



GREAT FALLS AREA

Long Range Transportation Plan - 2018 Update

APPENDIX C: Freight and Security



FREIGHT AND SECURITY

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FREIGHT AND SECURITY

1.0 INTRODUCTION

Two technical memos were produced by Cambridge Systematics for the 2014 Long Range Transportation Plan (LRTP), *Freight and Goods Movement*¹ and *Transportation Security*². Each of these memos have been reviewed for relevancy to the 2018 LRTP and updated where appropriate to reflect current conditions using the most current data available. The updated information from the two previous memos have been included in this *Freight and Security* technical memo.

2.0 FREIGHT AND GOODS MOVEMENT

Moving goods efficiently and safely in the region is critical to the economy and quality of life in the Great Falls Area. Local businesses engaged in industrial, agricultural, office and retail activities rely on timely deliveries to supply finished goods and services to their customers. These businesses contribute primary jobs that grow the region's economy and maintain long-term economic competitiveness. Goods movement is important to local consumers, as increasing numbers of people shop online and expect goods delivered quickly to their homes. The Great Falls Area is part of long-distance goods movement corridors supporting interstate and international commerce.

Goods movement affects all modes of transportation and a broad mix of land uses in the Great Falls Area. Goods move through the region alongside drivers, pedestrians, cyclists, and passengers traveling by bus, rail, and air. The goods movement network connects and passes through commercial districts, residential neighborhoods, and parks. Demand for goods movement is increasing as the region's economy and population grows. Integrating goods movement into the transportation system and local land uses is critical to protecting safety and quality of life.

The following sections describe the role of goods movement in the regional economy and explain how it relates to the regional transportation system. The following questions about goods movement today and in the future, are addressed:

- How does goods movement support the economy and quality of life in the Great Falls Area, and across the state?
- What kinds of goods are transported to, from, and through the Great Falls Area, and how are they moved through the region?
- How will the demand for goods movement change in the future?

The information included herein comes from a range of publicly available resources, most notably from the City of Great Falls, the Great Falls Development Authority, the Cascade County Commission, and the Montana Department of Transportation (MDT).

2.1. GOODS MOVEMENT AND THE REGIONAL ECONOMY

Goods movement is very important to the Great Falls Area and Montana, serving as a key destination and transfer point for goods carried regionally by truck, rail, and air. Perhaps more importantly, goods movement supports the well-being of local residents and businesses. Businesses receive key inputs and

¹ *Freight and Goods Movement*, Cambridge Systematics, November 19, 2013

² *Transportation Security Technical Memorandum*, Cambridge Systematics, October 14, 2013

supplies to keep their operations going, and rely on shipping networks to get their products to customers. Residents rely on goods movement to support day-to-day activities such as buying groceries, going out to dinner, and online shopping.

2.1.1. Local Context

The Great Falls Area is the primary population and employment center for north-central Montana. This includes areas encompassed by Cascade County, the Sweetgrass Economic Development region³, and the Bear Paw Development Corporation. The Great Falls Area’s industrial sectors have grown steadily over the past 30 years. This growth supports the City of Great Falls’ nearly 59,500 residents and 30,000 jobs, and Cascade County’s population of about 82,000 people and nearly 41,500 jobs. **Figure 2.1** illustrates the City of Great Falls’ employment sectors in 2012. The five sectors include management and business, sales, professional services, natural resources and construction, and production and transportation. Military employment is not included in this analysis. The largest sector, management, business, science and arts, employs 30 percent of the City of Great Falls’ workforce. Sales and office jobs represent 27 percent of the region’s employment. Together these sectors represent nearly two-thirds of employment, with services comprising one-fifth of employment, and production, transportation, natural resources, and construction also making up one-fifth of the region’s jobs.

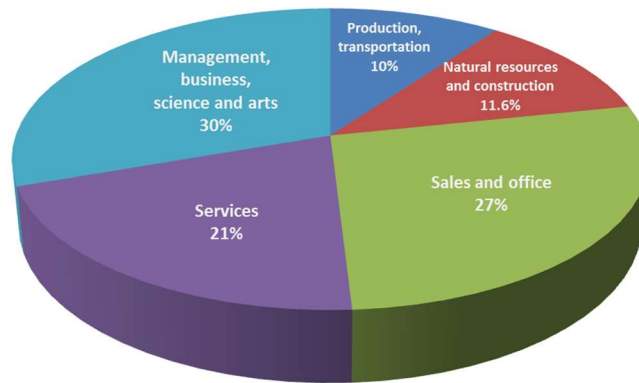


Figure 2.1: Great Falls Non-Military Jobs by Sector (2012)

Source: 2025 Imagine Great Falls Growth Policy Update, City of Great Falls, 2013. Military employment is not included in these figures.

Each employment sector relies on a high-quality goods movement network. To understand how these employment sector relates to the goods movement network is to look at three main employment categories, including heavy industry; service, retail and management; and military.

Heavy Industry. Goods movement is typically associated with heavy industry. Businesses in these industries make location decisions based on access to efficient, secure, and safe transportation infrastructure to support their growth. Heavy industry has an important role in the Great Falls Area. **Figure 2.1** illustrates that two employment sectors – production and transportation, and natural resources and construction – make up about 21 percent of jobs. These industries are expecting continued growth in the Great Falls Area to support developments in oil and gas extraction and refining, and agriculture. Notable products on the goods movement system include oil and gas extraction materials and equipment, grains and other perishables, aerospace equipment and parts, and wind energy equipment and supplies.

³ The Sweetgrass Economic Development Region includes Glacier, Toole, Pondera, Teton, Conrad and Cascade Counties.

Examples of employers in these industries include the Calumet Montana Refining, Pacific Steel and Recycling, ADF Group (Steel Fabrication), Pasta Montana, Malteurop and General Mills.

Service, retail, and management. Goods movement is critical to the local service, retail, and management businesses that account for nearly 80 percent of the jobs in the City of Great Falls. Businesses in these industries are less likely to make location decisions based on goods movement access. Service and office businesses are more concerned with customer and employee transportation access. However, all rely on efficient shipment of goods to conduct day-to-day business. Retail businesses, for example, require regular, large shipments of products to keep stores stocked. Management offices require office supplies and mail shipments, and health care facilities require medical diagnostic equipment and pharmaceuticals. Service and office businesses are expected to continue to grow in the Great Falls Area because of a skilled workforce, growing demand for health care, and the natural environment that attracts tourists from around the world. Examples of employers in these industries include Benefis Health System, Wal-Mart, N.E.W. Customer Service, and local government offices.

Military. The military maintains a strong presence in the Great Falls Area. Malmstrom Air Force Base (AFB) employs over 4,400 military-related personnel. The Montana Air National Guard has over 800 military-related personnel. Malmstrom AFB's direct and indirect economic impact totaled over \$330 million, and expenditures for construction, services, materials, equipment, and supplies totaled about \$69 million in 2012.⁴ The AFB relies on an efficient and secure goods movement network to transport these goods to and from the base. In particular, the AFB relies on roadway connections to Great Falls International Airport, which is a key component of the military transportation network.

2.1.2. Interstate and International Context

Goods movement routes in and around the Great Falls Area play a significant role on the state and national economies. The key statewide industries reliant on the goods movement system are oil and gas extraction, and agriculture.

Oil and gas extraction. The oil and gas industry represents a nine-billion-dollar economic sector in Montana, with 4,600 jobs across the state in exploration, production, and refining. Expansion in this industry is leading businesses to locate in the Great Falls Area due to its skilled workforce, access to major transportation routes, and proximity to oil and gas resources such as the Alberta Basin Bakken Fairway and Williston Basin oil fields. The Calumet Montana refinery in Great Falls is currently expanding and will generate increased volumes of crude and refined oil products.

Agriculture. The Great Falls Area is located near the “Golden Triangle” of Montana, known for producing large quantities of wheat between the Cities of Great Falls, Conrad, and Havre. Related industries process the wheat to supply consumer product manufacturing. The greater Sweetgrass Economic Development Region is known for its prairie grazing lands, other small grains such as barley, forage crops, and forage animals. Demand for organics and natural products has been growing quickly. The region has competitive advantages for agri-processing, such as high-quality commodities, energy sources (i.e., electricity, natural gas, and oil), rail transportation, water resources, and a skilled workforce. Expansion of local agri-based processors is being promoted, and some increase is likely.

