



6

7

OLD DOMINION
FREIGHT LINE

10

FREIGHT AND
COMMODITY
FLOWS

OLD
DOMINION
FREIGHT LINE INC
DORCHESTER, SC
29540-9848
803-782-1122
WWW.ODFL.COM

Bestway

10.0 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 well-functioning transportation system. Efficient movement of all modes of freight within and through the Pueblo region supports agriculture, industry and retail and provides a framework for the growth of international trade. The Colorado Department of Transportation (CDOT) and the Pueblo Area Council of Governments (PACOG) are equally responsible for ensuring that freight planning is incorporated in the transportation planning process, both to fulfill planning requirements and to build the economic strength of the state and region. CDOT and PACOG have systematically incorporated freight into their planning activities by:

- Defining those elements of a metropolitan area's transportation system that are critical for the 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 and supporting freight movement advisory committees to advocate for freight issues including the identification of bottlenecks in the freight network.

PACOG is addressing the important requirement of freight planning with this section of the Long Range Transportation Plan (LRTP) which prepares an inventory of existing freight facilities, chief state and county commodity flows (2010 and 2040) and the freight planning framework currently in place. An overview of the freight facilities on the ground for highway, rail and air will be provided. Understanding commodity flows and the expected changes in commodity types over time has value due to the need to grasp changes in shipping magnitudes and freight modes that come with new products and markets. Similar to previous sections, we

will begin at the federal level, look at CDOT activities in the state and end with a detailed view of Pueblo.

10.1.1 Federal Guidance

Federal guidance on freight planning has evolved significantly in the past twenty years, consistently moving toward more emphasis on freight. Current guidance on freight is provided by the Moving Ahead for Progress in the 21st Century Act (MAP-21) legislation which was enacted in 2012. In general, the freight related planning requirements in MAP-21 are addressed to the state DOTs with the overall goal of focusing attention on freight at the national level by supporting investment in freight-related surface transportation projects. Specifically, the legislation requires 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 (MPOs) are in the process of establishing or updating them to support and enable freight plans. As an example of the value of a state freight plan, MAP-21 cites that projects listed in a state freight plan are eligible for a higher percentage of federal matching funds than unlisted projects. Freight planning at all levels of government simply makes good financial sense in the global economy.

The four elements that MAP-21 requires of state freight plans also provide a rough outline of this report. States are asked to:

- 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.

PACOG will plan for freight based on the MAP-21 guidance to states. It is anticipated that continued attention to MAP-21 freight requirements at the state level and PACOG's progress towards them will be part of the

ongoing Regional Transportation Plan (RTP) process. It is further understood that the PACOG RTP will provide a useful repository of 2015 freight summaries, goals and status and reflect progress toward freight goals. The work conducted by PACOG will thus fold into work at the state level led by CDOT. 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 Department of Transportation (CDOT) Goals for Freight Planning

CDOT established a Freight Advisory Council in 2002 and for several years conducted important activities with stakeholders in every sector of the freight industry. This emphasis on freight issues continued and, in April 2015, the Colorado Statewide Transportation Plan¹⁴ 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** provides an overview of the vision and goals established by the state.

10.1.3 PACOG Goals for Freight Planning

Freight planning is a key issue in every county and city in Colorado, including Pueblo. In Pueblo County, as in the state and nation, the movement of freight has grown over time with population growth and increased economic activity. The U.S. population grew by 26 percent between 1990 and 2012, reaching 314 million persons in 2012. Population growth in the western states, such as Colorado, 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) during the same period. In the western states, GDP

increased by 80 percent. This population and economic growth has implications on the freight transportation system. Understanding the demographic and economic trends is critical when considering long term transportation infrastructure investment priorities.

Figure 10.1: Colorado DOT Freight Planning Principles

<p>VISION The Colorado Freight System will support the economic vitality of the state by providing for the safe, efficient, coordinated, and reliable movement of freight.</p> <p>GOALS Improve the SAFETY of the Colorado Freight System. Improve the MOBILITY of the Colorado Freight System. Improve ECONOMIC VITALITY through freight investment, programs, and initiatives. Improve MAINTENANCE of the Colorado Freight System. Improve SUSTAINABILITY and reduce ENVIRONMENTAL impacts of freight movement.</p>

Source: Colorado State Highway Freight Plan, 2015.

The LRTP for PACOG has six stated goals with respect to freight:

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 system.
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.

¹⁴ <http://coloradotransportationmatters.com/statewide-transportation-plan/>, 2015

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. This planning and policy approach to freight is well understood in Pueblo. The next section of this report is organized to provide a freight profile of Pueblo County, an overview of commodity flows for the base and future years at the national, state and Pueblo level, and a summary of needs.

10.2 Freight Modal Profile

Freight movement in the PACOG region requires a “supply” side inventory of highways, railroads, airports and related infrastructure. In this section highways, rail and air freight facilities and usage will be presented.

