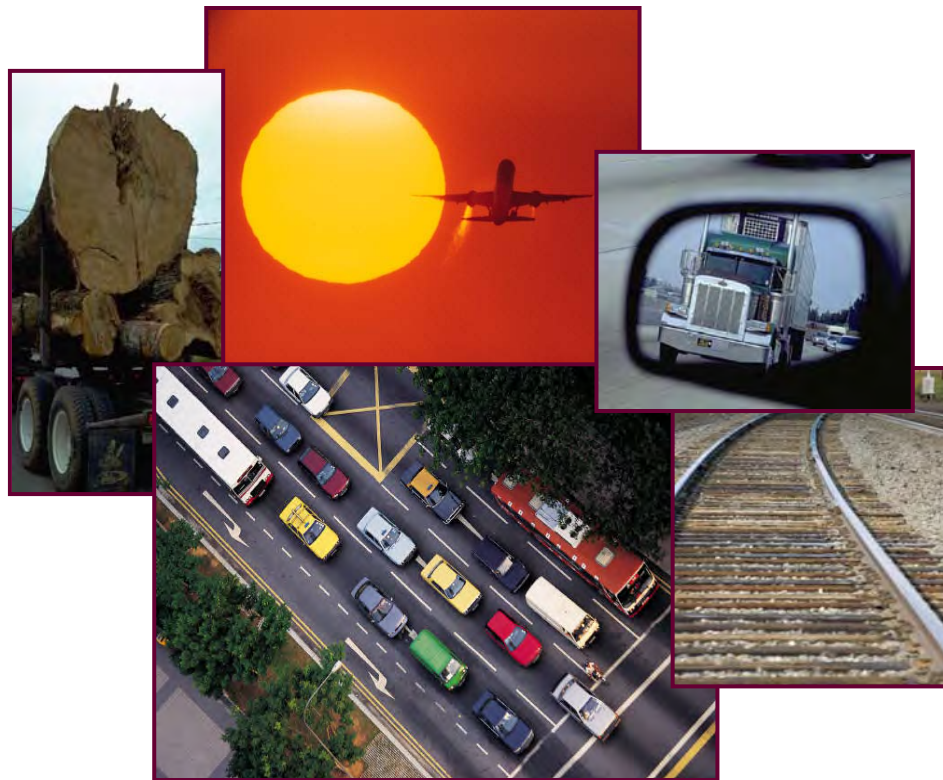




***Rogue Valley
Metropolitan Planning Organization***

Freight Study Report



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Freight Study

Rogue Valley Metropolitan Planning Organization

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RVMPO Freight Study

Introduction and Recommendations

About the Study and Report

In 2006, the Rogue Valley Metropolitan Planning Organization published a freight study that compiled four years of study by the Rogue Valley Metropolitan Planning Organization about freight movement in the region. All modes of freight travel are identified, their relationship to the industry and to one another explored, and recommendations for improvements defined and evaluated. This update builds on the earlier study and provides newer information where it is available, but many of the statewide studies have not been updated since 2006. The Oregon Transportation Commission adopted the Oregon Freight Plan on June 15, 2011. The Oregon Freight Plan is now an element of the Oregon Transportation Plan.

Throughout the study, RVMPO/RVCOG staff drew guidance from a Freight Advisory Committee made up of representatives of the region's freight industry. Industry representatives also contributed by participating in surveys and interviews, which have been integral to the study. Local and state planners and engineers whose work touches various aspects of the freight industry also were important contributors. Additionally, studies produced by ODOT staff and consultants have been gleaned for statistics, data and forecasts that pertain to the RVMPO region.

This report begins with a profile of the freight industry in the RVMPO area, which established the foundation for later work and transportation planning decisions regarding freight movement. From there, the report's Commodity Flow chapter closely examines the goods that move through the region – what they are, their value and purpose; origins and destinations; and mode of travel. The Strengths and Weakness chapter examines the facilities used by the industry and identifies improvements that might be made. Details about the various kinds of transportation used – how, why and ways these modes might be better used – are contained in the Modal Features chapter.

Appendices contain maps and sources for further research.

Recommendations to Decision Makers

Roughly 40 million tons of freight, valued at over \$50 billion, move in, out, within or through the Medford-Ashland metropolitan area annually. In terms of both weight (99 percent) and value (98 percent), trucks moved most freight. Major commodities moved

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in terms of weight included lumber and wood products, food and kindred products, and in terms of value were transportation and electrical equipment and machinery. The reliance on trucking is borne out in state vehicle classification count data. ~~Nearly half (40-50 percent)~~ **Approximately one-eighth** of the traffic in the Medford section of Interstate 5 is truck traffic. ~~The only area in the state where trucks have an equally large share of the traffic volume is on Interstate 84 in northern and eastern Oregon, where other motor vehicle traffic is far lower.~~ Statewide, truck traffic volume is expected to **double between 2006 and 2026**. The growing demand underscores the need for additional use of rail and greater efficiencies in the highway system.

As industry needs were identified and evaluated, the Freight Advisory Committee and RVMPO Technical Advisory Committee developed a priority ranking of freight improvement projects. The criteria identified by the committees can be used to weigh future investments in freight infrastructure. The criteria, in the order of their significance:

- Assign higher priority to projects on routes that are important to freight mobility. Because the ~~freight~~ routes will accommodate the majority of freight trips, the most efficient expenditure of funds will usually be on established routes. Projects on other routes may be considered if they can be shown to directly support freight mobility.

Note that while this report uses the term “freight route” to identify roads that accommodate higher volumes of freight transport, the only officially designated routes are those on the National Highway System (NHS), identified as part of the interstate system, other NHS routes, and Intermodal Connectors. These include

- Interstate 5
- Highway 140
- Highway 62 between I-5 and Highway 140
 - Pine Street, east of I-5, Biddle Road, and Airport Road, providing an intermodal connection to Rogue Valley International – Medford Airport

All other mapped freight routes are important corridors for transporting freight, but the designation does not require different design standards to accommodate freight. The designation is useful, however, during road project planning, elevating consideration of the effect that a particular project will have on freight transport.

- Select projects serving commercial, industrial, or resource extraction land, where an inadequate transportation network impedes freight-generating development. For example, White City has significant areas that are not yet developed, some of which will be limited by environmental issues.

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Areas near the airport are vacant and available for industrial use, limited at this time by access.

- Assign higher priority to projects that would support multimodal freight transportation movement. A single project, such as an intersection improvement, may improve the geometrics for turning movements at the specific intersection, but may also provide better access to the airport or to rail, increasing connections with other travel modes.
- Assign higher priority to projects that would remove identified barriers to the safe, reliable, and efficient movement of goods.

Discussion of how these criteria were applied and the resulting list of projects appear in the Modal Features chapter, in the trucking section. Additional findings, conclusions and recommendations appear at the end of each chapter.

Freight Industry Profile

Freight transportation in the Rogue Valley is a component of the broader regional, state, national, and international system. The focus of the Rogue Valley Freight study is the Rogue Valley Metropolitan Planning Organization area, which covers urbanized Jackson County from Ashland at the south to Eagle Point at the north to Jacksonville at the west. This profile provides an assessment of current freight practices in the Rogue Valley. More detailed information is set out by mode in the Modal Features chapter. The inventory includes an overview of how the current and future local and regional freight systems are part of the larger statewide, national, and international freight/transportation system.

Rogue Valley Council of Governments prepared maps showing facilities that compose the local freight transportation system. Four modes were identified: roads, rail, air, and pipelines. Maps also show the locations of trucking companies and major freight generators and receivers, defined here as firms having 100 or more employees. Areas with significant commercial and manufacturing enterprises are generally near the freeway interchanges, along the Highway 99 and Highway 62 corridors, and in White City, the latter having the greatest concentration of industrial zoning in the study area.

Mode Choices

Several factors relating to the cargo and the distance to be hauled influence choices for freight movement, as shown on the following table.

Cargo, distance and mode choice relationship

Mode	Cargo Value	Cargo Volume	Distance
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Air	High	Small. Often <100 lbs.	Average >1,300 miles
Truck	Moderate to high	Loads < 50,000 lbs	100-400 miles
Rail	Moderate to low	Heavy, but limited by capacity considerations	670-800 miles. (Less for short lines)

Aspects of a shipment – distance and value – influence the haul mode.

Like other regions, trucks are the dominant freight hauler. The Medford area includes 54 companies that are directly involved in trucking, as either brokers or carriers. Oregon Employment Department data for 2010 identified 2,660 people in the Medford-Ashland Metropolitan Statistical Area (MSA) employed in transportation, an increase of 350 (nearly 16 percent) since 1990. During the same period, manufacturing jobs in general have risen slightly from 8,920 to 8,990, a drop of approximately 2.6 percent. The lumber and wood products industry alone lost 1,830 jobs during this period. By contrast, non-manufacturing jobs jumped from 45,920 to 65,950, an increase of 43.7 percent. The Employment Department projected an 11.2 percent increase in Transportation, Communications and Utilities jobs between 1998 and 2008.

In 1999, the Oregon Department of Transportation (ODOT) published a document titled “Freight Moves the Oregon Economy.” The report describes the various modes of freight transportation and summarizes their relative importance to the state, nation, and world. The report notes that each 100 jobs in Oregon’s transportation-dependent sectors generate 85 to 154 additional jobs. Transportation-related sectors include manufacturing, transportation, communication, public utilities, and wholesale trade. The Oregon Employment Department figures for 2011 show a total of 13,830 (19.4 percent) employed in these sectors. Using the multiplier listed previously, the 13,830 jobs translate to a range of 11,755 to nearly 21,298 additional jobs in Jackson County.

Bear Creek Corporation (Harry and David), Boise Cascade, Medford Fabrication, Sabroso, and Naumes are among the largest shippers in the study area. Harry and David sends specialty food products worldwide. Sabroso and Naumes distribute fruit, primarily pears, nationwide. Sabroso also trucks ocean containers of fruit pulp to Oakland or Portland, where much of the product is sent to Australia. Boise Cascade continues to be a large manufacturer of forest products, and Medford Fabrication specializes in steel manufacturing. Alstom T&D, Inc. is an example of a firm that receives ceramics from Poland, which are sent overland to Portland by train, and then transferred to trucks for the trip to Medford. Other materials shipped to Alstom are core steel, radiators, mineral oil, copper and aluminum conductors, and mild steel. Trucks ship the finished products, three types of transformers, from White City to other connections. Three-quarters of the shipments are to the east, using Highway 140.

Carestream Health Inc. in White City manufactures health imaging products. Their product is marketed worldwide, being first trucked to Portland, where it is put on the train to New Jersey and then flown to France, or trucked to Tacoma, where it is transported to Japan and China by ship. Overnight letters and small machine parts are sent by FedEx.

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Introduction and Recommendations

The largest carriers include Combined Transport, Oak Harbor Freight, USF Reddaway, Cross Creek Trading Company, Oldland, Timber Products Trucking, Plunk Transport, Yellow Freight, Knife River, FV Martin, Rogue Aggregates, and Assurance Trucking. Several of these carriers use their location to reduce the size of southbound rigs from three trailers to two before crossing into California, where laws prohibit triple-trailer rigs. Trucking companies add a third trailer in Medford for northbound transport through Oregon.

Oregon ranked 9th nationally and 4th in the western U.S. in value of exports per person in 2001. Significant growth in high technology equipment offset declines in crops and food products and forestry and paper products. Japan, Canada, South Korea, and the Philippines were Oregon's major trading partners in 2001. By 2010, the chief importers to Oregon were Japan, Canada, China, and South Korea, but the value of imports dropped 10.5 percent between 2008 and 2010. Leading recipients of exports from Oregon were China, Malaysia, Canada, and Japan, with the value climbing 13.4 percent in the same period.

Commodity Flow Analysis

The following commodity flow analysis has changed little from the 2006 study. This study remains the most recent comprehensive evaluation, although the ODOT Freight Division published a commodity flow forecast in 2009.

Introduction

The transportation network of the Rogue Valley includes major national and state highways, an international airport and short rail service. These networks serve the region's and the state's growing economy by efficiently moving all manner of freight in, out, through and within the region. An understanding of which specific commodities travel the region's transportation network and by what mode is vital to any transportation planning effort. For instance, information regarding commodity types and tonnages helps to identify current and potential maintenance needs of transportation networks. Identifying regional commodity movements highlights the importance transportation networks play in the development of the regional economy, as well as points to the role the Rogue Valley MPO area serves in the larger state transportation system.

To provide transportation planning organizations with much-needed detailed commodity flow information, the Oregon Department of Transportation contracted with Cambridge Systematics, a transportation planning consulting firm, to develop commodity flow estimates and forecasts. Their final report *Oregon Commodity Flows Database* lists 1997 estimates and forecasts for commodities by 2-digit level STCC (Standard Transportation Commodity Classification) by transportation mode for the state, metropolitan areas, ACT areas, and selected counties. In addition to geographic detail, the study reports tonnage and value by mode and movement (in, out, through and internal to a given geographical area).

This section analyzes the *Oregon Commodity Flows Database* by mode, by commodity type, and by movement (through, inbound, outbound, and internal) then compares key findings of the Rogue Valley MPO area with those of other metropolitan areas outside of the Portland area. Commodity flows are measured by tonnage and value. Tonnage is a proxy for physical volume which provides a sense of the demands on and needs of existing transportation networks. Commodity value, on the other hand, describes how commodities fit into the trade balance of the region. For instance, the Rogue Valley MPO area is a net exporter by weight, but a net importer by value of commodities.

RVMPO Freight Study

Commodity Flow Analysis

Otherwise stated, overall, the region trades resource-rich, primary goods, for relatively highly-processed, higher-value goods.

Key Findings

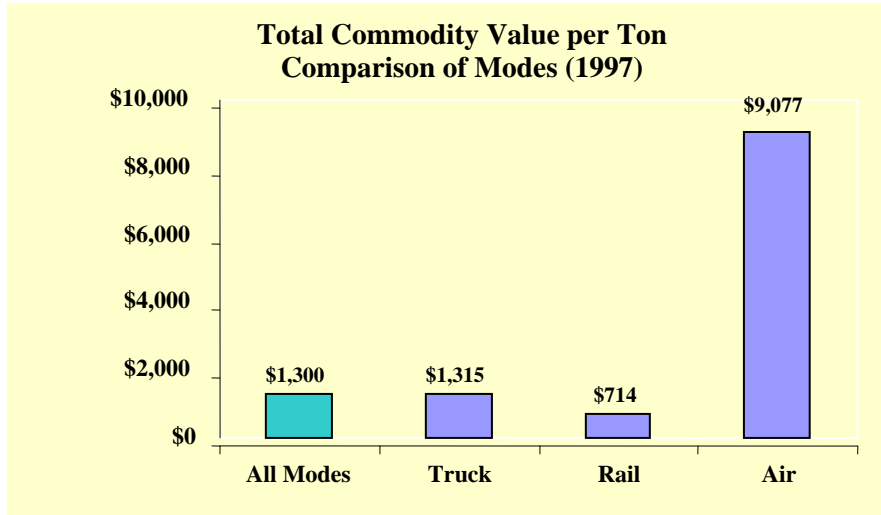
In 1997, nearly 40 million tons of freight, valued at over \$50 billion, was moved in, out, within or through the Rogue Valley metropolitan area. In terms of both tonnage and value, most freight was moved by trucks, 99 percent and 98 percent, respectively. In terms of weight, major commodities moved included lumber and wood products, food and kindred products. In terms of value, the top commodities were transportation and electrical equipment, and machinery. Other key points regarding commodity flow include:

- This MPO has a much higher value per ton of freight than other areas of Oregon.
- Not surprisingly, air freight values per ton are much higher than for highway, and rail is lowest of all.
- Through freight is almost half the tonnage, meaning that 50 percent of the truck impact on I-5 is due to haulage that has no relationship to our economy (except for refueling, driver motel and meal stops, and 2-3 switchovers).
- We ship more tonnage out than in, largely timber products.
- Internal volumes are on a par with other regions.
- Growth in truck traffic is 20 percent over last seven years.
- Internal freight traffic is strongly dominated by the category “non-metallic minerals” e.g. rock, aggregate, and gravel.