⁴ 2025 Imagine Great Falls Growth Policy Update, City of Great Falls, 2013.

2.2. EXISTING GOODS MOVEMENT SYSTEM

The existing transportation system facilitates considerable goods movement to, from, and through the region. This section describes the types and quantities of goods moved, how the goods are moved, the routes and freight facilities, and gaps or needs on the regional goods movement transportation system.

2.2.1. Commodities and Products Overview

Montana exports over 61 million tons of goods, with a total value of over \$6.6 billion dollars.⁵ Over 75 percent of outbound freight tonnage is coal products. Other leading outbound commodities include minerals, metallic ores, and cereal grains. However, the top outbound commodities by value are more diverse. The “other” commodity category makes up 54 percent of commodities value. Coal products make up about 20 percent of outbound value, with the remaining value distributed across commodities including mixed freight, printed products, cereal products, articles-base metals, and machinery.

About 11 million tons of goods terminate in Montana, valued at about 12.1 billion dollars. These inbound goods are mixed, with over 50 percent of weight (5.8 million tons) categorized as “other”. Wood products make up 11 percent of inbound goods by weight, with other top commodities including coal, wood, cereal grains, chemical products, and fertilizer. By value, 42 percent of inbound goods are in the “other” commodity category, and 19 percent in mixed freight. Other inbound goods leading in value include machinery, chemical products, meat products and miscellaneous manufactured goods.

2.2.2. Goods Movement by Transportation Mode

Montana is part of a trade corridor linking midwestern and northwestern port markets. This leads to a large share of through-bound goods movement. For rail, 74 percent of goods by value and over half of the goods by weight pass through Montana.⁶ Trucking serves a greater share of locally serving trips – those originating and terminating in Montana – due to the ability of trucks to serve diffuse markets. While the Great Falls Area is affected by through trips on the highway and rail networks, locally serving trips have the greatest impact on the regional economy and quality of life.

Trucks carry 59 percent of goods by value that originate in Montana, and 82 percent of goods by value destined for Montana. **Figure 2.2** illustrates the value of freight transportation in Montana by transportation mode. Truck and intermodal modes represent large proportions of overall value because more valuable commodities tend to be transported as containerized or truck trailer freight.

⁵ Montana State Rail Plan, MDT, 2010.

⁶ Montana State Rail Plan, MDT, 2010. Does not include pipeline and intermodal shipments.

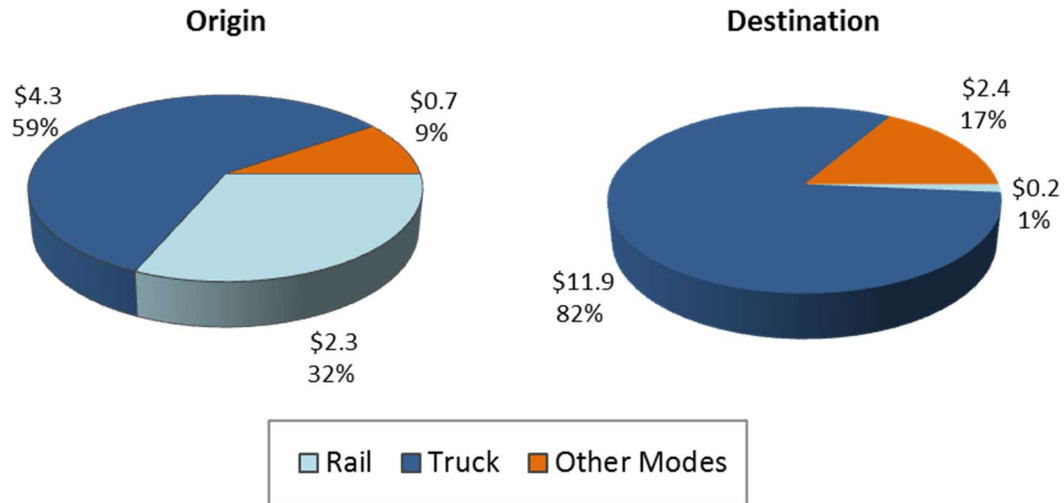


Figure 2.2: Montana Freight Value by Mode (2007, Billions of U.S. Dollars)

Source: *Montana State Rail Plan, MDT, 2010. Does not include pipeline and intermodal shipments.*

The Port of Sweetgrass is located along I-15 approximately 120 miles north of Great Falls, and is Montana’s largest international port of entry. It is the only port in western Montana that is open twenty-four hours a day. It is located near three of western Canada’s largest cities: Calgary, Lethbridge, and Edmonton. Together, these cities have a population of approximately 1.25 million. Approximately 980,000 people travel through the Sweetgrass Port of Entry each year.⁷ After passing through the Port of Sweetgrass, trucks largely travel on I-15 through Great Falls and continue to destinations to the south, southeast, and west.

Great Falls is located along the Canamex Trade Corridor, which was designated as a High Priority Corridor by Congress in the 1995 National Highway Systems Designation Act. I-15 is the designated corridor through Great Falls and northern Montana. South of Great Falls to Mexico the corridor includes a combination of roadways. The corridor’s main objective is to facilitate trade between these nations and strengthen its position in the global economy.⁸

Rail accounts for 32 percent of the freight value originating in Montana, but it accounts for only one percent of the freight value with a destination in Montana. This is partly due to the fact that trucks (hauling containers or trailers) are better suited to distributing high-value finished goods to diffuse markets (e.g. grocery stores, retail stores). Developing industrial sectors in Montana, such as oil and gas extraction, move goods primarily by truck freight, while agriculture-related industries transport goods both by truck and rail.⁹

Great Falls International Airport sees a significant share of Montana air cargo, which extends into southern Alberta, Canada. Large distances and rough terrain between cities and towns often make air travel the most efficient mode of transportation. FedEx Express uses the airport as their statewide hub,

⁷ U.S. Customs and Border Protection, *Sweetgrass Station*, <https://www.cbp.gov/border-security/along-us-borders/border-patrol-sectors/havre-sector-montana/sweetgrass-station>. Accessed January 2018.

⁸ Canamex Corridor Coalition, *CANAMEX Corridor -The Canamex Trade Route*. http://www.cbp.gov/xp/cgov/border_security/border_patrol/border_patrol_sectors/havre_sector_mt/stations/sweetgrass.xml. Accessed October 2013.

⁹ *Great Falls Regional Transportation Task #7*, Cascade County Commission, 2011.

linking smaller flights to communities within the state, and linking to hubs in other states. FedEx also contracts with the United States Postal Service to carry first class mail.

There were about 42,000 annual enplanements on average in 2011. **Table 2.1** breaks out the enplanements by purpose and compares Great Falls International Airport to Billings Logan International Airport and Helena Regional Airport. These two airports provide a comparison of operations at other Montana airports that are similar in size to Great Falls International Airport.

Table 2.1: Great Falls International Airport Infrastructure

	Great Falls International	Helena Regional	Billings Logan International
Number of Terminal Gates	4	2	7
Cargo Apron Area (sq.ft.)	531,000	Fixed Base Operator Ramp	296,500
Cargo Warehouse (sq.ft.)	72,000	None	27,000
Annual Operations	32,599	38,884	78,740
% Commercial	12%	4%	13%
% Air Taxi	32%	14%	33%
% GA Local	22%	35%	30%
% GA Itinerant	28%	33%	23%
% Military	5%	14%	1%

Source: FAA 5010 Form, Airport Records, <http://www.qcr1.com/5010web/>, accessed February 2018.

Air cargo transport trends at Great Falls International Airport declined in response to the economic recession, and due to reduced FedEx Express' weekend service in 2006. **Table 2.2** presents the total air cargo tonnage from 2005 to 2010.

Table 2.2: Great Falls International Airport Air Cargo 2005 to 2010

	2005	2006	2007	2008	2009	2010
Tons Air Cargo	22,257	20,187	18,192	17,525	16,624	15,391
Change from previous year	Na	-9%	-10%	-4%	-5%	-7%

Source: Great Falls Regional Transportation Task #7, Cascade County Commission, 2011.