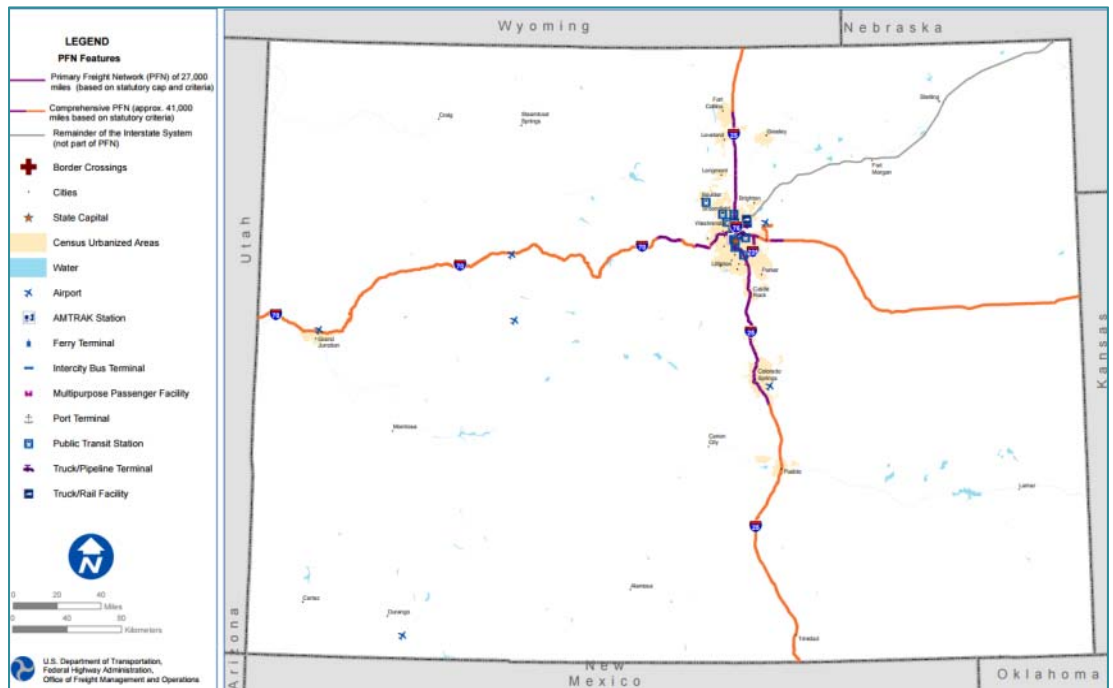
10.2.1 State Profile

In 2010, more than 60 million tons of freight and \$99 billion in freight value moved into or

out of Colorado. By 2040, that 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 – 89 percent of all freight tonnage and 96 percent of all freight value. The dominance of trucking as the preferred mode for freight transport is not expected to change in the next 30 years. At the state level, the interstate highways provide the backbone for freight movements; see **Figure 10.2**. This figure shows the state’s airports, railroads, roadways, and other facilities. Note that much of the intermodal connectivity for freight is located in the Denver area. In a more focused context, the key statewide freight facility in Pueblo is I-25 which links Pueblo to the state and the nation.

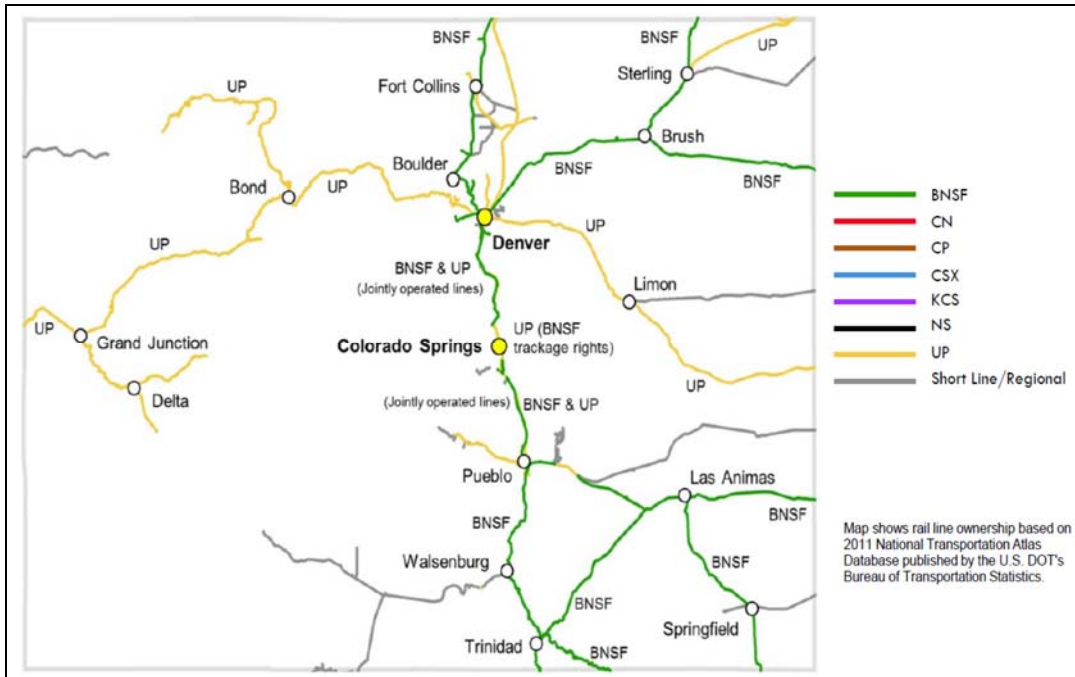
While trucking is the dominant mode for transporting freight, other modes support local freight transportation needs. Two Class I railroads, the Burlington Northern Santa Fe (BNSF) and Union Pacific (UP) dominate in Colorado as shown in **Figure 10.3**. They are also active in Pueblo County.

Figure 10.2: Primary Freight Network in Colorado



Source: http://www.ops.fhwa.dot.gov/freight/infrastructure/pfn/state_maps/co_colorado.pdf

Figure 10.3: Rail Line Ownership in Colorado



Source: "Freight Railroads in Colorado," Association of American Railroads

10.2.2 Existing Conditions – Truck Freight in Pueblo County

Moving from the state to the Pueblo region, major freight routes include the entire I-25 corridor within Pueblo County and the U.S. Highway 50 Corridor. **Figure 10.4** 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 U.S. Highway 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 North American Free Trade Agreement (NAFTA). Additionally, the area has access, via U.S. Highway 50, to the "Ports-to-Plains" Corridor (generally U.S. 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.

I-25 and U.S. Highway 50 in Pueblo County are also classified as federal "High Priority Corridors". "High Priority Corridors", created with the passage of the ISTEA

(Intermodal Surface Transportation Efficiency Act of 1991), are federally designated, and have remained an active focus for attention and investment up to the present MAP-21 time.

High Priority Corridor # 27, known as the Camino Real15, runs from El Paso, Texas, to Denver, Colorado. Within Colorado, the Camino Real Corridor generally follows I-25 from the New Mexico border to Denver passing through Pueblo. High Priority Corridor # 48, The U.S. Highway 50High Plains Corridor follows the U.S. 50 corridor from Newton, Kansas, to Pueblo, Colorado. Additionally, the Pueblo area has access, via U.S. Highway 50, to High Priority Corridor # 38, the "Ports-to-Plains" Corridor (generally U.S. 287) that runs through Eastern Colorado between Denver and Laredo, Texas. These High Priority Corridors are important facilities to be accommodated in long-range planning for the PACOG MPO. They serve as a key conduit for trucks carrying goods into, out of and through the region.

15
http://www.fhwa.dot.gov/planning/national_highway_system/high_priority_corridors, accessed 2015.