Overall Totals

Cambridge Systematics estimates that 38.8 million tons of freight, valued at \$50.42 billion moved through, in, out, or within the Rogue Valley metropolitan area in 1997. Trucking was the prevailing mode of moving freight, which moved 98 percent of all freight tonnage and 99 percent of freight values. One-half of freight tonnage was shipped through the region. Looking at the regional “trade balance” of only in- and out-bound freight, nearly 60 percent of freight tonnage was shipped out of the region, accounting for 40 percent of freight value. Dominant commodities by weight were lumber, wood, food and kindred products, and by value were transportation and electrical equipment, and machinery. Overall, the value of transported freight was \$1,300 per ton, but value-by-ton rates varied considerably by mode. Air freight was characterized by high-value, low-weight commodities whose value per ton was seven times the overall rate. On the other hand, bulky, high-weight, low-value goods were most efficiently transported by rail; the value per ton of rail freight was only 55 percent of the overall freight rate.

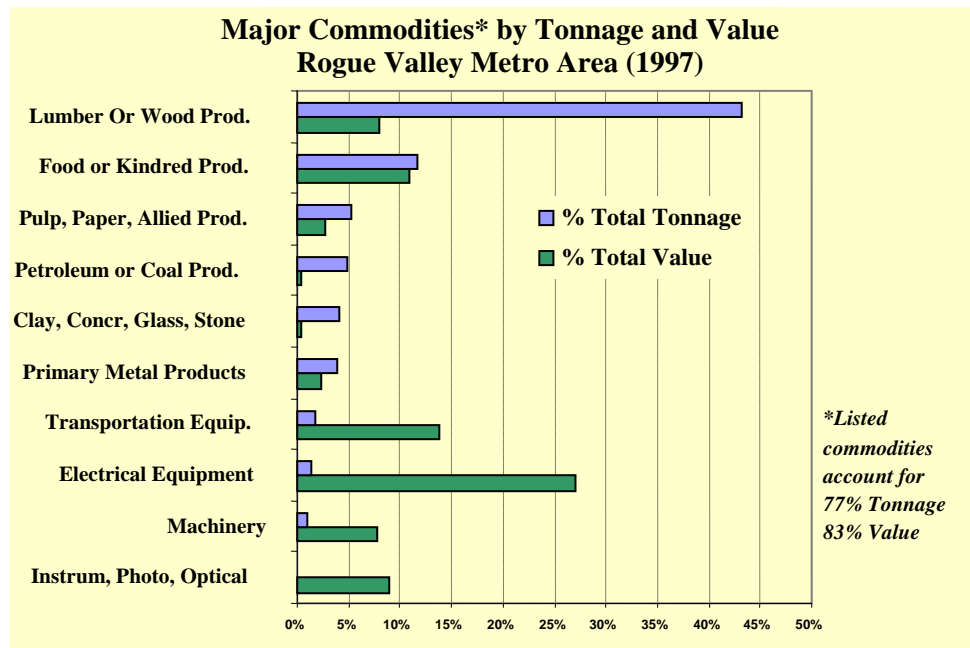
Commodity Flow Analysis



Key Commodities

While thirty-two 2-digit commodities were estimated for 1997, seven commodity groups dominated trucked freight. By weight, lumber and wood products made up 44 percent of freight tonnage and the products were transported in, out and through the region (23 percent, 40 percent and 36 percent, respectively). Food and kindred products accounted for 12 percent of trucked freight, most of it moving through the area (72 percent). In terms of major commodities by value, machinery, electrical and transportation equipment totaled nearly one-half all the value of freight (49 percent), and depending on the commodity, 60-75 percent was transported through the region.

Commodity Flow Analysis



Commodity Flows by Mode: Truck

Most freight, by both weight and value, is moved by truck, which in 1997 transported \$50 billion worth of cargo totaling 38 million tons through, in, out, and within the Rogue Valley MPO area. According the traffic volume counters on the Medford I-5 viaduct, an average of 6,242 trucks per day passed through the city in 1997, increasing to 6,792 per day in 2000, a 17 percent increase over three years. The number dropped to around 5,800 in 2010, reflecting the economic downturn.

Through Freight -- Trucks transported virtually all commodities by all measures of movement. Of all the movements of freight, commodities transported through the metropolitan area dominated. Nearly one-half of all tonnage (19 million tons) passed through the area on the region's major interstate highway. Lumber, wood, food or kindred products made up 31 percent of through freight by weight, with pulp, paper or allied products and petroleum or coal, primary metal and chemicals or allied products accounting for another 31 percent of through tonnage.

Totaling 70 percent of the value of all trucked freight (\$35 billion), commodities trucked through the region were relatively higher-valued than those that moved in, out or within the area. Electrical equipment, though only 2 percent of through tonnage, represented the largest commodity group in terms of value (25 percent). Another notable commodity group passing through the metropolitan area was the lower-valued food and kindred products group, reflecting 17 percent of through freight weight and 11 percent of its

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Commodity Flow Analysis

value. Instruments, transportation, photo and optical equipment totaled one-quarter of through freight commodity value, and only 3 percent of freight tonnage.

Reflecting the region's proximity to California, it is likely that the vast majority of the metropolitan area's through freight originates from or is destined to the golden state's markets. In fact, a 1998 Oregon Department of Transportation survey of long haul truckers (ODOT Planning Section, *Oregon Freight Truck Commodity Flows; Analysis and Summary*, 4/99) confirmed the importance of California-Oregon interstate trade. The study found that over one-third of the state's freight payload and value that was shipped to Oregon by truck from an out-of-state location was "imported" from California (p. 8), and that 12 percent of all payload weight and value trucked out-of-state was "exported" to California (p.10). Additionally, relatively lower truck backhaul rates out of Portland may favor trucking freight destined for the San Francisco Bay Area out of the Port of Portland rather than shipping to, then trucking goods from the Port of Los Angeles to the Bay Area (ICF Kaiser et al, *Commodity Flows Analysis for the Portland Metropolitan Area*, 4/99, p.22).

Inbound Freight -- The region's economy depends on the trucking transportation networks for moving goods in, out and within the region. Inbound freight supplies commodities to the local area for final uses to households or as intermediate inputs to industrial production that is either consumed in or exported from the region. Overall, the region received 6.7 million tons of inbound freight valued at \$8.7 billion, or 18 percent by weight and 17 percent by value of all trucked freight. Key commodity groups by freight tonnage were lumber, wood, food or kindred products, and clay, concrete, glass or stone, which comprised 77 percent of the weight of inbound trucked commodities and 24 percent of its value. Machinery, electrical and transportation equipment were higher-value, lower-weight goods, totaling 54 percent of inbound freight value and 4.3 percent of tonnage.

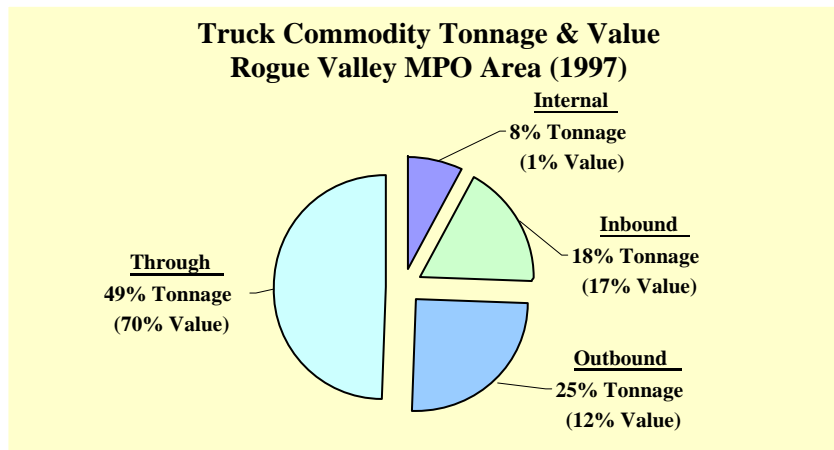
Outbound Freight – In terms of a regional trade balance, the metropolitan area was a net exporter by weight (9.3 million tons) and a net importer by commodity value (\$8.7 billion). Otherwise stated, the region exported relatively more higher-weight, lower-value goods than it imported. Lumber and wood products accounted for over 70 percent of outbound freight by weight and 26 percent of outbound by freight value. Non-metallic minerals were the only other major commodity group of note, representing 11 percent of inbound freight by weight and .1 percent of freight value. Higher-valued commodity groups, totaling half of outbound freight value and 3 percent of freight tonnage, included electrical, transportation, photo and optical equipment, and instruments.

Internal Freight -- Freight that originates from but has destinations to locations within a region is measured by internal freight movements. An example of an internal freight movement would be sand and gravel aggregate mined in western Jackson County then trucked and used for new sidewalks in Medford. Internal movements of freight accounted

RVMPO Freight Study

Commodity Flow Analysis

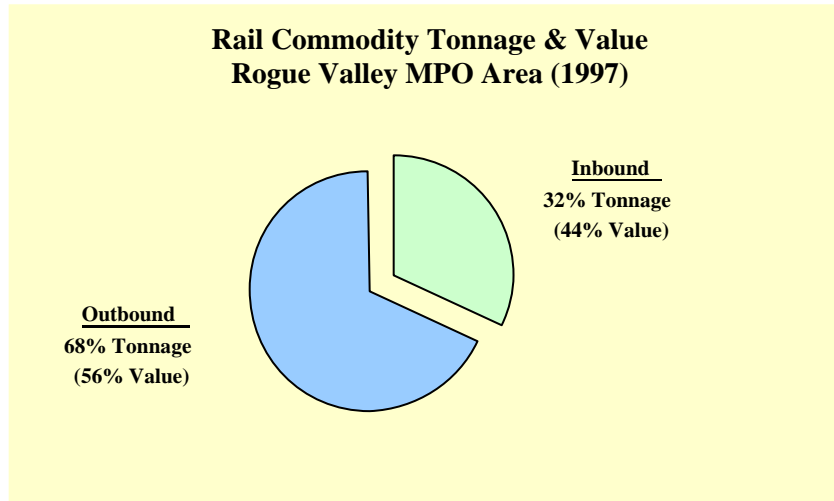
for 8 percent of total trucked freight by weight (3 million tons) and .7 percent of trucked freight value (\$.35 billion). Non-metallic minerals comprised the majority, 82 percent, of internally-trucked freight, and 6 percent of internally-trucked value. Lumber and wood products and waste or scrap materials were also major commodities moved within the region, both in terms of weight and value. Lumber and wood products accounted for 11 percent of freight weight and 22 percent of freight value while waste and scrap materials made up 6 percent of freight weight and 9 percent of freight value. Higher-value, lower-weight machinery and electrical and transportation equipment made up 53 percent of internally-trucked commodities and .3 percent of weight. Internal freight movement is characterized by the trucking of heavy materials, which puts heavy wear on local road surfaces, and points to the importance of planning for efficient, low-impact truck routes.



Commodity Flows by Mode: Rail

Though rail freight comprised .5 percent of freight tonnage and .3 percent of freight values, rail transport is the lowest-cost means of moving heavy and bulky materials. Rail is a vital transportation option for an economy which exports heavy, relatively low-value primary products. In the Rogue Valley MPO area rail moved 383,279 tons, valued at \$274 million. Nearly two-thirds of rail freight tonnage was outbound, and of relatively higher value: \$987 per ton versus \$585 per ton, out- and in-bound, respectively.

Commodity Flow Analysis



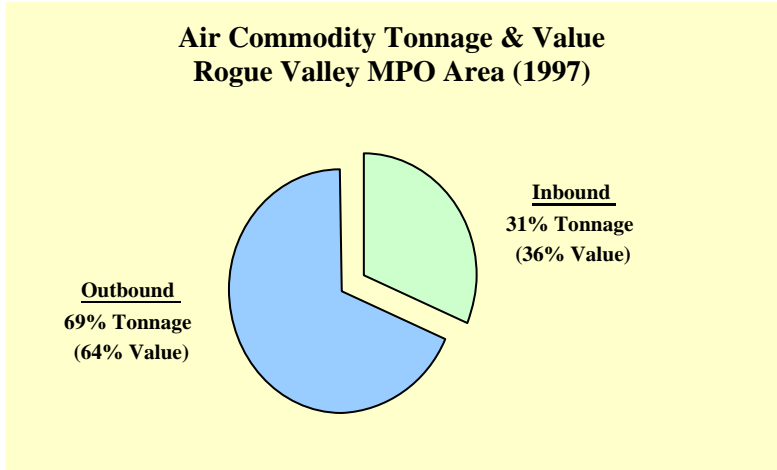
Four major commodity groups sum to 89 percent of total rail freight tonnage and 97 percent of value. The largest of these was the lumber and wood products group, accounting for two out of three tons of rail freight, and over 20 percent of its value. Virtually all lumber and wood products were transported by rail out of the area (93 percent). All chemicals or allied products were railed in, accounting for 16 percent of rail freight tonnage and a sizeable 32 percent of rail freight value. Shipped both into and out of the region, fabricated metal products made up 6 percent of rail freight tonnage and nearly one quarter of freight value. Transportation equipment, though bulky and relatively lightweight (.01 percent of rail tonnage), contributed 19 percent to the value of all rail freight. All was shipped out of the region.

Commodity Flows by Mode: Air

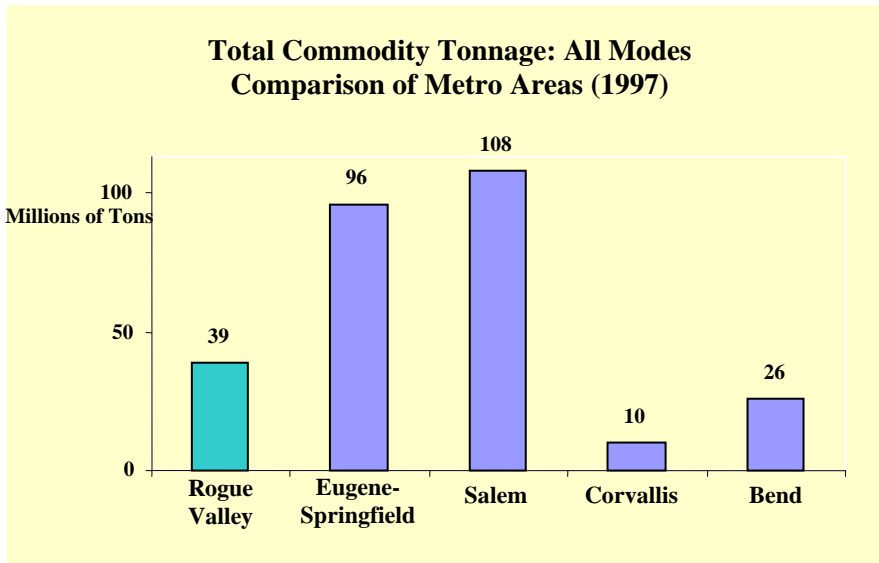
Shipping freight by air is generally reserved for relatively high-value, low-weight products, often destined to national or international locations. In fact, the value per million tons of air freight, \$9,077, is seven times that of trucked freight. In 1997, 1,895 tons of cargo, valued at \$17 million, was transported in or out of Medford's International Airport, over two-thirds of which was outbound. Machinery was the leading commodity group transported by air, comprising 28 percent of airfreight tonnage and 35 percent of its value. Electrical, transportation, photo and optical equipment and instruments summed to 17 percent of air freight tonnage and 55 percent of its value. Together these commodities represented nearly half of air freight tonnage (45 percent) and a decisive majority of air freight value (90 percent).

