

**Meeting Agenda of the  
TRANSPORTATION ADVISORY COMMITTEE**

**June 4, 2015**

**8:30 a.m.**

**Community Room of the Pueblo Municipal Justice Center, 200 South Main Street  
(note change of location for this meeting)**

Agenda items marked with \* indicate additional materials are included in the packet.

1. *Call Meeting to Order*
2. *Introductions and Public Comments (non-agenda items only).*
3. *Approval of Minutes\**  
May 7, 2015 Meeting  
**Action Requested: Approve/Disapprove/Modify**
4. *CDOT Region II TIP/STIP Policy Amendment Agenda Item(s)*  
There are no Policy TIP Amendment Notifications for June
5. *CDOT Region II TIP/STIP Administrative Amendment Agenda Item(s)*  
There are no Administrative TIP Amendment Notifications for June
6. *Update on City of La Junta TIGER grant application for the Southwest Chief Passenger Rail Service Improvements*
7. *Update Regional Transportation Authority*
8. *Review of Chapters 1, 5, & 10 of the Long Range Transportation Plan\**
9. *Staff Report*
  - *Update on St. Charles Mesa Trail Access Plan*
  - *Purchase of Traffic Counters\**
  - *Purchase of Traffic Count and Crash Monitoring Software\**
10. *Items from TAC members or scheduling of future agenda items.*
11. *Adjourn at or before 10:30 am.*



**Minutes of the  
TRANSPORTATION ADVISORY COMMITTEE  
May 7, 2015  
8:30 a.m.  
City Council Chambers, 1 City Hall Place**

**1. Call Meeting to Order**

Chairman: Scott Hobson

Meeting called to order 8:35 am

MPO Present: Reyna Ehrman

TAC Present: Dan Centa, Don Bruestle, Michael Cuppy, Michael Snow, Wendy Pettit

CAC Present: Kristin Castor, Megan Murillo

Guest Speaker: Maureen Paz de Araujo

**2. Introductions and Public Comments (non-agenda items only).**

**3. Approval of Minutes**

April 16, 2015 Meeting

Motion to approve: Megan Murrillo

Seconded: Kristin Castor

Approved unanimously

**4. CDOT Region II TIP/STIP Policy Amendment Agenda Item(s)**

There were no Policy Amendment Notifications for April

**5. CDOT Region II TIP/STIP Administrative Amendment Agenda Item(s)**

CDOT Region II has Notification of One (1) Administrative Amendment of Roll Forward Project Funding to the PACOG Transportation Improvement Program (TIP) and Statewide Transportation Improvement Program (STIP) in the MPO/TPR area. Additional Information is Available in the Attached Letter and Spreadsheet

Project Name: Santa Fe Streetscape

STIP Number: SR25079.016

Project Location and Description: **Intersection Improvements**

Federal Program Funds: **\$ 36,000**

State Matching Funds: **\$**

Local Matching Funds: **\$ 9,000**

Other Project Funds: **\$**

**TOTAL PROJECT FUND AMENDMENT: \$45,000**

This project is in need of additional funding to meet cost increases in the engineering estimate. The funds are from the Region 2 old transportation enhancement pool. These funds are the result of closed project savings.

Scott informed the TAC that the improvements for this project are between 6<sup>th</sup> and 8<sup>th</sup> streets on Santa Fe Avenue. Enhancements will be made to match the improvements at 4<sup>th</sup> and 5<sup>th</sup> streets. Megan Murrillo asked what the time frame for the project was. Scott Hobson replied that the final design must be approved by CDOT, go out for bids which must be approved by CDOT. Scott reiterated his plan for future TIP amendments, having those individuals who are working on the project present it in a timely manner allowing TAC time to give input and suggestions.

**6. *Travel Demand Model Review \* - Maureen Paz de Araujo, HDR Engineering, Inc.***

Maureen Paz de Araujo from HDR Engineering, Inc. gave a PowerPoint presentation on the Travel Demand Model and how it can be used versus other types of models and how they can be used.

Scott mentioned that the 2040 version of the Travel Demand Model is shown as if we were able to complete all projects in the Long Range Transportation Plan (LRTP). Currently we do not have the funds to do so. Michael Snow asked if we will provide a financial breakdown of the projects in the LRTP. Maureen and Scott discussed use of a financial chapter in the LRTP as well as how goals will be included and used to show which projects provide the most benefit.

Michael Snow and Dan Centa both questioned how the model was validated. Maureen replied that traffic counts from both the city and CDOT were obtained and compared to the model's calculation which obtained a -3% difference. In addition Dan Centa brought up his concern regarding making conclusions based on the color scheme of the model due to the fact that signals are not accounted for. Maureen reminded the committee that the Travel Demand Model is on a macroscopic level and is not used to differentiate between signalized and unsignalized intersections. Maureen also stated the individual links on the model can be manually changed regarding capacity for certain projects, but cautioned this could skew the outcome of other portions of the model.

**7. *2040 Regional Transportation Update – Process and Status***

The table included in the packet was shown and discussed. It depicts who is doing work on each topic/item for the LRTP. Michael Snow questioned if there was a timeline for when each chapter would be done and presented to the TAC. Maureen answered that within the table some chapters show that they have been written while others are in the works yet others are to be started at the completion of corresponding chapters. Scott mentioned that we are looking at holding several open houses to get input from the public. These will be held at the end of June or early July.

**8. *Staff Report – Update on St. Charles Mesa Trail Access Plan***

Scott stated that he presented the draft scope of work to the PACOG Board. The Board gave approval to move forward with the plan but suggested using some of the elements from the plan done in 1996. Scott said we have this file electronically and can send it out to the TAC if wanted. He also mention talking with Pueblo County to discuss what hours can be used by the County yet paid for by the MPO.

**9. *Items from TAC members or scheduling of future agenda items.***

Kristen Castor stated she wanted to get an agenda item regarding the Regional Transportation Authority and who would be taking the lead on that issue.

**10. *Adjournment***

Chairman Scott Hobson adjourned the meeting at 10:30am

PACOG 2040 RTP Update - Report Outline, Status, Staffing/Roles  
27-May-15

Chapter	2040 RTP Chapter Name	Corresponding 2035 RTP Chapter Name	2040 RTP Chapter Content Description	Status	Staff Lead	Consultant Lead
	Document and GIS Templates			A draft Word document template was completed and was reviewed and accepted by the team. A draft GIS template has also been completed and distributed for review. Based review of the product, it is suggested that district level mapping be limited to potential appendix applications. However, given the square shape of the MPO extents, ability to zoom in on this full area for presentation in the report is limited. A single zoom area/district or two for the most densely developed areas may provide good compromise. If we do go with the districts a key map is needed.		Maureen Paz de Araujo Tiffany Haugh
	Executive Summary	Executive Summary				
Ch 1	Overview	Overview	Includes plan overview, study area, purpose and scope, consistency with state and federal planning requirements, status of TIP and regional priorities; also includes vision, planning considerations, goals, objectives, evaluation criteria and weighting (if any), performance metrics, public involvement process	A draft of Chapter 1, incorporating extended goals, objectives and performance measures was completed and distributed for review. A graphics and maps guide template will support final chapter production.	Ehrman	Lupa
Ch 2	Existing Transportation System	Existing Transportation System and part of Coordinated Human Services Plan	Includes description of the existing system for all modes	An outline for this chapter that is targeted at streamlining the chapter has been developed.	Ehrman/GIS Staff	Paz de Araujo Lupa/ GIS Staff
Ch 3	Socioeconomic Profile	Socioeconomic Profile and Trends; part of Environmental and Land Use Profile	Update of 2035 RTP chapter, new TAZs and district-level summaries; includes forecasts, trends, land use, and environmental justice	Don is continuing to develop this chapter. He is working on the EJ component. We will discuss handoff of the land use portion to HDR/PB.	Vest	Paz de Araujo Lupa
Ch 4	Environmental Profile	part of Environmental and Land Use Profile	Abbreviated update of 2035 RTP chapter; includes only data, analysis and mapping relevant to the	HDR/PB is continuing to develop this chapter and identify mapping needs.		Paz de Araujo
Ch 5	Transportation Safety and Security	not included but safety analysis is included in Existing Transportation System	Abbreviated discussion per MAP-21 requirements; see NFRMPO; crash trends and analysis	A draft of this chapter has been completed and distributed for review. A graphics and maps guide template has been prepared to support final chapter production.		Lupa
Ch 6	Travel Demand Analysis	Mobility Demand and Alternatives	Includes forecasts, VMT, mode choice, LOS/congestion analysis, and future improvement scenario testing; includes all modes	HDR/PB are continuing to develop this chapter and identify mapping needs.		Haire/Lupa
Ch 7	Vision Plan	Corridor Visions	Discussion of needs based plan; may include corridor level and/or district level breakdowns	This chapter has not been started. It will be developed sequentially after the Travel Demand Analysis chapter.		Haire
Ch 8	Fiscally Constrained Plan	Fiscally Constrained Plan	Includes funding summary/explanation, project prioritization, highway projects, transit projects, aviation projects, CDOT projects	PACOG has worked with Pueblo, Pueblo West - and perhaps others - to develop costs for the projects included in the Vision Plan network (2040). The team will assist PACOG in short-listing projects for the fiscally constrained plan based on needs analysis. Care will be taken to integrate TSMO and maintenance projects in the total plan.		Paz de Araujo/Haire
Ch 9	Congestion Management Process	Not included	Includes identification of congestion hot spots, CM strategies, process to implement TSMO strategies	HDR/PB are continuing reviewing/writing content for this chapter.		Haire
Ch 10	Freight and Commodity Flows	not included but discussed in Existing Transportation	Includes details on commodities and comparison with statewide and national figures. A chapter template has been completed and data has been obtained.	A draft of this chapter was completed and distributed for review. CDOT provided comments that have been addressed. The graphics and maps for this chapter have also been finalized so that we can move to production.		Lupa
Ch 11	Financial Plan	Not included		Scott is developing this chapter.	Hobson	Paz de Araujo
Ch 12	Implementation Plan	Included in appendices	Programming of improvements from short-range (TIP), mid-range (CDOT 10-year) and long-range categories	Reyna has provided updated TIP a information as input to this chapter. This chapter will be completed sequentially after the Fiscally Constrained Plan chapter.	Ehrman	Haire
Appendix A	Strategic Action Plan	Included in Appendices 7 & 8	Includes narrative and maps for TIP, CDOT 10-Year CIP	Reyna has provided updated TIP a information as input to this chapter. This chapter will be completed sequentially after the Fiscally Constrained Plan chapter.	Ehrman	Paz de Araujo
Appendix B	Public Involvement	Overview		An approach was determined at the last meeting.		Paz de Araujo
Appendix C	Demographic Forecasts	Appendix 4		Don has completed a draft for this appendix and has transmitted to HDR. This appendix is ready to format.	Vest	
Appendix D	Coordinated Human Service Transportation Plan	Chapter 5		Sara completed a draft for this appendix which is ready for formatting.	Snowberger	
Appendix E	Constrained Public Transit Plan	Appendix 5		Scott will obtain input plans/documents and/or data from Pueblo Transit.	TBD	TBD



# 2015 PACOG RTP

HDR/PB

Lupa, Mary

## **[CHAPTER 1 OVERVIEW]**

Draft Final Version - May 22, 2015

# Contents

- 1 Introduction ..... 3
- 2 MAP-21 Guidelines..... 4
  - 2.1 MAP-21 Federal Guidelines ..... 4
    - 2.1.1 MAP-21 Regional Transportation Plan Factors ..... 4
    - 2.1.2 MAP-21 Regional Transportation Plan Goals..... 6
    - 2.1.3. MAP-21 Regional Transportation Plan Emphasis Areas ..... 7
  - 2.2 MAP-21 and the PACOG MPO..... 7
  - 2.3 PACOG’s Role in the Regional Transportation Plan Process ..... 8
    - 2.3.1 Introduction to the Regional Transportation Plan at PACOG ..... 8
    - 2.3.2 Regional Transportation Plan Process ..... 9
- 3. PACOG 2040 Regional Transportation Plan Goals ..... 10
  - 3.1 #1 Safety..... 10
  - 3.2 #2 Infrastructure Condition ..... 11
    - 3.2.1 Highways ..... 11
    - 3.2.2 Bridges ..... 12
    - 3.2.3 Transit and Non-Motorized..... 12
    - 3.2.4 Passenger Rail ..... 13
  - 3.3 # 3 Congestion Relief ..... 13
    - 3.3.1 Achieve AASHO Infrastructure Standards..... 13
    - 3.3.2 Address Congestion ..... 14
  - 3.4 # 4 Freight Movement & Economic Vitality ..... 14
    - 3.4.1 Freight Infrastructure ..... 15
    - 3.4.2 Corridor Preservation..... 15
    - 3.4.3 Economic Development ..... 15
  - 3.5 # 5 System Reliability ..... 16
    - 3.5.1 Maintain/Improve Reliability ..... 16
  - 3.6 # 6 Environmental Sustainability ..... 17
    - 3.6.1 Emissions..... 17
    - 3.6.2 Special Needs Travelers ..... 17
    - 3.6.3 Historical Preservation..... 17
    - 3.6.4 Endangered Species ..... 18

3.6.5 Water Sustainability.....	18
3.7 # 7 Reduce Project Delivery Delays.....	18
3.8 # 8 Support Multi-Modal Transportation .....	18
3.8.1 Trips.....	18
3.8.2 Infrastructure .....	19
3.8.3 Integration .....	19
3.8.4 Maximization .....	19
3.8.5 Support.....	20
3.8.6 Public Health .....	20
4. Organization of this Document.....	20

## 1 Introduction

The regulatory purpose of the Pueblo Area Council of Government (PACOG) *2040 REGIONAL TRANSPORTATION PLAN* (RTP) is to update the previous 2035 Regional Transportation Plan using guidance from the recently released federal legislation Moving Ahead for Progress in the 21st Century (MAP-21)<sup>1</sup>. To begin the process of long range planning, a transportation vision for the region is developed, addressing a set of goals framed by the Moving Ahead for Progress in the 21st Century Act (MAP-21) legislation and enhanced and localized by the MPO. A long range plan is the only comprehensive effort by an MPO that addresses a 20-25 year extent, a fact that makes it valuable as a roadmap to the region. Much of this value comes from the knowledge that residents and decision makers in the region have regarding mobility needs. They are also well aware that as federal requirements evolve the region must evolve with them; hence the care taken to address the new requirements set by MAP-21.

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 posed a major change to transportation planning and policy by presenting an intermodal approach to highway and transit funding with collaborative planning requirements, giving significant additional powers to metropolitan planning organizations. It expired in 1997. It was preceded by the Surface Transportation and Uniform Relocation Assistance Act of 1987 and followed by the Transportation Equity Act for the 21st Century (TEA-21,1998), the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU, 2005), and the Moving Ahead for Progress in the 21st Century Act (MAP-21, 2012). MAP-21 is the first U.S. transportation bill legislation that asks states and MPOs to develop specific performance based planning measures for use with their regional goals and objectives.

The Pueblo Area Council of Governments (PACOG) region encompasses all of Pueblo County as shown in Figure XX. The planning area contains the population centers of Pueblo, Pueblo West, Colorado City, Beulah Valley, Avondale, Boone and other. The City of Pueblo dominates the MPO with a population totaling over 160,000 people. Located at the confluence of the Arkansas River and Fountain Creek, it has been an important crossroads for transportation and trading for more than 150 years, making it the economic hub of southeastern Colorado. Pueblo is also an important city in Colorado's Front Range Urban Corridor. The Historic Arkansas River Project (HARP) is a notable river walk in the Union Avenue Historic Commercial District of Pueblo. Over the last twenty years, the population of the region has increased and its economy has become more diverse. Interstate-25 and U.S. Highway 50 are the key connections to other Colorado cities and to the nation.

As the federally designated Metropolitan Planning Organization (MPO) for the metropolitan area, the Pueblo Area Council of Governments (PACOG) is responsible for developing and maintaining both a long range regional transportation plan and a supporting short-range implementation program, the Transportation Implementation Plan (TIP), as a condition of eligibility for federal transportation funding. PACOG has taken up the MAP-21 challenge to develop both goals and performance based measures and has made it the cornerstone of the PACOG *2040 REGIONAL TRANSPORTATION PLAN*.

---

<sup>1</sup> <http://www.dot.gov/map21> accessed 2015.

**Figure XX: PACOG Planning Area**



## 2 MAP-21 Guidelines

The Regional Transportation Plan (RTP) for an MPO must include all transportation projects that use federal funds or those that could significantly alter transportation within the designated metropolitan area. The function of the RTP is not regulatory; rather, the plan is developed by the community and its decision makers to determine the best use of public funds. Visions and goals for transportation within a region are set forth and then prepared for implementation using a set of strategies. As noted above, long range transportation planning is the sole step in the regional decision-making process in which the transportation system as a whole is analyzed and evaluated comprehensively. When a carefully crafted long range plan is prepared, the region has a cohesive starting point for regional coordination. The best plans also lay the groundwork for decision makers to grasp the broader social, economic, and environmental implications of their transportation and land use decisions.

To understand the structure of a Regional Transportation Plan, it is important to understand the federal context in which it operates. MAP-21 legislation provides this context. This section will include a discussion of:

1. MAP-21 Federal Guidelines
2. PACOG in a MAP-21 Context

### 2.1 MAP-21 Federal Guidelines

The Regional Transportation Plan (RTP) and the Transportation Improvement Plan (TIP) for the Pueblo Area Council of Governments are developed using the goals and planning factors contained in MAP-21.

#### 2.1.1 MAP-21 Regional Transportation Plan Factors

MAP-21 requires that eight factors be reflected in metropolitan planning processes. The process should:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase the accessibility and mobility of people and freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes for people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.

MAP-21 is also linked to the Clean Air Act Amendments (CAAA) of 1990. The CAAA recast the planning function to confirm that transportation planning will help, not hinder, the region in meeting federal air quality standards. It encourages reduced auto emissions and fewer trips by single-occupant vehicles, and it promotes the use of alternative transportation modes, including transit and bicycles, as a viable part of the transportation system. Making receipt of all federal funding dependent on a region's ability to meet air quality standards reinforces the linkage between transportation planning and federal air quality standards.

Requirements within MAP-21 are similarly linked to the 1964 Civil Rights Act. Title VI of the 1964 Civil Rights Act (42 U.S.C. 2000d-1) states that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance". Title VI bars intentional discrimination as well as disparate impact discrimination (i.e., a neutral policy or practice that has a disparate impact on protected groups). In order to address Title VI for federally funded projects, including transportation infrastructure improvements, Presidential Executive Order 12898 (1994) directs each federal agency to make environmental justice part of its mission. To implement this executive order, USDOT directs its funding recipients to address the following fundamental environmental justice principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

One important addition to the RTP process is the launch by MAP-21 of a performance-based approach to transportation planning. In this round of long range planning, the development of goals includes setting concrete improvement targets for each area of planning. In the future, regional investments in

the Transportation Improvement Program will be tied to state and regional performance targets in key areas of safety, condition, mobility, congestion, freight, and asset management. The process of performance management is evolving as performance data becomes available and guidance on federal regulations is issued. This 2040 LRP will likely be updated to accommodate changes in federal and state performance measures and targets. In the long run, performance-based planning will lead to more transparent decision-making, more efficient investments, and will help move toward the region's vision for the future.

It should be noted that MAP-21 applies performance-based measurement solely at the programmatic, rather than at the project, level and does not generally link performance measures and targets to funding decisions. The law's emphasis on transparency and accountability is commendable, and MAP-21 should be viewed as a first step toward a larger performance-based funding system.

PACOG has begun the of performance management process by:

- Setting metrics for performance the LRP transportation goals, where applicable.
- Establishing a “baseline” year, such as 2015, upon which comparative metrics from future years will be measured.

### **2.1.2 MAP-21 Regional Transportation Plan Goals**

MAP-21 has also laid out seven planning categories for goal setting, consistent with previous legislation. PACOG staff added an eighth category:

1. **Safety:** To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
2. **Infrastructure Condition:** To maintain the highway infrastructure asset system in a state of good repair.
3. **Congestion Reduction:** To achieve a significant reduction in congestion on the National Highway System.
4. **System Reliability:** To improve the efficiency of the surface transportation system.
5. **Freight Movement and Economic Vitality:** To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
6. **Environmental Sustainability:** To enhance the performance of the transportation system while protecting and enhancing the natural environment.
7. **Reduced Project Delivery Delays:** To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.
8. **Multimodal Transportation:** To invest in a wide range of non-motorized travel options, connectivity, and an emphasis on public health.

Using these eight categories, PACOG developed concrete goals and performance measures consistent with the latest MAP-21 focus on metrics and localized to the region. These eight goals are presented in

this section of the report. They also form the framework of the *2040 REGIONAL TRANSPORTATION PLAN*.

### **2.1.3. MAP-21 Regional Transportation Plan Emphasis Areas**

MAP-21 also cites three planning emphasis areas which require integration in the PACOG LRP process. The planning emphasis areas echo the factors and goals cited by MAP-21:

- A transition to Performance Based Planning and Programming.
- A process of investigating additional collaborative activities to satisfy the Models of Regional Planning Cooperation MAP-21 guidance.
- Reference to the Ladders of Opportunity effort of MAP-21.

In the following sections of this chapter, this guidance from MAP-21 for MPOs will be referenced and expanded. The guidance provided a framework for the PACOG planning process and served as an outline for the generation of PACOG-specific Regional Transportation Plan goals.

## **2.2 MAP-21 and the PACOG MPO**

The Pueblo Area Council of Governments (PACOG) is the Metropolitan Planning Organization (MPO - Federal designation under Title 23 USC 134) and Transportation Planning Region (TPR - state designation under Title 43 CRS Part 11) for the Pueblo County region. Overall transportation policy, plan adoption, and program approval are the responsibility of the elected officials of the PACOG Board. They are also responsible for implementing the metropolitan transportation planning process.

Under the terms of an annual delegation agreement with the City of Pueblo and the Pueblo Area Council of Governments, employees assigned to the Urban Transportation Planning Division (UTPD) function as the professional staff for the regional transportation planning functions of the PACOG MPO/TPR. The cost of the UTPD operation is supported entirely by a Consolidated Planning Grant consisting of 82.79% federal funds and 17.21% local matching funds. Funding is provided by FHWA to Colorado Department of Transportation (CDOT) which distributes the funds to the MPO. Through a collaborative process, distribution was come up with that is fair and equitable to all MPOs through the state based on population shares from the most recent U.S. Census – currently from the year 2010.

