



# Cheyenne Area Master Plan TRANSPORTATION PLAN

Laramie County Version – Adopted April 2014



*"The preparation of this report has been financed in part through grant[s] from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f)] of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation."*

# Contents

**ACKNOWLEDGEMENTS ..... 3**

**INTRODUCTION ..... 5**

*About Transportation Plan.....5*

    Reflections and Progress.....6

**SNAPSHOT..... 7**

    Introduction.....7

    Planning Process and Context ..... 8

    Planning Elements..... 13

    Existing Conditions..... 15

**STRUCTURE ..... 27**

    Introduction.....27

    Design Principles for a Multimodal Transportation System .....28

    Non-Motorized Design Guidelines for New Development.....36

    Structure Elements .....42

    Congestion Management Strategies .....47

**SHAPE..... 51**

    Introduction..... 51

    Principles and Policies.....52

    Growth in the Region.....55

    Needs Assessment.....58

    Transportation Vision .....80

**BUILD ..... 99**

    Introduction.....99

    Funding Analysis.....99

    Implementation Strategies.....99

    Performance Measures .....99

    Funding Analysis.....100

    Implementation Strategies..... 121

    Performance Measures .....136



*This page blank intentionally*



# Acknowledgements

---

*The City and County thank all members of the public who participated in the 2006 PlanCheyenne process and during this 2013 update.*

## **Cheyenne Mayor**

Richard L. Kaysen

## **Cheyenne City Council**

### **Ward I**

Sean Allen  
Jimmy Valdez  
Annette Williams

### **Ward II**

Bryan M. Cook  
Mark Rinne  
Dicky Shanor

### **Ward III**

Jim Brown  
Georgia Broyles  
Mike Luna

## **Cheyenne Planning Commission**

Gene MacDonald, Chair  
Jim Rose, Vice Chair  
Lindsay Woznick, Secretary  
Rolfe Burgess  
Shauna Lacey  
Marc A. Woods  
Dave Teubner

## **Laramie County Board of County Commissioners**

Troy Thompson, Chairman  
Buck Holmes, Vice-Chairman  
Amber Ash, Commissioner  
M. Lee Hasenauer, Commissioner  
Diane Humphrey, Commissioner

## **Laramie County Planning Commission**

Jody Clark, Chair Person  
Frank Cole  
Bert Macy  
Jim Ward  
Paula Qualls



## **Planning Staff**

### **MPO**

Tom Mason, Director, Project Manager  
Sreyoshi Chakraborty, AICP, Senior Planner  
Jennifer Valentine, Senior Transportation Planner (Former)  
James Sims, Planning Technician II  
Nancy Olson, Transportation Planner II  
Jennifer Corso, GIS Coordinator  
Katrina Petersen, Office Manager

### **County Planning**

Gary Kranse, AICP, Planning Director (Former)  
John Shepard, AICP, Senior Planner  
Barbara Kloth, Associate Planner  
Nancy Trimble, Executive Assistant

### **City Planning**

Brandon Cammarata, AICP, Planning & Development Director  
Matt Ashby, AICP, Planning Services Director  
Jim Flesher, AICP, Senior Planner  
Jan Spires, Planner  
Katrina Petersen, Office Manager

## **MPO Policy Committee**

### **Voting Members**

Pat Persson, P.E. District Engineer WYDOT  
Mayor Rick Kaysen  
Commissioner Diane Humphrey

### **Non-Voting Members**

Don Beard, Director, Laramie County Public Works  
Jeffrey Purdy, FHWA  
Joe Dougherty, Transit Director  
Robert Geringer, P.E., City Engineer  
Gary Kranse, Director, Laramie County Planning  
Kevin McCoy, WYDOT  
Gary Kranse, Director, Laramie County Planning (Former)  
City Councilwoman Annette Williams

## **MPO Technical Committee**

### **Voting Members**

Jim Elias, Public Works Director, City of Cheyenne  
Nathan Beauheim, P.E., Assistant Engineering Services Director, City of Cheyenne  
Matt Ashby, Planning Services Director, City of Cheyenne

Kevin McCoy, Transportation Planner, WYDOT  
Timothy Morton, P.E., Resident Engineer, WYDOT  
Andrea Allen, P.E., Project Development, WYDOT  
Don Beard, Director, Laramie County Public Works  
Gary Kranse, Director, Laramie County Planning (Former)  
John Shepard, AICP, Senior Planner, Laramie County Planning  
Dennis Auker, Laramie County School District No. 1  
Randy Bruns, President, Cheyenne LEADS  
Frank Cole, SEWBA – Development Representative  
Todd Eldridge, FE Warren AFB  
Dale Keizer, SEWBA, Home Builders Representative  
Dave Haring, Manager, Cheyenne Airport  
Michael Hess, CLFP  
Bruce Wise, CLFP  
Dale Steenberg, Cheyenne Chamber of Commerce  
Mike Hutton, Trucking Industry Representative

### **Non-Voting Members**

Robert Geringer, City of Cheyenne Engineer  
Jeffrey Purdy, FHWA  
Joe Dougherty, Transit Director  
Jeff Wiggins, AICP, Trails Planner, City Parks and Recreation

## **Consultant Team**

### **Clarion Associates**

Ben Herman, FAICP, Director  
Darcie White, AICP, Director, Project Manager  
Shelby Sommer, AICP, Associate Planner

### **Fehr & Peers**

Ann Bowers, P.E., PTOE, Senior Associate, Project Manager  
Molly Veldkamp, AICP, Senior Transportation Planner  
Kyle Cook, P.E., Transportation Engineer  
Amy Schmaltz, Transportation Planner

### **Economic and Planning Systems**

Andy Knudtsen, AICP, Principal  
David Schwartz, AICP, Senior Associate

### **AVI**

Brad Emmons, AICP, Principal

### **Urban Interactive Studio**

Chris Haller, CEO

## ABOUT *TRANSPORTATION PLAN*

As such, the *Transportation Plan* identifies specific services and projects for each mode of travel that will be necessary to meet the transportation needs of the region through 2040. Like most communities across the nation, anticipated revenues are not sufficient to fund all of the transportation needs. Therefore, this plan prioritizes projects for implementation to respond to financial constraints required by Federal law.

The **Build** section suggests strategies to implement elements of the Transportation Vision Plan. Because fiscal limitations are a reality as well as a requirement of federal planning regulations, the 2040 Transportation Vision Plan is reduced to a fiscally constrained *Transportation Plan*.



## REFLECTIONS AND PROGRESS

### PURPOSE

This is the first major update to *PlanCheyenne*. Since the Plan was first adopted in 2006, the Cheyenne community has changed in many ways. The purpose of this update—focused on the Community Plan and Transportation Plan was to:

- Update the baseline data, maps, and analysis that underlie the Plan to reflect current trends and conditions.
- Evaluate what has been accomplished since the Plan was first adopted and identify areas for improvement.
- Confirm and refine the Plan’s principles and policies with input from the community and recently completed plans to ensure they continue to align with the community’s vision for the future.
- Identify priority actions and measures of success to support the Plan’s implementation and track the community’s progress over time.
- “Fine-Tune” the Plan’s organization and content to make it more user-friendly and accessible.

While the basic tenets of the Plan remain essentially the same, adjustments and updates have been made throughout to reflect current trends and conditions and ensure it continues to be effective moving forward.

### COMMUNITY INVOLVEMENT

Community outreach during the update process indicated that the community values are still very much in line with the direction that the 2006 Plan laid out for the future of transportation in the Cheyenne area. As such, the overarching vision of the Plan has had minimal change. However, policies and direction have been updated to reflect increased truck and freight interest in the area as well as interest in active transportation (transit, bicycling, and walking).

### KEY UPDATES

Since 2006, the Cheyenne MPO has actively pursued planning to enhance walking, bicycling, and transit use in the Cheyenne Area. The *Transit Development Plan*, *Safe Routes to School Plan*, *Pedestrian Plan*, *Transportation Safety Management Plan*, and *On-Street Bicycle Plan and Greenway Plan Update* have been incorporated into the *Transportation Plan*.

The Plan also included an update to the regional travel demand forecasting model. This model was used to understand the impacts of the updated Land Use Plan to the Cheyenne Area transportation system. Changes such as the development of the Swan Ranch industrial area rather than single family homes as originally anticipated in the 2006 Plan have profound impacts to the transportation system and how limited resources should be allocated.

# Snapshot

---

## INTRODUCTION

### SNAPSHOT OVERVIEW

Snapshot provides a look at the Cheyenne Area today and compliments the Snapshot portion of the Community Plan. Snapshot includes the following chapters:

**Planning Process and Context:** Describes the process used to create the *Transportation Plan* as well as the context in which the Plan was developed.

**Planning Elements:** Describes federal requirements and local desires that shape the Plan.

**Existing Conditions:** Describes the state of the transportation system in the Cheyenne Area today.



# PLANNING PROCESS AND CONTEXT

## PROCESS

From its inception, *PlanCheyenne* has been a people's plan. By design, both the 2006 Plan and the 2013 update were based on extensive public participation.

Prior to the initiation of the *PlanCheyenne* process in 2004, the Greater Cheyenne Chamber of Commerce supported a public process to create a master vision for the Cheyenne Area—Vision 2020. This living document reflects the community's input and directions for the future. It provided strategic direction and set the foundation for *PlanCheyenne*. The community-defined *Vision2020* states:

*The Greater Cheyenne area has a proud past and a promising future. The future of the Cheyenne Area builds on the historic strengths of the West, and looks to the possibilities that new jobs and new people bring. It is poised to become the northern anchor for the booming Front Range economy, and a complete community that attracts people because of its quality of life.*

Furthermore, *Vision2020* stresses the importance of



*Cheyenne Steering Committee and public creating ShapeCheyenne (2005)*

our community's history, image, and quality of life to economic health and residents' well-being. Our authentic Western town heritage is key to the community's identity and it is important to protect and enhance.

While staying firmly rooted in the best of the West, the Cheyenne Area of the future will take advantage of new possibilities:

- A solid economy built on family-wage jobs and a vibrant business community.
- Excellent early childcare and a kindergarten through graduate education system that is attractive to new employers and families.
- Recognition, appreciation, and celebration of the diversity of people residing and working in the region.
- Growth that is guided to promote efficient use of public and private resources.
- A range of different housing and transportation choices.
- A network of neighborhoods with both common and different features, and a choice of services that address the needs of all residents.
- A community that provides opportunities for young families and encourages people to return and stay throughout their lives.
- Citizens who exhibit a can-do attitude, are proud of the image of their community and are active in assuring the well-being and safety of their neighbors.
- A vital downtown that includes unique businesses, a range of housing and attractive gathering places.

*PlanCheyenne* can help make the citizens' vision a reality by helping to define how to address and implement these ideas.

## Public Participation

To find out what direction the community wanted to take in the development of the 2006 Plan—the planning team went straight to the best source—the public. The Cheyenne community and plan advisory committees participated throughout the planning process and particularly in the development of *StructureCheyenne* and *ShapeCheyenne*.

In addition to two charrettes in December 2004 and January 2005, where over 30 committee members



attended and 45 members of the public participated at each event, the planning process involved ongoing Technical and Steering Committee meetings every few months. A detailed summary of public participation efforts conducted as part of the process of developing the 2006 Plan and list of those who participated in that process is provided in Appendix A of the Community Plan.

The 2013 update to *PlanCheyenne* drew heavily from the foundation established by the community as part of the 2004-2006 planning process. Opportunities for input focused on confirming and refining the Plan to ensure it is responsive to current trends and key issues and continues to meet the needs of the community over the next ten to twenty years.

The planning process included extensive opportunities for public engagement at key points in the process, including four community workshops, online surveys, and a dedicated project website. In addition, members of the project team conducted periodic updates on the process for the MPO Technical Advisory Committee and conducted joint updates with the city and county elected and appointed officials.

## CONTEXT

The *Transportation Plan* is the current transportation plan for the Cheyenne MPO. Like many planning documents, it incorporates and builds upon the concepts and recommendations from previous efforts. Numerous plans and studies are underway or have been completed by the City of Cheyenne, Laramie County, the Cheyenne MPO, and the Wyoming Department of Transportation (WYDOT) over that last 5 years. Some of the plans, studies, and projects related to the development and implementation of the *Transportation Plan* include:

### Corridor/Transportation Plans

**Dell Range Corridor Study (in process):** The Cheyenne MPO is conducting a traffic safety and improvement study of Dell Range Boulevard from Powderhouse to College, along with Prairie Avenue. The study goals are to improve traffic safety, efficiency, and level of service for all corridor users, identify improvements that enhance commercial viability, and develop a concept connecting the Storey/Converse Greenway and the Dry Creek Greenway.

**South Greeley Highway Corridor plan (2013):** The South Cheyenne Community Development Association (SCCDA) completed a strategic plan for US85 south of I-80. Short-term objectives include traffic modeling, traffic signals, reduced speed limits, streetlights and sidewalks, crosswalks and drainage. Mid-term objectives include road extensions and connections, improvements to port of entry enforcement, and studying a route for High Plains Road to I-25. Residents of South Cheyenne are strongly opposed to raised medians, widening or increasing speed on South Greeley Highway.

**Fox Farm Road Corridor Plan (2013):** This multi-modal transportation and streetscape plan examined land use and economic trends in a multi-jurisdictional corridor from Walterscheid Boulevard to Burlington Trail. The plan provides typical sections, future alignments and detail studies of major intersections, with potential improvements to increase safety while considering construction and maintenance costs.

**8<sup>th</sup> Avenue Corridor Plan (2013):** This corridor plan addresses a highly visible transportation corridor fringed by Frontier Park/ Lions Park on the north and the historic Moore Haven Heights neighborhood on the south. Due to its proximity to the park and residential areas, the corridor experiences high pedestrian and bicycle use. Also, special events such as Frontier Days and Super Day draw tourists plus locals leading to heavy pedestrian and vehicular traffic through the area. The plan identified short and long term recommendations to provide increased safety for pedestrians, bicyclists, transit users, and vehicles. The plan also provided recommendations to enhance the attractiveness, safety, property value and efficiency of the corridor for all users.

**Missile Dr. Corridor Plan (2010):** This plan considered Missile Drive from West Lincolnway to the south and the I-25 interchange to the northwest. The plan developed a set of phased implementation strategies to create a safe, efficient, and aesthetically pleasing facility through design, access management, and intersection improvements.

**West Allison Rd Corridor (2010):** The purpose of the corridor study was to evaluate transportation needs for West Allison Road between South Greeley Highway and Parsley Boulevard. The portion between Walterscheid Boulevard and Snyder Avenue was excluded from the study because it had

recently been upgraded as part of the South High School Project. The common needs determined by the steering committee included transportation demand, safety, legislative direction, urban transportation plan consistency, modal interrelationships, system linkage, and the condition of the existing roadway facility.

**East Pershing Blvd Corridor – Road and Intersection Design Project (2009):** The purpose of this study was to determine ways to improve traffic flow, provide a pedestrian friendly environment and revitalize the economic and physical condition of East Pershing Boulevard between Dunn Avenue and Converse Avenue through roadway improvements, landscaping improvements, pedestrian-oriented enhancements and land use recommendations.

**East Dell Range/US 30 and Christensen Railroad Overpass Plan (2008):** The MPO undertook this project in April 2006. The purpose was to develop a plan to guide future transportation improvements in the East Dell Range/ US 30 Corridor area, including the Christensen Overpass. The study area specifically included US Highway 30 between College Drive and the Archer interchange and Dell Range Boulevard between College Drive and US 30. The study also included the Christensen Road extension from Commerce Circle to US 30. The preferred alternative in the end was the west realignment of the intersection. The merits of this alternative were that it improved the safety of this intersection by easing the sharp curve of the intersection; it is fairly simple and cost effective in comparison to the other options; it is a more flexible design option; and it was also well supported by the public.

## Traffic Safety

**Cheyenne Transportation Safety Management Plan (ongoing):** The Cheyenne Metropolitan Planning Organization (MPO) has taken a leadership role as one of the first MPOs in the country to develop a regional Transportation Safety Management Plan. To develop the plan, the MPO organized regional safety stakeholders and transportation professionals to engage in a discussion focused on developing solutions to reduce roadway crashes in the region. The Cheyenne MPO identified emphasis areas based on fatal and injury crash factors in the region where concentrated efforts can make effective positive impacts. Targeted safety strategies were developed to address crashes in these emphasis areas. The

MPO has been implementing this plan on an ongoing basis.

**Intersection Safety Assessment (2010):** In 2010, the Cheyenne MPO completed a plan to identify opportunities for cost-effective reduction of frequency and severity of crashes at intersections in the Cheyenne MPO area through a data driven approach. The intent of the project was to provide the highest level of safety possible with resources available using state of the art methodology in crash analysis. The study identified potential locations for safety improvements as well as proven low-cost project types for consideration.

## Bicycle and Pedestrian Planning

**Cheyenne Area On-Street Bicycle Plan and Greenway Plan Update (2012):** The MPO created an on-street bicycle plan and updated the 1992 Greenway Master Plan to provide the City, County, and WYDOT a comprehensive document to guide the implementation of projects that increase bicycle safety, increase bicycle ridership, and implement complete streets.

**Cheyenne Metropolitan Area Safe Routes to School Plan (2010):** The Cheyenne MPO completed a Safe Routes to School Plan in 2010. The plan describes the 27 Cheyenne area schools and provides potential solutions to existing transportation barriers as well as next steps for implementing projects and programs to improve the safety, health, and wellness of students in the Cheyenne Metropolitan Area.

**Cheyenne Metropolitan Area Pedestrian Plan (2010):** The Cheyenne MPO completed a Pedestrian Plan in 2010. The plan provides an accompanying set of design solutions to the City and County standards that the City can use to augment existing information. It also provides a prioritized project list with implementation recommendations including project cost options and potential funding sources.

**Senior Transit Program (2010):** In 2011, the MPO developed a Senior Transit Buddy program. At the half-day event, seniors met for a presentation on how the transit system works and then took a group transit ride to gain experience using transit. The program was designed to educate seniors on how to use transit in Cheyenne and show that transit can be a viable alternative for those that cannot or do not wish to drive.

**CarFit event (2012):** In 2012, Cheyenne held the first-ever CarFit event in the state. This program developed in collaboration with the American Automobile Association (AAA), AARP, and the American Occupational Therapist Association (AOTA), that allow seniors to get checked to improve the “fit” of their vehicles for comfort and safety. The event linked seniors with relevant local resources that can help ensure they drive safely for longer and helped promote conversations among older adults and their families about driving safety and the need for mobility options.

## Transit

**Cheyenne Transit Program- Five Year Transit Development Plan (2013):** The Cheyenne Transit Program (CTP) and the Cheyenne Metropolitan Planning Organization (MPO) contracted with the TransitPlus to develop a Five-Year Transit Development Plan. The purpose of the plan is to provide recommendations for system improvements that could be implemented immediately in response to specific issues, as well as more comprehensive recommendations that could be implemented at a later date.

## Enhancement Plans

**Cheyenne Area Street Enhancement Toolbox (2013):** This document established a roadway enhancement implementation process based on interdepartmental and interagency collaboration early in the design phase, considering the lifecycle of each roadway enhancement element. By providing cost estimates and flexible design parameters, the City has the necessary information to select the most appropriate enhancement elements for each project, anticipate and substantiate long-term funding and resource needs, and develop street standards uniquely suited for each roadway under review.

**West Lincolnway Streetscape Plans (2013):** Detailed designs for fence, landscape, and irrigation were created for West Lincolnway in 2013. Plans include a 6’ high wood rail fence, decorative fencing features with metal artwork, and plantings.

**Interchange Enhancement Design Guidebook (2011):** This guide provides a prototypical catalog of enhancements for interstate roadway and bridge projects to be constructed in the Cheyenne Urban

Area. The guidelines are intended to be amended to reflect changed conditions, public preferences, and incorporated improved methods or technology.

**Cheyenne Wayfinding Plan (2010):** Phase I of the wayfinding plan was completed to establish a recognizable branding for signage in the greater Cheyenne area that is in keeping with the overall character, quality and authenticity of the community. Phase II of the plan included design and location designation of signage.

## Other Plans and Projects

**Unified Development Code (2012):** The Unified Development Code (UDC) is a living document that clarifies, streamlines, and improves Cheyenne’s development regulations. The UDC directs Transportation Impact Studies as well as Transportation Networks and Streets Design including transportation network plans; block size and connectivity requirements; street design types; intersection designs; block and lot access; and access management for high-volume/high-speed roadways. The UDC codifies many ideas from *PlanCheyenne*.

### Complete Streets Workshop Next Steps

**Memorandum (2012):** A complete streets workshop was conducted in July 2012. The meeting produced a memo summarizing the activities that took place during the meeting as well as a list of next steps to create a more comprehensive complete street program in the Cheyenne Area.

**Laramie County Land Use Regulations (2011):** The Laramie County Land Use Regulations regulate road/street design, lot subdivision, drainage, stormwater, floodplains, zoning, etc. for development in the County.

**I-25 / Central Avenue Interchange Study (2010):** The purpose of this study was to determine existing deficiencies on Central Avenue and recommend solutions that would improve safety and traffic flow along the corridor. Increasing the distance between the Bishop Boulevard and Southbound I-25 ramp intersections would alleviate excessive delay at Bishop Boulevard. A purpose and needs analysis identified two feasible alternatives: 1) realigning Bishop Boulevard and creating a westbound dual left-turn at the Southbound I-25 ramp; and 2) realigning Bishop Boulevard and improving the interchange with a DDI. Both alternatives reduce the

number of access points along Central Avenue and can be constructed within existing right-of-way and should be carried forward for additional analysis.

**I-80-I-25 Interchange Study (2008):** The I-25/I-80 interchange and adjacent facilities included in this study are the largest and most heavily used interchange in the state of Wyoming. In addition to the main interstate highways, the study area includes a number of critical intersections. These facilities serve local, regional, state, and national travel needs, and are the primary connection in Wyoming for interstate commerce from border to border and coast to coast. The purpose of improvements to the I-25/I-80 and adjacent local interchanges is to improve traffic flow and safety; accommodate future traffic needs, particularly the heavy truck volumes; and support local development goals.

**Laramie County & Colorado Workers Commuting Data Analysis (2008):** This project's purpose was to determine not only the amount of commuting into and out of Laramie County, but also the origins and destinations of commuters. This project marks the first use of out-of-state driver's license data in the construction of the commuting pattern data model. Results indicated that commuting from the Colorado Front Range to Laramie County increased substantially from 2000-2007. Gas price increases observed in 2008 and levels of commuting raised discussions regarding the development of mass transit between the Colorado Front Range communities and Laramie County. Future iterations of the model may well illuminate the impacts fuel prices have on all types of commuting.

**PlanCheyenne (2007):** *PlanCheyenne* is the 2006 comprehensive plan for the Cheyenne Area. The *Transportation Plan* is a part of this larger plan that also has a Community Plan and Land Use Plan, and a Parks and Recreation Master Plan. Because the elements of *PlanCheyenne* were developed jointly, collaboration between land use plans and transportation plans was possible. This collaboration improves the consistency between the MPO's transportation and land use plans.

**State Transportation Improvement Program:** The Wyoming Department of Transportation has outlined transportation spending plans for the years 2012 through 2015 in this document.

**Statewide Long-Range Transportation Plan:** The Wyoming Department of Transportation has defined long range goals, objectives, and action items in this policy plan.

**Western Cheyenne Transportation Study:** An intermodal study that was prepared by the MPO to specifically address freight concerns in the Cheyenne Area and reviewed the potential of relocating the BNSF RR track out of both the Air Force Base and City to the west side of the community.

**Swan Ranch Development:** Swan Ranch is a project that has been in the works for several years. It consists of 7,200 acres located along Interstate 25 and Interstate 80 and is owned by the McMurry family, founders of the Jonah Field and well known contributors to the State of Wyoming. Swan Ranch will include an Industrial, Commercial and Highway Business component. The McMurry family has teamed up with Granite Peak Development to begin the first phase of work on the Industrial component called the Cheyenne Logistics Hub.

**Various Neighborhood Plans:** The City of Cheyenne has adopted a collection of sub-area plans including the Hebard, Cole, and Goins Neighborhood Plans.

## PLANNING ELEMENTS

Several laws, regulations, statutes, codes and other documents at the local, state, and federal levels affect the development of the *Transportation Plan* by specifying requirements to be considered in the planning process or to be contained in the Plan. These include *Moving Ahead for Progress in the 21st Century Act* (MAP-21), existing and proposed metropolitan planning regulations, management and monitoring system regulations, Executive Order 12898 on Environmental Justice, the Americans with Disabilities Act, and a variety of others.

### FEDERAL PLANNING REQUIREMENTS—MAP-21

In July 2012, MAP-21 was signed into law. This law provides federal funding for surface transportation programs, providing over \$105 billion in funding for fiscal years 2013 and 2014. The law's key goals are to strengthen the National Highway System (NHS), establish a performance-based program, create jobs and support economic growth, support the U.S. Department of Transportation's (DOT) aggressive safety agenda, streamline the federal highway transportation programs, and to accelerate project delivery and promote innovation.

Prior to MAP-21, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the Transportation Equity Act for the 21st Century (TEA-21), and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) established the direction for addressing transportation needs. MAP-21 builds upon and consolidates portions of these previous programs in an effort to grow and maintain the NHS. MAP-21 expands the scope of the NHS to include all principal arterials, highways that provide vehicle access between the NHS and all major intermodal transportation facilities, and the network of highways important to US strategic defense and its connectors to major military installations.

#### Funding Flexibility

The program consolidation featured as part of MAP-21 will allow states increased funding flexibility. Many programs, such as the Highway Bridge

Program (HBP), have now been consolidated into the Surface Transportation Plan (STP) and the National Highway Performance Plan (NHPP). In the case of the HBP, bridges that are part of the NHS will receive funding from the NHPP, while local and regional bridges receive funding from the STP. MAP-21 also gives states the flexibility to transfer up to 50% of NHPP funds to the STP. This allows states to prioritize local and regional projects over NHS projects if the need is greater in those areas.

The size of the Cheyenne region also allows for increased flexibility for transportation funding. Under MAP-21, transit systems in regions under 200,000 or systems with fewer than 100 buses during peak periods are allowed to utilize funding for both capital investments and operating expenses. Additionally, funding can be used for both existing and new transit projects and service. MPOs with populations of 200,000 or greater must include representation by public transportation providers in their governing structures.

### Transportation Alternatives

MAP-21 consolidates the Transportation Enhancements, Safe Routes to Schools, and Recreation Trails programs into the Transportation Alternatives (TA) program. While the funding for this program has been reduced by a third, MAP-21 allows for the transfer of Highway Safety Improvement Program (HSIP) funding to the TA Program. Further, states are able to reallocate up to 50% of TA funding to other programs on an as-needed basis. The Transportation Plan must take into account the state's agenda for TA funding when planning for alternative forms of transportation.

### Performance Goals

One of the key requirements of MAP-21 is that metropolitan and statewide transportation planning processes incorporate performance goals, measures, and targets into certain transportation plans. As required in previous years, long-range and short-term transportation improvement plans are required; however, performance plans must now be incorporated into long-range plans. Long-range plans must describe the methodology and targets



used when examining overall system performances and specify performance measures to track the progress towards achieving these goals.

The goals established as part of MAP-21 are intended to aid in realizing a vision for a united transportation system across the entire nation. The performance goals to be established as part of MAP-21 cover the following areas: safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays.

The Secretary of the DOT must establish factors for measuring the performance of states and MPOs by March 2014. States will then have until March 2015 to establish targets for future conditions of each of the measures. Finally, MPOs will have until March 2015 or not later than 180 days after the date that the relevant State or public transportation provider establishes performance measures to establish targets for metro regions. Once the targets have been established, states and MPOs will be required to report their progress in achieving these targets to the US DOT as well as include system performance reports in their long-range plans.

States are required to develop risk and performance-based asset management plans for the NHS in an effort to preserve asset conditions and system performance. These plans must be reviewed and recertified at least every four years and carries a penalty of a reduction in the federal share of NHPP revenues in that year (65% instead of the standard 80%). Further, states are responsible for improving all NHS roadways and bridges to the minimum standards established by the Secretary of the DOT.

### Environmental Review Process

MAP-21 streamlined the environmental review process in an effort to expedite the construction of projects. According to the Federal Highway Administration (FHWA), the National Environmental Protection Act (NEPA) environmental review process took, on average, between 2-6 years under SAFETEA-LU. In total, completing this process

comprised approximately 27-28% of total project development time. The streamlined process introduced as part of MAP-21 establishes various ways that the time taken to complete the NEPA process will be reduced. Under MAP-21, environmental studies and other “planning products” can be used to fulfill the NEPA requirement. As a result, corridor studies or analyses that have been conducted some time prior to the NEPA review can be accepted as satisfying NEPA. Further, many projects may be “categorically excluded” from the NEPA review process. Projects that are located within existing transportation right-of-way receive less than \$5 million in federal funding, or cost less than \$30 million with no more than 15% federal funds are excluded from the NEPA process. Finally, MAP-21 expands the NEPA delegation pilot program to all states. This program allows states to take the role of FHWA in the NEPA process, effectively expediting the NEPA review process.

### FINANCIAL PLAN

The cost estimates for projects, strategies, and other transportation improvements contained in the Plan are constrained to the forecasts of available funding sources. In this manner, the *Transportation Plan* is transformed from a wish list of projects that may or may not be financially feasible to a plan with specific, identifiable transportation improvements.

### FORECAST PERIOD

At a minimum, a *Transportation Plan* must be comprised of a 20-year planning horizon and be updated every five years. After its approval, the MPO is allowed to make substantial changes to the *Transportation Plan* during the five-year window, but the 20-year forecast period must be maintained. Therefore, the Plan incorporates an approximately 25-year planning horizon in order to retain the ability to modify the Plan, similar to other progressive communities.



## EXISTING CONDITIONS

The first step in developing a transportation plan is to understand the existing economic, land use, social, and transportation conditions of the region. Understanding the trends and changes that made the region what it is today is essential before developing forecasts of future conditions. The overall ion of *PlanCheyenne* provides a comprehensive look at existing conditions in the Cheyenne Area, while this section focuses on the existing conditions most relevant to transportation planning.

### LAND USE AND SOCIOECONOMIC CHARACTERISTICS

The socioeconomic and land use characteristics that make up the Cheyenne Area provide insight into the region's transportation requirements. Activities that occur in each of the various land uses form the basis of "trip making" or travel demand. Residential and commercial land uses both generate travel.

Accurate estimates of demographic data are imperative to calibrating the base year model, which is then used to forecast future travel patterns. Therefore, knowledge of existing population and employment is a key element of the transportation planning process.

#### Households and Population

Household and population estimates based on Census data show that the population of Cheyenne in 2010 was 59,466 people in 22,989 households. Laramie County population in 2010 was 91,738 people in 33,871 households. The Cheyenne metropolitan planning area includes 81,163 people in 33,165 households.

#### Employment

Economic indicators for the past five years show that despite a national recession, the Cheyenne Area economy has made gains and is growing. Cheyenne's employment and market conditions indicate that it functions independent of national trends. Total full-time employment in Laramie County increased to 45,536 in 2010.

## TRANSPORTATION SYSTEM

Many people understand the transportation system as the network of streets and highways that allows for automobile and truck travel within, to, and through the region. In reality, roads make up only one component of the transportation system, albeit an important one. Transit service, bicycle facilities, and pedestrian infrastructure are essential to a well-balanced multimodal transportation system. The system even includes railroad corridors, airports, and intermodal truck terminals.

### Roadways

Roadways make up the backbone of the transportation system. Cars and trucks use the roadway system. Transit buses also use roads for their routes. Bicyclists often travel directly on roads, especially in corridors with delineated bike lanes or designated bike routes. Pedestrians walk on sidewalks that are constructed in roadway rights-of-way. The most effective roads, called *complete streets*, often accommodate all of these travel modes. In addition to the travel lanes that accommodate travel by transit and automobile, complete streets include good sidewalks to facilitate pedestrian travel and bike paths or lanes for bicycle travel.

The roadway network is based on a range of different types of facilities with varying characteristics that, when combined, make up the roadway system. These facilities range from state highways, which serve high speed, longer-distance trips, to local streets that are designed for lower speeds and shorter trip lengths. **Figure 1 shows the facilities that make up the existing roadway network in the MPO planning area.**

Based on national roadway and intersection capacity models, the existing roadway system in the Cheyenne Area handles current traffic demands quite well, which is noteworthy for a medium size City. Traffic problems are rare and generally occur only at intersections during peak commute times. Areas that currently experience some traffic congestion include:

**Congested:**

- Dell Range Boulevard between Prairie Avenue and Rue Terre as well as between Blue Grass Circle and Mountain Road.
- Yellowstone Highway between Central Avenue and Dell Range Boulevard
- East 12<sup>th</sup> Street between South College Drive and Adams Avenue

**Congesting:**

- Dell Range Boulevard between Yellowstone Road and Bluegrass Circle as well as between Rue Terre and Blue Grass Circle, and between Mountain Road and Windmill Road
- Masonway between Grandview Avenue and Converse Avenue
- Yellowstone Highway between Central Avenue and 8th Avenue.
- East Lincolnway between Warren Avenue and Dunn Avenue
- East 12th Street between Adams Avenue and Cleveland Avenue
- North Greeley Highway from the Interstate 25 Interchange to Fox Farm Road

**An existing congestion analysis is shown in Figure 2.**

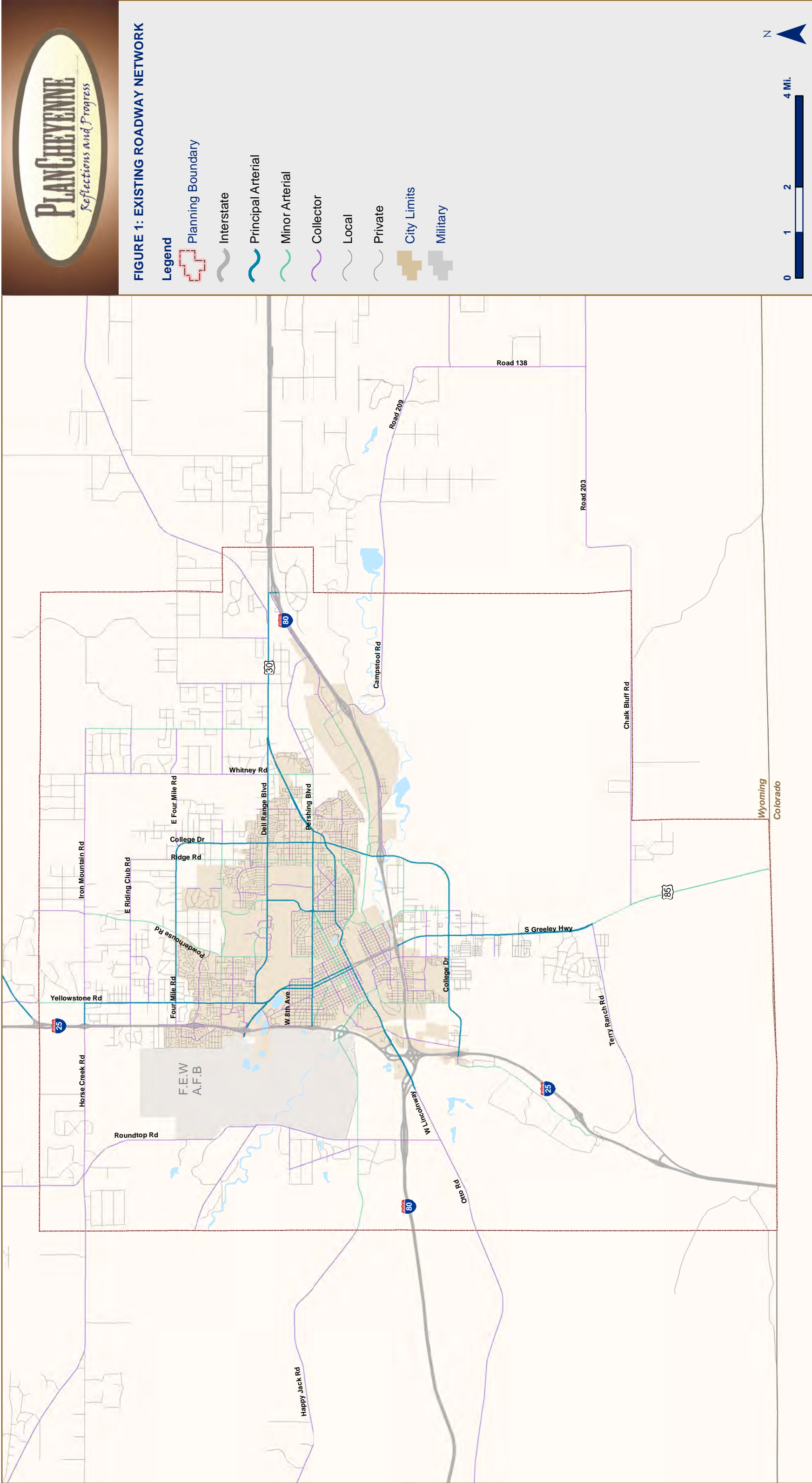
This congestion analysis is based on daily traffic volumes and roadway capacity (capacity is based on facility type and number of lanes). Actual congestion occurs at intersections based on intersection geometrics (number of through and left and right turn lanes) and traffic control (stop sign, signal, or roundabout).

The City of Cheyenne maintains a comprehensive daily traffic count program which is used for evaluating traffic congestion and for assessing trends in traffic growth. The relative traffic volumes are presented by different line widths, where a wider line indicates a higher number of vehicles counted. As would be expected, Lincolnway, Dell Range Boulevard, Pershing, Yellowstone, Central Avenue, and Warren experience the highest daily traffic flows within the City.

## DEFINITION OF TRAFFIC CONGESTION

Planners and engineers use a measurement called level of service (LOS) to gauge the adequacy of transportation facilities. Similar to grades in school, LOS is scored using letters from A to F, where A represents the best conditions and F represents failure. Level of service scores can be grouped into three color-coded categories as defined below.

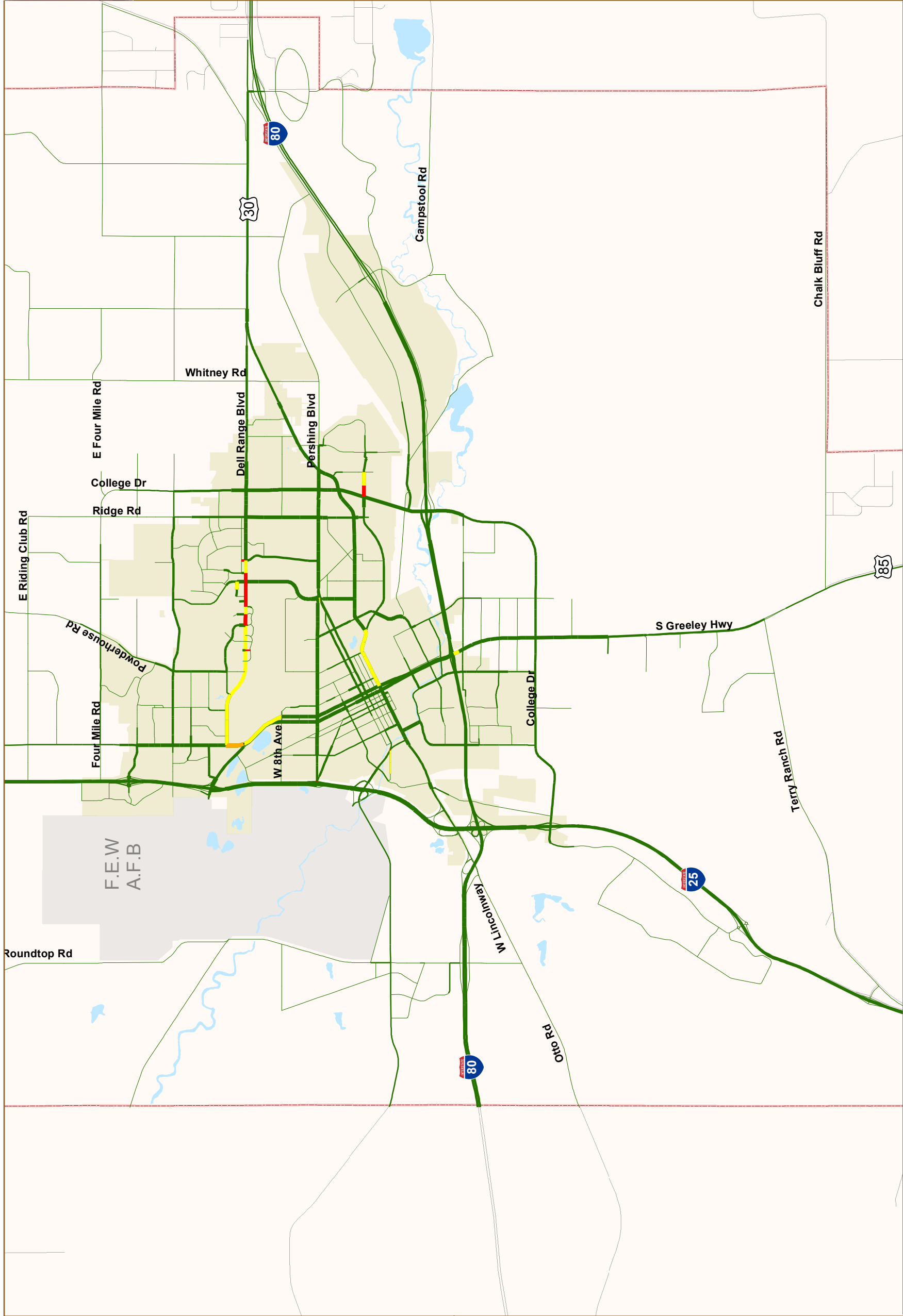
- **Uncongested (Level of Service A - C):** Corridors that generally operate in free-flow conditions, where the driver tends to be able to travel without undue delay except for typical traffic control signals. During the peak hour, there might be some delay at a controlled intersection, but generally the driver can get through the intersection within one cycle of the traffic signal.
- **Congesting (Level of Service D):** These corridors are roadways where the driver can generally travel in free-flow conditions during the off-peak hours, but might experience excessive delays at a signalized intersection during the peak hours. Because these corridors have existing traffic volumes approaching capacity, there can be significant variations in congestion from day to day, fluctuating between acceptable and congested.
- **Congested (Level of Service E - F):** The congested corridors in the Cheyenne Area are those roadways where traffic volumes have either reached or exceeded the facility's capacity to accommodate these volumes. These facilities experience daily congestion delays where it is not uncommon that a driver might have to wait two or more signal cycles to get through the intersection.