Air cargo is typically high value and relatively low weight, so trends in air cargo by weight is not necessarily indicative of economic strength. Great Falls International Airport has regularly transported cargo that supports the local economy. Common inbound goods include:

- aerospace parts and equipment;
- legal and financial documents;
- cell phones;
- wind energy parts and equipment to repair local wind turbines;
- mining parts and equipment; and
- oil and gas extraction parts and equipment.

Other goods arrive bound for local medical facilities, including diagnostic equipment, pharmaceuticals, and medical devices. Other inbound goods include flowers, tractor, and heavy equipment parts. Outbound air cargo is based on the local tourism industry (related to hunting and fishing), as well as financial and management service and aerospace industries. The top local commodities include:

- meat products related to the local hunting and fishing industry;
- taxidermies;
- music concert equipment;
- documents and forms; and
- aerospace related equipment and supplies.

2.2.3. Origins and Destinations

Much of the locally serving goods movement is destined for industrial or commercial districts. Heavy industrial areas (I-2 District) are located within the northeastern quadrant of the city, along Highway 87, heading northeast from Great Falls, or along River Drive North on the east side of Great Falls. There are some light industrial districts (I-1 District) just north of a high-density residential district (R-3 District) adjacent to 8th Avenue North, and also on the west side of Great Falls between the Missouri River and I-15. The latter area is the location of the BNSF rail yard. Great Falls International Airport is an important location in the area's freight network, as goods move to and from the region via this location. **Figure 2.3** illustrates the City of Great Falls zoning map, indicating where these districts are.

Goods move to and from commercial districts of the city as well, many of which are located on the city's south side, along 10th Avenue South. The Central Business Core (C-4 District) is located north of 10th Avenue South, just east of the Missouri River. Goods moving to the Central Business Core arrive by various arterials connecting to the Core, including:

- 2nd Street South, River Drive North and South, 5th/6th Streets South one-way couplet;
- 1st/2nd Avenues North one-way couplet;
- 9th Street North and South; and
- Central Avenue West/1st Avenue North.

More information on truck routes is provided in the "Routes and Facilities" section and **Figure 2.5** below.

Cascade County has two industrial zoning designations: Light Industrial (I-1) and Heavy Industrial (I-2). Areas of I-2 zoning are found in and around the unincorporated area of Black Eagle, along several miles of Vaughn Road, and southwest of Great Falls International Airport adjacent to the Tri-Hill Frontage Road. Areas of I-1 zoning are spread across the same areas, with additional zoning in areas near the Emerson Junction interchange and adjacent to the NW Bypass. All of these areas are located outside of the City limits but within the study area boundary for the LRTP. These areas are likely to have future industrial uses develop over the 25-year planning horizon in the LRTP.

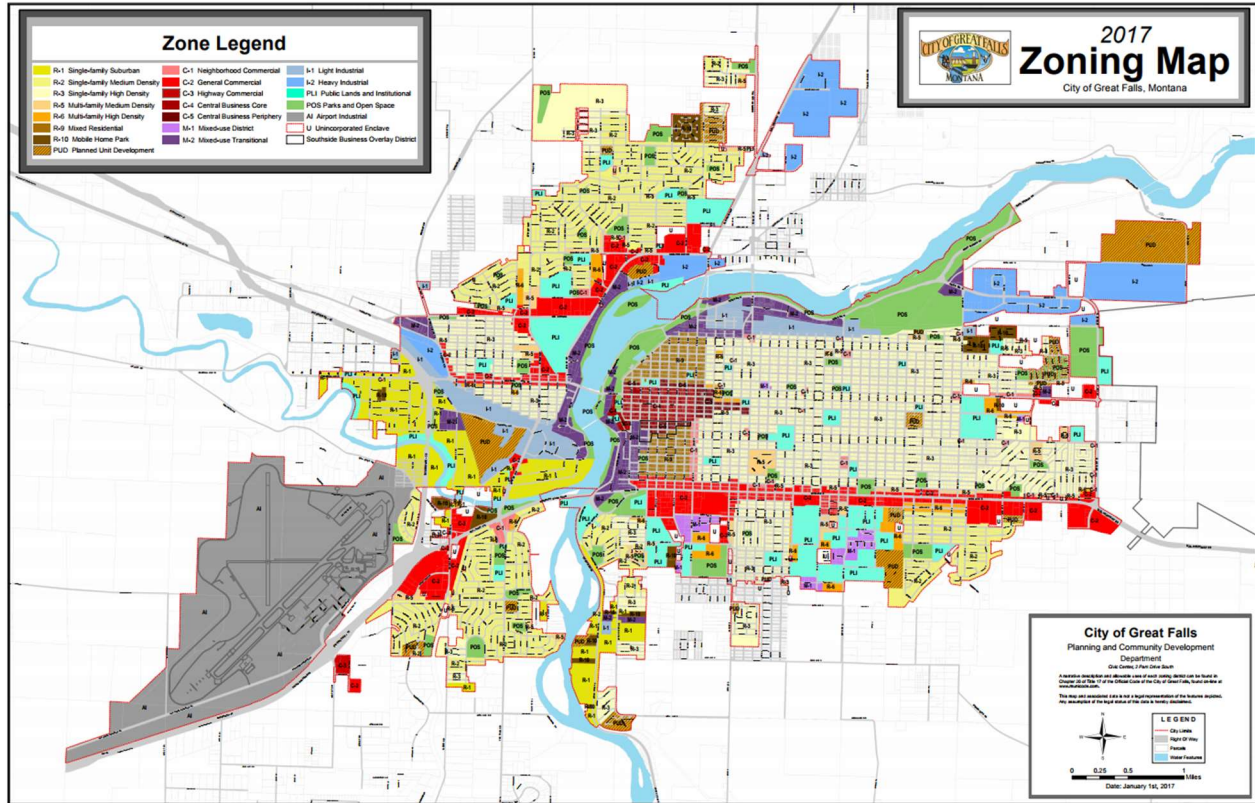


Figure 2.3: City of Great Falls Zoning Districts

Figure 2.4 presents employment intensity and location in the City of Great Falls. The size of a symbol corresponds to the number of employees (i.e. the larger the bubble, the more employees work at that establishment). The number of employees is one indicator of economic activity. It can indicate total economic output of a business. The number of employees is also associated with local spending, as employees spend their income in the region. Providing efficient goods movement to and from employment clusters supports business activity and helps preserve jobs in the region. This is important for retail and office professions as well as manufacturing and industrial sectors. Retail stores, offices and other establishments, for example, located near River Drive North and 1st Avenue North rely on regular shipments of supplies and materials to support employee activity. The University of Great Falls and Great Falls Clinic Medical Center rely on regular shipments of medical equipment, food, and other products to serve thousands of customers and employees. The ability to receive goods on a regular basis is especially critical in industrial job centers. Employment in **Figure 2.4** shows significant activity in outlying areas and near Great Falls International Airport near existing industrial activities. Malmstrom AFB has over 4,000 employees, but is not represented in this map.