The requirement for metropolitan planning is established under the requirements of Title 23 United States Code, Section 134. To carry out the transportation planning process required by this section, an MPO shall be designated for each urbanized area with a population of more than 50,000 individuals by agreement between the Governor and units of general purpose local government that together represent at least 75 percent of the affected population (including the central city or cities as defined by the Bureau of the Census).

Transportation planning is a process which is used to balance the interrelated areas of mobility, accessibility, land use, socioeconomic, and ecological conditions to improve the quality of life for the residing area citizens. In order to anticipate and respond to the ever changing transportation needs of

people and goods moving throughout the region, the process is a coordinated effort between federal, state and local governments, as well as private transportation providers.

The Pueblo area transportation system plays an important role in the local economy and community. It provides citizens access to basic services, allows individuals to travel into and out of the region and serves as a means to boost the local economy. Without continued investment in transportation, the Pueblo area would no longer be able to sustain its residents and workers. This 2040 plan will look at all of these transportation issues as well as continue to develop a safe and efficient multimodal transportation system for all who travel within the region.

## 2.3 PACOG's Role in the Regional Transportation Plan Process

### 2.3.1 Introduction to the Regional Transportation Plan at PACOG

The federally mandated *Metropolitan Transportation Plan* refers to the official multimodal transportation plan addressing a no less than 20-year planning horizon that is developed, adopted, and updated by the MPO through the metropolitan transportation planning process. This document serves as the official transportation plan for both the State of Colorado and for the Federal Government.

The Pueblo Area Regional Transportation Plan is a 25+-year plan for the development of transportation programs and projects within the Pueblo Area. The Plan identifies the *Existing Conditions* for each of the transportation modes and identifies the need for and location of future facilities. The *Preferred Plan* sets out a strategy to meet the transportation goals of the region between 2010 and 2034 while the *Fiscally Constrained Plan* applies financial constraints to that same strategy. The LRTP also includes the Coordinated Public Transit – Human Services Transportation Plan, prepared as a locally developed, coordinated public transit-human services transportation plan to assure Pueblo's eligibility for projects funded through three programs introduced as part of the Moving Ahead for Progress in the 21st Century (MAP-21): Urbanized Area Formula (Section 5307), Enhanced Mobility of Seniors and Individuals with Disabilities (Section 5310) and the Rural Area Formula Grants (Section 5311).

The LRTP is developed by the Pueblo Area Council of Governments (PACOG) in cooperation with the jurisdictions and agencies responsible for development and maintenance of the transportation system. These jurisdictions and agencies include:

- The City of Pueblo
- Pueblo County
- Pueblo West Metropolitan District
- The Pueblo Memorial Airport
- Colorado Department of Transportation (CDOT), Region 2
- CDOT Division of Transportation Development
- CDOT Office of Financial Management and Budget

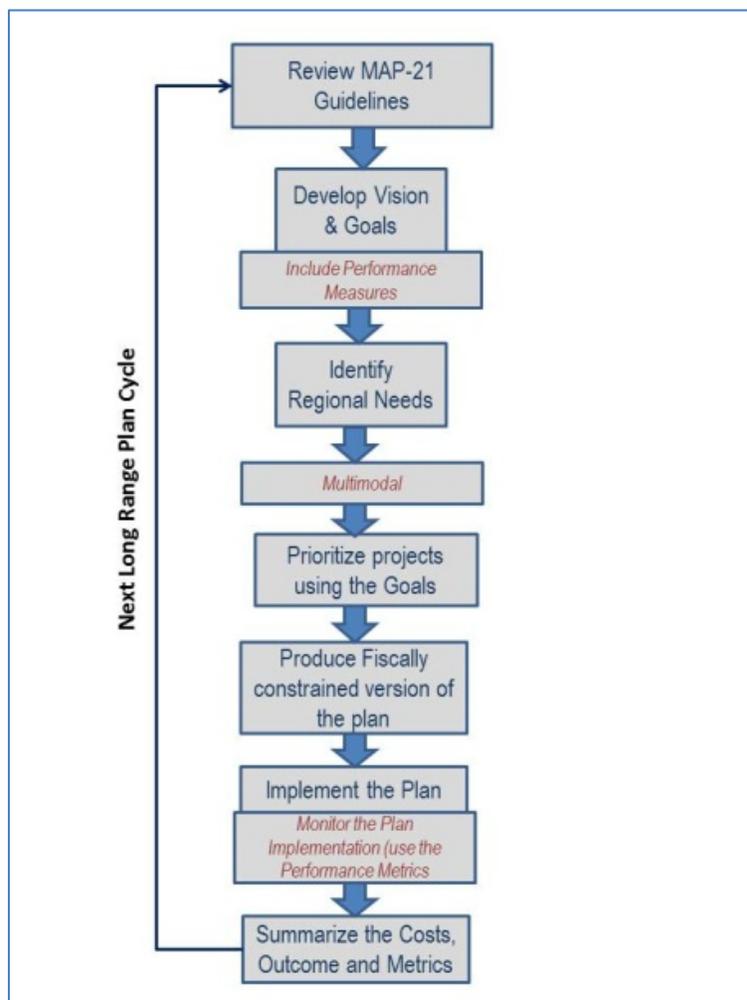
The plan process, scope, initial results and assumptions are developed in collaboration with City and County staff and are reviewed by the PACOG Transportation Advisory Commission (TAC), which is comprised of the Transportation Technical Committee (TTC) and the Citizens Advisory Committee (CAC).

### 2.3.2 Regional Transportation Plan Process

The Long Range Planning process is cyclical in nature and occurs every five years. At each five year juncture, a revised future scenario year is established, and an updated set of vision and goals are sought for the region. This visioning involves citizens, public agency staff, decision makers, private industry leaders and others. The many viewpoints ensure that the transportation needs of all the residents of a region will be considered.

The LRP process must logically look first to the most recent federal legislation related to MPO Regional Transportation Plans. The vision elements are framed by the current federal guidelines, in this case MAP-21 and use the three emphasis areas as well as the planning factors and goals provided by the federal legislation. Figure 1 shows the general process flow of the PACOG 2040 Regional Transportation Plan. This sequence also generally forms the outline of this RTP document.

**Figure 1: Regional Transportation Plan Process**



The eight steps shown in Figure 1 can also be shown as a listed sequence of activities with a feedback loop that occurs each 5-year long range planning cycle.

1. Review federal guidelines in the form of MAP-21 requirements.
2. Establish the PACOG regional vision and goals in the 2040 RTP goal-setting task. Include here for the first time performance measures for each goal.
3. Identify the regional needs and priorities for all transportation modes.
4. Prioritize projects referencing the PACOG TIP using the goals.
5. Produce the fiscally constrained version of the plan.
6. Implementation: Build or repair transportation infrastructure.
7. Continuously monitor the results of the improvements in (6) using all the relevant performance measures.
8. Summarize the project costs, outcome, and performance metrics and start the cycle again.

In the next section, we will discuss work done by the Pueblo Area Council of Governments to identify the eight RTP planning goals, the performance measures attached to each and the targeted years for attainment of each metric.

### 3. PACOG 2040 Regional Transportation Plan Goals

The eight 2040 REGIONAL TRANSPORTATION PLAN goals are presented in this section. They are also summarized in Table 2.

#### 3.1 #1 Safety

The overall goal of the safety category is to reduce fatalities, injuries and property damage across all modes of transportation. PACOG recommends the following targets.

- A. Decrease the fatal crash rate by 25%.
  - a. 2015: Establish the 2015 Baseline.
  - b. 2020: decrease the fatal crash rate by 13%.
  - c. 2030: decrease the fatal crash rate by 25%.
  - d. 2040: decrease the fatal crash rate by 50%.
- B. Decrease the “serious” injury crash rate by 25%.
  - a. 2015: Establish the 2015 Baseline.
  - b. 2020: decrease the serious injury rate by 6%.
  - c. 2030: decrease the serious injury rate by 13%.
  - d. 2040: decrease the serious injury rate by 25%.
- C. Decrease the injury crash rate by 25%.
  - a. 2015: Establish the 2015 Baseline
  - b. 2020: decrease the serious injury rate by 6%.
  - c. 2030: decrease the serious injury rate by 13%.
  - d. 2040: decrease the serious injury rate by 25%.
- D. Decrease the PDO (Property Damage Only) rate of crashes by 25%.
  - a. 2015: Establish the 2015 Baseline.
  - b. 2020: decrease the injury rate by 6%.
  - c. 2030: decrease the injury rate by 13%.
  - d. 2040: decrease the injury rate by 25%.

#### Goal #1: Safety

- Improve safety by providing a multi-modal transportation system that focuses on the reduction of the frequency and severity of crashes

- E. Decrease the frequency and severity of public transit related crashes by 10%.
  - a. 2015: Establish the 2015 Baseline.
  - b. 2020: decrease public transit crashes by 3%.
  - c. 2030: decrease public transit crashes by 5%.
  - d. 2040: decrease public transit crashes by 10%.
- F. Decrease the frequency and severity of pedestrian related accidents by 75%.
  - a. 2015: Establish the 2015 Baseline.
  - b. 2020: decrease pedestrian accidents by 19%.
  - c. 2030: decrease pedestrian accidents by 38%.
  - d. 2040: decrease pedestrian accidents by 75%.
- G. Eliminate railroad crossing related crashes by 75%.
  - a. 2015: Establish the 2015 Baseline.
  - b. 2020: decrease railroad crossing crashes by 19%.
  - c. 2030: decrease railroad crossing crashes by 38%.
  - d. 2040: decrease railroad crossing crashes by 75%.

PACOG also envisions enhancement of the overall safety of the transportation system by implementing engineering, education, and enforcement strategies to reduce traffic-related injuries and fatalities.

## 3.2 #2 Infrastructure Condition

### 3.2.1 Highways

The overall goal of the infrastructure condition category is to improve the condition of bridges, transit, non-motorized facilities and rail. The following specific metrics and targets are recommended by PACOG.

- A. Achieve 80% High/Moderate Drivability Life for the Interstate Highway System based on condition standards and treatments set for traffic volume categories.
  - a. 2015: Establish the 2015 Baseline for High/Moderate Drivability on Interstates.
  - b. 2020: achieve 20%.
  - c. 2030: achieve 40%.
  - d. 2040: achieve 80%.
- B. Achieve 80% High/Moderate Drivability Life for the National Highway System based on condition standards and treatments set for traffic volume categories.
  - a. 2015: Establish the 2015 Baseline for High/Moderate Drivability on NHS
  - b. 2020: achieve 20%.
  - c. 2030: achieve 40%.
  - d. 2040: achieve 80%.
- C. Achieve 80% High/Moderate Drivability Life for the State Highway System based on condition standards and treatments set for traffic volume categories.
  - a. 2015: Establish the 2015 Baseline for High/Moderate Drivability on State Highways.

**Goal #2: Infrastructure Condition**

- Improve and sustain the surface conditions of the State highway system
- Maintain Bridges
- Maintain Transit and Non-Motorized
- Maintain Passenger Rail

- b. 2020: achieve 20%.
- c. 2030: achieve 40%.
- d. 2040: achieve 80%.

### 3.2.2 Bridges

In priority, (1) Interstate, (2) NHS and U.S. State highways, and (3) all other State highways:

- D. Improve the sufficiency rating of interstate, NHS, and U.S. State highway bridges to a range of 75 to 100. The following targets are set.
  - a. 2015: Establish the 2015 Baseline.
  - b. 2020: get the desired rating for 25% of deficient bridges.
  - c. 2030: get the desired rating for 50% of deficient bridges.
  - d. 2040: get the desired rating for 100% of deficient bridges.
- E. Improve the sufficiency rating of all other State highway bridges to a range of 75 to 100.
  - a. 2015: Establish the 2015 Baseline.
  - b. 2020: get the desired rating for 25% of deficient bridges.
  - c. 2030: get the desired rating for 50% of deficient bridges.
  - d. 2040: get the desired rating for 100% of deficient bridges.
- F. Bring all functionally obsolete bridge structures at grade or grade separated interchanges, ramps, and accel and decel lanes to current AASHTO standards.
  - a. 2015: Establish the 2015 Baseline.
  - b. 2020: get the desired rating for 12% of deficient bridges.
  - c. 2030: get the desired rating for 65% of deficient bridges.
  - d. 2040: get the desired rating for 100% of deficient bridges.

### 3.2.3 Transit and Non-Motorized

- G. Maintain the condition of all transit related infrastructure. (.i.e. dedicated bus lanes and stops, shelters, maintenance facilities, fueling stations, transit center facilities, etc.
  - a. FOCUS ON FLEET 2015: Establish the 2015 Baseline.
  - b. 2020: maintain the percentage of vehicles in the transit fleet to no less than 65% in fair, good, or excellent conditions (FTA definitions).
  - c. 2030: maintain the percentage of vehicles in the transit fleet to no less than 65% in fair, good, or excellent conditions (FTA definitions).
  - d. 2040: maintain the percentage of vehicles in the transit fleet to no less than 70% in fair, good, or excellent conditions (FTA definitions).
- H. Maintain the condition of all bike/pedestrian trail related infrastructure (i.e. surface condition, signage, safety improvements, and other). The overall goal is to expand and improve the connectivity of the regional system wide trail system.
  - a. FOCUS ON TRAIL USAGE 2015: Establish the 2015 Baseline.
  - b. 2020: Increase trail use by at least an average of 1.5% over a five-year period beginning in 2015.
  - c. 2030: Increase trail use by at least an average of 1.5% over a ten-year period beginning in 2020.

- d. 2040: Increase trail use by at least an average of 1.5% over a ten-year period beginning in 2030.

### 3.2.4 Passenger Rail

- I. Continue to work with CDOT DRT and policy office to sustain passenger rail service to southeastern Colorado including a potential passenger rail stop in Pueblo.
- J. Seek other sources of funding to improve and maintain the existing BNSF rail lines throughout Southeastern Colorado. This goal is to be met using a FOCUS ON PARTNERSHIP.
  - a. In 2015 and forward PACOG will establish and/or continue participation in statewide, regional and private rail passenger advocacy groups. Maintain a "log" of events and outcomes from these meetings.

## 3.3 # 3 Congestion Relief

The overall goal of the congestion relief category is to improve traffic flow on the key roadways in the PACOG region. The following specific metrics and targets are in the 2040 RTP.

### 3.3.1 Achieve AASHTO Infrastructure Standards

- A. Upgrade all functionally obsolete interchanges, accel/decel lanes, inadequate ramp lengths, inadequate shoulders, and other.
  - a. FOCUS ON UPGRADES OF HIGHWAY FACILITIES 2015: Establish the 2015 Baseline - identify AASHTO deficient locations.
  - b. 2020: get the desired rating for 12% of deficient locations.
  - c. 2030: get the desired rating for 65% of deficient locations.
  - d. 2040: get the desired rating for 100% of deficient locations.
- B. On Interstate, NHS, U.S. highways and other state highways: LOS C- (through traffic LOS D at grade and grade separated/interchanges).
  - a. FOCUS ON ROADWAY CONGESTION RELIEF IN THE LRTP CORRIDOR VISION PLAN 2015: Establish a Volume-to-Capacity (V/C) Baseline Target; suggested is number of lane miles over  $V/C = 0.90$  during the one hour PM peak.
  - b. 2020: get the desired rating for 12% of the congested locations.
  - c. 2030: get the desired rating for 65% of the congested locations.
  - d. 2040: get the desired rating for 100% of the congested locations.

#### Goal #3: Congestion Relief

- Bring all interstate, NHS, U.S. and other state highways up to current AASHTO standards that improve the flow of motor vehicles and transit
- Relieve existing heavy congestion on U.S. highways, NHS highways by implementing alternative transportation corridors (i.e. Bypass facilities)

### 3.3.2 Address Congestion

- C. Build or expand alternate bypass state highway facilities to LOS C- (through traffic D on at grade and grade separated interchanges) to reduce congestion on existing heavily congested corridors.
  - D. Reduce travel time on existing heavily congested corridors by 25%.
  - E. As identified in the U.S. 50W PEL Study - build grade separated interchanges and add when corridor levels of service reach LOS D.
  - F. As identified in the I-25 New Pueblo Freeway EIS - build grade separated interchanges and add additional travel lanes when corridor levels of service reach D-.
  - G. Bring all New Pueblo Freeway functionally obsolete bridge structures at grade or grade separated interchanges, ramps, and accel and decel lanes to current AASHTO standards.
  - H. Initiate steps that will reduce on-road mobile source emissions per capita by various means including:
    - Facilitating the creation of CNG fueling stations and private and public use of NGVs and electric vehicles;
    - As feasible, convert public transit buses and shuttles to alternative fuel vehicles (i.e. CNG, LNG, electric and other future emission reduction fuels);
    - Build strategically located park and ride facilities to reduce out of town commuter trips to work by single occupancy vehicles (SOV);
    - Continue to encourage (public education and reduce public transit travel times, transfers, etc.) the use of public transit as an alternate to SOV trips;
    - Implement TSM measures such as intersection improvements, ramp metering, etc.) to improve the flow of motor vehicles and transit;
    - Deploy additional ITS measures to improve public awareness (accident and construction delays, major event parking and transit alternatives, weather and other safety messages) and alert motorists of traffic conditions to improve the flow of motor vehicles and transit;
    - Expand and improve the regional on and off-system bicycle routes to facilitate an increase of 3% of work, school and other trip purpose connectivity in a safe and efficient manner;
    - Encourage public and private sector incentives for public transit, carpooling, telecommuting, bicycling, walk to work/school and park n' ride utilization;
    - Continue support of the statewide efforts of the Interregional Connectivity System for Front Range transit and high speed passenger rail service. Identify the gaps and connections (convenient and accessible transfer points). Preserve existing passenger rail service in Southern Colorado through Pueblo County.
- a. FOCUS ON MOBILE SOURCE POLLUTION ABATEMENT where applicable.
  - b. 2020: Retain national air quality health standards and reduce regional transportation-related greenhouse gas (GHG) and air pollutant emissions by 6% compared to 2010 levels.
  - c. 2030: by 33%.
  - d. 2040: by 50%.

### 3.4 # 4 Freight Movement & Economic Vitality

The overall goal of the freight movement and vitality category is to ensure safe and effective movement of freight commodities into, out of and through the PACOG region. The following specific metrics and targets are established.

### 3.4.1 Freight Infrastructure

- A. Reduce the number and severity of truck/freight related crashes by 75% on the New Pueblo Freeway (NAFTA corridor – designated national freight movement corridor) interstate system.
  - a. 2015: Establish the 2015 Baseline.
  - b. 2020: decrease the number and severity of truck/freight related crashes by 9% on the New Pueblo Freeway (NAFTA corridor – designated national freight movement corridor) interstate system.
  - c. 2030: decrease by 49%.
  - d. 2040: decrease by 75%.
- B. Reduce the number and severity of truck/freight related crashes by 75% on U.S. highways and other NHS highways. Improve all functionally obsolete interchanges, accel/decel lanes, inadequate ramp lengths, and inadequate shoulders to AASHTO standards for the safe and efficient movements of freight through Pueblo County’s interstate system. Sustain and improve a regional roadway system that provides local, regional and statewide efficient access and connectivity for the movement of freight and people.
  - a. 2015: Establish the 2015 Baseline.
  - b. 2020: decrease the number and severity of truck/freight related crashes by 9%.
  - c. 2030: decrease by 49%.
  - d. 2040: decrease by 75%.

#### Goal #4: Freight Movement & Economic Vitality

- Provide a safe and efficient interstate and NHS, and other State highway system for the movement of freight
- Encourage corridor preservation and expansion efforts for both passenger and freight rail, and railroads
- Provide a transportation system that encourages new business, economic development and industry expansion that is integrated with future land use plans and policies

### 3.4.2 Corridor Preservation

- C. Continue efforts with CDOT, USDOT, FTA and Congress to integrate regional passenger and freight rail service into the statewide passenger rail service plans and vision.
  - a. FOCUS ON PARTNERSHIP: 2015 and forward: Establish and/or continue participation in statewide, regional and private rail advocacy groups. Maintain a "log" of events and outcomes from these meetings.

### 3.4.3 Economic Development

- D. Improve the integration, accessibility and connectivity of the regional transportation system across and between modes for the movement of freight and people. The transportation system should be planned, maintained, and constructed in a manner that supports access to jobs for workers; access to shopping and services; and the safe and efficient movement of goods to,

from, and within the region. It should support retail, medical, education, manufacturing, energy industry, recreation, and other important economic sectors.

- a. FOCUS ON TRANSIT RIDERSHIP & MODAL CONNECTIVITY 2015: Establish the 2015 Baseline.
- b. 2020: increase transit ridership by at least an average of 1.5% over a five-year period beginning in 2015.
- c. 2030: Increase transit ridership by at least an average of 1.5% over a ten-year period beginning in 2020.
- d. 2040: Increase transit ridership and by at least an average of 1.7% over a ten-year period beginning in 2030.

### 3.5 # 5 System Reliability

The overall goal of the system reliability is to optimize the roadway system and minimize congestion. The specific metrics and targets for system reliability are tied back into those cited in Goal 3 – Congestion Relief.

#### 3.5.1 Maintain/Improve Reliability

- A. Reduce minutes of delay on congested corridor segments on interstate, NHS and other state highways by: (1) Reduce minutes of delay on congested corridor segments on interstate, NHS and other state highways by - Maintain and expand the Pueblo region’s transit system; - Reduce traffic congestion by implementing TSM measures to improve passenger carrying capacity of the regional; - Increase capacity on congested segments (add additional lanes) on Interstate; NHS; Other State highways; - Increase intersection capacity through the addition of turn lanes, queuing storage lengths, signal improvements, and grade separated interchanges as identified in the US-50 PEL and at failing intersections. (2) Reduce the projected SOV trips between 2015 – 2040 by 5% through implementing strategically located park and ride facilities and encouraging the increased use of transit and carpooling. (3) Deploy Intelligent Transportation Systems such as vehicle flow treatments and national real-time system information programs, and transit monitoring system to improve the effectiveness and efficiency of the transportation system; (4) Implement transportation projects such as accel/decel lanes, intersection improvements, and ramp metering, and that improves the flow of motor vehicles and transit; (5) Develop alternate routes that expand system capacity and expand system redundancy for the I-25 and US 50 corridors; (6) Increase the number of Wayfinder signs to assist both motorists, bicyclists and pedestrians. (7) Improve non-motorized system accessibility and connectivity within Pueblo and regionally with Pueblo West. (8) Identify additional crossing locations of the Arkansas River and Fountain Creek to improve mobility for all transportation modes.