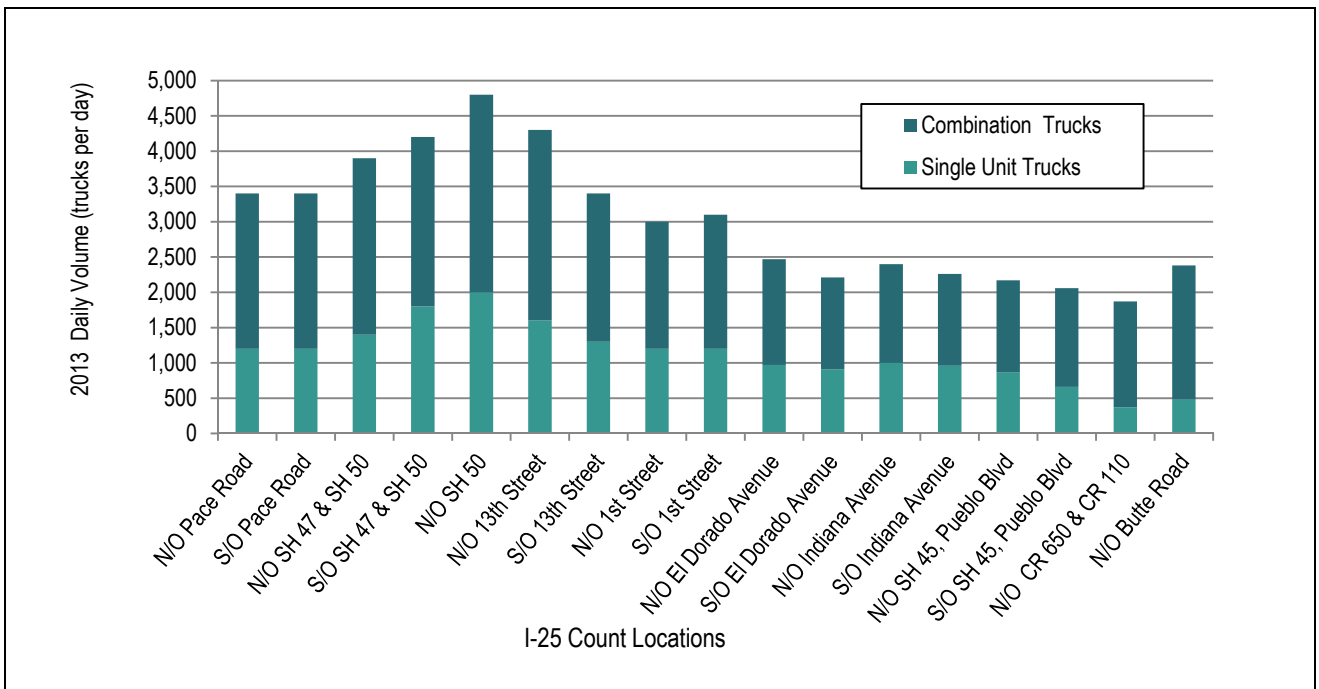
Observed Truck Traffic

To better understand truck usage of roadways in Pueblo County, CDOT Online Traffic Information System (OTIS) 2013 observed data¹⁶ was collected for Average Annual Daily Traffic (AADT), Single Unit and Multi Unit (Combination) trucks. For this assessment, the two main roadways cited above were reviewed: Interstate 25 and U.S. Highway 50. There is a clear urban/rural dividing line for both Interstate 25 and U.S. Highway 50. Urban roadways carry higher total traffic but with lower truck percentages, and rural roadways carry lower total traffic with higher truck percentage. In general, the percentage of trucks to AADT ranges from about 6-7% in the urban areas to 14% or more in the rural areas. The urban areas are more likely to have equal volumes of single unit and combination trucks on the highway segments whereas in the rural areas, combination or multi-unit trucks dominate in the truck category.

Interstate 25

In Pueblo County, I-25 is the sole interstate; it runs north-south for about 50 miles across Pueblo County. **Figure 10.5** shows seventeen truck count locations on Interstate 25 from north to south for year 2013, the most recent available. The location with the highest truck volumes, about 4,800 trucks, is just north of the U.S. Highway 50 interchange. The truck observed volumes are highest within the city of Pueblo and also higher on the north end of the county than on the south, consistent with population densities that lie north of Pueblo.

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



Source: CDOT Online Traffic Information System; <http://dtdapps.coloradodot.info/otis/TrafficData>

¹⁶ <http://dtdapps.coloradodot.info/Otis/>, accessed 2015.

U.S. Highway 50

U.S. Highway 50 is the second most important truck route in Pueblo County. It runs east-west for about 65 miles across Pueblo County. Figure 10.6 shows twenty-seven truck count locations on U.S. Highway 50 from west to east for year 2013, the most recent available. The location with the highest volumes, about 2,300 trucks, is found in Pueblo at State Highway 45, east of Wildhorse Road. On U.S. Highway 50, the truck observed volumes are highest within the city of Pueblo.

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, than do I-25 or U.S. Highway 50. The observed trucks are typically 100-200 per day. These state roads bring commodities in and out of the smaller cities and towns in the region.

10.2.3 Pueblo County – Rail Freight Existing Conditions

Freight railroads represent an important industry that is critical to the economic health and competitiveness of the Pueblo region.

Railroads also provide an important mode for commodity movement. 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.