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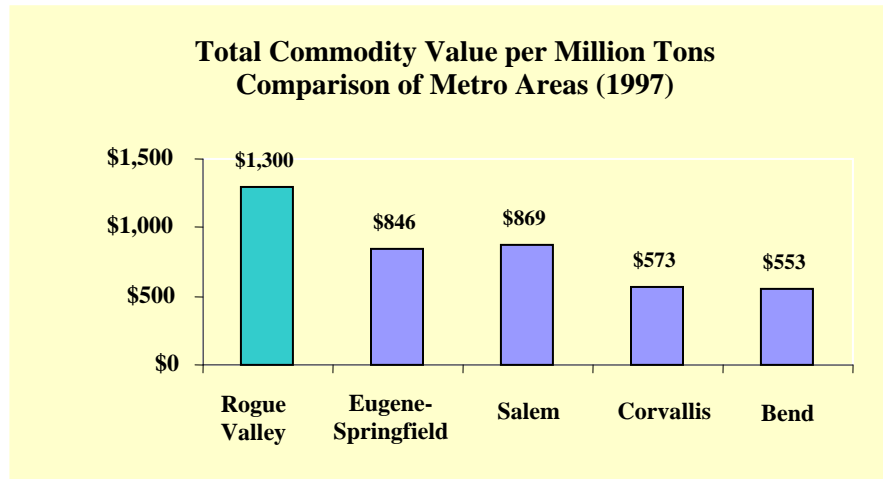
Commodity Flow Analysis



Comparison of Metropolitan Areas



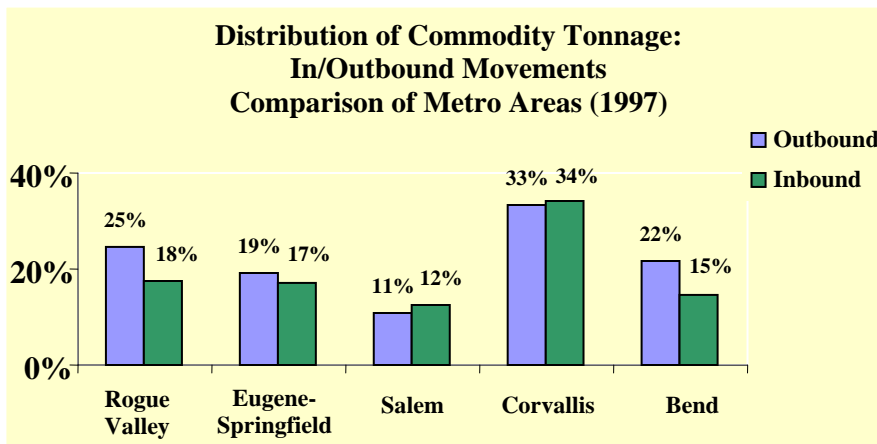
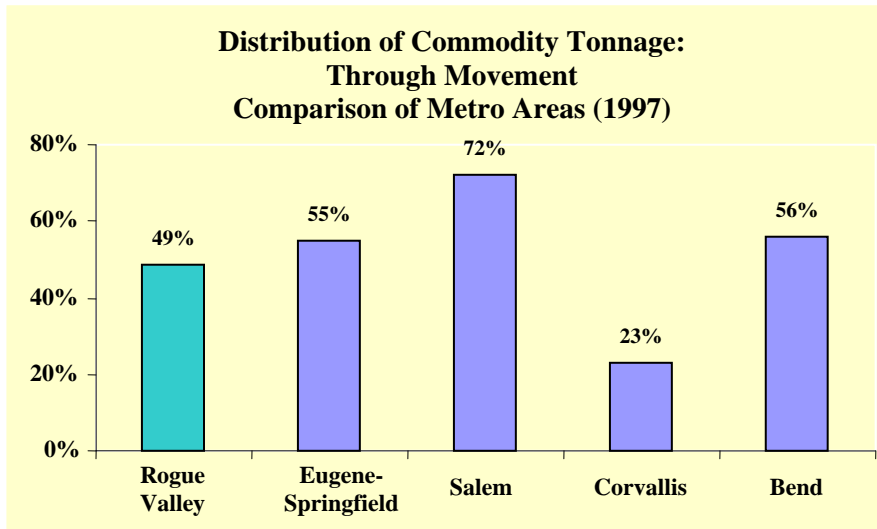
Commodity Flow Analysis



Relative to other metropolitan areas outside of Portland, total freight tonnage for the Rogue Valley MPO area was moderate: 38.8 million tons in 1997. However, the value per ton of Rogue Valley MPO commodities was significantly higher than those of all the other urban areas considered: \$1,300 per ton versus the mid-\$800's for Eugene and Salem, and the mid-to-high \$500's per ton for Corvallis and Bend. Trucking was the dominant mode of transport by weight for all the urban areas, conveying 97-98 percent of all goods for Medford, Salem and Corvallis. Nearly 7 percent of Eugene's freight, by weight, was transported by rail, both by carload and intermodal, or by pipeline, and 15 percent of Bend's freight accessed these networks.

Due to their proximity to **Interstate 5**, the state's major transportation artery, Medford, Eugene, and Salem serviced considerably higher levels of freight by weight than did Corvallis or Bend. In fact, around half of all freight for Medford and Eugene was transported through those metropolitan areas, and nearly three-quarters of freight tonnage went through the Salem metropolitan area. Although Bend's freight tonnage trailed that of Medford (26 million tons), its share of through freight was comparable to the areas located on the interstate highway, likely because it, too, is located on a major highway, U.S. 97. Medford and Bend had notable positive trade balances where more freight tonnage was shipped out of the area than into it.

Commodity Flow Analysis



Shippers and Carriers Survey

All business to varying degrees use the region's roads, rail and air cargo resources, but there are roughly 550 businesses in the RVMPO area that put the movement of goods at the center of their operations. These companies are shippers -- manufacturers who move materials into to the region, create the finished products and ship them out to market -- and carriers -- the firms that physically move the commodities in and out of the region.

This sector of the marketplace is an important element in the region's economy and has a significant impact on the region's transportation system, as show in the commodity flow data on the preceding pages. These businesses also represent a large portion of the

RVMPO Freight Study

Commodity Flow Analysis

region's employment base, a review of Oregon Employment Division and Southern Oregon Regional Economic Development (SORED) data show. Because most shipping here occurs on highways, the activities of the region's shippers and carriers are recognized by the traveling public. For all of these reasons the RVMPO has for several years examined various aspects of the freight industry and commodity flows. This section of the RVMPO Freight Study focuses on the companies themselves. By looking at the businesses that make and ship products to market a more comprehensive understanding of freight industry is possible.

Oregon Employment Department records show that in the RVMPO region, 544 businesses are engaged in some aspect of the freight industry, categorized either as manufacturers or warehouses (grouped as shippers for this survey) or freight carriers. The RVMPO reviewed department records from 2004, and found 358 of the 544 businesses are shippers, with the remainder being carriers. Department confidentiality requirements limit use of employment data to planning that does not divulge identifying details about an individual business. However, another source of some basic information about many of these companies is collected voluntarily from the companies by SORED. Information from SORED includes an annual survey of employment counts. A review of the most recent (2010) employment data from SORED shows that 4 of the region's top ten private sector employers are shippers. Leading this category is Harry & David Operations, shipping fruit and gifts. The table below identifies the 10 largest shippers based on employment.

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Commodity Flow Analysis

RVMPO's largest shippers

Company	City	Product	# Employees
Harry & David Operations Corp.	Medford	Fruit & Gifts	2,000
Amy's Kitchen	White City	Organic Food Manufacturing	680
Boise Building Solutions	Medford	Secondary Woods	600
Erickson Air-Crane	Central Point	Helicopter Services (Firefighting/ Logging/ Building)	450
Timber Products - Jackson & Josephine County	Medford	Secondary Woods	425
Carestream Health	White City	Medical Imaging Manufacturing	300
CDS Publications	Medford	Publishing House	260
Sierra Pine LTD	Medford	Secondary Woods	150
Kathrein-Scala	Medford	Broadcast equipment Manufacturing	120
Murphy Plywood	White City	Secondary Woods	105
Ascentron	White City	Electronic Manufacturing	80

Largest shippers in the RVMPO region based on number of employees. Source: Southern Oregon Regional Economic Development, Inc. 2010

RVMPO shipper and carrier survey

To learn more about the region's shippers and carriers, the RVMPO in April 2006, conducted a mail-in survey of all 544 shippers and carriers based in the RVMPO area, as identified by the state employment department. This list does not include companies that are based outside the RVMPO area and ship to, from, or through the region. A map illustrating some company locations, "Trucking Company and Industrial Sites," in the map section of the report, illustrates many of the locations covered by the survey.

The survey asked the companies to describe key aspects of their operations. Survey questions included the category of their products, and the origin and destination of their trips. A total of 42 surveys were returned, for a response rate of just under 8 percent—slightly above average nationally for mail surveys. The survey found that beyond the largest companies that produce food products and wood products, the region hosts myriad smaller shippers producing a diverse catalog of goods, from organic herbs to structural steel. The RVMPO survey asked both shippers and carriers to identify their principal commodity. The largest number of respondents identified lumber and wood products,

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Commodity Flow Analysis

indicating that despite a decline in the timber industry since the 1980s, wood products remain the leading sector among the region's industries. This result also mirrors statewide commodity flow data. Commodities identified through the RVMPO survey, and the number of companies involved is shown in the table below.

Principal commodities, RVMPO 2006 survey

Commodity	Number Respondents		Commodity	Number Respondents
Farm Products	1		Non-met. minerals	1
Marine Products	1		Metal Products	2
Forest Products	8		Petroleum Products	3
Lumber/Wood Prds.	9		Food Products	3
Furniture/Fixtures	3		Rubber, Plastics	2
Pulp, Paper	2		Printed Matter	5

Commodities reported by companies in the RVMPO area, and the number of firms that identified the commodity as their principal commodity.

The survey also asked companies to define their business category and location in the RVMPO area. Responses are reported below.

This list below shows the number of survey respondents in one of five business types:

- 11 Freight carriers
- 1 Freight terminal
- 1 Broker/freight forwarder
- 2 Point of sale/consumption
- 11 Factories

The list below shows the number of respondents from each RVMPO jurisdiction (rural Jackson County locations identified by the nearest town):

- 12 Medford
- 9 Central Point
- 5 White City
- 2 Ashland
- 2 Eagle Point
- 1 Talent
- 0 Phoenix
- 0 Jacksonville

Survey respondents also estimated their average weekly traffic numbers (truck/rail car numbers) and tonnage. Amounts varied widely, from fewer than two trucks a week to 500 trucks reported by three carriers. Likewise, tonnage varied widely, from less than a half ton to several thousand tons. Only one company specified that it uses rail on a weekly basis (shipping 500 tons by rail and 375 tons by truck weekly).

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Commodity Flow Analysis

Origin and destination of Rogue Valley freight

The survey asked companies to describe the kind of shipping they engage in: whether their shipping is entirely internal, meaning both origin and destination are within the RVMPO area; entirely external, meaning both origin and destination are outside the RVMPO area; or internal-external, meaning that either the start or end point of their shipping is within the RVMPO. Results of the origin-destination question are reported in the table below.

Origin and destination of Rogue Valley shippers and carriers

Shipping Origin and Destination	Business Category	Transportation Mode	Commodity
External-External	Point-of-Sale (2); Carrier (5); Factory (1); Rail (1)	Heavy-Duty Truck (5); Light-Duty Truck (3); Marine (1); Air (1)	Logs; Forest Products; Lumber; Pulp; Paper; Printed Matter; Furniture/Fixtures; Tools; Non-Metallic Minerals; Metal Products; Specialty Instruments; Rubber/Plastics; Chemicals; Farm; Food; Petroleum Products
External-Internal	Carrier (8); Factory (11); Terminal (1); Warehouse (1); Rail (1)	Heavy-Duty Truck (13); Light-Duty Truck (9); Marine (1); Air (1)	Logs; Forest Products; Lumber; Pulp; Paper; Printed Matter; Marine
Internal-Internal	Point-of-Sale; Carrier (7); Factory (5); Warehouse (2); Rail (1)	Heavy-Duty Truck (13); Light-Duty Truck (9);	Logs; Forest Products; Lumber; Pulp; Paper; Printed Matter; Non-Metallic Minerals; Farm; Food; Tools; Petroleum Products

This table shows the origin and destination of RVMPO shippers and carriers, with the type of business, mode choice and commodity identified. Numbers in parentheses are the number of respondents in the category or mode choice.

Intermodal facility need, desirability

Survey respondents were asked to describe their interest in the establishment of an intermodal, freight-rail transfer facility in the region. Twenty companies said “no,” that a truck-rail facility would not serve their business, and 11 said “yes,” it would be beneficial. (Not all respondents answered all questions.)

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Commodity Flow Analysis

Among those who saw benefit to the intermodal facility, three companies said they would use it to bring in raw materials as well as ship out finished products. Other comments regarding potential benefits of an intermodal freight facility included:

- Reduced lower inbound and outbound shipping costs;
- Better rail service, which would resolve weather-related shipping delays;
- Availability of reasonably priced freight transport would widen their market considerably. One company said they lose sales because would-be customers don't want to pay the shipping costs. This company also noted difficulty in finding carriers at a suitable price;
- A rail facility would attract more rail business and thereby improve rail service;
- Rail service needs to shorten delivery time; and
- Better rail would expand market area.

Among the 20 companies that did not see a benefit to a rail intermodal facility, most said they were too small to benefit from rail, or that they needed faster service than rail can provide. One carrier was uncertain whether such a facility would improve or harm their business.

Barriers to freight movement

The RVMPO survey also asked shippers and carriers to describe any barriers to free movement of freight that they encounter. Respondents were invited to suggest solution(s) to their problem(s). Respondents noted a total of 24 barriers.

Several respondents cited the lack of roadway connectivity as a barrier for their business. The majority of businesses that voiced this concern are located in White City. They identified the Hwy 62 connection to Interstate 5 as their primary concern. In 2011, ODOT launched a corridor study, concentrating on improvements to Agate Road, Avenue G, Kirtland Road, and Blackwell Road that will improve a secondary freight access between the freeway and White City.

Congestion also hampers freight movement. Companies stated that congestion disrupts the timing of deliveries and ultimately raises cost. Other comments regarding barriers to freight movement included:

- Highway route locations
- Weather
- Affordable housing for employees
- High road taxes
- Poor planning
- Costly contractors
- Signal timing
- Time constraints
- Unreliable rail service
- Roadway alignment

While companies that use multiple transportation modes were surveyed, many of the complaints were with the road infrastructure. A greater amount of freight travels by truck, because the road infrastructure allows many companies to locate near their source.