#### Goal #5: System Reliability

- Provide transportation facilities that optimize system performance and safety, and preserves and enhances the present and future mobility needs of the Pueblo Region

## 3.6 # 6 Environmental Sustainability

The overall goal of the environmental sustainability category in the PACOG region is to address a wide range of specific topics related to that goal. The topics cover reduction of fossil fuel use, special needs travelers, historical preservation, the protection of endangered species, and water sustainability.

### 3.6.1 Emissions

Reduce minutes of delay on congested corridor segments on interstate,

- A. Have a 50% reduction from 2005 levels of annual metric tons per capita between 2015 and 2040.

### 3.6.2 Special Needs Travelers

- B. Incorporate social, economic, and environmental concerns into the planning, design, construction, maintenance, and operation of the Pueblo regional multimodal transportation system. Identify the pros and cons of environmental justice issues of projects.
  - Have participation from identified (low income, minority populations, etc.) that documents benefits and burdens of projects. At risk populations include Census blocks with higher percentages of minorities, persons with disabilities and low income households.
    - a. 2015: Establish the 2015 Baseline.
    - b. 2020: Increase investment benefits to areas identified as having a higher level of at risk populations by 10% over 2010 levels.
    - c. 2030: increase by 20%.
    - d. 2040: increase by 30%.

### 3.6.3 Historical Preservation

- C. Complete plans and designs that minimize or eliminate impacts to culturally and/or historically significant sites; when feasible, incorporate methods that celebrate and educate the public value of culturally and/or historically significant areas that are preserved and protected in project areas. Implement context sensitive design solutions that incorporates the community's heritage and architectural legacy.
  - a. FOCUS ON PARTNERSHIP: 2015 and forward: Establish and/or continue participation in statewide, regional and private advocacy groups related to historical preservation,

### Goal #6: Environmental Sustainability

- Reduce fossil fuel consumption and reduce greenhouse gas and other emissions
- Improve and support transportation system improvements that address needs for citizens with disabilities, low incomes, and other special needs residents in the region
- Reduce transportation-related adverse impacts to communities, neighborhoods, natural environments, and areas identified for cultural and/or historical preservation
- Protect and/or avoid areas containing critical habitat for threatened and endangered species, and wildlife travel corridors
- Minimize the amount of stormwater runoff and transportation-associated pollutants that enter the region's streams

environmental stewardship, and water sustainability. Maintain a 'log' of events and outcomes from these meetings.

### 3.6.4 Endangered Species

- D. Develop design alternatives that prioritize natural, cultural, and historical resources impacts: 1) Design projects to avoid significant areas and sites. 2) If unavoidable, minimize impacts to significant areas and sites. 3) Provide equal value of litigation for unavoidable impacts to significant areas and sites. Follow the CDOT Environmental Stewardship Guide.

### 3.6.5 Water Sustainability

- E. Design future transportation projects to meet the stormwater standards and best management practices in affect at the time of project construction.

## 3.7 # 7 Reduce Project Delivery Delays

The overall goal of this category in the PACOG region is ad value by working to accelerate the timeframe of project delivery in the region.

Three strategies will be deployed: (1) Improve timing to streamline approval processes, including reviews, contracts, and general clearances; (2) When possible do not require design and construction funding and having separate consultants for design/construction to be split up; (3) Utilize Design/Build and Every Day Counts concepts to identify and deploy innovation aimed at shortening project delivery, enhancing the safety, and protecting the environment. These concepts include: - Shortened project delivery - flexibilities and coordination in Right of Way and the accommodation and relocation of utilities.

- a. 2015: Establish the 2015 Baseline.
- b. 2020: decrease delivery time for projects on average of 3%.
- c. 2030: decrease by 5%.
- d. 2040: decrease by 10%.

### Goal #7: Reduce Project Delivery Delays

- Accelerate the timeframe for the completion of projects

## 3.8 # 8 Support Multi-Modal Transportation

The overall goal of this category, which was identified and developed by a local decision making process is to enhance all aspects of multi-modal travel in the region. One key addition to the RTP is the focus on collecting observed use of bicycle and hiking/walking facilities in the region.

### 3.8.1 Trips

- A. Improve multi-modal corridor bicycling and pedestrian conditions. Create and expand permanent data collection and counting procedures to monitor usage. Complete number counts a minimum of two times every five years. Establish a pilot program for a school in Pueblo to increase the number of students walking or bicycling to school. Increase the number of participants within Pueblo County in the National Bicycle Challenge and Bike to Work Events.

- a. BIKE/PED COUNT PROGRAM 2015: Establish the 2015 Baseline - in this case it is a rolling scheme for bike/ped counts.
- b. 2020: Complete two bicycle/ped count efforts between 2015 and 2020.
- c. 2030: Complete four bicycle/ped count efforts between 2020 and 2030.
- d. 2040: Complete four bicycle/ped count efforts between 2030 and 2040.

### 3.8.2 Infrastructure

- B. Provide improved bike & pedestrian friendly connections to existing multi-modal facilities and destinations. Measure progress by counting facilities being built and compare annually: - Blocks of new or repaired sidewalks; - Miles of new multimodal trails; - Miles of striped bicycle lanes on the street; - Miles of streets with sharrows (shared lane bicycle marking); - # of pedestrian countdown signals and crosswalks improved or added. - # of new accesses to existing or new facilities
  - a. BIKE/PED INFRASTRUCTURE PROGRAM 2015: Establish the 2015 Baseline - in this case it is the existing conditions.
  - b. 2020: increase all bike/ped amenities by an average of 4% over 2015 levels.
  - c. 2030: increase all bike/ped amenities by an average of 8% over 2015 levels.
  - d. 2040: increase all bike/ped amenities by an average of 15% over 2015 levels.

#### Goal #8: Support Multi-Modal Transportation

- Increase the Bicycling and Walking activity in Pueblo County for people all ages
- Improve the quality of life through an increase in attractive multi modal facilities accessible for pedestrians and cyclists and improve connectivity
- Increase non-motorized transportation usage in Pueblo by integrating multimodal improvements as part of upgrades to the existing roadway system
- Maximize transportation investments with bike and pedestrian enhancements
- Increase public & governmental support for bicycling in Pueblo
- Improve Public Health with alternative forms of transportation

### 3.8.3 Integration

- C. Incorporate 'Complete Streets' concepts on City and county transportation projects.
  - a. FOCUS ON MULTI-MODAL PARTNERSHIP: 2015 and forward: Establish and/or continue participation in statewide, regional and county Complete Streets and full-on multi-modal transportation effort and development. Make this issue a recurring one for discussion by the city and county transportation departments.

### 3.8.4 Maximization

- D. Complete or connect systems during specific projects. Reduce motor vehicle traffic by incorporating safe alternative methods of travel into all feasible projects. Reduce motor vehicle traffic by incorporating safe alternative methods of travel into all feasible projects. Enhance multimodal; efficiency and transit options where feasible.

### **3.8.5 Support**

- E. Enhance membership in national organizations that promote bicycling. Continue to submit and improve ranking for Pueblo as a “Bicycle Friendly City”. Promote bicycling for both residents and tourists through local bicycling events, proclamations and resolutions from PACOG and other entities.

### **3.8.6 Public Health**

- F. Reduce obesity within the overall population by providing more bike & pedestrian opportunities. Partner with public health agencies on initiatives to promote people walking and biking.

## **4. Organization of this Document**

There are twelve chapters and five appendices in the PACOG RTP report.

1. Chapter 1 – Overview
2. Chapter 2 –Existing Transportation System
3. Chapter 3 – Socioeconomic Profile
4. Chapter 4 – Environmental Profile
5. Chapter 5 – Transportation Safety and Security
6. Chapter 6 – Travel Demand Analysis
7. Chapter 7 – Vision Plan
8. Chapter 8 – Fiscally Constrained Plan
9. Chapter 9 – Congestion Management Process
10. Chapter 10 – Freight and Commodity Flows
11. Chapter 11 – Financial Plan
12. Chapter 12 – Implementation Plan

Appendix A – Strategic Action Plan

Appendix B – Public Involvement

Appendix C – Demographic Forecasts

Appendix D – Coordinated Human Service Transportation Plan

Appendix E – Constrained Public Transit Plan

**Table 2: PACOG 2040 Regional Transportation Goals Matrix: Goals 1 and 2**

Metric # 1	2. Infrastructure Condition								Metric # 5
1. Safety	Metric # 2		Metric # 3		Metric # 4		Metric # 5		
	Highways		Bridges		Transit & Non-Motorized		Passenger Rail		
Goal: Improve safety by providing a multi-modal transportation system that focuses on the reduction of the frequency and severity of crashes	Goal: Improve and sustain the surface conditions of the State highway system		Goal: Maintain Bridges		Goal: Maintain Transit and Non-Motorized		Goal: Maintain Passenger Rail		
<b>DETAILED TARGETS</b>	<b>DETAILED TARGETS</b>		<b>DETAILED TARGETS</b>		<b>DETAILED TARGETS</b>		<b>DETAILED TARGETS</b>		
<p>• Reduce the fatal crash rate by 50%.</p> <p><b>1A</b> -- 2015: Establish the 2015 Baseline; 2020: decrease the fatal crash rate by 13%; 2030: decrease the fatal crash rate by 25%; 2040: decrease the fatal crash rate by 50%.</p>	<p>• Achieve 80% High/Moderate Drivability Life for the Interstate Highway System based on condition standards and treatments set for traffic volume categories.</p> <p><b>2A</b> -- 2015: Establish the 2015 Baseline for High/Moderate Drivability on Interstates; 2020: achieve 20%; 2030: achieve 40%; 2040: achieve 60%.</p>	<p>• In priority, (1) Interstate, (2) NHS and U.S. State highways, and (3) all other State highways.</p>	<p>• Maintain the condition of all transit related infrastructure (i.e. dedicated bus lanes and stops, shelters, maintenance facilities, loading stations, transit center facilities, etc.)</p>	<p><b>2G</b> -- FOCUS ON FLEET 2015: Establish the 2015 Baseline; 2020: maintain the percentage of vehicles in the transit fleet to no less than 65% in fair, good, or excellent conditions (FTA definitions); 2030: maintain the percentage of vehicles in the transit fleet to no less than 65% in fair, good, or excellent conditions (FTA definitions); 2040: maintain the percentage of vehicles in the transit fleet to no less than 70% in fair, good, or excellent conditions (FTA definitions).</p>	<p>• Continue to work with CDOT DRT and policy office to sustain passenger rail service to southeastern Colorado including a potential passenger rail stop Pueblo.</p>	<p><b>2I</b> -- FOCUS ON PARTNERSHIP: 2015 and forward: Establish and/or continue participation in statewide, regional and private rail passenger advocacy groups. Maintain a "log" of events and outcomes from these meetings; <del>make this focus a recurring one for discussion by the TAC.</del></p>			
<p>• Decrease the "serious" injury crash rate by 25%.</p> <p><b>1B</b> -- 2015: Establish the 2015 Baseline; 2020: decrease the serious injury rate by 6%; 2030: decrease the serious injury rate by 13%; 2040: decrease the serious injury rate by 25%.</p>	<p>• Achieve 80% High/Moderate Drivability Life for the National Highway System based on condition standards and treatments set for traffic volume categories.</p> <p><b>2B</b> -- 2015: Establish the 2015 Baseline for High/Moderate Drivability on NHS; 2020: achieve 20%; 2030: achieve 40%; 2040: achieve 80%.</p>	<p>• Improve the SR rating of Interstate, NHS, and U.S. State Highway bridges to a range of 75 to 100</p>	<p>• Maintain the condition of all bike/pedestrian trail related infrastructure (i.e. surface condition, signage, safety improvements, etc.)</p>	<p><b>2H</b> -- FOCUS ON TRAIL USAGE 2015: Establish the 2015 Baseline; 2020: Increase trail use by at least an average of 1.5% over a five-year period beginning in 2015; 2030: Increase trail use by at least an average of 1.5% over a ten-year period beginning in 2020; 2040: Increase trail use by at least an average of 1.5% over a ten-year period beginning in 2030.</p>	<p>• Seek other sources of funding to improve and maintain the existing BNSF rail lines throughout Southeastern Colorado.</p>	<p>SEE METRIC 2I "FOCUS ON PARTNERSHIP"</p>			
<p>• Decrease the injury crash rate by 25%.</p> <p><b>1C</b> -- 2015: Establish the 2015 Baseline; 2020: decrease the injury rate by 6%; 2030: decrease the injury rate by 13%; 2040: decrease the injury rate by 25%.</p>	<p>• Achieve 80% High/Moderate Drivability Life for the State Highway System based on condition standards and treatments set for traffic volume categories.</p> <p><b>2C</b> -- 2015: Establish the 2015 Baseline for High/Moderate Drivability on State Highways; 2020: achieve 20%; 2030: achieve 40%; 2040: achieve 80%.</p>	<p>• Improve the SD rating of all other State hway bridges to a range of 75 to 100.</p>	<p>• Expand and improve the connectivity of the regional system wide trail system.</p>	<p>SEE METRIC 2H "FOCUS ON TRAIL USAGE"</p>					
<p>• Decrease the PDO (Property Damage Only) rate of crashes by 25%.</p> <p><b>1D</b> -- 2015: Establish the 2015 Baseline; 2020: decrease PDO rate of crashes by 6%; 2030: decrease PDO rate of crashes by 13%; 2040: decrease PDO rate of crashes by 25%.</p>		<p>• Bring all functionally obsolete bridge structures at grade or grade separated, interchanges, ramps, and coal and coal lanes to current AASHTO standards.</p>	<p><b>2F</b> -- 2015: Establish the 2015 Baseline; 2020: get the desired rating for 25% of deficient bridges; 2030: get the desired rating for 50% of deficient bridges; 2040: get the desired rating for 100% of deficient bridges.</p>						
<p>• Decrease the frequency and severity of public transit related crashes by 10%.</p> <p><b>1E</b> -- 2015: Establish the 2015 Baseline; 2020: decrease public transit crashes by 3%; 2030: decrease public transit crashes by 5%; 2040: decrease public transit crashes by 10%.</p>									
<p>• Decrease the frequency and severity of pedestrian related accidents by 75%.</p> <p><b>1F</b> -- 2015: Establish the 2015 Baseline; 2020: decrease pedestrian accidents by 19%; 2030: decrease pedestrian accidents by 38%; 2040: decrease pedestrian accidents by 75%.</p>									
<p>• Eliminate railroad crossing related crashes by 75%.</p> <p><b>1G</b> -- 2015: Establish the 2015 Baseline; 2020: decrease railroad crossing crashes by 19%; 2030: decrease railroad crossing crashes by 38%; 2040: decrease railroad crossing crashes by 75%.</p>									
<p>• Enhance the overall safety of the transportation system by implementing engineering, education, and enforcement strategies to reduce traffic-related injuries and fatalities.</p> <p>SEE ABOVE</p>									

Table 2 (continued): PACOG 2040 Regional Transportation Goals Matrix: Goals 3 and 4

3. Congestion Reduction				4. Freight Movement & Economic Vitality				
Achieve AASHTO Infrastructure Standards		Address Congestion		Freight Infrastructure		Corridor Preservation	Economic Development	
	DETAILED TARGETS		DETAILED TARGETS		DETAILED TARGETS	DETAILED TARGETS	DETAILED TARGETS	
Goal: Bring all interstate, NHS, U.S. and other state highways up to current AASHTO standards that improve the flow of motor vehicles and transit		Goal: Reduce existing heavy congestion on U.S. Highways, NHS highways by implementing alternative transportation corridors (i.e. Bypass facilities)		Goal: Provide a safe and efficient intermodal and NHS, and other State highways for the movement of freight		Goal: Encourage corridor preservation and separation efforts for both passenger and freight rail, and railroads	Goal: Provide a transportation system that encourages new business, economic development and industry expansion that is integrated with future land use plans and policies	
Improve all functionally obsolete interchanges, accessions, overpasses, ramp lengths, roadway shoulders, etc.	<b>3A – FOCUS ON UPDATES OF HIGHWAY FACILITIES:</b> 2015: Complete the 2015 Baseline. Identify AASHTO deficiencies. 2020: 90% of the total miles up to 7% of deficient locations. 2030: get the desired rating for 10% of deficient locations.	Build or expand alternate bypass state highway facilities to LOS C through F and/or on at grade and grade-separated interchanges to reduce congestion on existing heavily congested corridors.	<b>3B – FOCUS ON ROADWAY CONGESTION RELIEF IN THE LEFT CORRIDOR VISION PLAN:</b> 2015: Establish a Volume-to-Capacity (V/C) Baseline Target supported by number of lane miles over V/C = 90 during the one hour PM peak. 2020: get the desired rating for 75% of the congested locations. 2030: get the desired rating for 100% of the congested locations.	Reduce the number and severity of truck height related crashes by 75% on the New Public Franchise (NPF) TA corridor designated national freight movement corridor) interstate system.	<b>4A – 2015:</b> Establish the 2015 baseline. 2020: decrease the number and severity of truck height related crashes by 75% on the New Public Franchise (NPF) TA corridor – designated national freight movement corridor) interstate system. 2030: decrease by 90%.	Coordinate efforts with FDOT, USDOT, FTA and Congress to bring regional passenger and freight rail service into the intermodal passenger rail service plan and state.	<b>4C – FOCUS ON PARTNERSHIP:</b> 2015 and forward: Establish and/or continue participation in statewide, regional and private rail advocacy groups. Maintain a "log" of events and activities from these meetings. <a href="#">www.transportation.gov/intermodal</a>	Improve the integrative accessibility and connectivity of the regional transportation system across and between modes for the movement of freight and people.
Interstate, NHS, U.S. highways and other state highways LOS C through F and LOS D at grade and grade-separated interchanges.	SEE METRIC <b>3B</b> "FOCUS ON ROADWAYS IN THE LEFT CORRIDOR VISION PLAN"	To reduce travel time on existing heavily congested corridors by 20%.	SEE METRIC <b>3B</b> "FOCUS ON ROADWAY CONGESTION RELIEF IN THE LEFT CORRIDOR VISION PLAN"	Reduce the number and severity of truck height related crashes by 75% on U.S. highways and other NHS highways.	<b>4B – 2015:</b> Establish the 2015 baseline. 2020: decrease the number and severity of truck height related crashes by 75% on U.S. highways and other NHS highways. 2030: decrease by 90%.		This transportation system should be robust, resilient, and contribute in a manner that supports access to jobs for workers, access to shopping and services and the safe and efficient movement of goods to firms and other the region. It should support rural, medical, education, manufacturing, energy industry, recreation and other important economic sectors.	
		As identified in the U.S. Safety Plan, build grade-separated interchanges and add where corridor levels of service reach D.	SEE METRIC <b>3B</b> "FOCUS ON ROADWAY CONGESTION RELIEF IN THE LEFT CORRIDOR VISION PLAN"	Improve all functionally obsolete interchanges, accessions, overpasses, ramp lengths, inadequate shoulders to AASHTO standards for the safe and efficient movements of freight through Pueblo County's interstate system.	SEE METRIC <b>3B</b> "FOCUS ON ROADWAY CONGESTION RELIEF IN THE LEFT CORRIDOR VISION PLAN"		SEE METRIC <b>4D</b> "TRANSIT PARTNERSHIP & CONNECTIVITY"	
		As identified in the U.S. New Public Franchise (NPF) – build grade-separated interchanges and add additional travel lanes when corridor levels of service reach D.	SEE METRIC <b>3B</b> "FOCUS ON ROADWAY CONGESTION RELIEF IN THE LEFT CORRIDOR VISION PLAN"	Expand and improve a regional roadway system that provides local, regional and statewide efficient access and connectivity for the movement of freight and people.	SEE METRIC <b>3B</b> "FOCUS ON ROADWAY CONGESTION RELIEF IN THE LEFT CORRIDOR VISION PLAN"			
		Bring all New Public Franchise functionally obsolete interchanges at grade or grade-separated, interchanges, ramps, and access and local lanes to current AASHTO standards.	SEE METRIC <b>3B</b> "FOCUS ON ROADWAY CONGESTION RELIEF IN THE LEFT CORRIDOR VISION PLAN"					
		Reduce trips that will reduce on-road mobile source emissions per capita by various means:	<b>3C – FOCUS ON MOBILE SOURCE POLLUTION ABATEMENT:</b> 2015: Baseline values for quality health standards and reduce regional transportation-related greenhouse gas (GHG) and air pollution emissions by 10% compared to 2013 levels. 2020: by 20%, 2030: by 50%.					
		1. Improving the number of transit, bus, bicycle, and public use of NCVs and electric vehicles.	SEE METRIC <b>3C</b> "MOBILE SOURCE POLLUTION ABATEMENT"					
		2. As feasible, convert public transit buses and vehicles to alternative fuel vehicles (i.e. CNG, LNG, electric, and other future vehicle reduction tools)	SEE METRIC <b>3C</b> "MOBILE SOURCE POLLUTION ABATEMENT"					
		3. Build strategically located and sizeable facilities to reduce idling of commercial trips by single occupancy vehicles (SOV).	SEE METRIC <b>3C</b> "MOBILE SOURCE POLLUTION ABATEMENT"					
		4. Continue to encourage public education and reduce public transit barriers, barriers, etc.) the use of public transit as an alternative to SOV's.	SEE METRIC <b>3C</b> "MOBILE SOURCE POLLUTION ABATEMENT"					
		5. Implement TSM measures such as intersection improvements, ramp metering, etc.) to improve the flow of motor vehicles and transit.	SEE METRIC <b>3C</b> "MOBILE SOURCE POLLUTION ABATEMENT"					
		6. Deploy additional ITS resources to improve public transit operations and construction delays, improve emergency and other safety messages and other metrics of public confidence to improve the flow of transit.	SEE METRIC <b>3C</b> "MOBILE SOURCE POLLUTION ABATEMENT"					
		7. Expand and improve the regional air and air-quality related initiatives such as increases of 3% of work, school and other trip purposes conducted by a safe and efficient method.	SEE METRIC <b>3C</b> "MOBILE SOURCE POLLUTION ABATEMENT"					
		8. Encourage public and private sector incentives for public transit, carpooling, teleworking, bicycling, walk to work/ school and park to the office.	SEE METRIC <b>3C</b> "MOBILE SOURCE POLLUTION ABATEMENT"					
		9. Continue support of the statewide efforts of the intermodal connectivity system: From Range transit and high speed passenger rail service. Identify the gaps and connections (commitment and accessible transit points). Promote existing passenger rail service to Southern Colorado through Pueblo County.	SEE METRIC <b>3C</b> "MOBILE SOURCE POLLUTION ABATEMENT"					