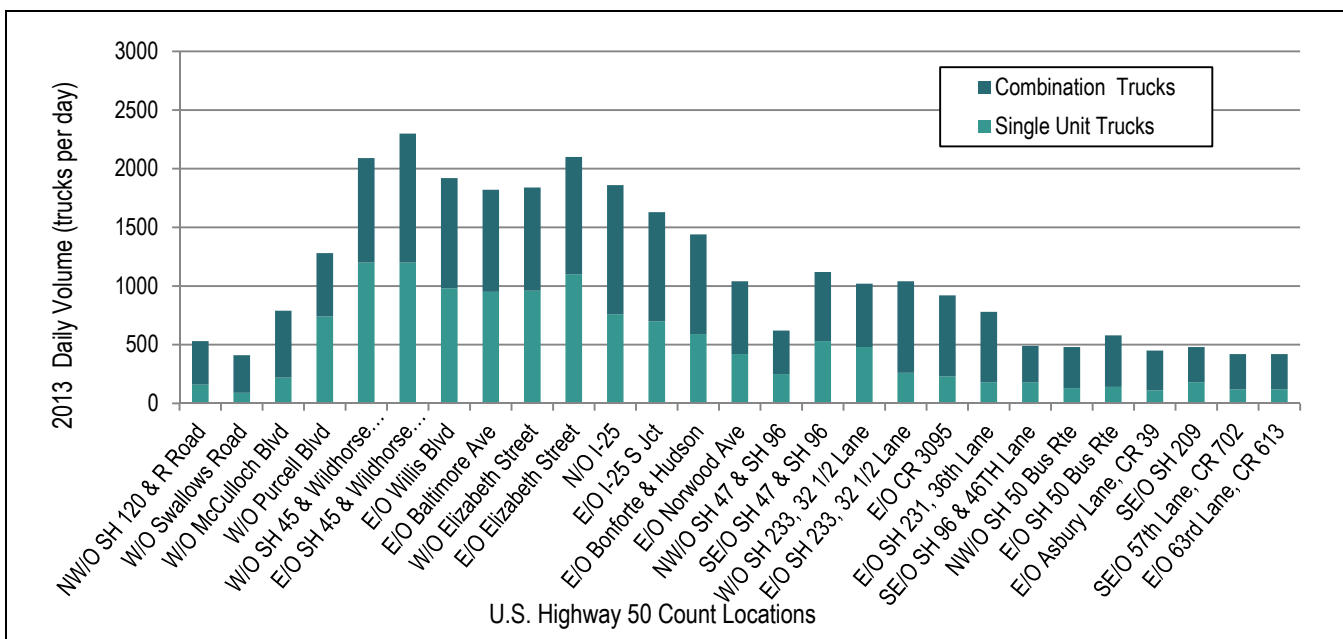
Class II (Regional railroads) – Operate at least 350 miles of track and/or have revenue of between \$40 million and the Class I threshold. Regional railroads that qualify using the 350 miles operated criterion must have minimum revenue of \$20 million.

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.

The current rail lines in operation in Pueblo County are the BNSF, UP and the Victoria & Southern (V&S) Railway, Inc.

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



Source: CDOT Online Traffic Information System; <http://dtdapps.coloradodot.info/otis/TrafficData>

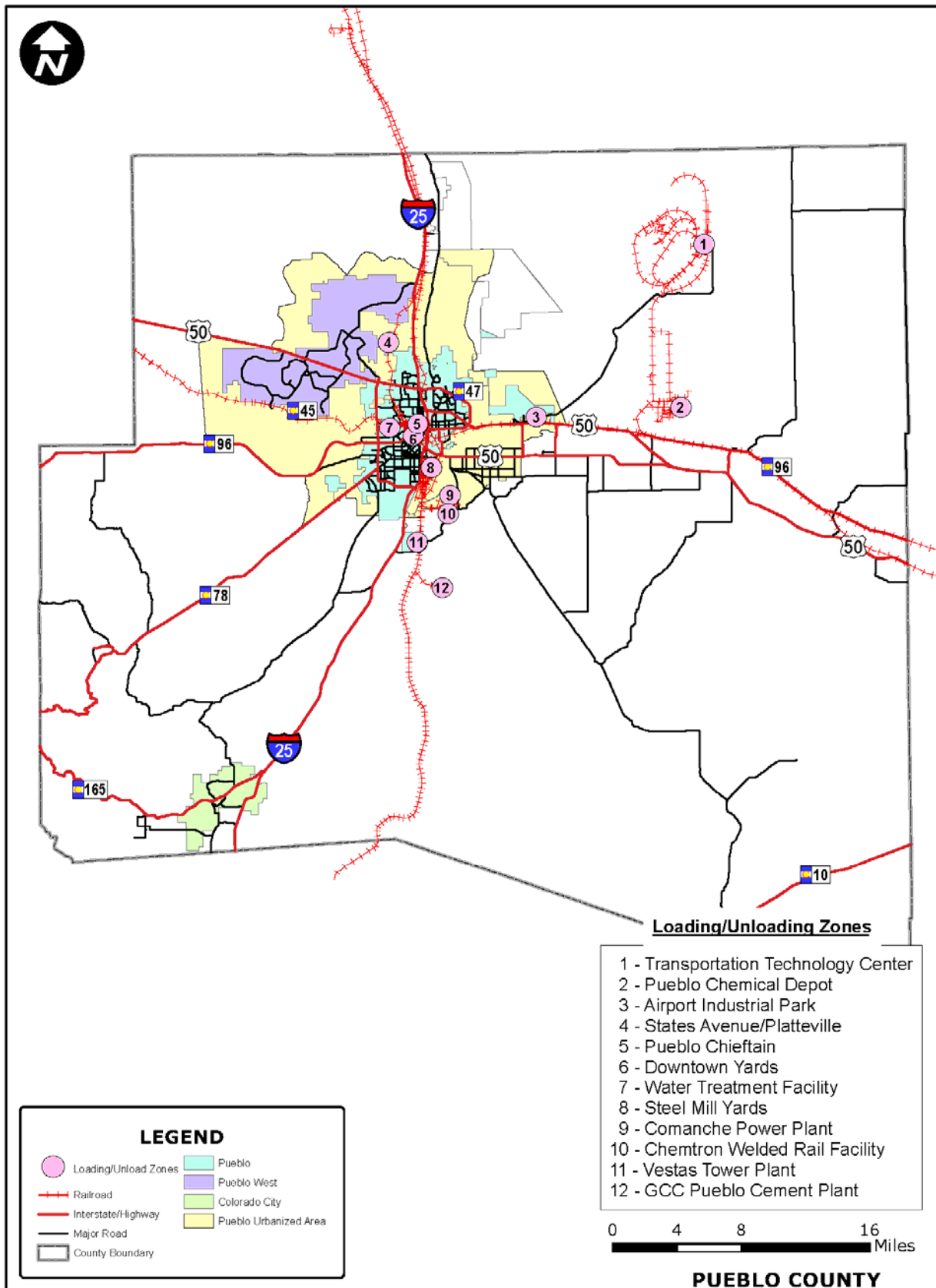
Class I Railroads

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 provide north-south and east-west service in Colorado, although only the UP owns trackage across the Continental Divide. In many cases, these two railroads provide trackage rights to each other to jointly operate 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. Figure 10.7 illustrates the rail lines and facilities in Pueblo County.