# EXISTING ROADWAY NETWORK (2013)

CLARION - FEHR & PEERS - EPS - AVI - URBAN INTERACTIVE





## Traffic Volume



Military

## Level of Congestion

— Very Congested (F)

# EXISTING ROADWAY LEVEL OF SERVICE (2012)

# Cheyenne Area Master Plan

CLARION - FEHR &amp; PEERS - EPS - AVI - URBAN INTERACTIVE

## COMPUTING LEVEL OF SERVICE – A TECHNICAL METHODOLOGY

Roadway level of service is calculated based on two primary inputs. First, traffic counts or travel model volumes are compared to a set of roadway capacities. These capacities, shown below, are used to create an initial level of service analysis. The existing conditions level of service analysis has been reviewed by planners and engineers to ensure that it represents a realistic representation of congestion in the Cheyenne Area today. Comments generated from this review were also taken into consideration when preparing forecast level of service analysis.

Level of service capacities are based on upper-limit Level of Service E capacity for each facility type – the volume where a roadway transitions from Level of Service E to Level of Service F (failure). Although these capacities are based on daily traffic volumes, they incorporate a peak-hour factor. The resulting level of service calculations are representative of peak-hour conditions. These capacities are further broken down based on volume to capacity ratio (V/C) cutpoints as shown in the table below.

### Upper Limit Level of Service Capacities

	A	B	C	D	E	F
<b>Upper Limit V/C Cutpoints</b>						
Freeways	0.31	0.50	0.71	0.87	1.00	n/a
Arterials/Collectors	0.51	0.67	0.79	0.90	1.00	n/a
<b>Freeway/Interstate</b> (Daily Capacity Per Lane - 20,000)						
4 Lane	24,800	40,000	56,800	69,600	80,000	n/a
6 Lane	37,200	60,000	85,200	104,400	120,000	n/a
<b>Principal Arterial</b> (Daily Capacity Per Lane - 9,000)						
2 Lane	9,200	12,100	14,200	16,200	18,000	n/a
4 Lane	18,400	24,100	28,400	32,400	36,000	n/a
6 Lane	27,500	36,200	42,700	48,600	54,000	n/a
<b>Minor Arterial</b> (Daily Capacity Per Lane - 7,000)						
2 Lane	7,100	9,400	11,100	12,600	14,000	n/a
4 Lane	14,300	18,800	22,100	25,200	28,000	n/a
<b>Collector</b> (Daily Capacity Per Lane - 6,000)						
2 Lane	6,100	8,000	9,500	10,800	12,000	n/a
4 Lane	12,200	16,100	19,000	21,600	24,000	n/a

**Example:** A 4 lane principal arterial is considered congested (LOS E) when the traffic volume exceeds 32,400 vehicles per day

## Transit

The Cheyenne Area's current transit service, provided by the Cheyenne Transit Program (CTP), offers good coverage throughout the City. Approximately 83% of Cheyenne Area households are within a quarter mile of a transit line. Similarly, over 91% of all businesses, 88% of schools and administrative support, 74% of all places of general employment, and 63% of all places of industrial employment in the region are within a quarter mile of a transit line.

In 2006, total annual CTP ridership was approximately 221,634 rides. It grew tremendously and peaked at over 291,000 in 2008 but saw a modest drop to 256,000 rides in 2011. Much of this reduction and stagnation is in direct relationship to the economic recession.

The CTP recently received a grant for approximately \$900,000 from the Federal Transit Administration through the American Recovery and Reinvestment Act for design and construction of upgraded and improved bus stops in the Cheyenne Area. An estimated 41 of the 182 existing stops located throughout the system were improved with the installation of ADA compliant shelters and pads. Bay pull-outs were constructed at 9 of those stops.

**Buses run hourly on the six routes shown in Figure 3** from 6:00 am to 7:00 pm Monday through Friday and Saturdays 10:00 am to 5:00 pm. The overall system utilizes 16 buses and is run by 13 full-time employees and 18 part-time drivers. All routes consist of one-way loops that all stop at the downtown transfer center where schedules are coordinated to accommodate quick transfers. One way fares are one dollar and allow for free transfers. The CTP also provides curb-to-curb dial-a-ride service. This service runs on Monday through Saturday by advance reservation.

The Cheyenne Transit Program's fixed route system provided about 226,000 rides in 2011. Additionally, CTP provided 7,000 Stride rides to students. The dial-a-ride service provided over 23,000 rides in 2011.

## Bicycle and Pedestrian

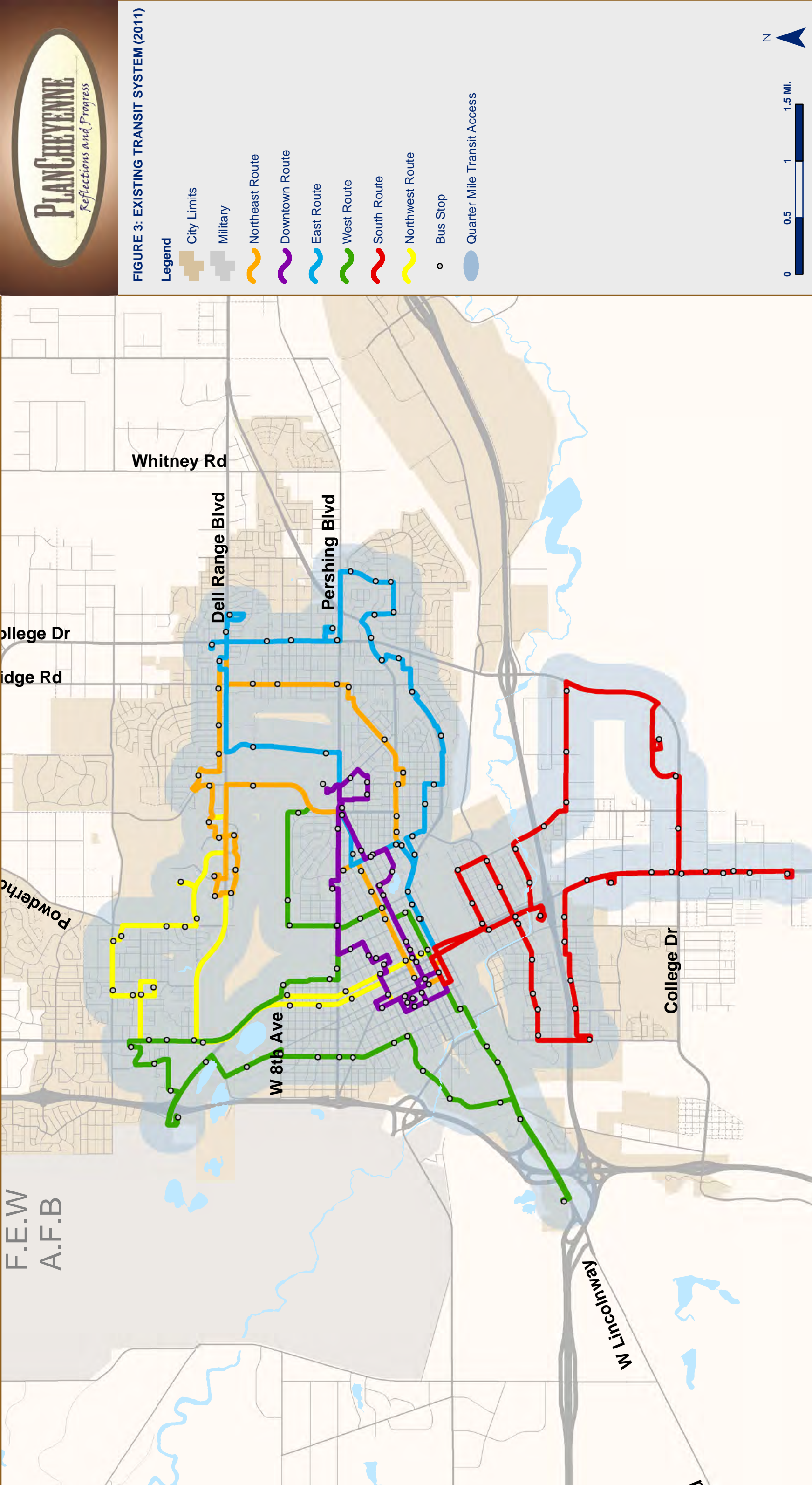
Increased walking and bicycling in a community has positive effects on air quality, physical health, and when used extensively, traffic congestion. The Cheyenne Area existing ADA-accessible greenway

system includes over thirty seven 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. In recent years, City 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 Transportation Improvement Plan. While this has expanded an important resource for the community, it has also created some maintenance concerns. Infrastructure has been expanded while the resources to keep it in good repair have not been similarly expanded.

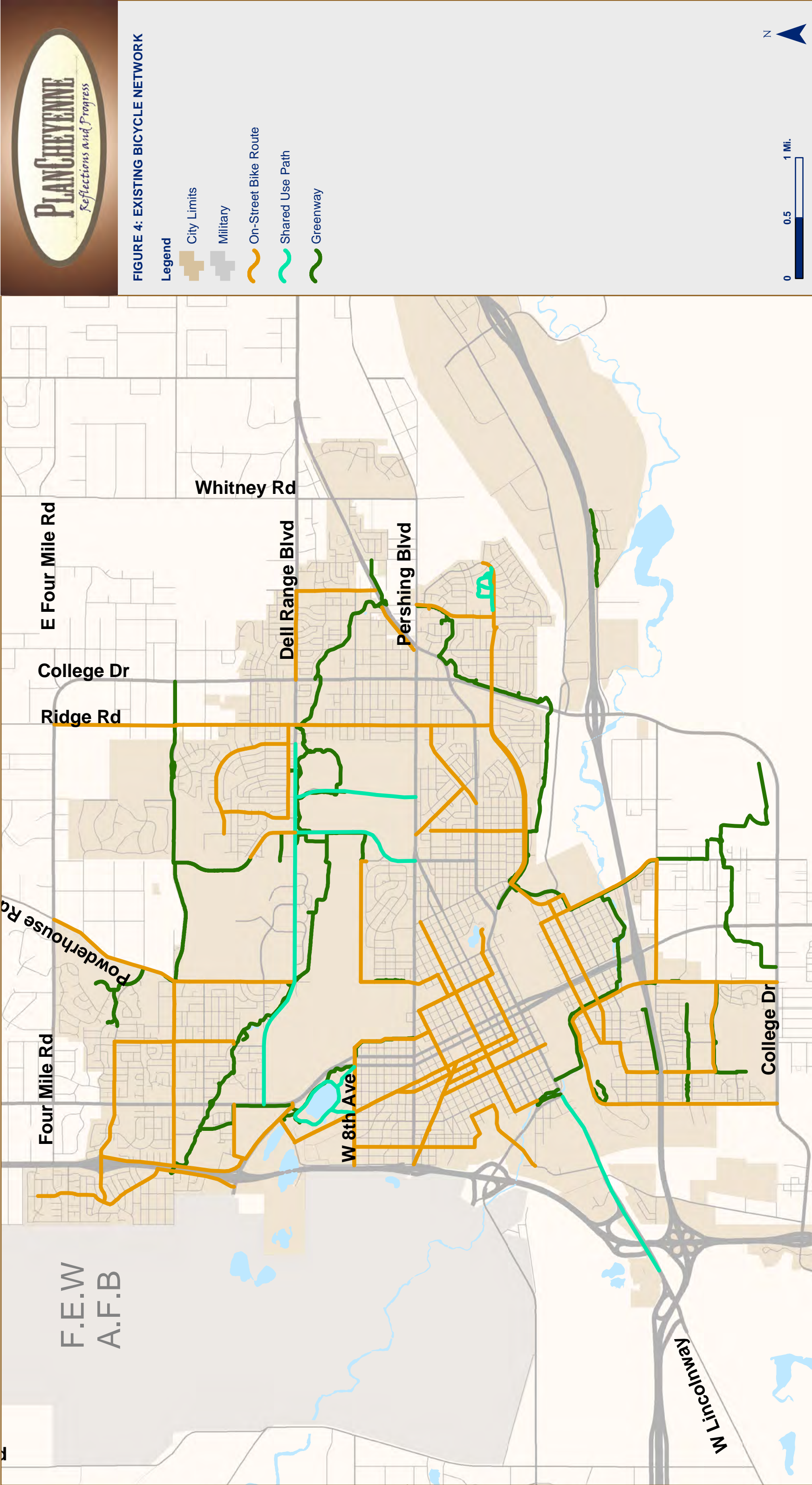
While cyclists are legally allowed to use all roadways in Wyoming, jurisdictions distinguish on-street bikeways as preferential roadways that have facilities to accommodate bicycles. The Cheyenne Area system of on-street bikeways includes approximately six miles of bike lanes and 50 miles of designated shared roadways. In addition, many roadways have wide shoulders that are commonly used by bicyclists, but are not formally designated as part of the bikeway systems. Existing designated bikeways are supported by bicycle parking, bicycle detection at signals, and connections to transit. The Cheyenne On-Street Bicycle Plan and Greenway Plan Update provides additional information about the existing Cheyenne Area bike system as well as planned projects that will help create a more robust bikeway system.

Pedestrian facilities vary throughout the city. The pedestrian system takes advantage of open space preserved for drainage and policies that support increased pedestrian safety and comfort (e.g., separation from higher speed roadways). Today, the City continues to develop and enhance the existing walkway system by filling sidewalk gaps, constructing greenways, and improving transit connections and roadway crossings. These improvements will result in a truly friendly pedestrian environment, which enables freedom of mobility, encourages more physical activity, allows children to walk and bike to school, reduces traffic congestion, improves safety and makes it possible to create economic growth at the same time.

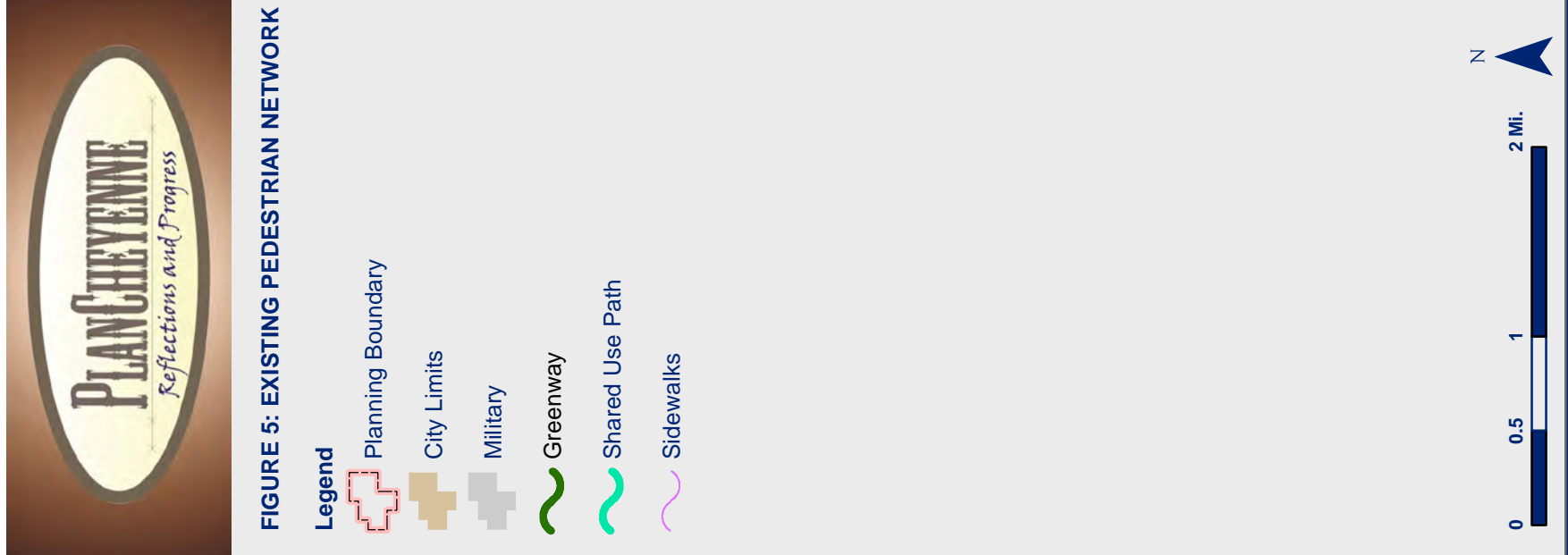












**Legend**

- Planning Boundary
- City Limits
- Military
- Greenway
- Shared Use Path
- Sidewalks



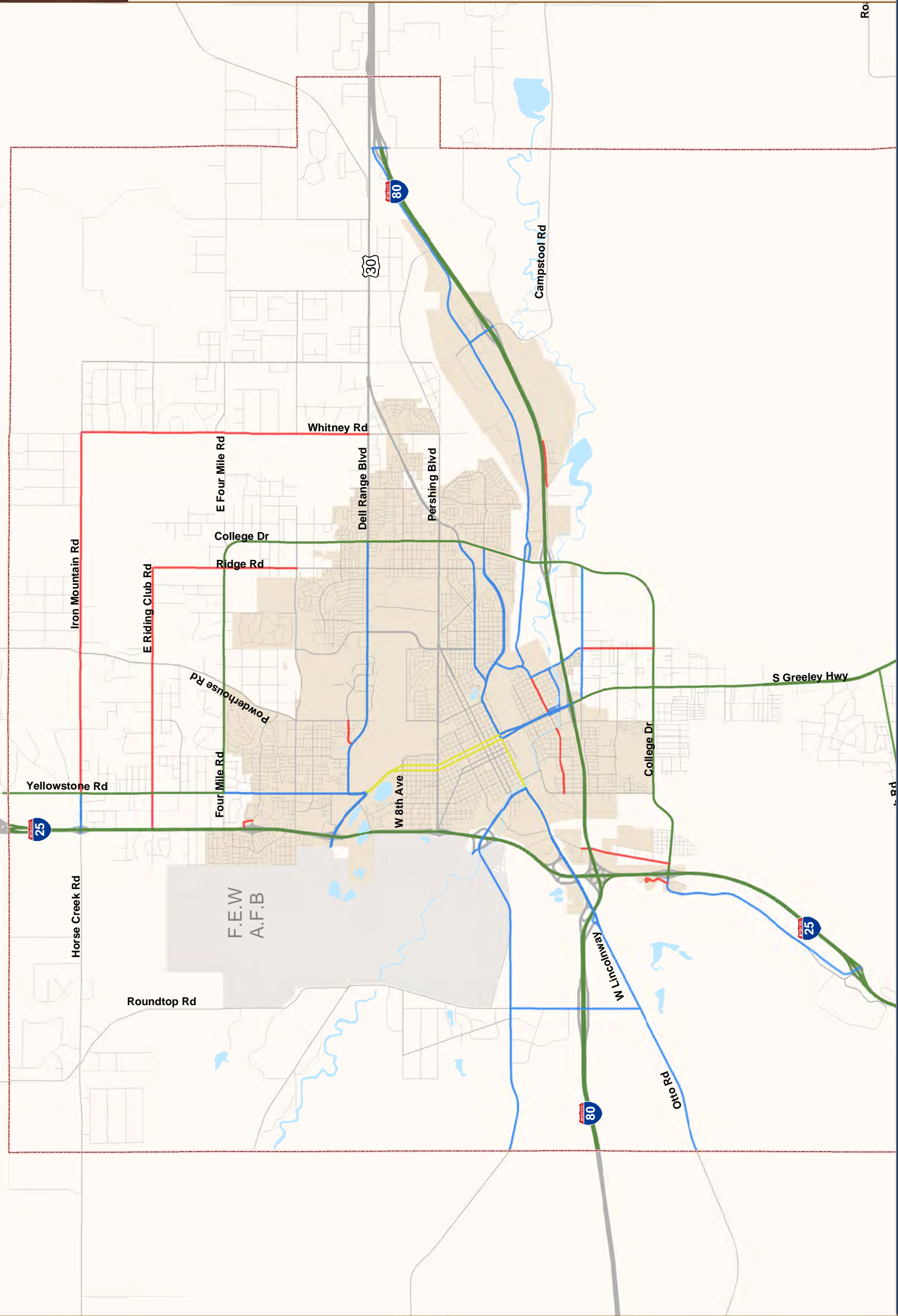
# EXISTING PEDESTRIAN NETWORK (2011)





FIGURE 6: EXISTING TRUCK ROUTES

- Legend
- Planning Boundary
  - City Limits
  - Military
  - Main Truck Route
  - Secondary Truck Route
  - Local Truck Route
  - Restricted Truck Access



# EXISTING TRUCK ROUTES (2011)

## Cheyenne Area Master Plan

July 2013

The Cheyenne Metropolitan Area Pedestrian Plan provides summary information about the existing conditions throughout the Cheyenne Area and proposes projects that could improve the walking environment.

**The existing Cheyenne Area bicycle network and pedestrian network are shown in Figure 4 and Figure 5, respectively.**

## Truck and Freight

The Cheyenne Area is well positioned to capitalize on a growing manufacturing and distribution industry. Several major companies— including Lowes, Wal-Mart, and Holly Frontier Refinery— have chosen to locate their new distribution centers in Cheyenne.

Additionally, the Cheyenne Area is experiencing an expansion in the oil and gas industry. As part of oil extraction, heavy trucks are required to transport materials to and from extraction sites. Heavy trucks can have a significant impact on the roadways they use. **Existing truck and freight routes are shown in**

**Figure 6.** An analysis of specific truck and freight needs is provided in the Transportation Plan (refer to Shape: Needs Assessment).

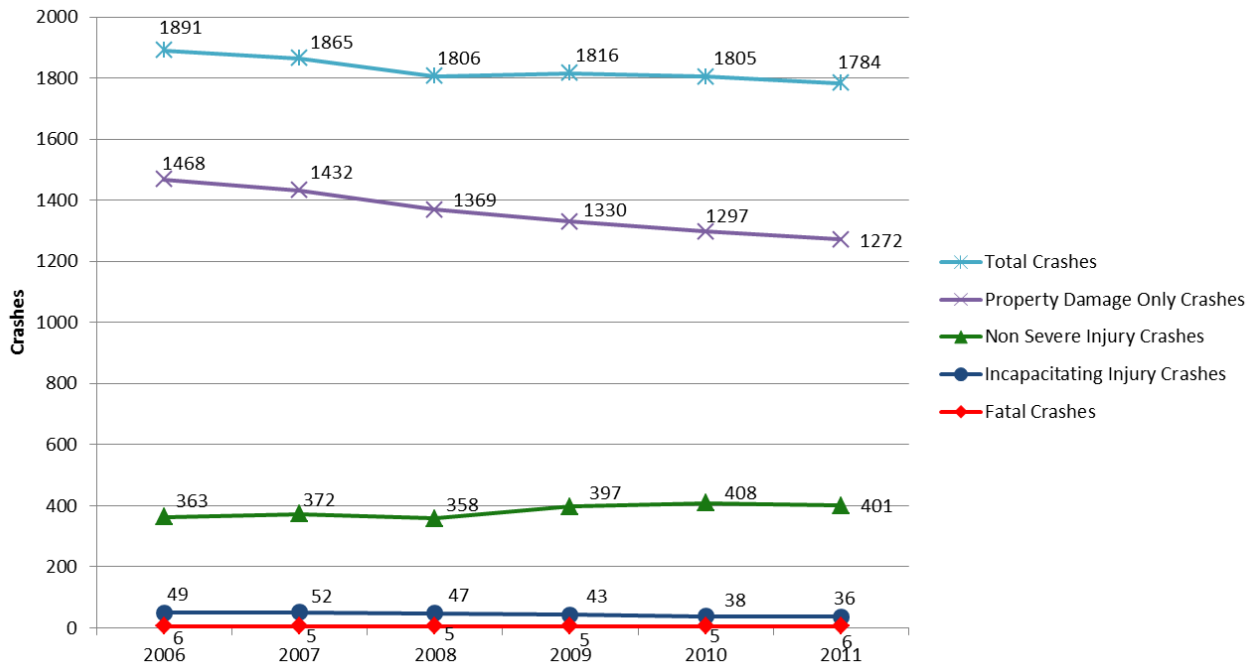
## Airports

Commercial air service in the Cheyenne Area is provided by the Cheyenne Regional Airport. Centrally located, the airport provides daily commercial flights to Denver International Airport (DIA) and other destinations in the Rocky Mountain West. The airport also serves as a hub for charter flights within the region. An updated master plan for the airport was completed in April 2013.

## Safety

Cheyenne residents, whether in vehicles, on buses, riding bicycles or walking, expect to get to their destinations safely. It is not acceptable that the price for mobility be the risk of injury or death on the roadways. The Wyoming Department of Transportation tracks the number of crashes, the severity of injuries experienced and other factors related to crashes statewide. **Figure 7 shows five**

**FIGURE 7: CHEYENNE AREA CRASHES - ROLLING FIVE-YEAR AVERAGE**



Source: Cheyenne MPO, CARE Database

Note: Data shown for each year represents an average of data for that year and the four previous five years

**year rolling averages of crashes in Cheyenne by severity from 2007 to 2011.** For the five years ending in 2011, the Cheyenne Area experienced an average of 1,784 crashes. Of those crashes where the crash type was known, the average for the five years was 1,272 property-damage only crashes, which are those that did not involve any reported injuries; an average of 401 crashes involved a non-severe injury; an average of 36 crashes involved an incapacitating injury; and an average of 6 crashes involved a fatal injury. The total number of crashes, property damage only crashes, and incapacitating injury crashes have declined over this period. Although fatal crashes have remained the same, non-severe injury crashes are showing an upward trend.

Factors associated with crashes can include demographics of the driving population, specific crash types, and driver behaviors. Crash data have shown that factors involved in a relatively large proportion of Cheyenne crashes include impaired driving, young drivers (under age 25), older drivers (age 65 and older), distracted driving, speeding, non-use of safety belts, and crashes at intersections.

In 2008, Cheyenne developed a Transportation Safety Management Plan (TSMP), which defined the transportation safety problem in the region, key crash factors, and devised strategies to reduce fatalities and injuries on the roadways. The TSMP established a goal of reducing the number of fatal and injury crashes in Cheyenne by 10 percent, from a five-year average of 451 fatal and injury crashes in 2008 to 406 fatal and injury crashes by 2020. From 2007 to 2011, Cheyenne experienced an annual average of 443 fatal and injury crashes. The intention is that the strategies incorporated in *PlanCheyenne* and dedicated safety plans will lead to further reductions in fatal and injury crashes and ultimate achievement of the safety goal.



# Structure

---

## INTRODUCTION

The structure section of the *Transportation Plan* presents a series of design principles and strategies. These transportation-specific guidelines compliment design principles presented in the Community Design Handbook. Many of the design principles presented here are based on more detailed information provided in the Cheyenne Unified Development Code (UDC) and Laramie County Land Use Regulations.

The following pages illustrate principles and strategies that contribute to the functionality and aesthetics of the multimodal transportation system. In general, these principles apply to areas that are public, such as streets, sidewalks, and intersections. In many cases, these public places are designed and constructed by developers, so implementation of design principles will require cooperation with private developers. Because elements in the public realm are typically adjacent to privately owned properties, it is important that the private and public sector collaborate in creating an efficient multimodal transportation system in Cheyenne.

Information is provided in the following sections:

- **Design Principles for a Multimodal Transportation System** provide guidelines in building a transportation system for all modes, including bicycles, pedestrians, cars, trucks, trains and ATVs.
- **Multimodal Design Guidelines for New Development** illustrate steps that can be taken to create developments that are compatible with all modes of transportation (bicycles, pedestrians, cars, trucks, trains and ATVs ) and interconnect with the multimodal street system.
- **Structure Elements** reiterate information from the Land Use Plan that is relevant to transportation.
- **Congestion Management Strategies** present methods that can be used to make efficient use of the roadway system.



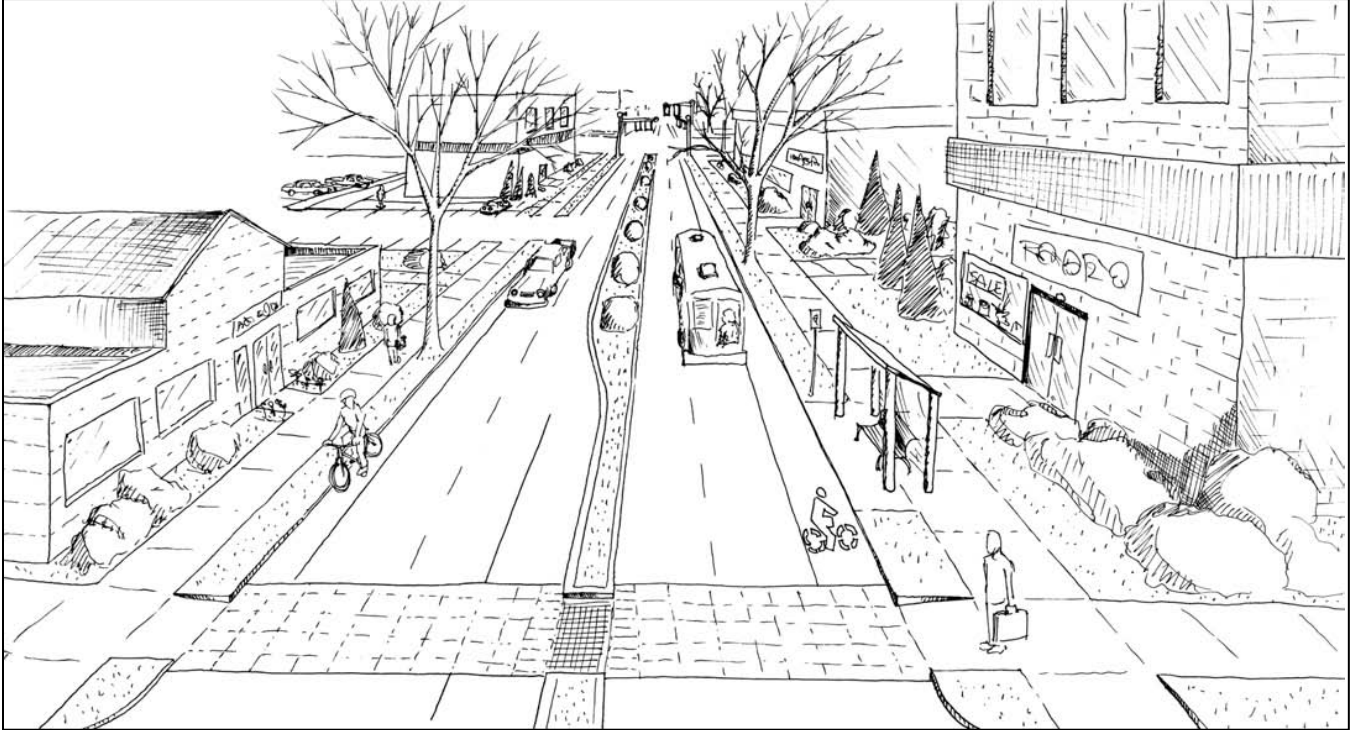
## DESIGN PRINCIPLES FOR A MULTIMODAL TRANSPORTATION SYSTEM

A multimodal transportation system considers various modes: walking, cycling, automobile, public transit, etc., and connections among modes. To the maximum extent feasible, multimodal design features should be incorporated in the design of all new developments to ensure safe and convenient access into and within the site for all modes of travel. There are multimodal design principles for different scales and objectives. The following section summarizes key multimodal design principles, including illustrations.



## COMPLETE STREETS

Provide facilities for all modes of transportation on or adjacent to streets. Application of the Complete Streets policy will be limited to minor arterials and collectors so that the design focus for principal arterial streets remains efficient mobility.



### Design Principles

Provide sidewalks that are separated from the roadway and are sufficiently wide to ensure pedestrian safety on all new roadways and as redevelopment occurs.

- Include appropriate bicycle facilities on all new roadways, and retrofit existing roadways as major reconstruction projects occur.
- Provide safe pedestrian crossings at intersections. Appropriate design and mitigation measures will vary with roadway classifications, traffic volumes and speeds.
- Build transit-ready corridors, planning ahead for future right-of-way needs for bus bays, pull-offs, stops, and shelters, even if the corridor is not currently served by transit.
- Prioritize multimodal, Complete Streets improvements near high density or mixed use areas to support vibrant activity centers.
- Ensure proven safety countermeasures are incorporated into the design of infrastructure facilities for all modes.

### Why Are These Principles Important?

- Construction of sidewalks and bike facilities on all new streets makes them available to travelers using all modes.
- Inclusion of safety features for pedestrians can encourage more trips to be made on foot or transit.
- Roadways and adjacent developments that are designed to accommodate transit can host more successful transit routes in the future.
- When paired with higher-density or mixed-use development, complete streets can serve even more walk, bike, and transit trips.



## MIXED-USE ACTIVITY CENTERS

The land use portion of *PlanCheyenne* identifies a number of mixed-use activity centers. The transportation impacts of these centers must be considered.

### Design Principles

- Ensure that activity centers are compatible with the adjacent roadway network. Both land use and transportation design should be considered.
- Incorporate pedestrian treatments and amenities to promote a safe and pleasant walking environment in and around activity centers. Include crosswalks as appropriate, ADA-compliant curb ramps, pedestrian refuges, and curb extensions to help reduce crossing distances.
- Promote multimodal and non-motorized connectivity within and adjacent to activity centers, as appropriate, including greenway connections, sidewalk facilities, and transit stops.
- Ensure adequate and appropriate levels of access to activity centers from the surrounding roadway network.
- Consider limiting minor access turning movements to right-in right-out or prohibiting left turns in potentially problematic locations.
- Space signalized intersections in the vicinity of Mixed Use Activity Centers in a manner that enables optimal signal progression and limits unnecessary stacking and delay.

### Why Are These Principles Important?

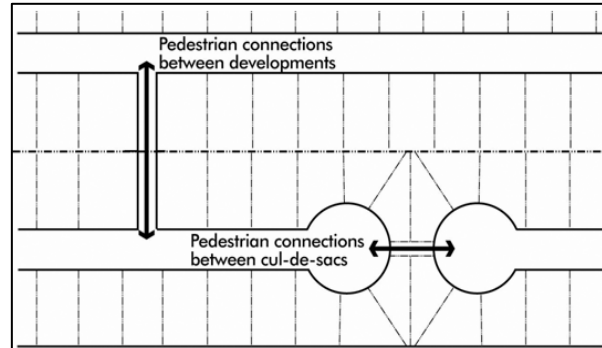
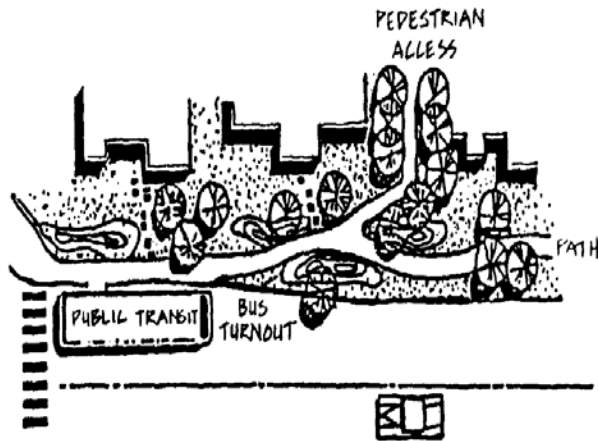
- Activity centers placed on more than one corner of an intersection may require pedestrians to cross major arterial streets to travel between different parts of the activity center.
- High density development on more than one corner of an intersection may overload the intersection with traffic and cause congestion.
- Enough space must be left between access points and intersections to facilitate adequate turn lanes and provide room for traffic queuing.
- Signalized access points should complement, not interfere with, signal timing plans.



*Mixed-Use Commercial Activity Center: Lincolnway/ W 16<sup>th</sup> Street*

## DIRECTNESS

Provide and encourage direct pedestrian connections.



### Design Principles

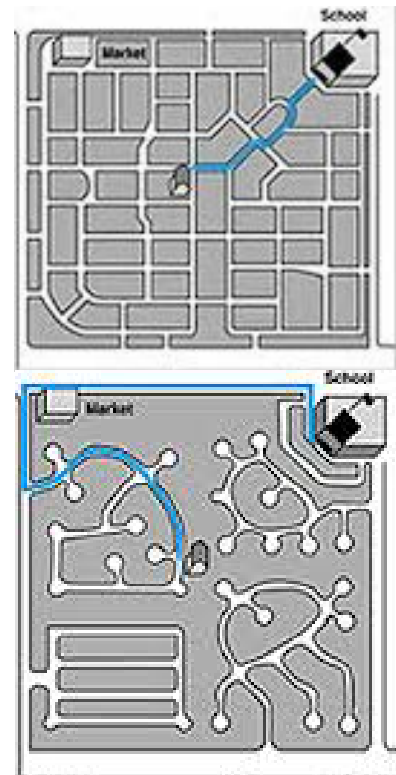
- Provide direct and visible pedestrian connections to transit, schools, activity areas, public facilities, and within neighborhoods.
- Ensure that sidewalk uses, such as sidewalk cafes, are compatible with direct pedestrian access to buildings and other destinations.
- Avoid barriers such as fences, walls, and cul-de-sacs that separate commercial developments, residential developments, and transit.
- Where barriers exist, provide pedestrian access through these barriers.
- Provide clearly visible building entrances from the street instead of or in addition to parking lot entrances to facilitate direct pedestrian access to buildings.

### Why Are These Principles Important?

- Distance is one of the critical determining factors for pedestrian trips. Direct pedestrian connections reduce walking distance and increase the opportunity for pedestrian trips.
- Direct connections to transit stops promote increased transit use.
- Direct access to businesses and neighborhoods makes pedestrian travel more attractive.
- If a safe, direct route is not provided, pedestrians may take a direct route that is less safe and be exposed to greater potential for conflict with vehicles.

## NON-MOTORIZED CONNECTIVITY

Link schools, neighborhoods, parks and other community activity centers with a continuous network of pedestrian and bicycle facilities.



### Design Principles

- Provide a continuous and understandable pedestrian network by ensuring consistency in sidewalks, building facades, park strips, and street trees.
- Use pedestrian scaled furnishings, signs, landscaping, and facilities that appear as unified and themed entities in pedestrian areas.
- Ensure that sidewalk cafes and other uses/features of the sidewalk area support rather than obstruct a continuous pedestrian network.
- Provide bridges and crossings over railroads, rivers, drainages, and other features that are major barriers to a continuous pedestrian network. Design these crossings to minimize out of direction travel.

### Why Are These Principles Important?

- The continuity of non-motorized facilities improves safety and comfort and increases the chances of repeat non-motorized trips.
- Direct connections (i.e. reducing out of direction travel) facilitate non-motorized travel. Indirectness is especially onerous for pedestrians, and to a lesser extent for bicyclists, compared to motorists.
- Consistent branding, pedestrian amenities, and wayfinding signage improve pedestrian and bicyclist comfort and the usability of the non-motorized network.



## STREET CROSSINGS

Provide safe, visible, and easy to use street crossings that will accommodate all potential users.



### Design Principles

- Standardize street crossing improvements to include crosswalks, lighting, median refuges, corner sidewalk widenings, signs, signals, and landscaping.
- Improve the visibility of pedestrian crossings with signage, lighting, and pavement markings.
- Install stop bars on vehicle approaches to signalized intersections, where appropriate.
- Design pedestrian crossings to safely accommodate people of all ages and abilities.
- Provide pedestrian crossing signals appropriate to the surrounding area.
- Locate lighting, signal and signage poles so that they do not conflict with safe pedestrian circulation and allow access for people of various abilities.
- Incorporate measures to reduce vehicle speeds, especially turning speeds, such as reducing turning radii.
- Locate safe pedestrian crossings where pedestrians desire to cross, to minimize crossing outside crosswalk areas.

### Why Are These Principles Important?

- Construction of sidewalks and bike facilities on all new streets makes them available to travelers using all modes.
- Inclusion of safety features for pedestrians, including safe crossings, can encourage more trips to be made on foot or transit.