Table 2 (continued): PACOG 2040 Regional Transportation Goals Matrix: Goals 7 and 8

Metric # 17		Metric # 18		Metric # 19		Metric # 20		Metric # 21		Metric # 22		Metric # 23	
7. Reduce Project Delivery Delays		<b>8. Multi-modal Transportation</b>											
		<i>Trips</i>		<i>Infrastructure</i>		<i>Integration</i>		<i>Maximization</i>		<i>Support</i>		<i>Public Health</i>	
Goal: Accelerate the timeframe for the completion of projects	DETAILED TARGETS	Goal: Increase the Bicycling and Walking activity in Pueblo County for people all ages	DETAILED TARGETS	Goal: Improve the quality of life through an increase in attractive multi-modal facilities accessible for pedestrians and cyclists and improve connectivity	DETAILED TARGETS	Goal: Increase non-motorized transportation usage in Pueblo by integrating multi-modal improvements as part of upgrades to the existing roadway system	DETAILED TARGETS	Goal: Maximize transportation investments with bike and pedestrian enhancements	DETAILED TARGETS	Goal: Increase public & governmental support for bicycling in Pueblo	DETAILED TARGETS	Goal: Improve Public Health with alternative forms of transportation	DETAILED TARGETS
- Improve timing to streamline approval processes, including reviews, contracts, and general clearances		- Improve multi-modal corridor bicycling and pedestrian conditions	SEE METRIC 8A "BIKEPED COUNT PROGRAM"	- Provide improved bike & pedestrian friendly connections to existing multi-modal facilities and destinations.	SEE METRIC 4D "TRANSIT RIDERSHIP & CONNECTIVITY"	- Incorporate complete street concepts on City and county transportation projects.	8C – FOCUS ON MULTI-MODAL PARTNERSHIP: 2015 and forward. Establish and/or continue participation in statewide, regional and county Complete Streets and full on multi-modal transportation effort and development. <del>Make this issue a recurring one for discussion by the city and county transportation departments.</del>	- Complete or connect systems during specific projects	SEE METRIC 8C "FOCUS ON MULTI-MODAL PARTNERSHIP"	- Membership in national organizations that promote bicycling	SEE METRIC 8C "FOCUS ON MULTI-MODAL PARTNERSHIP"	- Reduce obesity within the overall population by providing more bike & pedestrian opportunities.	SEE METRIC 8C "FOCUS ON MULTI-MODAL PARTNERSHIP"
- When possible do not require design and construction finding and having separate consultants for design/construction to be split up		- Create and expand permanent data collection and counting procedures to monitor usage.	8A – BIKEPED COUNT PROGRAM 2015: Establish the 2015 Baseline - in this case it is a rolling scheme for bike/ped counts: 2020: Complete two bicyclist count efforts between 2015 and 2020; 2030: Complete four bicyclist count efforts between 2020 and 2030; 2040: Complete four bicyclist count efforts between 2030 and 2040.	- Measure progress by counting facilities being built and compare annually - Blocks of new or repaired sidewalks - Miles of new multi-modal trails - Miles of striped bicycle lanes on the street - Miles of streets with sharrows - # of pedestrian countdown signals and crosswalks improved or added - # of new accesses	8B – BIKEPED INFRASTRUCTURE PROGRAM 2015: Establish the 2015 Baseline - in this case it is the existing conditions: 2020: Increase all bike/ped amenities by an average of 4% over 2015 levels; 2030: Increase all bike/ped amenities by an average of 8% over 2015 levels; 2040: Increase all bike/ped amenities by an average of 15% over 2015 levels.			- Reduce motor vehicle traffic by incorporating safe alternative methods of travel into all feasible projects	SEE METRIC 8C "FOCUS ON MULTI-MODAL PARTNERSHIP"	- Continue to submit and improve ranking as a "Bicycle Friendly City"	SEE METRIC 8C "FOCUS ON MULTI-MODAL PARTNERSHIP"	- Partner with public health agencies on initiatives to promote people walking and biking.	SEE METRIC 8C "FOCUS ON MULTI-MODAL PARTNERSHIP"
- Utilize Design/Build and Every Day Counts concepts to identify and deploy innovation aimed at shortening project delivery, enhancing the safety, and protecting the environment. These concepts include - Shortened project delivery - flexibilities and coordination in Right of Way - Accommodation and relocation of utilities	7A – 2015: Establish the 2015 Baseline; 2020: decrease delivery time for projects on average of 3%; 2030: decrease by 5%; 2040: decrease by 10%.	- Complete number counts a minimum of two times every five years						- Enhance multi-modal efficiency and transit options where feasible.	SEE METRIC 8C "FOCUS ON MULTI-MODAL PARTNERSHIP"	- Promote bicycling for both residents and tourists through local bicycling events, promotions and resolutions from PACOG and other entities	SEE METRIC 8C "FOCUS ON MULTI-MODAL PARTNERSHIP"		
		- Establish a pilot program for a school in Pueblo to increase the number of students walking or bicycling to school											
		- Increase the number of participants within Pueblo County in the National Bicycle Challenge and Bike to Work Events											



# 2015 PACOG RTP

HDR/PB

Lupa, Mary

## [CHAPTER 5 TRANSPORTATION SAFETY & SECURITY]

Draft Final Version - May 22, 2015

# Table of Contents

- 1 Safety & Security in the Context of the Long Range Plan ..... 2
  - 1.1 Introduction ..... 2
  - 1.2 Outline of this Section..... 2
- 2 Safety ..... 2
  - 2.1 Introduction ..... 2
  - 2.2 Federal Guidance ..... 3
  - 2.3 Safety Statistics in Colorado..... 3
  - 2.4 Safety Statistics in the Pueblo Region..... 5
    - 2.4.1 Type of Crash ..... 5
    - 2.4.2 Roadway Functional Classification of the Crash ..... 6
    - 2.4.3 Intersection Related Component of the Crash ..... 7
    - 2.4.4 Time of Day of Crashes by Severity..... 8
- 3 Security ..... 9
  - 3.1 Security Goals – National ..... 10
  - 3.2 Security Goals – State of Colorado..... 10
    - 3.2.1 State of Colorado Emergency Operations Plan..... 10
    - 3.2.2 State of Colorado Homeland Security Strategy ..... 12
    - 3.2.3 State Homeland Security/Emergency Management ..... 12
    - 3.2.4 Colorado Department of Transportation..... 12
    - 3.2.5 Colorado State Patrol..... 12
  - 3.3 PACOG’s Role in Security & Emergency Management ..... 13
  - 3.4 PACOG’s Policy Goals for Security ..... 13
  - 3.5 Key PACOG Transportation Assets ..... 14
  - 3.6 Freight Security ..... 15
    - 3.6.1 Truck Freight Security ..... 15
    - 3.6.2 Rail Security..... 15
    - 3.6.3 Aviation Security ..... 16
  - 3.7 Recommended Future Activities for PACOG..... 16

# 1 Safety & Security in the Context of the Long Range Plan

## 1.1 Introduction

In this section both safety and security in the context of the Pueblo Area Council of Governments (PACOG) Metropolitan Planning Organization Long Range Transportation Plan will be discussed.

- Safety can be defined as relative freedom from danger, risk, or threat of harm, injury, or loss to personnel and/or property, whether caused deliberately or by accident. In the context of highway transportation it is typically assessed using crash data to tabulate where safety issues likely exist and condition reporting which identifies infrastructure needs.
- Security can be defined as the state of being free from danger or threat in a given geographic area – a nation, state, county, region or city. This definition can be expanded to include focused preparation for coordinated response to potential threats or disasters, whether natural or cause by humans.

The maintenance and operation of a safe and secure transportation system are of utmost importance to all regions. Almost 500 fatalities occurred on Colorado roadways in 2014. Preventing these fatalities is a first priority in Colorado as it is in every state. Investments that maintain or move the system closer to a “state of good repair” make the system safe for all users. Available funds should be allocated first to maintaining the transportation system at a safe and adequate level before other projects involving modernization, enhancements, or major capital projects are considered. Similarly, increased attention to the wide range of transportation security issues in the Pueblo planning area is an important part of long range planning. Roads, bridges, rail and airport facilities can profit from a “hardening” of the layer that protects them from harm.

## 1.2 Outline of this Section

Two related topic will be addressed in this section: transportation safety and transportation security. Each will be presented in a similar format: discussion and analysis at the (1) MAP-21 or federal level, (2) Colorado state level and (3) from the viewpoint of the Pueblo Area Council of Governments.

# 2 Safety

## 2.1 Introduction

Highway safety is a critical element of transportation policy. Reducing highway-related fatalities and injuries would improve the overall quality of life for all Colorado residents, workers, and visitors. Deaths and injuries resulting from traffic crashes have serious public health, quality of life, and economic consequences. A safer transportation system will not only reduce the tragic human costs from the loss of lives or life altering injuries, it reduces significant economic losses. The economic costs of highway crashes include medical, insurance, emergency service, legal, lost wages, and personal property damage. Improving traffic safety is not only the right thing to do; it is also the smart thing to do.

The PACOG goals with respect to transportation safety include working to:

- Preserve the existing transportation systems to provide safe, convenient, and efficient transportation.
- Maintain the performance of the Colorado state transportation system at a high level to ensure the safety of all users, including transportation operators, passengers, shippers, bicyclists and pedestrians.
- Continue to improve system safety by instituting and supporting safety programs to lower the number of fatalities and life-altering injuries.
- Promote the identification of specific emphasis areas to improve transportation safety through a statewide evaluation of safety problems and multi-stakeholder input.
- Continue to develop comprehensive, coordinated, and communicative safety strategies that focus on engineering, education, enforcement, and emergency medical services for all emphasis areas.
- Promote the development of improved and new transportation system design, engineering, and operating technologies to increase system safety.
- Promote safe and convenient travel facilities for vulnerable users.
- Provide a continuing program of public information and education to promote safety awareness and implementation of safety practices.
- Cooperate with other agencies to ensure prompt response to crashes on the transportation system and timely resolution of environmental and other problems, such as hazardous waste sites, encountered when improving transportation facilities.

## 2.2 Federal Guidance

The Moving Ahead for Progress in the 21st Century Act (MAP-21) transportation bill was enacted in 2012. The safety related planning requirements are addressed largely to state Departments of Transportation. MAP-21 retains the Highway Safety Improvement Program (HSIP) as one of the core efforts intended to reduce injuries and fatalities on all public roads, pathways or trails. MAP-21 provides a new emphasis on enhanced data collection and performance. The combination of the renewed HSIP program and the new emphasis on data lays the framework for more effective spending of safety dollars on projects that make roads safer for all users.

The work conducted by PACOG will thus fold into safety investment and strategies at the state level led by the Colorado DOT. The means by which the state supports national safety goals, such as maintaining road performance, improving the system safety, and providing better education and outreach, are echoed by PACOG. As an example, improving system safety on I-25 along its entire extent is important to the nation, the state of Colorado and the PACOG.

## 2.3 Safety Statistics in Colorado

The state of Colorado maintains comprehensive records on fatalities by transportation mode in Colorado. Table XX shows this information providing five modes: driver, passenger, motorcycle, pedestrian and bicycle. Figure XX shows the information in graphic form. In the five year interval of 2009-2013, Colorado fatalities related to the five transportation modes have remained generally static. Auto driver leads the categories with around 50%. Auto passengers and motorcycle mode are each

about 20% of the total. 10% of transportation related fatalities in the state are of pedestrians. Bicycle contributes about 2-3%.

**Table XX: Fatalities by Transportation Mode in Colorado 2009-2013**

Year	Person Type				
	Driver	Passenger	Motorcycle	Pedestrian	Bicycle
2009	234	82	88	51	10
2010	222	98	82	40	8
2011	228	86	78	47	8
2012	213	91	79	78	13
2013	235	95	87	52	12

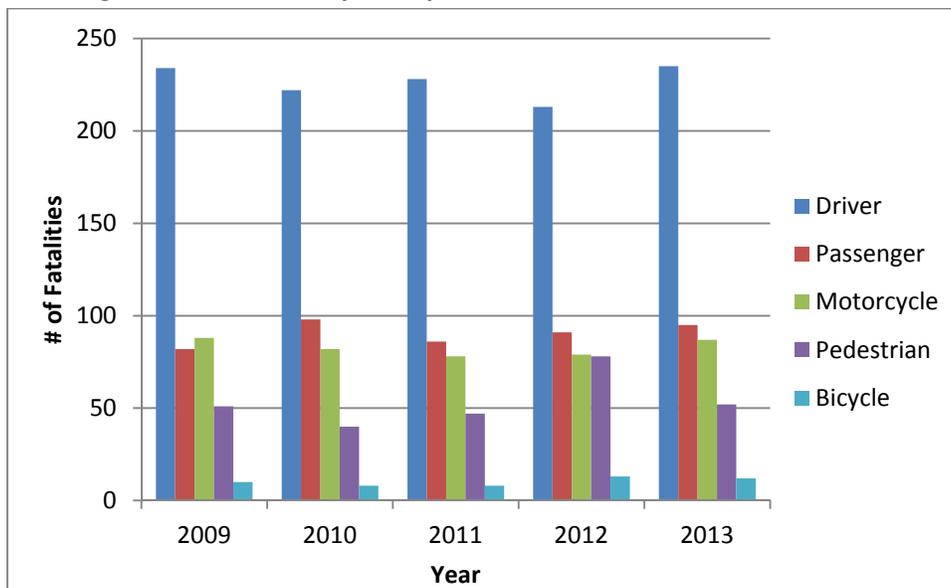
Source: CDOT

**Table XX: Percentage of Fatalities by Transportation Mode in Colorado 2009-2013**

Year	Person Type					Total
	Driver	Passenger	Motorcycle	Pedestrian	Bicycle	
2009	50%	18%	19%	11%	2%	100%
2010	49%	22%	18%	9%	2%	100%
2011	51%	19%	17%	11%	2%	100%
2012	45%	19%	17%	16%	3%	100%
2013	49%	20%	18%	11%	2%	100%

Source: CDOT

**Figure XX: Fatalities by Transportation Mode in Colorado 2009-2013**



Source: CDOT

## 2.4 Safety Statistics in the Pueblo Region

Safety in Pueblo County is presented using the 2009-2013 county level crash data with emphasis on:

- Type of Crash
- Roadway Functional Classification of the Crash
- Intersection Related Component of the Crash
- Time of Day of the Crash

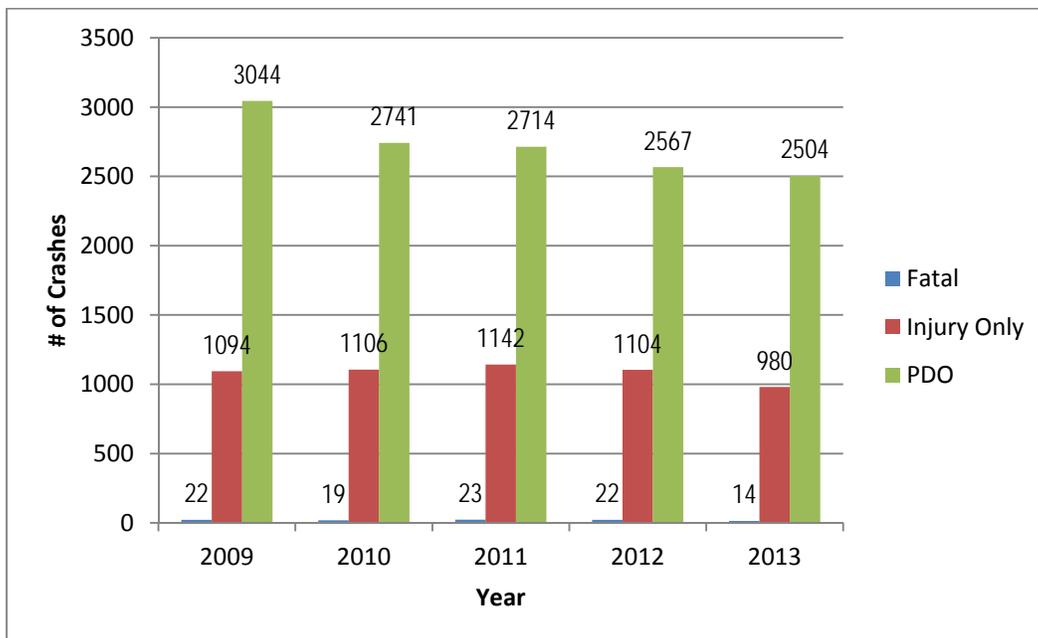
### 2.4.1 Type of Crash

The Colorado Department of Transportation has provided data on the number and type of vehicle accidents in the county for the five year interval of 2009 to 2013. These were provided for Pueblo County and shown in Table XX. During the five year interval, fatal crashes ranged from 14 to 23 annually. Crashes with injuries ranged from 980 to 1,142 per year. Crashes with Property Damage Only (PDO) ranged from 2,504 to 3,044 per year. Figure XX show the same data in visual format. All categories of crashes experienced a general decline during the five year span. Property damage only crashes were the most likely to occur, followed by those with injuries and lastly those crashes that had fatalities.

**Table XX: Accidents by Type in Pueblo County 2009-2013**

Accident Type	2009	2010	2011	2012	2013
FATAL	22	19	23	22	14
INJURY	1094	1106	1142	1104	980
PDO	3044	2741	2714	2567	2504

**Figure XX: Accidents by Type in Pueblo County 2009-2013**



Alcohol or drugs are often correlated with fatal crashes. Table XX shows the number of fatal crashes for each recent year, the number of fatalities resulting, and the total fatalities where alcohol and/or drugs were a factor. Between 23% and 42% of crashes with fatalities in Pueblo County between 2009 and 2013 involved alcohol and/or drugs.

**Table XX: Alcohol/Drugs Indicator in Fatal Crashes 2009-2013 in Pueblo County**

Year	Fatal Crashes	Deaths	Alcohol or Drugs Involved	% Alcohol or Drug Related
2009	22	22	5	23%
2010	19	20	6	30%
2011	23	24	10	42%
2012	22	25	7	28%
2013	14	15	6	40%

#### 2.4.2 Roadway Functional Classification of the Crash

The crash data provided to PACOG allowed tabulation of the locational types where crashes occurred during the five year interval 2009-2013. These five years are summarized in Table XX and Table XX. Table XX provides the totals for years 2009-2013. Table XX presents the percentages of crash occurrence by roadway functional classification.

**Table XX: Locational Indicator of Crashes by Severity 2009-2013 in Pueblo County**

Type of Roadway	Location of Crash (Total 2009-2013)		
	Fatal	Injury Only	PDO
Interstate	24	658	1,604
State Highway	41	1,977	4,104
City Street	19	2,526	7,176
County Road	15	247	640
Frontage Road	1	18	46
<b>Total</b>	<b>100</b>	<b>5,426</b>	<b>13,570</b>

**Table XX: Percentage of Locational Indicator of Crashes by Severity 2009-2013 in Pueblo County**

Type of Roadway	Location of Crash (Total 2009-2013)		
	Fatal	Injury Only	PDO
Interstate	24%	12%	12%
State Highway	41%	36%	30%
City Street	19%	47%	53%
County Road	15%	5%	5%
Frontage Road	1%	0%	0%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Table XX shows the actual number of occurrences and echoes the findings shown in earlier tables: Property damage crashes are the most prevalent, followed by those with injuries and lastly those with fatalities. Looking at the data in percentage format using the total of five years of data (Table XX) allows additional information to emerge.

- State highways are the most likely locations (41%) for fatal crashes to occur, followed by interstates (24%). City and county roads follow with 19% and 15% respectively.
- For injury-only crashes, almost half (47%) occur on city streets. State highways follow with 36% and interstates with 12% of the total.
- Property Damage Only (PDO) crashes are also most likely to occur on city streets (53%) again with state highways (30%) and interstates (12%) following.

The locational information of crashes shows overall that fatalities have occurred most often on higher speed roadway facilities.

### 2.4.3 Intersection Related Component of the Crash

A similar tabulation can be conducted on the data to determine if the crash occurred at an intersection or a non-intersection location. Again all five years were tabulated for this summary and presented in percentage below.

**Table XX: Road Type (Intersection) in Crashes 2009-2013 in Pueblo County**

Road Type	Severity of Crash		
	Fatal	Injury	PDO
At Intersection or Intersection Related	32%	57%	45%
Non-Intersection	65%	36%	45%
At Driveway Access	1%	5%	7%
Ramp	1%	2%	2%
All Other	1%	1%	1%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Looking at the data in percentage format using the total of five years of data (Table XX) allows the contribution of the intersection to emerge. In Table XX, the category “All Other” includes “In Alley”, “Parking Lot”, “Roundabout” and “Unknown”.

- Intersections contribute to the occurrence of fatal crashes in 32% of instances over the last five years. These events are far more likely (65%) to occur in non-intersection locations.
- The reverse is true for crashes with injuries where 57% of these occurrences are related to intersections.
- Property Damage Only (PDO) events are split between intersection and non-intersection locations (45% each). Driveway access is a major contributor to the balance of the road type present when PDO crashes take place.

In summary, fatal crashes are twice as likely to occur on the travel lane (non-intersection) than at or near an intersection. Crashes with injuries only are more likely to take place at an intersection though the travel lane still contributes strongly to the total. And PDO crashes are equally spread at intersection and non-intersection locations with driveway access playing a significant though small role.