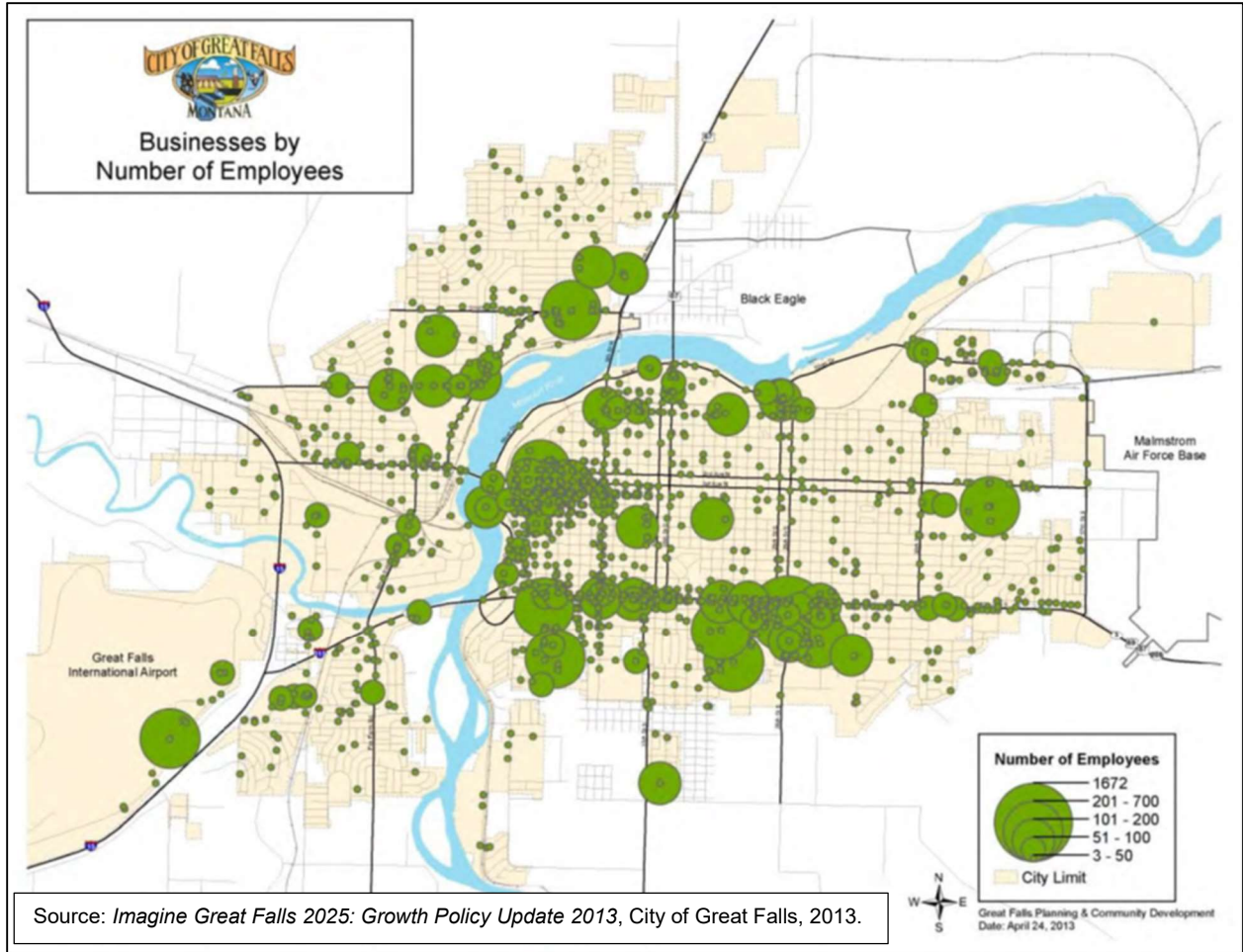


Figure 2.4: City of Great Falls Business Location by Number of Employees

2.2.4. Routes and Facilities

The Great Falls Area’s goods movement network benefits from truck, rail, and air transportation modes that facilitate goods movement throughout the region. **Figure 2.6** presents the goods movement routes and facilities in the Great Falls Area, which are discussed in greater detail in the following sections.

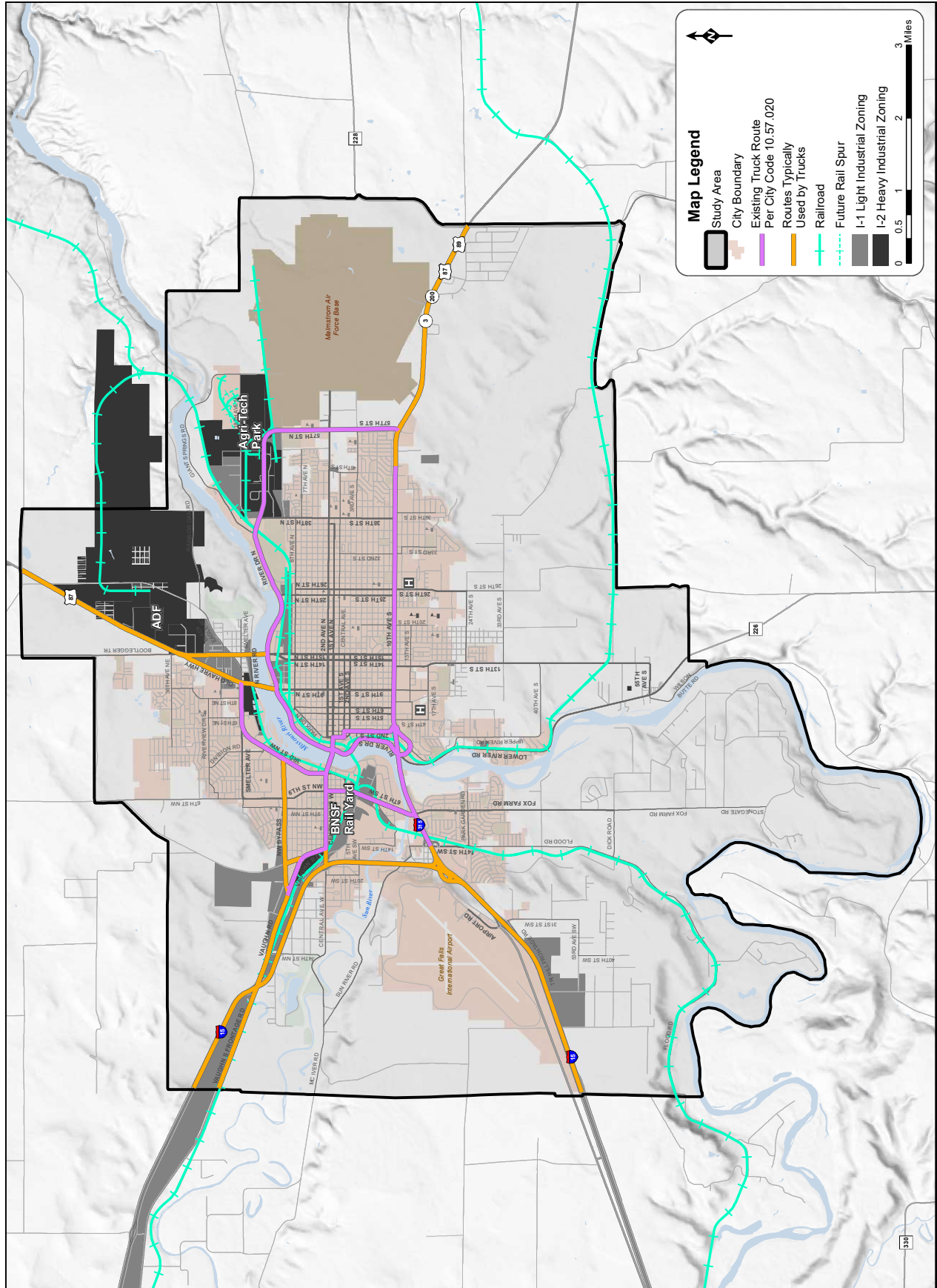


Figure 2.5: Goods Movement Routes and Facilities

TRUCKS

Figure 2.5 illustrates the routes generally used by trucks in the Great Falls Area. Official truck routes to be used by through trucks are identified in the City of Great Falls city code¹⁰. Typical truck routes are those that are outside the municipal boundary and connect to the official truck routes, forming complete goods movement routes. The official truck routes are:

- 10th Avenue South from the west City limits to the east City limits;
- The Northeast Bypass from the intersection at 57th Street South and 10th Avenue South, north and then westerly to the Tenth Street Bridge;
- River Drive from its connection with 10th Avenue South at or near the Warden Bridge to the 1st Avenue North Bridge; 1st Avenue North from Park Drive westerly through the 1st Avenue North Bridge; Central Avenue West from the west end of the 1st Avenue North Bridge to the west City limits on the Vaughn Highway;
- 3rd Street Northwest and Smelter Avenue from Central Avenue West to the northeasterly City limits;
- 2nd Street from the 10th Avenue South approaches north to 1st Avenue South;
- 1st Avenue South from 2nd Street, west to Park Drive; Park Drive from 1st Avenue South to 1st Avenue North;
- 6th Street Southwest from Central Avenue West to 10th Avenue South; and
- River Drive from 1st Avenue North to the 10th Street Bridge;

Trucks generally travel on I-15 to access markets outside the region. Locally-serving trucks access the city via the NW Bypass or Central Avenue West. From the southwest, trucks access the city on Country Club Boulevard and 10th Avenue South, with access to commercial areas. Trucks access the city via Highway 87 in the northeast, with connections to Smelter Avenue and River Drive. From the southeast, trucks enter along 10th Avenue South.