## VISUAL INTEREST AND AMENITIES

Develop comfortable and attractive pedestrian facilities and settings to make an interesting pedestrian network while following American Disabilities Act (ADA) Guidelines.



### Design Principles

- Provide attractive pedestrian-scale facilities and features that fit the context of the area and provide an organized and unified feel.
- Provide attractive lighting fixtures that enhance the character of the pedestrian environment.
- Use quality materials and design, which will minimize maintenance needs. Adequate maintenance must be provided.
- Incorporate landscaping into the design of pedestrian districts as appropriate, with a preference for xeric or native landscaping.
- Provide human scale and character to the street with appropriate building design and details such as windows, sidewalk cafes, porches, and balconies.

### Why Are These Principles Important?

- People are more likely to walk if the experience is pleasant and the surroundings are attractive.
- Attractive, pedestrian scale features help make a pedestrian district a destination.
- Adequate maintenance is vital to preserving the character of a pedestrian district.
- Landscaping can help provide shade, shelter, and a human scale in the pedestrian environment.
- Appropriate building design helps connect the outdoor pedestrian network with homes and businesses.

## SECURITY

Create secure pedestrian settings by developing a well-lit, inhabited pedestrian network.



### Design Principles

- Promote human activity and “eyes on the street” by including elements such as balconies, terraces, café seating, and windows in adjacent development.
- Ensure clear and direct sight lines along pedestrian and bicycle travel-ways to mitigate against actual and perceived safety threats.
- Incorporate appropriate lighting along pedestrian and bicycle travel-ways to ensure safety and improve aesthetics. Avoid high-intensity direct lighting.
- Provide physical buffers between sidewalks and streets, especially those with higher speeds and volumes.

### Why Are These Principles Important?

- Human activity increases the safety of a pedestrian area.
- Clear and direct lines of sight to other pedestrians or vehicles traveling along a roadway minimize fears of hidden dangers.
- Lighting enhances security and safety in pedestrian areas.
- High-intensity or direct lighting can cause glare or create shadowy areas which may feel threatening to pedestrians.

## NON-MOTORIZED DESIGN GUIDELINES FOR NEW DEVELOPMENT

The City of Cheyenne Unified Development Code and Laramie County Land Use Regulations provide guidance related to the design and provision of pedestrian and bicycle facilities in the city and county, respectively. The following section summarizes key elements of these guidelines and includes illustrations that compare typical developments to bicycle- and pedestrian-friendly developments.

### **Some important characteristics of pedestrian friendly development include:**

- Sidewalks separated from the street and different types of bicycle facilities on all collector and arterial streets, depending on traffic speed and volume.
- Safe and convenient pedestrian and bicycle access from the development site to existing, planned, and proposed trails or greenways located on or adjacent to the development site.
- Connections providing direct pedestrian and bicycle access from the development to adjacent neighborhoods, including but not limited to parks, schools, commercial districts, and transit stops. These connections are not necessarily associated with a street.
- On-site or off-site pedestrian overpasses, underpasses, or pedestrian-oriented traffic signalization if appropriate.
- On-site amenities in pedestrian districts such as landscape/hardscape, benches, and pedestrian lighting.
- In commercial developments, major entry driveways should be separated from areas where pedestrians must cross.
- A complete network of sidewalks and multiuse pathways ensure the feasibility of safe and comfortable pedestrian travel.
- A complete network of on-and off-street bicycle facilities such as bicycle lanes, multiuse pathways and sharrows facilitate safe and comfortable travel by bicycle.
- Ensure safe, convenient pedestrian and bicycle access to transit stops.

### **Illustrative Comparison**

The exhibits on the following pages provide examples of typical developments as compared to developments with pedestrian compatible improvements. These examples illustrate the same development yield for the site, showing that good pedestrian connections and development opportunities are compatible and efficient.

## COMMERCIAL RETAIL SHOPPING CENTER

Typical



Pedestrian Compatible



### Design Guidelines

- Provide dedicated sidewalks connecting businesses within the development, surrounding the development, and connecting the development to nearby neighborhoods.
- Provide bicycle and pedestrian access through barriers separating the development from adjacent neighborhoods.
- Eliminate or minimize large setbacks.

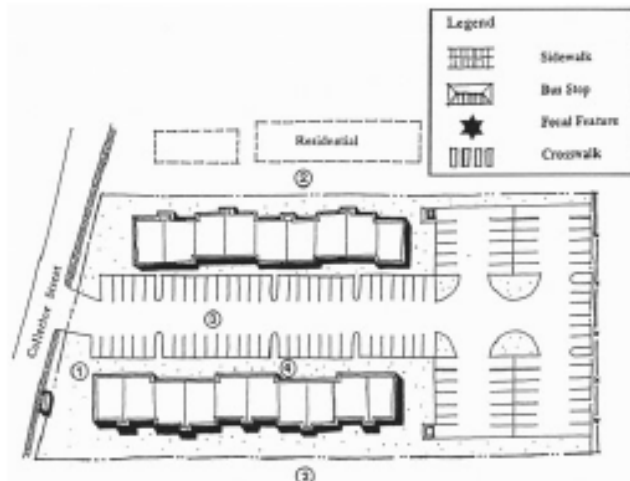
### Why Are These Guidelines Important?

- Dedicated sidewalks improve pedestrian comfort and create a cohesive connection between buildings.
- Access through barriers, such as walls, reduces the distance required to walk between housing and nearby neighborhoods and businesses.
- Visually appealing features encourage increased pedestrian activity and sense of community.

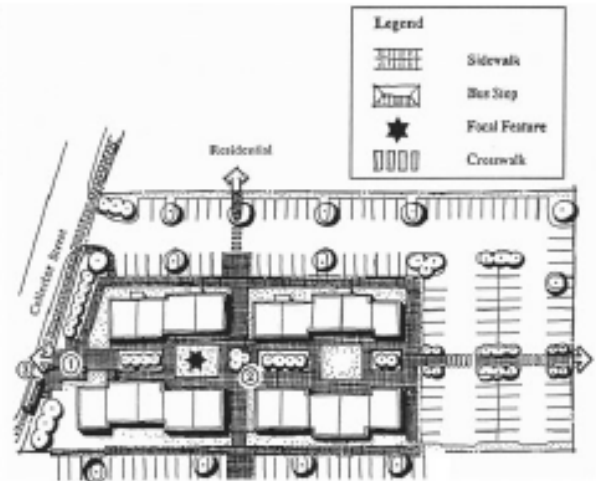


## MULTIFAMILY

Typical



Pedestrian Compatible



### Design Guidelines

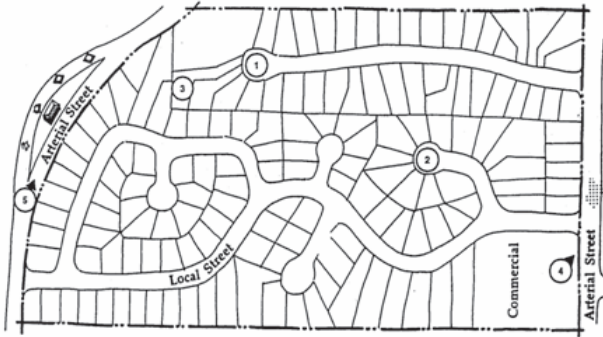
- Provide dedicated sidewalks connecting units within the complex.
- Provide dedicated sidewalks connecting the complex to nearby transit stops, neighborhoods and businesses.
- Provide access through barriers separating the complex from adjacent neighborhoods.
- Include visually appealing landscaping and architecture.

### Why Are These Guidelines Important?

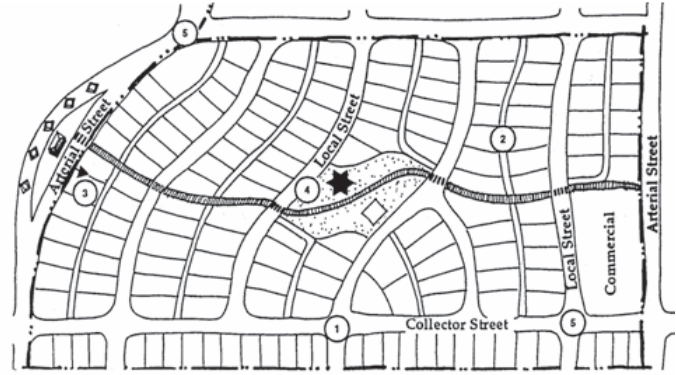
- Dedicated sidewalks improve pedestrian comfort and create a cohesive connection between buildings.
- Access through barriers, such as walls, reduces the distance required to walk between multifamily housing and nearby neighborhoods and businesses.
- Visually appealing features encourage increased pedestrian activity and sense of community.
- An appealing pedestrian environment is correlated with increased 'eyes on the street' and improved safety and security.

## RESIDENTIAL SINGLE FAMILY

Typical



Pedestrian Compatible



### Design Guidelines

- Eliminate or minimize the use of cul-de-sacs. If cul-de-sacs are used, provide additional pedestrian connections.
- Provide direct connections between homes, parks, businesses, transit stops, and schools within the neighborhood. Some of these connections may be pedestrian paths that are not associated with a roadway. Provide access through barriers separating the neighborhood from adjacent neighborhoods and businesses.
- Provide dedicated sidewalks within residential area and connecting the neighborhood to nearby transit stops, neighborhoods and businesses.

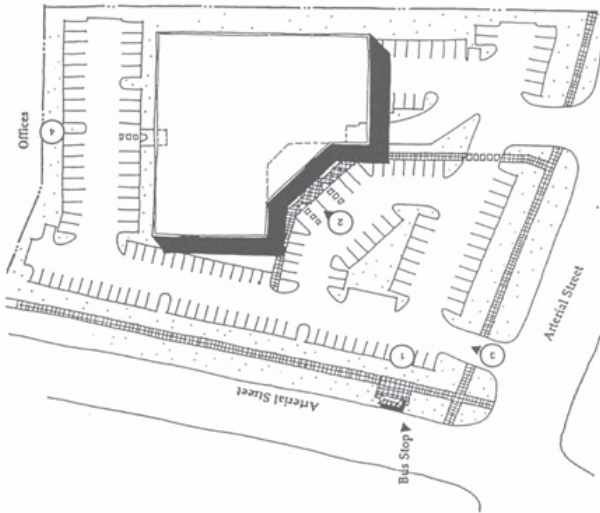
### Why Are These Guidelines Important?

- Construction of sidewalks and bike facilities on all new streets makes them available to travelers using all modes.
- Inclusion of safety features for pedestrians can encourage more trips to be made on foot or transit.
- Roadways and adjacent developments that are designed to accommodate transit can host more successful transit routes in the future.
- When paired with higher-density or mixed-use development, complete streets can serve even more walk, bike, and transit trips.

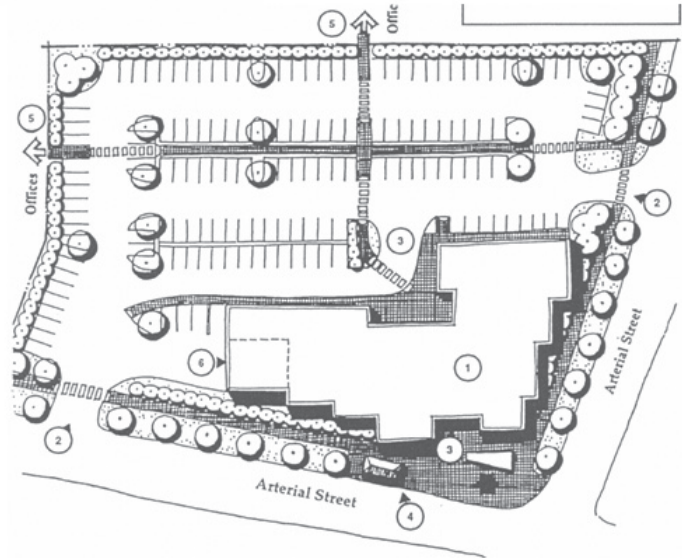


## OFFICE DEVELOPMENT

Typical



Pedestrian Compatible



### Design Guidelines

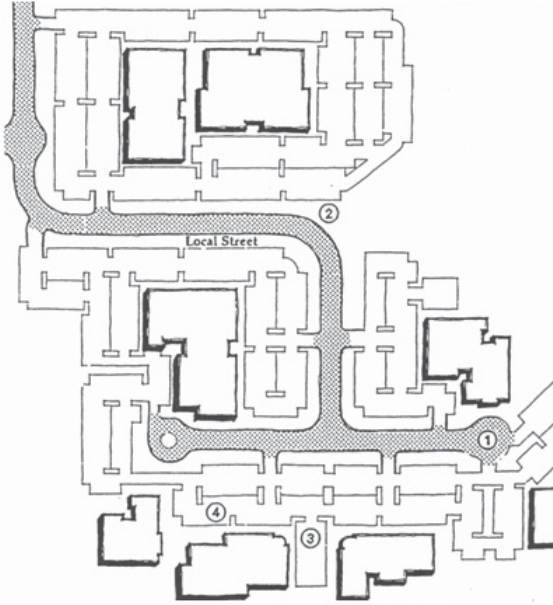
- Locate the main entrances to buildings adjacent to sidewalks.
- Pull bus stops away from store entrances to reduce conflicts between buses and cars and reduce route delays.
- Provide dedicated sidewalks connecting buildings to nearby neighborhoods, commercial centers, and other office complexes.
- Include visually appealing landscaping and architecture.

### Why Are These Guidelines Important?

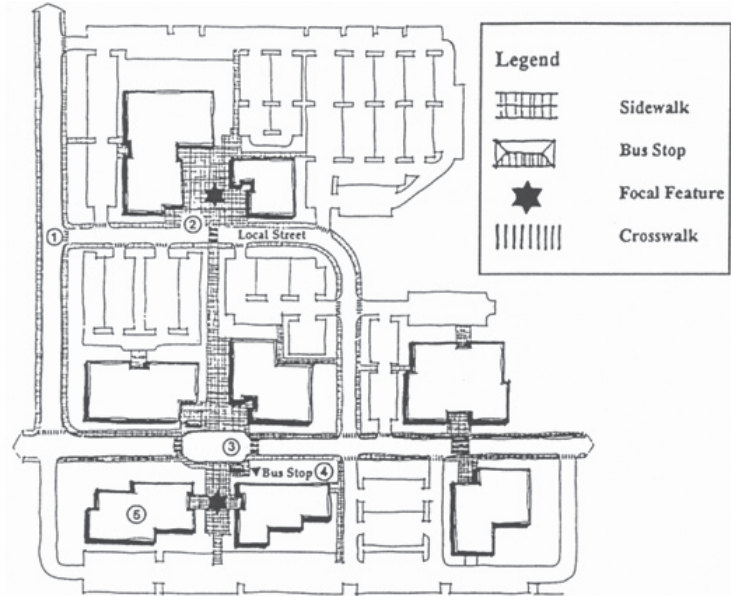
- By placing the office's main entrance adjacent to a sidewalk, pedestrians do not have to walk through a potentially uncomfortable parking lot to access the building.
- Sidewalks connecting nearby homes and businesses provide additional opportunity for pedestrian travel.
- Visually appealing features encourage increased pedestrian activity and sense of community within the development.

## OFFICE INDUSTRIAL PARK

Typical



Pedestrian Compatible



### Design Guidelines

- Locate the main entrances to buildings adjacent to sidewalks.
- Place bus stops in a central location that is connected to all buildings by a sidewalk system.
- Provide dedicated sidewalks connecting buildings.
- Provide pedestrian connections to nearby public sidewalks and nearby neighborhoods and businesses if appropriate.
- Include visually appealing landscaping and architecture.

### Why Are These Guidelines Important?

- By placing building entrances adjacent to sidewalks, pedestrian travel is encouraged.
- Sidewalks connecting buildings facilitate better interaction between buildings and help reduce auto trips within the complex.
- A centrally located, accessible bus stop encourages transit use.
- Visually appealing features encourage increased pedestrian activity and sense of community within the park.

## STRUCTURE ELEMENTS

The *PlanCheyenne* Community Design Handbook in the Structure Phase of the Land Use Plan explores the building blocks that create a community. In developing these building blocks, several transportation elements were identified, including major corridors, gateways to the community as experienced from interstates and entrances to special districts. Through an intensive public workshop, key corridors in our community were identified and may serve as a guide in the future when prioritizing streetscape improvements.

The Design Principles illustrate areas of the community where public and privately owned properties can collaborate to create a positive image for the community. Regional Gateways and Interstate Corridors, Community Gateways, District Gateways, and Major Vehicular Corridors designate the major entrances to our community. As the most traveled places in the community, these gateways and corridors shape the impressions of visitors about the Cheyenne Area image and identity. Enhanced treatment of these gateways and corridors will help define Cheyenne as a quality place to live and visit, and differentiate Cheyenne from other communities.



## REGIONAL GATEWAYS AND INTERSTATE CORRIDORS

These include the locations along I-25 and I-80 where one enters Cheyenne as well as the locations where “Thank You for Visiting” signs could be sited. Five Regional Gateways are located on the Structure Plan map: northbound I-25 at the intersection of a future corridor, southbound I-25 in north Cheyenne, eastbound I-80 at the Urban Growth Boundary, westbound I-80 at the intersection with US30, and northbound US85 at the ridgeline in south Cheyenne.



### Design Principles

- Develop a thematic image for gateways that is reflective of our heritage and differentiates us from other communities along the Front Range; i.e. Steamboat engravings, Independence Rock, Devil’s Tower, Yellowstone National Park, etc.
- Use native or regionally-adapted and drought tolerant landscaping for Gateway plantings to minimize water use.
- Limit or restrict signage along the interstate highways to preserve scenic views.
- After careful evaluation of impacts and costs, screen residential areas, parking lots, service and storage areas as needed with landscaping, and consider architectural walls to buffer noise.
- Make sure enhancements are in line with catalog of enhancements in the *Interchange Enhancement Design Guidebook* (2011)

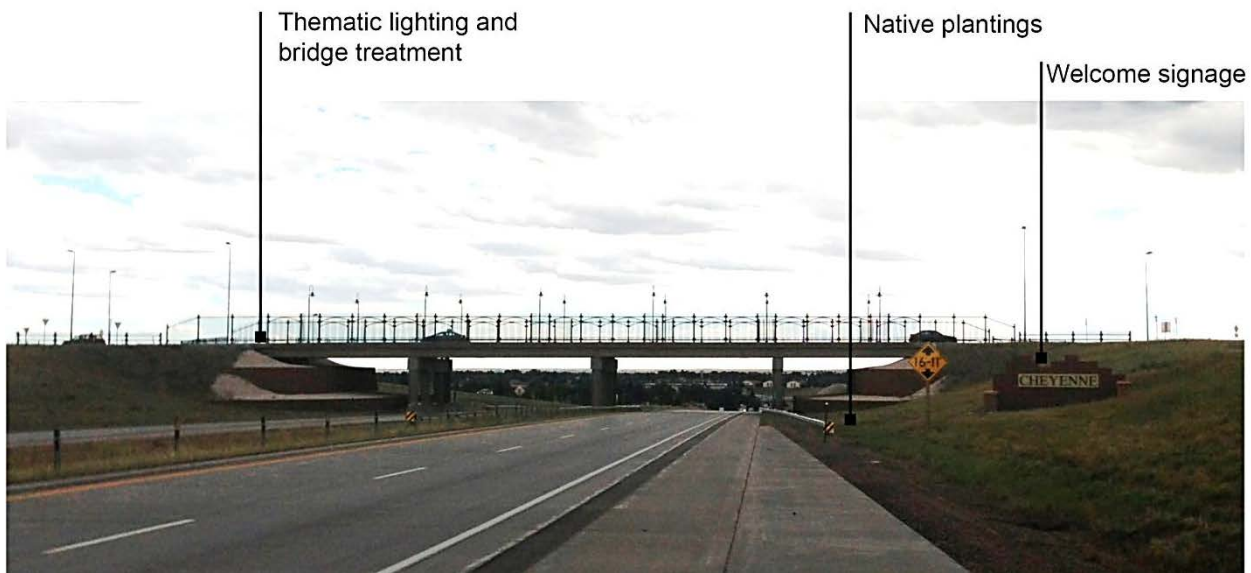
### Why Are These Principles Important?

- As the most traveled places in our community, these gateways and corridors shape the impressions of visitors about our image and identity.
- Enhanced treatment of these gateways, such as those implemented since 2006 along I-25 help define Cheyenne as a quality place to live and visit, and differentiates Cheyenne from other communities.
- Landscaping is an important feature and helps to create a quality appearance; however, if it is to thrive, it should be carefully selected for the dry climate of our region.
- Long-range views and vistas are part of what makes Cheyenne a unique place.



## COMMUNITY GATEWAYS

Community Gateways are the entries directly into the City itself from both the interstate and major corridors. Nine Community Gateways are located on the Structure Diagram. Five Community Gateways are located along I-25 at intersections with the following major corridors: East College Drive, East Lincolnway, Missile Drive, Randall Avenue, and Warren Avenue. Three other gateways are along I-80, found at the intersections with US85 and North College Drive, and on I-80 in east Cheyenne at Campstool Road overlooking an Employment District. The final Community Gateway identified on the map is at the intersection of US30/Dell Range Boulevard and East Lincolnway.



### Design Principles

- Enhance overpass bridges with surface treatments (such as stucco, stone or brick), planting, and appropriately-scaled signage.
- Gateway landscaping should use native or regionally-adapted species that minimize water use.
- Include “exit” signs that thank visitors for coming to Cheyenne.
- Design signage that identifies businesses without dominating the setting (ground-plane signs rather than tall poles signs).

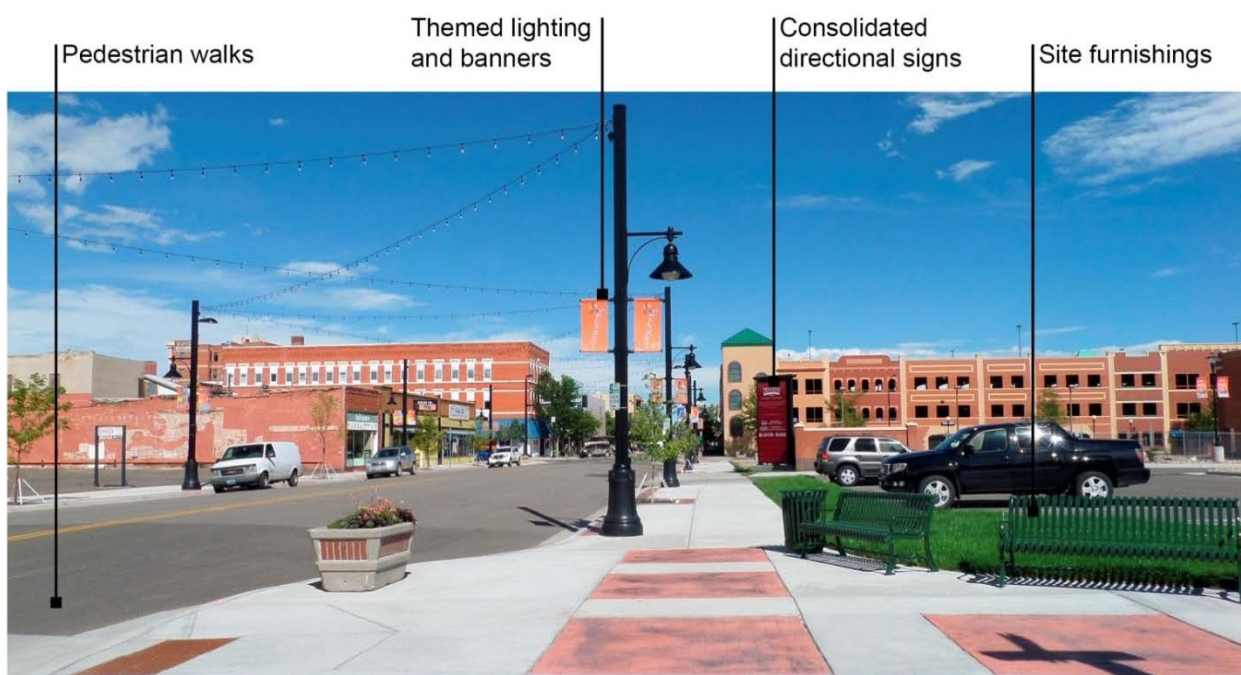
### Why Are These Principles Important?

- Enhanced treatment of these gateways, such as those implemented since 2006 at the I-25 and Vandehei and I-25 and High Plains Road interchanges help define Cheyenne as a quality place to live and visit, and differentiates Cheyenne.
- In contrast, the remaining Community Gateways that have not been improved present a sterile environment that does not present a proud and positive image of the City.
- Tall pole-signs stick out in the landscape; low, integrated signs present a positive image for businesses as well as our community.



## DISTRICT GATEWAYS

District Gateways are a transition point within the community, such as entering the Historic Downtown or Lions Park. Due to the potentially large number of District Gateways that may be desired in Cheyenne, these elements have not been located on the Structure Diagram, and should be determined when studying specific corridors and districts in more detail



### Design Principles

- Announce the entry or passage into a distinct neighborhood or District through the cohesive use of landscape treatments, site furnishings, and signage that reflect the area's design character.
- Use public art or themed elements to help form an identity for the area.
- Coordinate the style and color of light standards, signage, and site furnishings.
- Consolidate directional signs to avoid a cluttered appearance.
- Design at a scale that is appropriate for the setting and the size and role of the District, reflecting existing materials, forms, and massing.

### Why Are These Principles Important?

- Similarly designed and colored benches, trash cans, and other features can help to pull a District Gateway together under a common theme.
- Public art often plays an important role in the unique identity of Districts.
- Consolidated signage is less confusing as well as more visually attractive.
- District Gateways can be defined and/or framed by using a variety of elements, often vertical (such as Lions Park gate).

## MAJOR VEHICULAR CORRIDOR

Corridors that are significant vehicular, and in some cases pedestrian, travel ways for the community. Includes both the streets themselves and the immediately adjacent landscape. Major Vehicular Corridors identified on the Structure Diagram are: US85/South Greeley Highway, US30/Dell Range Boulevard, East and North College Drive, East and West Lincolnway, Randall Avenue, Missile Drive, Pershing Boulevard, Warren Drive, Yellowstone Road, Storey Boulevard/Summit Drive and Happy Jack Road.



### Design Principles

- Whenever sufficient right of way exists or mutual agreement for acquisition of right of way is reached, include sidewalks adequate for several people walking, separated from the roadway with landscaping.
- Provide safe and clearly marked pedestrian crossings.
- Design corridors in the character of the Districts through which they pass.
- Include attractive street lighting that is standardized along a corridor, down-directional and dark-sky friendly unless it is incompatible with existing lighting or cost prohibitive.
- Enhance the visual quality of roadways by burying overhead utilities if appropriate.
- Design signage that identifies businesses without dominating the setting or skyline.

### Why Are These Principles Important?

- An oft-mentioned belief during the *PlanCheyenne* process is that the community should be less defined by cars. Landscaping and pedestrian amenities can help make streets more walkable.
- Safety for pedestrians is also an important objective.
- By standardizing a theme along a corridor, areas can become distinctive districts, like Downtown Cheyenne has become.
- Properly designed signs can be informative and not a distraction for the motorist.

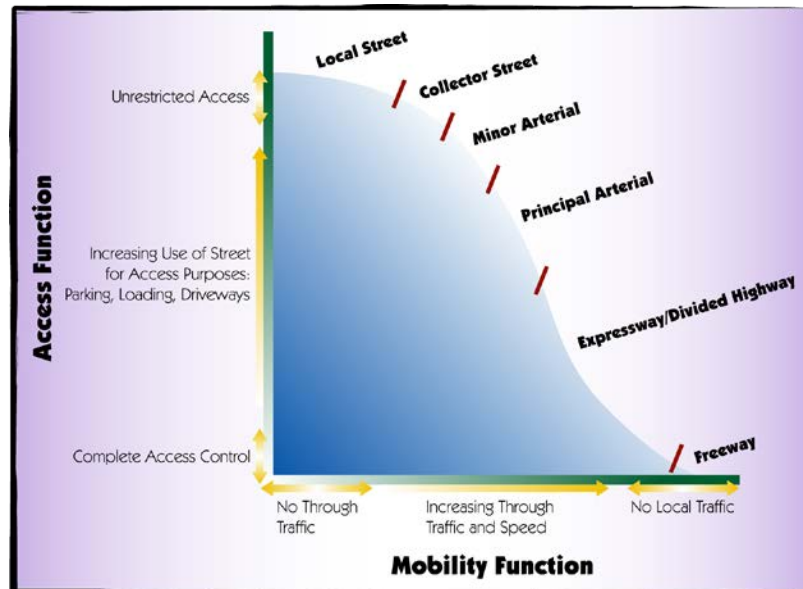
## CONGESTION MANAGEMENT STRATEGIES

Congestion management strategies help to make the most of the roadway system by improving intersection and overall corridor efficiency. Potential strategies include informational campaigns, access management, and intelligent transportation systems. Elements of different congestion management techniques are listed in the pages that follow.



## ACCESS MANAGEMENT

Access and mobility are two competing functions served by roadways. Mobility and roadway efficiency can be improved by implementing transportation access management strategies with systematic coordination of location, spacing, design and operation of driveways and street connections to functionally classified roads.



### Elements

- Freeways, arterials, collectors, and local streets are designed to serve two competing functions: mobility and access.
- Consolidate driveway access on existing arterial streets to the extent possible. A detailed study will be required for each segment where access is to be consolidated.
- Space signals evenly to help facilitate a properly timed signal system.
- Turn lanes, service drives connecting adjacent uses, direct major access to signalized intersections, and local street connectivity.

### Why Is Access Management Important?

- By limiting access to arterial streets, roadways can be used more efficiently, to minimize costly widening projects.
- Adequate spacing of intersections and driveways decreases the frequency of conflicts and slowing caused by turning vehicles.
- By properly spacing traffic signals, traffic progression can be improved and time spent waiting at red lights can be reduced.
- Controlled access to arterial streets can mean a reduction in the number of conflict points and thus improved safety.
- Proper access management can lead to protecting public investment in roadways and minimizing conflict points for pedestrians.



## INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

ITS integrates advanced communications technologies into transportation infrastructure to improve safety and mobility.



### Elements

- Continue to maintain a coordinated system of traffic signals managed by the City's traffic engineer, in coordination with WYDOT.
- As Cheyenne grows and traffic patterns become more complex and dynamic, investigate available technologies such as adaptive timing systems or a camera-based network that allows real-time adjustments to signal timing plans, either automatically or manually, and can improve the ability of traffic engineers to utilize the roadway system efficiently.
- Expand use of automatic traffic recorders (ATRs), which gather a continuous stream of traffic data. ATRs can also identify congestion as it happens.
- ATRs should be considered on new roadways and at existing intersections as part of an ongoing signal upgrade program.

### Why Is ITS Important?

- A coordinated signal system allows freer flow of traffic on arterial streets.
- An adaptive system can adjust signal timing throughout the day as conditions vary.
- A camera based system can improve the security of the roadway system by facilitating quick identification of any incidents, enabling faster emergency response times.
- Automatic traffic recorders (ATRs) provide real-time information that can be used to warn travelers about potential problems.



## INFORMATION

Information about road construction, traffic accidents, traffic congestion, and alternate routes helps the traveling public use the roadway system more efficiently



### Elements

- Use variable message signs to alert drivers about dangers and accidents ahead of time.
- Use variable message signs to remind people to adhere to safe driving practices, such as not driving distracted, not drinking and driving, wearing a seat belt, and watching out for vulnerable users such as motorcycles, bicyclists and pedestrians.
- Post current information about detours and construction on a website.
- Alert drivers of weather alerts, road closings, and high wind advisories.
- Collaborate with local media to alert drivers about problem areas.
- Coordinate communication efforts with WYDOT and other regional transportation agencies.

### Why Is Information Important?

- Variable message signs can be used to alert all drivers approaching a problem area.
- An accurate, frequently updated website can alert drivers about problem areas and areas of construction. Drivers can avoid these areas and help reduce the associated congestion.
- Local media outlets can provide information to drivers before they begin their trip. The radio can even alert drivers as they travel.

# Shape

---

## INTRODUCTION

The shape section of the *Transportation Plan* outlines a transportation vision for the Cheyenne Area. The Transportation Vision defines the roadway, transit, bicycle, and pedestrian facilities that will be needed to provide Cheyenne Area residents with an adequate, connected, multimodal transportation system.

The *Transportation Plan* is based on information available at the time it was created, including other sections of *PlanCheyenne*. It includes enhancements to reflect the myriad of plans conducted since the Plan was first adopted in 2006. As future plans, documents, and studies are developed, these studies may amend the *Transportation Plan*. It is also anticipated that large tracts of property could develop their own master development plan. As part of the master development plan process, transportation elements of *PlanCheyenne* may be considered for amendment, provided that the transportation elements will continue to meet the principles, policies, and process described in *PlanCheyenne*. Furthermore, priorities presented in this plan may change in the future as development occurs.

## PRINCIPLES AND POLICIES

Creation of a robust and effective transportation system in Cheyenne requires a vision of the type of transportation system the area desires. *PlanCheyenne* lays out seven Foundations, one of which speaks directly to transportation. The Cheyenne Area will continue to celebrate and enhance the character, quality, and authenticity of the community by developing a connected and diverse transportation system. To guide this vision, a set of principles and policies was developed. These principles reflect a vision of the character of Cheyenne's future transportation system. The associated policies present a way to implement this vision.

## GROWTH IN THE REGION

The first step in the definition of a Transportation Vision is to identify the growth that is expected to take place in and around Cheyenne. Growth forecasts were generated for 2040 and beyond based on the Future Land Use Plan. Once growth has been quantified, future needs can be assessed.

## NEEDS ASSESSMENT

After growth forecasts have been developed, the next step in developing a Transportation Vision is to identify needs that will arise as the region grows. These needs include roadway needs, transit needs, and needs for non-motorized transportation. Understanding the needs that the community will face allows planners to propose solutions that will fill these needs.

## VISION PLANS – 2040 AND BEYOND

The 2040 Transportation Vision is a fiscally unconstrained plan for the transportation system in the Cheyenne area. This plan provides sufficient capacity to accommodate growth on most roadways and includes new roadways, sidewalks, and bike lanes in developing areas. Recommendations for retrofitting existing roads with sidewalks and bike lanes are also provided. The 2040 Vision Plan is based on a growth assumption of 1.25% per year.

The Buildout Transportation Vision Plan compliments the buildout of the Future Land Use Plan, but is not likely to occur until sometime after 2060. The buildout plan designates roadways and multimodal corridors that should be preserved for future use.



## PRINCIPLES AND POLICIES

Creation of a robust and effective transportation system in Cheyenne requires a vision of the type of transportation system the area desires. To guide this vision, a set of principles and policies was developed. These principles reflect a vision of the character of Cheyenne's future transportation system. The associated policies present a way to implement this vision.

### **PRINCIPLE 1: ROADWAYS IN AND AROUND OUR NEW NEIGHBORHOODS WILL BE DESIGNED TO ACCOMMODATE INCREASED TRAVEL DEMAND WHILE MAXIMIZING SAFETY.**

#### **Policy 1a: Arterial Construction**

Construct arterial facilities in developing areas to safely accommodate future travel demand.



*An arterial in a Historic Neighborhood*

#### **Policy 1b: Right-of-Way Preservation**

Preserve right-of-way in developing areas to accommodate expected buildout traffic volumes. When development occurs along a proposed arterial, right-of-way dedication will be sufficient to accommodate the Buildout Transportation Vision Plan.



*Corridor Preservation along a New Arterial*

#### **Policy 1c: Neighborhood Design and Mix of Uses**

Build new neighborhoods with a mix of compatible uses so that residents have employment and shopping opportunities within walking or bicycling distance of their homes. Ensure safe non-motorized facilities are provided in these areas so trips shifted to non-motorized modes can be made safely.

#### **Policy 1d: Traffic Study Requirements**

Require traffic studies for all larger development proposals to address not only automobile and transit, but also bicycle and pedestrian travel. All projects should consider all modes and their connection to the transportation system as well as anticipated safety impacts.

#### **Policy 1e: Interconnected Neighborhood Street, Bikeway, and Sidewalk Patterns**

Design new neighborhoods to contain street systems that encourage internal pedestrian, bike, and auto circulation as well as provide direct connections to the larger transportation network. Limit traffic volumes and speeds on neighborhood collector and local streets where houses front. Sidewalks should be installed on both sides of streets.

## **PRINCIPLE 2: THE CHEYENNE AREA WILL BUILD A SAFE, MULTIMODAL TRANSPORTATION SYSTEM THAT CONSISTS OF STREETS, SIDEWALKS, BICYCLE FACILITIES, AND TRANSIT.**

### **Policy 2a: Complete Streets**

The Community will design and construct arterial and collector streets to be multi-modal by providing travel lanes for automobiles, bikes, buses, bike lanes, and sidewalks. Application of the Complete Streets policy will be limited to minor arterials and collectors so that the design focus for principal arterial streets remains efficient mobility.

### **Policy 2b: Neighborhood Design to Support Walking and Bicycling**

Design new neighborhoods to contain a mix of compatible uses so that residents have recreation, employment and shopping opportunities within walking or bicycling distances of their homes.

### **Policy 2c: Public Transit**

Develop and maintain a public transportation system that enhances safe mobility choices and increases per capita ridership.



*Multimodal Transportation Facility*

### **Policy 2d: Bicycle Connections**

Develop and maintain a system of safe and efficient bikeways connecting neighborhoods with activity centers, schools, parks, and other destinations.

### **Policy 2e: Pedestrian Connections**

Develop and maintain a pedestrian circulation system that provides direct, continuous, and safe movement within and between neighborhoods and activity centers.

### **Policy 2f: Safe Routes to Schools**

Use the 5-E strategy to encourage and facilitate walking, bicycling, and the use of other non-motorized modes of transportation for school travel. Strategies should focus on Evaluation, Engineering, Education, Encouragement, and Enforcement, including (but not limited to): providing safe infrastructure for non-motorized transportation and removing existing barriers; providing educational materials to both students and parents to enhance understanding and address potential safety concerns; and conducting ongoing encouragement activities to incentivize and reward program participation.

### **Policy 2g: Systematic Safety**

The Cheyenne MPO will coordinate with implementing agencies to consider installation of appropriate low-cost countermeasures to reduce the occurrence and severity of crashes at signalized intersections and countermeasures at non-signalized intersections, such as installing roundabouts at high crash locations in preference to signalizing.

### **Policy 2h: Stormwater Management**

Coordinate City/County stormwater and detention goals in concert with planned roadway improvements, addressing unique site considerations on a case-by-case basis.

## **PRINCIPLE 3: THE CHEYENNE AREA WILL MAINTAIN A FISCALLY RESPONSIBLE TRANSPORTATION PLAN.**

### **Policy 3a: Pursue Developer Funding**

Cheyenne and Laramie County will pursue development funding for improvements to the transportation system that are development driven.



### **Policy 3b: Prioritize Transportation Improvements**

Consider life-cycle accounting of costs and benefits of potential transportation improvements when prioritizing transportation improvements to ensure that the most effective transportation improvements are built with limited funds.

## **PRINCIPLE 4: THE CHEYENNE AREA WILL MAXIMIZE USE OF THE EXISTING ROADWAY SYSTEM.**

### **Policy 4a: Land Use and Transportation**

To minimize the need to expand arterial streets for new arterial streets, compact development will be promoted as described in the *Community Plan*.

### **Policy 4b: Congestion Management**

Cheyenne will employ Traffic Congestion Management techniques to efficiently utilize existing roadways.

## **PRINCIPLE 5: TRANSPORTATION THAT PROVIDES OPPORTUNITIES FOR RESIDENTS TO LEAD HEALTHY AND ACTIVE LIFESTYLES WILL BE PROMOTED.**

### **Policy 5a: Support Active Transportation**

Support physically active transportation (e.g., bicycling, walking, etc.) by building and maintaining infrastructure such as bike lanes, sidewalks, trails, lighting, and facilities for easy and safe use; implementing bike, pedestrian, and transit safety education and encouragement programs; and providing law enforcement.



*Walking at the Market*

## **PRINCIPLE 6: THE CHEYENNE AREA WILL ACCOMMODATE TRUCK AND FREIGHT GOODS MOVEMENT.**

### **Policy 6a: Freight Mobility**

Maintain a truck routing plan with designated truck routes to provide commercial access and minimize truck travel through residential neighborhoods.

### **Policy 6b: Industrial Development**

Coordinate industrial development with transportation investments to promote freight efficiency, productivity, and economic competitiveness.



## GROWTH IN THE REGION

The Cheyenne Area is expected to grow considerably over the next 25 years. Through coordination with the land use component of *PlanCheyenne*, a buildout socioeconomic forecast was developed. **The future land use map is shown in Figure 8.**

### GROWTH FORECAST

Revisions were made to employment and population forecasts for this update. The Cheyenne Area's population has grown parallel with employment over the past 20 years. Given that employment is the primary driver of population in an economy like Cheyenne, an employment-based forecast was developed. As such, the population forecasts are grounded in a projection of employment by industry.

Economic and demographic trends for the previous 20 to 40 years were analyzed. Factors and relationships were calibrated for the model based on extensive analysis of these data, including: wage and salary jobs by industry; in- and out-commuting patterns; proprietors; unemployment rate; group quarters; and the proportion of population outside a working age (16-65).