#### 2.4.4 Time of Day of Crashes by Severity

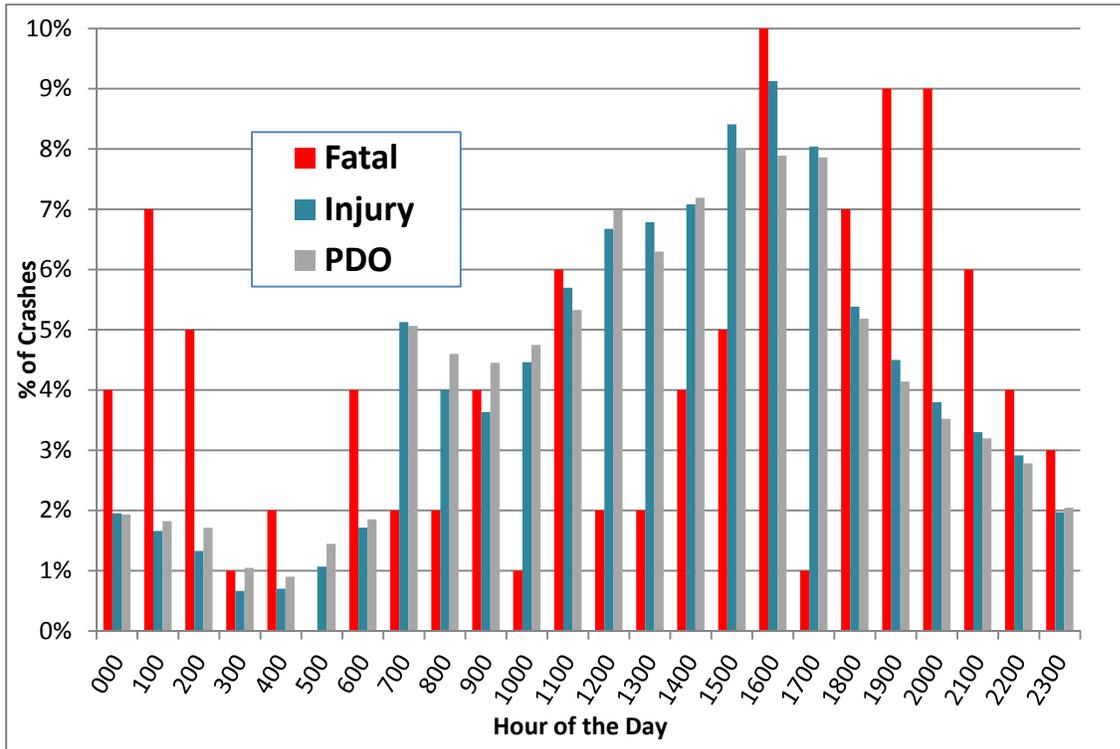
An overview can be conducted on the data to understand the time of day during which crashes occurred in Pueblo County. Again all five years were tabulated for this summary and presented in both percentage and graphic form below. Table XX divides the crashes into 24 categories, each representing the hour during which the crash occurred and then sorts for the severity of the crash. Each hour category contains all crashes that occurred during any part of that hour.

**Table XX: Time of Day of Crashes 2009-2013 in Pueblo County**

Hour	Severity		
	Fatal	Injury	PDO
000	4%	2%	2%
100	7%	2%	2%
200	5%	1%	2%
300	1%	1%	1%
400	2%	1%	1%
500	0%	1%	1%
600	4%	2%	2%
700	2%	5%	5%
800	2%	4%	5%
900	4%	4%	4%
1000	1%	4%	5%
1100	6%	6%	5%
1200	2%	7%	7%
1300	2%	7%	6%
1400	4%	7%	7%
1500	5%	8%	8%
1600	10%	9%	8%
1700	1%	8%	8%
1800	7%	5%	5%
1900	9%	4%	4%
2000	9%	4%	4%
2100	6%	3%	3%
2200	4%	3%	3%
2300	3%	2%	2%

Table XX and Figure XX communicate the same findings. Crashes with fatal outcomes are most likely to occur during one of two time intervals: (1) in the early morning hours (midnight to 3 am) or (2) during the late afternoon and evening. Injury or PDO events, however, occur between 7 am and 6 pm with a peak during the hour starting at 4 pm.

Figure XX: Time of Day of Crashes 2009-2013 in Pueblo County



### 3 Security

Since September 11, 2001, there has been growing awareness of the need for emergency preparedness and attention to Homeland Security issues. Title 23 in the Code of Federal Regulations, in Section 450.322(f), states: “The metropolitan transportation plan should include appropriate emergency relief and disaster preparedness plans and strategies and policies that support homeland security as appropriate and safeguard the personal security of all motorized and non-motorized users.” The context of transportation security as a planning factor is also linked to the U.S. Department of Homeland Security and the 2006 implementation of the National Incident Management System (NIMS)<sup>1</sup>. The NIMS was issued in 2004 to provide a comprehensive and consistent national approach to all-hazard incident management at all jurisdictional levels and across functional disciplines. Full compliance with the NIMS certification process was required by September 2006. Beginning in 2007, NIMS compliance is a condition for jurisdictions to receive federal preparedness funding assistance.

From a transportation planning perspective, security is an emerging area of concern, and each MPO will have different security priorities. A first cut tabulation of what the transportation plan should reflect with respect to security includes:

<sup>1</sup> <https://www.fema.gov/national-incident-management-system>

- Defining the role of the MPO and public transportation operators in promoting security, which may in part be defined elsewhere in state or local legislation related to emergency management responsibilities.
- Identification of critical facilities and transportation system elements and the risk to assets such as highways, transit systems, or rail lines critical to national defense or economic security, and infrastructure intricately related to potential high-value security targets.
- Identification of appropriate security goals and strategies.
- Reflection of projects and strategies that will increase the security of transportation system users in the Long-Range Transportation Plan (LRTP) and the Transportation Improvement Program (TIP).

PACOG understands that the focus of the multi-jurisdiction security planning efforts is to minimize the direct or indirect disruptions caused either by natural or human actions. These disruptions can occur in any season of the year and cover a limited or wide-ranging area in the Pueblo MPO region. Examples of the types of events are:

- Natural events – Tornado, blizzard, flood or wildfire.
- Human –caused events – Hazardous material incident, power outage, act of terrorism, civil disturbance.

The events that requires a security response have in common that they are unexpected, that lives are in jeopardy and emergency personal may not be available due to a high demand for their services.

### **3.1 Security Goals – National**

The U.S. Department of Transportation has adopted a conceptual level security, preparedness and response goal as part of its strategic plan. This goal is “Balance transportation security requirements with the safety, mobility and economic needs of the Nation and be prepared to respond to emergencies that affect the viability of the transportation sector”.

The main federal objectives for security are:

- Developing/obtaining expert transportation sector intelligence.
- Building preparedness for emergencies affecting the transportation sector.
- Planning for effective response to emergencies affecting the transportation sector.

PACOG is addressing security issues by cataloging available emergency management resources and documenting actions that the area has already undertaken, especially at the state level.

### **3.2 Security Goals – State of Colorado**

#### **3.2.1 State of Colorado Emergency Operations Plan**

The purpose of the State of Colorado Emergency Operations Plan (SEOP) is to identify the roles, responsibilities, and actions of state government in disasters. Emergency operations plans address the ability to direct, control, coordinate, and manage emergency operations. Each level of government should respond to an incident using its available resources, to include the use of mutual

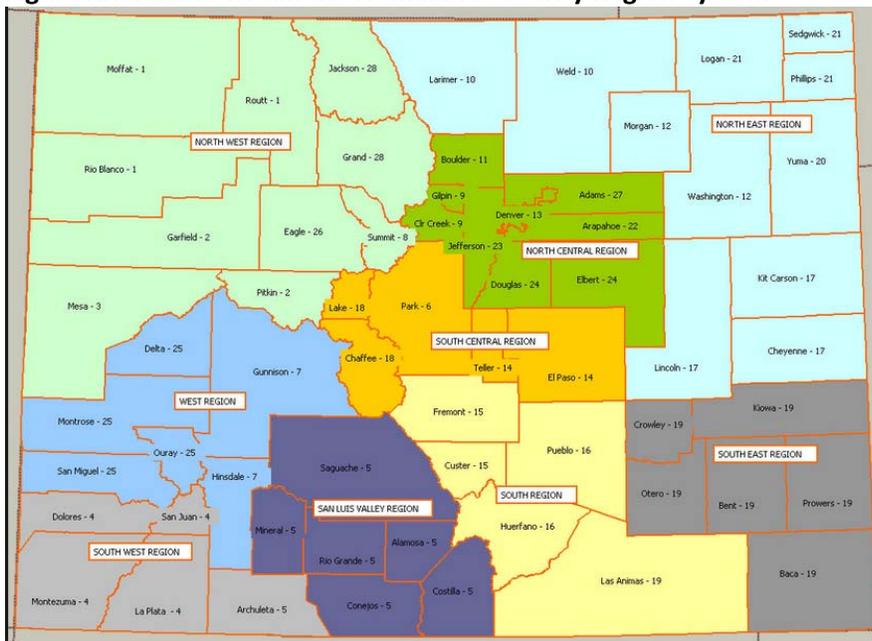
aid, and may request assistance from the next higher level of government, if required. When local government capabilities are overtaxed, state government has resources and expertise available to provide emergency or disaster assistance. The state will modify normal operations and redirect resources to assist and support local governments in saving lives, relieving human suffering, sustaining survivors, protecting property, and reestablishing essential services. Federal government resources and expertise can be mobilized to augment emergency or disaster efforts beyond the capabilities of state government.

The SEOP identifies fifteen Emergency Support Functions (ESFs) that list the types of assistance activities that local government may need regardless of the nature of the disaster or emergency. CDOT emergency support activities include:

1. Processing and coordinating requests for state, local, and civil transportation support as directed under the SEOP.
2. Reporting damage to transportation infrastructure as a result of the incident.
3. Coordinating alternate transportation services.
4. Coordinating the restoration and recovery of the transportation infrastructure.
5. Coordinating and supporting prevention, preparedness, and mitigation among transportation infrastructure stakeholders at the state and local levels.

The Colorado Division of Emergency Management (CDEM) provides financial and technical support to local governments throughout the state with both out-stationed and in-house staff. Pueblo is in the South Region of this Division as shown in Figure XX.

**Figure XX: Pueblo within the Homeland Security Region System**



### **3.2.2 State of Colorado Homeland Security Strategy**

The State of Colorado Homeland Security Strategy was prepared by the Colorado Department of Local Affairs with extensive cooperation and input from the Governor's Office, the Colorado Department of Public Safety, the state's county emergency managers, the regional Homeland Security coordinators, and the Center for the Study and Prevention of Violence at the University of Colorado-Boulder.

Colorado's Homeland Security Strategy provides a framework for enhancing the state's ability to prevent, respond to, and recover from an act of terrorism. The plan furnishes state and local officials with the means to develop interlocking and mutually supporting emergency preparedness programs. The plan focuses on preparedness for acts of terrorism and addresses disaster planning that is supplemented by local strategic and operations plans. This coordinated effort by federal, state, and local governments identified needed resources, developed strategies, and created partnerships throughout the public and private sector that serve as a foundation for homeland security efforts now and in the future.

### **3.2.3 State Homeland Security/Emergency Management**

Colorado's Multi-Agency Coordination Center (MACC) offers the ability for state, federal, and local agencies to come together in a central location to coordinate the response to emergencies and disasters throughout the state. The MACC is a state-of-the-art center developed specifically to help Colorado respond to any type of disaster or emergency it may face in today's world. The center is housed with South Metro Fire and Rescue in Centennial, Colorado. The Colorado Information Analysis Center (CIAC) was added to the center with the disaster prevention focus and strong links to federal and local agencies. The MACC is linked to the CDOT's Transportation Operations Center (TOC), which provides highway surveillance camera displays to monitor state roadways and weather throughout Colorado. The center also provides general intelligence on all transportation systems including railroads and airports. The TOC has command and control over all state road systems, bridges, and underpasses, provides avalanche analysis and control, and acts as the command and control center in the event of an emergency.

### **3.2.4 Colorado Department of Transportation**

The Colorado Department of Transportation's (CDOT) role in emergency management consists primarily of safeguarding and maintaining the state transportation system in the affected area and facilitating and coordinating evacuation routes that utilize the state transportation system. CDOT maintenance staff comprises the primary responders for both damage to CDOT infrastructure and assistance to others, but staff from other areas may be utilized as needed.

### **3.2.5 Colorado State Patrol**

The Colorado Information Analysis (CIAC) is designed to be a cross-jurisdictional partnership between local, state, and federal agencies, including private sector participation when appropriate. This center provides one central point in Colorado for the collection, analysis, and timely dissemination of terrorism-related information. Information is distributed from the CIAC in the form of daily reports, special reports, and bulletins to numerous agencies representing a multitude of disciplines.

### 3.3 PACOG's Role in Security & Emergency Management

MPOs also have a role in security and emergency management efforts. This role varies based upon the political and institutional context of the region. Clearly, emergency management, public safety, and transportation operating agencies have the primary responsibility for responding to disasters. However, outside of the immediate urgency of response, there are opportunities to support coordinated responses to potential incidents and to assist in developing strategies for how to handle demands on the transportation system, before or after an incident, in which the MPO can play an important role. As a facilitator of collaboration, the MPO can assist in multiple ways. The MPO can serve as a forum for cooperative decision making, or as an advocate for funding of regional transportation strategies. At the technical level, the MPO can provide transportation network-based technical analyses to assess both the impacts of and needs related to security and emergency management efforts.

The Public Works Departments of the City of Pueblo and of Pueblo County are important partners in the PACOG planning process. They are also managers of key portions of the existing roadway network as noted in the existing conditions section. Note that in this particular section safety and security are blended in how they deliver value to the residents of the PACOG region. Specific roles and responsibilities include:

- Inspection of bridges, roads, signs, lighting, airports, and sidewalks for damage.
- Coordination and repair of damaged transportation structures, including roads, traffic control systems, and signage.
- Maintaining rights-of-way for emergency vehicles.
- Assisting in traffic management during incidents.
- Helping secure geographic areas with roadblocks or other physical measures.
- Establishing short-term and long-term detours and signage.
- Removing debris and cleaning streets and roadways.
- Setting priorities for restoration of transportation systems.

### 3.4 PACOG's Policy Goals for Security

The current 2040 PACOG Regional Transportation Plan formalizes the security goal of the MPO by citing it specifically:

*To increase the security of the transportation system by implementing secure transportation improvements and securing existing transportation facilities.*

The intent of this goal is to move towards providing enhanced transportation system and personal security for residents and visitors. This goal would include securing high-value targets through measures including access control, monitoring/surveillance, standoffs, and "hardened" construction. The measures utilized would vary based on the threats posed (e.g., earthquake, hurricane, wildfire, or terrorist attack). Personal security measures would include emergency call phones, improved lighting and surveillance. It is anticipated that performance measures would be identified as the security goal is

better defined. They may include the percentage of identified high-value targets secured, the percentage of identified redundant evacuation routes implemented, or the percentage of identified transportation facilities secured for the traveling public.

The first step is the catalog the PACOG transportation assets. It is anticipated that a baseline year can then be set in the near future and that all transportation assets will be subjected to a deadline for a full security audit.

### 3.5 Key PACOG Transportation Assets

Key transportation system assets in the PACOG Planning Area include:

- Interstate Highway System.
- National Highway System Routes (NHS).
- Strategic Highway Network Routes (STRAHNET) –The STRAHNET is the road system deemed necessary for emergency mobilization and peacetime movement of heavy armor, fuel, ammunition, repair parts, food, and other commodities to support U.S. military operations of the five installations in the region.
- Transit System – The transit system is particularly important relative to its potential contribution to the evacuation of areas.
- Pueblo Memorial Airport.
- The BNSF and UP Rail Line Corridors.

Most of these facilities are linear in nature, and while risks exist across these networks due to a potential incident, there is built-in redundancy from the supporting network of state, county, and city roadways that can serve, if necessary, as alternative routes for the movement of vehicles in the case of an incident. However, there are elements of these networks, such as key bridges, that if damaged would have a more significant effect on the operation of the system.

Using guidelines developed in the report, *National Needs Assessment for Ensuring Infrastructure Security (SAIC/Parsons Brinkerhoff, October 2002)*, an assessment to identify potentially important bridge facilities should be carried out. The key criteria for this analysis include:

- Casualty risk.
- Economic disruption.
- Military support.
- Emergency relief.

Agencies primarily responsible for major highway security in the Pueblo Planning area include the Colorado State Patrol and local law enforcement. Effective coordination and communication among these agencies is crucial during emergency situations. Security is provided through the following techniques: routine road patrols, maintaining the traffic management/operations center, flight patrols, and crash and criminal investigations.

## 3.6 Freight Security

### 3.6.1 Truck Freight Security

The Colorado State Patrol and the county sheriff are primarily responsible for providing security on the Pueblo region's truck freight network which generally implies the interstate and US Highway system.

Truck freight security initiatives include:

- Mandatory roadside freight check-points
- State permitting for haulers
- Commercial vehicle requirements;
- Restricted travel times
- Specific restrictions for hazardous material haulers
- Background checks
- Carrier safety ratings and assessments
- Preferred hazardous material routing
- Safety audits and surveys
- A security training program.

The TSA has been working closely with a number of chemical shippers to develop a series of baseline security standards for both Toxic Inhalation Hazard (TIH) and hazardous chemicals of concern. Those standards will address specific areas such as vehicle tracking, vehicle attendance, vehicle alarm systems, truck cab access controls, locking fifth wheel on tank trailers, and security route and stop areas.

### 3.6.2 Rail Security

In the United States, a large percentage of hazardous material is transported over rail. The rail lines through the Pueblo region are potential routes for many types of hazardous material from chemicals to radioactive waste.

Freight rail does not offer terrorists high densities of passenger targets, but it does provide terrorists with some opportunities that passenger rail does not afford. In particular, freight rail is used to transport hazardous materials and dangerous cargoes. An estimated 40% of inter-city freight transport occurs by rail, including half of the nation's hazardous materials.

In the aftermath of the September 11, 2001, terrorism events, the leadership of the freight rail industry generated more than 100 action items, a multi-stage alert system, and around-the-clock communications with homeland security and national defense officials. These action items were based on the results of a strategic review of the transportation of hazardous materials; the security of the industry's information infrastructure, freight rail operations, and infrastructure; and military needs relating to the rail network. The critical action items included the need to:

- Integrate protective housings, valves, and fittings into hazardous transport infrastructure to prevent tampering and facilitate emergency response.
- Increase surveillance of freight equipment through training of staff on observation and installation of video surveillance equipment. Improve operations by monitoring for signal

tampering, requiring crews and dispatchers to verify communications for train movements and dispatches, and locking locomotive doors to prevent hijackings.

- Secure the information infrastructure that terrorists could use to enhance attacks or cause systemic shutdowns. Collaborate with the Department of Defense (DOD) to ensure the viability of STRACNET (Strategic Rail Corridor Network)-designated rail lines that are capable of meeting unique DOD requirements, such as the ability to handle heavy, high, or wide loads.

It is not clear how much should be spent on rail security relative to security at other potential targets. The rail corridor that travels through the Pueblo region is heavily used and suffers from a lack of alternative routes. Attacks on critical freight nodes or functions could, therefore, create substantial bottlenecks and throughput pressures. The freight rail system is in the hands of the private sector; the BNSF and UP have comprehensive security programs in place at this time. It is possible that a collaborative effort with the PACOG might be valuable.

### **3.6.3 Aviation Security**

The Pueblo Memorial Airport (IATA: PUB, ICAO: KPUB, FAA LID: PUB) is a public airport six miles east of Pueblo, in Pueblo County, Colorado. It is used for general aviation and by one airline, subsidized by the Essential Air Service program. Federal Aviation Administration records say the airport had 4,345 passenger boardings (enplanements) in calendar year 2008,[2] 5,192 in 2009 and 11,641 in 2010. The FAA's National Plan of Integrated Airport Systems for 2011–2015 called it a non-primary commercial service airport based on enplanements in 2008/2009 (between 2,500 and 10,000 per year). It is used for commercial passenger flights, charter, military, business, and passenger service by based and visiting aircraft, recreational and general aviation flight, and flight training. Security measures installed at the Pueblo Memorial Airport include monitored surveillance of airport property by airport security, video surveillance cameras, fenced grounds, and luggage and passenger screening by TSA personnel.

## **3.7 Recommended Future Activities for PACOG**

The Pueblo MPO has identified a small set of tasks to better integrate security into the Long Range Plan. The MPO understands that much of the response framework is in place and that MPO value to offer the ability to coordinate activities and to prepare technical analysis to support resource allocation. It is anticipated that the efforts listed below will be addressed on an ongoing basis.

1. Begin the process to identify state and local agency efforts and/or private sector efforts to enhance security planning for the PACOG transportation system.
2. Work to provide safe and secure facilities and transportation infrastructure for residents, visitors, and commerce in the PACOG planning area through efforts to reduce injuries, fatalities, and property damage for all modes of transportation, and to minimize security risks at airports, rest areas, and public transportation facilities and on roadways and bikeways.
3. Start the process of:
  - Completing a risk and vulnerability assessment of transportation assets.
  - Assisting in the identification of key evacuation routes from activity areas in Pueblo.
  - Preparing demographic profile information and a geographic inventory of transportation-disadvantaged populations that may need assistance during a disaster to evacuate.