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Commodity Flow Analysis

However, companies that stated railroad barriers in the survey are among the largest employers in the region. Therefore, the dependence on rail and road, from an economic standpoint, should be considered equal.

Additional Shipper listing

A listing at the beginning of this section identified the largest shippers that, by the size of employment, ranked among the region's largest employers. As indicated in the RVMPO shipper and carrier survey, many small businesses also play a part in freight movement through the region. The table below lists local manufacturers, their products and number of employees according to SOREDI's November 2005 survey.

Other RVMPO-area shippers and carriers

Company	City	Product	# Employees
Certainteed Corporation	White City	Building Materials	87
Alumaweld Boats, Inc.	Eagle Point	Boats	86
Lighthouse Worldwide Solutions	Medford	Handheld & remote particle counters	85
Micro Trains	Talent	Model Rail Road Manufacture/Distrib	85
RB Browns	Central Point	Trucking	84
Medford Moulding	White City	Secondary Woods	70
Maranatha Natural Foods	Ashland	Organic Peanut Butter	65
Medford Fabrication	Medford	Metal Fabrication	65
Highway Products	White City	Tool Boxes	58
ICW	Medford	Monitor Arms and Mounting Systems	53
Gazebo Works Too, Inc.	Central Point	Custom Gazebos	48
Davis Finish Products	Medford	Secondary Woods	47
Pacific Rogue Cabinets	White City	Secondary Woods	44
Sky Research	Ashland	Land Mapping & Surveying	42
Cascade Block	Medford/GP	Landscape Supply	36
Rising Sun Farms	Phoenix	Organic/ Natural Products	35
Rogue Creamery	Central Point	Cheese Manufacturer	30
Dagoba Chocolate	Ashland	Organic Chocolate	26
Boulton Power Boats	Central Point	Aluminum Boat Manufacturer	25
BOC Edwards	White City	Electronic Materials	24
Bedslide	Central Point	Truck Cargo Management	20
Pro Weld	Eagle Point	Structural Steel/ Ornamental Iron Work	17
Yerba Prima	Ashland	Organic/Natural Products	15
Varney Manufacturing Inc.	Medford	Tools	12

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Commodity Flow Analysis

BioMed Diagnostics	White City	Medical Testing, Supplies, Equipment	11
Cintas	White City	Uniforms/ Safety Apparel)	10
Banyan Botanicals	Ashland	Organic/Natural Products	5

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Freight System Strengths and Weaknesses



Introduction

In the spring of 2002, the Rogue Valley Metropolitan Planning Organization (RVMPO) began a Freight Transportation Study to assess regional freight movement, identify current and forecasted mobility deficiencies, and develop long-range freight mobility solutions and strategies. Eagle Point, Talent, and Ashland were added to the MPO after the study was completed, but their issues mirror those of the other communities addressed in this report.

The study included a survey of Transportation Practices and Needs to develop an understanding of a select number of companies' total transportation requirements and to use that understanding in developing freight transportation solutions and strategies for the region's transportation decision-makers. For that survey, RVCOG conducted a series of interviews with major freight shippers (manufacturers) and carriers (truck, rail, and airfreight companies) in the RVMPO.

Background Studies

In preparation for the survey, RVCOG staff searched for pertinent, existing studies that could be mined for information specific to the RVMPO region. They found that many freight studies had been conducted in the state and that those studies grouped information from the RVMPO area with a much broader region. For this reason, information specific to the RVMPO from these studies did not form a baseline for this research. However, in June 2002, region-specific information became available from the ODOT 2001 Statewide

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Motor Carrier Survey. A preliminary summary of the data related to the Medford area is in Appendix 1. That survey found congestion issues to be of greatest concern, followed closely by issues related to rough roads and potholes on I-5. Regulatory issues related to weight and length were less often identified than the first two issues, but present. In the compilation of issues not related to specific locations, regulations related to oversize loads, driver hours, length restrictions, and taxing methods were all represented.

In retrospect, the findings from the ODOT survey were similar to those in the current survey. The locations related to congestion issues in the ODOT survey were similar to those in the current study. The main exception was the issue of potholes and rough roads, which did not emerge in the current survey. This is understandable since the ODOT survey covered portions of Interstate 5 that were not part of the current study and ODOT gathered data most often from drivers. The RVMPO survey gathered information via interviews with managers.

The Survey

To gain a clearer understanding of the local freight system, RVCOG interviewed 9 shippers (manufacturers), 13 carriers, and 2 freight-related facilities. The majority of interviewees played a role in shipping and logistics or operations; others were executive staff. The addition of carriers was crucial to our understanding of the freight system. Many shippers referred us to their contract carriers for detailed information on the transportation system. The list of companies and facilities interviewed for this survey is attached as Appendix 2.

The basic interview schedule used is attached as Appendix 3. This was used as a guide for conversations, since it had varying applicability to the diverse set of companies interviewed. Companies were asked several questions, among them: what materials/products they most often receive for local use and distribution; what products/materials they most often ship to other destinations; local routes they use and any difficulties with those routes; potential solutions to local transportation problems; their use of inter-modal connections; and telecommunications use and adequacy. We also sought their input about actions that state or local government could take that would assist their businesses.

What follows is a summary of the information gained in the interviews, classified as either a strength or weakness and grouped according to common theme. Pertinent quotes are included, since they best express the perspective of the people who use the freight transportation system.

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Freight System Strengths and Weaknesses

Strengths

Our area is dependent upon freight for the goods that sustain everyday life and supply our manufacturing base. Several features of the local freight transportation system are undeniably strong.

The Freight Industry – The number of freight and freight-related companies in our area is high. Counting just trucking companies and transportation brokers, there are at least 54 companies. With respect to wages, the employment opportunities they offer compare favorably to those in the retail and service industry. Seasoned drivers earn between \$40,000 and \$50,000 per year. Looking at the numbers of persons employed by motor carriers, some 336 people are employed by just four of the trucking companies in our area. Between 1990 and 2000, according to the OR Employment Department's report "2000 Regional Economic Profile", there was a 36 percent increase in the number of jobs in Transportation and Public Utilities in our region and most jobs were in trucking.

According to one freight broker, Oregon's motor carriers provide their services at a lower rate than California's, thus benefiting shippers in the area. For example, hauling a container to Medford from Portland costs approx. \$790 (about \$2.90/mile). Hauling the same container from Oakland to Medford costs \$1,100-\$1,400 (\$3.06 to \$3.91/mile).

Among the greatest assets to this industry is the Rogue Valley's central location as an intermediate stopping point on the west coast. The area also benefits from Oregon law that permits triple trailers, whereas California law does not. Medford has become a shipping hub partly because southbound triple trailer rigs have to drop a trailer before crossing the California border, and trucks heading north into Oregon can add a trailer. Medford is also a distribution hub for southern Oregon and northern California. These central roles cause significantly more use of our interchanges and connecting roadways than would occur otherwise.

The necessary intermodal connections to get products and raw materials from and to international locations are made on a regular basis. Raw materials arrive here from Poland, Mexico, Chile, and other national and international locations. These intermodal connections occur outside our region in the Portland area and elsewhere. When shippers were asked if they would like to make those intermodal connections in the area, some doubted that their volume would justify a local connection.

Apart from goods being trucked into and out of the region, it is important to note that local rail companies, the Central Oregon and Pacific Railroad (CORP) and the White City Terminal and Utilities (WCTU) are serving several local manufacturers, especially the timber industry and plants in the White City industrial area. Top inbound shipments consist of sand, veneer, feed and fertilizer. Top outbound shipments consist of lumber and plywood, sand, clay, cement, siding, and particleboard. Considering that one railroad

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car holds the same volume as some 2 ½ truckloads, rail provides important relief to the road system. According to one CORP official, 30 outbound railroad cars per day carry approximately 6,000,000 pounds of freight through our region and 15 inbound cars carry 3,000,000 pounds of freight. Rail use has grown over the past 8 years; the number of cars has grown from 35,000 carloads per year to 50,000 per year. CORP is a feeder line to Union Pacific. Several companies that were interviewed choose to ship their goods via the Burlington Northern Santa Fe (BNSF) line. They truck their goods to Portland to connect there with BNSF, although it is possible to connect with BNSF in Eugene.

The Rogue Valley International-Medford Airport is the largest local intermodal facility in the area. Parcel service on USPS, Federal Express and UPS is readily available and satisfies local customers' needs, with the exception of "same day" air delivery service. The airport lengthened its main runway to 8,800 feet to serve larger planes. According to airport administration, they currently have unused capacity for that purpose.

The Manufacturing Base – Some of the manufacturers interviewed expect significant growth in productivity and profitability in the future, while others expect slow, steady growth. Our region has a few "world class" manufacturing firms, such as Erickson Air Crane, Carestream Health, and Bear Creek Corporation, serving national and international clients. Bear Creek Corp. is the distribution hub for goods imported by ship into California that need to be shipped to eastern business divisions. This firm projects significant growth in that role as several new stores open up over the next few years. These firms will support long-term growth in our region's freight industry.

"The container business is growing."

"We only make one product and we are producing it for the entire world. There is only one other plant that produces our product in the world."

Airfreight and the Airport – For the purposes of this report, we define goods shipped by air as either airfreight or air cargo. Airfreight and air cargo currently vary significantly in volume. Air cargo is discussed under the Weaknesses section.

Airfreight is typically used for high value, time-sensitive items. Medford currently serves as the Southern Oregon distribution hub for airfreight. From here, packages are trucked to their final destinations. With the exception of "same day" air parcel service, no gaps were identified in the service provided by parcel airfreight in our region. Federal Express, UPS, and USPS have the capacity to handle local demand. Federal Express does not share information about the nature or volume of their business, so this report includes no specific information on Federal Express.

The local demand for airfreight services peaks during the Christmas season. Bear Creek Corporation ships as many as 3500 packages per day via USPS during that season. In the

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spring of 2002, we often heard the refrain: “We have no problems connecting with airfreight.”



As of February 2003, both United Express and Horizon Air carried freight and mail, as did Federal Express, Airborne, Ameriflight, DHL Express, ORCA Delivery, Secured Couriers, Swift Couriers, Velocity Express and several other smaller companies. The smaller companies pick up packages around town at businesses, banks, etc. and deliver the freight to an aircraft company such as Ameriflight.

Immediately following the events of September 11, 2001, the volume of airfreight and air cargo plummeted. For a period of time, airlines decided not to take air cargo. This was due to **the time-consuming** new security procedures (verifications and inspections) and the requirement for quick turn-around at the airport by airlines.

It is encouraging to note, however, that local commercial carriers have shown an overall increase in the volume (number) of freight pieces shipped since the pre-September 2001 period. **The 2011 Airport Master Plan Update indicates that in 2010, approximately 5,437,787 pounds of freight and mail (enplaned and deplaned) passed through the airport. Air cargo is estimated to increase by an average annual growth rate of 2.1 percent.**

Recent Transportation Improvements – Carriers noted that construction of the new extension of Highway 238 and intersection of Highway 62 and Highway 99, nicknamed the “Big X”, has facilitated shipping for businesses in northwest Medford. Manufacturers are having an easier time connecting to their warehouses and to the Interstate.

“Since the “Big X” was built, we use that from the Interstate. We go over the overpass and take the road between our business and Timber Products; we no longer use the gate on Highway 99.”

“The construction of the ‘Big X’ has really helped. We take Highway 99 to the X and get onto the N. Medford Interchange.”

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Weaknesses

Weaknesses in the transportation system include: the lack of viable alternative routes when regular routes are blocked during construction; daily out-of-direction travel to avoid bottlenecks and congestion; and restrictions that prevent the movement of oversized freight at certain times. Because the costs of freight movement are tied so closely to the number of miles driven, efficiency and profitability are decreased when the most direct routes cannot be used. Several carriers cited state regulations as a barrier to efficient freight movement and profitability.

Out-of-direction travel - Simply put, out-of-direction travel results when a driver takes a roundabout, indirect route to a destination, rather than driving the most direct route. The study found evidence that out-of-direction travel has become the norm for many shippers and carriers.

Manufacturers are taking circuitous routes to reach their warehouses. Shippers are using alternative routes to Highway 99, Highway 62, and particularly the northbound Highway 62/Interstate 5 interchange. This is placing significant burdens on the Central Point Interchange, Hamrick Road, Table Rock Road, Vilas Road, and Kirtland Road. These routes are de facto freight routes in our area.

“We are located on Sage Road just off Highway 99. When we drive to Bear Creek Corporation, we go via the North Interchange to the South Interchange, rather than risk the liability of going through town on Highway 99.”

“If we have a delivery on the west side of Highway 62, I make my drivers drive all the way north on Highway 62 and then turn to head south, to avoid a left hand turn on Highway 62.”

“From our Sage Road warehouse, our company makes 10 deliveries to our plant in White City each 24-hour period. At 3 AM, it takes 20 minutes; at Noon, it takes 40 minutes. So, our drivers drive Highway 99 to Blackwell, and then take Kirtland to the plant. If they took Highway 99 to Pine St. in Central Point, it would be 5 miles shorter, but it’s safer and less congested to take the Blackwell route. (Their trailers are 53’ long.)

Regulatory Issues – Truckers are most disturbed about the state and federal regulations that govern their business. Their comments about overly burdensome regulations have been placed under the Potential Improvements section.

The most frequent complaint regarding regulations about the transportation system itself concerned the length restrictions east of Klamath Falls. Since Highway 140 is the main

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route used for eastbound shipments, these restrictions and the additional miles they add to a trip are significant.

“The problem is that the state does not allow trailers over 60’ on Highway 140 east of Klamath Falls. Trucks made in the 90s average 68-70 feet; so newer trucks can’t use this route. We have two alternate routes to choose from. The most favored way adds about 60 miles one-way. This route is to take Highway 62 to 138 to 97 toward Bend. In Bend, we go on Route 20 all the way to Ontario on the Idaho border, then head east on I-84. We have five inbound and five outbound trucks per week on this route. It costs me \$125 per week to take this alternate route, adding up to about \$6,500 per year.” (The second alternate route is the southern one to Reno, taking I-5 to California, 89 to McCloud, California, and junction 44 to 395 to Susanville, 395 to Reno/Sparks, Nevada and then east on I-80. This alternative adds 95 miles one way to the trip.)

“Highway 140 should allow longer lengths so you can go straight to Winnemucca. The route is twisty, but safe enough for 70-foot truck lengths.”

“The extra 100 miles per trip going east on 140 costs us (manufacturer) about \$500/week. Sixty to seventy percent of my loads are eastbound and they all take 140.”

Air Cargo and the Airport – Although recent runway expansions currently allow larger freight planes to land, the volume of inbound and outbound freight does not result in heavy usage. As a result, shippers still connect with large freight planes in Portland because it is cheaper than chartering special flights into Medford.

“There are no large freight planes here; no 747s go in our airport. So, we truck large volumes to Portland to connect with large freight planes.”

United Airlines closed its operations in Medford in January 2003. United Airlines flew **Boeing** 737 aircraft that were capable of carrying larger-sized cargo. With the loss of United Airlines, regional jets became the airfreight carriers. Regional jets do not have the same freight capacity, due to the smaller size of the aircraft. Thus, the airport estimates that the total weight of air cargo has decreased.

