connection at existing gates at Missile, Randall, and Central.

### **Proposed Improvements**

- Improved 10-foot wide concrete path to follow existing golf cart alignment.
- New 10-foot wide concrete multi-use path on the eastern edge of Country Club parking area
- Seating areas and trash receptacles located on the lakeside edge
- Trailhead with wayfinding signage and parking in the southeast parking lot
- Shared-lane markings on Stinner Road

### **Project Summary this sheet**

- 2,000 feet of 10-foot wide concrete path (shown on this project sheet)
- Three wayfinding signs
- Two benches and trash receptacles
- Trailhead signage

# I-25 GREENWAY CONNECTOR (SHEET 2 OF 3)

CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE



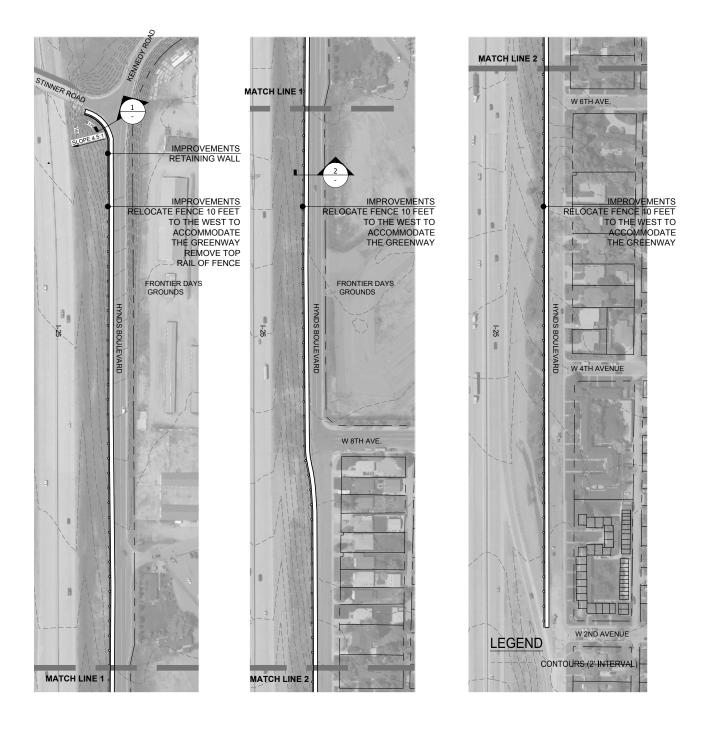
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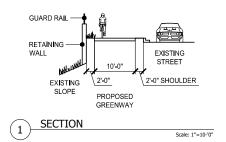


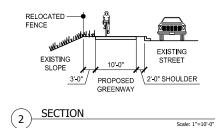


### CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE

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### **Project Description**

A proposed greenway would follow the west side of Hynds Boulevard between Stinner Road and West 2nd Avenue. Currently, there is a chainlink fence 5 feet off the road pavement that delineates the existing City ROW. The alignment follows the west side of Hynds Boulevard in the WYDOT ROW; the City would need to coordinate with WYDOT and FHWA to relocate the fence 10 feet to the west and obtain an 10-foot easement for the greenway. The greenway would terminate at West 2nd Avenue to connect to the on-street network. Few amenities are proposed for this segment because it serves as a connecting element only. The greenway could provide an important travel route for non-motorized users year-round and especially during major events such as Frontier Days.

Warren Air Force Base is planning on updating the Installation Development Plan in the immediate future. With the update, the base planner has indicated there are plans to include provisions for incorporating the greenway along the west ROW fence line of 1-25. An additional fence could be added on base property to ensure a secure facility. Connectivity to future hike-and-bike trails on base is a goal, with points of connection at existing gates at Missile, Randall, and Central.

### **Proposed Improvements**

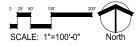
- New 10-foot wide greenway on western side of Hynds Boulevard
- Retaining wall at transition from Stinner Road to Hynds Boulevard
- Relocated chain-link fence
- Wayfinding signage
- At-grade crossing on Hynds Boulevard at 2nd Avenue

### **Project Summary this sheet**

- 4,200 feet of 10-foot wide concrete path (shown on this project sheet)
- 150 feet of retaining wall (approximate)
- At-grade trail/roadway crossing