## Contents

Chapter 10 Freight and Commodity Flows .....	2
10.1 Freight in the Context of the Long Range Plan .....	2
10.1.1 Federal Guidance .....	2
10.1.2 Colorado DOT Goals for Freight Planning .....	3
10.1.3 PACOG Goals for Freight Planning .....	3
10.1.4 Outline of the Section .....	4
10.2 Freight Modal Profile .....	4
10.2.1 State Profile.....	4
10.2.2 Existing Conditions – Truck Freight in Pueblo County .....	5
Observed Truck Traffic.....	6
10.2.3 Existing Conditions – Rail Freight in Pueblo County .....	9
Class I Railroads.....	9
Switching & Terminal Railroads .....	9
Intermodal/Transload Facilities .....	10
10.2.4 Existing Conditions Air .....	11
10.3 Commodity Flows by Freight Mode .....	11
10.3.1 National Freight Commodity Flows .....	12
10.3.2 State of Colorado Freight Commodity Flows .....	13
All Colorado for 2015 and 2040 .....	13
Inbound and Outbound Freight Transportation by Mode.....	13
Freight Transportation within Colorado .....	14
Top Commodities Statewide.....	15
10.3.3 Pueblo County Trends.....	16
Commodities Exported from Pueblo County.....	16
Commodities Imported into Pueblo County.....	18
10.4 Freight Needs.....	19
10.4.1 Freight Needs - Truck.....	19
10.4.2 Freight Needs - Rail.....	19
10.4.3 Rail Corridor Preservation.....	20
10.5 Summary .....	21

## Chapter 10 Freight and Commodity Flows

### 10.1 Freight in the Context of the Long Range Plan

The movement of freight is a key component of a functioning transportation system. Efficient movement of all modes of freight within and through the Metropolitan Planning Organization region supports and attracts industry, agriculture, international trade, retail and terminal operators. The state DOT and the MPO are responsible for making sure that freight movement is considered in the transportation planning process. Federal legislation calls for the statewide and metropolitan planning processes to include reasonable opportunity for the public and interested parties to participate in the development of plans and programs. Many state DOTs and MPOs have systematically incorporated freight movement issues into their planning activities, for example by:

- Defining those elements of a metropolitan area's transportation system that are critical for efficient movement of freight.
- Identifying ways to measure system performance in terms of freight movement.
- Developing freight-oriented data collection and modeling to identify problems and potential solutions.
- Creating freight movement advisory committees to identify important bottlenecks in the freight network.

The Pueblo Area Council of Governments (PACOG) is addressing the important requirement of freight planning with this section of the Long Range Plan. The intent of this freight section is to provide an overview of the freight facilities on the ground for highway, rail and air as well as commodity flows by type for 2010 and 2040. Freight needs will be listed as well.

#### 10.1.1 Federal Guidance

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was enacted in 2012. The freight related planning requirements are addressed to the state DOTs. The overall goal was to focus attention at the national level on the freight network and support investment in freight-related surface transportation projects. Specifically, it required the U.S. Secretary of Transportation to encourage each state to develop a comprehensive State Freight Plan and establish a State Freight Advisory Committee. While freight plans and freight advisory committees are not required by MAP-21, many states and Metropolitan Planning Organizations (MPO) are in the process of establishing or updating freight plans since projects listed on a State Freight Plan are eligible for a higher percentage of Federal matching funds. The four elements that MAP-21 requires of State Freight Plans are the targeted elements of this report and progress towards them will be noted in the summary section. These elements are:

- Describe how the State Freight Plan supports national freight goals
- Describe freight policies, strategies, performance measures
- Describe freight trends, needs and issues

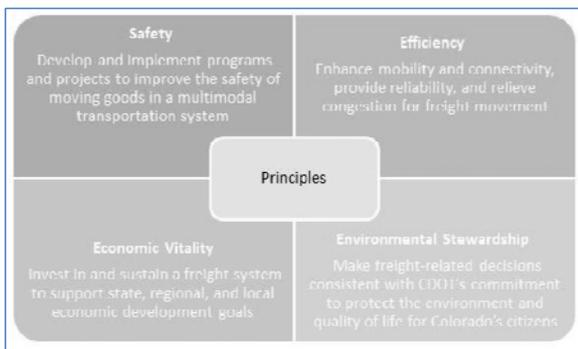
- Inventory bottlenecks and develop freight improvement strategies

The work conducted by PACOG will thus fold into work at the state level led for the Colorado DOT. Many of the means by which the state supports national freight goals – such as improving the state of good repair, reducing congestion, and growing the economy by means of the freight system are echoed by Pueblo County. As an example, keeping I-25 in a state of good repair is important to the nation, the state and Pueblo County.

### 10.1.2 Colorado DOT Goals for Freight Planning

The Colorado DOT established a Freight Advisory Council in 2002 and for several years conducted important activities with stakeholders in every sector of the freight industry. In April 2015 the Colorado Statewide Transportation Plan<sup>1</sup> was released. The freight portion of this statewide plan will be released later in the year. The Transportation Plan and its freight component mark a renewed interest by the state reformulating the statewide Freight Advisory Council.

**Figure 10.1: Colorado DOT Freight Planning Principles**



Source: Colorado State Freight Roadmap, 2009

### 10.1.3 PACOG Goals for Freight Planning

Freight transportation has grown over time with U.S. population growth and increased economic activity. The U.S. population grew by 26 percent between 1990 and 2012, reaching 313.9 million in 2012. Population growth in the western states was more significant, 39 percent over that same period. The U.S. economy, measured by gross domestic product (GDP), increased by 70 percent in real terms (inflation adjusted). In the western states, GDP increased by 80 percent. This population and economic growth has implications on the freight transportation system, and understanding the demographic and economic trends is critical when considering long term transportation infrastructure investment priorities.

The Long Range Transportation plan for PACOG has six stated goals with respect to freight:

<sup>1</sup> <http://coloradotransportationmatters.com/statewide-transportation-plan/>, 2015

1. Improving the contribution of the freight transportation system to economic efficiency, productivity, and competitiveness.
2. Reducing congestion on the freight transportation system.
3. Improving the safety, security, and resilience of the freight transportation systems.
4. Improving the state of good repair of the freight transportation system.
5. Using advanced technology, performance management, innovation, competition, and accountability in operating and maintaining the freight transportation system.
6. Reducing adverse environmental and community impacts of the freight transportation system.

Cost-effective freight movement is an important element of economic competitiveness, particularly as domestic and global trade continues to expand. In fact, increased competition in today's global economy rewards those regions that actively plan for and pursue efficient freight transportation systems.

#### **10.1.4 Outline of the Section**

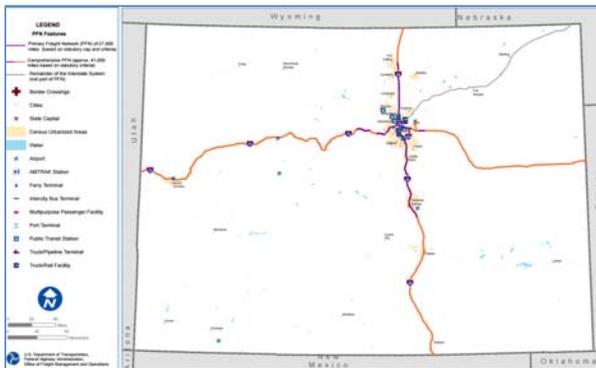
This section is organized to provide a freight modal profile of Pueblo County, an overview of commodity flows for the base and future years at the national, state and Pueblo MPO level, a look at freight safety, and a summary. It highlights freight flow trends in the State of Colorado and the PACOG MPO region.

### **10.2 Freight Modal Profile**

#### **10.2.1 State Profile**

In 2010, more than 60 million tons of freight and \$99 billion in freight value moved into or out of Colorado. By 2040, tonnage is expected to nearly double, and value is anticipated to triple. As is the case nationally, most freight in Colorado is shipped by truck. Based on Transearch data for the state, 89 percent of all tonnage shipped in Colorado is moved by truck and 96 percent of all freight value is moved by this mode. The relative dominance of trucking as the preferred mode for freight transport is not expected to change in the next 30 years. Colorado's primary freight network is presented in the figure below. This figure was prepared by the FHWA and shows the state's airports, railroads, roadways, and other facilities. Note that much of the connectivity for freight is located in the Denver area. In a statewide context it is I- 25 that links Pueblo to the state and the nation.

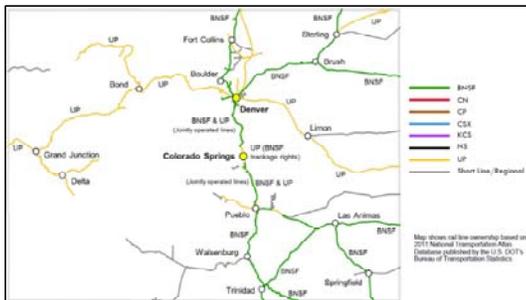
**Figure 10.2: Primary Freight Network in Colorado**



Source: [http://www.ops.fhwa.dot.gov/freight/infrastructure/pfn/state\\_maps/co\\_colorado.pdf](http://www.ops.fhwa.dot.gov/freight/infrastructure/pfn/state_maps/co_colorado.pdf)

While trucking is the dominant mode for transporting freight in both the state and PPACG region, other modes support the freight transportation network. The following sections discuss these alternative modes. Rail accounts for a very small percentage of overall freight traveling into and out of Pueblo County, but Burlington-Northern-Santa-Fe (BNSF) and Union Pacific operate in the county. These and other railroads in Colorado are shown in the figure below.

**Figure 10.3: Rail Line Ownership in Colorado**



### 10.2.2 Existing Conditions – Truck Freight in Pueblo County

Moving from the state to the Pueblo area, Major freight routes in the Pueblo area include the entire I-25 corridor within Pueblo County and the US50 Corridor. Figure 2.8 below illustrates the state highway routes in and through Pueblo County. The primary north-south freight route is I-25, while the primary east-west route is US Hwy 50. The I-25 Corridor is of special national significance as it is part of the “El Camino” trade route between Canada and Mexico, as identified in the NAFTA agreements. Additionally, the area has access, via US 50, to the “Ports-to-Plains” Corridor (generally US 287) that runs through Eastern Colorado to Denver from Laredo, Texas. These two designated truck routes need to be accommodated in long-range plans for the entire Southern Colorado community.

**Figure 10.4: Primary Freight Routes in Pueblo County**



**Observed Truck Traffic**

To better understand truck usage of roadways in Pueblo County, Colorado Department of Transportation Online Traffic Information System (OTIS) 2013 observed data<sup>2</sup> was collected for Average Annual Daily Traffic (AADT), Single Unit and Multi Unit trucks. For this assessment, three roadways were reviewed: I-25, U.S. Highway 50 and State Highway 78. There is a clear urban/rural dividing line with urban roadways carrying higher traffic but with lower truck percentages, and rural roadways carrying lower traffic with higher truck percentages.

**I-25**

In Pueblo County, I-25 is the sole interstate; it runs north-south for about 50 miles across Pueblo County. The highest truck volumes, both single and multi-unit, are found just north of the U.S. 50 interchange. The percentage of trucks ranges from 6-7% of all vehicles in the urban areas to 14% or more in the more rural areas.

**Table X.X: I-25 2013 Truck Traffic in Pueblo County**

Description	AADT	Year	Single Unit	Combination Trucks	% Trucks
N/O PACE RD, EDEN	29,000	2013	1,200	2,200	12%
S/O PACE RD, EDEN	33,000	2013	1,200	2,200	10%
N/O SH 47 & SH 50, PUEBLO	37,000	2013	1,400	2,500	11%
S/O SH 47 & SH 50, PUEBLO	51,000	2013	1,800	2,400	8%
N/O SH 50, PUEBLO	72,000	2013	2,000	2,800	7%
N/O 13TH ST, PUEBLO	70,000	2013	1,600	2,700	6%
S/O 13TH ST, PUEBLO	58,000	2013	1,300	2,100	6%
N/O 1ST ST, PUEBLO	48,000	2013	1,200	1,800	6%
S/O 1ST ST, PUEBLO	49,000	2013	1,200	1,900	6%
N/O EL DORADO AVE, PUEBLO	44,000	2013	970	1,500	6%

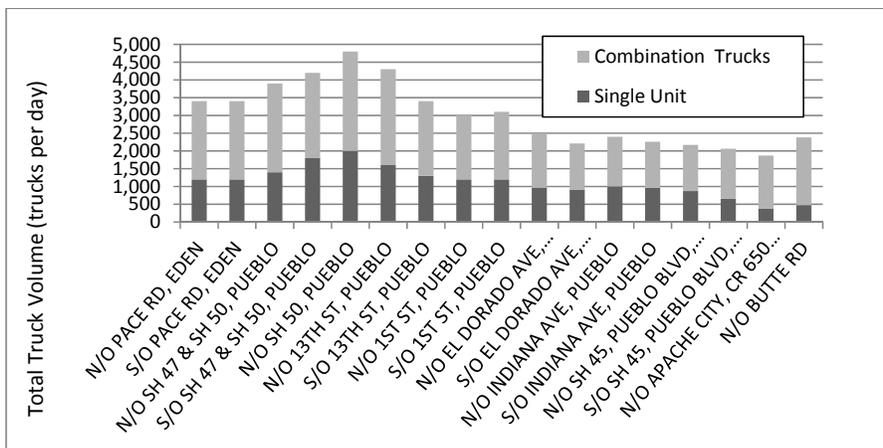
Comment [m1]: Only bar graph will be used

<sup>2</sup> <http://dtdapps.coloradodot.info/Otis/>, accessed 2015.

S/O EL DORADO AVE, PUEBLO	38,000	2013	910	1,300	6%
N/O INDIANA AVE, PUEBLO	37,000	2013	1,000	1,400	6%
S/O INDIANA AVE, PUEBLO	29,000	2013	960	1,300	8%
N/O SH 45, PUEBLO BLVD, PUEBLO	29,000	2013	870	1,300	7%
S/O SH 45, PUEBLO BLVD, PUEBLO	15,000	2013	660	1,400	14%
N/O APACHE CITY, CR 650 & CR 110	10,000	2013	370	1,500	19%
N/O BUTTE RD	13,000	2013	480	1,900	18%

Source: Colorado Department of Transportation, <http://dtdapps.coloradodot.info/Otis/TrafficData>, accessed 2015.

Figure 10.5: I-25 Truck Traffic in Pueblo County – 2013 ADT Volumes



### U.S. Highway 50

In Pueblo County, U.S. Highway 50 is the second most important truck route. It runs west-east for about 50 miles across Pueblo County. The highest truck volumes, both single and multi-unit, are found just north of the U.S. 50 interchange. The percentage of trucks ranges from 6-7% of all vehicles in the urban areas to 14% or more in the more rural areas.

Table 10.2: U.S. Highway 50 2013 Truck Traffic in Pueblo County

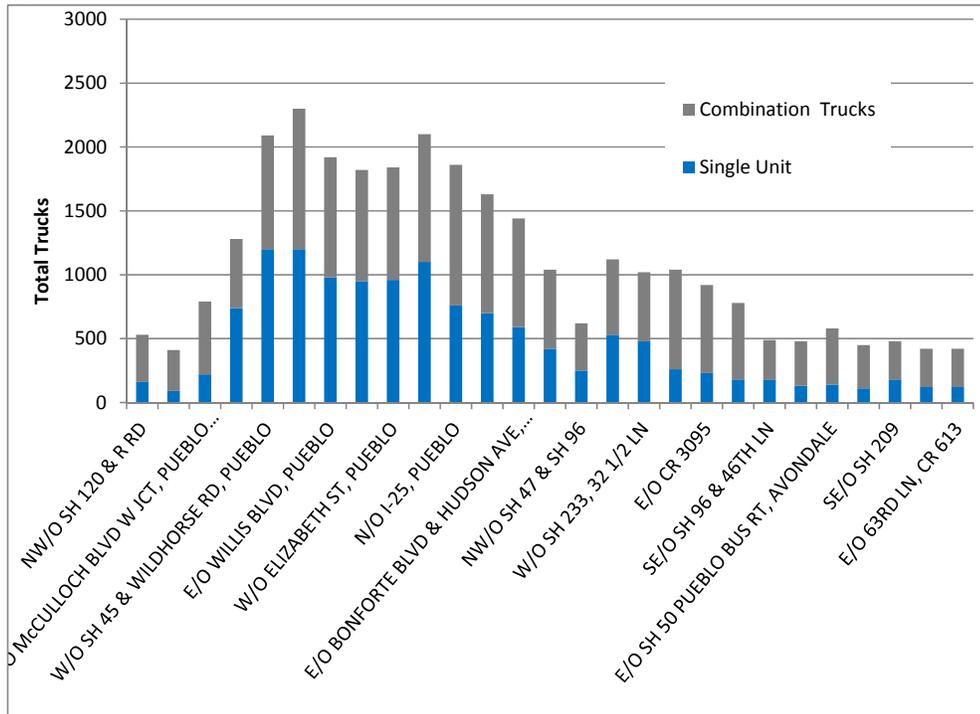
Description	AADT	Year	Single Unit	Combination Trucks	% Trucks
NW/O SH 120 & R RD	8,600	2013	160	370	6%
W/O SWALLOWS RD, CR 103, PUEBLO WEST	8,200	2013	90	320	5%
W/O McCULLOCH BLVD W JCT, PUEBLO WEST	13,000	2013	220	570	6%
W/O PURCELL BLVD, PUEBLO WEST	20,000	2013	740	540	6%
W/O SH 45 & WILDHORSE RD, PUEBLO	33,000	2013	1,200	890	6%
E/O SH 45 & WILDHORSE RD, PUEBLO	48,000	2013	1,200	1,100	5%
E/O WILLIS BLVD, PUEBLO	41,000	2013	980	940	5%
E/O BALTIMORE AVE, PUEBLO	38,000	2013	950	870	5%
W/O ELIZABETH ST, PUEBLO	40,000	2013	960	880	5%

Comment [m2]: Only bar graph will be used

E/O ELIZABETH ST, PUEBLO	46,000	2013	1,100	1,000	5%
N/O I-25, PUEBLO	33,000	2013	760	1,100	6%
E/O I-25 S JCT, PUEBLO	29,000	2013	700	930	6%
E/O BONFORTE BLVD & HUDSON AVE, PUEBLO	16,000	2013	590	850	9%
E/O NORWOOD AVE, PUEBLO	11,000	2013	420	620	9%
NW/O SH 47 & SH 96	7,000	2013	250	370	9%
SE/O SH 47 & SH 96	14,000	2013	530	590	8%
W/O SH 233, 32 1/2 LN	11,000	2013	480	540	9%
E/O SH 233, 32 1/2 LN	11,000	2013	260	780	9%
E/O CR 3095	9,200	2013	230	690	10%
E/O SH 231, 36TH LN, DIVINE	6,400	2013	180	600	12%
SE/O SH 96 & 46TH LN	4,300	2013	180	310	11%
NW/O SH 50 PUEBLO BUS RT, AVONDALE	3,900	2013	130	350	12%
E/O SH 50 PUEBLO BUS RT, AVONDALE	4,900	2013	140	440	12%
E/O ASBURY LN, CR 39	4,300	2013	110	340	10%
SE/O SH 209	3,800	2013	180	300	13%
SE/O 57TH LN, CR 702	3,800	2013	120	300	11%
E/O 63RD LN, CR 613	3,400	2013	120	300	12%

Source: Colorado Department of Transportation, <http://dtdapps.coloradodot.info/Otis/TrafficData>, accessed 2015.

Figure 10.6: U.S. Highway 50 2013 Truck Traffic in Pueblo County



The state highways in Pueblo County are important to truck freight as well. State Highways 45, 47, 78, 96 and 165 carry a smaller volume of trucks, typically 100-200 per day than do I-25 or U.S. Highway 50. These state roads serve as connectors for commodities to move in and out of the smaller settlements in the county.

### **10.2.3 Existing Conditions – Rail Freight in Pueblo County**

Freight railroads represent an important industry that is critical to the economic health and competitiveness of the Pueblo region. The current rail lines in operation in Pueblo County are the Burlington Northern Santa Fe (BNSF), Union Pacific (UP), Colorado & Wyoming Railway, and the V&S Railway, Inc. The four freight railroads fall into one of four categories:

- Class I railroads - Line haul freight railroads with 2009 operating revenue of \$378.8 million or more.
- Class II (Regional railroads) - Operate at least 350 miles of track and/or have revenue of between \$40 million and the Class I threshold. Regional railroads that qualify using the 350 miles operated criterion must have minimum revenue of \$20 million.
- Class III (Short Line or Local railroads) - Line haul railroads that do not qualify as a Class I or Class II railroad. Most of these railroads have less than 100 miles of track.
- Class IV (Switching and Terminal railroads) - Provide switching and/or terminal services. Rather than point-to-point transportation, they usually perform pick-up and delivery services within a special area or funnel traffic between other railroads.

#### **Class I Railroads**

The two Class I railroads in Pueblo County, the BNSF and the UP, operate over 95 percent of the miles of track and carry the majority of freight in the County. They both provide service that runs north-south and east-west in Colorado, although only the UP owns trackage across the Continental Divide. In a number of cases, these railroads provide trackage rights to each other to support their services by jointly operating trains over a single line owned and maintained by one of them. The line that carries the greatest amount of freight is the consolidated mainline, which runs along the Front Range between Denver and Pueblo. Portions of this line are owned by BNSF and UP, but they both operate on it for the length of the line.

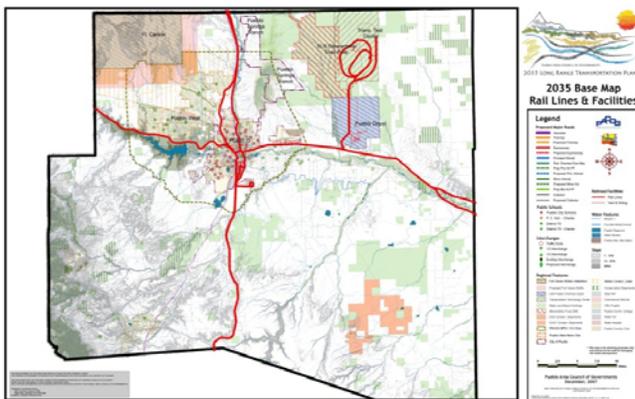
#### **Switching & Terminal Railroads**

The Victoria & Southern Railway was a Short Line railroad that operated in Pueblo County. In recent years this railroad filed for abandonment and is no longer in operation in Pueblo County. The Colorado & Wyoming Railway Company is located in Pueblo (Minnequa), Colorado and in 2015 operates a five mile long switching line. The C&W has 100 employees that service several companies in the Minnequa Industrial area including Evraz Rocky Mountain Steel Mills, Xcel Energy, Nortrak, Progress Rail Services and interchanges with both the Union Pacific and BNSF Railroads.