Switching & Terminal Railroads

The Colorado & Wyoming (C&W) Railway Company is located in Pueblo (Minnequa), Colorado and in 2015 operates a five mile long switching line. The C&W has 100 employees who 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 UP and BNSF Railroads. A short history of the V&S Railway is important to include in this section. The V&S now operates two short lines in Kansas, and until recently, operated a short line in Pueblo County. In recent years this segment of the railroad filed for abandonment and is no longer in operation in the county.

Figure 10.7: Rail Lines and Facilities



Intermodal/Transload Facilities

Colorado’s freight railroads use intermodal facilities that transfer freight stored in an intermodal container or highway trailer without handling any of the freight itself when changing modes. This process involves the use of equipment to lift and move trailer on flatcar or container on flatcar. 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 accommodated 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. They 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.

Transportation Technology Center, Inc. (TTCI)

Of note in the rail area is the Transportation Technology Center, Inc. (TTCI) which is located in northeast Pueblo County. The Center is an internationally recognized facility offering a wide range of unique capabilities for research,

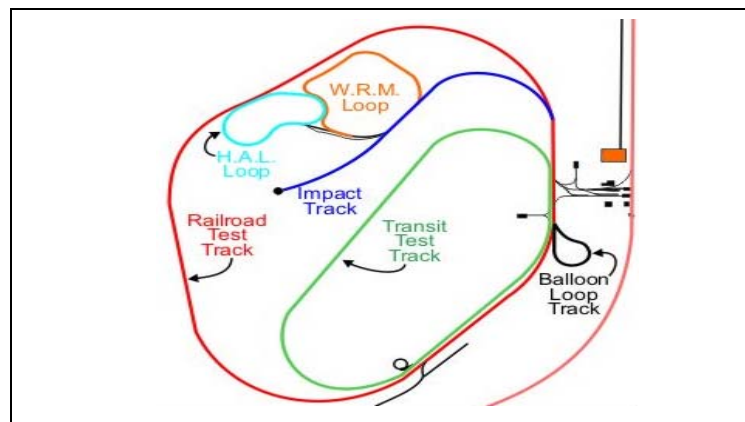
development, testing, consulting, and training for railway-related technologies. The site, 21 miles northeast of Pueblo, Colorado, is owned by the United States Department of Transportation (USDOT), and is operated and maintained by TTCI, under a care, custody, and control contract with the Federal Railroad Administration (FRA) and Association of American Railroads (AAR). **Figure 10-8** illustrates the TTCI trackage.

10.2.4 Pueblo County – Air Freight Existing Conditions

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 space, and rental car services.
- Federal Aviation Administration (FAA) air traffic control tower - Terminal Radar Approach Control in Tower Cab (TRACAB).
- National Weather Service - on site with Next-Generation Radar (NEXRAD) and Automated Surface Observing Systems (ASOS).
- Navigational aids including VOR, Instrumental Landing System (ILS), Non-Directional Beacon (NDB), and Global Positioning System (GPS) Instrument Approaches.
- Runways - Three runways with longest 10,496 feet.
- Two Fixed Based Operators (FBOs), Flight School, and Self-Serve 100LL fuel station.

Figure 10-8: Transportation Technology Center Trackage



Currently, the Pueblo Airport is served by United Airlines via SkyWest with two passenger 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)¹⁷ for the Pueblo Airport. Both mail and freight use the air cargo facilities at the Pueblo Airport with the use load showing small variation over the past five years. Outbound combined freight/mail shipments by air between 2010 and 2014 ranged from under one ton to 25 tons annually.

10.3 Commodity Flows by Freight Mode

It is important to look beneath the actual freight mode, such as truck, rail or air, used to transport goods and identify what goods are being moved. In this section, the commodities by freight mode that are moved into, out of and within Pueblo County will be tabulated. The type of commodities and the changes expected to occur will provide some insight for county freight planning.

10.3.1 Data Sources

PACOG has a number of data sources available for tabulating freight mode and commodity flows for both a base (current) year and a future year. PACOG has the benefit of:

- Freight Analysis Framework (FAF) Data – Federal Highway Administration’s (FHWA’s) FAF is a public database supported by the FHWA that integrates data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation. With data from the 2007 Commodity Flow Survey and additional sources, FAF version 3 (FAF3) provides estimates for tonnage, value, and domestic ton-miles by region of origin and destination, commodity type, and mode for 2007, the most recent year, and forecasts through 2040. For PACOG’s needs, this

data is summarized at the state (Colorado) level only. FAF’s base year is 2007 and forecast year is 2040. Several intermediate years are also provided; 2012 was chosen for the Pueblo LRTP analysis.

- Transearch – Transearch is a private database¹⁸ available through IHS Inc. This data provides base and future freight flows by origin, destination, commodities and transportation mode. CDOT obtained, processed and shared the Transearch data with PACOG staff in support on long range planning. For PACOG’s needs, this data is summarized at the county level. Transearch’s base year is 2015 and forecast year is 2040.