Analysis for the Great Falls Area Long Range Transportation Plan indicates that traffic congestion occurs on truck routes, including River Road North and 10th Avenue South.

RAIL

Great Falls is well-integrated into the nation's freight rail system, with numerous facilities and services. Rail facilities carry freight on lines northeast of the city and along the east side of the Missouri River, crossing the river south of downtown. The rail lines connect to the BNSF rail yard just west of the river. Rail lines extend south and northwest from the rail yard. Great Falls is located on the 100-mile BNSF main line that links Shelby and Great Falls, known as "The Great Falls Subdivision". Shelby is also located along "The Hi-Line Subdivision", a BNSF main line that runs east-west. Shelby has advocated for a freight intermodal facility to support nearby goods movement routes. The rail facilities in Shelby also serve an Amtrak passenger rail station on the Empire Builder Route (Chicago to Portland/Seattle).¹¹

Rail spurs connect the rail network to several industrial facilities in the Great Falls Area, providing direct access to major goods movement facilities. **Figure 2.5** illustrates the rail lines serving the Great Falls Area. A circuitous railroad spur deviates from the area near the AgriTech Industrial Park, crosses the Missouri River just west of Rainbow Dam, and circles north and west to the Malting Plant. This spur line is located outside the City of Great Falls but supports significant goods movement activity in and through the area. The City plans to construct a rail spur to serve the AgriTech Industrial Park, generally located

¹⁰ City Code 10.57.020.

¹¹ MDT. (2010). *2010 Montana State Rail Plan: Final Report*.

north of 18th Avenue North and west of 57th Street North. This facility will be designed and constructed if and when industrial development occurs in the area.

AIR

The Great Falls International Airport offers substantial infrastructure for the air cargo industry. The airport’s primary runway is 10,502 feet long; the secondary runway is 6,030 feet long. The airport operates a control tower and four terminal gates. The airport occupies just over 2,100 acres and has a 531,000-square foot cargo apron area, and 72,000 square feet of cargo warehouse space. FedEx uses the warehouse space as a sorting and distribution hub for Montana. The airport operates a foreign trade zone that offers tax-free purchases to international customers. The U.S. Customs Border Patrol operates an office on the airport, which facilitates international travel.

The airport’s primary runway is adequate to accommodate the mid-size cargo jets such as the B-757 operated by FedEx for interstate shipments, given typical weather and operating conditions. **Figure 2.6** illustrates the FedEx Express and UPS air cargo route network for the western United States and Canada. The majority of air cargo routes from the airport, like many in Montana, are “long-thin” routes that cover long distances with consistently low volume of cargo.

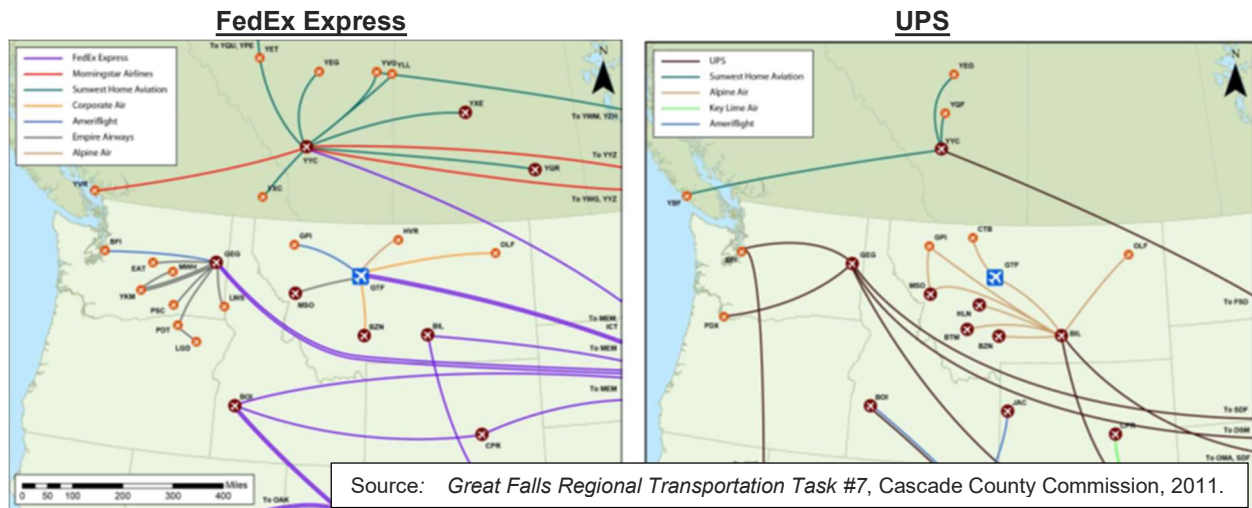


Figure 2.6: FedEx Express and UPS Air Cargo Networks in Western U.S. and Canada

2.3. FUTURE GOODS MOVEMENT SYSTEM

The Great Falls Area is planning for continued population, employment, and overall economic growth. A strong goods movement network will support economic growth by maintaining capacity, safety, and security of the transportation system, and preserve quality of life for local businesses and residents.

Production and consumption will increase along with population increases in the Great Falls Area. Population and economic projections across the state suggest that the proportional share of goods shipped by truck, rail and intermodal service are likely to remain the same as they are today, even as demand for goods movement increases. This means that higher-value finished goods produced and consumed in Montana will continue to rely on trucks to distribute goods between dispersed origins and destinations. Rail is expected to continue its primary role in shipping most of the outbound goods by weight.

Tons of goods shipped in Montana are forecasted to increase by 101 percent to 216.8 million tons by year 2035. Truck shipments will continue to account for the largest share of in-state goods movement by

weight, while rail will continue to account for nearly all of the outbound shipments by weight. **Table 2.3** shows the forecasted change in shipments by weight by 2035, with truck shipments showing the greatest growth, at 156 percent.

Table 2.3: Montana Forecast Change in Shipments by Weight (2002 to 2035, Millions of Tons)

Mode	Total Growth 2002-2035	Percent Change
Truck	82	156%
Rail	25	47%
Air	0	33%
Intermodal	2	150%
Water	-	0%
Total	109	101%

Source: *Montana State Rail Plan, MDT, 2010. Does not include pipeline and intermodal shipments.*

Forecasts of truck traffic show growing truck volumes by the year 2035 in the Great Falls Area. **Figure 2.7** shows the average annual daily truck traffic (AADTT) in Montana. Highways in the Great Falls Area – in particular on routes I-15 and US 87 – have lower AADTT overall than Montana’s east-west Interstate routes, as shown in **Figure 2.7**. The forecasts show growth on routes connecting the region to Alberta, Canada, and to Helena and I-90.

Truck traffic is expected to increase locally due to expected increases in truck-dependent industrial manufacturing, supported by infrastructure improvements to support these industrial sectors. Expected areas of increased truck traffic include the following areas:

- *River Drive North and 57th Street North (i.e. NE Bypass)*. A new industrial park, Agri-Tech Park, opened in 2016 and will continue to be developed north of Malmstrom AFB. Developments in the area include Pacific Steel & Recycling, FedEx Ground, Montana Specialty Mills, and Helena Chemical. Future phases are being developed now are expected to serve firms reliant on goods movement by truck.
- *River Drive North and 38th Street North*. Montana Egg is planning to open a new agricultural processing facility in northeast Great Falls. Products will be shipped throughout Montana and eastern Washington mainly by truck.
- *US 87, 3rd Street Northwest, and NW Bypass*. Steel production at the ADF site will increase as the firm fabricates up 25,000 tons of steel modules for oil and gas sites in Alberta and eastern Montana, to be delivered by truck. The new industrial complex is located on land on the east side of US 87 and north of Black Eagle. The Great Falls Development Authority is currently planning increase road access to the area in order to spur further development. This would allow for safer and more efficient truck traffic in and out of the area.
- *River Drive North and 18th Avenue North*. Plans for a new industrial park with mixed use possibilities, much like the Agri-Tech Park, are currently underway. Construction of a rail spur is also planned at this site.
- *U.S. Highway 89/200*. Potential for a “food park” is under consideration in Cascade County, just east of the LRTP study area boundary. The complex would include meat packing elements, as well as milk processing facilities and production of grain for various products. A fully functioning site like this would generate upwards of 165 truck arrivals and departures weekly.
- *Vaughn Road near the planned Emerson Junction*. This planned highway interchange is located near vacant land zoned for industrial uses. The interchange could incentivize future industrial uses and lead to increased truck traffic to and from the area.