To forecast employment, population, and households, the Team also assembled assumptions on the regional and national economic outlook, including interest in oil and gas exploration, and development potentials for Swan Ranch. Employment growth assumptions were then calibrated using: factors from the historic data

analysis; analysis of industry volatility/stability; national-level employment projections (10-year); and an assessment of each industry's proportion in the Cheyenne area compared to the state.

The revised forecasts estimate that the County's employment will grow at an average of 650 to 880 jobs per year for the next 10 years; between 580 and 800 jobs for the next 25 years; and between 550 and 775 jobs per year for the next 50 years. Overall, Laramie County's total wage and salary employment will add between 6,500 and 8,800 jobs over the next 10 years; between 14,500 and 20,100 jobs over the next 25 years; and between 27,500 and 38,700 jobs over the next 50 years.

Population is projected to add between 870 and 1,130 persons per year for the next 10 years; between 990 and 1,270 persons per year for the next 25 years; and between 940 and 1,230 persons per year for the next 50 years. Overall, Laramie County's total population is projected to add between 8,700 and 11,300 persons over the next 10 years; between 24,700 and 31,600 persons over the next 25 years; and between 47,200 and 61,800 persons over the next 50 years.

While the forecasts are for Laramie County, Cheyenne is expected to retain the vast majority of the projected growth. Some development will still take place in the County but the impact on the Cheyenne Area roadway network will be most impacted.

## FORECASTING TRAFFIC

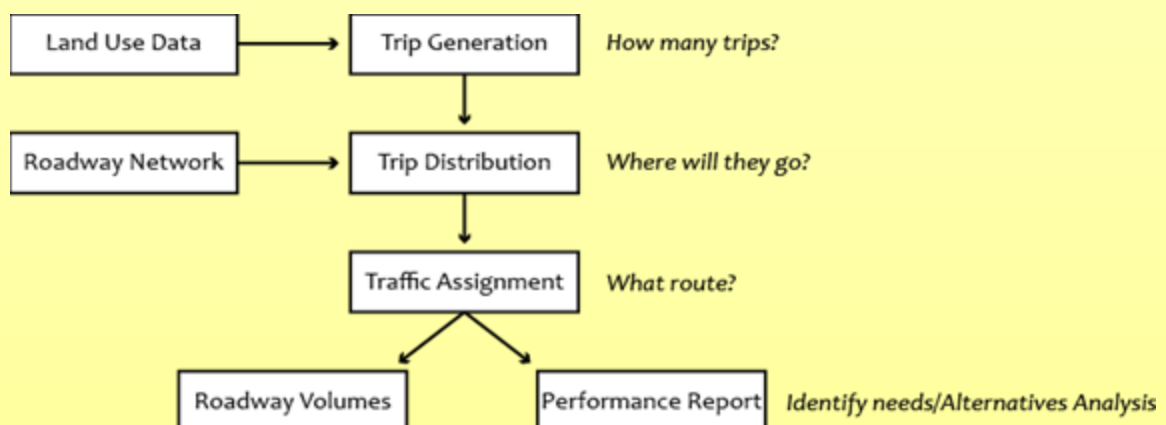
The *Transportation Plan* was developed through an analysis of system deficiencies and potential alternative solutions using estimates of future travel demand. Travel demand, including roadway traffic volumes, is forecasted using the Cheyenne traffic model. This model was updated and enhanced as a part of the update of *PlanCheyenne*.

The model process, shown graphically below, uses estimates of household and employment data and the existing roadway network as input assumptions. Household and employment data is estimated and forecasted in areas called Traffic Analysis Zones (TAZ). The model utilizes three basic steps:

1. **Trip Generation:** Based on existing and forecast socioeconomic data including the number of dwelling units and employment, the model estimates trips by trip type, such as work trips, shopping trips or service trips. By comparing base year trip generation to forecast 2040 trip generation, one can see the estimated growth in trip activity within the area.
2. **Trip Distribution:** The trip distribution process examines the relationship between where trips are produced or generated in relationship to where they are attracted or the destination end of the trip. As an example, a Home Based Work Trip begins at the residence and travels to the place of work. This process of distributing trips is conducted for each trip type and for each trip generated throughout the modeling area.
3. **Trip Assignment:** This is the process where the trip distribution patterns are assigned to various routes between where the trip originates and its destination. The modeling software recognizes the travel speeds of the roadway network to identify the shortest distance and time paths. The model also recognizes that as the roadways fill up, congestion might occur, thus making alternate routes more attractive.

The Cheyenne traffic model forecasts daily traffic. The model's accuracy is developed through a sophisticated model calibration process where estimated existing trips based on the area's current population and employment characteristics and the area's roadway network are compared to actual traffic counts. WYDOT and the MPO maintain a very extensive set of these ground counts which allowed a high degree of calibration.

The travel model is useful as a tool throughout the transportation planning process. It is used as a tool in needs assessment to identify future deficiencies. Various alternatives are tested using the model to guide the development of a 2040 Roadway Vision Plan and Buildout Roadway Vision Plan. Relative benefits of different alternatives can be compared to help in the creation of a Fiscally Constrained Roadway Plan.





# Future Land Use

## Legend

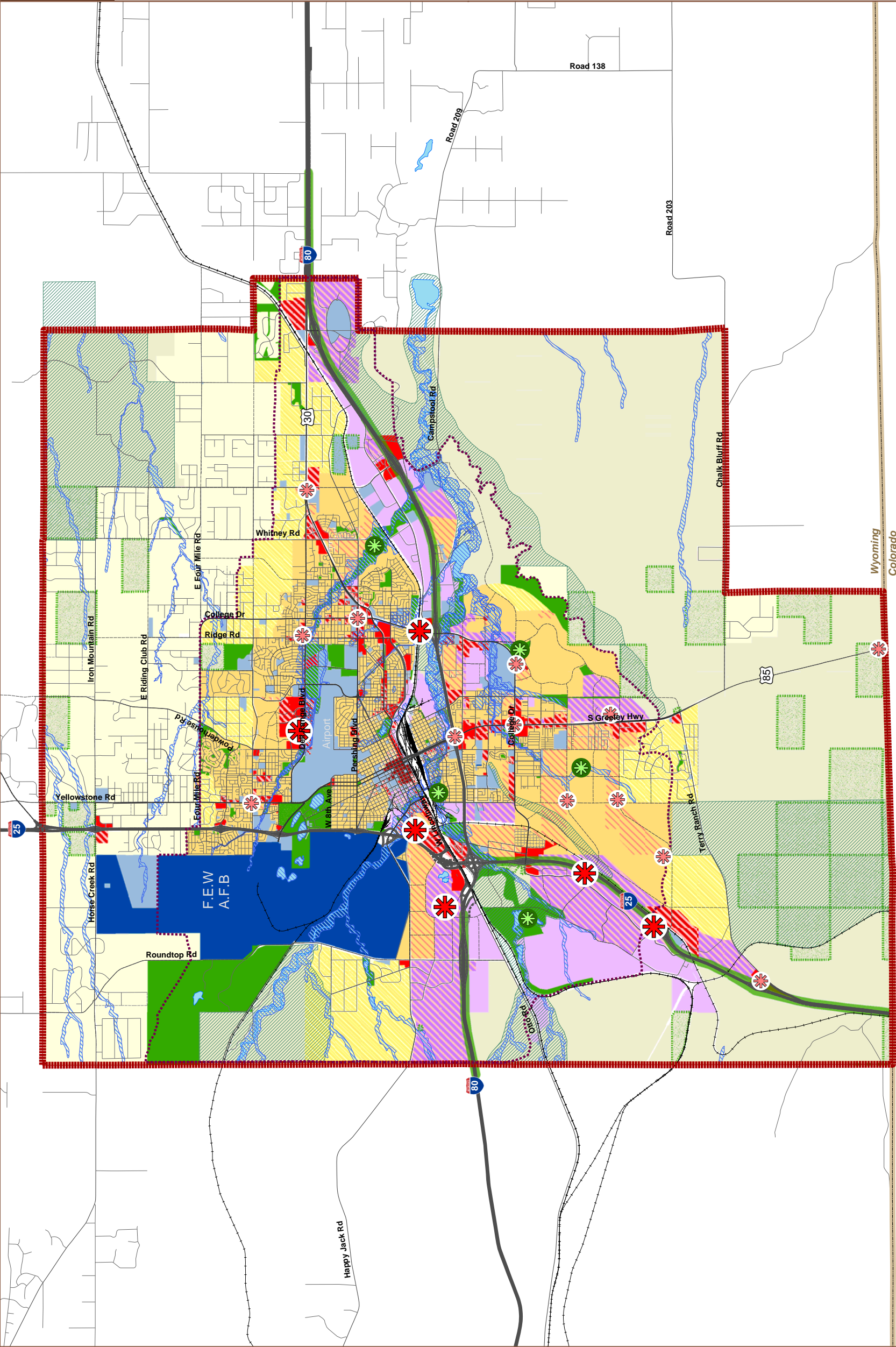
- Planning Area Boundary
- City Boundary
- Urban Service Boundary
- State Lands
- Floodplain
- Natural/Cultural Resource Area
- Highway Corridor/Gateway

## Future Land Use

- Agriculture/Rural
- Rural Residential
- Urban Transition Residential
- Urban Residential
- Mixed-use Residential
- Mixed-use Commercial
- Mixed-use Employment
- Industrial
- Central Business District
- Community Business
- Public and Quasi-Public
- Military/Federal
- Open Space and Parks
- Mixed Use Commercial Activity Center
- Community/Regional Activity Center

## Future Roadways

- Community Park Site
- Interstate
- Principal Arterial
- Minor Arterial
- Collector
- Ramp/Local Road



# FUTURE LAND USE

## Cheyenne Area Master Plan

Laramie County Version





## NEEDS ASSESSMENT

As in most communities experiencing growth, the transportation system that currently serves the Cheyenne Area will not be sufficient to accommodate all future growth. In order to understand what will need to be improved as growth takes place, a needs assessment was performed for each of the four main components of the transportation system: roadway, transit, bicycle, and pedestrian.

### ROADWAY NEEDS

Using the travel demand model, 2040 conditions on the existing and committed roadways were projected. Committed improvements, listed in Table 1, include construction projects that increase roadway capacity and have committed funding sources today. It does not include committed maintenance projects. With the projected growth in population and employment, traffic congestion will occur if no additional improvements to the transportation system are made. Figure 9 depicts both forecasted daily traffic volumes represented by the width of the line, as well as whether the road will be over capacity (red and orange), at capacity (yellow), or under capacity (green).

**TABLE 1: COMMITTED ROADWAY IMPROVEMENTS**

Facility Description	Improvements	Forecast Year
Swan Ranch	Roadway design and Construction	2013
Polk Ave.	Roadway paving, curb and gutter, sidewalk/ greenway connector	2014
Logan – Nationway to Pershing	Roadway design and construction	2014

Knowing that additional roadways will be funded before 2040, this scenario is not realistic for the 2040 timeframe. However, the analysis provides a valuable tool for identifying locations where additional improvements would best serve the community

Areas shown as over capacity or at capacity and listed above are expected to considerably impact mobility if additional roadway improvements are not built. Areas of particular concern are shown in red and orange in Figure 9.

Approaches to reducing congestion in these congested areas include improving or widening the congested facilities, improving alternate routes, constructing new parallel roadways, and encouraging

### INCREASING GROWTH RATE

Cheyenne is transitioning from a period of slower growth to a time of faster population and employment growth. In the last few years, the population of Cheyenne has grown at about 2% each year – twice the historical average of 1%. As Cheyenne continues to grow at a faster rate, the need for improvements to the transportation infrastructure will accelerate.

alternative modes. In some cases, realistic improvements are not available and congestion will occur even with improvements to the transportation system. It is important to note that modeling does not account for mode shifts to transit, walking and bicycling. Therefore, design and policy recommendations may result in enabling shorter trips to be made by other modes, which are not accounted for in the model results. Additionally, ITS may be used to direct travel to areas in the network with less congestion.

Unlike many growing communities across the nation, the Cheyenne Area has succeeded in improving the roadway network quickly enough to accommodate growth to date. However, as growth continues over the next 25 years, the demands on Cheyenne's roadway system will continue to increase. If Cheyenne continues to see increased population, increased trip-making, and longer trip lengths, growth in vehicular traffic may begin to outpace roadway improvements. As a result, congestion will grow on Cheyenne's roadway network.

New roadways and roadway improvements will be required to prevent traffic congestion and to provide access to future development. Some areas designated for residential or commercial growth in the Future Land Use Plan are not currently accessible by public roads. In many areas, subarea plans identify potential



alignments for new roadway facilities. Where appropriate, alignments specified in these subarea plans are included in the *Transportation Plan*.

Many older neighborhoods in Cheyenne still have uncontrolled intersections on local streets. As Cheyenne grows and traffic increases in these areas, it may become necessary to convert some of these locations to stop controlled or signalized intersections. Guidelines for installation of intersection control devices are presented in the Manual of Uniform Traffic Control Devices (MUTCD). Stop signs and signals should only be installed where warrants defined in the current version of the MUTCD are met. Installing unwarranted stop signs and signals could potentially create a liability for the City. It should also be noted that meeting warrants does not necessarily justify installation. Other engineering factors should be considered. Installation of devices without meeting warrants should be avoided.



FIGURE 9: TRAFFIC CONGESTION IN 2040 WITH EXISTING AND COMMITTED ROADWAYS

Legend

Boundaries

City Limits

Military

Planning Boundary

Traffic Volume

<2,500

2,501-5,000

5,001-10,000

>10,000

Level of Congestion

Uncongested (A-C)

Congesting (D)

Congested (E)

Very Congested (F)

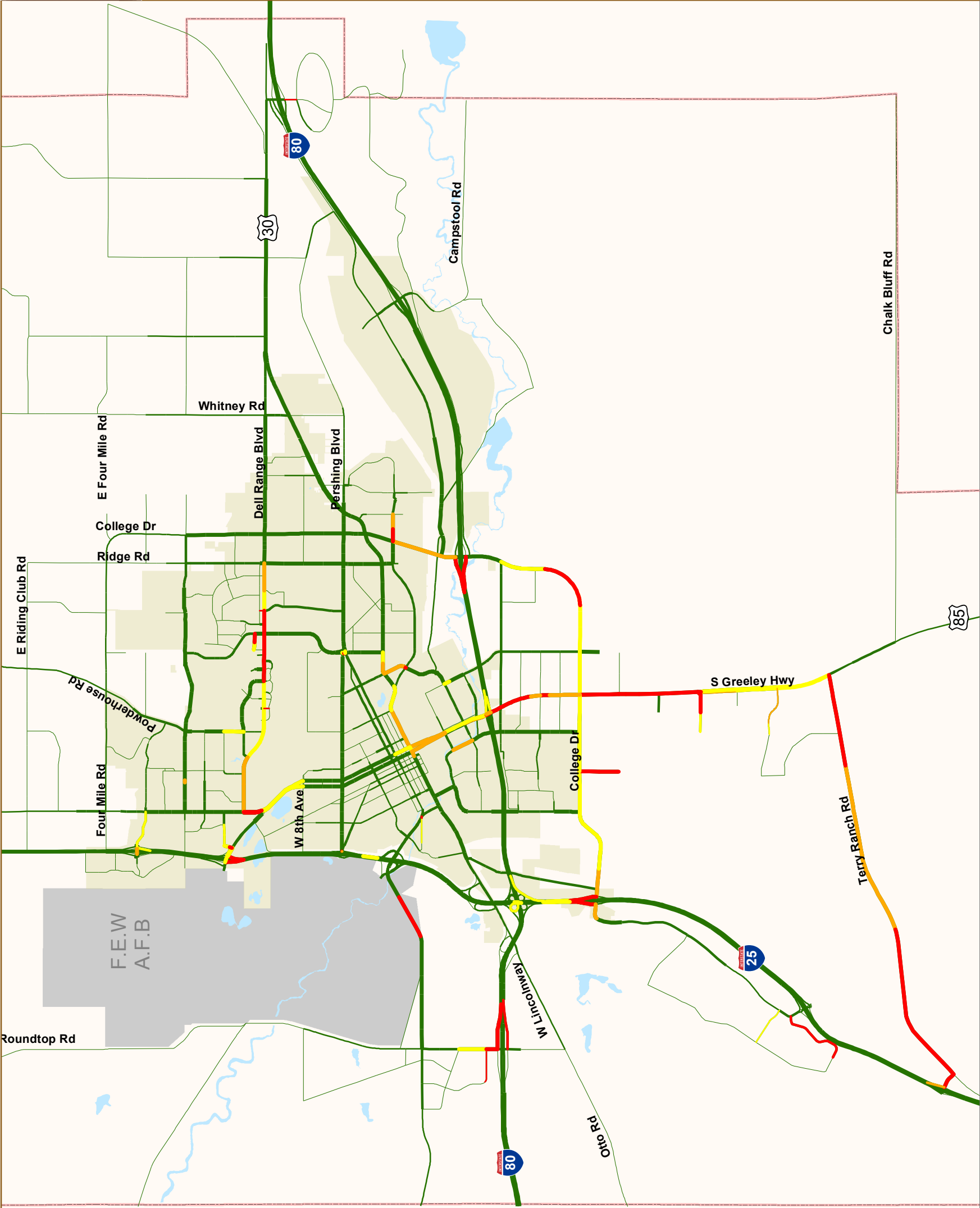
0

1/2

1

2 Mi.

N



December 2013

# TRAFFIC CONGESTION IN 2040 WITH EXISTING AND COMMITTED ROADWAYS

## Cheyenne Area Master Plan

## TRANSIT NEEDS

Transit service, whether fixed-route (i.e., bus service) or demand-responsive (i.e., Dial-a-Ride), is intricately linked to many other governmental and planning actions. Transit service reacts to the density of development within the city, locations of transportation corridors and activity centers, and the design of developments along the corridors and centers it serves. Travel corridors and activity centers with a mix of uses and a large number of travelers provide the demand that can effectively support higher levels of transit service.

Achieving a balanced, multimodal transportation system requires shifts in public investment given the historical emphasis on roadways and automobiles. To facilitate a higher level of transit service in the Cheyenne Area, the Future Land Use Plan is designed to support non-automobile travel. In turn, the design of the City's infrastructure and roadway system must consider all transportation modes, including transit.

In 2013, the *Cheyenne Transit Program: Five-Year Transit Development Plan* was completed. This section has been updated to reflect the needs identified in that plan.

### Transit System Reconfiguration

The current Cheyenne transit system of one-way loops works well when one wishes to travel in the same direction as the transit route, but can result in unnecessarily long travel times for those traveling in the reverse direction. These one-way loops can require a passenger to make a complete loop to reach a destination. Also, it could be necessary to transfer from one loop route to another to reach a destination not on the original route a passenger begins their trip on. This can result in up to a two hour travel time. Conversion to a conventional two-direction transit system would result in reduced travel times. However, migration to a system of two-way transit routes could result in operational costs as high as double current costs. The 2013 Transit Development Plan, currently underway, is evaluating the current six route loop system for efficiency and creating more direct routes. A reconfiguration of the system and inclusion of some form of two way routes are some of the likely forthcoming recommendations.

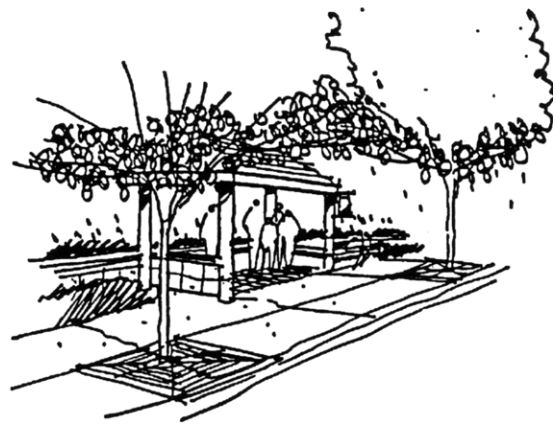
## Additional Transit Coverage

As the Cheyenne Area grows to the south, east and west, many new neighborhoods will be constructed and jobs will be created along mixed-use corridors with activity centers. As these areas are developed, transit service will need to be extended to reach new homes and jobs. Additional transit service should be focused on lower income areas.

The expanded service can be direct to attract new riders by focusing on major employment centers, nursing homes, high schools, colleges, educational institutions, shopping centers, and recreational areas and parks. Expanded transit service should provide transit serviced within  $\frac{1}{4}$  mile to 80 percent of the population in areas with the greatest transit need.

## Intermodal Connections

All transit trips start and end with a different mode. Passengers may drive to a Park-and-Ride facility before boarding a bus. At activity centers, defined in the Future Land Use Plan, and in high density areas such as downtown, destinations are often within a short walk of transit stops. With the proper connections and facilities, cyclists can park and ride transit or even utilize a bus-front bike rack. It is vital that adequate bicycle and pedestrian connections be provided between transit stops and activity areas. Park-and-Rides can further enhance the transit system by providing options to those who live further from a transit stop. For all modes, ensuring safe transit boarding locations is critical to ensuring transit is both appealing and safe.



## BICYCLE NEEDS

The bicycle is a healthy, convenient, and viable alternative to the automobile for many trips. It can also play an important role in helping the city to reduce congestion, retain the area's good air quality, improve the overall health of Cheyenne Area citizens, and develop a more balanced transportation system. Cheyenne has indicated the importance of bicycle travel with the adoption of bicycle-friendly street standards and the completion of the *On-Street Bicycle Plan and Greenway Plan* in 2012.

The *Cheyenne On-Street Bicycle Plan and Greenway 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 existing network. 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.

The Cheyenne area's existing ADA-accessible greenway system includes over 33 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.

In recent years, city, county and MPO staff have worked aggressively to expand the existing greenway system. 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 designated as part of the bikeway system. Existing designated bikeways are supported by bicycle parking and connections to transit.

The planning process for the *Cheyenne On-Street Bicycle Plan and Greenway Plan* included:

- A gap analysis to identify areas with uncomfortable bicycling conditions (see **Figure 10**).
- A Cycle Zone Analysis to consider 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 (see **Figure 11**).
- A crash analysis to understand areas of safety concern. Crashes are concentrated along several corridors including Dell Range Boulevard, Lincolnway, South Greeley Highway, Yellowstone Road, 19th Street, Ridge Road and Pershing Boulevard.

These analyses, as well as the plan goals, were used to determine the recommendations for on-street bicycle facilities and greenways. Projects include bike





lanes, buffered bike lanes, shared lane markings, bicycle boulevards, shoulder bikeways, and greenways.

Recommendations for citywide efforts that are non-location-specific were also developed as part of the plan. These recommendations would enhance the use of the network and improve conditions for bicycling throughout the City.

**Bicyclist Detection at Intersections:** Bicycle detection is possible at some of Cheyenne's traffic signals with proper calibration. 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.
- Use pavement markings to identify the most sensitive spots of in-pavement loop detectors.
- Ensure that all new signals provide a means of cyclist activation.
- Consider adjusting signal timing plans to provide minimum bicycle timing at appropriate intersections.

**Wayfinding Signs:** The City of Cheyenne should develop a signing program based on Manual on Uniform Traffic Control Devices (MUTCD). 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.



*Wayfinding Signage for Designated Bike Route*

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 as well as the signing recommended in the 2008 and 2010 Wayfinding Plans. 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 by implementing the following action items:

- Provide incentives for developers to encourage bicycle parking facilities beyond the 1 space minimum requirement for all new uses and changes of use.
- Provide guidance on the design and placement of bicycle parking facilities, including staple racks (or U-racks), lockers, bike rooms, and bike cages.
- Encourage partnerships between private business that may not have shower facilities and health clubs (e.g., Curves, Fitness One and Smart Sports).
- Establish a program that assists in locating, designing, and funding bicycle racks in the public right-of-way.



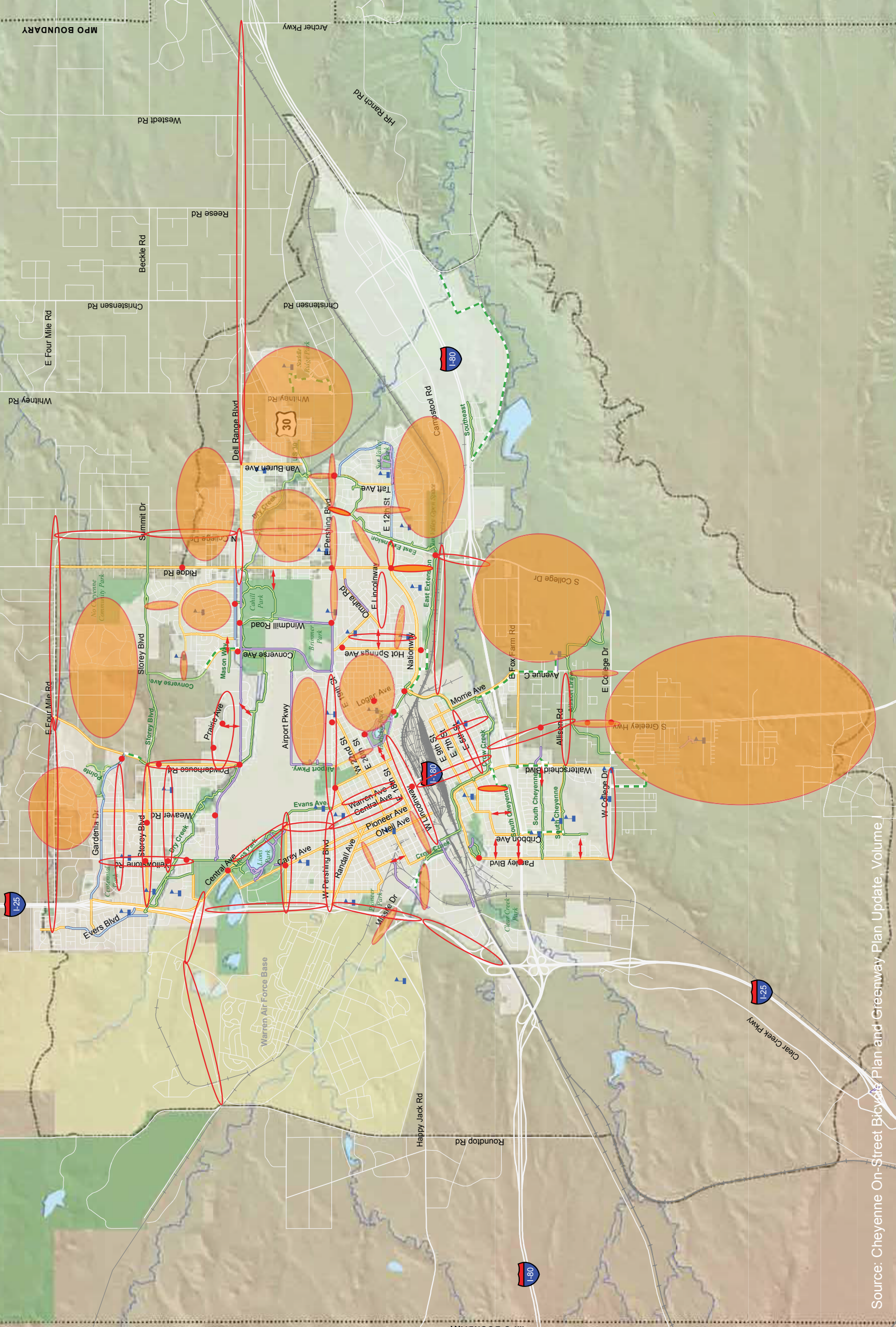
*Bicycle Parking*

**Bicycle Report Card:** An annual data collection program would provide information to help improve 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.

**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 downtown Cheyenne and future locations.
- 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.





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

# BICYCLE SYSTEM GAP ANALYSIS

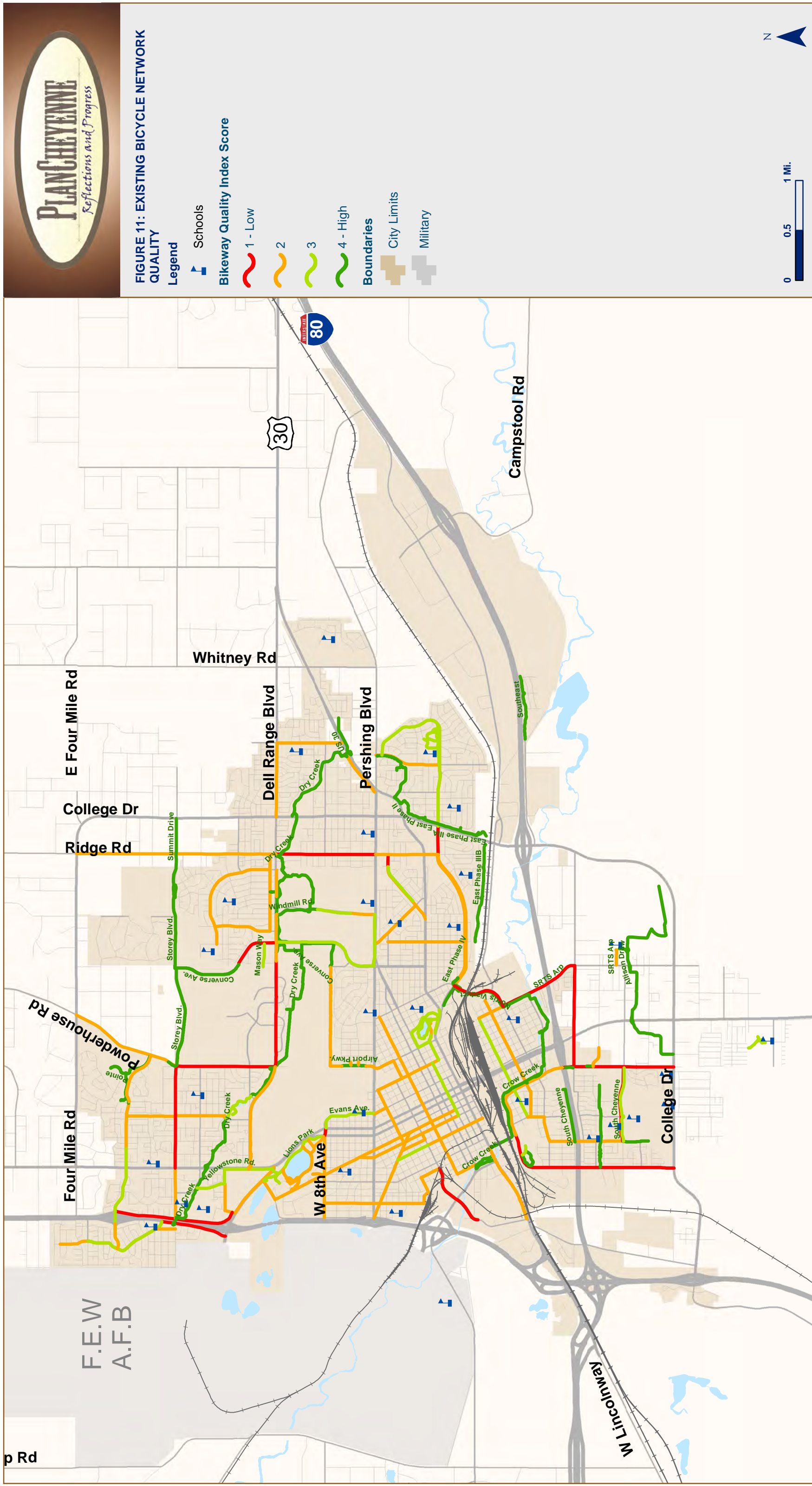
## Cheyenne Area Master Plan



FIGURE 10: BICYCLE SYSTEM GAP ANALYSIS

- Schools
- Funded Greenway
- Existing Greenway
- Existing Shared Use Trail
- Existing Bike Lane
- Existing Shared Roadway
- Urban Development Boundary
- Park
- MPO Boundary
- City of Cheyenne





# EXISTING BICYCLE NETWORK QUALITY (2011)

CLARION - FEHR &amp; PEERS - EPS - AVI - URBAN INTERACTIVE



## PEDESTRIAN NEEDS

Walking is an essential part of daily activities, whether it is trips to work, shop, school, or play. Often pedestrian facilities are overlooked or merely added onto street improvement projects. To preserve and enhance the quality of life in the urbanized areas of Cheyenne, consistent maintenance of the existing pedestrian system and additional facilities are needed.

Cheyenne's street standards require detached sidewalks on all new roadways. However, development of a continuous, efficient pedestrian system in Cheyenne is dependent on many factors, most notably:

- the location of existing and planned activity areas,
- programs to retrofit established areas with pedestrian-oriented activities,
- design standards and requirements for new development,
- desired pedestrian levels of service,
- funding for pedestrian improvements, and
- Americans with Disabilities Act (ADA) requirements.

In 2010, the Cheyenne MPO completed a Pedestrian Plan and a Safe Routes to School Plan. The Pedestrian Plan separates the Cheyenne Area into eight geographic areas for evaluation. The plan considered land use context as well as physical infrastructure. One of the most vibrant pedestrian areas in Cheyenne is downtown. This area includes many pedestrian-oriented destinations such as Cheyenne Depot Square, the State Capitol complex, the downtown Historic District, and numerous commercial establishments. Generally, as distance from the downtown area increases, so do lot sizes, roadway widths, and posted roadway speeds; pedestrian activity decreases. According to the sidewalk inventory conducted during the project, there are currently about 460 linear miles of sidewalk within Cheyenne.

Pedestrians in Cheyenne experience a variety of conditions as they travel through the city. For example, pedestrians in the downtown will have a comfortable experience as they walk along wide sidewalks lined with pedestrian amenities including pedestrian scale lighting. They may cross the street at intersections marked by brick paver crosswalks and pedestrian countdown signals. They may choose to connect to other areas within the city via the existing Greenway system.

## ACTIVITY CENTERS

Activity Centers are one of the key concepts for guiding future development in the Cheyenne Area. Activity Centers are areas with a significant and purposeful mix and intensity of land uses, as well as attention to pedestrian facilities and amenities. Activity Centers and other mixed-use areas facilitate walking as a mode of transportation by reducing the distance between destinations. Providing a variety of land uses within close proximity (via Activity Centers) will give Cheyenne residents more options to live, work, shop and play in one neighborhood, while reducing their reliance on automobiles.

Although most planning efforts over the past several decades have been predominantly automobile-orientated in nature (both in the United States in general and Cheyenne in particular), transportation and development patterns have recently started shifting to favor more pedestrian-friendly design. Individuals and communities are beginning to better understand the value of walkable places. Walkability is strongly associated with higher housing values in nearly all metropolitan areas, suggesting that consumers and housing markets attach a positive value to living within walking distance of shopping, services, parks, schools, and other community destinations.

Housing and transportation make up nearly 60 percent of the average family's budget. If a family can reduce their transportation costs by living closer to their place(s) of employment, a larger pool of housing options becomes affordable (visit <http://htaindex.cnt.org/> for more information about financial tradeoffs between housing and transportation). Also see the Shape section of the Community Plan for more information on mixed use development and Activity Centers.



In contrast, on the east side of the city, in the industrial/ commercial area along Campstool Road, pedestrians walk adjacent to higher speed motor vehicle traffic on wide, paved roadway shoulders. They generally have few protected crossing opportunities and will frequently travel through areas that are poorly lit during evening and nighttime hours. Though this area does not have the same amount of pedestrian traffic, these conditions do affect the number of pedestrians that will venture out along these roadways. **Figure 12 shows the Pedestrian Quality Index developed during the Pedestrian Plan.**

The quality of intersections, from a pedestrian perspective, varies widely by location. The following sections first list pedestrian related intersection infrastructure in Cheyenne and then provide a more detailed discussion of conditions throughout the study area.

Cheyenne began construction of the Greater Cheyenne Greenway (Greenway) system in the early 1990s. These off-street pathways provide numerous opportunities for pedestrians to travel along routes separated from motor vehicle traffic. This system takes advantage of drainage corridors that capture and channel stormwater runoff through a series of above ground channels throughout the City. The Greenway system generally consists of narrower pathways found in parks (e.g., Lions Park and Holliday Park) and wider corridors following drainage features (e.g., the Dry Creek Parkway) or roadways (e.g., Converse Avenue). Cheyenne continues to construct and add to its existing Greenway system. Recent construction includes the greenway connecting 12th Street and East Pershing Boulevard on the east side of town. Sidewalks built or reconstructed recently meet the five foot minimum width required by ADA.

In addition to walkways, Cheyenne's pedestrian environment includes a number of supportive infrastructure elements found throughout the City including benches, walkway lighting, trash receptacles and public restrooms. The environment is enhanced by amenities including street art and landscaping.

The Pedestrian Plan highlighted strengths and weaknesses of the existing pedestrian system. Strengths included:

- Pedestrian friendly land uses in central, west central, and downtown Cheyenne
- Extensive parks and open space
- Pedestrian friendly neighborhood streets

- The Greenway
- Grade-separated trail crossings
- Pedestrian crossing treatments such as high-visibility crosswalks, flashing warning signs, and pedestrian refuge islands
- Warning signage at trail/roadway crossings
- Relatively flat topography that facilitates walking

System weaknesses included:

- Barriers created by major roadways
- Lack of wayfinding tools
- Discontinuous shared use path/greenway system
- Conditions at some transit stops such as lack of crossing facilities, lack of covered waiting area, lack of concrete pad, and noncompliance with ADA standards
- Maintenance issues such as crosswalk paint, snow and ice accumulation, and flooding
- Damaged/deteriorated walkways
- Driver behavior
- Demonstrated demand for more pedestrian facilities (e.g. demand path, social trails)
- Uncomfortable walking environments along high volume roadways
- Fragmented sidewalk network in some areas
- Older neighborhoods have narrow attached sidewalks with intersections and driveway crossings that are non-ADA compliant
- Difficult crossing conditions for mobility impaired pedestrians
- Particularly difficult crossings such as Pershing Boulevard and Windmill Road, Dell Range Boulevard and Converse Avenue, Dell Range Boulevard and Windmill Road, East Pershing Boulevard and US 30, West Lincolnway and Ames Avenue, and South Greeley Highway and Fox Farm Road, etc.



*Demand Path along a Roadway**Landscaped and lit sidewalk in Cheyenne*

## Pedestrian Districts and Areas

Although these pedestrian design considerations can be applied throughout the Cheyenne Area, the need will vary by the type of activity area. As an example, a high pedestrian performance level will be of greater importance in the downtown than in outlying, lower density subdivisions with light vehicular and pedestrian traffic. Different types of development and the associated pedestrian needs are described below.

**Existing and future activity centers and mixed-use developments are defined in the Future Land Use Plan are shown in Figure 8.**

## Pedestrian Districts

Pedestrian districts are sections of the City where pedestrian presence is emphasized. The primary area within Cheyenne that qualifies as a pedestrian district is downtown. Residents consider downtown a place to go, walk around, shop, eat, study, or conduct business. These areas emphasize the pedestrian, rather than the car, in their infrastructure, urban design, scale and traffic speeds. Pedestrian standards should be high in downtown. This should include direct, continuous sidewalks where it is safe to cross the street, high visibility cross walks and pedestrian signals at intersections, and high levels of visual interest and amenities to attract residents and visitors. Future pedestrian districts will include the regional activity

centers and mixed-use developments specified in the *Community Plan*.

## Mixed-Use Commercial Activity Centers

These areas tend to be located along arterials and aggregated at various locations along the corridor, particularly where principal arterials intersect. The Future Land Use Plan identifies locations for mixed-use development which can combine commercial businesses with residential uses. In the past, commercial centers have been more of the strip commercial and “L” shaped neighborhood shopping center style developments, which provide relatively poor pedestrian environments. Future goals include improving the directness and safety of the pedestrian network to, from, and within these locations. As these shopping centers are often located in lower density areas, strong pedestrian connections to transit stops, such as high-visibility crossings, public plazas, and pedestrian-scale design are also important. These areas should contain a mix of land uses, beyond simply commercial activity, that provide a number of attractive as pedestrian destinations.

## Schools – Safe Routes

The Cheyenne MPO completed a Safe Routes to School plan in 2012. The number of students participating in active transportation (walking and biking) has decreased steadily in the US, Wyoming and Cheyenne since the late 1960s. Nationally, the percentage of students who walked or biked to school decreased from 41 percent in 1969 to 13 percent in 2001; Cheyenne has experienced similar trends, though the city reported a walk to school rate of about 16 percent and a bike to school rate of about 4 percent during a spring 2009 survey. As the number of students walking and biking to school decreases, the number of students suffering from diseases linked with reduced physical activity, such as obesity, type 2 diabetes and asthma, has increased. While these findings do not indicate a direct correlation between decreased walking and cycling to school and deteriorating health, it is realistic to assume that regular non-motorized travel to and from school can contribute significantly to a child’s health.