Cargo departments have closed at the airport. For example, United Express closed its cargo department and accepts only “over the counter” freight at ticket counters. A “known shipper” (registered with the airline) may ship pieces as heavy as 70 pounds per piece. An “unknown shipper” is limited to pieces under one pound. In addition to the weight limit, package dimensions of length, width and height may total no more than 90 inches. Any number of pieces meeting those criteria may be shipped, although “over the counter freight” is more expensive than previous cargo prices.

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The Foreign Trade Zone/Air Cargo Center – Twelve sites in Jackson and Josephine counties comprise Foreign Trade Zone #206. Rogue Valley International-Medford Airport has been expanded to accommodate larger planes and the apron at the FTZ cargo center can accommodate three planes at a time. The Foreign Trade Zone has on-site warehousing capability, including cold storage.

When the study began in 2002, the Foreign Trade Zone (FTZ) was identified as an asset to the freight system, one that improved the Rogue Valley's position in the international market and held promising potential. To date, a customs agent has not been on site. There was inadequate demand to justify the approximate \$100,000 total expenditure for a full-time customs agent. Consequently, FTZ clearance activities have ceased, although the zone itself is still active. The FTZ must have an on-site customs agent to function. If one or more large clients/companies present themselves, the FTZ may be able, once again, to afford a full-time customs official.

Most recently, plans were being pursued to use FTZ infrastructure for a regional air cargo center to relieve larger, overburdened airports in the Northwest, such as Portland.

Over Size Loads – Some manufacturers in our area produce components and equipment that far exceed the normal width and height standards on our roads. Shipping on a periodic basis, they face basic logistical and rather complex regulatory difficulties.



“We haul large loads from our facility to the airport every several months. The main problem is that we don't get any assistance from the road department to close off roads and allow passage. They could at least provide us with information about the height of the telephone lines.”

“There's a curfew during which we cannot move our oversize loads from 7-9 a.m., 11-1 p.m., and 4-6 p.m. on the viaduct and within city limits. We could

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normally move 17 loads in two days, but with the curfew, it takes us four days. And we can't move except during daylight hours. Then there is a state regulation that between Memorial Day and Labor Day, no oversize loads can travel the highways on Saturday or Sundays. It's considered tourist season. Loads that don't make it in have to stay over the weekend at the Pear Tree or Witham's until the curfew is over. This backs up our system, holding up raw materials and products. It is a major problem. It could put us at a disadvantage with potential clients."

Alternate Routes -- Due to congestion, many carriers use alternate routes to avoid the North Medford Interchange and Highway 62. Heading to I-5 from White City and/or Highway 62, they use Vilas Road and Table Rock Road. Those heading north often connect with I-5 at the Seven Oaks Interchange via Kirtland Road. Leaving I-5, they use the Central Point I-5 exit to Hamrick and Table Rock or Kirtland Road. Interviewees identified several concerns about these alternate routes.



"We are located off Table Rock and it is very difficult to come out of our facility on Bateman onto Table Rock. The speed is 50 MPH on Table Rock and I'm afraid someone is going to get killed. Other companies are located on Bateman, too—one is a company that employs about 100 people."

"It would be good if Table Rock Road were made into a 4-lane highway. Many trucks use it to arrive in White City and there are several trucking companies located in that area."

"Kirtland Rd. is narrow and curvy. It should be made wider and straighter."

In 2011, ODOT began a study of the Highway 140 to I-5 corridor to determine what improvements are warranted to improve mobility and safety of freight. Instead of

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creating a new corridor, the present route follows existing rights-of-way on Agate Road, Avenue G, Pacific Avenue, Kirtland Road, and Blackwell Road.

Rail – The following description of our region’s rail system is excerpted from the 2001 Oregon Rail Plan:

“The Central Oregon & Pacific Railroad (CORP) is Oregon's second largest short line railroad. It operates on 391 route miles and 8 miles of trackage rights in Oregon. Its route miles comprise 16 percent of all route miles statewide. CORP operates in the southwestern quadrant of the state serving the southern Willamette Valley to the California border and the central Oregon coast. The main north-south line provides connections from Eugene-Springfield to Cottage Grove, Roseburg, Glendale, Grants Pass, Medford, Ashland and on into California. CORP's Coos Bay Branch provides connections between Eugene and coastal communities such as Reedsport, Coos Bay and Coquille.



The activities of the regional carrier Central Oregon & Pacific Railroad (CORP) dominate railroading in Southwestern Oregon. The CORP main line south from Eugene through Medford (the Siskiyou Line) and their line from Eugene to Coquille (Coos Bay Branch) are former Southern Pacific lines that were purchased by CORP January 1, 1995. Siskiyou Line operations on CORP are basically divided into two major segments. A large wood products operation at Dillard (just south of Roseburg) contributes the bulk of the traffic on the northern end of the line. Shippers south of Grants Pass are the major source of business on the southern end of the line. While the railroad operates a through train

between Medford and Roseburg, most of the traffic heads either north out of Roseburg or

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south out of Medford. CORP's line south from Medford is one of the most rugged rail lines in the western part of the United States with gradients that approach 3.25 percent. The portion of the line south from Ashland to Black Butte, California has no weight restrictions but has dimensional restrictions in the Siskiyou Mountains. No Plate "F" cars (cars that are long and high) may be moved over the portion of the line between Montague, California and Ashland, Oregon. Other car types may not move over this portion of trackage because of certain length/height relationships.

CORP operates into and out of UP's yard at Eugene. Eugene is also the site of CORP's major engine repair facility along with its interchange with the Portland & Western Railroad through the UP. CORP trackage is maintained to FRA Class 1 and 2 conditions with no weight or dimensional restrictions except for those south of Ashland. CORP's Coos Bay branch runs westerly out of Eugene to the Oregon Coast and then southerly through Gardiner and Coos Bay to Coquille." [End of excerpt.]

After the preceding excerpt was written, CORP closed the line south of Ashland in 2008 because shippers objected to a rate increase. The City of Ashland considered acquiring the 90-mile line for \$16 million in 2000, but opted not to proceed with the purchase. The line remains closed, although a news report in October 2011 indicated that CORP intends to reopen it and spend approximately \$4 million enlarging the four tunnels between Eugene and Medford. This is less than the Oregon Freight Study estimate of \$7.8 million.

In our survey, shippers were asked if they were interested in improving their connections with rail. While there was interest among some manufacturers in increasing their use of rail for inbound raw materials and outbound finished product, it was select. Interested parties tended to have a spur either on their property or one nearby; they typically were producing heavy, bulk products or needing large quantities of bulk raw materials.

The reasons shippers gave for not using rail extensively had to do with the length of time it takes to move freight by rail and concerns for the reliability of delivery times. Rail freight is carried typically by more than one railroad company before reaching its destination; this means that the originating company loses hands-on control of the freight in the process. Local rail personnel point to the inconsistency of schedules as an important issue that they have been working to correct. A good deal of progress has already been made and electronic technology is assisting that process.

When fast delivery isn't critical and when it is possible to plan deliveries well in advance, customers use rail. It is often the most economical freight option. A significant barrier to using rail for freight is the inability to carry containers (used for transport by ship) and piggyback truck trailers through tunnels. Tunnel heights, lengths, and curvatures do not accommodate these shipments. If the tunnels on the southern branch of CORP were modified, containers could be sent by rail to California ports. [The 2010 Oregon Rail](#)

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Study estimated the cost to upgrade tunnels from Eugene to the California border to a double-stack capacity would be more than \$35 million. The most expensive upgrades involve two tunnels south of Ashland. If only the tunnels between Medford and Eugene are improved, the cost would drop to \$7.8 million.

“In the 80s, rail got 70 percent of the outbound. Now, trucks get 80 percent of the outbound. That’s due to the speed of truck delivery. People don’t want \$200,000 of inventory on a train for 10 days to 2 weeks.”

“We are in competition with rail. There aren’t many ways for flatbeds to partner with rail, since flatbeds are not enclosed, product could be damaged. Rail is cheaper and slower than trucks. For example, we charge about \$3,000 to carry a load of lumber from Portland to Atlanta; by rail it would cost \$2,000. A rail car can carry 2.5 times more lumber than one tractor. However, it would take 2-3 weeks by rail and 3-4 days by flatbed. And there are a lot of costs associated with rail, including how to get it to the end user and how to get it to the mill from the railhead. It may cost \$500 or more for shunting and unloading. With ‘just in time’ manufacturing and sales, people cannot and do not want to wait for their raw materials and products.”



Telecommunications – Telecommunications are becoming increasingly sophisticated, providing greater opportunity for firms to track progress of freight deliveries. GPS tracking permits firms to know the exact location of a load, and Intelligent Transportation

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Systems provide immediate information about weather conditions and other traffic hazards. Most companies were satisfied with local telecommunications capacity, but some saw a need for improvements:

“Telecommunications are crucial. We track our trucks via GPS satellite service. Our customers can track the movement of their shipments over the Internet on our web site using a shipper ID number. We would like to see better, faster Internet connections. There are now 3 telephone trunks; we would like to see more options for trunks.”

“We are not happy with the telephone company that serves the White City area. Needed improvements haven’t been accomplished.”

Refrigerated trucks – On a seasonal basis, some manufacturers are unable to contract with an adequate number of refrigerated trucks for inbound raw materials or for outbound product. One shipper explained this by saying that truckers are less motivated to bring goods into an area, if they know they are likely to return with an empty truck. When they carry into California, they are likely to return with a full truck because that state ships greater volumes of products.

“During high season, we need so many refrigerated trucks that we pull them in from Seattle, Reno, etc. They deadhead to Portland and San Francisco. We would like to see more refrigerated trucks in the area, but our business is very seasonal; it might not justify more.”

“We want to truck in 3.5 million pounds of fresh strawberries from the L.A. area. That’s 75 truckloads, but it’s hard to find refrigerated trucks because they will have to backhaul empty. Our area doesn’t produce enough to send the trucks back full; not enough freight is leaving the valley. So we have to go through brokers and pay an extra fee for their finding trucks. We have the same problem with peaches in May.”

Transportation and Land Use Planning – Trucking company personnel are well aware that land use decisions and transportation planning have important effects on fleet mobility. They believe that local and state government could better coordinate their planning work and avoid recurring congestion problems at intersections and interchanges.

“There should be more coordination between ODOT planning and city land use decisions. Bad decisions are being made all the time, like allowing a car dealer to locate near Vilas Rd. intersection with Highway 62. That caused greater congestion.”

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“Government needs to be sure that they are planning ahead far enough into the future. The Central Point interchange is experiencing all the problems that the North and South Medford Interchanges have been experiencing. They need to control Central Point interchange now. It is going to get worse.”

“With respect to growth locations in our area, it will be Crater Lake Highway, near the airport, and Sage Road. On Vilas Road, new small manufacturing will grow there. It’s important to manage the transportation there before it grows much more.”

Potential System Improvements

The transportation system is the lifeblood of manufacturing and other shippers. Their ability to move freight within and through the Rogue Valley directly affects their financial well-being. In the course of the survey, shippers and carriers suggested improvements to the system. Many are for specific intersections and routes; others relate to improved connections to existing facilities such as the airport and the railroad. They also had many comments regarding changes to regulations. These are all shared below.

Transportation Problems – Shippers and carriers were asked to identify mobility problems by community. The main issues they raised had to do with congestion, especially on Highway 62, particularly difficult intersections, the lack of connectivity, the inability of Vilas and Table Rock Roads to accommodate freight activities, the desire for an I-5/Highway 140 direct connection, and length restrictions on Highway 140.

“The I-5 pavement is getting rough; there are huge potholes. They should be fixed.”

“Locally, we need to address the fact that we will have to have additional interchanges. Medford is too large to have only two. South Stage Road needs to go in as soon as possible. Other interchanges could be one that links Seven Oaks to 140, one where Table Rock crosses I-5, and one that connects to the Big X. “

Findings by Community

Medford:

“We are located on Sage Road just off Highway 99. When we drive to Bear Creek Corporation, we go via the North Interchange to the South Interchange, rather than risk the liability of going through town on Highway 99.”

“If we have a delivery on the west side of Highway 62, I make my drivers drive all the way north on Highway 62 and then turn to head south, to avoid a left hand turn on Highway 62.”

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“Maneuvering the turn from the Crater Lake frontage road onto Highway 62 at the Vilas intersection is difficult. This is a major problem.”

“The Delta Waters and Highway 62 area is congested and not well designed for the flow of traffic.”

“The problem with 62 is the congestion and number of stop lights, the stop-and-go traffic. There are a lot more signals than there used to be.”

“Freight needs a road that doesn’t serve local shoppers. I like the idea of the new, limited access expressway off Highway 62. There is too much congestion and stop and go traffic on Highway 62.”



“We support the idea of a hybrid Highway 62 limited expressway with two intersections for the Foreign Trade Zone area and a connection from the present Highway 62 north of Coker Butte.”

“We need better, more direct routes to industrial sites and less congestion.”

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Freight System Strengths and Weaknesses

“The problem with Medford and Highway 62 is that the lights are not set well. It’s stop and go all the way down. In Eugene and Salem, if you get a red light and go the speed limit, you keep moving. Not so, here.”

“Turning right onto Stewart Ave. northbound Highway 99 is very awkward due to the island, which cramps the trucks. Trucks always go over the curbs.”

“It would help if there were better north-south arterial alternatives to I-5. Right now, we have to go through the center of town to connect with Highway 99 when we want to reach our Sage Road warehouse. We don’t want to go through Medford to reach the warehouse.”

“Another bottleneck is the Lozier Lane/Ross Lane intersection by the new Albertson’s. It’s a bad intersection in the early morning and later afternoon.”

“The northwest and southern part of town are hurting from a lack of connectivity. Our side of town is disadvantaged, transportation-wise.”

Ashland area:

“The Siskiyou in winter are a real problem. ODOT should be able to get snowplows out or gravel roads ahead of time. There are real bottlenecks when it snows. Maybe they could bring in escort cars or something.”

Hersey Street and Tolman Creek Road serve truck traffic from the major industrial areas (generally light industry).

Downtown lacks truck loading and parking zones for retail businesses.

Phoenix:

“Trucks have turned over using the southbound ramp onto I-5.”

“In Phoenix, taking the southbound exit off I-5 and turning left is a “nightmare intersection”, since you have a combination of local traffic wanting to cross the bridge or get onto I-5 and truck traffic into and out of the Pear Tree truck stop.

Local freight generators include local lumber company and the fruit industry. Both would like to see better rail service, including track upgrades to the south for piggybacked containers. Accessing faster rail service to Bakersfield, Calif., would allow more freight to travel east by rail.

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Freight System Strengths and Weaknesses

Talent

Traffic to city's industrial area at the south end of town is better served with installation of a signal at Highway 99 and Rapp Road.

Colver Road is being used for local deliveries in the area to avoid congestion on Highway 99.

Jackson County:

“We are located off Table Rock and it is very difficult to come out of our facility on Bateman onto Table Rock. The speed is 50 MPH on Table Rock and I'm afraid someone is going to get killed. Other companies are located on Bateman, too—one is a company that employs about 100 people.”

“The “four corners” intersection at Table Rock and Vilas is very tight. It might help to widen it. The work they are currently doing on Vilas should help. “



“On Table Rock Road, you need a turning lane at Airport Road, whatever it is. We use Table Rock to get to Boise Cascade and Timber Products on Highway 99.”

“Table Rock Road deliveries are the toughest, since it is a two lane road with no turning lanes. A turning lane would be great.”

“Vilas Road really needs a turning lane. There are many small manufacturers there and that area will only grow in the future.”