### Intermodal/Transload Facilities

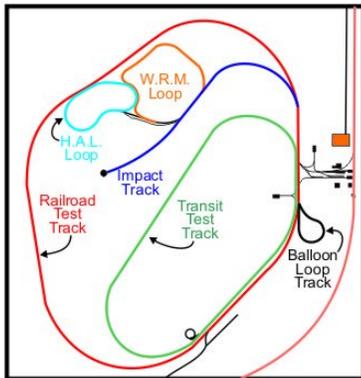
Colorado's freight railroads use intermodal facilities that transfer freight in an intermodal container or highway trailer without handling any of the freight itself when changing modes. This involves the use trailer on flatcar and container on flatcar equipment. A newer trend is the use of well cars that have a container-sized depression in the middle of the car, allowing for two containers to be stacked in a double-stack configuration. Double-stack containers also require additional vertical clearance. In Colorado, not all rail lines and structures are currently double-stack capable. Since transfer between modes requires handling of commodities, transload facilities are designed to minimize handling. These methods of transport reduce cargo handling, damages, and losses, and allow freight to be transported faster. There are two intermodal/transload facilities currently operating in Colorado are owned and operated by the BNSF and the UP and are located in the Denver Metropolitan Area. At present there are no intermodal (direct freight transfer) facilities in Pueblo, but there are a number of areas where rail loading and unloading facilities exist and are provided with rail service.

Figure 10.7: Rail Lines and Facilities



Of note is the Transportation Technology Center, Inc. (TTCI) is located in northeast Pueblo County. The Center is an internationally recognized facility offering a wide range of unique capabilities for research, development, testing, consulting, and training for railway-related technologies. The site, 21 miles northeast of Pueblo, Colorado, is owned by the US Department of Transportation, and is operated and maintained by the Transportation Technology Center, Inc., under a care, custody, and control contract with the Federal Railroad Administration and American Railroad Association.

**Figure 10.8: Transportation Technology Center Trackage**



### 10.2.4 Existing Conditions Air

The Pueblo Memorial Airport (PUB) is located at 31201 Bryan Circle, Pueblo, CO 81001 about six miles east of downtown Pueblo. It features:

- 24 hour fire station; airport rescue firefighting on site, Index B capabilities
- Airport facilities - Including terminal, restaurant, and rental car services
- FAA air traffic control tower - Terminal radar approach control (TRACAB)
- National Weather Service - on site with NEXRAD and ASOS
- Navigational aids including VOR, ILS, NDB, and GPS Instrument Approaches
- Runways - Three runways with longest 10,496 feet
- Two fixed based operators (FBOs), Flight School, and Self-Serve 100LL fuel station.

Currently, the Pueblo Airport is served by United Airlines via SkyWest with two flights daily to Denver on weekdays and one daily on weekends. Air-based freight movement in and out of Pueblo is a very small proportion of total freight. USDOT Bureau of Transportation Statistics (BTS) provides records for Air Carrier statistics (T-100 data)<sup>3</sup> for the Pueblo Airport. Both mail and freight use the air cargo facilities at the Pueblo Airport with the use load showing variation over the past five years. Freight plus mail ranged from zero

### 10.3 Commodity Flows by Freight Mode

The Federal Highway Administration's (FHWA's) Freight Analysis Framework (FAF) estimates region-to-region tons and value by all modes for shipments in 1997, 2002, and 2007, provides provisional estimates for the most recent year (2012), and forecasts through 2040. FAF offers data for six modes: truck, rail, water, air, intermodal, pipeline and unknown.

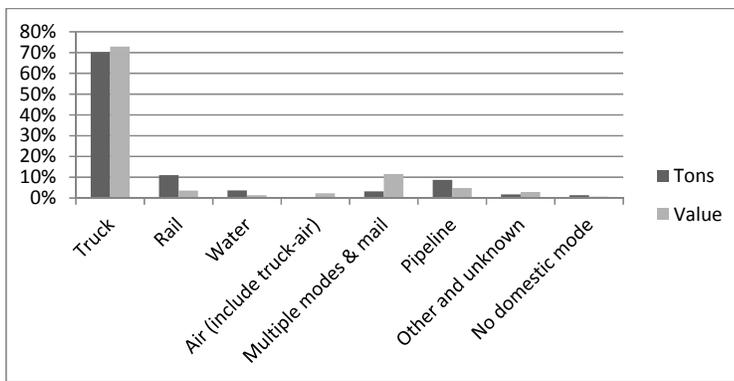
<sup>3</sup> <http://www.transtats.bts.gov/>

### 10.3.1 National Freight Commodity Flows

In 2012, the nation's transportation system moved a daily average of about 54 million tons of freight valued at \$48 million. In 2015, freight tons increased to 55 million and value to \$54 million. The value of freight moved is expected to increase faster than the weight, rising from \$980 per ton in 2015 to \$1,377 per ton in 2040 when controlling for inflation.

The vast majority of freight in the U.S. is transported by truck, approximately 70 percent regardless of whether the share of total freight is based on weight or value

**Figure 10.9: National Mode Share, based on Weight and Value (2015)**



Source: FHWA FAF 2012

**Table X.X: National Mode Share, by Weight and Value (2015)**

Freight Mode	2015			
	Tons (000s)	%	Value (000,000s)	%
Truck	13,811,783	70%	12,653,347	73%
Rail	2,175,957	11%	622,728	4%
Water	715,143	4%	224,385	1%
Air (include truck-air)	5,576	0%	390,322	2%
Multiple modes & mail	635,477	3%	1,996,986	12%
Pipeline	1,716,322	9%	839,116	5%
Other and unknown	601,900	3%	624,695	4%
<b>Total</b>	<b>19,662,158</b>	<b>100%</b>	<b>17,351,580</b>	<b>100%</b>

Source: FHWA FAF 2012

### 10.3.2 State of Colorado Freight Commodity Flows

#### All Colorado for 2015 and 2040

Freight tonnage in the State of Colorado is also primarily moved by truck. When based on value of freight shipments, the State of Colorado is consistent with the nation. However, a larger share of freight tonnage in Colorado (23%) is shipped by rail in 2015, as compared to the U.S. (11%).

According to the FAF, approximately 353 million tons of freight valued at \$291 billion shipped to, from and within Colorado via the various modes of transportation in 2015. Tonnage is projected to increase 52 percent between 2012 and 2040 and value by 160 percent. The greatest growth is expected to be in air transport and multiple modes. Extremely modest growth is anticipated for rail and pipeline in the state. Multiple modes and mail, as well as air (including truck-air), is expected to increase significantly. The following table shows the Colorado shipments by weight and value estimated for 2015 and projected for 2040, by mode.

**Table 10.1: Colorado Freight Modal Shipment by Weight (Thousands Tons) and by Value (2007 \$Millions)**

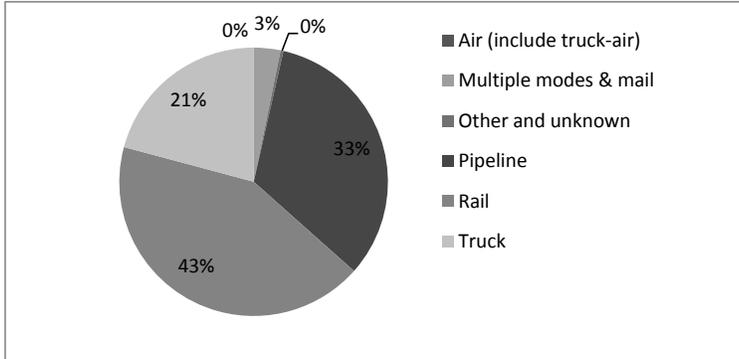
Freight Mode	2015				2040 Projections				Growth Tons	Growth Value
	Tons (000s)	%	Value (000,000s)	%	Tons	%	Value	%	%	%
Truck	206,910	59%	\$ 203,070	70%	364,690	68%	\$ 485,641	64%	76%	139%
Rail	81,878	23%	\$ 9,183	3%	87,299	16%	\$ 17,275	2%	7%	88%
Pipeline	51,669	15%	\$ 20,021	7%	55,381	10%	\$ 21,019	3%	7%	5%
Other	2,244	1%	\$ 4,463	2%	3,855	1%	\$ 12,115	2%	72%	171%
Multiple modes	10,460	3%	\$ 48,418	17%	26,001	5%	\$ 201,409	27%	149%	316%
Air	47	0.01%	\$ 6,345	2%	131	0%	\$ 21,889	3%	175%	245%
<b>Total</b>	<b>353,207</b>		<b>\$ 291,501</b>		<b>537,357</b>		<b>\$ 759,348</b>		<b>52%</b>	<b>160%</b>

The overall freight picture differs slightly in Colorado when the direction of freight transport is considered. For example, trucking is less significant for freight originating in the state than it is for freight destined for Colorado. The following describes freight patterns for the state when direction is considered.

#### Inbound and Outbound Freight Transportation by Mode

Based on tonnage, 43 percent of freight originating in Colorado is shipped by rail. Pipeline accounts for 33 percent of total tonnage transported out of Colorado and truck transport another 21 percent.

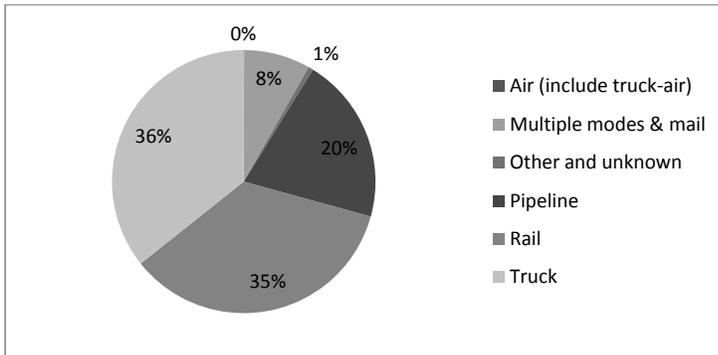
**Figure 10.10: Mode Share for Freight Originating in Colorado, based on Weight (2012)**



Source: FHWA FAF 2012

Coming into the state, the shares by mode are different. Thirty-six percent of all freight destined for Colorado arrives by truck, another 36 percent by rail. Pipeline accounts for 20 percent of all freight by weight.

**Figure 10.11: Mode Share for Freight Destined for Colorado, based on Weight (2012)**

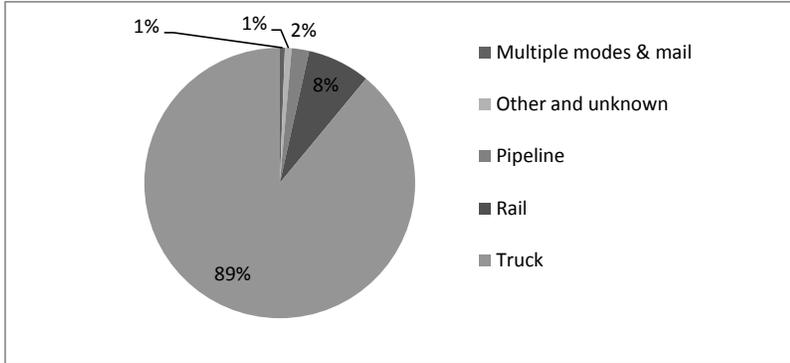


Source: FHWA FAF 2012

### Freight Transportation within Colorado

Intrastate freight, or freight that both originates and is destined for Colorado, accounts for nearly 180 million tons and \$116 billion in value. Most of this is transported by truck, roughly 90 percent regardless of whether based on weight or value.

**Figure 10.12: Mode Share for Freight Traveling within Colorado, based on Weight (2012)**

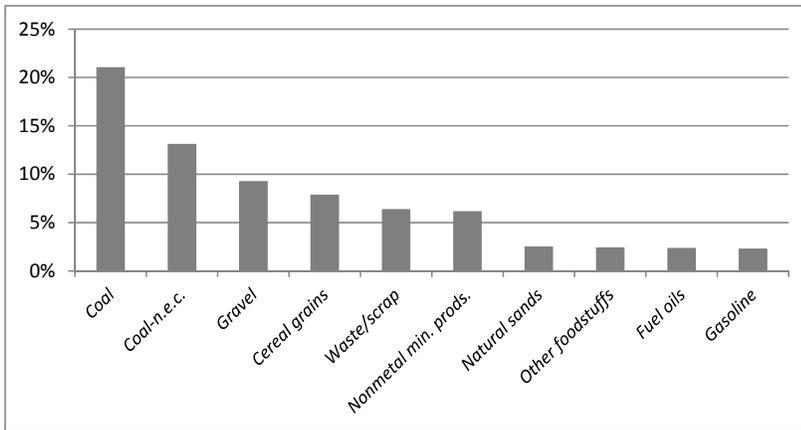


Source: FHWA FAF 2012

### Top Commodities Statewide

Based on the 2012 provisional FAF data, and ranked by weight, the top ten commodities shipped into, out of or within Colorado are presented in the figure below. Coal ranks highest, representing 21 percent of all Colorado freight tonnage transported. Regardless of direction, more coal is shipped into or out of Colorado than any other commodity. Within Colorado, gravel, waste/scrap, and cereal grains represent the most tonnage shipped.

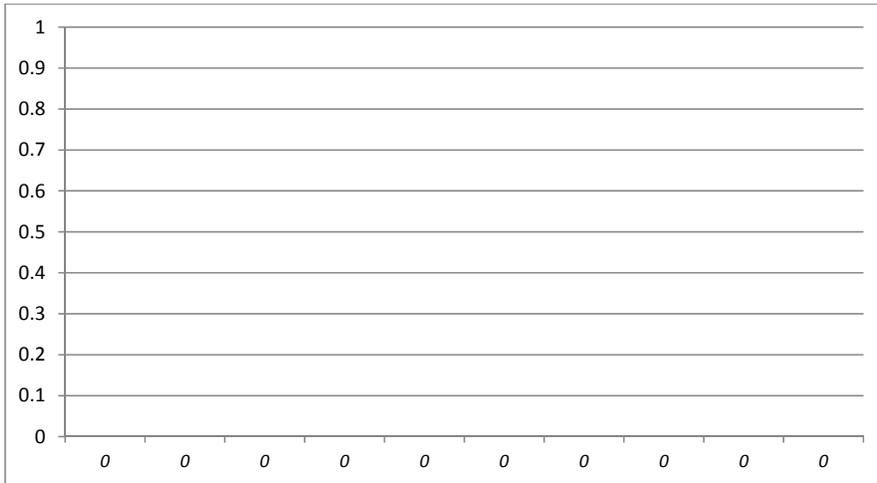
Figure 10.13: Top 10 Commodities Shipped into, out of or within Colorado, Based on Weight (2012)



Source: FHWA FAF 2012

When ranked by value, no single commodity dominates. Machinery is ranked highest, representing 11 percent of all value, but the remaining commodities account for eight percent or less each. Based on value, machinery represents the most significant share of freight transported from a Colorado origin to a Colorado destination.

**Figure 10.14: Top 10 Commodities Shipped into, out of or within Colorado, Based on Value (2012)**



Source: FHWA FAF 2012

### 10.3.3 Pueblo County Trends

While the FHWA FAF data provides good trend information at the national and state level, a more detailed database was sought to look more closely at Pueblo County. The Colorado DOT provided to the project a Transearch commodity flow summary for 2010, 2025 and 2040. Transearch is a product of IHS, Inc. and provides data for U.S. freight flows over a 30 year span by origin, destination, commodity and transportation mode.

The Transearch data was obtained and processed by the Colorado DOT and provided to PACOG staff for analysis. It has been prepared as follows:

- Years 2010 and 2040 are presented, conforming to the scenario years in the PACOG Travel Demand Model.
- Top commodities by weight and by values are tabulated.
- Tables are separated by entering or leaving Pueblo County.

#### Commodities Exported from Pueblo County

Add narrative

**Table 10.2: Top Commodities from Pueblo County (Tons) by Weight**

Commodity	2010	%	2040	%
Warehouse & Distribution Center	612,344	19%	1,464,971	20%
Cut Stone or Stone Products	332,499	10%	584,158	8%
Primary Iron or Steel Products	293,732	9%	340,385	5%
Petroleum Refining Products	286,198	9%	872,716	12%
Misc. Industrial Organic Chemicals	201,284	6%	156,739	2%
Gravel or Sand	142,733	4%	1,150,383	15%
Broken Stone or Rip Rap	142,122	4%	709,295	10%
Other Commodities	1,188,270	37%	2,166,866	29%
<b>Total Tonnage</b>	<b>3,199,182</b>		<b>7,445,513</b>	

Source: Transearch, 2014

**Table 10.3: Top Commodities from Pueblo County by Value**

Commodity	2010	%	2040	%
Warehouse & Distribution Center	\$ 649,914,706	21%	\$ 1,554,855,206	30%
Primary Iron or Steel Products	\$ 375,054,429	12%	\$ 364,328,134	7%
Petroleum Refining Products	\$ 261,454,476	9%	\$ 797,263,299	15%
Rail Intermodal Drayage to Ramp	\$ 205,534,304	7%	\$ 192,232,304	4%
Misc. Industrial Organic Chemicals	\$ 199,768,193	7%	\$ 166,578,420	3%
Misc. Food Preparations, Nec	\$ 163,125,557	5%	\$ 346,610,124	7%
Steel Wire, Nails or Spikes	\$ 163,064,955	5%	\$ 212,132,917	4%
Food Prod Machinery	\$ 98,585,372	3%	\$ 193,774,969	4%
Other Commodities	\$ 922,378,385	30%	\$ 1,423,273,736	27%
<b>Total Value</b>	<b>\$ 3,038,880,377</b>		<b>\$ 5,251,049,108</b>	

Source: Transearch, 2014

**Table 10.4: Freight Mode Used from Pueblo County**

Mode Split	2010 Tonnage	2010 Value	2040 Tonnage	2040 Value
Air	6	\$ 27,114	3	\$ 16,371
Other	27	\$ 126,846	166	\$ 798,553
Rail	53,188	\$ 44,429,720	198,809	\$ 171,440,805
Truck	3,145,961	\$ 2,994,296,697	7,246,535	\$ 5,078,793,379
<b>Totals</b>	<b>3,199,182</b>	<b>\$ 3,038,880,377</b>	<b>7,445,514</b>	<b>\$ 5,251,049,108</b>
<b>Truck Percentage</b>	<b>98%</b>	<b>99%</b>	<b>97%</b>	<b>97%</b>

Source: Transearch, 2014

In 2010, products originating in Pueblo County are dominated by warehouse and distribution center movements, both by weight (20% of total) and by value (30% of total). The Transearch database does not carry commodity-level information on every shipment that passes out of a warehouse or distribution center. In any case, many of these are mixed loads. While this category is not commodity specific, it is an important one in understanding county exports since the general flow of trade from the county requires a central loading and transfer facility. Looking first at goods by weight in 2010, raw

materials such as stone, steel, petroleum refining products, chemicals, gravel and sand are the major products exported after warehouse movements. In 2010 by value, these raw materials are in part replaced with manufactured goods such as food preparations, wire, nails, spikes and machinery. Whether by weight or value, 98-99% of the goods are exported using truck mode. In 2040, the patterns change somewhat with warehouse and distribution center gaining market share whether tabulated by weight or value.

Information is available from Transearch on the destination of the goods exported from Pueblo County.

- If goods are leaving Pueblo County but staying in Colorado, they are most likely heading to Denver (21%), Adams (15%) or Boulder (10%) County.
- If goods are leaving Pueblo County and bound to a state outside Colorado, they are most likely heading to Albuquerque NM (16%), Casper WY (13%), or Wichita KS (10%)

### Commodities Imported into Pueblo County

**Table 10.5: Top Commodities to Pueblo County (Tons) by Weight**

Commodity	2010	%	2040	%
Gravel or Sand	1,020,155	22%	646,769	12%
Broken Stone or Riprap	799,443	17%	519,562	10%
Grain	558,107	12%	855,551	16%
Warehouse & Distribution Center	374,584	8%	761,196	14%
Cash Grains, NEC	267,815	6%	360,252	7%
Ready-mix Concrete, Wet	149,931	3%	241,285	4%
Other Commodities	1,488,972	32%	2,048,834	38%
<b>Total Tonnage</b>	<b>4,659,007</b>		<b>5,433,449</b>	

Source: Transearch, 2014

**Table 10.6: Top Commodities to Pueblo County by Value**

Commodity	2010	%	2040	%
Warehouse & Distribution Center	\$ 397,566,462	13%	\$ 807,899,469	15%
Primary Iron or Steel Products	\$ 158,416,258	5%	\$ 93,816,408	2%
Cash Grains, NEC	\$ 146,089,413	5%	\$ 196,512,375	4%
Petroleum Refining Products	\$ 135,252,857	5%	\$ 115,469,614	2%
Misc. Industrial Organic Chemicals	\$ 84,727,293	3%	\$ 129,737,773	2%
Grain	\$ 73,323,727	2%	\$ 112,391,769	2%
Drugs	\$ 70,181,502	2%	\$ 253,659,059	5%
Electronic Data Proc Equipment	\$ 46,099,730	2%	\$ 156,237,783	3%
Solid State Semiconducts	\$ 18,434,655	1%	\$ 534,585,169	10%
Other Commodities	\$ 1,850,149,573	62%	\$ 3,022,789,887	56%
<b>Total Value</b>	<b>\$ 2,980,241,469</b>		<b>\$ 5,423,099,305</b>	

Source: Transearch, 2014

**Table 10.7: Freight Mode Used to Pueblo County**

Mode Split	2010 Tonnage	2010 Value	2040 Tonnage	2040 Value
Other	-	\$ -	0	\$ 15,914
Air	6	\$ 27,114	14	\$ 64,066
Rail	33,919	\$ 30,423,516	69,222	\$ 62,479,281
Truck	4,625,082	\$ 2,949,790,839	5,364,213	\$ 5,360,540,045
<b>Totals</b>	<b>4,659,007</b>	<b>\$ 2,980,241,469</b>	<b>5,433,449</b>	<b>\$ 5,423,099,305</b>
<b>Truck Percentage</b>	<b>99%</b>	<b>99%</b>	<b>99%</b>	<b>99%</b>

Source: Transearch, 2014

In 2010, products destined for Pueblo County sorted by weight are dominated by raw materials such as gravel or sand (22%), stone (17%), and grain (12%). By weight, 8% of entering goods are linked with warehouse and distribution center movements. If the value of the goods is used for sorting, warehouse and distribution center dominate (13%). Note that the percentage of “Other Commodities” is a very high 62% on incoming goods by value, a result that shows that a wide variety of commodity types is needed to serve both employment and household needs.