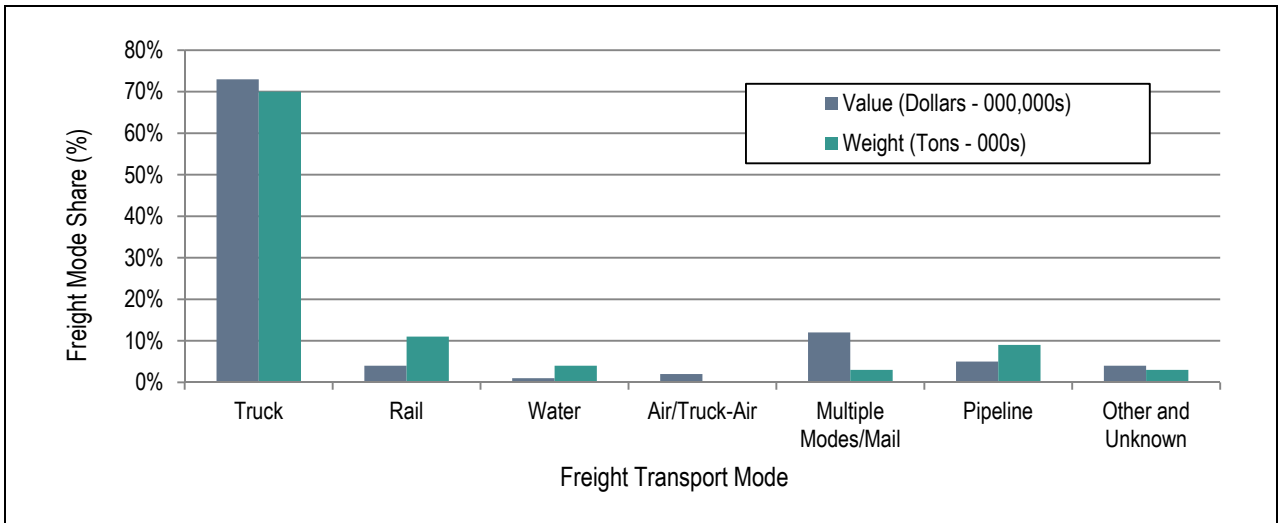
10.3.2 National Freight Commodity Flows

In 2012, the nation’s transportation system moved a daily average of about 54 million tons of freight valued at \$48 million. As shown in **Figure 10.9**, the vast majority of freight, approximately 70 percent, in the U.S. is transported by truck, regardless of whether the share of total freight is based on weight or value. This reliance on trucks and on the highway system for the movement of freight is also seen within the state of Colorado.

¹⁷ <http://www.transtats.bts.gov/>

¹⁸ Transearch - <https://www.ihs.com/products/transearch-freight-transportation-research.html>

Figure 10.9: National Freight Mode Share, based on Weight and Value (2012)



Source: FHWA FAF 2012

10.3.3 State of Colorado Freight Commodity Flows

All Colorado for 2012 and 2040

The FAF data can also be used to summarize a single state. To better understand Pueblo, the FAF for the state was tabulated by tons and by dollars for 2012 and 2040. **Table 10.1** shows the Colorado shipments by weight and value estimated for 2012 and projected for 2040, by mode. Freight tonnage in the state of Colorado is primarily moved by truck. However, a larger share of freight tonnage in Colorado (23%) was

shipped by rail in 2012, 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 2012. Tonnage is projected to increase 52 percent between 2012 and 2040 and value by 160 percent. Truck mode maintains its primary status in 2012 and 2040. Truck freight growth between 2012 and 2040 represents 344 million additional tons of goods in Colorado alone. Other freight modes are also expected to grow.

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

Freight Mode	2012				2040				Growth 2012 to 2040	
	Tons (000s)		Dollars (000s)		Tons (000s)		Dollars (000s)		Tons	Dollars
	# of tons	% of total	Value (000,000s of dollars)	% of total	# of tons	% of total	Value (000,000s of dollars)	# of tons	%	%
Truck	206,910	59%	\$203,070	70%	364,690	68%	\$485,641	364,690	76%	139%
Rail	81,878	23%	\$9,183	3%	87,299	16%	\$17,275	87,299	7%	88%
Pipeline	51,669	15%	\$20,021	7%	55,381	10%	\$21,019	55,381	7%	5%
Other	2,244	1%	\$4,463	2%	3,855	1%	\$12,115	3,855	72%	171%
Multiple modes	10,460	3%	\$48,418	17%	26,001	5%	\$201,409	26,001	149%	316%
Air	47	0%	\$6,345	2%	*131	0%	\$21,889	131	175%	245%
Total	353,207	100%	\$291,501	100%	537,357	100%	\$759,348	537,357	52%	160%

FAF commodity flows can also be reviewed by direction, examining goods that are imported, exported or travel within the state. The overall freight picture differs when the direction of goods movement is considered. For example, trucking is somewhat less significant for freight originating in Colorado compared to freight destined for the state. The following sections describe freight modal shares when direction is considered.

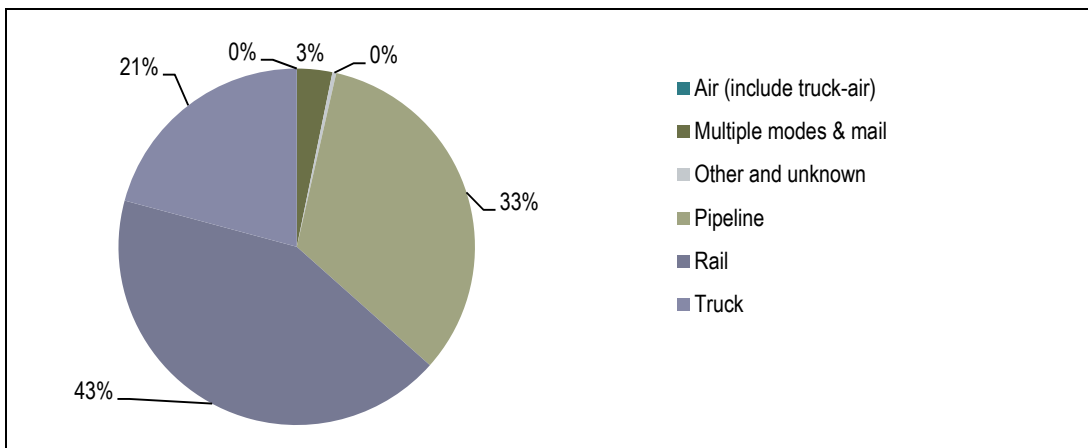
Inbound and Outbound Freight Transportation by Mode

Based on tonnage, and as shown in **Figure 10.10**, 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.

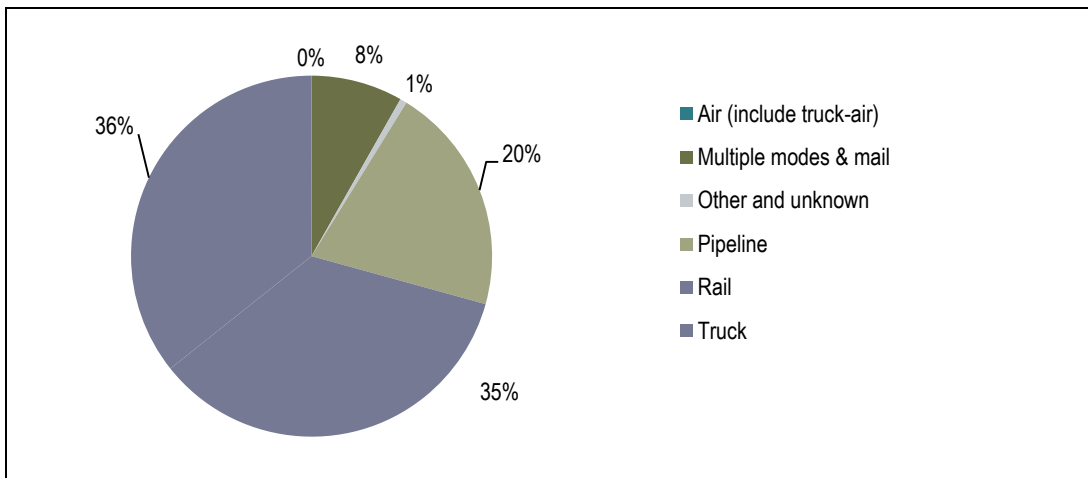
Coming into the state as imports, the shares by freight mode are different. Thirty-six percent of all freight destined for Colorado arrives by truck, another 36 percent by rail. Pipeline accounts for 20 percent of all freight by weight. **Figure 10.11** illustrates the percentages for incoming commodities.