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“I would like the 4-lane road that’s being built on Table Rock to continue past Wilson all the way to Antelope.”

“It might be good if Table Rock Road were designated for trucks only. It’s being used that way now.”

“It would be good if Table Rock Rd. were made into a 4-lane highway. Many trucks use it to arrive in White City and there are several trucking companies located in that area.”

“Kirtland Rd. is narrow and curvy. It should be made wider and straighter.”

“Kirtland/Blackwell routes—we use them for trucks heading north. You have to make five stops and turns on the way there. That’s a lot of wear on a truck.”

Jacksonville

Freight route, California Street, runs through the center of historic downtown. Main route is Pair-a-Dice Ranch Road to California Street. Trucks move eastbound on Oregon or Fifth streets, and southbound on S. Stage Road.

Aggregate and logs are the major heavy freight, and travel through the downtown. Demand for aggregate has grown with development of southeast Medford. Future traffic generator could be light industrial growth planned by the city on the north and east sides of town.

Eagle Point

The city has no freight generators, but nearby are Alumaweld boat manufacturing, on Rogue River Drive, and rock pits west of the city off Linn Road. Highway 62 bisects the city.

Sidewalks and bike lanes along Brownsboro Road are needed to protect pedestrians and bicyclists from truck traffic.

Central Point

“From our Sage Road warehouse, our company makes ten deliveries to our plant in White City each 24-hour period. At 3 a.m. it takes 20 minutes; at noon, it takes 40 minutes. So, our drivers drive Highway 99 to Blackwell, and then take Kirkland to the plant. If they took Highway 99 to Pine St. in Central Point, it would be 5 miles shorter, but it’s safer and less congested to take the Blackwell route.” (*Their trailers are 53’ long.*)

Freight System Strengths and Weaknesses



“Government needs to be sure that they are planning ahead far enough into the future. The Central Point interchange is experiencing all the problems that the North and South Medford Interchanges have been experiencing. They need to control Central Point interchange now. It is going to get worse.”

White City:

“We have a rock pit off 140 and make deliveries to White City and Eagle Point from there. From the haul road, it can be very hard to pull out onto 140 during summer and vacation times when people are driving their recreational vehicles to camping and fishing areas.”

“Another problem area is Leigh Way. Our trucks are coming off 140 and crossing straight ahead onto Leigh Way because it connects to Agate Road. Cars coming out of the Big R often cut in front of them.”

Highway 140:

Highway 140 is crucial for the eastward movement of goods. There are two main issues with 140, namely, the need for a direct connection with I-5 and the restrictions on length of trailer east of Klamath Falls.

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Freight System Strengths and Weaknesses



“140 should be punched through to I-5 to facilitate movement of trucks from 140. All the loads from the east come in on 140. Those are the national lines, as well as Gordon Trucking.”

“We want direct connection to I-5 from 140. This would solve the problem of heading west on Vilas to I-5. It could be a simple 2-lane road. You could take Leigh Way through Denman Preserve. Driving to Central Point for a connection to I-5 costs my business \$50K to \$100K per year.”

“No triples or trailers over 60’ are allowed eastbound on 140 to Winnemucca. The route from Klamath Falls to Winnemucca needs to be re-graded and widened.

Reloading facilities

There is one independent “rail to truck” reloading facility in Medford and two in Grants Pass. The Medford facility is owned and operated by H & S Construction, Railroad and Salvage Co. and located on Moser Street. This facility was closed a few months for repairs and planned to reopen in October 2002. The owner expects to serve six carloads/week; the facility’s capacity is 12 carloads/week. Of the two facilities in Grants Pass, one is owned by H & S and the other is owned by PML. The PML facility is located at 519 SE G. St. The H & S facility is located on Fruitdale Drive. The facilities are mainly serving the timber and wood products industries. The facility in Grants Pass, now reloading five carloads/week, is also running at approximately 50 percent capacity.

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Freight System Strengths and Weaknesses

One company charges \$300-\$400 to unload a railroad car and load the contents onto a truck. He stated that his business started declining about four years ago when customers started shipping direct by truck, rather than using rail. He believes they are doing this to avoid the reload charge. As he put it: “We’re an extra step in the money process; they don’t want to pay the reload costs.” Another reason for his business slowing down has been the downturn in the plywood and lumber market.

According to CORP, reloading facilities typically serve a 50-mile radius. Despite the fact that the current facilities are available and would welcome more business, there is some interest among shippers and manufacturers in additional reload facilities for truck to rail reloads. There is also interest in truck-to-truck reloading facilities. More detailed research is required in this area to better understand the type of reload facility desired.

“We would like to have a truck reload area here. We could bring maxi loads from Seattle or Portland and reload them here onto smaller ones for California.”

“Would like to see a local truck-rail facility.”

“We have a pure reload operation. I would like to see some kind of intermodal facility, to assist in the rail to truck or truck to truck transfer.”

Warehousing

While most of the local manufacturers interviewed were not interested in additional warehousing opportunities, a few large companies were. With the nationwide adoption of “just in time” manufacturing and retailing methods, businesses are less likely to invest in large on-site inventories of raw materials and finished products. They rely on speedy deliveries of the components they need to fill customer orders.

However, businesses with seasonal sales peaks have a continuing need for warehouse space, since it allows them to store finished product for those peak sales periods.

“Seasonally, there might be some interest in additional commercial warehousing. There is a real lack of commercial warehousing larger than 40,000 sq. ft.”

“We do warehousing both on and off site at our Lars Way facility. Right now, we have adequate storage, but in the future, a public warehouse with refrigeration might be good. During the Christmas season, Bear Creek uses up a lot of the refrigerated warehousing. I would like a warehouse in White City.”

A trucking company owner: “I would like to see more storage in the area, because more storage facilities would mean more business for us.”

Freight System Strengths and Weaknesses

Air Freight and the Airport

According to airport officials, airport facilities are capable of handling current demand for air cargo. Thanks to recent runway improvements, larger planes, such as 747s, are able to land, but use is far from reaching full capacity. If demand increases, the airport intends to build to meet the demand. Some local advocates would like to see greater capacity developed now.

“There’s a real interest in developing the airport’s capacity to accommodate 747 freighters at Medford airport. The planes they have now are not large enough to accommodate our freight. We have to truck rotor blades to Portland for connection to air. Periodically, we ship entire sky cranes on the Russian Antonov. Occasionally, we send them on ships and that can take around 3 weeks, depending on the destination. We will be seeing an increase in international shipping.”

“Having a full time US Customs and a customs broker at the airport would be another desired feature.”

“Air fuel will be critical. This might involve a tank farm near McAndrews Rd. with a pipeline extending to the airport.”

“Our limitations are at the airport. The problem is that there are seasons when fog makes landing impossible. We carry freight in small planes so they can land in Ashland if there is fog. Then we truck to Medford from there. If this airport were a Category 3, meaning you can land with next to zero visibility, then we could land. The airport would have to have avionics, which communicate with avionics in the plane, helping them to land in thick fog.”

“Medford has the potential to become a mini-hub for UPS and Fed Ex. A jet could bring in parcels to Medford and use smaller planes to distribute the parcels from Medford. These planes are taking up too much space at the larger airports, resulting in a net revenue loss for them.”

Rail

Despite growth in their business over the past few years, local rail (CORP) faces several infrastructure challenges requiring major investment. Apart from the ongoing need for track repair and improvements, system improvements are needed to allow short line railroads to continue serving the larger railroad companies. As larger railroads increase the size of their railroad cars, short lines need to make improvements to handle the larger cars from those companies. Tunnels likewise need to be modified to accommodate the increased height and length of containers and cars. Until this is done, local rail cannot carry “piggyback” truck trailers or containers.

Freight System Strengths and Weaknesses

In recognition of the fact that short line tracks comprise 47 percent of rail track mileage in Oregon, the state is now providing grants for short line track improvements. The federal government is now considering legislation, which would provide funds for short line railroads to make the system changes that would allow their use of larger railroad cars.

Until tunnel and other improvements are made, freight will continue to be shipped on trucks to and from Portland to connect with Burlington Northern Santa Fe.

“We ship 40 piggybacks by rail each year; they leave from Portland since they can’t get through the tunnels in our area.”

“The real improvement that would help is cutting the time that rail takes. The trip from Willamina to Medford takes 10 days, but it is less than 300 miles. A truck can do that in 5 hours or so. We are at a rail disadvantage here. Our service is slower than other companies. The problem with the time is that you can’t invoice people as quickly, so you have a cash flow problem. I don’t know what the answer is; I’d just like to see it faster.”

“Government should help the smaller railroad companies become better and faster. The railroad feels that trucking gets all the subsidy.”

“The tunnels at Glendale and Siskiyou should be made wider and higher. Business that wants to bring in parts by train won’t locate in White City because the tunnels are too small to bring in materials. Another major improvement would be to straight line the tracks through the Siskiyou. Railroads always take a winding path. This used to benefit the companies, because they could cover more land and get more timber. Now it’s a disadvantage because of the extra ground to cover. It adds time and cost. Over the Siskiyou, this would require tunnels through the mountains.”

Designated Truck Routes

A recent California court decision found that local jurisdictions could not require trucks to use designated truck routes. Respondents to this study survey were asked, “If certain routes were designated as better suited, but not mandatory, for trucks, would this benefit your business?”

Some trucking companies felt that designated truck routes would be helpful only if they separated trucks from non-commercial vehicles. Others saw some potential value:

“Since we do local deliveries all over and don’t use large trucks, truck routes are not helpful. If we used large trucks and always went to the same place, it might be

Freight System Strengths and Weaknesses

useful. This type of designation would be useful if it were tailored to specific businesses and types of loads.”

“Establishing a freight corridor would be helpful because then people would know it was intended for freight and they wouldn’t build certain kinds of developments along those routes that might not be compatible with freight. “

Container pools

Containers from ships are arriving in Medford on trucks from the Portland and Long Beach areas, among others. Regarding outbound container shipments, one firm sends 200 containers to Oakland each year and another 25 to Portland. There is some interest in establishing a container pool in our area:

“The main reason to establish a container pool in the valley is the cost savings. Now, a driver brings a full container down, empties it and drives back empty. This costs \$800. If there were a container pool, the same driver could drive a full container down, charge \$400 and pick up a full container to drive back for another \$400. This way, shippers would pay only a one-way trip, but the driver would get the same amount for the work.”

“We have a container pool on site. We used to have a local carrier take them to Portland, but now a carrier comes down from Portland to take them to the steamship line in Portland. If a container pool were started locally, we would not be able to work with just any company. Corporate controls who carries our containers with corporate contracts.”

Government Action

When asked if there were specific actions that local or state government could take to facilitate their business, many expressed their frustrations with the regulations governing the trucking industry.

“Oregon ranks first or second in the nation in terms of how high their PUC charges are. The ton per mile tax is very high. Trucking companies in other states don’t want to come here because it costs them too much to run here.”

“I would like to see several regulations changed. Limiting drivers to 8 hours of service/day is ridiculous. 15 hours in a 24-hour period would be reasonable. To make a profit in this business, you almost can’t follow all the rules and regulations.”

“Go to the weight/mile tax and reduce the fuel tax.”

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“The regulatory climate is the problem. The trend is always towards more and more regulation. Ten years ago, the FHWA was looking at changing the hours of service and making them more flexible. They were written in 1934 and haven’t changed since.”

“It would be beneficial to make a comparison of what freight can and cannot do in different states, such as California, Washington, and Oregon to compare the advantages and disadvantages among them.”

“Several regulations hurt the industry. The “hours of service” rule limits the number of hours per day and per six-day week that a driver can work. Taxation for use, that’s not fair. The trucking industry pays federal and state taxes and fuel taxes. Drug screening rules—it was more efficient when I could do it myself, my way. The new process requires more time and costs twice as much. It can take two days to get a driver to work because of these rules.”

Land Use and Zoning

The Jackson County Comprehensive Plan and Land Development ordinance and the comprehensive plans and municipal codes of the cities in the study area were reviewed to determine whether they provided impediments to freight transportation. All jurisdictions are required to have a transportation element and an economy element in their comprehensive plans. Policies encourage the provision of an adequate transportation system to serve commercial and manufacturing areas. For example, Central Point has a policy to encourage industrial use between Highway 99 and the railroad, and Jackson County seeks to provide commercial and industrial nodes along arterials and collectors, where transportation facilities are adequate for freight hauling.

Because the area is designated as a Metropolitan Planning Organization (MPO) planning area, it is also subject to the Regional Transportation Plan (RTP). The RTP is a multi-modal transportation plan designed to meet the anticipated 20-year transportation needs within the MPO boundary. As a regional plan, this document does not provide designs for individual projects, but it establishes a framework whereby individual jurisdictions can operate in a coordinated fashion with other jurisdictions. The freight element includes a list of freight issues and concerns, and notes that the current freight study will continue to identify and prioritize concerns. ~~When completed,~~ The freight study allows the MPO to develop solutions to some of the most pressing concerns expressed by the users of the freight system.

Identified Needs & Existing Plans

Much of this report is dedicated to documenting the concerns of shippers and carriers about the freight transportation system. An important, second aspect of the research has been to compare the issues and goals of people in the freight industry with improvement

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plans developed by the cities and county that comprise the RVMPO. To what extent would the region's transportation planners have identified those same issues, needs and goals? Were there projects in the pipeline to mitigate the identified issues? Were there gaps between industry and government perspectives?

In order to answer these questions, staff shared the survey results with local planners and public works staff. Ongoing or planned projects pertinent to identified issues/goals were documented, along with government perspectives on issues raised. It became clear that there is considerable consensus between the freight industry and government about what is needed to improve freight mobility. For most of the issues raised by industry, there are ongoing or planned improvement projects. In other instances, there are ongoing studies to determine problem solutions; a remaining concern by industry is the time that the sequential planning, funding, and construction processes will take. Some points of disjuncture, such as improvements to Highway 140, have to do with the scarcity of funds, government's inability to serve all needs, and its focus on improving the most heavily used routes.

Conclusion

This study was exploratory in nature, geared to identifying freight transportation issues from the perspective of shippers and carriers in the RVMPO area. Since only a small percentage of the freight shippers and carriers in our region were interviewed, this study presents neither a comprehensive picture, nor a statistically sound weighting of the concerns. It is likely, however, that most important issues have been identified, since the transportation system is not highly complex and a good cross-section of freight generators and carriers were interviewed.

Government is addressing many of the freight industry's issues with long- and short-range improvement projects. It is studying other, more complex, issues such as congestion on Highway 62, to determine the best solutions.

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Introduction

This section addresses aspects of the freight industry from the standpoint of the mode choice – trucking, rail, or air. The information here augments modal information provided in other sections of this report.

Trucking

National and state transportation agencies have established a hierarchy of highways. The federal government developed a National Highway System (NHS) intended to include the most significant highways for moving people and freight. This system includes Interstate 5, Highway 62, Highway 99, and Highway 140, portions of which are located in the study area. Most truck freight moves on the National Highway System, which accounts for about 49 percent of Oregon’s total highway mileage. The 1999 Oregon Highway Plan designated a State Highway Freight System based on freight volume, connectivity, and linkages to major intermodal facilities. ~~Interstate 5 is the only Rogue Valley highway in the State Highway Freight System.~~ Roads on this system include Interstate 5, Highway 140, and Highway 62 between I-5 and Highway 140. Pine Street, Biddle Road, and Airport Road provide links to the Rogue Valley International – Medford Airport.