- **Airport Interchange.** The somewhat recent addition of two truck stops and I-State Truck Center to the area has led to increased truck access and egress. Truck-dependent uses may increase along Tri-Hill Frontage Road and on Ulm-Vaughn Frontage Road, increasing heavy truck use in this corridor.

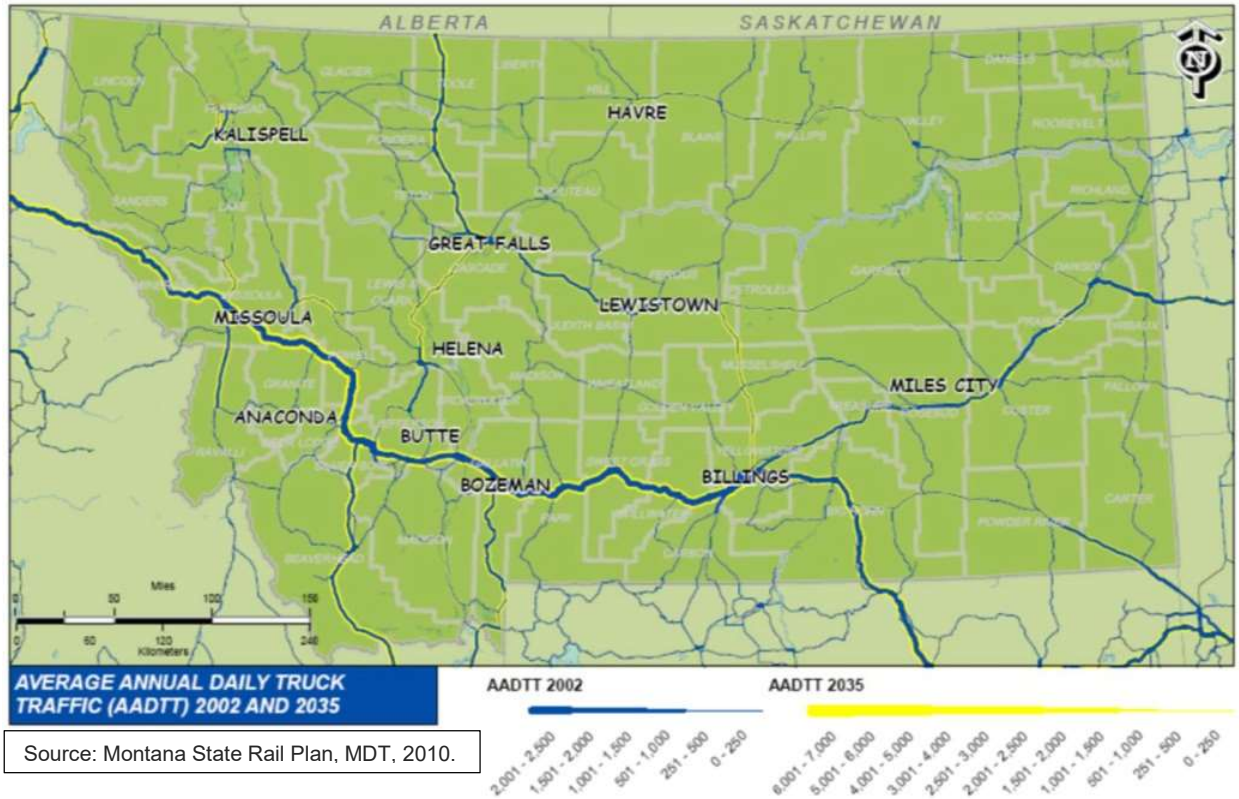


Figure 2.7: Average Annual Daily Truck Traffic (2002 and 2035)

2.4. CONCLUSION

The Great Falls Area is expected to experience an increase in goods movement as the population and employment grows across the region and the state. A strong goods movement system can facilitate and enhance economic growth by providing low cost, efficient transportation options that also protect the quality of life that is crucial to the region. A more efficient, more accessible freight network can encourage and support the economic growth that the region projects.

Important issues to address in long range planning emerge from this assessment of the goods movement transportation system, including reducing traffic congestion, preserving quality of life, balancing land uses, and creating a safe multimodal transportation network.

- **Reducing traffic congestion.** Trucks make up a relatively small share of overall traffic in the Great Falls Area. However, trucks contend with – and contribute to – traffic congestion. Transportation modeling results indicate that traffic will become severely congested on currently congested routes, and become congested on routes that are nearing congested today. Congested roadway routes will hamper economic growth by reducing efficiency of goods movement. Less efficient goods movement can result in higher prices for local goods, which reduces the economic competitiveness of the region, deters future businesses relocations in the region, and increases out-of-pocket costs for residents.

- **Preserving quality of life.** Quality of life issues related to goods movement include vehicle and loading noise, air quality, and traffic safety. Goods movement directly affects these issues due to interactions with land uses, and interactions with other users of the transportation system. It is essential for trucks to access local markets by using local streets, while through-bound truck traffic is required to use official truck routes. Unfortunately, the volume of truck traffic on local streets is negatively affecting quality of life, as reported by residents and officials in previous regional plans.
- **Balancing land use.** The City of Great Falls, Cascade County, and regional economic development organizations are advocating for continued growth in the regional economy by attracting commercial businesses, industrial businesses, and residents. As the region grows, conflicts may arise between incompatible land uses. In addition, conflict may arise between users of the transportation system. 10th Avenue South is an official truck route along a busy commercial district, with nearby access to Benefis Hospital and the University of Great Falls. The area may need to mitigate transportation congestion and safety on the corridor. Adequate planning can facilitate growth that preserves quality of life while allowing local businesses and industries the ability to efficiently move goods into and out of the region.
- **Providing convenient truck and rail access to heavy industry.** Approximately 21% of jobs in the City of Great Falls are associated with heavy industry. Continued growth is expected in these sectors, which include agriculture and oil and gas extraction and refining. These industries are dependent upon the movement of goods such as extraction materials and equipment, grains, aerospace, and wind energy equipment. Accessibility to the Interstate and rail systems is critical for these industries and their daily processes. The City of Great Falls and surrounding region can help support the growth of these industries by providing efficient truck routes and easy access to the Interstate and freight rail systems.
- **Creating a safe multimodal transportation network.** The Great Falls Area has a well-maintained transportation network that serves personal vehicles, trucks, public transit, pedestrians, and cyclists. Preserving multimodal access will be important as demands for transportation, and in particular goods movement, grow. The region should be particularly mindful of balancing transportation needs in downtown areas where major motorized transportation routes intersect with people walking to school, riding bikes, or accessing public transit.

3.0 TRANSPORTATION SECURITY

The Great Falls Area is exposed to many hazards, all of which have the potential to disrupt the community and cause damage. Hazards include a range of human and environmental incidents or events with varying probabilities of occurring and severity of effects. Hazards may threaten the security of the regional transportation system. The transportation system is also a valuable asset in mitigating and responding to emergencies.

The Department of Transportation defines security as the “...freedom from intentional harm and tampering that affects both motorized and non-motorized travelers, and may also include natural disasters.”¹² Federal, state, and local agencies, and their private partners work together to create plans and policies to maintain a secure regional transportation system. These organizations coordinate to ensure that the transportation system is available as a resource to respond to emergencies in the region.

¹² <http://www.planning.dot.gov/documents/BriefingBook/BBook.htm#13BB>

The following sections describe the security issues relevant to the Great Falls Area transportation system, and how the LRTP helps preserve and enhance transportation security.

This section answers the following questions:

- What plans and policies are in place to guide the Great Falls Area in the event of an attack, emergency, or natural disaster?
- Who is responsible for the transportation system security and what are their roles and responsibilities?
- How does the LRTP support a secure transportation system for the community?
- What barriers to a secure transportation system exist, and what general strategies could be used to enhance the community’s general emergency preparedness?

Consultations with emergency planning staff at the City of Great Falls, Cascade County, and Malmstrom AFB were held in October 2013 in preparation of the 2014 LRTP. Those consultations guided and augmented the information available from public documents. The information is updated for the 2018 LRTP where new documents are available. Contact information for the various emergency managers who serve the Great Falls Area is provided in **Table 3.1**.