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



Source: FHWA FAF 2012

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** illustrates the freight mode percentages.

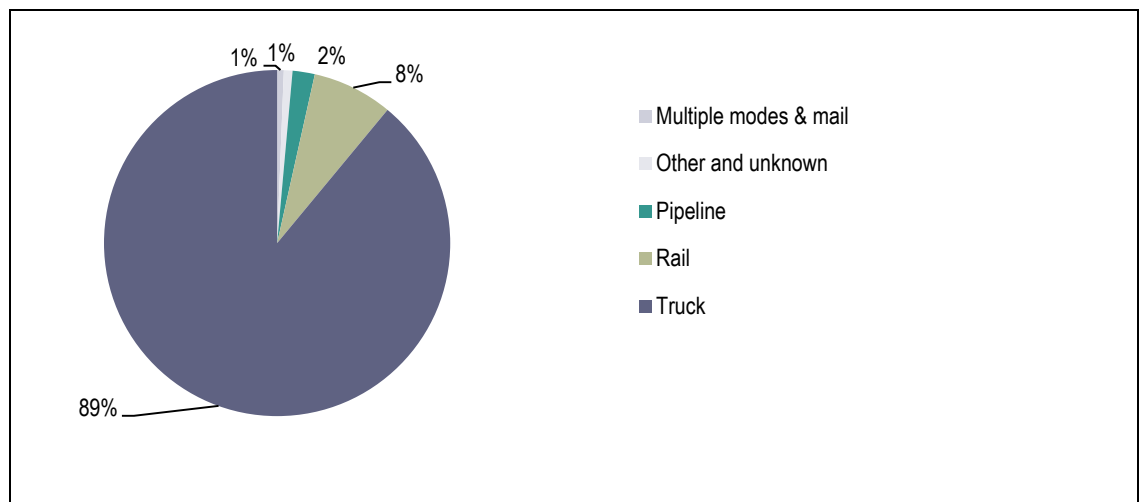
Top Commodities Statewide

Based on the 2012 FAF data, and ranked by weight, the top ten commodities shipped into, out of or within Colorado are presented in **Figure 10.13** 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. The other top

performers are Coal n.e.c. (not otherwise classified), which includes solid and liquid coal by-products), gravel, waste/scrap, and cereal grains. It is important to note that **Figure 10.13** classifies goods by weight; the picture is very different when the value of goods is used.

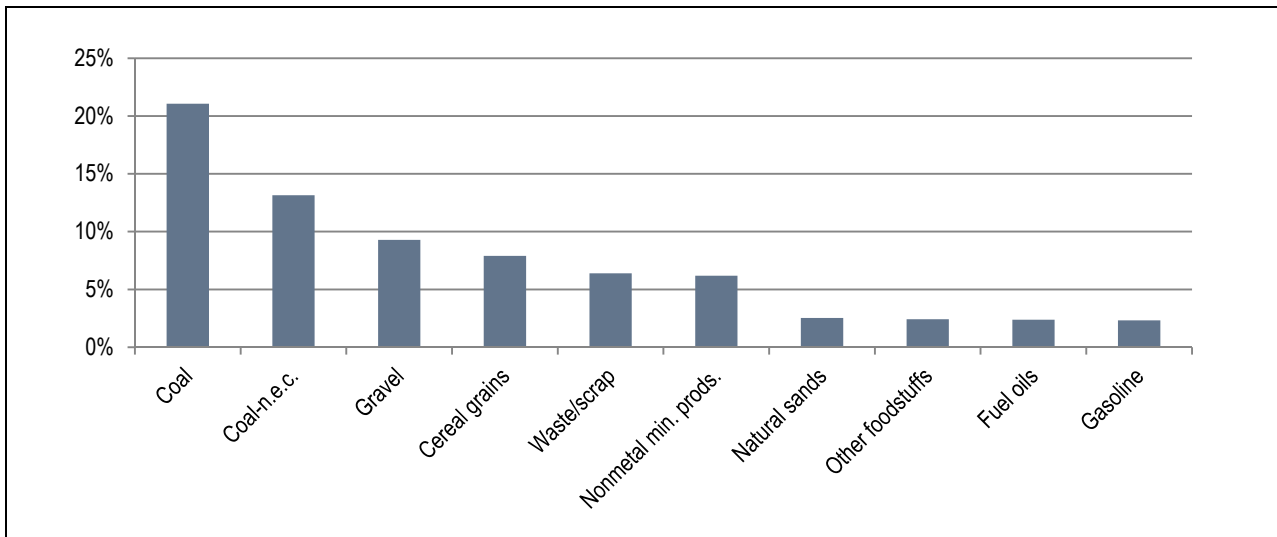
When ranked by value, no single commodity dominates in Colorado. **Figure 10.14** shows that machinery is ranked highest, representing 11 percent of all value, with the remaining commodities accounting for about eight percent or less each. Based on value, machinery represents the most significant share of Colorado freight transported. Note that many of the top commodities in **Figure 10.14** are value-added manufactured products such as electronics, pharmaceuticals and precision instruments.