Infrastructure barriers are the primary reason why students do not walk to school. General physical barriers include the following:

- Missing or substandard walkways (sidewalks and paths)
- Lack of Safe Bike Routes to School
- Unsafe Street Crossings and Intersections
- A Major Roadway or Expressway Divides the School from Residential Areas
- Lack of Accessibility
- Distance to School is Too Far
- Bike Parking at School is Missing, Insufficient or Non-Secure
- Dangerous Driving and Speeding on Streets
- Drop-off and Pick-up Process Creates Congestion and Unsafe Behaviors

While the built environment is often the primary reason why students do not walk or bike to school, many programmatic characteristics act as obstacles for active transportation. For example, a school may have a complete sidewalk network with thorough pedestrian safety engineering efforts, but if an important education, enforcement, encouragement, or policy component is missing, the numbers of students walking or biking will be lower than if a comprehensive effort to encourage active transportation was enacted. The following programmatic areas to address:

- Parental perceptions and fears about walking and biking
- Lack of enforcement of traffic violations in the school zone
- Time limitations of school administration, teachers, and parents to teach and encourage walking/ biking to school
- Lack of in-school programs that encourage walking and biking
- Lack of City and District policies that are supportive of pedestrian and bicycle safety
- Lack of district programs that manage student arrival/dismissal in order to promote safe and orderly walking and biking to/ from school
- Lack of district programs that educate and encourage walking and bicycling

The *Safe Routes to School Plan* documents specific solutions for all of the schools evaluated. The plan can be used to apply for Transportation Alternatives funding to begin to enhance the multimodal connections to schools.

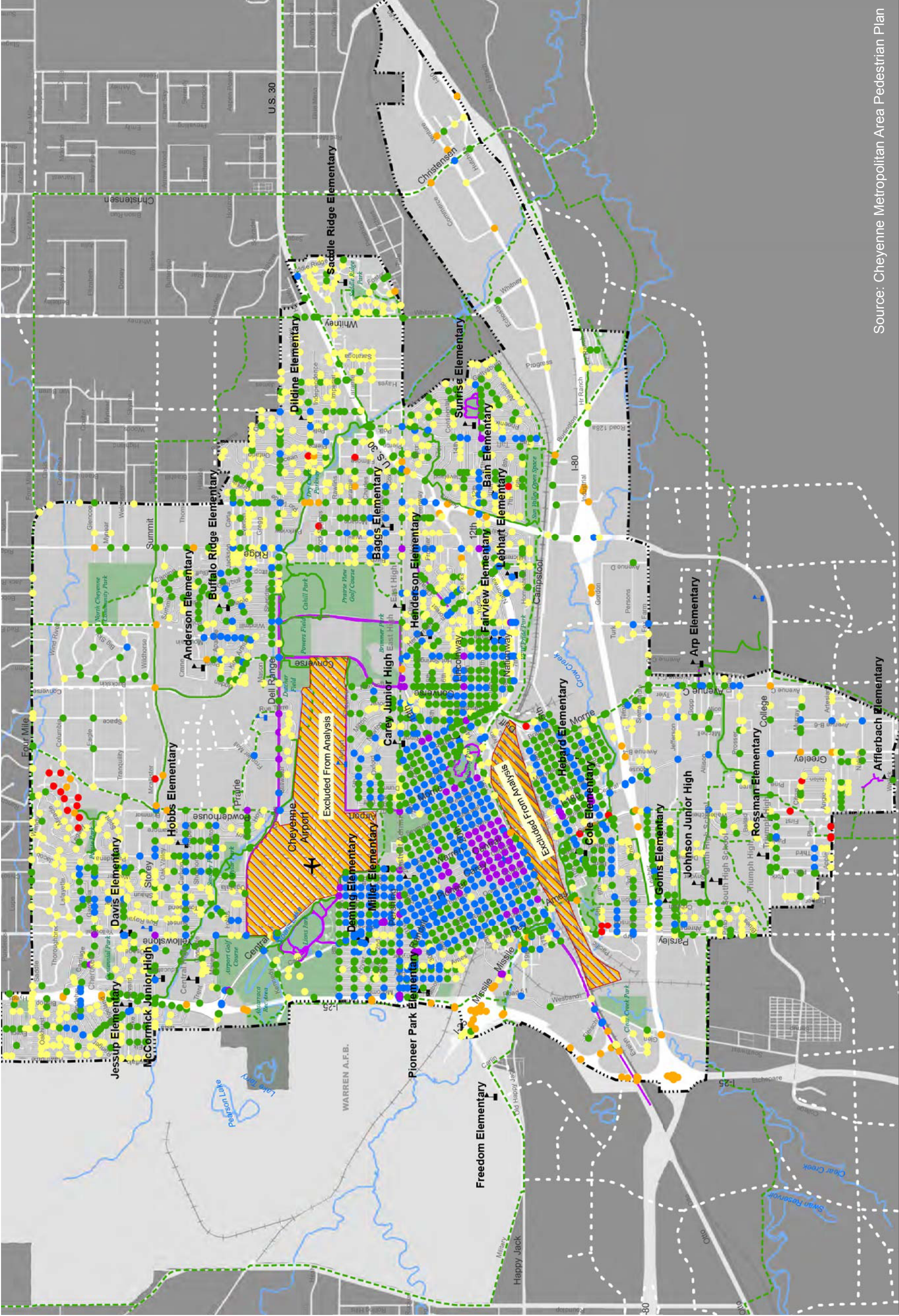
## Transit Corridors

Both ends of all transit trips are typically pedestrian trips. The most critical elements for pedestrians in transit corridors are direct and safe connections to transit stops and origins/ destinations as well as safe, paved, ADA-accessible, lighted, and possibly sheltered bus stops. The placement, access to, and quality of the bus stop is important in encouraging riders, making riders feel safe, and demonstrating that riders are a valued customer and road user.









Source: Cheyenne Metropolitan Area Pedestrian Plan

# PEDESTRIAN INTERSECTION QUALITY INDEX

## Cheyenne Area Master Plan

July 2013



## COMPLETE STREETS NEEDS

In 2012, The Cheyenne MPO was selected for a Sustainable Community Building Blocks technical assistance focused on developing improvements for internal processes to facilitate the implementation of complete streets improvements. A Complete Streets Workshop was held on May 30, 2012 focusing on preliminary activities that the City can undertake to improve complete streets implementation activities.

The participants in the 2012 Complete Streets Workshop created the following draft vision statement as a starting point for continuing dialogue:

*Provide for efficient, comfortable, safe, and equitable movement and access along all public ways through a variety of modes of transportation, including automobiles, bicycles, pedestrians, and potentially transit. Develop and maintain balanced and flexible street designs (“complete streets”) for regional and local routes in a context sensitive and affordable manner through partnerships across all agencies and stakeholders that accommodate all potential users of the street and rights-of-way, so that the interests of a single mode of transportation do not unnecessarily compromise other modes of transportation.*

Workshop attendees considered elements that could be improved within their current planning and implementation processes. The concept of a layered network with mode-specific quality of service criteria for different place types was well received by the attendees. This concept reflects the UDC land use context and was viewed by many attendees as a way to “zone the right-of-way”. The outcome would be to both identify street types that match planned uses (i.e., for residential neighborhoods, local commercial centers, and commuter boulevards) and provide performance measurement guidance to public and private sector implementers alike to tailor street designs to both the local land use context and the desired quality of service for each mode.



*2012 Complete Streets Workshop*

## TRUCK AND FREIGHT NEEDS

The trucking industry is an important component in Cheyenne's economy and all future investments in the transportation infrastructure should give due consideration to accommodate trucks by providing designated truck routes. **Figure 6 shows Cheyenne's existing truck route map.** As shown on the map, I-80, I-25, College Road, E Four Mile, Yellowstone Road and Greeley Highway are designated to serve as "Main System". The Main System will carry bulk of the truck traffic that enters or wants to pass through Cheyenne. I-80, which runs through the southern portion of Cheyenne, is a principal freight corridor between west coast ports and the Midwestern US, used by Wal-Mart, Lowes and Sierra Trading Post distribution centers, Holly Frontier Refinery and Cheyenne LEADS Business Parks and others. Access to Cheyenne is provided through the "Secondary System" which includes routes such as Clear Creek Parkway, Lincolnway (East of Central Avenue and West of Missile Drive), Nationway, Missile Drive, etc. Central Avenue, Warren Avenue, and Lincolnway have been designated as "Local Deliveries" to provide direct access to residences and businesses.

Recent development options and growth in the deep layered oil industry is spurring rail based industrial use. The economic benefits of and transportation access to facilities such as the Cheyenne Logistics Hub at Swan Ranch will be critical and influential to this update.

Discussions with Mike Hutton, WTA Local Liaison, and Sheila Foertsch, MD, WTA, have provided valuable insight into their needs and concerns. Concerns expressed by the trucking industry include:

1. **Roundabout design:** The Wyoming Trucking Association has received feedback from its members about difficulties experienced by trucks in negotiating roundabouts like the one located at the I-25 and Vandehei Street. The Northwest Cheyenne Plan called for the discouragement of trucks from using this interchange and the local streets affected by it.
2. **Truck parking:** Lack of adequate parking facilities along major truck routes, especially during roadway closures due to bad weather. Lack of a weather parking plan Closure along I-80 forces trucks to park on surface streets. During weather related closures, both sides of I-80 are closed west of I-25 and hence tend to impact only the westbound truck traffic in Cheyenne. This forces

trucks to park on I-80 resulting in undesirable consequences like truck idling, excessive braking and overall inconvenience to residents and businesses. To alleviate this recurring problem, the freight industry supports construction/designation of a truck parking lot adjacent to I-80 & east of Cheyenne along with early warning notifications.

3. **Roadway Design:** Future roadway designs should account for access to residential areas due to the increased use of the internet for personal shopping, requiring delivery of goods to residences. The intersection of Dell Range Boulevard and Converse Road was identified as a problem area due to inadequate turning radii. Eastbound to Northbound from Central to Yellowstone is a sharp turn. That is one major reason why trucks prefer Vandehei today. Central at Yellowstone is a key intersection along a "secondary system" and should be designed to facilitate truck movement. If this intersection is fixed, the incentive to use Vandehei will diminish significantly. Currently, the Truck Route Map designates only three streets as "Local Deliveries". The rapid growth in online retailing has increased the demand for trucks to access residences in addition to businesses. Therefore, the Truck Route Map should consider more local streets for designation as "Local Deliveries" to cater to the demands resulting from online retailing.

### Rail Freight

Rapid growth in the regional oil industry is likely to result in increased rail freight activity and potentially have safety implications especially at at-grade rail crossings. The American Association of State Highway and Transportation Officials' (AASHTO) "A Policy on Geometric Design of Highways and Streets", commonly known as the "Green Book", lays strong emphasis on elimination of at-grade rail crossings along high volumes streets, thus justifying grade separation along roadways.

*The Railroad-Highway Grade Crossing Handbook – Revised 2nd Edition* published by the Federal Highway Administration (FHWA) provides guidance to planners and engineers to select the most appropriate traffic control devices at highway-rail grade crossings. The FHWA guidelines for selection of active traffic control devices have been reproduced below:



**Table 2: Guidelines for Active Devices**

Class of track	Maximum allowable operating speed for freight trains—minimum active devices		Maximum allowable operating speed for passenger trains—minimum active devices	
Excepted track	10 mph	Flashers	N/A	N/A
Class 1 track	10 mph	Flashers	15 mph	Gates*
Class 2 track	25 mph	Flashers	30 mph	Gates*
Class 3 track	40 mph	Gates	60 mph**	Gates**
Class 4 track	60 mph	Gates	80 mph	Gates
Class 5 track	80 mph	Gates plus supplemental safety devices	90 mph	Gates plus supplemental safety devices
Class 6 track	110 mph with conditions	Gates plus supplemental safety devices	110 mph	Gates plus supplemental safety devices
Class 7 track	125 mph with conditions	Full barrier protection	125 mph	Full barrier protection
Class 8 track	160 mph with conditions	Grade separation	160 mph	Grade separation
Class 9 track	200 mph with conditions	Grade separation	200 mph	Grade separation

\* Refer to the 2003 edition of MUTCD, Part 10, transit and light-rail trains in medians of city streets.

\*\* Except 35 mph (56 km/hr.) for transit and light-rail trains.

Economics plays a primary role in the decision to grade separate a highway-rail crossing because investments in grade separation structures are long-term investments which impact many users. FHWA recommends basing such important decisions on long term, fully allocated life cycle costs likely to be incurred by the highway and railroad users, rather than on initial construction costs. The components that should be considered in such an analysis include:

- Eliminating train/vehicle collisions including the resultant property damage, medical costs, and liability.
- Savings in highway-rail grade crossing surface and crossing signal installation and maintenance costs.
- Driver delay cost savings associated with time saved.
- Costs associated with providing increased highway storage capacity to accommodate queues as a result of a train crossing a roadway.
- Fuel and pollution mitigation cost savings due to idling by queued vehicles.
- Effects of upstream propagation of queuing resulting in congestion on rest of the roadways.
- The benefits of improved emergency access.

- The potential for closing one or more additional adjacent crossings.
- Possible train derailment costs.

The US Department of Transportation (U.S. DOT) established a Technical Working Group (TWG) consisting of representatives from the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and National Highway Traffic Safety Administration (NHTS). The TWG developed a document intended to provide guidance to engineers in making decisions on the selection of traffic control devices. The TWG recommends evaluating a Highway-rail grade crossing based on one or more of the following conditions to determine the need for grade separation:

- The highway is a part of the designated National Highway System.
- The highway is otherwise designed to have partial controlled access.
- The posted highway speed exceeds 55 mph.
- Average Annual Daily Traffic exceeds 50,000 in urban areas or 25,000 in rural areas.
- Maximum authorized train speed exceeds 100 mph.

- An average of 75 or more passenger or freight trains per day or 150 million gross tons per year.
- An average of 50 or more passenger trains per day in urban areas or 12 or more passenger trains per day in rural areas.
- Crossing exposure (the product of the number of trains per day and AADT) exceeds 500,000 in urban areas or 125,000 in rural areas.
- Passenger train crossing exposure (the product of the number of passenger trains per day and ADT) exceeds 400,000 in urban areas or 100,000 in rural areas.
- The expected accident frequency for active devices with gates, as calculated by the U.S.

DOT Accident Prediction Formula including five-year accident history, exceeds 0.2.

- Vehicle delay exceeds 30 vehicle hours per day.
- An engineering study indicates that the absence of a grade separation structure would result in the highway facility performing at a level of service below its intended minimum design level 10 percent or more of the time.

The handbook also provides cost estimates associated with countermeasures used to enhance safety and traffic operations. The summary of countermeasures and their effectiveness and cost is presented in Table 3.

**Table 3: Countermeasure Type, Effectiveness, and Cost**

Countermeasure	Effectiveness	Cost
<b>STOP signs at passive crossings</b>	Unknown	\$1,200 to \$2,000
<b>Intersection lighting</b>	52-percent reduction in nighttime collisions over no lighting	Unknown
<b>Flashing lights</b>	64-percent reduction in collisions over crossbucks alone 84-percent reduction in injuries over crossbucks 83-percent reduction in deaths over crossbucks	\$20,000 to \$30,000 in 1988
<b>Lights and gates (two) with flashing lights</b>	88-percent reduction in collisions over crossbucks alone 93-percent reduction in injuries over crossbucks 100-percent reduction in deaths over crossbucks 44-percent reduction in collisions over flashing lights alone	\$150,000
<b>Median barriers</b>	80-percent reduction in violations over two-gate system	\$10,000
<b>Long arm gates (three-quarters of roadway covered)</b>	67 to 84-percent reduction in violations over two-gate system	Unknown
<b>Four-quadrant gate system</b>	82-percent reduction in violations over two-gate system	\$125,000 from standard gates to \$250,000 from passive crossing
<b>Four-quadrant gate system with median barriers</b>	92-percent reduction in violations over two-gate system	\$135,000
<b>Crossing closure</b>	100-percent reduction in violations, collisions, injuries, deaths	\$15,000
<b>Photo/video enforcement</b>	34 to 94-percent reduction in violations	\$40,000 to \$70,000 per installation
<b>In-vehicle crossing safety advisory warning systems</b>	Unknown	\$5,000 to \$10,000 per crossing plus \$50 to \$250 for a receive

Source: Railroad-Highway Grade Crossing Handbook, Revised Second Edition August 2007, US DOT FHWA

Historical daily traffic count data obtained from WYODT indicates that the 85th-Percentile and 50th-

Percentile volumes on Cheyenne's roadways (excluding freeways) are 12,700 vehicles per day (vpd)

and 4,400 vpd, respectively. These volumes may not warrant a grade separation at this time at Cheyenne's existing rail crossings; however, engineering studies should be conducted at regular intervals based on the TWG recommendations to identify the need for grade separation in the future. Additionally, it is assumed that any new crossings of the UPRR tracks will be grade separated.

In the absence of grade separations at rail crossings, other measures including sounding the train horn become important tools to enhance safety. However, train horns may have an adverse impact on the residents' quality of life. The Federal Railroad Administration has addressed this concern in 49 CFR Parts 222 and 229 entitled "Use of Locomotive Horns at Highway-Rail Grade Crossings; Final Rule". The rule sets conditions requiring sounding a horn while approaching a grade crossing. The Final Rule also provides the following exceptions which could be used to mitigate the impact of train horns:

1. If the train's speed is 15 mph or less.
2. At locations which have supplementary safety measures (SSMs).
3. At locations that have a quiet zone risk index at or below the Nationwide Significant Risk Threshold or the Risk Index with Horns.

A comprehensive review of the "Final Rule" is strongly recommended prior to implementing any local rules related to train horns and quiet zones.

Several quiet zone projects have been identified in the Cheyenne-area to minimize disturbance to local residences. Quiet zone projects that have been slated for 2014 include: 1) 24th Street and BNSF Quiet Zone Project; and 2) Southwest Drive at Union Pacific by US 30.

### **Funding Sources for Grade Separation**

Funding required to eliminate at-grade crossings can be obtained from various sources including State Legislature, Federal highway programs, railroad companies and even third party private entities like land developers. Wyoming Legislative Statute 370-10-103(b) mandates railroad companies to construct grade separated crossings at all new rail crossings at public roads or State Highways. Federal-Aid highway funds have also been made available for eligible projects including those involving elimination of at-grade crossings. Title 23, United States Code (23 U.S.C) provides the statutes establishing the Federal-Aid Highway program.



## SAFETY NEEDS

In 2008, the Cheyenne Metropolitan Planning Organization (MPO) took a leadership role as one of the first MPOs in the country to develop a Transportation Safety Management Plan (TSMP). The TSMP has been used to add safety elements throughout the *Transportation Plan*. The Safety Needs section is a new section in the 2013 update to the *Transportation Plan* reflecting the information created in the 2008 TSMP.

To develop the TSMP, the Cheyenne MPO convened a Transportation Safety Advisory Committee (TSAC) comprised of individuals with knowledge and involvement in the 4E's evaluation of safety: enforcement, education, engineering, and emergency medical services. To guide the TSMP, the Committee developed a mission and goal. The mission of Cheyenne's TSMP is to eliminate preventable traffic-related deaths and injuries, and the goal is to reduce fatal and injury crashes by 10 percent by 2020.

Transportation safety is a critical public health issue in Cheyenne. Over the past 20 years, 108 people died and 11,720 were injured on Cheyenne roadways. The impact to family and friends of losing a loved one is indescribable, and the impact to society is costly. For those injured in car crashes, the recovery can be long and painful, and individuals may never completely regain their former physical condition. The suffering and economic loss caused by traffic crashes is not inevitable.

Crashes are not "accidents." In fact, most crashes are preventable. Improvement of transportation safety is most effectively addressed through both driver behavior and good roadway design. Providing alternative forms of transportation, including transit and bicycle and pedestrian facilities, also can promote safe mobility, especially for older and younger populations.

Cheyenne has access to excellent safety data, which helped the TSMP to identify transportation safety trends in the region and pinpoint the populations, infrastructure, and driver behaviors with the greatest need for safety improvement.



*Crashed Vehicle*

The TSMP identified the region's most serious transportation safety problems and the effective strategies to address them. Using regional crash data, the plan identified the specific transportation safety problems that posed the greatest threat and those with the greatest opportunity for improvement in greater Cheyenne. The following six emphasis areas were identified in the plan:-

1. Impaired Driving;
2. Distracted Drivers;
3. Intersections and other Hazardous Locations;
4. Occupant Protection;
5. Older Drivers; and
6. Younger Drivers.

Since the 2008 TSMP was completed, the Cheyenne MPO has continued its commitment to safety in the Cheyenne Area. This commitment has been rewarded. In 2008, the Cheyenne MPO was honored with a National Award for Innovative Practice in Metropolitan Transportation Planning by the Association of Metropolitan Planning Organizations (AMPO) for its Transportation Safety Management Plan. In 2010, the MPO was honored with a Transportation Planning Excellence Award for its Transportation Safety Planning and Implementation initiatives.

In 2009 the MPO conducted an engineering study of Cheyenne intersections with the largest numbers of crashes to determine potential improvements that can be made to improve safety.

During May 2010 Cheyenne high schools held a "Battle of the Belts" competition to increase safety belt use among students. As a results, all three high schools increased safety belt use, with Central showing the largest improvement with a 15 percent increase. The Battle of the Belts event was kicked off with Alive at 25

assemblies on safe driving practices and the importance of wearing a safety belt for all students at Cheyenne high schools.

Laws have also been changed since implementing the TSMP. In 2009, Cheyenne developed code related to cell phone use while driving. In 2010, the state of Wyoming prohibited texting while driving.

In 2011, Cheyenne put on a Distracted Driving Campaign that included high quality materials including rate your risk questionnaires, employer information, actions to reduce distracted driving, and pledge forms to drive focused.

In 2012, Cheyenne held the first CarFit event, allowing senior to improve the “fit” of their vehicles, and providing older adults and their families with resources to promote safer driving and more mobility options.

## TRANSPORTATION VISION

A Transportation Vision describes a desired future for the transportation system. The transportation system is comprised of the roadway network and a range of different types of transportation facilities such as bicycle, pedestrian, and transit facilities. This section discusses a vision for the transportation system as a whole. Specific visions for transportation system components (e.g.: roadway, transit, bicycle, pedestrian, etc.) will follow.

According to the Institute of Traffic Engineers (ITE) Recommended Practice for Planning Urban Roadway Systems, an effective roadway system should:

- Consist of a multimodal network that serves pedestrian, bicyclists, transit, the automobile, and trucks.
- Be planned as layered networks serving all modes of passenger travel, plus a freight/goods movement network
- Have a high degree of connectivity to help provide multiple routing options for all users
- Have a network density appropriate to the land use patterns and urban form that are served.
- Be planned with recognition of the role of roadways as public spaces that help shape urban environments.
- Be planned with consideration of environmental, social, and economic issues.

Additionally, the Congress for the New Urbanism (CNU) Project for Transportation Reform Sustainable Street Network Principles includes the following recommendations:

- Create a street network that supports communities and places.
- Create a street network that attracts and sustains economic activity.
- Maximize transportation choice.
- Integrate the street network with natural systems at all scales.
- Respect the existing natural and built environment.
- Emphasize walking as the fundamental unit of the street network.
- Create harmony with other transportation networks.

Additional key characteristics of a sustainable street network are:

- A web of streets and travel modes that maximize connectivity.
- Desirable places where multiple networks overlap.
- Inherently complex.
- Major streets designed and spaced properly.
- All streets are safe and walkable.
- Wide variety of street types, each with a role in the network.

Based on these principles, the transportation vision envisions roadways that are planned and designed in consideration of the entire system and that incremental improvements will contribute to a complete roadway network that provides safe and efficient circulation for all users.

The Transportation Vision is an unconstrained plan addressing roadway, bicycle, transit, and pedestrian needs identified in the previous section. It is a fiscally unconstrained plan, meaning that the Cheyenne Area does not currently have the resources to build all improvements outlined in the Transportation Vision Plan. However, strategies to fund and build these improvements are provided in the Build section of the *Transportation Plan*.



## ROADWAY VISION

At the core of Cheyenne's transportation system are roadways. Roadways are the streets and highways that allow automobiles and trucks to travel within, to, and thought out the Cheyenne Area. Roadways also serve as transit routes, and may be delineated with bike lanes or routes. Pedestrians walk on sidewalks that are constructed in roadway rights-of-way.

The Roadway Vision is based on travel forecasts based on updated 2040 population and employment forecasts.

The resulting 2040 Roadway Vision includes 75 roadway projects identified to either accommodate increased traffic or provide access to future development. This emphasizes the need to make the most efficient use of the roadway system as the Cheyenne Area continues to grow.

Proposed roadway improvements in the 2040 Roadway Vision Plan are listed in the following Table and are shown graphically in **Figure 14**. Based on a 2040 model run that represents completion of the roadway projects selected for the 2040 Roadway Vision, traffic congestion was estimated and is presented in **Figure 15**. By comparing **Figure 15** with **Figure 9, Congestion in 2040 with Existing and Committed Roadways**, one can see that the included improvements provide relief on the most congested corridors. However, some corridors will continue to be congested even if the 2040 Roadway Vision is implemented. Improvements to these corridors are not recommended due to right-of-way limitations and to minimize impacts to existing neighborhoods.

### Additional Collector and Arterial Streets

The roadway systems specified in the 2040 Roadway Vision Plans include collector and arterial streets internal to developments only where rough plans have already been created. In other areas where new development will occur, internal street alignments must be identified as part of the development review process. Internal streets should be spaced according to standards. Traffic studies performed for each individual development must demonstrate sufficient internal circulation and connectivity to the arterial network defined in the roadway vision plans. These submittals will determine the sizing, alignment, and facility type of collectors and arterials internal to each approved development.

## Conclusion

If the 2040 Roadway Vision Plan can be built, congestion in the Cheyenne Area will be kept to a minimum. By preserving right-of-way for additional roadway construction and widening designated in the Buildout Roadway Vision Plan, the Cheyenne Area can assure the transportation system will keep pace with growth well into the future. Strategies for implementing the roadway vision plans are provided in the Build chapter of this report.

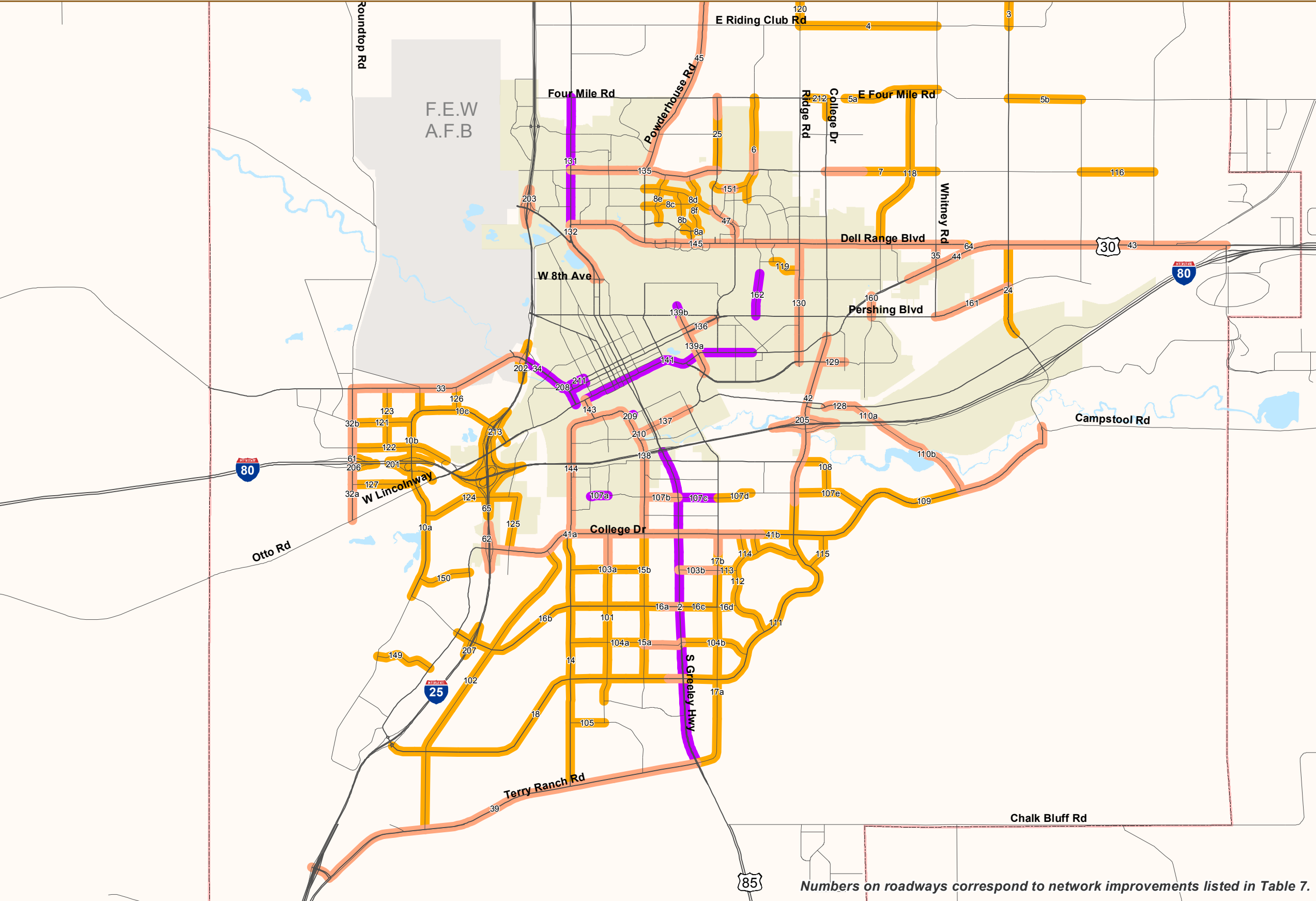
### DEVELOPMENT OF THE 2040 VISION PLAN

This process began by conducting a 2040 travel forecast assuming the existing roadway network plus committed roadway improvements as described in the Needs Assessment section. Next, proposed roadways from existing subarea plans were added to the analysis. Various additional improvements were considered, resulting in a 2040 Roadway Vision Plan that builds on the already established subarea plans.



FIGURE 14: 2040 ROADWAY VISION

- Legend**
- Projects**
- New Roadway
  - Capacity Enhancement
  - Other Enhancement
- Boundaries**
- City Limits
  - Planning Boundary
  - Military



Numbers on roadways correspond to network improvements listed in Table 7.



# 2040 ROADWAY VISION

## Cheyenne Area Master Plan

February 2014



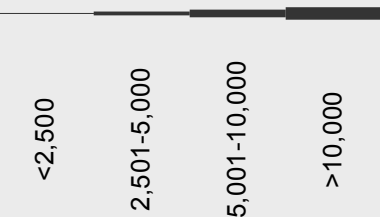
FIGURE 15: 2040 ROADWAY VISION CONGESTION

Legend

Boundaries

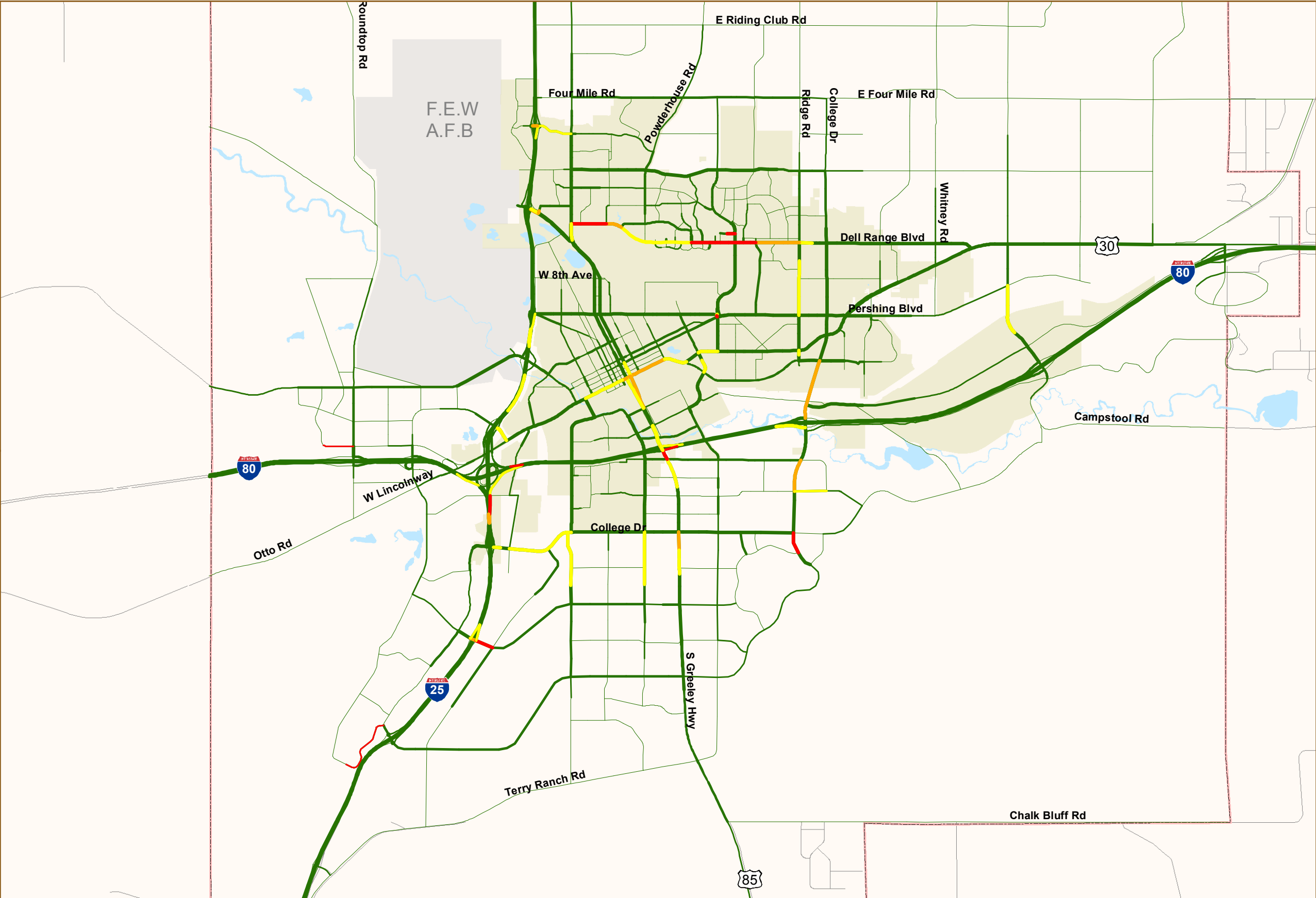
- City Limits
- Military
- Planning Boundary

Traffic Volume



Level of Congestion

- Uncongested (A-C)
- Congesting (D)
- Congested (E)
- Very Congested (F)



# 2040 ROADWAY VISION CONGESTION

## Cheyenne Area Master Plan

February 2013



## TRANSIT VISION

The Transit Vision Plan is made up of a set of transit corridors where service would be most effective. Corridors were selected to provide a continuous system that provides transportation between all parts of Cheyenne as well as good overall coverage.

### Improvement Timeframe

The corridors in the Transit Vision Plan are separated into shorter-term and longer-term corridors. Short-term recommendations for modification of CTP fixed route and complementary paratransit services are intended to be addressed over the next five years. The long-term direction for transit system development is reflects patterns projected through FY 2035.

### Short Range Recommendations

The focus of short-range transit improvements is to reallocate resources from underutilized or redundant routes to extend service coverage where it is needed most. Given budget constraints, no major changes in network design or service are expected. However, technology enhancements, a realignment of the South Route and East Route and expansion of curb-to-curb coverage can be implemented by FY2015.

### Long Range Direction

Beyond the short range horizon, study findings point to the need for transit system improvements over time to keep pace with the growing population, expanding geographic footprint and emerging land use patterns projected for the Cheyenne metropolitan area through FY2035. The vision for the future transit system may be viewed in terms of delivering an enhanced customer travel experience facilitated by more direct routing, increased service coverage, span and frequency, shorter transit travel times, and fully accessible and modern vehicles, facilities and equipment. Ideally the future transit system will be sufficiently convenient to widen the ridership base and meet adopted performance metrics for productivity and efficiency.

- Increase one seat rides to common downtown and crosstown destinations
- In the mature, walkable neighborhoods of central Cheyenne, route alignments should be consolidated with two-way service on arterial and

collector streets that have pedestrian amenities. One-way loop alignments may be retained in lower density suburban and rural subdivisions where transit demand is unable to sustain productive fixed route service. Flexibly scheduled route service options should be considered in areas where CTP fixed route service is unlikely to achieve minimum ridership and productivity targets.

- Moving away from pulse transfer to more grid like structure that reflects future projected travel patterns.

## TRANSIT-READY DEVELOPMENT

Higher density and mixed-use development areas should prepare for improved future transit service (i.e. become transit ready) by taking the following steps:

- Provide direct sidewalks or other non-motorized connections that connect businesses and multi-family housing units to major streets where transit stops are likely to be placed in the future.
- Easy bus access and on street stopping locations, will best assure efficient on time transit performance for those using public bus transportation.
- Avoid building commercial centers with large parking lots separating the street from entrances to businesses. Rather, try to place parking beside or behind buildings.
- Follow additional pedestrian guidelines presented in this plan to ensure that transit stops are easily reachable by non-motorized modes.

## Planning for Premium Transit

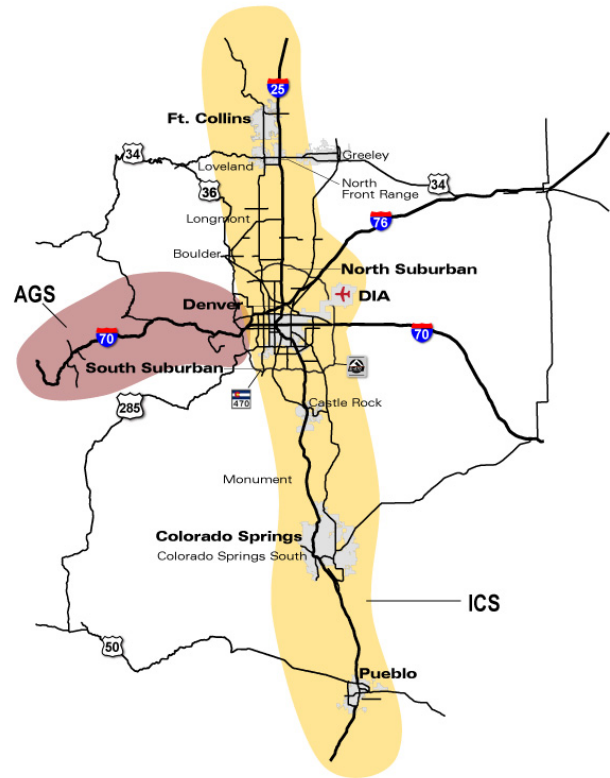
In the long term, Cheyenne should pursue premium transit options such as commuter rail or bus rapid transit (BRT). Elements contained in *PlanCheyenne* and the *Transportation Plan* are the first steps on a path to this type of transit service. As transit service is expanded, future plans may look more closely at premium transit services. The Colorado Department of Transportation Division of Transit & Rail and the Federal Railroad Administration is nearing the end of the of the Interregional Connectivity Study (ICS), pictured at right, which examines:

- **High speed technologies:** This study is examining multiple types of high speed technologies currently used in the U.S., Europe, and Asia.
- **Alignments (paths the high speed rail could potentially follow):** A variety of alignments will be studied for each section of the study area, and will consider impacts, design feasibility, public input, benefits, and technology. The use of current railroad alignments may constrain the speed and type of technology used.
- **Financial/funding options:** All avenues of funding will be considered including public and private financing options. A phased strategy of implementation will allow for a package of different funding opportunities.
- **Travel demand and ridership:** Travel demand and ridership will be calculated through developing models that simulate potential ridership in the future based on current data trends, and will take into account numerous factors including future land use, employment, population, and development.

The study has a broad reach, extending from Fort Collins to Pueblo including the Denver and Colorado Springs metropolitan areas. It is an 18 month project expected to be completed by September 2013.

ICS builds on past studies, including those referenced in the previous *Transportation Plan* including the Colorado State Freight and Passenger Rail Plan (2012), Rocky Mountain Rail Authority High Speed Rail Feasibility Study (2010), North I-25 Environmental Impact Statement (EIS), and I-70 Programmatic EIS.

As plans become more concrete, Cheyenne should consider the most effective ways to capitalize on the potential future investments in the I-25 corridor.



*Interregional Connectivity Study Area*  
(<http://www.coloradodot.info/projects/ICS>)

## Conclusion

The elements included in the Transit Vision Plan will continue to move the Cheyenne Area towards a more robust and successful transit system. By locating new transit routes in areas designated for higher density or mixed-use development, the transit system can begin to reach more residents and workers as Cheyenne grows. By continuing to adapt the transit system service as the Cheyenne Area grows and changes, the community can prepare for even more sophisticated transit service in the future.

## BICYCLE VISION

The 2012 *Cheyenne On-Street Bicycle Plan and Greenway Plan Update* set the vision for the future of bicycling in Cheyenne. **Recommendations for on-street bicycle facilities and greenways, shown in Figure 16, were developed to help make the Cheyenne area more bicycle-friendly for riders of all ages and abilities.** To realize this vision, recommendations are focused and prioritized around completing missing greenway segments and making short connections between popular community destinations such as parks and schools.

The proposed on-street bicycle and greenway system includes approximately 280 miles of new recommended projects, including shoulder bikeways, bike lanes, buffered bike lanes, shared lane markings (i.e. sharrows), bicycle boulevards, and greenways.