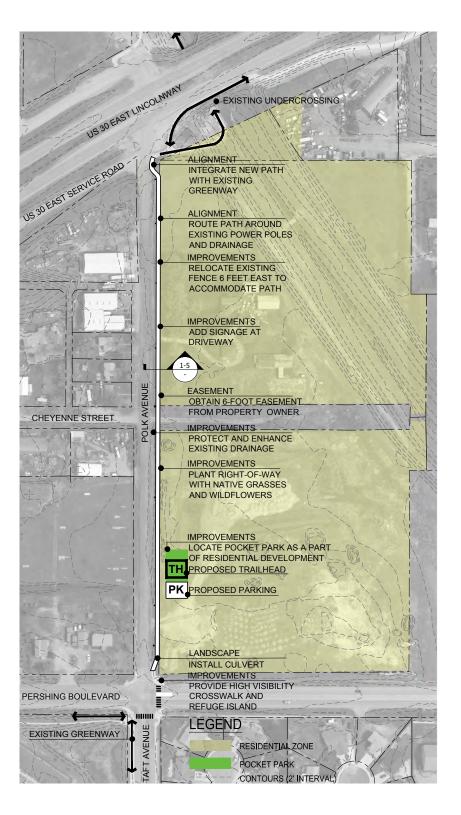
# I-25 GREENWAY CONNECTOR (SHEET 3 OF 3)

CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE

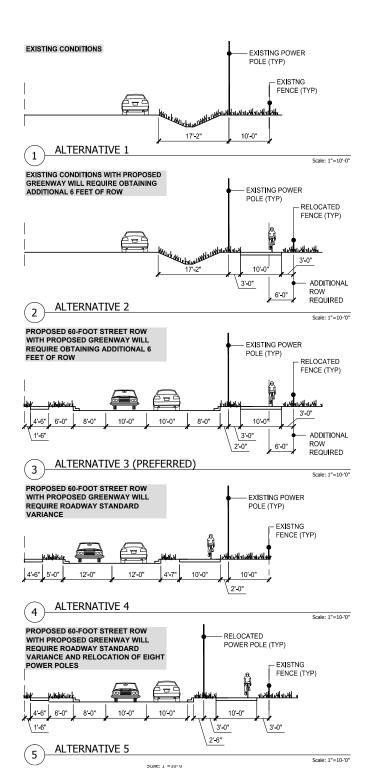








CONCEPTUAL NOT FOR CONSTRUCTION



### Project Description

This greenway segment was identified by the Cheyenne community at a high-priority need because it connects the Dry Creek Greenway-at the existing undercrossing at US 30--to the greenway at the south on Taft Avenue. Polk Avenue is currently a rural two-lane street outside of the City limits. The area will likely be incorporated and the street improved to urban standards.

Sections 1 through 5 show alternative approaches for incorporating the greenway in the street right-of-way (ROW). Section 3 is preferred as it can be constructed before the street improvements, if desired, and will not require costly relocation of the power poles. With this alternative, Cheyenne will need to coordinate with the local property owners to obtain a 6-foot easement for the greenway. Alternative 4 accommodates the greenway in the existing street ROW but will require a roadway standard variance to reduce the roadway pavement to accommodate the greenway trail.

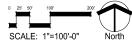
The amenities for this segment are consistent with the existing rural development. If the land use and density change, additional amenities could be added. On the northern parcel, it will be necessary to relocate an existing 4-foot tall field fence 6 feet to the east. The southern parcel on the east side of the road is zoned residential within Cheyenne's jurisdiction. With these additions, there is the potential to develop a "pocket park" along the greenway that can serve as a trailhead with wayfinding signage, benches, dog-waste stations, and trash receptacles.

### Proposed Improvements

- 10-foot wide greenway from US 30, East Lincolnway, to Pershing Boulevard
- Two at-grade crossings with signage and high visibility crosswalks
- Relocation of field fence to east
- Trailhead and parking on southern parcel
- Project Summary
- 1,300 feet of 10-foot wide concrete greenway
- Two at-grade crossings with signage and high-visibility crosswalks