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



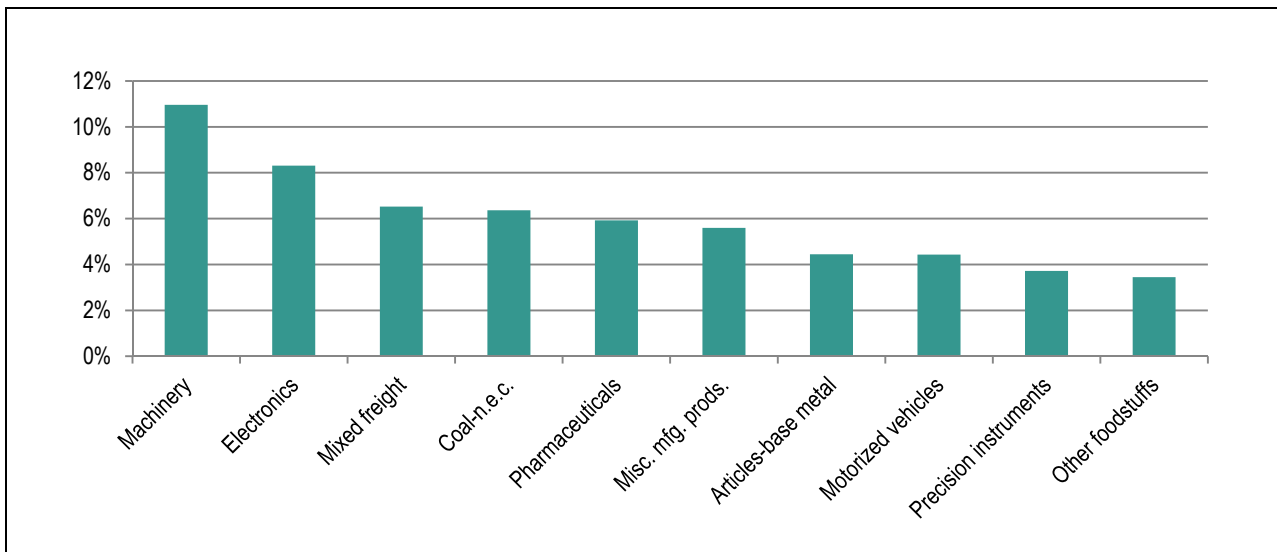
Source: FHWA FAF 2012

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



Source: FHWA FAF 2012

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



Source: FHWA FAF 2012

10.3.4 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 commodity movements in Pueblo County. CDOT provided to the project a Transearch commodity flow summary for 2010 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 CDOT and provided to PACOG staff for analysis with the focus on Pueblo County. PACOG staff prepared the Transearch data as follows:

- Years 2010 and 2040 were selected, conforming to the scenario years in the PACOG travel demand model.
- Top commodities by weight and by values are tabulated.
- Tables were separated by commodities leaving, entering or moving within the county.
- All information, such as major trade cities, from Transearch was leveraged for this task.

Commodities Exported from Pueblo County (2010 and 2040)

Tables 10.2 and 10.3 show that in 2010, products originating in Pueblo County are

dominated by warehouse and distribution center movements, both by weight (19% of total) and by value (21% 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. And so while the warehouse and distribution center 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. This differential between commodities by weight and value is consistent with the FAF data for Colorado. In 2040, the percentage distribution of commodities changes somewhat with warehouse and distribution center gaining market share whether tabulated by weight or value. As seen in **Table 10.4**, whether by weight or value, 98-99% of the goods are exported using truck mode.

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

Commodity	2010	% of total	2040	% of total
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%
Total Tonnage	3,199,182	100%	7,445,513	100%

Source: Transearch, 2014

Table 10.3: Top Commodities from Pueblo County by Value

Commodity	2010	% of total	2040	% of total
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 (n.e.c.)	\$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%
Total Value	\$3,038,880,377	100%	\$5,251,049,108	100%

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
Totals	3,199,182	\$3,038,880,377	7,445,514	\$5,251,049,108
<i>Truck Percentage</i>	<i>98%</i>	<i>99%</i>	<i>97%</i>	<i>97%</i>

Source: Transearch, 2014

Information is available from Transearch on the top destinations 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%) Counties.
- 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 (2010 and 2040)

Table 10.5 shows that 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 imported is used for sorting, as shown in **Table 10.6** warehouse and distribution center dominate (13%). Steel products, cash grains, chemicals, pharmaceutical drugs, and electronic equipment are also imported. As seen in **Table 10.7**, whether by weight or value, 99% of the goods are imported using truck mode. In 2040, the percentage distribution changes somewhat with warehouse and distribution center gaining market share whether tabulated by weight or value.

Note that the percentage of “Other Commodities” is 62% in 2010 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 in the county.

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

Commodity	2010	% of total	2040	% of total
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%
Total Tonnage	4,659,007	100%	5,433,449	

Source: Transearch, 2014

Table 10.6: Top Commodities to Pueblo County by Value

Commodity	2010	% of total	2040	% of total
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 Processing Equipment	\$46,099,730	2%	\$156,237,783	3%
Solid State Semiconductors	\$18,434,655	1%	\$534,585,169	10%
Other Commodities	\$1,850,149,573	62%	\$3,022,789,887	56%
Total Value	\$2,980,241,469		\$5,423,099,305	

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
Totals	4,659,007	\$2,980,241,469	5,433,449	\$5,423,099,305
Truck Percentage	99%	99%	99%	99%

Source: Transearch, 2014

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%) Counties.
- 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 Pueblo Central Business District (CDB) from I-25, access to industrial locations and access to the Airport Industrial Park (AIP) were identified as well. The second access to the AIP through the western William White Blvd extension will significantly improve the freight access to the area. Work on this access began as part of the Defense Access Road project in 2007.

10.4.2 Freight Needs - Rail

At this time, no specific needs for the additional railroad freight facilities have been identified as the majority of infrastructure improvements are made privately through the railroads themselves. The City of Pueblo has made improvements at the 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 air. 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.

TTCI 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 freight 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. It is the intent of PACOG to remain aware and involved in CDOT rail preservation efforts.

10.5 Summary

PACOG understands the MAP-21 environment and how the MPO can collaborate with federal and state efforts to leverage freight planning. The MPO freight supply side for trucks is composed of two strategic national highways: I-25 and U.S. Highway 50 plus a set of state highways. Two Class I railroads (BNSF & UP) and the Colorado and Wyoming (C&W) switching railroad serve the PACOG area. The Pueblo Airport provides a third means of moving cargo. In service of the PACOG LRTP, two major data sources were tapped to understand the commodity flows into and out of the state and county. The 2012 and 2040 FAF plus the 2010 and 2040 Transearch commodity flows for truck, rail and air were tabulated, providing a snapshot of goods movements in the region. Key long range plans are to focus on concepts cited in the PACOG freight plan: safety, efficiency, economic vitality and environmental stewardship. Tactics include investment in I-25, U.S. Highway 50, rail, air and transloading facilities in the region.