**Shoulder bikeways**, or paved shoulders, are used to provide adequate width for bicycling on non-urban streets. Paved shoulders are typically used as a bicycle treatment on streets without curb and gutter. The white fog line is used to delineate the separation between the travel lane and the shoulder, but unlike with bike lanes, no white bicyclist symbol/stencil is used to mark the lane. **A total of 76.2 miles of shoulder bikeways are designated in the On-Street Bicycle Plan.**



*Shoulder Bikeway*

**Bike lanes** are a portion of a roadway or shoulder which have been designated exclusively for use by bicyclists. They are typically distinguished from the remainder of the roadway by a white paint stripe, hashed buffer, or other similar delineation, and include

a standard white bicyclist symbol/stencil in the center of the lane.

Bicycle lanes are most appropriate on roadways with moderate traffic speeds and volumes. Lane width recommendations increase with the speed and volume of adjacent vehicular traffic.

In contrast, shared routes are often more appropriate on low speed, low volume roadways (i.e. neighborhood streets), while alternate facilities (i.e. a parallel side street or separated bike path) are recommended on roadways with traffic speeds exceeding 45 mph or traffic volumes over 20,000 daily trips. **A total of 59.5 miles of bicycle lanes are recommended in the On-Street Bicycle Plan.**



*Bike Lane*

**Buffered bike lanes**, are similar to regular bike lanes, but also include a marked buffer between the bike lane and adjacent travel lanes. The buffer is marked with white chevrons to indicate that no vehicles are allowed to travel in the buffered area. Buffers should be at least two feet wide, preferably three, ideally with a six to seven foot bicycle lane.

They are designed to increase the space between the bicycle lane and the travel lane on roads with higher traffic speeds and volumes, on-street parking, and/or higher volumes of trucks and other oversized vehicles.

**A total of 21.6 miles of buffered bike lanes are recommended in the On-Street Bicycle Plan.**



*Buffered Bike Lane*

**Shared lane markings** (also known as “sharrows” are high-visibility pavement markings that heighten the awareness of cyclists and motor vehicles that lane-sharing is expected. These lane markings are strategically placed in the travel lane to encourage cyclists to ride in a straight line so their movements are predictable to motorists, and at an appropriate distance to avoid getting “doored” by adjacent parked cars. Sharrows can also be used along bicycle boulevards, both to heighten awareness of the street’s function as a bicycle route, and to serve as a bicyclist wayfinding tool. A total of 12.9 miles of shared lane markings are recommended in the *On-Street Bicycle Plan*.

*Shared Lane Marking (Sharrow)*

**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 as shown below. The treatments are

intended to prioritize bicycle circulation. **A total of 39.2 miles of bicycle boulevards are recommended.**

*Bicycle Boulevard*

Cheyenne has made great strides in developing an area-wide **greenway system**, with over 33 miles of trails currently in place. Significant opportunities still exist to expand the network to better serve both transportation and recreation needs, and to accommodate a variety of user types. Some proposed greenway corridors would fill in gaps in the current system, while others would extend greenway access to currently un-served or under-served areas. A total of 70.1 miles of greenways are recommended in the 2012 Greenway Plan Update.

*Greenway*

Improvements that may facilitate bicycle movements through **intersections** and improve safety include: adding loop detectors or cameras to ensure that signals detect bicyclists; guiding bicyclists through intersections using dotted lines extending from the

shoulder or bicycle lane; using colored bicycle lanes in areas where bicyclists and vehicular traffic are expected to merge; and using bike boxes to give bicyclists priority positioning at signalized intersections. See Volume II, Section 2 of the *Cheyenne On-Street Bicycle Plan and Greenway Plan Update* for more details about bicycle-friendly intersection treatments and enhancements. Note: such improvements are typically accomplished during corridor-wide re-paving or reconstruction projects.



*Intersection Crossing*

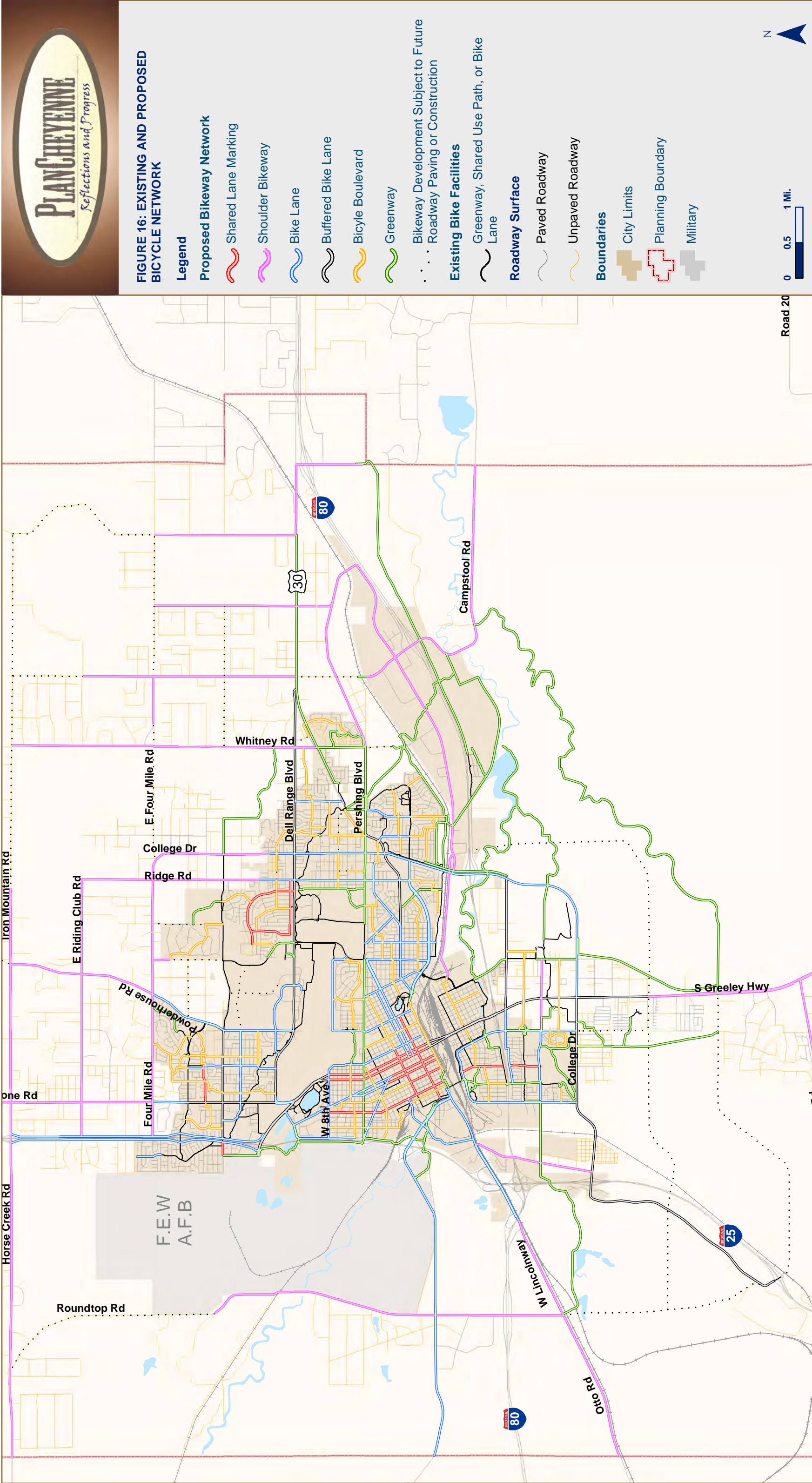
### **Project Prioritization**

The proposed bicycle system is comprised of approximately 350 projects. Proposed projects have been organized into three tiers representing prioritization and a general implementation timeline:

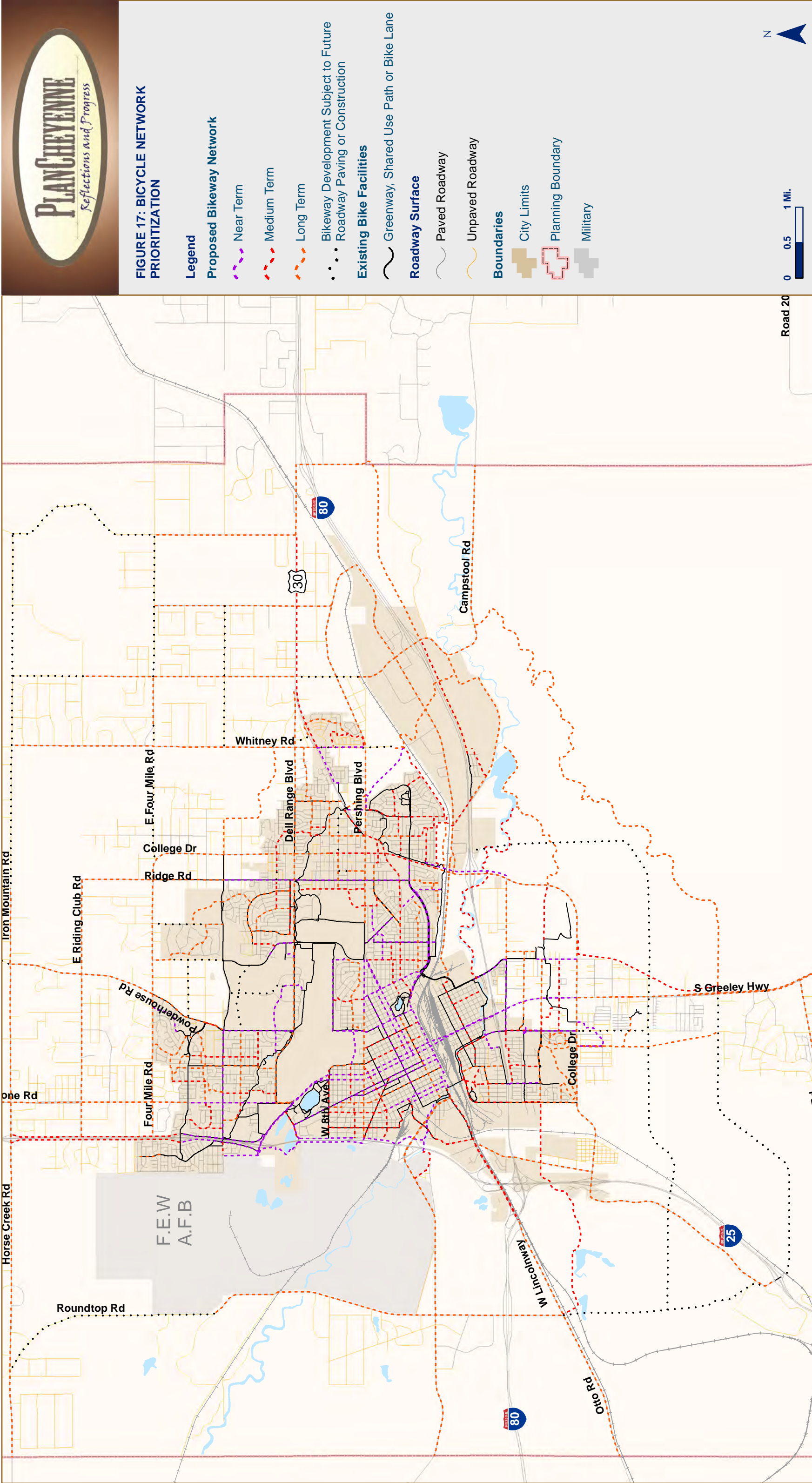
- Tier 1, Near-term/high priority
- Tier 2, Medium-term/medium priority
- Tier 3, Longer-term/lower priority

The Plan recommends constructing near-term projects first with the caveat that several links within corridors included in the near-term priorities may require more time to fully implement. **Bicycle network prioritization is shown in Figure 17.**









## PEDESTRIAN VISION

The 2010 *Pedestrian Plan* and *Safe Routes to School Plan* set the vision for the walking environment in the Cheyenne Area, and should be used to guide future development. As growth occurs in currently undeveloped areas, steps should be taken to ensure that development is planned to accommodate pedestrian travel (see the Cheyenne Unified Development code for specifics on pedestrian accommodation). Although some existing neighborhoods are already very pedestrian-friendly, improvements should be made to less walkable neighborhoods as roadway facilities are improved and infill development occurs.

### Sidewalk Design Guidelines

A variety of considerations are important in sidewalk design. Providing adequate and accessible facilities should lead to increased numbers of people walking, improved safety, and the creation of social spaces. Attributes of well-designed sidewalks include the following:

**Accessibility:** The sidewalk network should meet current ADA requirements, ensuring accessibility to all users. Presence and quality of sidewalks should also be considered to and within buildings and sites to assure they are pedestrian-oriented.

**Adequate Width:** In general, sidewalk width should increase with the intensity of pedestrian use. In areas where significant pedestrian traffic is expected (e.g. Downtown and other Activity Centers), sidewalks should be wide enough to permit two people to walk side-by-side and comfortably pass a third person.

**Continuity:** Pedestrian facilities should be combined to form a continuous network that is free of the gaps that can induce safety issues and wayfinding challenges.

**Directness:** Walking routes should not require pedestrians to travel out of their way unnecessarily. Out-of-way travel discourages walking and often results in unplanned cut-through paths.

**Landscaping:** Street trees and other plantings in the pedestrian realm should enhance corridor aesthetics while improving the comfort of sidewalk users.

**Quality of Place:** The design of and materials used in the pedestrian realm should contribute to the character of neighborhoods and business districts and

strengthen their identity. Pedestrian furnishings such as street lighting, benches and colored pavers can play an important role in area-wide branding efforts.

**Safety:** Design features of the sidewalk should allow pedestrians to have a sense of security and predictability. Sidewalk users should not feel they are at risk due to the presence of adjacent traffic. Sidewalk width and the presence/width/type of buffer between pedestrians and the adjacent roadway should be designed to ensure pedestrian safety and comfort. Lighting of crosswalks is also an important safety factor. On-street parking, street trees, and pedestrian furnishings can help provide a buffer between pedestrians and moving vehicles, while adequate lighting and “eyes on the street” can enhance both comfort and security.



*Pedestrian Lighting in downtown Cheyenne*

**Social Space:** Sidewalks should be more than areas to travel; they should provide places for people to interact. There should be places for standing, visiting, and sitting. The sidewalk area should be a place where adults and children can safely participate in public life.

### Intersection Design Guidelines

Attributes of pedestrian-friendly intersection design include:

**Visibility and Clear Space:** Corners should be clear of both fixed and movable obstructions, including light and sign poles, hydrants, trash receptacles, and others. They should also have enough room for curb ramps, transit stops where appropriate, and street conversations where pedestrians might congregate. It is critical that pedestrians on the corner have a good view of vehicle travel lanes and that motorists in the



travel lanes can easily see waiting pedestrians. Accessible and navigable curb ramps, approaches and landing areas are of particular importance for visually or otherwise impaired pedestrians.



*High Visibility Crosswalk Marking*

**Wayfinding:** Symbols, markings, and signs used at corners should clearly indicate what actions a pedestrian should take. Key walking and biking routes and popular destinations should be adequately signed to provide users with increased perceived and real safety, improved sense of ability, and confidence to walk and bike to destinations.

**Accessibility:** All intersection curb ramps, landings, call buttons, signs, symbols, markings, and textures should meet current ADA accessibility standards. Non-compliant intersection features should be updated with triggering road improvement and maintenance projects.

**Separation from Traffic:** Corner design and construction must be effective in discouraging turning vehicles from driving over the pedestrian area. Curb height, turning radius, and curb ramp placement are key considerations. Pedestrian refuge islands are also effective at intersections with longer crossing distances.

## Pedestrian Improvement Installation

The *Pedestrian Plan* identified priority improvement areas to enhance the walking network in the Cheyenne Area. **Figure 18 shows the locations of these corridors and intersections.** Sidewalk recommendations include corridor enhancements, obstruction relocations, and driveway consolidation. Intersection recommendations include signage and striping at signalized intersections, signal timing adjustments, leading pedestrian intervals, countdown signals, audible signals, and ADA recommendations.

## Pedestrian Programs

The *Pedestrian Plan* also recommends that the pedestrian network be complemented by programs and activities designed to promote walking and bicycling. There are many existing efforts to promote walking in the Cheyenne Area, including efforts by local agencies, active community groups and individual residents. The *Pedestrian Plan* recognized these efforts and encouraged Cheyenne to support, promote, and build upon these efforts.



*Counting Pedestrians*

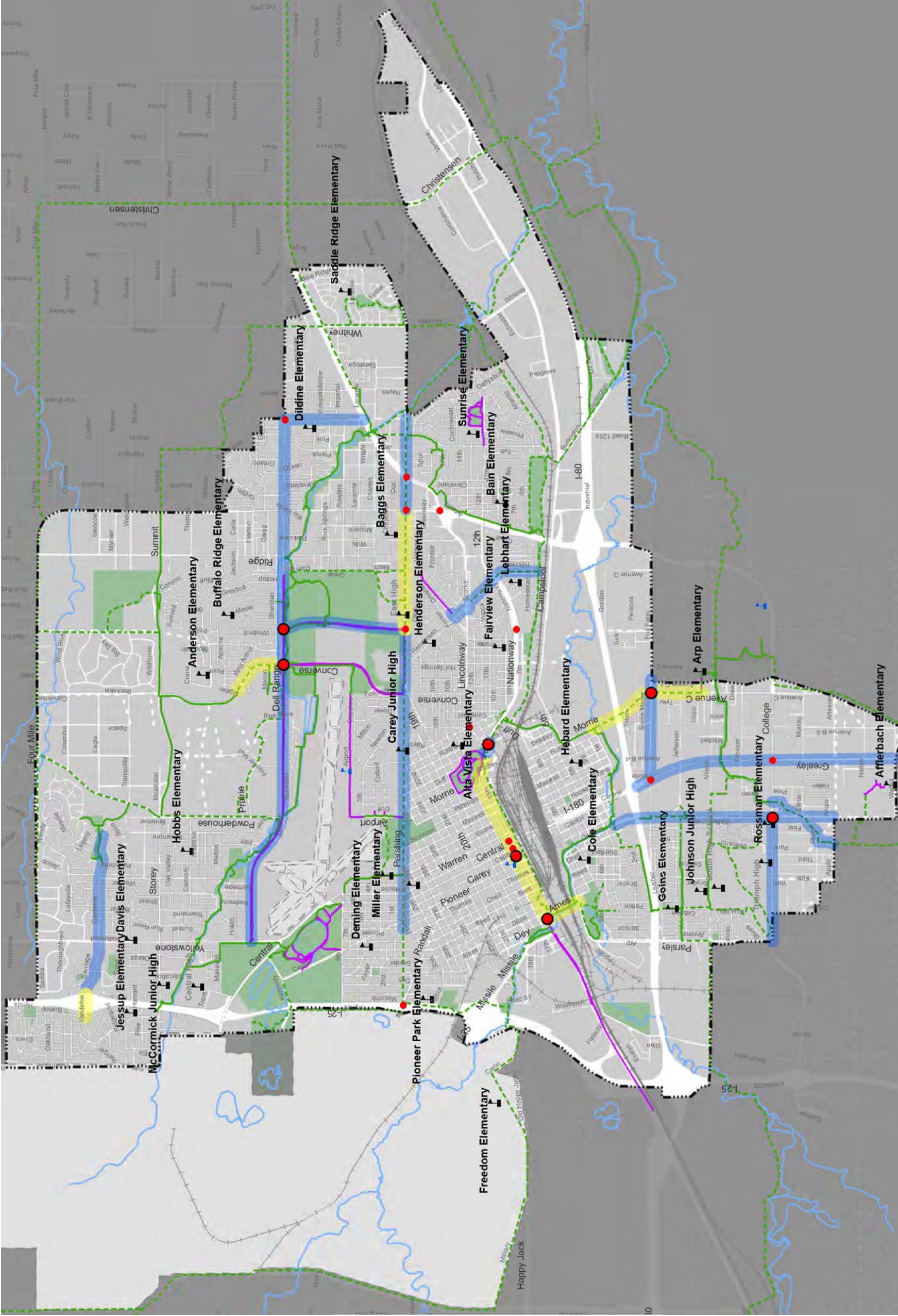
Pedestrian planning commonly refers to the five “E’s”: engineering, education, encouragement, enforcement, and evaluation. While infrastructure upgrade strategies for improving the pedestrian network are an important focus, education, encouragement, enforcement, evaluation, and non-location specific engineering program measures are also critical for improving the Cheyenne Area walking culture. Program recommendations include:

- Create walking maps with clear symbology, pedestrian-oriented destinations and services, and a good selection of routes.
- Perform annual pedestrian counts to track walking trends and measure the success of Pedestrian Plan initiatives.
- Offer a Share the Road class to first-time offenders of certain bicycle and pedestrian-related traffic violations. In lieu of the citation, cyclists, motorists, and pedestrians would have the option to take this class.



- Implement a Share the Path Campaign to help address conflicts between pedestrians and bicyclists on the area's shared use paths.
- Establish a pedestrian advisory committee to advise the City of Cheyenne on pedestrian issues.
- Implement the Cheyenne Wayfinding Plan. This plan is primarily vehicular but creating a unified design theme can help pedestrians better navigate through town.
- Focus sign placement in areas of high pedestrian activity.
- Dedicate a set amount of annual funding to repair existing Greenway sections.
- Implement a program to upgrade crosswalk markings on an as-needed basis.

Continue existing programs, including sidewalk infill and widening; repair and replacement; and ADA compliant curb ramp upgrades.



July 2013

# PROPOSED PEDESTRIAN IMPROVEMENTS

## Cheyenne Area Master Plan



## COMPLETE STREETS & ACTIVE TRANSPORTATION VISION

The suggestions contained on this page, as all suggestions in Plan Cheyenne, are subject to the stated intent of the Governing Body contained on page 125 of the Community Plan and are to be no more prescriptive than Policy 4.3.A on page 72 of the Community Plan. Complete streets and active living are a critical component to the future of Cheyenne's transportation system. By providing a complete network of transit, bicycle, and pedestrian facilities to connect destinations, real transportation choices will be available for the community. This will not only create a complete transportation system in the community, but also create healthy transportation alternatives.

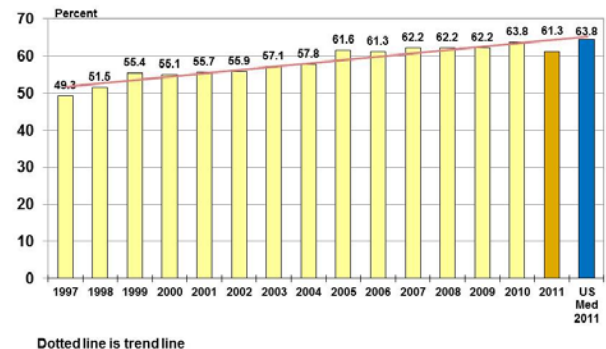
Physical inactivity contributes to obesity, and both physical inactivity and obesity are risk factors for type II diabetes -- the fifth most common cause of death for Americans. Some of the benefits of physical activity include: weight control, reduced chance of heart disease, improved mood, increased energy, and better sleep.

Despite the known benefits, most people in the United States do not engage in regular physical activity. Only 25% of U.S. adults report engaging in recommended levels of physical activity (either 30 minutes of moderate-intensity activity 5 or more days per week or 20 minutes of vigorous-intensity physical activity 3 or more days per week). While Wyoming residents report much higher physical activity rates, 51.9 percent in 2011 according to data from Wyoming's Behavioral Risk Factor Surveillance System (BRFSS)<sup>1</sup>, over 48 percent of Wyoming adults do not meet recommendations. More concerning is that nearly 30% of Wyoming adults reported getting no physical activity, leisure or otherwise, in the past month.

Unsurprisingly, obesity rates have skyrocketed in the U.S. increasing by 30 percent in the last three decades. BRFSS data for 2011 indicates that 61.3 percent of Wyoming adults are overweight<sup>2</sup> or obese<sup>3</sup>, and Cheyenne area residents are no exception. Wyoming Department of Health 2007-2011 county estimates indicate that 63 percent of Laramie County adults are overweight or obese, with 24.7 percent obese, and 9.4 percent very obese.

As the bar graph illustrates, the percentage of Wyoming residents with unhealthy BMIs is steadily increasing.

Overweight or Obese by Year, WY BRFSS



*Wyoming adults reporting body mass index (weight in kg/height in meters squared)  $\geq 25.0$ .*

Active transportation options such as walking, biking, and taking transit can impact the level of physical activity an individual obtains. Walking and bicycling for daily transportation can be significant sources of physical activity and greatly reduce an individual's likelihood of being overweight or obese. Transit users are also more likely to meet physical activity recommendations and are less likely to be obese. In the U.S. nearly 30 percent of transit users meet physical activity recommendations of 30 minutes or more each day just by walking to and from transit stops.

Depending on how they are implemented, transportation investments can either support or impede healthy transportation options such as walking

<sup>1</sup> The Behavioral Risk Factor Surveillance System (BRFSS) collects data from randomly selected adults age 18 and older, through monthly telephone surveys. The purpose of the survey is to gather information on the prevalence of health behaviors and conditions which are known to contribute to or increase the risk of chronic disease, acute illness, injury, disability and premature death.

<http://www.health.wyo.gov/brfss/brfssdata.aspx>

<sup>2</sup> Body mass index (weight in kg/height in meters squared)  $\geq 25.0$ .

<sup>3</sup> Body mass index (weight in kg/height in meters squared)  $\geq 30.0$ .



and bicycling in neighborhoods and to and from schools. Transportation infrastructure that supports physical activity includes sidewalks, bike lanes, and design and land use features which create a safe and supportive atmosphere for active transport. This infrastructure should be incorporated into all new development as improving rates of walking and biking for transportation, particularly for short trips, presents a major opportunity for improving public health.

## TRUCK AND FREIGHT VISION

Freight movement to, from, and within the Cheyenne Area is vital to the success of commercial and industrial growth. The MPO recognizes the important role freight plays in the area, and includes representatives from trucking and railroad interests on its technical committee.

I-80 through Cheyenne is a major east-west freight corridor and experiences very high volumes of truck traffic. Cheyenne is home to several active railroad lines and rail yards including Union Pacific and BNSF. The rail lines carry large amounts of freight to and through the Cheyenne Area. Over time, movement of freight through Cheyenne is expected to increase.

The Western Cheyenne Transportation Study is an intermodal study that was prepared by the MPO to specifically address freight concerns in the Cheyenne Area. This study investigates potential locations for an intermodal facility where rail freight could be transferred to trucks, possible relocation of freight facilities, and passenger rail possibilities. This study concluded that while relocation of the BNSF mainline and yard is not currently feasible, construction of a rail served industrial park combined with an intermodal facility would be appropriate and marketable.

Some cities and MPOs choose to define designated truck routes through their communities, while others utilize general guidelines on truck travel. While truck routes have been defined in the Cheyenne Area, they were developed prior to the construction of I-80. Because these truck routes are out of date, truck traffic passing through Cheyenne should generally be advised to remain on the interstate highway system and US-85. Freight traffic with a destination in the Cheyenne area should utilize major arterials wherever possible, followed by minor arterials only as needed. Freight traffic should utilize local and collector streets as little as possible and only when required to reach a destination. Transport of hazardous materials through and to the Cheyenne Area must follow all state and federal regulations and should be subject to the same route restrictions as other freight traffic.

The MPO should work with WYDOT to develop a comprehensive freight plan.



*Truck Traffic in Cheyenne*



*Train stopping at Cheyenne Depot*

## SAFETY VISION

It is vital that the Cheyenne area builds and maintains a transportation system that provides safe, secure means of travel by all modes. One key to safety and security in transportation is a well-planned, consistent, integrated, and coordinated transportation system. The MPO has developed safety goals and work program activities to evaluate and improve transportation safety in the Cheyenne Area through the 2008 TSMP.

Many elements outlined in *PlanCheyenne* and the *Transportation Plan* directly or indirectly address transportation safety and security. Recommendations such as signal coordination and access control, roundabouts, and providing increased roadway capacity where necessary, help to improve the safety of the roadway system by reducing congestion that often leads to traffic accidents. Access control is particularly beneficial from a safety context as the number of potential traffic conflicts along a corridor can be greatly reduced. For pedestrians, bicyclists, and transit users, safety and security improvements such as hazard reduction, adequate lighting, and separation from traffic are addressed throughout the Plan. Cheyenne's *Unified Development Code*, *Transportation Safety Master Plan*, *Pedestrian Plan*, *Safe Routes to School Plan*, and *On-Street Bicycle Plan and Greenway Plan* also provide guidelines that will improve the safety and security of the transportation system. The MPO should work to implement program activities and infrastructure enhancements laid out in these plans.

While safe roadway infrastructure is a critical element in reducing traffic crashes, individual behavior also plays a significant role. As addressed in the TSMP, the community must also continually work to enhance its culture of safety by which people use the transportation system safely and follow relevant traffic laws. The safety vision for the region as documented in the TSMP is to: eliminate preventable traffic related deaths and injuries.

The MPO should also work with groups responsible for emergency planning and safety and security systems within the MPO area in the development of safety and security goals. The Cheyenne MPO should continue to coordinate with fire departments and other

emergency service providers such as United Medical Center, the Cheyenne Police Department, and the Laramie County Sheriff's department. Through new work program activities and coordination with appropriate agencies, the Cheyenne MPO can ensure that the transportation system in the Cheyenne Area remains safe and secure.



# Build

---

## INTRODUCTION

The Build section of the Transportation Plan includes funding analysis, implementation strategies, and performance measures.

## FUNDING ANALYSIS

The funding analysis section identifies the resources that are necessary and available to implement solutions identified through the planning process. Anticipated costs and funding sources are inventoried to determine the amount of funding available, and projects are prioritized to demonstrate fiscal constraint. Components of the roadway, transit, pedestrian, and bicycle vision plans are selected for inclusion in the Financially Constrained Plan.

## IMPLEMENTATION STRATEGIES

Strategies and actions that will help in the implementation of the *Transportation Plan* are outlined in this section. Some strategies address actions that can be taken to build the fiscally constrained transportation plans, while others focus on actions necessary to increase funding and build portions of the transportation vision plans.

## PERFORMANCE MEASURES

Performance measures provide an effective means to monitor and evaluate the performance of the transportation system. Establishing performance measures and a monitoring system can better position the Cheyenne MPO to meet impending MAP-21 performance measure requirements.



## FUNDING ANALYSIS

The long range transportation plan must include a financial plan that estimates how much funding will be needed to implement recommended improvements, as well as operate and maintain the system as a whole, over the life of the Plan. The financial plan must demonstrate that there is a balance between the expected revenues for transportation investments and the estimated costs of the projects and programs described in the Plan – a concept referred to as fiscal constraint. Additionally, the financial analysis should be thorough and comprehensible, including all categories of systems costs, reasonably expected available revenues, forecasting methods, and supporting assumptions.

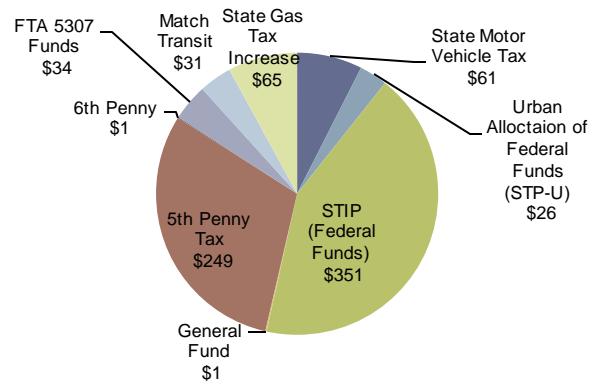
To satisfy this federal requirement, the Cheyenne MPO produces a Fiscally Constrained Transportation Plan as a subset of the unconstrained 2040 vision. To develop the Fiscally Constrained Plan, an inventory of funding sources and costs was undertaken to identify funds that will likely be available for transportation projects. Next, projects from the Roadway, Transit, Bicycle, and Pedestrian Visions were prioritized based on established screening criteria and the top projects were selected for inclusion in the Fiscally Constrained Transportation Plan. Each step in creation of the Fiscally Constrained Plan is described below.

### ANTICIPATED FUNDING SOURCES

Transportation revenues in the Cheyenne Area come from a variety of local, state, and federal sources such as: Federal Surface Transportation Program Urban funds, state gasoline tax revenues and contributions from the City of Cheyenne. The City of Cheyenne estimates 2014 transportation revenues, from all sources, at \$26,984,124, rounded to \$27,000,000.

A breakdown of these expected funds is provided in **Table 4** and shown in **Figure 19** followed by additional details about funding sources and forecasting methods. All funding discussions are presented in 2014 dollars.

**FIGURE 19: 2040 ANTICIPATED FUNDING SOURCES (IN MILLIONS)**



### Federal Funding Sources

The Cheyenne MPO is responsible for distributing federal highway and transit funds under the Surface Transportation Program (STP) so that projects align with regional priorities. The MPO is also responsible for coordinating the process to award Federal Transit Administration 5307 funds for transit-related projects serving the area.

### Surface Transportation Program (STP)

The Surface Transportation Program – Urban Systems (STP-U) is a federally-funded road construction program to assist Wyoming urban cities with road and street needs. An urban municipality is defined as one with a census population greater than 5,000. The annual apportionment of STP-U funding is distributed to the participating urban cities on a population formula for each of the state's seventeen urban communities. STP-U funds may be used for projects within the urban limits of the community on roadways functionally classified as collectors or higher.

2014 funding levels (\$975,000/year) were held constant to forecast \$26,000,000 in STP-U funds through 2040.

**TABLE 4: ANTICIPATED FUNDING SOURCES**

<b>Roadway Funding Source</b>	<b>Estimated FY 2014 Funding (\$)</b>	<b>Anticipated Funds through 2040 (\$)</b>
Urban Allocation of Federal Funds (STP-U)	975,000	26,000,000
FTA 5307 Funds (Transit)	1,040,000	34,000,000
WYDOT Construction Funds (STIP)	13,000,000	351,000,000
Motor Vehicle Taxes	1,968,000	61,000,000
General Fund Contributions	40,000	1,000,000
5th Penny Optional Sales Tax	8,000,000	249,000,000
6th Penny Optional Sales Tax	1,000,000	n/a
Developer Exactions	n/a	n/a
Local Match-FTA Funds	950,000	31,000,000
<b>Total</b>	<b>27,000,000</b>	<b>754,000,000</b>
Motor Fuel Tax - Projected Increase	1,900,000	65,000,000
<b>Total with Gas Tax Increase</b>	<b>28,900,000</b>	<b>820,000,000</b>



### FTA 5307 Funds

Funds available for operation and expansion of the transit system in the Cheyenne Area are driven by FTA 5307 funds. These funds are provided by the federal government to urban areas with populations fewer than 200,000 and must be matched with local funds. Section 5307 provides 80% for capital and administrative costs, and 50% of the operating needs of transportation providers.

Transit funding estimates through 2040 are based on a growth rate of 1.08% percent per year. FTA 5307 funds through 2040 are estimated to be \$34,000,000. Matching funds estimated at \$31,000,000 bring the total amount to approximately \$65 million.

### State Funding Sources

WYDOT administers all federal funds apportioned to Wyoming by the Federal Highway Administration under MAP-21 (formerly SAFETEA-LU) and state-levied transportation taxes, such as the state fuel tax and motor vehicle registration fees. WYDOT aggregates federal and state transportation funds and distributes them to MPOs and rural areas based on population.

MPOs assist in the distribution of state funds by going through established planning processes and adopting a long range transportation master plan that prioritizes proposed transportation projects.

### WYDOT STIP Funds

The State Transportation Improvement Plan, or STIP, is not a funding source, per se, but an allocation of state-levied transportation taxes and funds apportioned to WYDOT by the Federal Highway Administration along with state revenues from state-levied transportation taxes. WYDOT STIP funds will be a combination of National Highway Performance Program, Surface Transportation Program, Highway Safety Improvement Program, Transportation Alternatives, and State Construction. The majority of the funding (about 67%) will be NHPP, which can only be used on the National Highway System – Interstate and principal arterials

The STIP consists of a comprehensive list of planned capital improvement projects in Wyoming

and identifies anticipated funding sources and project schedules. The Wyoming STIP is a six-year program that is fiscally constrained based on projected federal and state funding.

Approximately \$91.5 million in the 2014 – 2017 STIP is programmed to roadway capital improvement projects within the Cheyenne MPO<sup>4</sup>, an average of approximately \$15 million a year. Since the actual funding level that will be available depends upon Congressional appropriations as well as State appropriations a more conservative estimate of \$13 million a year<sup>5</sup> was used to estimate total STIP funds at \$351 million through 2040.

### Motor Fuel Tax

The state of Wyoming increased its tax on motor and diesel fuel by 10-cents from 14 to 24-cents a gallon, in July 2013. WYDOT estimates that the increase will generate \$72.4 million a year for the state. About \$42 million of that amount will go to highway projects, and the rest will be distributed to counties and municipalities within the state<sup>6</sup>.

**Figure 20** illustrates the allocation of anticipated annual revenue from the gas tax increase. WYDOT<sup>7</sup> estimates that the Cheyenne-area will receive approximately \$1.9 million in 2014, increasing exponentially with population. The total anticipated revenue from the increase in gasoline tax is expected to amount to \$65 million for the Cheyenne area by 2040. This amount was

---

<sup>4</sup> 2013-2017 TIP funds exclude aviation, transit and STP-U.

<sup>5</sup> Phone conversation with Kevin Hibbard, WYDOT Budget Officer August 27, 2013.

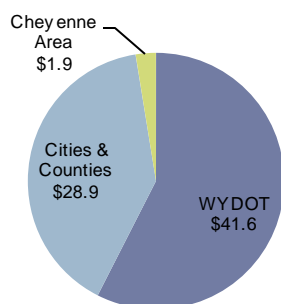
<sup>6</sup> Gasoline license tax revenues are distributed by the State Treasurer under WSS §39-17-111(d)(ii) to the Highway Fund for distribution to the various counties and placed in the County's Road Construction and Maintenance Fund. The distribution of gasoline tax is as follows: WYDOT, 57.5%; Counties, 27.5%; and Municipalities, 15%. Diesel tax revenues are distributed under WSS §39-17-211 and are as follows: WYDOT, 75%; Counties, 20%; and Municipalities, 5%.

<http://legisweb.state.wy.us/statutes/statutes.aspx?file=titles/Title39/T39CH14.htm>

<sup>7</sup> Phone conversation with Kevin Hibbard, WYDOT Budget Officer August 27, 2013.

calculated based on current fuel consumption and does not take into account vehicle fleets becoming increasingly fuel efficient.

**FIGURE 20: ANTICIPATED ANNUAL REVENUE FROM GAS TAX INCREASE (IN MILLIONS)**



## Local Revenue Sources

### Motor Vehicle Taxes

The state imposes vehicle registration fees and the county collects the fees and distributes the money to the taxing entities in their county. Revenues from vehicle registration fees and taxes for 2014 are estimated at \$1,968,000. Revenue estimates through 2040 are based on a growth rate of 1.08 percent per year and amount to approximately \$61 million.

### General Fund Contributions

General fund contributions are from the City's general fund for spending on transportation. General fund dollars are provided by the State and are generated through a sales tax. General fund contributions are discretionary and were held constant at \$40,000 a year to project funding through 2040 at \$1 million.

### 5<sup>th</sup> Penny Optional Sales Tax

The 5<sup>th</sup> Penny is a sales tax that is collected within Laramie County and split by population between the County, City of Cheyenne and local municipalities based on population. While this tax is not specifically dedicated to transportation, the City of Cheyenne and Laramie County have historically dedicated all or a portion of these tax funds to roadway maintenance and/or capacity projects.

Cheyenne typically spends 80% of 5<sup>th</sup> Penny tax funds on street maintenance and the remaining 20% on capacity or multimodal improvements to city streets. The County usually spends a portion of 5<sup>th</sup> Penny funds on road maintenance. However, the County's contribution of 5<sup>th</sup> Penny funds is at the discretion of the Commission and is not considered a dedicated transportation funding source. Additionally, the County's portion of 5<sup>th</sup> Penny Sales tax is generally not available for capital construction.

This revenue source generally increases over time, roughly proportional to population growth, though it is susceptible to economic fluctuations resulting from changes in job growth, personal income and retail sales.

The 5<sup>th</sup> Penny tax has been repeatedly renewed by voters since its creation in 1978 and is expected to continue. Future funding was determined by applying the low growth rate, 1.08%, to the 2014 funding level (\$8,000,000) amounting to \$249 million by 2040.

### 6<sup>th</sup> Penny Optional Sales Tax

6<sup>th</sup> Penny is a specific-purpose tax that funds voter-approved improvements. The tax can potentially be used to fund transportation projects.

Historically, this revenue source has only occasionally funded transportation projects and therefore cannot be reliably expected to be available through 2040.

### Developer Exactions

Funds paid or expended by developers to build infrastructure that supports new development. Cheyenne has recently begun requiring developers to fund transportation improvements through exactions in the entitlement process. Detailed accounts of past funding levels are unavailable. A fee program may be implemented in the future, but fee program revenues are not assumed in the 2040 Fiscally Constrained Roadway Plan.