# POLK AVENUE

CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE

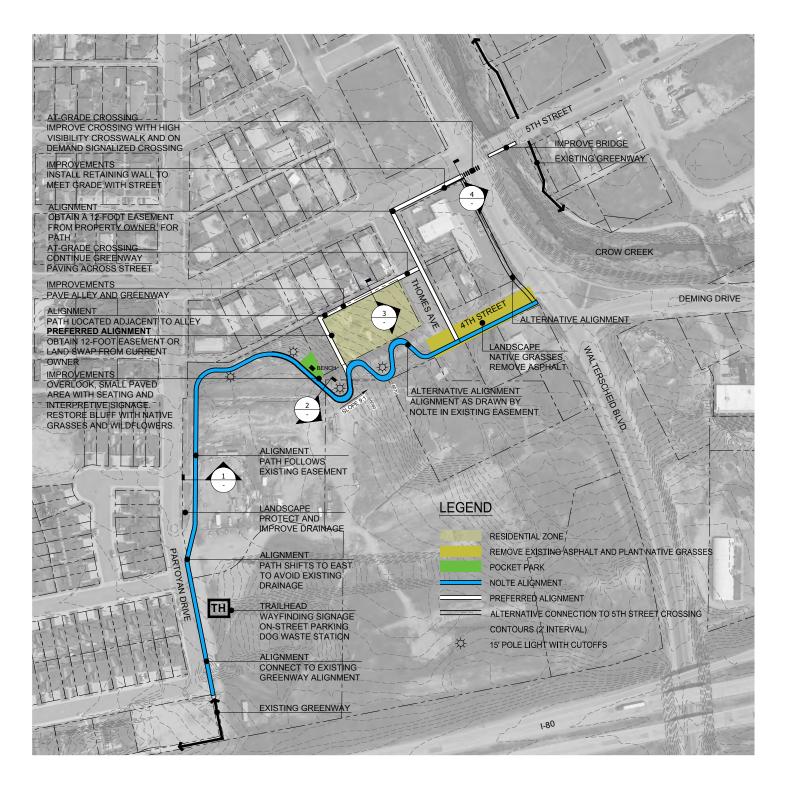






JUNE 2012

### 77 CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE



#### **Project Description**

RELOCATED

rkhhukk 

5'-0'

Scale: 1"=10'-0"

15'-0" POLE

LIGHT

THE WAY I LAW MY

Scale: 1"=10-'0"

ANNO 10 KIN PRIVATE

10'-0"

PROPOSED

GREENWAY

6

EXISTING PARKING

2'-0"

PROPERTY

Scale: 1"=10-'0"

FENCE

10'-0"

PROPOSED GREENWAY

0

EXISTING

STREET

1

HERE

SECTION

SECTION

5'-0'

12'-0"

EXISTING

ALLEY

NEW RETAINING WALL

10'-0'

PROPOSED GREENWAY

SECTION

6-7

EXISTING STREET

10'-0' PROPOSED GREENWAY

RETAINING

ىل<del>ىلالالايات</del> PRIVATE

PROPERTY

3

WALL

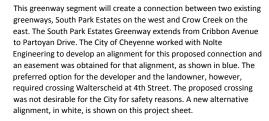
2

Lethonyer

5'-0"

EXISTING

DRAINAGE



At Partoyan Drive, a trailhead is located with wayfinding signage and on-street parking. The proposed trail will parallel Partoyan Drive within an established easement along a drainage ditch. The greenway turns east to the top of a bluff. At the top of the bluff, a seating area is proposed with interpretive signage that takes advantage of the spectacular views of downtown Cheyenne. Where the greenway is not in a street right-of-way (ROW), pedestrian-scaled lighting will be spaced every thirty feet for safety and comfort.

From the bluff, the greenway would go downhill to a residential parcel. The preferred alignment west and north follows the edge of the parcel to the alley and continues to Thomes Avenue. A land swap would trade private land for the 4th Street right-of-way to the west of Thomes Avenue. If a land swap or easement can not be obtained from the landowner, route greenway through the existing alley and sign for mixed-use traffic.

At Thomes Avenue, the concrete path crosses the street, to maintain consistency and legibility, and continues to 5th Street. At 5th Street, the block will be reconstructed to accommodate the 10-foot wide greenway to Walterscheid Boulevard. At Walterscheid, high visibility crosswalk markings and a signalized crossing are proposed for the at-grade roadway crossing

#### Proposed Improvements

- 10-foot wide concrete multi-use path from South Park Estates to Crow Creek
- 15-foot pole lights, four lights as shown on plans
- Enhancements to existing drainage on the east side of Partoyan Drive
- Overlook area at the top of bluff with seating, interpretive signage, and a trash receptacle
- Retaining walls for the steep slope area
- Greenway paving to cross Thomes Avenue, maintaining the route's legibility.
- Signage and a high-visibility crosswalk at the intersection of 5th Street and Walterscheid Boulevard

### **Project Summary**

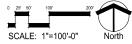
- 2,200 feet of 10-foot wide concrete greenway (for the preferred alignment)
- Trailhead and wayfinding signage
- One bench and trash receptacle
- Interpretive signage
- 51 pedestrian-scaled light fixtures
- One at-grade trail/roadway crossing

# SOUTH PARK EXTENSION

SECTION

CHEYENNE ON-STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE

Scale: 1"=10-'0"