The Regional Transportation Plan identified additional routes of regional significance. East Pine Street and Biddle Road provide access to the Rogue Valley International Medford Airport. All other collectors and arterials in the MPO are designated as freight system roads. Of freight-related firms with more than 100 employees, Erickson Air Crane is the only company that is more than ¼ mile from freight system routes.

As noted in the overview, areas with significant commercial and manufacturing enterprises concentrate near the freeway interchanges, along the Highway 99 and

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Highway 62 corridors, and White City. This land use pattern leads to a triangle of heaviest truck freight hauling, the legs of the triangle being 1) the parallel I-5 and Highway 99 corridors, 2) the Highway 62 corridor, and 3) a northerly connection from Highway 62 to Interstate 5, using Antelope Road, Kirtland Road, and Blackwell Road. Highway 140, Table Rock Road, Biddle Road, Pine Street in Central Point, and Vilas Road also experience high volumes of freight traffic.

The Regional Transportation Plan (RTP) identifies ten intersections in the MPO area having the highest volumes of truck traffic:

- Highway 99 and McAndrews Road
- Highway 99 and Fern Valley Road
- Highway 99 and Pine Street (Central Point)
- Interstate 5 ramp terminals and Pine Street
- Biddle Road and Table Rock Road
- Highway 62 and Highway 99
- Interstate 5 ramp terminals and Highway 62
- Court Street and Main Street (Medford)
- Highway 62 and Highway 140
- Biddle Road and Airport Road

A technical memorandum produced as part of the ODOT Freight Plan update identified the I-5 Barnett Road interchange as one of five on the interstate system having capacity constraints. The South Medford interchange replaced the Barnett Road interchange, providing increased capacity. The memorandum also identified Highway 62 east of the freeway as one of five link constraints in Oregon. Among the objectives of the anticipated bypass is to facilitate freight movement between I-5 and White City.

One of the most serious issues facing freight transportation in the early 2000s was the declining condition of Interstate 5, particularly its bridges, resulting in weight restrictions and detours for heavier tractors and trailers. In 2003, the Oregon Legislature approved a \$1.3 billion project to replace many of the freeway bridges, using Oregon Transportation Investment Act (OTIA) funds. As of the summer of 2011, the only bridges not yet completed were the Willamette River crossing in Eugene (late 2013) and the interchange overpasses in Ashland (mid-2012). Federal stimulus money also funded repaving on much of the freeway.

Climate Change

House Bill 2186, passed by the Oregon State Legislature in 2009, targets reductions in Greenhouse Gas (GHG) emissions caused by transportation. While this bill has far-reaching transportation effects, measures that specifically affect freight include:

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- A low-carbon fuel standard to reduce life-cycle GHG emissions from gasoline and diesel fuel by 10 percent by 2020;
- A study of potential requirements regarding the maintenance and retrofitting of trucks to reduce aerodynamic drag and otherwise reduce GHG emissions.
- Authority to DEQ to ensure emissions control systems perform properly;
- Authority to DEQ to require that automobile mechanics check tire inflation to improve fuel efficiency.
- Create a task force to study and evaluate alternative land use and transportation scenarios to accommodate planned growth in MPO areas, while reducing greenhouse gas emissions.

As part of the Oregon Freight Plan update, ODOT commissioned publication of *Freight and Climate Change*, a background paper published in June 2010. The document identifies three approaches to reducing freight emissions

1. Reduce emissions produced by freight carriers per mile of travel.
2. Reduce miles traveled by freight carriers, and
3. Shift freight to modes with less climate change impact.

The background paper also cited Oregon's *Strategy for Greenhouse Gas Reductions* that includes a number of recommended actions, two of which specifically relate to freight:

- Set and meet goals for reduced truck idling at truck and safety stops; and
- Set and meet goals for freight (truck/rail) transportation efficiency).

The document recommends two methods to reduce truck idling and thereby reduce greenhouse gas (GHG) production. The first is Truck Stop Electrification (TSE). Instead of trucks idling during rest stops, the truck stop provides electrical hookups for in-cab heating, air conditioning, and other functions. A trucker could see operating cost savings of \$1,000 to \$4,000 annually with the use of TSE. EPA data analysis estimates that national greenhouse gas reductions could range from 0.4 to 1.3 million metric tons.

Another method for reducing truck idling is to mount Auxiliary Power Units (APU) on the side of trucks. Most units contain small diesel engines, but some use batteries. The initial cost ranges between \$8,000 and \$12,000, but results in an average GHG reduction of 50 metric tons per truck.

Transportation efficiency will be enhanced through slightly improved fuel efficiency in new diesel engines, new fuel consumption standards slated to apply to medium- and heavy-duty trucks beginning with the 2016 model year, and use of best available technologies for trucks, rail, and aircraft. Some of the truck improvements concentrate on aerodynamic modifications, reduced weight, and more efficient engines to promote fuel efficiency, combining for an 18 to 24 percent reduction in per vehicle fuel consumption.

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Other strategies include virtual weigh stations, reduced speeds, driver training, adjusting traffic signal timing, and enhancing signs to make freight facilities easier to locate.

Aggregate Industry Close-up

The aggregate industry accounts for a large share of local truck traffic. Of all freight that has an origin and destination in the Rogue Valley, 80 percent is aggregate. For that reason, the Freight Study took a close look at this segment of the freight industry.

Region Geology

To examine the RVMPO's area's aggregate industry the best place to start is at the source – the materials and their location. The Southern Oregon region is complicated geologically, offering a variety of rock type, including the oldest rocks in the state.

Between the northern limits of Medford's urbanized area and the California state line, Interstate 5 runs along the western edge of the Klamath – Siskiyou Mountains, tracing their margin with the western Cascades. All the rocks in the mountains west of the interstate are metamorphosed sediments and volcanics interrupted by granites, all of them at least 150 million years old. Rocks in the hills east of the highway are dark volcanics, andesite and basalt, created 25 to 35 million years ago, when the western Cascade volcanic chain was active.

The last great eruption of Mount Mazama created Crater Lake about 7000 years ago. This eruption created most of the volcanic rock that lies along Hwy. 62. However, between Eagle Point and Medford, soft sedimentary rock, mostly sandstone, lies from nearly 50 million years ago when the valley was under ocean. The oldest known rocks in Oregon are in the Siskiyou Mountains along the state line about 20 miles west of I-5. They are recrystallized sediments thought to be at least 425 million years old.¹

The Oregon Metal Mines Handbook, reports the nonmetallic minerals present in Jackson County include coal, shale oil, asbestos, carbon dioxide, clay, peat, pumice, silica, limestone, and aggregate. Aggregate is the most important mineral mined in Jackson County. Aggregate resources consist of sand, gravel, rock, stone, soil, precious metals, and other earth or natural materials. They are finite, nonrenewable minerals necessary for most public works projects and nearly all types of commercial, industrial and residential construction. Aggregate is used in concrete, asphalt and as fill and base for public and private roads in urban, rural and forest land areas. Every house constructed requires an average of 40 cubic yards of aggregate, which generates a secondary demand in the community for an additional 100 cubic yards of aggregate products. An estimated 80 percent of the aggregate mined in the county is used for the building of structures and

¹ Alt, D. & Hyndman D., Roadside Geology of Oregon, Mountain Press Publishing Co., Missoula, MT 1988

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for public and forest road construction purposes. This demand for aggregate works out to an average per capita consumption in Oregon of 17 tons, or one dump truck load of rock for every person in the state, according to ODOT. The high demand for aggregates will continue consistent with population growth and the development and redevelopment needs of the urban and rural areas in the county. Thus, there is a clear need to protect aggregate resource lands and processing sites and ensure that this resource is readily available for use.²

Aggregate material and uses

Rocks	Uses
Coal	Electricity in power plants
Limestone	Portland cement, paper, linoleum, fiberglass, glass
Shale oil	Bricks and cement
Asbestos	Insulation
Clay	Bricks
Pumice	Soap
Silica	Nursery grit for tree seedlings, catalytic medium, filtration purposes
Aggregate	Construction of roads and buildings

Aggregate routes

As noted at the beginning of this section, aggregate accounts for a large share of local truck traffic. Of all freight that has an origin and destination in the Rogue Valley, 80 percent is aggregate. Hauling this product puts a large fleet of trucks on the public roads. The fleet of trucks results in a large number of trips from aggregate sites to the construction site, which leads to added congestion and safety dilemmas. Addressing the movement of aggregate will lead to increased efficiency and improved safety throughout the valley.

Aggregate businesses

Business	Street Address	City
Adee Landscape Rock	2961 N. Foothill Rd	Medford
Bristol Silica		Rogue River
Conveyered Aggregate Delivery of Medford	9201 Old Stage Rd	Central Point
Crater Sand & Gravel Inc	7260 Blackwell Rd	Central Point
Hi Banks Rock Products	High Banks Rd	Central Point
Hilton Fuel & Supply Company	8087 Blackwell Rd	Central Point
Hughes Brothers Construction	5550 Table Rock Rd	Central Point
Integrated Contractors	668 W Rolling Hills Dr	Eagle Point
J & B Rock	3303 Hwy 238	Jacksonville
Jerry's Shale Pit	Highway 62	Shady Cove
Johnny Cat	670 Powderhorn Dr	Jacksonville
Ledford Construction Company	3616 S Pacific Hwy	Medford
Knife River	3959 Hamrick Rd	Central Point

² 1998 Jackson County Comprehensive Plan

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Business	Street Address	City
May Rock & Excavating	2999 Diane St	Ashland
Medford Ready Mix	3400 Crater Lake Hwy	Central Point
Mt. View Rock	2845 Merry Ln	White City
Panther Crushing	6061 Crater Lake Hwy	White City
Quality Rock Products Inc.	2110 Dead Indian Mem. Rd	Ashland
Rock & Roll Landscape Sup.	4860 Antelope Rd	White City
Rock 'n' Ready mix	6960 Blackwell Rd	Central Point
Rogue Aggregate	3770 Kirtland Rd	Central Point
Savage Sand and Gravel	7260 Blackwell Rd	Central Point
Southern Oregon Rock	641 E. Linn Rd	Eagle Point
Tom White Trucking	4017 Jacksonville Hwy	Medford
Toprock Trucking Co	PO Box 2444	White City
Weathers Crushing	213 Bateman Dr	Central Point
Western Rock Reduction	12643B Hwy 62	Eagle Point

RVMPO-area companies that specialize in aggregate.

Many of the aggregate sites are located in the White City vicinity. The majority of the aggregate traffic ends in East Medford, near Roxy Ann Peak. Therefore, the most efficient route to travel from the origin (Hwy. 62) to the destination (East Medford) is Vilas Road to Foothills Road to McAndrews Road to Hillcrest Road. However, due to weight restrictions, the trucks cannot travel on Foothills Road when loaded with material. Therefore, aggregate trucks are limited to the route: Delta Waters heading east, Springbrook south, Spring Street east, Pierce Street south, and Hillcrest east. This route forces the large trucks, with a smaller braking response time, through two school zones and multiple residential neighborhoods, an inefficient and disruptive use of infrastructure. Roads along this route also need frequent maintenance, caused by a large volume of heavy-duty trucks that damage the roadbeds.

Aggregate trucks are often located inside a **pass through** school zones when children are walking to and from their school. These occurrences elevate the safety hazards for the children, as well as increase the truck's emissions while slowing down and speeding up. Attending to the weight restriction on Foothills Road would be the solution to many problems the aggregate industry faces on a daily basis. Although Foothills Road contains more curves than the existing truck route, there are no schools located on the route. Lowering the speed limit would mitigate the hazards of the sharp curves. Upgrading Foothills Road would allocate a trip distribution that decreases the truck's emission, by providing less "stop and go" traffic.

Safety

During 2000–2005, fifteen crashes occurred in Jackson County that involved aggregate trucks. Six of these crashes resulted in spills of aggregate materials. The intersection of Kershaw and Hwy 140 had one fatal crash on July 15, 2005. Regarding aggregate trucks when designing intersections can improve the safety for all vehicles. Typical design standards for these intersections can include improved sight distance, larger area for a

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turning radius, right and left hand turn lanes, wider shoulders, and stop light notification. These standards can significantly improve the safety of the public when driving. The following table provides details regarding crashes involving aggregate hauling.

Aggregate Crashes

Crash Date	Route	Mile point	Location	Nearest City	Fatal	Injury	Cargo	Spill	Time	GVWR
1/25/2000			KIRTLAND RD	WHITE CITY	0	0	Rock	No	12:30	80000
10/20/2000			S STATE RD	MEDFORD	0	0	Rock	Yes	12:07	80000
5/4/2001			ANTELOPE RD	WHITE CITY	0	1	Gravel	No	09:30	98000
7/2/2001	99	14.61	RAPP RD	TALENT	0	1	Concrete	No	11:25	26000
7/25/2001	62	10.6	.6 W LINN RD	.4 W EAGLE POINT	0	0	Rock	No	16:40	87200
9/4/2001	15	35.2	HWY 99	CENTRAL Pt.	0	0	Sand	Yes	15:45	104000
3/7/2002	15	5	.5 S HWY 99	8.5 S ASHLAND	0	1	Rock	Yes	18:00	80000
7/7/2003			JACKSON & NARREGAN ST	MEDFORD	0	1	Concrete	No	07:20	73000
8/14/2003	62	13.5	.2 S HWY 234	3.5 N EAGLE POINT	0	0	Rock	No	08:29	105500
3/22/2004	234	16	AGATE RD	EAGLE POINT	0	0	Rock	Yes	10:12	80000
3/24/2004			EVANS CREEK	ROGUE RIVER	0	1	Rock	No	09:00	88000
7/12/2004			MILLIGAN RD	MEDFORD	0	1	Gravel	No	09:45	105500
2/10/2005	62	13.5	.25 S HWY 234	2.5 N EAGLE POINT	0	1	Rock	Yes	13:45	105500
5/26/2005			EAGLE MILL & OAK ST	ASHLAND	0	0	Crushed Rock	No	11:15	105500
7/15/2005	140	2.29	KERSHAW RD	WHITE CITY	1	6	Gravel	Yes	15:50	52000

Current and future needs

Once the trucks reach their destination the problems do not cease. A typical aggregate truck contains one hydraulic lift and two buckets of materials. The rear bucket is attached to the truck via trailer. Therefore, at the job site the truck must detach the trailer and unload the first bucket using the hydraulic lift. Finding an area to place the detached trailer becomes a problem. The driver needs a considerable amount of shoulder on the roadway to not impede traffic while the trailer is inoperable. Many times this space is found miles from the job site, causing more inefficiency to detach and attach. Providing adequate space near the large development sites for the trucks would alleviate this problem. This space may even be in a temporary form. If a jurisdiction approves a large PUD for construction, the city should also ensure that parking for aggregate and construction haulers is adequate. ~~This will release the burden of the neighbor's aggravation over trucks parking in front of their houses.~~

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The aggregate industry relies on a nonrenewable source. This dependence on a finite source makes planning and forecasting for the industry ~~detrimental~~ **crucial** for future success. Over the next 10 years aggregate industry products will continue to be in high demand while the industry will face delays in its delivery process. **The completion of the new South Medford Interchange and construction of the Fern Valley Interchange, expected to begin in 2013, have both positive and negative impacts on the industry.**

Aggregate companies supply the raw materials needed for construction of the interchanges. Yet, the aggregate fleet experiences delays when supplying materials to sites along the Interstate 5 corridor. Population growth will continue; therefore, the need for aggregate materials to build homes and roads will also increase. Support with public infrastructure for aggregate trucks to move materials and provide their services, will be necessary to sustain the population.