Whether by weight or value, 99% of the goods are imported using truck mode. In 2040, the patterns change somewhat with warehouse and distribution center gaining market share whether tabulated by weight or value.

Information is available from Transearch on the origin of the goods imported into Pueblo County.

- If goods are entering Pueblo County but originating in Colorado, they are most likely coming in from Adams (22%), Boulder (19%) or Denver (10%) County.
- If goods are entering Pueblo County but originating outside of Colorado, they are most likely coming in from Los Angeles CA (14%), Wichita KS (12%) or Dallas TX (6%).

About 2% of all goods moved (by value) start and end in the county.

## 10.4 Freight Needs

### 10.4.1 Freight Needs - Truck

Past surveys of shipping companies identify improvements to I-25 as the major freight need within the region. Adequate access to the Central Business District off of I-25 and access to the Airport Industrial Park were identified as well. The second access to the Airport Industrial Park through the western William White Blvd extension will significantly improve the freight access to the Airport Industrial Park. Work on this access began as part of the Defense Access Road project in 2007.

### 10.4.2 Freight Needs - Rail

No specific needs for the additional railroad freight facilities have been identified. The City of Pueblo has made improvements at the Airport Industrial Park (AIP) to accommodate rail access to a facility very close to the airport. The improved access to rail at the AIP could prove beneficial since this area has

multi-modal access via roads, rail, and aircraft. Some sections of the rail lines in the AIP are weight limited and will need to be upgraded to support business entities that may want to relocate to the AIP.

The Transportation Test Center will continue to emphasize and expand their facility. Planning for improved access to this facility will continue to be included in this and future long run transportation plans.

As part of the potential relocation of the mainline freight rail lines further east of Pueblo County, there may be opportunities for the redevelopment of the existing rail yards. Within Pueblo, and as part of the CDOT Study, consideration must be given to relocating freight rail traffic from the existing UP tracks adjacent to I-25 to joint tracks or operations using the BNSF route in western Pueblo. If rail facilities are relocated and the existing rail yards redeveloped, encouraging a transit-oriented design would improve the viability of a commuter rail service running along the Front Range of Colorado from Wyoming through the major Front Range urbanized areas including Pueblo to New Mexico.

### **10.4.3 Rail Corridor Preservation**

In June 2000 the Colorado Transportation Commission approved a Rail Corridor Preservation Policy containing planning concepts that have continuing value for Pueblo County. The policy states:

- Preserving rail corridors for future use may save money, since the cost to preserve a corridor for future transportation purposes is often far less than having to purchase an equivalent corridor in the future.
- Rail transportation may be needed in certain corridors to supplement the highway system and to provide adequate mobility and travel capacity.
- Rail transportation can be a cost-effective and environmentally preferable mode of transportation in certain situations.
- Preserving existing freight rail service by preventing a railroad from being abandoned can reduce the maintenance costs on state highways, since the transportation of displaced rail freight by trucks will increase deterioration of the state highway system.
- Freight rail service can serve as a lifeline to the economic health of a community when there are no other modes that adequately and economically serve the needs of the community.

The Rail Corridor Preservation Policy also identified the following criteria to be used to prioritize corridors for funding:

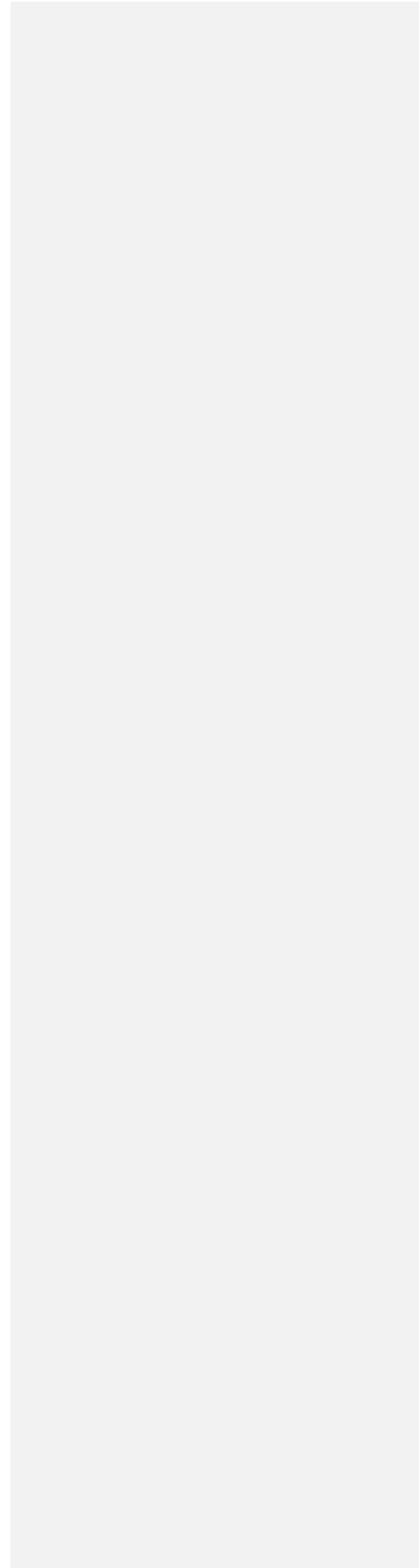
- Magnitude of negative impacts upon adjacent highways.
- Immediacy of the possible abandonment of the rail line.
- Immediacy of possible encroachment on an existing rail corridor that may jeopardize the implementation of passenger rail service in the corridor.
- Estimated cost to acquire the rail corridor.
- Opportunity for public-private partnerships.

Subsequently, in November 2000, CDOT identified a list of State Significant Rail Corridors, which was adopted by the Transportation Commission as part of the Statewide Transportation Plan. The criteria

used to identify these state corridors included existing and potential future demand for passenger and freight services and local/regional support for the preservation of the corridor.

### **10.5 Summary**

The freight network in Pueblo County is composed of I-25, US 50 and several key state highways for truck. For rail, the UP, BNSF and Colorado & Wyoming switching railroad serve the county. Air service for freight is provided by the Pueblo Airport (PUB). Using both FHWA Freight Analysis Framework (FAF) data and 2014 Transearch data, flows for truck, rail and air were tabulated for the state and/or county. Key long range plan tactics are to focus on concepts cited in the state freight plan: safety, efficiency, economic vitality and environmental stewardship.







# INTERWEST SAFETY SUPPLY, INC.

CORPORATE OFFICE & MFG. COLORADO DIVISION NEW MEXICO DIVISION ARIZONA DIVISION NEVADA DIVISION  
 P.O. Box 31-724 E. 1880 S. 195 S. Navajo 5821 Coronado NE 1714 W. Lincoln St. 4475 Delancey Drive  
 Provo, UT 84603-84608 Denver, CO 80223 Albuquerque, NM 87109 Phoenix, AZ 85007 Las Vegas, NV 89103  
 (801) 375-8321 (303) 733-8447 (505) 797-2300 (602) 253-0683 (702) 641-0447  
 (801) 377-2739 FAX (303) 733-8664 FAX (505) 797-2400 FAX (602) 253-0694 FAX (702) 641-0902 FAX

## QUOTATION

# 4592

**QUOTATION TO:**  
 PUEBLO PUBLIC WORKS  
 DEPARTMENT OF TRANSPORTATION  
 ATTN: JOY MORASKI  
 jmoraski@pueblo.us  
 719-553-2722

<b>QUOTE DATE</b> 12/15/2014	<b>BID DATE</b> 12/15/2014	<b>SALES REP</b> DP	
<b>F.O.B. POINT</b> SHIP POINT	<b>DELIVERY</b> 1-2 WKS ARO	<b>TERMS</b> Net 30	
<b>PROJECT NAME</b> N/A	<b>PROJECT NO.</b>	<b>STATE</b> CO	<b>CERTIFICATIONS REQ.</b>

BID ITEM	QTY	SIZE	DESCRIPTION	UNIT PRICE	QUOTATI...
NC300	15		PORTABLE TRAFFIC COUNTER WITH CHARGER	1,460.40	21,906.00
70002028	15		PROTECTIVE COVER FOR NC300	189.80	2,847.00
70700051	1		HDM V9.0 SOFTWARE ONLY FOR NC300	1,188.00	1,188.00
70000400	1		INTERFACE CABLE ASSEMBLY (USB) FOR NC300	189.80	189.80
SHIPPING COST NOT INCLUDED IN PRICE OF QUOTE					
PRICES DO NOT INCLUDE SALES TAX					
PRICES QUOTED ARE FOR QUANTITIES QUOTED. ANY CHANGE IN QUANTITIES COULD RESULT IN A PRICE CHANGE					
PRICES ARE FIRM 30 DAYS FROM QUOTE DATE					

SPECIAL NOTES:  
 PRICES QUOTED ARE FOR FURNISHED MATERIALS  
 ONLY INSTALLATION NOT INCLUDED

**QUOTATION TOTAL \$26,130.80**

INTERWEST SAFETY SUPPLY, INC. BY:

*Ryan W. Goggin*

# PUEBLO

# Purchase Order

Fiscal Year 2015

Page 1 of 1

THIS NUMBER MUST APPEAR ON ALL INVOICES, PACKAGES AND SHIPPING PAPERS.

Purchase Order # **15000526-00**

BILL TO

**CITY OF PUEBLO**

Department of Finance

P.O. Box 1427

Pueblo, CO 81002

Accounts Payable: (719) 553-2648

Delivery must be made within doors of specified destination.

VENDOR

**INTERWEST SAFETY SUPPLY INC**

COLORADO DIVISION

195 SOUTH NAVAJO

DENVER CO 80223

SHIP TO

Planning & Development

211 East D Street

Pueblo CO 81003

719-553-2259

Vendor Phone Number		Vendor Fax Number		Requisition Number		Delivery Reference	
(801)375-6321		(801)377-2739		3310			
Date Ordered	Vendor Number	Date Required	Freight Method/Terms		Department/Location		
03/03/2015	697	02/24/2015	FOB/BEST WAY		Planning & Development		
Item#	Description/Part No.			Qty	UOM	Unit Price	Extended Price
	The Above Purchase Order Number Must Appear On All Correspondence - Packing Sheets And Bills Of Lading  All Orders are Tax Exempt. The City now has a Vendor Self Serve program available. Go to the City's website, <a href="http://www.pueblo.us/purchasing">www.pueblo.us/purchasing</a> , to find the link to register to see all information pertaining to your vendor information.						
1	Traffic Counters, Monitors, and Accessories - Purchase 15 Traffic Counters, Protective Covers, Software, and Cable Assemblies 263-11-1110-00-57820			15.0	each	\$1,742.053	\$26,130.80
							\$26,130.80

DEPARTMENT COPY

City of Pueblo - Purchasing Department  
 230 S. Mechanic - Pueblo, CO 81003  
 Phone: (719) 553-2350 Fax: (719)

By *Nasmi Hedd*  
 Director of Purchasing, CPPO

Tax Exemption Numbers: City 1360  
 State 98-03305  
 Federal 84-6000615

**PO Total** **\$26,130.80**



**BACKGROUND PAPER FOR PROPOSED  
RESOLUTION**

**COUNCIL MEETING DATE:** May 26, 2015

**TO:** President Steven G. Nawrocki and Members of City Council

**CC:** Sam Azad, City Manager

**VIA:** Gina Dutcher, City Clerk

**FROM:** Scott Hobson, Planning & Community Development

**SUBJECT:** A RESOLUTION APPROVING AN AGREEMENT BETWEEN MS2 AND THE CITY OF PUEBLO, A MUNICIPAL CORPORATION, IN THE AMOUNT OF \$76,448 FOR PROFESSIONAL SERVICES ASSOCIATED WITH THE PUEBLO AREA COUNCIL OF GOVERNMENTS – METROPOLITAN PLANNING ORGANIZATION TRAFFIC VOLUME AND CRASH ANALYSIS REPORTING SOFTWARE AND CONSULTING SERVICES

**SUMMARY:**

Attached is a Resolution for City Council consideration approving a Professional Services Agreement with MS2 concerning professional services associated with the Pueblo Area Council of Governments (PACOG) – Metropolitan Planning Organization Traffic Volume and Crash Analysis Reporting Software and Consulting Services.

**PREVIOUS COUNCIL ACTION:**

None.

**BACKGROUND:**

The City solicited proposals from qualified transportation software companies to provide an upgrade to the Pueblo Metropolitan Planning Organization (MPO) crash analysis and traffic count databases and to integrate the software with the existing database systems including the Geographic Information System (GIS). The services cover software licenses and set up, data migration and system customizations, training, and system hosting and support for a one year period. The previous five years of traffic counts and accident data will be imported into the software program to provide historical traffic counts and accident history. The traffic counts data from roadways outside the City within unincorporated Pueblo County will also be added into the data system so that information can be available for the PACOG transportation planning area. The City Urban Transportation Planning Division and City Transportation Department have reviewed the proposal, and have determined that the proposal meets the requirements for responsiveness, time sensitivity, and cost to complete the Project.

**FINANCIAL IMPLICATIONS:**

The \$76,448 cost for the crash analysis and traffic counting software and other consulting services will be paid from the Urban Transportation Planning Projects Budget, Projects TP1422 and TP1423.

**BOARD/COMMISSION RECOMMENDATION:**

None.

**STAKEHOLDER PROCESS:**

The City staff consulted with the Traffic Counting and Crash Monitoring section of the Colorado Department of Transportation Planning prior to recommending the purchase of the traffic counting and crash monitoring software programs.

**ALTERNATIVES:**

Not Applicable.

**RECOMMENDATION:**

Approval of the Resolution.

**Attachments:** Agreement for Professional Services

### 3. Project Approach

The project will be initiated by a Kick-Off Meeting immediately following a Notice to Proceed (NTP) from the City of Pueblo.

#### Task 1 – Software License and Setup

Following the Kick-off meeting via WebEX, MS2 will begin a complete system implementation using the Traffic Count Database System (TCDS) and Traffic Crash Location System (TCLS) modules. The full system will incorporate the data from all the various sources as defined by City of Pueblo, functionality to import all ongoing traffic data collection activities, and the necessary customizations to meet all of city's needs and requirements.

The TCDS and TCLS has a seamlessly integrated GIS-enabled mapping component. MS2 uses an innovative hybrid mapping solution integrating Google Maps with ESRI's ArcGIS Server. This hybrid solution takes the widely-utilized Google Maps interface and combines it with the powerful GIS analytic capabilities of ArcGIS Server. The result is a mapping solution that displays an agency's GIS data layers on the Google Maps interface.

MS2 will incorporate existing GIS layers, as desired by the city, into the TDMS mapping component.

Deliverables:

- Kick-Off meeting via WebEX
- Meeting Agenda and Meeting Minutes
- Fully-functional TCDS and TCLS
- TCDS and TCLS Enterprise License (unlimited number of users)

#### Task 2 – Data Migration and System Customizations

All historic traffic count and traffic crash data will be gathered from the City of Pueblo. MS2 staff will perform the data loading and cleanup process to populate the TCDS and TCLS.

MS2 will customize the TCDS and TCLS to ensure essential functionality, forms, and reports in the city's legacy system are available for city users. System customizations will be made to meet all City of Pueblo traffic data management needs. The customizations may include:

- Additional data attributes
- Count location ID convention
- Customized user interface
- Additional data uploading routines
- Additional automated polling application for traffic detection devices
- Additional data validation routines (e.g., trending and abnormalities)
- Special data queries, analysis, graphs, and reports

A 4-step system development process (brainstorming-prototype-feedback-refinement) will be used to ensure the customizations meet the requirements specified by City of Pueblo.

**Deliverable:**

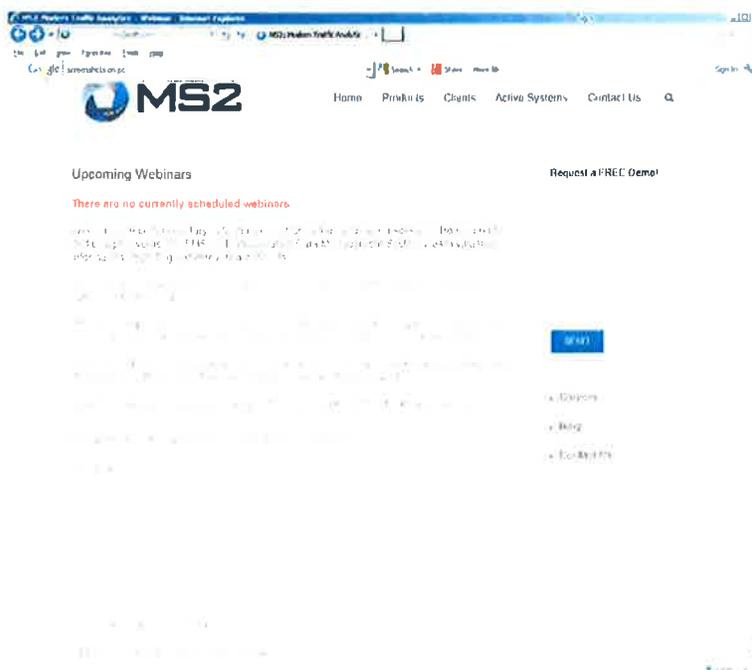
- TCDS populated with the following:
  - Count Station Data
  - All Historic Annual Traffic Statistics
  - All Raw Traffic Data
- TCLS populated with the following:
  - All Traffic Crash Records
  - Intersections and Road Segments for Crash Analysis
- Fully customized TCDS and TCLS

### Task 3 – Training

MS2 understands that the best way to ensure a successful project is to make sure that the City of Pueblo staff can effectively use and manage the system. Hands-on training will be provided so the staff becomes familiar with all the tools and functionality within the system. As a combined presentation/demonstration and hands-on/question and answer session, an *unlimited* number of web-based training sessions will be conducted to enable staff to learn the use of the system.

Recorded webinars are available as well. Recently, MS2 began providing complimentary “How to Use” webinars for several of the TDMS modules. The webinars are recorded and made available on our Events webpage for anyone to access at any time. The Events webpage (see screen shot below) contains a sign up for several recorded webinars, including the TCDS and TCLS, as well as an announcement of upcoming webinars. MS2’s Events webpage can be accessed at <http://www.ms2soft.com> (under “Events”).

MS2 will also provide an online User’s Help Guides. These documents will provide the MPO staff with all information required to operate the TCDS and TCLS modules after the completion of the project.





Schedule 2-A



Pueblo MPO TCDS (Traffic Count) Cost Proposal

Classification	Principal / Project Manager	Software Architect	Sr. Software Engineer	Software Engineer	Software License / Annual Support Fees	Travel	TOTAL
<b>Hourly Rate</b>	\$204	\$180	\$143	\$108			
<b>Task 1. Software License and Setup</b>							
- TCDS Enterprise License Fee					\$25,000		
- System Setup	2	1	4				
<b>Task Total Hours</b>	2	1	4	0			<b>7</b>
<b>Task Total Fee</b>	\$408	\$180	\$572	\$0	\$25,000	\$0	<b>\$26,160</b>
<b>Task 2. Data Migration and System Customizations</b>							
- Data Migration	2	1	12				
- System Customizations	2	2	12	12			
<b>Task Total Hours</b>	4	3	24	12			<b>43</b>
<b>Task Total Fee</b>	\$816	\$540	\$3,432	\$1,296	\$0	\$0	<b>\$6,084</b>
<b>Task 3. Training</b>							
- Unlimited webinars	2		4				
<b>Task Total Hours</b>	2	0	4	0			<b>6</b>
<b>Task Total Fee</b>	\$408	\$0	\$572	\$0	\$0	\$0	<b>\$980</b>
<b>Task 4. System Hosting and Support</b>							
- Annual Fee (1st Year)					\$5,000		
<b>Task Total Hours</b>	0	0	0	0			<b>0</b>
<b>Task Total Fee</b>	\$0	\$0	\$0	\$0	\$5,000	\$0	<b>\$5,000</b>
<b>PROJECT FEE &amp; HOUR SUMMARY</b>							
<b>TOTAL HOURS</b>	8	4	32	12			<b>56</b>
<b>TOTAL FEE</b>	\$1,632	\$720	\$4,576	\$1,296	\$30,000	\$0	<b>\$38,224</b>

Schedule 2-B



Pueblo MPO TCLS (Traffic Crash) Cost Proposal

Classification	Principal / Project Manager	Software Architect	Sr. Software Engineer	Software Engineer	Software License / Annual Support Fees	Travel	TOTAL
<b>Hourly Rate</b>	\$204	\$180	\$143	\$108			
<b>Task 1. Software License and Setup</b>							
- TCLS Enterprise License Fee					\$25,000		
- System Setup	2	1	4				
<b>Task Total Hours</b>	2	1	4	0			7
<b>Task Total Fee</b>	\$408	\$180	\$572	\$0	\$25,000	\$0	\$26,160
<b>Task 2. Data Migration and System Customizations</b>							
- Data Migration	2	1	12				
- System Customizations	2	2	12	12			
<b>Task Total Hours</b>	4	3	24	12			43
<b>Task Total Fee</b>	\$816	\$540	\$3,432	\$1,296	\$0	\$0	\$6,084
<b>Task 3. Training</b>							
- Unlimited webinars	2		4				
<b>Task Total Hours</b>	2	0	4	0			6
<b>Task Total Fee</b>	\$408	\$0	\$572	\$0	\$0	\$0	\$980
<b>Task 4. System Hosting and Support</b>							
- Annual Fee (1st Year)					\$5,000		
<b>Task Total Hours</b>	0	0	0	0			0
<b>Task Total Fee</b>	\$0	\$0	\$0	\$0	\$5,000	\$0	\$5,000
<b>PROJECT FEE &amp; HOUR SUMMARY</b>							
<b>TOTAL HOURS</b>	8	4	32	12			56
<b>TOTAL FEE</b>	\$1,632	\$720	\$4,576	\$1,296	\$30,000	\$0	\$38,224

## 5. Timeframe

The following illustrates the project schedule, assuming that June 1, 2015 is the start date:

Task	Weeks										
	6/1	6/8	6/15	6/22	6/29	7/6	7/13	7/20	7/27	8/3	8/10
1. Software License and Setup											
2. Data Migration and System Customizations											
3. Training											
4. System Hosting and Support											