### Local Match-FTA 5307 Funds

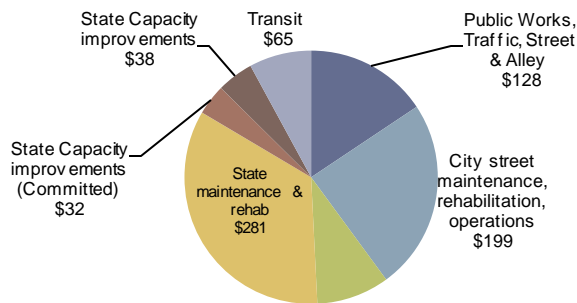
A local match is required to receive FTA 5307 funds and is typically provided by the City of Cheyenne and Larimer County. Based on historical

contributions, a 50 percent local match was assumed to estimate 2040 funding amounting to \$31 million.

ANTICIPATED COSTS

Over the 25-year forecast period, there are various transportation costs that must be considered. Existing transportation facilities must be rehabilitated and resurfaced, general operation and maintenance of the transportation system must be provided, and capital improvements need to be designed and constructed. Estimated 2014 costs for all categories, provided by the City of Cheyenne, are nearly \$29 million. Using 2014 estimated costs and applying the low growth scenario rate of 1.08%, it is estimated that the total cost for transportation operation, maintenance, rehabilitation, and capital improvements over the next 25 years will be \$820 million. The breakdown of anticipated costs is detailed in Table 5 and shown in Figure 21.

FIGURE 21: ANTICIPATED COSTS (IN MILLIONS)





**TABLE 5: ANTICIPATED EXPENSES**

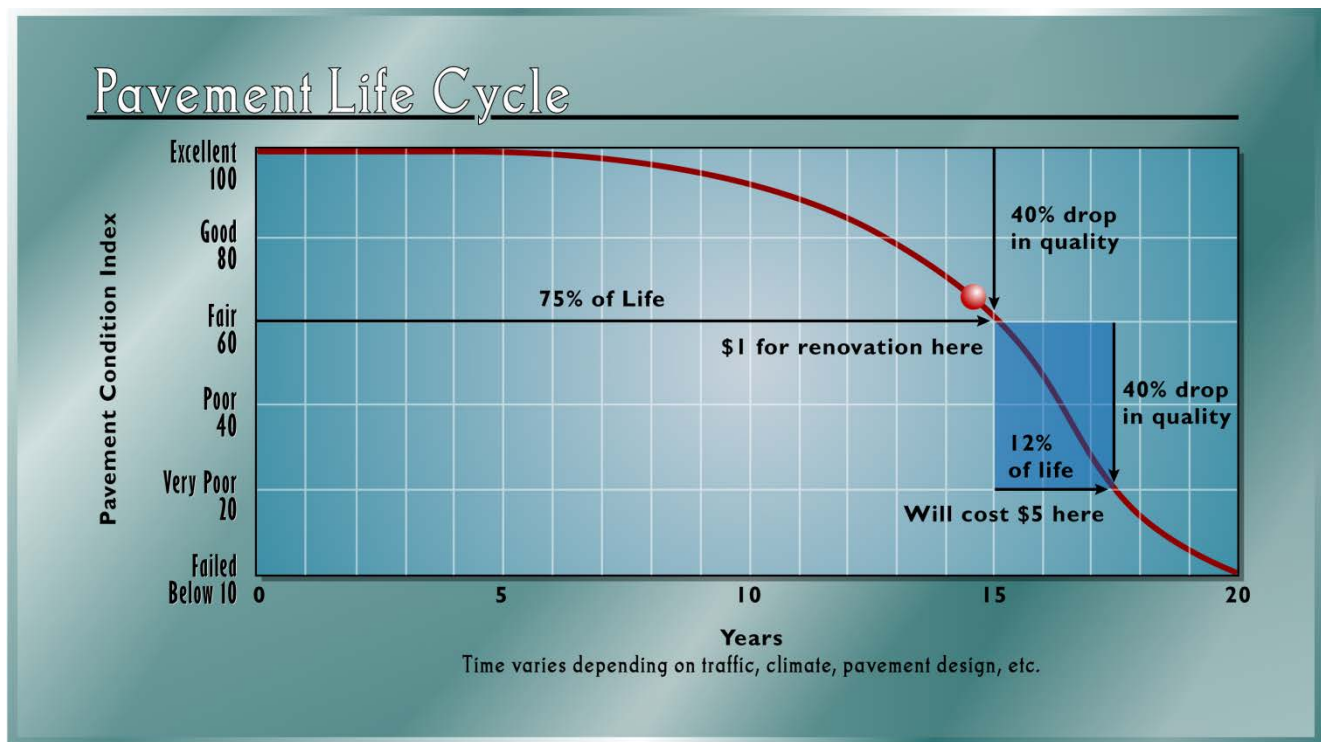
<b>Expense Category</b>	<b>Status</b>	<b>Estimated FY 2014 Expenses</b>	<b>Anticipated Expense</b>
Public Works, Traffic, and Street & Alley	Motor Vehicle Registration fees, gas tax and general fund contributions fund this category.	3,510,000	128,000,000
City street maintenance / rehabilitation / Operations	80% of 5th penny tax funds available for transportation spending are consumed by this category.	6,400,000	199,000,000
City street capacity and multimodal improvements	20% of 5th penny taxes and 100% of urban allocation of federal funds are assumed for this category.	3,000,000	76,000,000
State maintenance and rehab	80% of forecast STIP funds are assumed for this category.	10,000,000	281,000,000
State Capacity improvements (Committed)	Funds committed to capacity improvements in the STIP.	1,000,000	32,000,000
State Capacity improvements	20% of forecast STIP funds, less funding for committed improvements, are assumed for this category.	3,000,000	38,000,000
Transit	All FTA 5307 and matching funds are assumed for this category.	1,990,000	65,000,000
<b>Total</b>		<b>28,900,000</b>	<b>820,000,000</b>

## Rehabilitation and Resurfacing

This category is required to keep the existing Cheyenne Area streets, sidewalks, and bike lanes in good condition. Funds for resurfacing and rehabilitation come from both the state to repair state owned-roads and the City of Cheyenne to repair local roads. The majority of local rehabilitation and maintenance funds come from the 5<sup>th</sup> Penny Tax. A portion of the \$199 million of

anticipated City street maintenance/rehabilitation /operations expenses expected through 2040 will go to local resurfacing. The remainder will pay for the operation and maintenance of local roads. The majority of STIP funds, \$281 million by 2040, will be used to pay for the cost of maintenance and rehabilitation of state roads. As demonstrated in **Figure 22**, timely resurfacing, patching, and repairing of streets, curbs, and gutters will prolong the life of a facility and reduce long-term costs.

**FIGURE 22: PAVEMENT LIFE CYCLE**



## Operation and Maintenance

Operation and Maintenance constitutes the bulk of the daily activities associated with transportation departments. It includes everything from plowing snow, traffic signals, patching potholes, and maintaining customer services. As mentioned in the previous section, local operation and maintenance costs will be a portion of City street maintenance/rehabilitation /operations expenses and state operation and maintenance costs will be a portion of state maintenance and rehabilitation expenses.

## Capital Construction

Capital Construction is the construction of new facilities and the reconstruction and expansion of existing facilities. Capital projects can only be taken on after the estimated project costs for capital improvements are included in the TIP (FY 2014 to FY 2017) and STIP (FY 2013 to FY2018). Over the next 25-year period, expenses for local capacity projects are expected to total \$76 million. Thirty-three million dollars is programmed in the STIP for state capacity improvement projects through 2017. Funding for projects beyond 2017 is contingent upon the amount of STIP funding remaining after paying for the rehabilitation and maintenance for state projects. This is typically 20% of forecast STIP funds less programmed projects.

## Transit System

The operation of the transit system is considered as a separate cost category. Like the roadway system, the transit system has operation, maintenance, and capital costs. These categories include running the transit system from day-to-day, the replacement of transit vehicles as they age, procurement of new transit vehicles as service expands, and the installation and maintenance of bus stop facilities.

Transit costs through 2040 were determined by increasing the amount of FTA 5307 funds by the low population growth rate, 1.08% and are expected to amount to \$34 million in grant funds with another \$31 million in local match.



FISCALLY CONSTRAINED ROADWAY PLAN

The Fiscally Constrained Roadway Plan contains projects selected from the Roadway, Bicycle, and Pedestrian Vision Plans based on a number of factors that are detailed below.

Roadway Vision Plan Background

The Roadway Vision Plan would cost about \$495 million in 2014 dollars to build, and only \$114 million in capacity funds has been identified. Table 6 compares the available capital funds to estimated capacity improvement costs. Without additional

funding sources, the 2040 Roadway Vision Plan cannot be completed.

As identified in the Needs Assessment in the Shape section, the maps present congestion associated with different scenarios: Figure 9 shows congestion in 2040 based on building existing and committed roadways and Figure 15 presents a congestion analysis associated with building the Roadway Vision Plan. However, unless additional funding sources are identified, the Roadway Vision Plan cannot be built with the funding currently identified. Therefore, it is necessary to identify projects from the 2040 Vision Plan that would best serve the community.

TABLE 6: COMPARISON OF CAPITAL FUNDING SOURCES AND COSTS

Funding Source	Available Capital Funds for Capacity Improvements	Estimated Capacity Improvement Costs	Estimated Shortfall
State / Federal	\$38,000,000	\$235,000,000	(\$197,000,000)
Local Roads	\$76,000,000	\$260,000,000	(\$184,000,000)
Total:	\$114,000,000	\$495,000,000	(\$381,000,000)

## Assumptions and Approach

The Fiscally Constrained Roadway Plan was developed by prioritizing the Roadway Vision Plan. Improvements were analyzed based on the results of the travel model, advancing performance goals, and considering cost estimates to determine which improvements provided the best use of limited funds. Additionally MPO Staff had considerable input in the prioritization.

## Fiscally Constrained Improvement List

A list of 2040 Roadway Vision Plan projects and costs is provided in Table 7, along with information about each project's inclusion and cost in the 2040 Fiscally Constrained Roadway Plan. Some improvements defined in the Roadway Vision Plan have been replaced with interim improvements, such as adding a center turn lane, in the 2040 Fiscally Constrained Plan. This phased concept maximizes capacity for the 2040 horizon and builds toward the 2040 Roadway Vision Plan improvements.

**Figure 23** displays a map of the funding status of all projects in the Vision Plan and **Figure 24** displays only the fiscally constrained improvements. The map in **Figure 25** shows the expected congestion associated with building the Fiscally Constrained Plan.

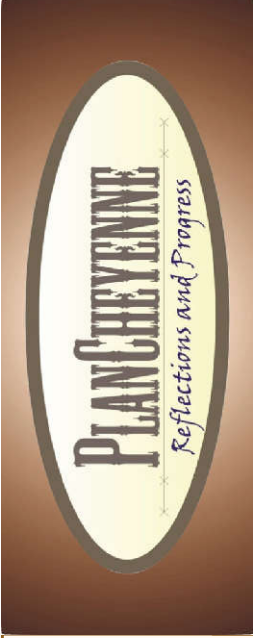
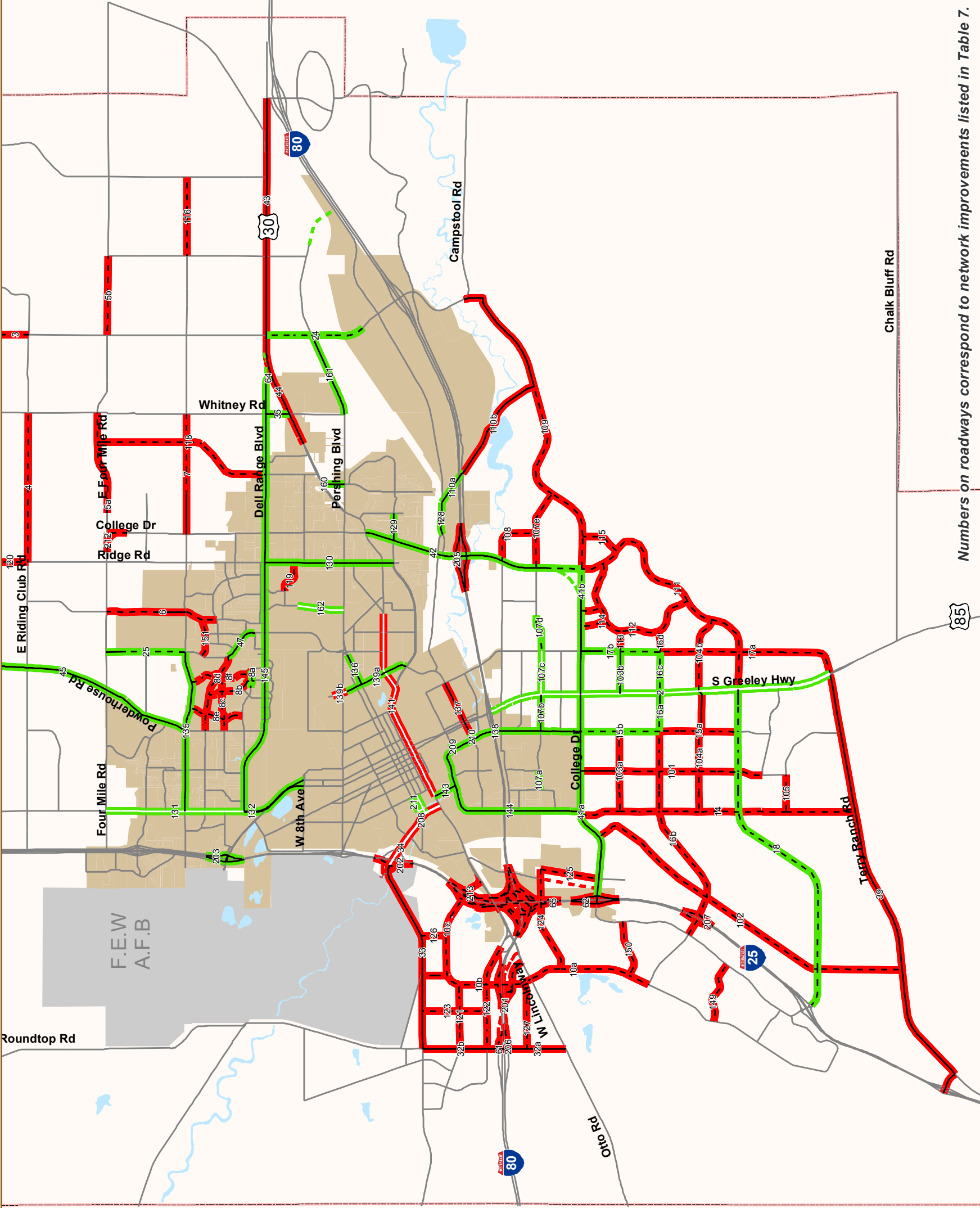


FIGURE 23: ROADWAY VISION PLAN WITH  
FISCALLY CONSTRAINED STATUS (2040)

- Legend**
- Funded Projects**
- New Roadway
  - Capacity Enhancement
  - Other Enhancement
  - Roadway Removal
- Unfunded Projects**
- New Roadway
  - Capacity Enhancement
  - Other Enhancement
  - Roadway Removal
- Boundaries**
- City Limits
  - Military
  - Planning Boundary



Numbers on roadways correspond to network improvements listed in Table 7.

February 2014

# ROADWAY VISION PLAN WITH FISCALLY CONSTRAINED STATUS (2040)

## Cheyenne Area Master Plan



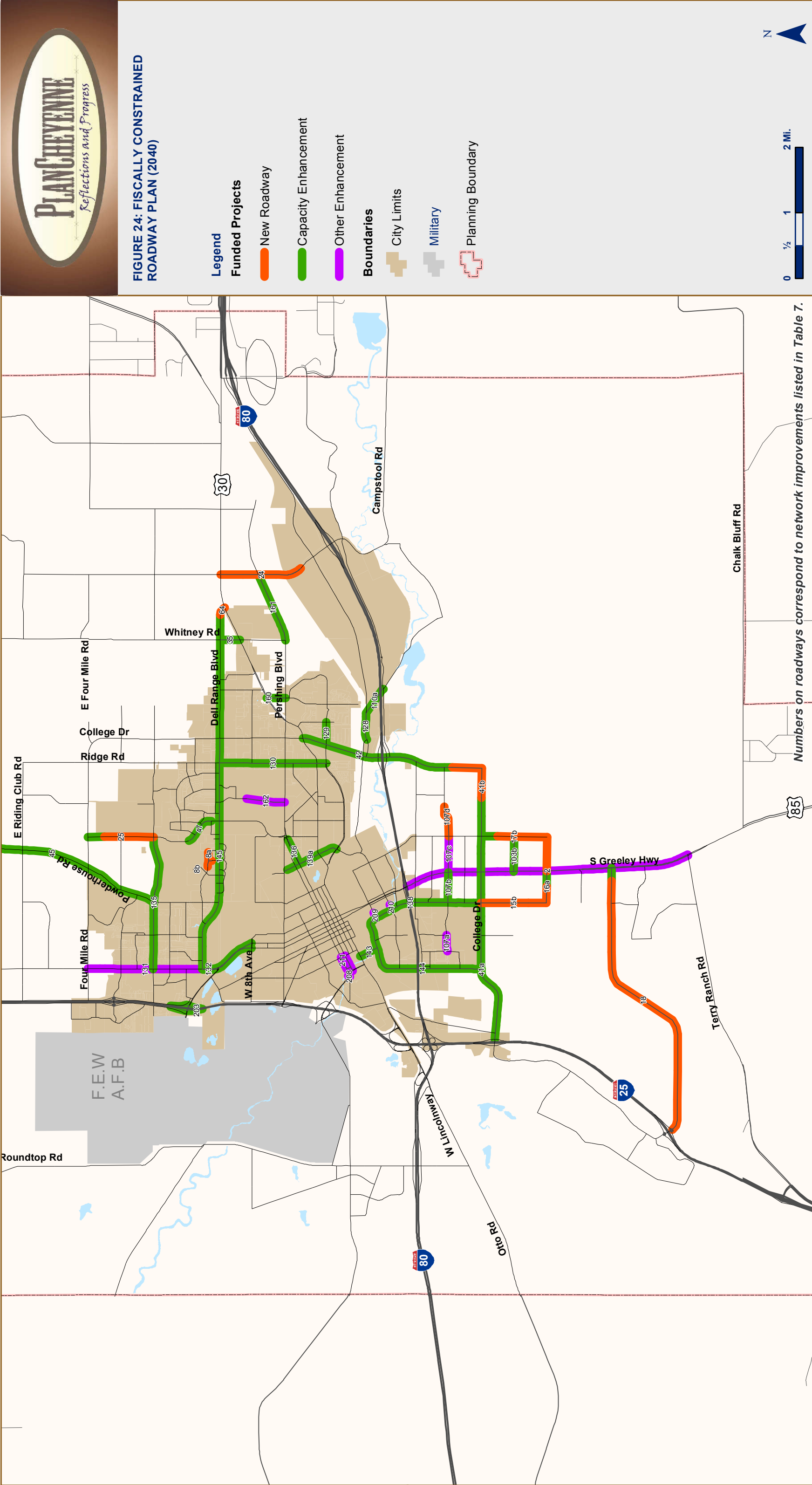




FIGURE 25: FISCALLY CONSTRAINED ROADWAY CONGESTION ANALYSIS (2040)

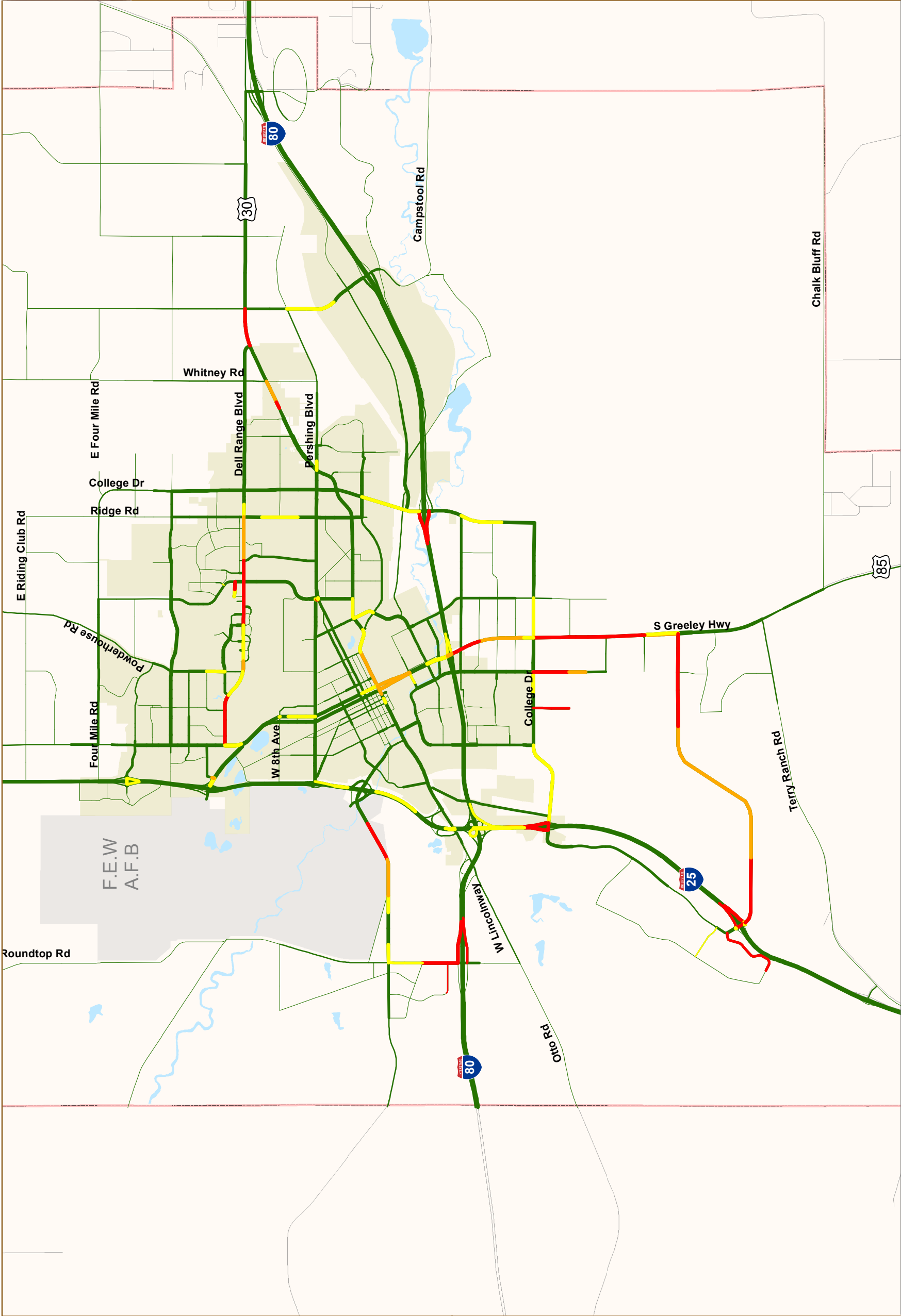
- Legend**
- Boundaries**
- City Limits
  - Military
  - Planning Boundary

**Traffic Volume**

<2,500  
2,501-5,000  
5,001-10,000  
>10,000

**Level of Congestion**

- Uncongested (A-C)
- Congesting (D)
- Congested (E)
- Very Congested (F)



February 2014

# FISCALLY CONSTRAINED ROADWAY CONGESTION ANALYSIS (2040)

## Cheyenne Area Master Plan

**TABLE 7: COST ESTIMATES AND 2040 FISCALLY CONSTRAINED ROADWAY PLAN INCLUSION****U.S./State Highways**

No.	Facility	Limits	Improvements	Length (miles)	Estimated Cost	Fiscally Constrained Status	Fiscally Constrained Cost
41b	E. College Dr. /S. College Dr.	S. Greeley Hwy. to Fox Farm Rd.	Increase capacity / widen to principal arterial	2.61	\$10,000,000	FUND	\$10,000,000
132	Central Ave.	8th Ave to Dell Range Blvd.	Increase capacity / widen to principal arterial	1.48	\$3,000,000	FUND	\$3,000,000
64	Dell Range Blvd and US 30	Intersection	Operational improvements	N/A	\$2,300,000	FUND	\$2,300,000
141	W. Lincolnway/ E. Lincolnway	Snyder to Omaha Rd.	Pedestrian safety & enhancement improvements	2.49	\$2,000,000		
61	I-80 at Roundtop	Interchange	Widen underpass	N/A	\$12,000,000		
201	I-80 at Berwick Dr.	Interchange b/w Roundtop Rd. and Otto Rd.	Modify interstate ramps	N/A	\$5,000,000		
62	I-25 at West College Dr.	Interchange	Widen to 4 lane DDI	N/A	\$6,400,000		
42	N. College Drive	Fox Farm Rd to Lincolnway	Increase capacity / widen to principal arterial	1.78	\$8,200,000	FUND	\$8,200,000
41a	W. College Drive	I-25 to S. Greeley Hwy.	Increase capacity / widen to principal arterial	2.66	\$8,000,000	FUND	\$8,000,000
2	N & S Greeley Hwy	I-80 to Terry Ranch Rd.	Improve access control, enhancements, and non-motorized improvements per county adopted plan	6.00	\$2,000,000	FUND	\$2,000,000
202	I-25 at Missile Dr.	Interchange	Modify interstate ramps	N/A	\$5,000,000		
203	I-25 at Central Ave	Interchange	Ramps & operational improvements	N/A	\$4,500,000	FUND	\$4,500,000
213	I-25 at Berwick Dr. Ext.	Interchange between Missile & I-80	Build Interchange	N/A	\$5,000,000		
205	I-80 at College Dr.	Interchange	Ramps & operational improvements	N/A	\$5,000,000		
206	I-80 at Roundtop Rd	Interchange	Ramps & operational improvements	N/A	\$5,000,000		
212	College and Four Mile	Intersection	Rebuild	N/A	\$1,000,000		
207	I-25 at Wallick Rd.	Interchange	Build interchange	0.88	\$25,000,000		
44	US 30	Hayes Ave to Christensen Rd.	Increase capacity / widen to principal arterial	1.47	\$4,600,000		
33	Happy Jack Rd.	Roundtop Rd. to I-25	Increase capacity / widen to minor arterial	2.33	\$5,000,000		
43	US 30	Christensen Rd to Archer Rd.	Increase capacity / widen to principal arterial	3.00	\$8,500,000		
39	Terry Ranch Road	I-25 to South Greeley Hwy.	Improve as minor arterial	5.71	\$3,500,000		
65	I-80 and I-25	Interchange	Improve/rebuild interchange	N/A	\$100,000,000		
32a	Roundtop Rd.	Otto Rd. to I-80	Improve as minor arterial	0.73	\$1,500,000		
32b	Roundtop Rd.	I-80 to Happy Jack Rd	Increase capacity / widen to minor arterial	0.96	\$2,500,000		
					<b>\$235,000,000</b>		<b>\$38,000,000</b>



## Capacity/New Roadway Improvements (Local Roads)

No.	Facility	Limits	Improvements	Length (miles)	Estimated Cost	Fiscally Constrained Status	Fiscally Constrained Cost
145	Dell Range Blvd.	Yellow stone Rd to N. College Dr.	Increase capacity & non-motorized improvements	3.59	\$6,000,000	FUND	\$6,000,000
144	Parsley Blvd.	W. College Dr. to Ames Ave	Improve as minor arterial	1.81	\$3,600,000	FUND	\$3,600,000
130	Ridge Rd	12th St to Dell Range Blvd	Improve as minor arterial	1.63	\$2,000,000	FUND	\$2,000,000
143	Ames Ave Underpass	Parsley Blvd to Lincolnway	Widen to minor arterial & drainage improvements	0.29	\$1,750,000	FUND	\$1,750,000
16a	Wallick Rd.	Division Ave. to South Greeley Hwy.	Extend/improve as minor arterial	0.50	\$1,250,000	FUND	\$1,250,000
16b	Wallick Rd.	Division Ave. to Clear Creek	New minor arterial	2.82	\$10,000,000		
16c	Wallick Rd.	South Greeley Hwy. to Avenue C	New minor arterial	0.50	\$1,500,000		
16d	Wallick Rd.	Avenue C to Sweetgrass Inner Loop	New collector	0.25	\$500,000		
15a	Division Ave.	High Plains Rd. to Wallick Rd.	Extend/improve as collector	1.00	\$2,000,000		
15b	Division Ave.	Wallick Rd. to W. College Dr.	New collector	1.02	\$1,800,000	FUND	\$1,800,000
14	Parsley Blvd.	Terry Ranch Rd. to W. College Dr.	Extend as minor arterial	3.50	\$7,000,000		
24	Christensen Rd. (construction only)	Commerce Circle to US 30	New minor arterial and UP RR overpass	1.25	\$10,000,000	Funding will come from Federal Grants, 6th Penny, or other sources	
138	Watterschied Blvd/Deming Dr.	W. College Dr. to Ames Ave	Increase capacity / widen as minor arterial	2.16	\$4,000,000	FUND	\$4,000,000
129	12th Street	N. College Dr. to Cleveland Ave	Increase capacity / widen to minor arterial	0.34	\$800,000	FUND	\$800,000
135	Storey Blvd.	Yellow stone to Converse Ave	Increase capacity / widen to minor arterial	2.04	\$2,000,000	FUND	\$2,000,000
18	High Plains Rd	I-25 to South Greeley Hwy.	New minor arterial	4.50	\$10,000,000	FUND	\$10,000,000
111	E. High Plains Extension	South Greeley Hwy. to College Dr.	New minor arterial	3.36	\$7,000,000		
137	5th St.	Deming Dr. to Morrie Ave.	Extend/improve as collector	0.72	\$2,000,000		
128	Campstool Road	Livingston Ave. to Burlington Trl.	Improve as a minor arterial	0.41	\$1,000,000	FUND	\$1,000,000
149	Bridger Peak Dr.	Clear Creek Pkwy to Berwick Dr.	New collector	0.80	\$1,400,000		
31	Dell Range Blvd	N. College Dr. to New US 30 intersection	Increase capacity / widen to principal arterial	2.02	\$6,600,000	FUND	\$6,600,000
8a	Prairie Ave	Extend to Rue Terre	Realign curve and extend as a minor arterial	0.22	\$1,000,000	FUND	\$1,000,000
8b	Prairie Ave / New collector	Extend to E Carlson St.	Realign curve and extend as a collector	0.65	\$2,100,000		
8c	Melton St	Pow derhouse to Carlson Extension	Extend as a collector	0.75	\$2,000,000		
8d	E Carlson St	Pow derhouse to Converse	Extend as a collector	1.02	\$2,100,000		
8e	Fort Laramie Trl.	Prairie Ave to Storey Blvd	New collector	0.70	\$2,800,000		
8f	Rue Terre	Prairie Ave to Storey Blvd	Extend as a collector	0.83	\$1,800,000		

No.	Facility	Limits	Improvements	Length (miles)	Estimated Cost	Fiscally Constrained Status	Fiscally Constrained Cost
47	Converse Ave.	Dry Creek to Carlson Extension	Increase capacity / widen to minor arterial	0.50	\$2,000,000	FUND	\$2,000,000
136	19th Street	Logan Ave to Converse Ave	Increase capacity / widen to minor arterial	0.41	\$1,500,000	FUND	\$1,500,000
10a	Berwick Dr.	Wallick Rd. to I-80	New minor arterial with UP RR/Otto rd. overpass	1.99	\$17,000,000		
10b	Berwick Dr. Ext	I-80 to Veta Ext	New minor arterial	0.49	\$3,000,000		
10c	Berwick Dr. Ext	Veta Ext to W. Lincolnway	New minor arterial	1.21	\$3,000,000		
45	Powderhouse Rd.	Storey Blvd. to Iron Mountain Rd	Increase capacity / widen	3.22	\$2,100,000	FUND	\$2,100,000
17a	Avenue C	US 85 at Terry Ranch Rd. to Wallick Rd.	New collector	2.30	\$3,000,000		
17b	Avenue C	Wallick Rd. to E. College Dr.	Extend/improve as a minor arterial	1.00	\$2,000,000	FUND	\$2,000,000
107d	E. Allison Rd.	Avenue C to west of Energy Drive	New collector	0.50	\$2,100,000	FUND	\$2,100,000
107e	E. Allison Rd.	S. College to East College Extension	Extend/improve as a collector	1.00	\$2,000,000		
25	Converse Ave.	Storey Blvd to Four Mile Road	Extend/improve as a minor arterial	1.00	\$2,500,000	FUND	\$2,500,000
122	Horizon Dr. Ext	Roundtop Rd. to W. Lincolnway	Extend/improve as collector	1.34	\$5,000,000		
114	New Collectors (2)	Sw eetgrass Inner loop to E College Dr.	New collectors	0.58	\$1,000,000		
102	New Collector	Terry Ranch Rd. to W. College Drive	New collector	4.48	\$8,300,000		
7	Summit Dr.	N. College Dr. to Whitney Rd.	Extend/improve as collector	1.50	\$3,000,000		
150	Gannett Peak Dr.	Clear Creek Pkwy to Berwick Dr.	New collector	0.72	\$2,900,000		
5a	Four Mile Rd.	Braehill Rd to Whitney Rd	Extend/improve as a collector	1.29	\$2,600,000		
5b	Four Mile Rd.	Christensen Rd. to Reese Rd.	Extend as a collector	1.00	\$2,000,000		
108	E. Fox Farm Rd.	S. College Dr. to Allison Rd Extension	New collector	0.73	\$2,900,000		
105	Remington Dr.	Parsley Blvd. to Troyer Dr.	Extend/improve as a collector	0.47	\$1,000,000		
104a	Julianna Rd.	Parsley Blvd. to S. Greeley Highway	Extend/improve as a collector	1.55	\$3,000,000		
104b	Julianna Rd.	S. Greeley Highway to E High Plains Ext	New collector	0.96	\$2,000,000		
126	New Collectors (2)	Happy Jack Rd. to Berwick Dr. Extension	New collector	0.64	\$1,500,000		
127	New Collector	Roundtop Rd to Berwick Ext	New collector	0.85	\$1,700,000		
103a	Artesian Rd	Parsley Blvd. to Division Rd	Extend/improve as a collector	1.00	\$2,000,000		
103b	Artesian Rd	S. Greeley Highway to Avenue C	Extend/improve as a collector	0.50	\$1,000,000	FUND	\$1,000,000
121	Veta Ext	Roundtop Rd to Berwick Ext	Extend/improve as a collector	0.81	\$1,600,000		

No.	Facility	Limits	Improvements	Length (miles)	Estimated Cost	Fiscally Constrained Status	Fiscally Constrained Cost
120	Ridge Rd.	Riding Club Rd. to Iron Mountain Rd.	Extend/improve as a collector	1.00	\$2,000,000		
6	Mountain Rd./ Chief Washakie	Plain View Rd. to Four Mile Rd.	Extend/improve as a collector	1.42	\$2,800,000		
22	Pow derhouse Rd.	Iron Mountain Rd. to Torrington Hw y	Extend/improve as a collector	2.20	\$2,000,000		
109	E. College Extension	E. College Dr. to Campstool Rd.	New minor arterial	4.19	\$10,000,000		
101	York Ave.	W. College Dr. to Daysia Ln	Extend/improve as a collector	2.31	\$4,000,000		
110a	Burlington Trl	S. Industrial Rd. to Campstool Rd.	Extend/improve as a collector	0.43	\$1,700,000	FUND	\$1,700,000
110b	Burlington Trl	E. College Dr. Ext. to S. Industrial Rd.	Extend/improve as a collector	1.30	\$5,200,000		
123	New Collectors	Betw een Horizon, Happy Jack Rd., and Berw ick Ext.	New collector	0.80	\$3,200,000		
115	New Collector	E High Plains Ext to E College Ext	New collector	0.50	\$2,000,000		
4	Riding Club Rd.	Ridge Rd. to Whitney Rd.	Extend/improve as a collector	2.00	\$3,700,000		
124	Sw an Ranch Rd	Berw ick Dr. to Broken Arrow	New collector	1.33	\$5,300,000		
151	Crane Bluff	Converse Ave. to Mountain	New collector	0.48	\$1,900,000		
1	Iron Mountain Rd.	Whitney Rd. to Christensen Rd	Extend as a collector	0.98	\$1,000,000		
3	Christensen Rd.	Riding Club Rd. to Iron Mountain Rd.	Extend/improve as a collector	1.00	\$1,000,000		
125	Broken Arrow	W. College Dr. to Sw an Ranch Rd	New collector	0.74	\$1,500,000		
119	Rock Springs St	Ridge Rd. to Moran	Extend/improve as a collector	0.42	\$1,000,000		
118	Van Buren Ave.	Dell Range Blvd to Four Mile Rd	New collector	2.30	\$4,600,000		
116	Beckle Rd.	Reese Rd. to Westedt Rd.	Extend/improve as a collector	1.00	\$1,000,000		
112	Sw eetgrass Inner Loop	E High Plains Ext to E High Plains Ext	New collector	2.09	\$4,200,000		
113	Artesian Dr.	Avenue C to Sw eetgrass Inner loop	Extend/improve as a	0.26	\$1,000,000		
161	E. Pershing Blvd.	Whitney Rd. to Christensen Rd	Increase capacity / w iden as minor arterial	1.09	\$1,000,000	FUND	\$1,000,000
35	Whitney Rd.	U.S. 30 to Dell Range Blvd	Increase capacity / w iden as minor arterial	0.24	\$500,000	FUND	\$500,000
					<b>\$236,300,000</b>		<b>\$58,200,000</b>



## Other Roadway Improvements (Local Roads)

No.	Facility	Limits	Improvements	Length (miles)	Estimated Cost	Fiscally Constrained Status	Fiscally Constrained Cost
162	Windmill	Pershing north to new section	Improve as a collector with roundabout	0.59	\$1,500,000	FUND	\$1,500,000
131	Yellow stone Rd	Dell Range Blvd to Four Mile Rd.	Non-motorized improvements, access control	1.95	\$3,800,000	FUND	\$3,800,000
139b	Logan and Pershing	Intersection	Rebuild and realign with concord	N/A	\$2,000,000		
208	19th Street	Bridge (Crow Creek)	Bridge rebuild	N/A	\$2,000,000	FUND	\$2,000,000
211	19th St and 20th St	Intersection (at Missile Drive)	Operational improvements	N/A	\$5,000,000	FUND	\$5,000,000
209	9th Street	Bridge (Crow Creek)	Rebuild bridge/greenway underpass	N/A	\$1,500,000	FUND	\$1,500,000
34	Missile Dr.	W. Lincolnway to I-25	Streetscape, landscape & non-motorized improvements	2.01	\$4,150,000		
210	5th Street	Bridge (Crow Creek)	Bridge rebuild	N/A	\$1,500,000	FUND	\$1,500,000
107a	W. Allison Rd.	Cribbon to Snyder	Safety medians & pedestrian crossings	0.25	\$500,000	FUND	\$500,000
107c	E. Allison Rd.	South Greeley Highway to Avenue C	Total reconstruction	0.56	\$2,000,000	FUND	\$2,000,000
					<b>\$23,950,000</b>		<b>\$17,800,000</b>
Total Fiscally Constrained Local Roads							<b>\$76,000,000</b>

## Funded in 2014-2017 TIP

No.	Facility	Limits	Improvements	Length (miles)	Estimated Cost	Fiscally Constrained Status	Fiscally Constrained Cost
160	Polk Ave	Pershing and US 30	Extend/improve as a collector	2.00	\$700,000	FUND*	N/A*
107b	W. Allison Rd.	Waltersheid to South Greeley Highway	Reconstruction	2.00	\$1,800,000	FUND*	N/A*
139a	Logan Ave.	Nationway to Pershing	Improve as a minor arterial	2.00	\$5,200,000	FUND*	N/A*
					<b>\$7,700,000</b>		

\*Projected available capital funds were not allocated to these projects; funds have been identified in the 2014-2017 TIP.

### **How are project costs estimated?**

As part of the *Transportation Master Plan* development process, it is necessary to estimate costs for each improvement. If detailed engineering cost estimates were available for particular projects, either from localities, WYDOT, or other reliable sources, that data was used. Where accurate and reliable cost data was not readily available, a cost estimation routine was used based on the results of the travel demand model. These roadway costs were developed by analyzing the results of the travel demand model taking into consideration the individual characteristics of the recommended roadway network. These planning level construction costs include estimated local costs of construction based on the projected roadway type as well as the estimated level of effort required for utility relocation, access maintenance, terrain, drainage, stormwater pollution prevention, project management, and engineering, design and construction contingencies.

## FISCALLY CONSTRAINED TRANSIT PLAN

Funds available for operation and expansion of the transit system in the Cheyenne Area are driven by FTA 5307 funds. The amount of funding Cheyenne transit receives is based on the population in the most recent Census, with adjustment for inflation. The Cheyenne Area does not provide additional funding beyond the required FTA 5307 local match. However, additional funding will be required in order to provide the level of service described in the Transit Vision Plan.

The Fiscally Constrained Transit Plan uses the 2014 estimated funding of \$1.9 million per year as the base year to project total transit funding through 2040 at approximately \$65 million. The 2040 funding estimate is based on a growth rate of 1.08 percent per year and assumes funding increases commensurate with population growth.

Funds available for operation of the transit system must be split among three primary categories: administration, demand response, and fixed route.