4





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# Appendix B: City and County Council Resolutions

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**RESOLUTION NO. 5413** 

Approved as to form only; June 29, 201 Date:

## ENTITLED: "A RESOLUTION OF ADOPTION OF THE "CHEYENNE METROPOLITAN AREA ON STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE"

WHEREAS, the Cheyenne Metropolitan Planning Organization (MPO) was awarded a \$50,000 federal Transportation, Community, System Preservation Grant towards developing a comprehensive and robust Bicycle Master Plan for the Cheyenne metropolitan area;" and

WHEREAS, the MPO is responsible for transportation planning for all modes in the metropolitan area; and

WHEREAS the MPO programmed \$40,000 in its FY 2010 Unified Planning Work Program to create a metropolitan area bicycle master plan; and

WHEREAS, the Cheyenne Parks and Recreation Department is responsible for planning, installing and maintaining trail and greenway paths; and

WHEREAS, the Parks and Recreation Department committed \$22,595 of Greenway Sixth Penny funds to update the 1992 Greenway Development Plan to complement the metropolitan area bicycle master plan; and

WHEREAS, the goal of the *Cheyenne Metropolitan Area On Street Bicycle Plan and Greenway Plan Update* is to develop a comprehensive and continuous on-street bikeway and greenway system to serve recreational and utilitarian bicycle trips, to provide inter-modal connectivity, and to provide a range of transportation options; and

WHEREAS, bicycling is associated with many benefits, including increasing safe and economical means of access to jobs and businesses, improving public health and air quality, and fostering a stronger sense of community; and

WHEREAS, on street bicycle facilities can be retrofitted on existing roadways and streets without having to undergo costly Right of Way acquisition; and

WHEREAS, the MPO retained Alta Planning + Design of Portland, Oregon, in November 2010 to prepare the *Cheyenne Metropolitan Area On Street Bicycle Plan and Greenway Plan Update* (*Plan Update*); and

WHEREAS, the scope of the *Plan Update* includes the entire urbanized area in and around Cheyenne, Wyoming served by the MPO; and

WHEREAS, the *Plan Update* was prepared with citizen participation pursuant to five Bicycle Advisory Committee Meetings, four public meetings, two online surveys, community outreach events, a project website, numerous communications through the United States Mail and electronic mail systems, and newspaper advertisements; and

WHEREAS, completion of the *Plan Update* followed extensive cooperation and assistance of partner organizations and groups, including: the City of Cheyenne, the County of Laramie, the Cheyenne MPO, the Wyoming Department of Transportation, the Federal Highway Administration, the Bicycle Advisory Committee and the Greenway Advisory Committee; and

WHEREAS, the *Plan Update* utilizes a comprehensive approach to improving the bicycling environment, including Engineering, Education, Encouragement, Enforcement, and Evaluation; and

WHEREAS, the *Plan Update* serves as a guide for the future development, redevelopment and programmatic activities that provide for the safety of bicyclists of all age and abilities; and

WHEREAS, the *Plan Update* is intended to function as the bicycle element of the Cheyenne Area Transportation Master Plan of *Plan Cheyenne* and future *PlanCheyenne* updates; and

WHEREAS, on June 18, 2012, the City of Cheyenne Planning Commission held a Public Meeting which followed a fourteen (14) day comment period which was advertised to the public through a legal notice published in the Wyoming Tribune Eagle, and

WHEREAS, the Planning Commission accepted public comments and recommended that the *Cheyenne Metropolitan Area On Street Bicycle Plan and Greenway Plan Update* be adopted by the Governing Body as an amendment to the Transportation Master Plan of *PlanCheyenne*; and

WHEREAS, the Cheyenne MPO Technical Committee reviewed the *Plan Update* and recommended adoption.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF CHEYENNE, WYOMING:

**THAT**, the Cheyenne Metropolitan Area On Street Bicycle Plan and Greenway Plan Update, dated June 2012, prepared by Alta Planning + Design, is hereby adopted as an amendment to the Transportation Master Plan of *PlanCheyenne*; and

**BE IT FURTHER RESOLVED,** that the *Cheyenne Metropolitan Area On Street Bicycle Plan and Greenway Plan Update* serve as the guideline for the future design and reconstruction of bicycle facilities throughout the Cheyenne urbanized area.