Table 3.1: Security Consultation Contact Information

Name	Job Title	Organization	Phone or Email
John Stevens	Emergency Manager	Cascade County Disaster and Emergency Services	406-454-6900 jstevens@cascadecountymt.gov
Dave Nordel	Emergency Manager	City of Great Falls	406-455-8579
Brian Wilkinson	Emergency Manager	Malmstrom AFB	406-731-6695

3.1. PLANS AND POLICIES

Montana’s political subdivisions have the primary responsibility for emergency operations and manage all available resources to save lives and minimize property damage. Local plans and policies¹³ are critical to informing this responsibility. Security and emergency plans guide government and private organizations to ensure efforts are coordinated and comprehensive. A range of different types of plans address different levels of the transportation system in the Great Falls Area and are presented in **Table 3.2**. The plans are organized alphabetically by agency type (federal, state, local). Some plans, such as the Fixing America’s Surface Transportation (FAST) Act, identify available security resources and mandate actions required by state and local government agencies. Others, such as the Cascade County Pre-Disaster Management (PDM) Plan outline planning and response procedures for local organizations.

Table 3.2: Plans, Policies and Guidelines for Transportation Security

Document (Year written)	Agency Type (Name)	Description and provisions
Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (2005)	Federal	Prior federal surface transportation funding authorization. Emphasized transportation system security by creating security planning factor. Also mandated that states address security in long-range transportation plans.

¹³ Policies generally provide guidance to organizations preparing emergency and security plans. Plans generally define specific procedures and areas of authority. Plans and policies are referred to as “plans” in the remainder of this memo for convenience.

Document (Year written)	Agency Type (Name)	Description and provisions
TranPlan 21 (2002, amended in 2007)	State (MDT)	Montana’s long-range transportation plan was amended in 2007 after SAFETEA-LU was passed. Key changes included creating security section, and adding security-related goals, priorities, projects, and policies.
Implementing the Recommendations of the 9/11 Commission (IRC) Act of 2007¹	Federal	Identifies the Department of Homeland Security (DHS) as responsible agency for national rail security planning, hazardous materials, and information sharing.
Moving Ahead for Progress in the 21st Century (MAP-21) (2012)	Federal	Prior federal surface transportation funding authorization. Requires states to develop a risk-based asset management plan for the National Highway System to improve or preserve the condition of the assets and the performance of the system. ¹⁴ At least 1 percent of Section 5307 funding (Urbanized Area Formula Grants) must be used on security projects unless the recipient determines such expenditures are unnecessary. Establishes Public Transportation Emergency Relief Program that provides grants to fund capital projects and operating costs related to damage resulting from an emergency.
Fixing America’s Surface Transportation (FAST) Act (2015)	Federal	Federal surface transportation funding authorization. Requires strategies to reduce the vulnerability of existing transportation infrastructure to natural disasters. Continues MAP-21 Emergency Relief Program which provides funds for emergency repairs for road damage that occurs as a result of natural disasters.
TranPlanMT (2017)	State (MDT)	Montana’s current long-range transportation plan which reflects the provisions of the FAST Act. Includes discussion of efforts used to quickly and effectively respond to disasters.
National Response Framework (NRF)¹⁵	Federal	Provides guidelines to state and local governments to create security and emergency management plans. Guided by the National Preparedness Goal: “A secure and resilient nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk.”
Montana Emergency Response Framework (2012)	State (Montana Disaster and Emergency Services)	Identifies state’s roles and actions in the event of an emergency and coordinates all other emergency operations plans in Montana. Emergency Support Function – Transportation explains the role of MDT in the event of an emergency. One key action is to request support from other agencies including local agencies such as Cascade County Disaster and Emergency Services.
Cascade County Pre-Disaster Mitigation Plan (2011)	Local (Cascade County Disaster and Emergency Services)	Provides hazards analysis of the County as well as “annexes” for specific event types such as mass casualties and other events. The plan addresses security in the cities of Great Falls, Belt, Cascade, and Neihart as well as all unincorporated parts of the county.

¹⁴ 23 U.S.C. 119(e)(1), MAP-21 § 1106.

¹⁵ Federal Emergency Management Agency. Accessed January 2018 at <http://www.fema.gov/national-planning-frameworks>.

The *Cascade County PDM Plan* is the security plan for the Great Falls Area. The plan applies to and incorporates security activities from all jurisdictions in Cascade County, including Great Falls, Belt, Cascade, and Neihart. The PDM Plan integrates with plans from federal and state levels of government, including the *Cascade County Emergency Operations Plan*. It identifies agencies and staff that have authority to manage security activities, and outlines procedures for implementing the activities. The PDM Plan is designed to address six hazard mitigation objectives, including:

1. Prevention;
2. Property Protection;
3. Public Education and Awareness;
4. Natural Resource Protection;
5. Structural Projects; and
6. Emergency Services.

The PDM identifies 15 potential hazards facing Cascade County and the municipalities. The County identified the hazards based historic events, available GIS data, public input, expert opinions, and past disaster declarations. **Table 3.3** presents the hazards, including their probability of occurrence, other related hazards, and a description of the primary risk factors. Two hazards stem directly from the transportation system, including hazardous material incidents and transportation accidents. The transportation system is also critical to facilitating response efforts of nearly every identified hazard.

The LRTP considers these hazards in planning for transportation projects and programs, to ensure that local agencies have the capability to maintain transportation security and respond to potential events. The Cascade County Local Emergency Planning Committee periodically reviews the PDM Plan, and holds annual hearings to consider updates.

Table 3.3: Potential Hazards

Hazard	Occurrence Probability	Magnitude and/or Severity	Warning Time	Duration
Communicable Disease/Pandemic	Highly Likely	Catastrophic	12-24 hours	> 1 week
Wildfires	Highly Likely	Critical	< 6 hours	< 1 week
Structure Fire	Highly Likely	Critical	< 6 hours	< 6 hours
Severe Summer Weather (Thunderstorms, Wind, Hail, Tornadoes, Microbursts)	Highly Likely	Limited	< 6 hours	< 6 hours
Hazardous Material Incidents	Likely	Critical	< 6 hours	< 24 hours
Transportation Accidents (air, land, rail)	Likely	Critical	< 6 hours	< 6 hours
Severe Winter Weather	Highly Likely	Limited	> 24 hours	< 1 week
Flooding/Flash Flooding/Levee Failure	Likely	Limited	> 24 hours	> 1 week
Drought	Likely	Limited	> 24 hours	> 1 week
Volcanic Ash	Possible	Catastrophic	12-24 hours	> 1 week
Dam Failure	Possible	Catastrophic	> 24 hours	< 1 week
Landslides/Mudslides	Possible	Limited	< 6 hours	< 6 hours
Terrorism/Violence	Possible	Limited	< 6 hours	< 6 hours
Earthquake	Possible	Negligible	< 6 hours	< 24 hours

Source: *Cascade County Pre-Disaster Management Plan, Cascade County, 2011.*

3.2. TRANSPORTATION SECURITY ROLES

The Great Falls Areas’ transportation infrastructure is owned and operated by different public agencies and private organizations. These agencies and organizations coordinate with representatives of federal, state and local governments, neighboring owners/operators, and the surrounding community. Interstate 15, for example, is overseen by MDT, and passes through the City of Great Falls, affecting local traffic, quality of life, and is a key access route for personal travel, freight and emergency services. Likewise, Great Falls International Airport operates commercial flights and carries air freight and is therefore subject to federal security regulations.

Table 3.4 summarizes the agencies that play a role in ensuring a secure transportation system in the Great Falls Area. The table is organized alphabetically within the level of government. Each organization is described by its type (federal, state, or local), its main security role or level of authority, key security-related programs or departments, and the transportation modes addressed.