The 2013 Cheyenne 5-Year Transit Development Program indicates that the annual cost of CTP operations has remained nearly constant at just under \$1.5 million since FY 2008. However, the city has made some cuts to service hours for transit and paratransit to keep net operations costs from rising. While estimated 2014 CTP expenses are not available, it is reasonable to assume that expenses will continue to remain around \$1.5 million a year.

The demand response and fixed route categories include the replacement of aging busses as well as the purchase of additional busses needed to expand service.

Based on the anticipated transit funding and historical costs, there is only a marginal amount of funding left to consider improvements to the current transit system. As a result, it is recommended that the city pursue the short-range recommendations identified in The Fiscally Constrained Transit Plan. The focus of short-range recommendations is on extending service coverage incrementally to the extent affordable by reallocating underutilized or redundant service hours and miles to new service. Additionally, a number of minor adjustments are proposed to address operational concerns identified primarily by CTP management. The list of short-range improvements includes:

1. Technology Enhancements: explore technology options that may include automated scheduling, AVL/GPS, automated fare box and passenger counting, and expanded reporting capabilities.
2. South Route Modifications: Realignment of South Loop
3. East Route Modification: New alignment with bus stop added to serve the Whispering Chase Independent Living Center.
4. Expand Curb-to-Curb Service Coverage: Expand the curb-to-curb service coverage to the current eastern municipal boundary that includes Saddle Ridge.

Some of the short-range recommendations such as modifications to the South and East Routes are budget neutral, and should be implemented first. Technology Enhancements should be considered for CTP to better position the system for the future and are estimated to cost between \$50,000 and \$75,000. Expanding paratransit to include the Saddle Ridge area will cost approximately \$70,000 annually.

The Cheyenne 5-Year Transit Development Program also provides long range direction for transit system improvements through 2035. The Development Program lays out two conceptual alternatives as options for a preferred future transit system in Cheyenne. Cheyenne should consult this plan when deciding how to direct any residual transit funding.

**TABLE 8: FORECASTED 2014 & 2040 TRANSIT FUNDING**

2014 Funding	2040 Funding
\$1.9 Million	\$65 Million

## FISCALLY CONSTRAINED BICYCLE & PEDESTRIAN PROJECTS

Historically, Cheyenne has not provided dedicated funding for bicycle and pedestrian transportation projects. While competitive funding sources exist for bicycle and pedestrian standalone projects, such as Transportation Alternatives, due to the uncertainty from their competitive nature, projections for these funding sources are unknown and not considered in the Fiscally Constrained Plan. Consequently, improvements to the bicycle and pedestrian transportation system are included in the Fiscally Constrained Roadway Plan as stand-alone projects or are tied to other improvements listed in the Plan.

Should dedicated funding for bicycle and or pedestrian improvements become available priority should be given to:

- Tier 1 projects listed in the 2012 Cheyenne *On-Street Bicycle Plan and Greenway Plan*.
- Priority improvement areas identified in the 2010 *Pedestrian Plan*.



## IMPLEMENTATION STRATEGIES

Developing and maintaining a comprehensive transportation system that supports safe automobile, transit, bicycle, and pedestrian travel is critical to maintaining and improving mobility within the Cheyenne Area.

Completion of the 2040 Fiscally Constrained Transportation Plan should be a top priority for the City, County, MPO, and WYDOT. Because completion of the 2040 Fiscally Constrained Transportation Plan will not sufficiently meet Cheyenne's needs, implementation of the 2040 Transportation Vision Plans should also be a priority.

The overarching Transportation Vision Plan consists of seven individual vision plans that include: 1) Roadway Vision; 2) Transit Vision; 3) Bicycle Vision; 4) Pedestrian Vision; 5) Complete Streets & Active Transportation Vision; 6) Truck & Freight Vision; and 7) Safety Vision. Implementation Strategies for each of the vision plans are presented below.

Additionally, due to the importance of new funding sources and the relevance of funding to all modes, funding strategies applicable to multiple modes or visions are addressed as a separate topic.

# 1. STRATEGIES TO IMPLEMENT THE ROADWAY VISION PLAN

Travel by automobile, transit, and bicycle all rely on the roadway system, making roadways a key element of Cheyenne's multi-modal transportation system. Roadway Design Standards were developed as a part

of Cheyenne's Unified Development Code that will help to facilitate the efficient use of the roadway system. Other strategies that can help facilitate the efficient use of the roadway system are listed below:

Strategies /Actions	"Ease" to Accomplish	Type of Action	Responsible Party/ Parties	Priority
1.a. Develop and Fund an Access Management Plan	○	P	City	2
1.b. Preserve Right-of-Way	●	D	City/County	1

## KEY TO SYMBOLS

### "Ease"

- = Relatively fast to accomplish (e.g., less than one year), low cost, minimal challenges.
- ◐ = Moderate time to accomplish (6 months to 1 year), cost, and moderate challenges to implement.
- = Takes a long time (e.g., more than one year), higher cost, more challenging.

### "Type"

- D** = Policy Decision
- P** = Program
- Z** = Code and Zoning Revisions
- R** = Regional and Agency Coordination
- F** = Funding Mechanisms
- L** = State Legislation

### "Priority"

- 1 = High** - immediately following plan adoption
- 2 = Medium** - within a year following plan adoption
- 3 = Lower** - within five years

## STRATEGIES/ACTIONS DESCRIPTION

### 1.a. Develop and Fund an Access Management Phasing Plan

While access management guidelines have been outlined in the Transportation Networks and Streets Design section to the updated UDC, these guidelines only apply to high-speed and high-volume roadways.

Developing an access management phasing plan to address critical corridors would improve access control problems that are resulting in traffic congestion and safety issues. Implementation of an Access Management Plan typically occurs on a corridor by corridor basis. Corridors that currently experience access management problems include Yellowstone, Dell Range, and Lincolnway.

Since preservation of the existing transportation system is key to providing an efficient transportation system, funding should be made available to

implement solutions to existing corridors with access control problems. With good access control, capacity of streets is increased, therefore decreasing the need for expansion. Potential funding sources for an Access Management Plan include contributions from the General Fund or funding through the 5<sup>th</sup> or 6<sup>th</sup> penny sales tax.

### 1.b. Preserve Right-of-Way

The City and County should preserve right-of-way to facilitate construction of the buildout roadway system, as defined in the Buildout Roadway Vision Plan. Preservation typically occurs during the plat/development review process and relies on subdivision regulations. The City should verify that subdivision regulations facilitate adequate corridor preservation. Right-of-way requirements are specified in the City and County design standards.

Wyoming State Statute 15-1-508 to 510 provides the means to preserve the corridor and anticipated right-of-way needed. The local agency must prepare a Plan and adopt an Official Map by ordinance. After

adoption of the Map, the city may pass an ordinance that prohibits permits for buildings or other conflicting developments that would interfere with the future corridor as defined on the Map.

## 2. STRATEGIES TO IMPLEMENT THE TRANSIT VISION PLAN

Short and long-term transit improvements are identified in the recently completed Transit Development Plan (TDP). In order to ensure all recommended improvements can be met, long-term

funding options to support the transit system should be identified.

Strategies /Actions	"Ease" to Accomplish	Type of Action	Responsible Party/ Parties	Priority
2.a. Identify Long-Term Funding Options	○	F	City/Transit Operator	3

### KEY TO SYMBOLS

#### "Ease"

- = Relatively fast to accomplish (e.g., less than one year), low cost, minimal challenges.
- ◐ = Moderate time to accomplish (6 months to 1 year), cost, and moderate challenges to implement.
- = Takes a long time (e.g., more than one year), higher cost, more challenging.

#### "Type"

- D** = Policy Decision
- P** = Program
- Z** = Code and Zoning Revisions
- R** = Regional and Agency Coordination
- F** = Funding Mechanisms
- L** = State Legislation

#### "Priority"

- 1 = High** – immediately following plan adoption
- 2 = Medium** – within a year following plan adoption
- 3 = Lower** – within five years

## STRATEGIES/ACTIONS DESCRIPTION

### 2.a. Identify Long-Term Funding Options

Establish a long-term funding commitment for the expansion of transit in Cheyenne and to implement the Transit Vision Plan. Options are limited due to constraints placed on Cheyenne by the State of Wyoming, but examples include increased contributions from the general fund.

### 3. STRATEGIES TO IMPLEMENT THE BICYCLE VISION PLAN

Adoption of the proposed roadway standards and the parks element of *PlanCheyenne* helped to improve bicycle travel options in Cheyenne. Additionally, the update to the Cheyenne Unified

Development Code addressed bicycle parking requirements. Additional strategies that will aid in the implementation of the Bicycle Vision are outlined below.

Strategies /Actions	"Ease" to Accomplish	Type of Action	Responsible Party/ Parties	Priority
3.a. Identify Alternative Funding Sources	○	F	City/MPO/WYDOT	1
3.b. Complete Missing Segments Identified in the Bicycle Vision Plan	○	P	City/MPO/WYDOT	2
3.c. Enhance Bicycle-Transit Integration	◐	R	City/WYDOT	2
3.d. Pursue Maintenance Agreements	◐	R	City/WYDOT	2
3.e. Amend Cheyenne Municipal Code to Reflect Recommendations in Bike Plan Update	◐	Z	City/WYDOT	2
3.f. Improve Detection of Bicycles and Use of Traffic Signals by Bicyclists	◐	Z	City/WYDOT	2
3.g. Implement Wayfinding Signage Program	◐	Z/P/R	City/WYDOT	2
3.h. Develop Bicycle Report Card	◐	P	City/WYDOT	2

#### KEY TO SYMBOLS

##### "Ease"

- = Relatively fast to accomplish (e.g., less than one year), low cost, minimal challenges.
- ◐ = Moderate time to accomplish (6 months to 1 year), cost, and moderate challenges to implement.
- = Takes a long time (e.g., more than one year), higher cost, more challenging.

##### "Type"

- D** = Policy Decision
- P** = Program
- Z** = Code and Zoning Revisions
- R** = Regional and Agency Coordination
- F** = Funding Mechanisms
- L** = State Legislation

##### "Priority"

- 1 = High** – immediately following plan adoption
- 2 = Medium** – within a year following plan adoption
- 3 = Lower** – within five years

### STRATEGIES/ACTIONS DESCRIPTION

#### 3.a. Identify Funding Sources

Establish a dedicated funding plan to implement the Bicycle Vision Plan and for maintenance of bicycle facilities. Funding would likely need to be provided through the general fund or as part of a 5<sup>th</sup> penny sales tax measure. By transferring development-driven roadway costs from the public to developers through a mechanism such as

a fee program can help free funding for bicycle improvements.

#### 3.b. Complete Missing Segments Identified in the Bicycle Vision Plan

Prioritize and implement critical bicycle segments that provide system continuity and connections to activity centers, parks, schools, libraries, hospitals, and the community college, etc.



### **3.c. Enhance Bicycle-Transit Integration**

Provide bicycle lockers near the Transfer Station in downtown Cheyenne and future locations. 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.

### **3.d. Pursue Maintenance Agreements**

The Bicycle Vision Plan identifies corridors on City and County roads as well as on state highways. It is the current policy of WYDOT that bike lanes or shoulders on state facilities are not maintained by WYDOT. Promote an intergovernmental dialog and intergovernmental agreement that facilitates regular maintenance such as plowing and sweeping bike lanes on state facilities along with vehicular travel lanes.

### **3.e. Amend Cheyenne Municipal Code to Reflect recommendations in Bike Plan Update**

Cheyenne's On-Street Bicycle Plan and Greenway Plan Update recommends some changes to the Municipal Code. Some of these recommendations have been addressed in the update to the Unified Development Code changes such as establishing bicycle parking requirements and clarifying the where sidewalk riding is prohibited. Other recommendations from the Bike Plan update include: enhancing portions of municipal code that target bike lane obstruction, removing the bicycle licensing statute, clarifying requirements for used bicycle purchase or sale, and recommending provisions that clarify the authority of the Traffic Engineer.

### **3.f. Improve Detection of Bicycles and Use of Traffic Signals by Bicyclists**

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 and prioritize these locations for signal improvements. Ensure that all new signals provide a means of cyclist activation.

### **3.g. Implement Wayfinding Signage Program**

The City of Cheyenne should develop a signing program based on Manual on Uniform Traffic Control Devices (MUTCD). 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 as well as the signing recommended in the 2008 and 2010 Wayfinding Plans.

### **3.h. Develop Bicycle Report Card**

Develop a data collection program that tracks and monitors bike facility usage. The 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.

## 4. STRATEGIES TO IMPLEMENT THE PEDESTRIAN VISION PLAN

Pedestrian travel makes up the beginning and end of every trip and is particularly important in a multi-modal transportation system. The newly adopted Uniform Development Code contains comprehensive Bicycle and Pedestrian Guidelines that will be very effective in facilitating the Pedestrian Vision Plan. The UDC also contains Pedestrian Level of Service Guidelines that provide

an objective framework to help planners and decision makers understand the relative quality of the pedestrian experience and will be instrumental in prioritizing pedestrian improvements. Significant progress to improve pedestrian facilities was made through the UDC update. Securing additional funding for pedestrian enhancements is the next step to achieve the Pedestrian Vision.

Strategies /Actions	"Ease" to Accomplish	Type of Action	Responsible Party/ Parties	Priority
4.a. Identify Alternative Funding Sources	○	F	City/MPO	1

### KEY TO SYMBOLS

#### "Ease"

- = Relatively fast to accomplish (e.g., less than one year), low cost, minimal challenges.
- ◐ = Moderate time to accomplish (6 months to 1 year), cost, and moderate challenges to implement.
- = Takes a long time (e.g., more than one year), higher cost, more challenging.

#### "Type"

- D** = Policy Decision
- P** = Program
- Z** = Code and Zoning Revisions
- R** = Regional and Agency Coordination
- F** = Funding Mechanisms
- L** = State Legislation

#### "Priority"

- 1 = **High** – immediately following plan adoption
- 2 = **Medium** – within a year following plan adoption
- 3 = **Lower** – within five years

## STRATEGIES/ACTIONS DESCRIPTION

### 4.a. Identify Alternative Funding Sources

Pedestrian facilities should be considered during the allocation of transportation improvement funds. Currently, two percent of all trips are walking trips, but virtually no dedicated funding exists for targeting improvements to fix existing gaps and improve safety.

While the 2040 Fiscally Constrained Pedestrian Plan allots some funds for pedestrian improvements, additional funding may be necessary. Additional funds for such pedestrian improvements could be made available by transferring development-driven roadway costs from the public to developers through a mechanism such as a fee program.

## 5. STRATEGIES TO IMPLEMENT THE COMPLETE STREETS & ACTIVE TRANSPORTATION VISION

Complete streets and active living are a critical component to the future of Cheyenne's transportation system. Many actions were identified through Cheyenne's Complete Streets Workshop in

July 2012. The strategies that are relevant to achieving the Complete Street's Vision are listed below.

Strategies /Actions	"Ease" to Accomplish	Type of Action	Responsible Party/ Parties	Priority
The suggestions contained on this page, as all suggestions in Plan Cheyenne, are subject to the stated intent of the Governing Body contained on page 125 of the Community Plan and are to be no more prescriptive than Policy 4.3.A on page 72 of the Community Plan.				
5.a. Develop and Adopt a Complete Streets Policy/Checklist	●	D	City/County	2
5.b. Establish Layered Network Guidelines	●	D	City/County	2
5.c. Develop Right-of-Way Zone Concepts	●	D	City/County	2
5.d. Develop Process for Public Project Review	●	D	City/County	2
5.e. Establish Complete Streets Committee	●	R	City/County MPO	1
5.f. Develop Project Development and Review Process	○	D	City	1
5.g. Explore Municipal Code Changes or Processes that Restrict Complete Streets Design Principles	○	Z	City/County	3
5.h. Explore Innovative Financing Mechanisms	○	F	City/County	2

### KEY TO SYMBOLS

#### "Ease"

- = Relatively fast to accomplish (e.g., less than one year), low cost, minimal challenges.
- = Moderate time to accomplish (6 months to 1 year), cost, and moderate challenges to implement.
- = Takes a long time (e.g., more than one year), higher cost, more challenging.

#### "Type"

- D** = Policy Decision
- P** = Program
- Z** = Code and Zoning Revisions
- R** = Regional and Agency Coordination
- F** = Funding Mechanisms
- L** = State Legislation

#### "Priority"

- 1 = High** - immediately following plan adoption
- 2 = Medium** - within a year following plan adoption
- 3 = Lower** - within five years

## STRATEGIES/ACTIONS DESCRIPTION

*The suggestions contained on this page, as all suggestions in Plan Cheyenne, are subject to the stated intent of the Governing Body contained on page 125 of the Community Plan and are to be no more prescriptive than Policy 4.3.A on page 72 of the Community Plan.*

### **5.a. Develop and Adopt a Complete Streets Policy/Checklist**

Developing a Complete Streets Policy and companion checklist will provide information to the Governing Body on development of complete streets in both public and private projects.

### **5.b. Establish Layered Network Guidelines**

Establishing Layered Network Guidelines will ensure that quality of service objectives for each mode of travel are met and will define modal priorities for street segments.

### **5.c. Develop Right-of-Way Zone Concepts**

Establish concepts to “zone the right-of-way” by defining ranges of modal element presence and widths and design flexibility based on the Modal Emphasis Map.

### **5.d. Develop Process for Public Project Review**

Incorporate review of public projects by governing bodies in a public manner similar to that of private projects to align objectives and requirements and elevate public discussion of complete streets elements of public projects.

### **5.e. Establish Complete Streets Committee**

Initiate regular communication among City departments, coordinate Transportation Improvement Program (TIP) project development and private development reviews to identify implementation opportunities. Initial CSC task is to define roles/responsibilities for city departments, outside agencies, and opportunities for early public engagement on remaining Next Steps activities.

### **5.f. Develop Project Development and Review Process**

Develop a list of complete streets options with guidance as to how to apply to different contexts and implement by a review of planning objectives at beginning of design process to communicate nuances of intended purpose and need. Consider fast tracking development proposals that commit to substantially exceeding complete streets requirements.

### **5.g. Explore Municipal Code Changes or Processes that Restrict Complete Streets Design Principles**

Examine codes, design standards, and internal processes for places where complete street elements may fall through the cracks. For example, current code may prohibit city from directly repairing detached sidewalks.

### **5.h. Explore Innovative Financing Mechanisms**

Identify potential for innovative approaches for public-private partnerships to help fund complete street implementation. Options include: establishing a separate CIP fund for sidewalk completion, consider implementing impact fees to aggregate and fund missing links.



## 6. STRATEGIES TO IMPLEMENT THE TRUCK & FREIGHT VISION

Freight movement to, from, and within the Cheyenne Area is vital to the success of commercial and industrial growth. Though somewhat dated, the Western Cheyenne Transportation Study (2005)

identifies several strategies to encourage freight-driven economic development. Other strategies were developed based on conversations with WTA representatives.

Strategies /Actions	"Ease" to Accomplish	Type of Action	Responsible Party/ Parties	Priority
6.a. Update Designated Truck Routes	●	D	City/County	2
6.b. Develop a Comprehensive Truck Parking Plan	●	D	City/County	2
6.c. Consider Elimination of At-Grade Rail Crossings	●	D	City/County	2
6.d. Prepare Site Development Package	●	P/D	City/County	2
6.e. Develop Freight Transportation Plan	●	D	City/County	2

### KEY TO SYMBOLS

#### "Ease"

- = Relatively fast to accomplish (e.g., less than one year), low cost, minimal challenges.
- = Moderate time to accomplish (6 months to 1 year), cost, and moderate challenges to implement.
- = Takes a long time (e.g., more than one year), higher cost, more challenging.

#### "Type"

- D** = Policy Decision
- P** = Program
- Z** = Code and Zoning Revisions
- R** = Regional and Agency Coordination
- F** = Funding Mechanisms
- L** = State Legislation

#### "Priority"

- 1 = **High** - immediately following plan adoption
- 2 = **Medium** - within a year following plan adoption
- 3 = **Lower** - within five years
- 4 = **Long Term** – more than five years after plan adoption

## STRATEGIES/ACTIONS DESCRIPTION

### 6.a. Update Designated Truck Routes

While truck routes have been defined in the Cheyenne Area, they were developed prior to the construction of I-80. The MPO should update designated truck routes to account for service to recent developments with significant truck traffic such as Swan Ranch and LEADS Business Parks. The update should also identify areas where heavy vehicles are causing deterioration of roadways and assess options to provide alternate parallel routes.

### 6.b. Develop a Comprehensive Truck Parking Plan

Conversations with the Wyoming Trucking Association (WTA) have indicated a need for a comprehensive truck parking plan. The plan should determine parking availability and needs and identify staging areas for loading and unloading.

### **6.c. Consider Elimination of At-Grade Rail Crossings**

In order to reduce traffic delay and improve safety, the Cheyenne Area should consider grade-separating at-grade rail crossings at high-volume streets.

### **6.d. Prepare Site Development Package**

Develop a streamlined design, site selection, and permitting process to minimize start-up times. Prepare site development package that includes: site master plan, overview of the development process, rail access schedule and agreements, and per-car freight charges.

### **6.e. Develop Freight Transportation Plan**

Develop a local or regional intermodal freight transportation plan including trucking, rail and air freight.

## 7. STRATEGIES TO IMPLEMENT THE SAFETY VISION

It is vital that the Cheyenne area builds and maintains a transportation system that provides safe, secure means of travel by all modes. Cheyenne's Transportation Safety Management Plan

identified short-term, mid-term, and long-term strategies. The strategies, listed below, will be effective in achieving the Safety Vision.

Strategies /Actions	"Ease" to Accomplish	Type of Action	Responsible Party/ Parties	Priority
7.a. Review State and County Statutes Related to Alcohol	○	L	State	2
7.b. Integrate Data Collection and Enforcement Efforts	●	R	City/County	1
7.c. Identify Alternative Funding Sources	◐	F	City/County	2
7.d. Develop a Designated Driver Program	●	P	City/County	2
7.e. Develop Educational Programs on the Consequences of DUIs	●	P	City/County	1
7.f. Enact Tougher Legislation for DUI Offenses	○	L	State	3

### KEY TO SYMBOLS

#### "Ease"

- = Relatively fast to accomplish (e.g., less than one year), low cost, minimal challenges.
- ◐ = Moderate time to accomplish (6 months to 1 year), cost, and moderate challenges to implement.
- = Takes a long time (e.g., more than one year), higher cost, more challenging.

#### "Type"

- D** = Policy Decision
- P** = Program
- Z** = Code and Zoning Revisions
- R** = Regional and Agency Coordination
- F** = Funding Mechanisms
- L** = State Legislation

#### "Priority"

- 1 = **High** - immediately following plan adoption
- 2 = **Medium** - within a year following plan adoption
- 3 = **Lower** - within five years
- 4 = **Long Term** – more than five years after plan adoption

## STRATEGIES/ACTIONS DESCRIPTION

### 7.a. Review State and County Statutes Related to Alcohol

Review state and county statutes related to alcohol to identify needed changes and those that require increased enforcement. For example, review local ordinances on drive-through liquor sales and consider their elimination.

### 7.b. Integrate Data Collection and Enforcement Efforts

Integrate enforcement efforts so that the current speed task force also enforces DUI. Share data on alcohol-involved crash locations with the police department for use in targeting patrol routes.

### **7.c. Identify Alternative Funding Sources**

Explore options for alternative funding sources to provide additional DUI overtime and speed enforcement such as retaining a grant writer.

### **7.d. Develop a Designated Driver Program**

Develop a designated driver program and partner with bars and other establishments selling alcohol to ensure that nonalcoholic drinks are served to these drivers.

### **7.e. Develop Educational Programs on the Consequences of DUIs**

Increase youth education with a focus on the consequences of DUI, including the economic consequences. Partner with the alcohol industry to educate the public on the risks of DUI.

### **7.g. Enact Tougher Legislation for DUI Offenses**

Wyoming can consider the following changes to state legislation for DUI offenses: 1) lower the legal Blood Alcohol Content (BAC) limit for repeat offenders; 2) enact stronger sanctions for high BACs; and 3) improve the BAC refusal law.



## 8. STRATEGIES TO FUND TRANSPORTATION IMPROVEMENTS

Although some funding mechanisms are mode-specific, the topic of funding is relevant to all modes. The following funding strategies should be considered in order to implement the 2040 Transportation Vision Plans. Potential funding

sources that rely on additional tax funds may require state legislation to implement. As a part of this plan, a survey was administered to gauge public support for different funding sources.

Strategies /Actions	"Ease" to Accomplish	Type of Action	Responsible Party/ Parties	Priority
5.a. Continue Use of the 5 <sup>th</sup> Penny Transportation Sales Tax	●	F	City	1
5.b. 6 <sup>th</sup> Cent Sale Optional Tax	○	F/R	City/County	2
5.c. Additional State Allocation of Funds to WYDOT	○	R	City/MPO/ WYDOT	3
5.d. Facility Exchanges with WYDOT	◐	R	City/ WYDOT	4
5.e. Impact Fees	◐	F	City/MPO/ County	1
5.f. Special District Tax	◐	F	City/County	2
5.g. Federal Earmarks	○	F	City/MPO/ Other	4
5.h. Creation of a Storm Water Utility Fund	○	F	City/MPO/ Other	4

### KEY TO SYMBOLS

#### "Ease"

- = Relatively fast to accomplish (e.g., less than one year), low cost, minimal challenges.
- ◐ = Moderate time to accomplish (6 months to 1 year), cost, and moderate challenges to implement.
- = Takes a long time (e.g., more than one year), higher cost, more challenging.

#### "Type"

- D** = Policy Decision
- P** = Program
- Z** = Code and Zoning Revisions
- R** = Regional and Agency Coordination
- F** = Funding Mechanisms
- L** = State Legislation

#### "Priority"

- 1 = High** - immediately following plan adoption
- 2 = Medium** - within a year following plan adoption
- 3 = Lower** - within five years
- 4 = Long Term** – more than five years after plan adoption

## STRATEGIES/ACTIONS DESCRIPTION

### 5.a. Continue Use of the 5<sup>th</sup> Penny Transportation Sales Tax

The City of Cheyenne has utilized a one cent sales tax to fund improvement, operation, and maintenance of the transportation system since 1978. Continuation of this revenue source is vital to the area's transportation future.

### 5.b. 6<sup>th</sup> Cent Sale Optional Tax

Laramie County can impose a 6<sup>th</sup> penny sales tax, or a Special Purpose and Optional Sale Tax (SPOT) that is used for specific, well defined projects. Although this tax is not often used for transportation improvements, it does provide a potential source of funding for unfunded high-priority transportation improvements. To utilize this funding source, county commissioners must include a project on the ballot and the ballot measure must pass with a majority vote. The Funding Preferences survey that was administered as part of the development of *PlanCheyenne* revealed that 62% of respondents either supported or strongly supported the 6<sup>th</sup> Cent Sale Optional Tax.

### 5.c. Additional State Allocation of Funds to WYDOT

The state of Wyoming allocates funds from the State's 4<sup>th</sup> penny tax to each department of transportation commission district. As the population and traffic counts in the Cheyenne Area grow relative to the state population, additional allocation to District 1 may be warranted.

### 5.d. Facility Exchanges with WYDOT

In the long term, it will be desirable to maintain an outer beltway of arterial streets surrounding Cheyenne. This beltway is currently served by College Drive and Four Mile Road. As Cheyenne grows, these facilities will no longer serve as regional facilities, but rather as Cheyenne city streets. It is suggested that the Wyoming Department of Transportation eventually remove

these facilities from the state system. In turn WYDOT can improve and maintain Iron Mountain Road and Christensen Road and construct additional links to the south and west.

### 5.e. Impact Fees

The City and County can require developers to pay their own way by helping to fund improvements to the transportation system. Improvements may be provided through an exaction process in which developers are required to build roadways in and surrounding property as it develops, or through a citywide, MPO-wide, or countywide fee program that collects fees from all developers on a per-trip basis.

The City currently requires developers to construct transportation facilities through developer exactions as part of the entitlement process. This method is intended to require developers bear the full cost of roadway improvements in and around a developing property. However, this method has several drawbacks. Development driven roadway improvements that are not associated directly with one development, such as the widening of existing facilities, are often difficult to fund. Additionally, smaller developers constructing only a few parcels may not be required to contribute to transportation system improvements. Because of varying considerations on a project-by-project basis, the exactions are not predictable from a developer standpoint. These concerns often lead to the implementation of a trip-based fee program.

Funding Preferences in the Key Choices Survey show that 65% of survey respondents either supported or strongly supported impact fees.

### **5.f. Special District Tax**

Using an optional sales tax, a special district can be created to fund specific projects. The sales tax is only applied to merchandise sold within the designated district. Similar to the SPOT, this tax also expires upon collection of approved amount. By itself, this tax is limited to 3 percent. Special District taxes can be effective to fund maintenance costs associated with a specified area. Forty-one percent of survey respondents were supportive of implementing a Special District tax.

### **5.g. Federal Earmarks**

The I-80/I-25 interchange is becoming problematic and will soon need to be rebuilt. Due to the large scale of the improvement and the interstate nature of much of the freight traffic using the

interchange, a federal earmark may be an appropriate source of funding for the necessary improvements. Federal earmarks may also be a potential funding source for other improvements to the interstate or US highway system. Advancement of such a funding mechanism will require close cooperation with Wyoming senators and representatives and may even involve lobbying effort.

### **5.h. Creation of a Storm Water Utility Fund**

Currently, drainage improvements and maintenance are paid for with transportation funds. Creating a separate utility, with its own ability to collect fees, could relieve the transportation funds of that responsibility.

## PERFORMANCE MEASURES

One of the key requirements of MAP-21 is that MPOs must incorporate performance measures and targets into their long-range plans<sup>8</sup>. While this requirement is not yet being enforced, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) are encouraging MPOs to begin to incorporate system-wide performance measures and localized metrics into their LRTPs.

At the time this report was written, WYDOT was working on developing performance measures. Even so, the Cheyenne MPO should consider developing a means to monitor and evaluate the performance of the transportation system. Establishing a monitoring program can help decision-makers prioritize diminishing funds and will better position the MPO to meet impending federal requirements.

The tables on the following pages contain *suggested* performance measures and targets for some measures, for each of the Transportation Visions. These measures should be monitored annually, although most targets are set to a time period of 5 years, which is when the Plan is expected to be updated again. It will be important to review and amend these metrics in coordination with WYDOT's MAP-21 performance measures.

---

<sup>8</sup> MAP-21 stipulates that the DOT must establish factors for measuring the performance of states by March 2014. States will then have until March 2015 to establish targets for these measures and MPOs will have until March 2015. MPOs will have until March 2015 or no later than 180 days after the date that the relevant State or public transportation provider establishes performance targets to establish targets for metro regions. For selection of performance targets, MPOs must coordinate with their respective state department of transportation and public transportation providers. Once the targets have been established, states and MPOs will be required to report their progress in achieving these targets to the U.S. DOT as well as include system performance reports in their long-range plans.



## ROADWAY VISION

Roadways are the core of Cheyenne's transportation system and their performance should be monitored. Cheyenne already collects some data on roadways including congestion and

Level of Service (LOS). Adding additional measures, such as those presented below, may be valuable in guiding investment decisions.

Measure	Data Source	Target
Traffic volume	WYDOT/City of Cheyenne/MPO	TBD
Traffic flow on major streets	WYDOT/City of Cheyenne/MPO	LOS D
Hours of delay on arterials per 1,000 vehicle miles	WYDOT/City of Cheyenne	TBD
Travel time reliability (buffer index <sup>9</sup> )	WYDOT/MPO	TBD
Condition of pavement on NHS good or excellent	WYDOT	61%
Pavement Condition Index (PCI)	WYDOT	Increase 0.5% to 1% every four years
Condition of bridges on NHS good or excellent	WYDOT	46%
Percentage of traffic signals past design life	WYDOT	TBD
Percentage of measured striping meeting MUTC retroreflectivity requirements	WYDOT	TBD
Percentage of measured signs meeting MUTCD retroreflectivity requirements	WYDOT	TBD
Percentage of I-80 meeting WYDOT standards	WYDOT	TBD

<sup>9</sup> The buffer index is the additional time that must be added to a trip, to ensure that travelers making the trip will arrive at their destination at, or before, the intended time, 95% of the time.

## TRANSIT VISION

As part of the update for the Five-Year Development Plan for the Cheyenne Transit Program (CTP), the Cheyenne MPO administered an online transit survey to collect information about general opinions, levels of awareness of the system, and barriers to using transit, that provides

a good base for data collection. Additionally, the Plan identifies performance measures and recommends targets that are based on national averages. The data to effectively monitor and report the following performance standards is for the most part already being collected

Measure	Data Source	Target
<b>Ridership</b>	CTP	13% increase in regular riders by 2020
<b>Households within ¼ mile of transit stop</b>	CTP	TBD
<b>Farebox recovery</b>	CTP	15% fixed-route (1% increase) per year 8% curb-to-curb (1% increase) per year
<b>Productivity – fixed-route</b>	CTP	12.0 passengers/hour (0.6 increase)
<b>Productivity – curb-to-curb</b>	CTP	3.0 passengers/hour (0.4 increase)
<b>Trip transfers</b>	Travel Survey	15-20% (10-15% reduction) by 2020
<b>Connectivity to desirable locations<sup>10</sup></b>	Travel Survey	50% of respondents somewhat or strongly agree (6% increase) by 2020
<b>On-time performance</b>	CTP	95% of all vehicle trips are completed on time by 2020

<sup>10</sup> Route service should be provided within one-quarter mile walking distance from: Shopping centers (50,000 square feet or larger); Schools (500 or more students); Hospitals (100 or more beds); Nursing homes (100 or more beds); Retirement homes (100 or more residents).

## BICYCLE VISION

The update to the Cheyenne On-Street Bicycle Plan and Greenway Plan (2012) recommends that the city produce an annual report of bicycling metrics. This program was started in 2012. Formalizing the annual bicycle data collection program with permanent bike/ped counters can provide

information that would help to increase bicycling rates and guide investment decisions. The report also recommends capturing qualitative data on bicycle facility user satisfaction and the perception of safety. The city should consider incorporating these into a survey as part of the next plan update.

Measure	Data Source	Target
Number of people bicycling on on-street bicycle facilities*	City of Cheyenne/MPO	Begin a formal process of data collection by 2020
Number of people bicycling on off-street bicycle facilities	City of Cheyenne/MPO	Increase by 10% by 2020
Mileage of on-street bicycle facilities	City of Cheyenne/MPO	Increase by 3 to 5 miles per year
Mileage of off-street /greenway facilities	City of Cheyenne/MPO	Increase 15% by 2020
Number of network gaps	City of Cheyenne/MPO	Decrease spot and lineal gaps by 10% by 2020
Number of cyclist-involved collisions/capita**	City of Cheyenne/MPO	Reduce by 20% by 2020
Fatality & Serious injury rate (number of serious injuries or fatalities to bicyclists/1,000 people)	City of Cheyenne	TBD
Percentage of households within ¼ mile of bike facility	City of Cheyenne	TBD
Percentage of K-8 students biking to school	City of Cheyenne	Increase an average of 2% per year
Number of people participating in community bicycle events*	TBD	Increase by 5% per year
Bike parking spaces in the CBD	City of Cheyenne	Increase by 15% by 2020

\* There is currently no baseline data or an identified process of collecting data for this measure.

\*\*Bicycle crashes/MPO population

\*Bike to Work, Tour de Prairie, Cyclocross Curt Gowdy, etc.

## PEDESTRIAN VISION

The Cheyenne Metropolitan Area Pedestrian Plan (2010) suggests that the City of Cheyenne or MPO should take the lead role in standardizing a regional approach to pedestrian counts and surveys. The National Bicycle and Pedestrian Documentation Project has developed a recommended methodology, survey, and

reporting forms. Additionally, as part of the Cheyenne MPO's Safe Routes to School Plan, Laramie County School District collects data on students' transportation modes that can be incorporated into pedestrian performance measures.

Measure	Data Source	Target
<b>Number of pedestrians*</b>	City of Cheyenne/MPO	Begin a formal process of data collection by 2020
<b>Add or improve sidewalk connections to CTP bus stops**</b>		5 to 10 stops per year
<b>Percentage of K-8 students walking to school</b>	Laramie County School District	20% (increase 4%) by 2020

\* There is currently no baseline data or an identified process of collecting data for this measure.

\*\* As listed in the Transit Development Plan.



## COMPLETE STREETS & ACTIVE TRANSPORTATION VISION

Since complete streets principles encompass many different transportation modes, measures pertaining to complete streets and active

transportation have primarily been addressed under the roadway, transit, bicycle and pedestrian vision sections.

Measure	Data Source	Target
<b>Number of roadway construction and reconstruction projects that incorporate complete streets principles</b>	City of Cheyenne	100% of all lineal feet built in the City where possible; 80% in areas of urban density within the County

## TRUCK & FREIGHT VISION

Performance measures on truck and freights are more difficult due to lack of data. FHWA has acquired a national data set of average travel times for use in freight performance measurement. This data set is being made available to States and Metropolitan Planning Organizations (MPOs) as a tool for performance

measurement. Additionally, WYDOT is developing performance measures for freight. Below is a list of potential performance measures associated with truck and freight. However, the MPO may want to wait until FHWA and WYDOT have established freight performance measures and targets before adopting.

Measure	Data Source	Target
<b>Number of commercial vehicle weighings</b>	WYDOT	TBD
<b>Rail Crossing Incidents</b>	WYDOT/FRA	TBD
<b>Annual hours of truck delay on Interstates</b>	WYDOT	TBD
<b>Truck travel time reliability (freight buffer index<sup>11</sup>)</b>	WYDOT/MPO	TBD

<sup>11</sup> The buffer index is the additional time that must be added to a trip, to ensure that travelers making the trip will arrive at their destination at, or before, the intended time, 95% of the time.

## SAFETY VISION

The Cheyenne MPO tracks transportation safety in its Annual Crash Report. It is recommended that the Annual Crash Report be modified to include the area's ongoing safety efforts. Additionally, an enhanced set of safety performance measures should be developed, and be tracked annually in the report.

The Governor's Highway Safety Association (GHSA) and the National Highway Traffic Safety Administration (NHTSA) established performance measures required to be tracked by all states. The MPO should consider tracking as many of these measures as possible (as data permits).

Measure	Data Source	Target
<b>Number of traffic fatalities on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	Reduce fatal crashes by 10% by 2020
<b>Number of serious injuries on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	Reduce serious injury crashes by 10% by 2020
<b>Number of total crashes</b>	Laramie County, City of Cheyenne, WYDOT	Reduce crashes by 10% by 2020
<b>Fatality rate (fatalities/VMT)</b>	Laramie County, City of Cheyenne, WYDOT	Reduce fatality crash rate by 10% by 2020
<b>Serious injury rate (number of serious injuries in traffic crashes/VMT)</b>	Laramie County, City of Cheyenne, WYDOT	Reduce serious injury crash rate by 10% by 2020
<b>Crash rate (number of crashes/VMT)</b>	Laramie County, City of Cheyenne, WYDOT	Reduce crash rate by 10% by 2020
<b>Number of unrestrained passenger vehicle occupant fatalities on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 10% by 2020
<b>Number of unrestrained passenger vehicle occupant serious injuries on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 10% by 2020
<b>Number of unrestrained passenger vehicle occupant crashes</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 10% by 2020
<b>Number of fatalities in crashes involving a driver or motorcycle operator with a blood alcohol concentration of .08 g/dL or higher on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	TBD
<b>Number of serious injuries in crashes involving a driver or motorcycle operator with a</b>	Laramie County, City of Cheyenne, WYDOT	TBD

<b>blood alcohol concentration of .08 g/dL or higher on a five year moving average</b>		
<b>Number of crashes involving a driver or motorcycle operator with a blood alcohol concentration of .08 g/dL or higher on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	TBD
<b>Number of speeding-related fatalities on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	TBD
<b>Number of speeding-related serious injuries on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	TBD
<b>Number of speeding-related crashes</b>	Laramie County, City of Cheyenne, WYDOT	TBD
<b>Number of motorcyclist fatalities on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	TBD
<b>Number of motorcyclist serious injuries on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	TBD
<b>Number of motorcyclist crashes</b>	Laramie County, City of Cheyenne, WYDOT	TBD
<b>Number of drivers 20 or younger involved in fatal crashes on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	TBD
<b>Number of drivers 20 or younger involved in crashes resulting in serious injuries on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	TBD
<b>Number of drivers 20 or younger involved in crashes</b>	Laramie County, City of Cheyenne, WYDOT	TBD
<b>Number of pedestrian fatalities on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 20% by 2020
<b>Number of older driver fatalities on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 10% by 2020
<b>Number of older driver serious injuries on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 10% by 2020

<b>Number of older driver crashes</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 10% by 2020
<b>Number of pedestrian serious injuries on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 20% by 2020
<b>Number of pedestrian crashes</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 20% by 2020
<b>Number of bicycle fatalities on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 20% by 2020
<b>Number of bicycle serious injuries on a five year moving average</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 20% by 2020
<b>Number of bicycle crashes</b>	Laramie County, City of Cheyenne, WYDOT	Reduce by 20% by 2020
<b>Observed seat belt use for passenger vehicles, front seat outboard occupants</b>	Laramie County, City of Cheyenne, WYDOT	TBD