PRESENTED, READ AND ADOPTED THIS 23rd DAY OF July , 2012.

hard L. Kaysen, Mayor

City of Cheyenne

(Seal)

ATTEST:

Carol X. Intlekofer, City

# RESOLUTION NO. 120821-08

### ENTITLED: "A RESOLUTION OF ADOPTION OF THE "CHEYENNE METROPOLITAN AREA ON STREET BICYCLE PLAN AND GREENWAY PLAN UPDATE"

WHEREAS, the Cheyenne Metropolitan Planning Organization (MPO) was awarded a \$50,000 federal Transportation, Community, System Preservation Grant towards developing a comprehensive and robust Bicycle Master Plan for the Cheyenne metropolitan area;" and

WHEREAS, the MPO is responsible for transportation planning for all modes in the metropolitan area; and

WHEREAS the MPO programmed \$40,000 in its FY 2010 Unified Planning Work Program to create a metropolitan area bicycle master plan; and

WHEREAS, the Cheyenne Parks and Recreation Department is responsible for planning, installing and maintaining trail and greenway paths; and

WHEREAS, the Parks and Recreation Department committed \$22,595 of Greenway Sixth Penny funds to update the 1992 Greenway Development Plan to complement the metropolitan area bicycle master plan; and

WHEREAS, the goal of the Cheyenne Metropolitan Area On Street Bicycle Plan and Greenway Plan Update is to develop a comprehensive and continuous on-street bikeway and greenway system to serve recreational and utilitarian bicycle trips, to provide inter-modal connectivity, and to provide a range of transportation options; and

WHEREAS, bicycling is associated with many benefits, including increasing safe and economical means of access to jobs and businesses, improving public health and air quality, and fostering a stronger sense of community; and

WHEREAS, on street bicycle facilities can be retrofitted on existing roadways and streets without having to undergo costly Right of Way acquisition; and

WHEREAS, the MPO retained Alta Planning + Design of Portland, Oregon, in November 2010 to prepare the *Cheyenne Metropolitan Area On Street Bicycle Plan and Greenway Plan Update* (*Plan Update*); and

WHEREAS, the scope of the *Plan Update* includes the entire urbanized area in and around Cheyenne including Laramie County, Wyoming served by the MPO; and

WHEREAS, the *Plan Update* was prepared with citizen participation pursuant to five Bicycle Advisory Committee Meetings, four public meetings, two online surveys, community outreach events, a project website, numerous communications through the United States Mail and electronic mail systems, and newspaper advertisements; and

WHEREAS, completion of the *Plan Update* followed extensive cooperation and assistance of partner organizations and groups, including: the City of Cheyenne, the County of Laramie, the Cheyenne MPO, the Wyoming Department of Transportation, the Federal Highway Administration, the Bicycle Advisory Committee and the Greenway Advisory Committee; and

WHEREAS, the *Plan Update* utilizes a comprehensive approach to improving the bicycling environment, including Engineering, Education, Encouragement, Enforcement, and Evaluation; and

WHEREAS, the *Plan Update* serves as a guide for the future development, redevelopment and programmatic activities that provide for the safety of bicyclists of all age and abilities; and

WHEREAS, the *Plan Update* is intended to function as the bicycle element of the Cheyenne Area Transportation Master Plan of *Plan Cheyenne* and future *PlanCheyenne* updates; and

WHEREAS, on June 28, 2012, the Laramie County Planning Commission held a Public Meeting which followed a fourteen (14) day comment period which was advertised to the public through a legal notice published in the Wyoming Tribune Eagle, and

WHEREAS, the Laramie County Planning Commission accepted public comments and recommended that the *Cheyenne Metropolitan Area On Street Bicycle Plan and Greenway Plan Update* be adopted by the Board of County Commissioners as an amendment to the Transportation Master Plan of *PlanCheyenne* with recommended conditions; and

WHEREAS, the Cheyenne MPO Technical and Citizens Advisory Committee reviewed the *Plan Update* and recommended adoption.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF LARAMIE COUNTY, WYOMING:

THAT, the Cheyenne Metropolitan Area On Street Bicycle Plan and Greenway Plan Update, dated June 2012, prepared by Alta Planning + Design, is hereby adopted as an amendment to the Transportation Master Plan of *PlanCheyenne*; and

**BE IT FURTHER RESOLVED**, that the *Cheyenne Metropolitan Area On Street Bicycle Plan and Greenway Plan Update* serve as the guideline for the future design and reconstruction of bicycle facilities throughout the Cheyenne urbanized area.

PRESENTED, READ AND ADOPTED THIS 2 DAY OF A - ungus

Gay Woodhouse, Chair of the Board of County Commissioners

(Seal)

ATTEST:

Debbye Balcaen Lathrop, County Clerk

Reviewed and approved as to form:

Mark T. Voss, Laramie County Attorney