Table 3.4: Transportation Agencies and Security-Related Roles

Organization or Agency	Type	Security Role or Authority	Key Programs, Departments	Transportation Modes
Customs and Border Protection (CBP)	Federal	Detect, apprehend, and deter terrorists and weapons from crossing international borders. Prevent and detect smuggling across international borders. Department under the U.S. DHS.	Customs and Trade Security	<ul style="list-style-type: none"> • Air passenger • Freight (air, truck, rail) • Passenger Rail • Highways • Transit • Marine
Federal Emergency Management Agency (FEMA)	Federal	Provide support to first responders and citizens in preparation for and response to all hazards. Assist government agencies (local, state, tribal, etc.) and private sector in managing transportation systems during threats (ESF #1). Department under the U.S. DHS.	Emergency Support Function #1 (ESF #1)-Transportation	All modes
Federal Motor Carrier Safety Administration (FMCSA)	Federal	Regulates United States trucking industry. Enhance safety of truck drivers and commercial motor vehicles.	N/A	Truck Freight
Federal Railroad Administration	Federal	Regulates railroad safety. Promotes compliance in hazardous materials among other areas. Investigates accidents. Develops and implements safety standards. Conducts railroad safety and customer training.	N/A	
Transportation Security Administration (TSA)	Federal	Responsible for security of U.S. transportation systems. Focus on airport security, but also plays many other roles. Conducts nationwide risk assessment of a terrorist attack on the freight railroad system. ¹⁶ Included in DHS.	HAZMAT Endorsement, Threat Assessment Program. Air Cargo Screening, Federal Air Marshal training and employment	<ul style="list-style-type: none"> • Air passenger • Freight (air, truck, rail) • Passenger Rail • Highways • Transit • Marine
U.S. Coast Guard	Federal	Ensure security in inland waterways.		Marine
Montana Department of Disaster and Emergency Services (DES)	State	Coordinate emergency management plans and policies in Montana.		All modes

¹⁶ The IRC required that the TSA and other federal agencies conduct a risk assessment of a terrorist attack on railroad carriers and create a national strategy for railroad transportation security.

Organization or Agency	Type	Security Role or Authority	Key Programs, Departments	Transportation Modes
Montana Department of Transportation	State	Plan for and provide traveler safety on state transportation facilities.		<ul style="list-style-type: none"> • Highways • Passenger Rail • General Aviation
Cascade County Disaster and Emergency Services	Local	Plan for natural disasters and other emergencies. Coordinate with cities within Cascade County.	Office of Emergency Manager	All modes
City of Great Falls	Local	Coordinate with State of Montana, Cascade County, city residents and other stakeholders to prepare for and respond to emergencies.	Mayor's Office; Office of Emergency Management Planner	All modes

Source: Websites and other public documents, accessed September 2013. Information was supplemented through consultation with staff presented in Table 3.1.

The PDM Plan identifies responsibilities for agencies and officials at Cascade County, and departments or officials in the cities of Great Falls, Belt, Cascade, and Neihart. It identifies local support organizations relevant to transportation security in the event of an emergency. For example, the Public Works departments have specific roles related to regional transportation security. Key transportation responsibilities identified in the PDM Plan include:

- Public Works
 - Identify locations where culverts are needed and install/resize as needed.
 - Consider enhanced snow removal services to support public safety and infrastructure protection.
 - Work with railroads to increase number of crossing gates.
 - Work with utility companies to bury power lines where interruption of service is frequent.

3.3. COORDINATION

Cascade County and local jurisdictions periodically review emergency and security planning to share local knowledge, update hazard assessments and enhance interagency coordination. In the Great Falls Area, Cascade County and the local jurisdictions jointly plan for and closely coordinate on regional security issues. The Cascade County Emergency Manager works closely with the City of Great Falls Emergency Management Planner. FEMA funds support emergency planning activities in the Great Falls Area.

Malmstrom AFB regularly transports goods using local roads and the Great Falls International Airport. Therefore, regional transportation security is critical to its mission. Malmstrom AFB and the Montana Air National Guard representatives coordinate security planning and response with local governments. Malmstrom AFB assists local governments with security planning and response as needed.

Coordination activities between regional agencies have resulted in, and are guided by, formal agreements to support security-related planning. Table 3.5 presents these agreements, organized by the agreement type, the jurisdictions involved, and a brief description of the agreement.

Table 3.5: Security-Related Agreements

Agreement Type	Jurisdictions Involved	Description
Formal Agreement	City of Great Falls, Malmstrom AFB	Standing mutual aid agreement to help one another in the event of fire or incidents involving hazardous materials.
Formal Agreement	City of Great Falls Fire Department leads the team; Malmstrom AFB contributes labor and capabilities	Great Falls Regional HazMat Team – Codified in state law; team provides help in form of phone consultation and outreach, dispatch of partial or entire team, public outreach events including HazMat training classes or exercises.
Informal Agreement	City of Great Falls Police Department and Malmstrom AFB	Extreme weather events – In the event of flooding, high winds, severe winter events, or other natural disasters, these two entities agree to assist the other as needed.

Source: Malmstrom AFB, 2013.

3.4. BARRIERS

The Great Falls Area has an extensive transportation network. This network is strengthened by various infrastructure components that support the basic operation of the transportation system. For the purposes of the LRTP update process, stakeholders and the public were asked during various outreach activities to provide input as to what they perceived were the critical infrastructure and key resources essential to emergency preparedness and overall quality of life of the area's citizens and to its economic vitality. The key components identified during the LRTP outreach process include the following assets:

- Interstate Systems (I-15, I-315)
- U.S. Highways (e.g. U.S. 87, U.S. 89)
- Bridges (10th Ave S, Central Ave W, 10th St N, 15th St N)
- Principal Arterial Roadways (10th Ave S, 3rd St NW, NW Bypass, 14th / 15th St Couplet, 9th St, 57th St, River Dr N)
- Malmstrom Air Force Base
- Great Falls International Airport
- Freight Activity Centers
- Rail Networks
- Pipeline Network
- Great Falls Transit System

Of the assets presented, perhaps most striking is the presence of four bridges crossing the Missouri River. These bridges may act as pinch-points during times of emergency response. Depending on the type and location of an event, routing from one bridge to another may delay emergency response and provide excessive delay. Low lying roadways within or adjacent to the Missouri River floodplain may also present various concerns.

3.5. GENERAL STRATEGIES TO ENHANCE SECURITY

As agencies charged with security develop new and expand existing emergency response plans, and as surface transportation system operators begin to look at security, the following recommendations should be considered:

- Large scale events should have evacuation plans. Inclusion of such plans should be encouraged in such event planning, with the following considerations:
 - coordinated signals during the evacuation.

- identified evacuation routes away from “high-risk areas” or key transportation facilities. Examples may include the petroleum refinery, major bridges, rivers, Malmstrom Air Force Base, Great Falls International Airport and Air National Guard, etc.
- Detour plans and other alternate routes should also be generally identified.
- Long-term detours in the event of a major failure (i.e., bridge collapse) or catastrophic event (i.e., destructive flood) should also be identified.
- Coordination with Cascade County for those areas surrounding the City Limits. Such areas could include the west side near the Sun River; Fox Farm Road area south of the City; Gibson Flats; Black Eagle; County lands between the City and Malmstrom Air Force Base; etc.)
- As owners of the local transportation system (such as BNSF Railroad, MDT, City of Great Falls and Cascade County) identify specific structures, facilities or other elements of the transportation system that are at high risk of attack, steps should be taken in a timely manner to make them secure.
- Any security measures contemplated for implementation should take into full account the privacy of the transportation user and make every attempt to preserve their privacy, while still providing a safe, secure transportation system.

The above recommendations should be forwarded to the appropriate implementing agencies for consideration.

3.6. CONCLUSION

Coordination between the City of Great Falls, Cascade County, local partners, and federal and state agencies is critical to maintain transportation system security. Coordination is also important to ensure the regional transportation system supports emergency planning for a range of potential hazards.

The Great Falls Area LRTP incorporates information from security plans – in particular the PDM Plan – and contributes to security planning by comprehensively assessing the regional transportation system. Specific elements of transportation planning that contribute to transportation security include:

- Coordinate with Cascade County and local partners to inform and update the PDM Plan through activities such as data sharing and asset inventory.
- Inventory of the Area’s major transportation assets and potential hazards. This includes bridges, roadways, Great Falls International Airport, freight rail, public transportation vehicles and routes, and pedestrian facilities.
- Coordinate with the Great Falls Transit Agency to manage public transportation assets.
- Assess improvements needed and identify resources to maintain critical transportation assets.
- Designate goods movement routes, particularly routes for hazardous materials transport.