Support is being supplied by jurisdictions within the Rogue Valley. Jackson County and Medford have added projects to the Regional Transportation Plan (RTP), which are to be constructed in the next 25 years that will improve a route commonly used by aggregate haulers. These projects are:

- RTP #826: Foothill Road, Delta Waters Road to Coker Butte Road;
- RTP #827 Foothill Road, Coker Butte Road. to Corey Road;
- RTP #831 Foothill Road, McAndrews Road to Delta Waters Road; and
- RTP #832 Foothill Road, Hillcrest Road to McAndrews Road.

The projects planned would upgrade the infrastructure, eliminating the weight restriction currently enforced on this arterial. The road would then be designated as a “City Truck Freight Route”.

The aggregate industry in the Rogue Valley **confronts many obstacles when providing residents** with a valuable service. The industry has a common relationship with the Rogue Valley. As the population grows, so does the demand for product from the industry. This commonality will lead to greater demand on the industry affecting the existing street infrastructure. Providing roadways that support the needs of a growing population may provide secondary impacts to the valley. The more time it takes for an aggregate truck to get to the construction site, the greater the user’s cost will be. Therefore, addressing the aggregate truck routes may lead to stabilizing housing cost to the future homeowners.

Conclusion and findings

The Medford Urbanized Area is predicted to increase population by 72 percent over the next 25 years. Throughout the Rogue Valley, many industries are directly affected from the planning of the region’s roads and land. Aggregate is one of those sectors that can benefit from quality planning. The aggregate industry will serve a vital role in accommodating the increased population through providing the building material for new homes and roads. Yet without implementation of certain measures the industry will

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Modal Features

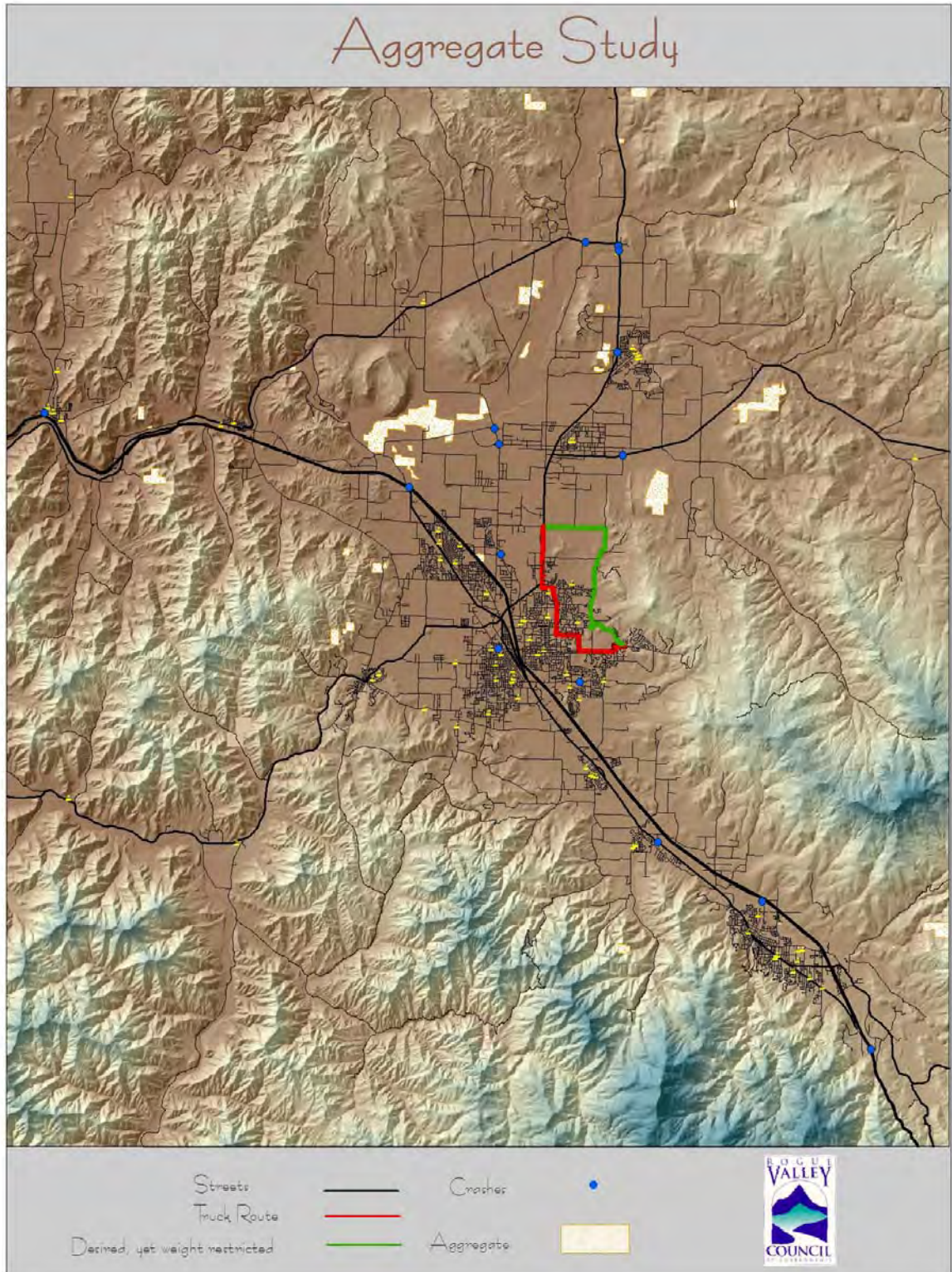
operate inefficiently. Below are findings to improve the efficiency for the aggregate industry.

1. Forge public-private coordination and methods to engage the private sector in processes that have a short-term and long-term focus.
 - a. Continue to **convene** the Freight Advisory Committee meetings on a regular basis.
 - b. **Invite the aggregate industry** to these meetings.
 - c. Compose agenda items that engage all parties.
 - d. Stress aggregate component of transportation system plans.
2. Coordinate developers and the aggregate industry.
 - a. **During construction** of large residential developments, strive to ensure adequate parking is available for the disengaged rear trailer, during construction.
 - b. Develop non-traditional shipping times, to avoid peak congestion hours and school children.
3. Address infrastructure needs.
 - a. **Improve** sub-standard aggregate routes on the transportation system.
 - b. Upgrade routes to accommodate local freight travel.
 - c. Coordinate with ODOT's Freight Mobility section
4. Maintain ample supply of aggregate materials.
 - a. Revisit conditional use permits for aggregate sources.
 - b. Promote recyclable aggregate for infrastructure reconstruction and rehabilitation projects.

Much of the information for the Aggregate Study came from interviews with suppliers. A summary of those interviews is on page 64.

RVMPO Freight Study

Modal Features



Summary of Aggregate Industry Interviews

Aggregate Companies	Questions			
	<i>Location of origin sites</i>	<i>Current routes to popular destinations</i>	<i>Problems Faced</i>	<i>Solutions to problems</i>
Panther Crushing	Panther Crushing operates pits south of Eagle Point off of Hwy 140	East Medford remains the destination of a large percentage of the business. Trucks take Hwy 140 west to Hwy 62. They continue south on Hwy 62 to a frontage road connection near RVTD. From here they take Crater Lake Av south to Delta Waters Rd passing a grade school. They take a right onto Springbrook past the North Medford High School and turn left onto Spring St. Spring St veers to the right and turns into Pierce St. At the end of Pierce, drivers take a left onto Hillcrest and continue into East Medford.	Travel through multiple school zones and residential neighborhoods. Cause and take part in congestion on Hwy 62. McAndrews intersects with Hillcrest at an angle that does not allow trucks to turn.	Eliminate weight restriction and lower speed limit on Foothills Rd. The intersection at McAndrews and Hillcrest needs to be realigned. [Corrected by construction of McAndrews overpass]
Knife River	Knife River has many aggregate sites throughout the valley. The pickup site is chosen by the driver based on geography to the destination and roads that limit heavy hauling.	The largest Knife River pits are in White City. Most of the time the drop off is in East Medford. The most traveled route is Hwy 62 to Crater Lake Ave to Delta Water to Springbrook to Spring and Pierce to Hillcrest. When going to Jacksonville, Drivers take Hwy 62 to the Big X and take Hwy 238.	Weight restriction on Hwy 140. Small shoulder on Old Stage Rd. A site to disengage the rear trailer and leave as the first bucket is dumped. In Central Point the roundabout on Taylor Rd does not allow travel for agg trucks, they can't avoid running over the curbs.	Upgrade Foothills to an arterial and eliminate the weight restriction. Provide an adequate space for trailers near subdivision being constructed.

RVMPO Freight Study

Modal Features

Truck Freight Routes

As the RVMPO initiated the Freight Study, all collector and arterial streets had been categorized as freight system roads. Through the efforts of the study and guidance from the Freight Advisory Council, route designation was refined to include only the roads determined to accommodate actual use and anticipated need. The following table lists freight routes most frequently used to haul freight as defined by the study.

Existing freight system routes

Route	Location by jurisdiction
State Highway 62	Jackson County, Medford
Agate Road	Jackson County, White City
Royal Avenue	Eagle Point
Reese Creek Road	Jackson County
Brownsboro-Eagle Point Highway	Jackson County
Agate Road	Eagle Point, Jackson County
Bigham-Brown Road	Jackson County
	Jackson County, White City, Medford, Central Point
Kirtland Road	Jackson County
Pacific Ave	Jackson County, White City
Avenue G	Jackson County, White City
Antelope Road	Jackson County, White City
Leigh Way	White City
State Highway 140 (portion)	Jackson County, White City
Kershaw Road	Jackson County
Corey Road (portion)	Jackson County
Crater Lake Ave	Jackson County, Medford
Foothill Road	Jackson County, Medford
Blackwell Road (portion)	Jackson County
Tolo Road	Jackson County
State Highway 99	Jackson County, Central Point, Medford, Phoenix, Talent, Ashland
Interstate 5	Jackson County, Central Point, Medford, Phoenix, Talent, Ashland
Scenic Ave	Jackson County
Old Stage Road	Jackson County
East Vilas Road	Jackson County, Central Point, Medford
Pine Street	Central Point
Biddle Road	Medford
Hanley Road	Central Point, Jackson County
Beall Lane	Central Point, Jackson County
Airport Road	Medford
Coker Butte Road	Medford, Jackson County

RVMPO Freight Study

Modal Features

Existing freight system routes continued

Route	Location by jurisdiction
Cardinal Avenue	Medford
Lear Way	Medford
Delta Waters Road	Medford
Sage Road	Medford
Rossanley Road (Highway 238)	Medford, Jackson County
Ross Lane	Medford
South Holly	Medford
East 4 th	Medford
Lozier Lane	Medford
Barnett Road	Medford
North Phoenix Road	Medford, Phoenix
Stewart Ave	Medford, Jackson County
Garfield Street	Medford
South Stage Road	Medford, Jackson County
Fern Valley Road	Phoenix
Rose Street	Phoenix
5 th Street	Phoenix
1 st Street	Phoenix
Talent Avenue	Talent
Wagner Street/Wagner Creek Road	Talent, Jackson County
Rapp Road	Talent
Valley View Road	Jackson County
Ashland Street	Ashland
Mistletoe Road	Ashland
Highway 62	Ashland, Jackson County

The freight routes listed above were identified through the Freight Study and the Regional Transportation Plan update in 2005.

Discussions and interviews with freight industry representatives identified numerous system weaknesses on existing trucking routes, as noted in the Strengths and Weaknesses chapter of this report. Key shortcoming of the road network were the lack of direct routes to industrial sites and the need for north-south alternatives to Interstate 5 that do not pass through town centers (as does Hwy. 99).

Truck Safety

Crash data produced for Jackson County confirm that nine of the top 10 crash locations outside city limits in 2002 occurred on freight routes in the RVMPO. The statistics do not indicate the number of crashes involving freight haulers, but verify the hazardous nature of the intersections. The nine locations on freight routes are shown below.

RVMPO Freight Study

Modal Features

High Crash Locations on Freight Routes

Intersection	Number of Crashes
Vilas and Table Rock Road	11
Lozier and West Main	10
Biddle and Table Rock Road	9
Blackwell and Kirtland	9
Kirtland and Table Rock Road	8
Lozier and Stewart	7
Agate and Antelope	7
Highway 62 and Highway 140	6
Antelope and Highway 62	6

2002 crash statistics for the region's leading freight routes.

Land use

The freight routes and, to a lesser extent, the crash statistics reflect underlying zoning and land use patterns in the region. Areas with significant commercial and manufacturing enterprises generally are near the freeway interchanges, along the Highway 99 and Highway 62 corridors, and in White City, which has the greatest concentration of industrial zoning in the study area. This land use pattern leads to a triangle of heaviest truck freight hauling, the sides of the triangle being: 1) the parallel I-5 and Highway 99 corridors, 2) the Highway 62 corridor, and 3) a northerly connection from Highway 62 to Interstate 5, using Antelope Road, Kirtland Road, and Blackwell Road. Highway 140, Table Rock Road, Biddle Road, and Vilas Road also experience high volumes of freight traffic.

Recommendations

The Freight Advisory Committee and RVMPO Technical Advisory Committee developed a priority ranking of freight improvement projects identified during shipper and hauler interviews. The ranking culminated a process of identifying issues and problem routes that led to a list of specific potential projects. The following factors guided the scoring and ranking process:

- Assign higher priority to projects on routes that are important to freight mobility. (maximum 30 points)

While the freight map in the Regional Transportation Plan included all arterials and collectors as freight routes by definition, maps for the freight study have been refined to reduce the number of routes. Because the freight routes will accommodate the majority of freight trips, the most efficient expenditure of funds will usually be on established routes. Projects on other routes may qualify if they can be shown to directly support freight mobility.

RVMPO Freight Study

Modal Features

- Select projects serving commercial, industrial, or resource extraction land, where an inadequate transportation network impedes freight-generating development. (maximum 30 points)

White City has significant areas that are not yet developed, some of which will be limited by environmental issues, but other areas near the airport are vacant and available for industrial use, limited at this time by access.

- Assign higher priority to projects that would support multimodal freight transportation movement. (maximum 10 points)

A single project, such as an intersection improvement, may improve the geometrics for turning movements at the specific intersection, but may also provide better access to the airport or to rail, increasing connections with other travel modes.

- Assign higher priority to projects that would remove identified barriers to the safe, reliable, and efficient movement of goods. (maximum 30 points)

The following table includes projects recommended in the June 2006 report, listed by priority ranking. The priority did not carry an assumption that projects must be completed in sequence, but it did establish the committee's assessment of what was most important to improve freight movements in the Rogue Valley. Only the projects that ultimately were listed in Tier 1 of the Regional Transportation Plan were funded and, therefore, could be built. The second column lists the status of the project in late 2011, including costs where known, demonstrating the extent to which projects identified in the 2006 study have been built.

RVMPO Freight Study

Modal Features

Status in 2011 of Projects Recommended in 2006

Rank	Project	Status
1	Coker Butte at Highway 62	Project complete 2011. \$4,802,000
2	Southbound Loop Ramp, Blackwell Interchange	Completed as part of the Seven Oaks Interchange reconstruction.
3	Table Rock Road, Pine Street/Biddle Road to Wilson	Widened to four lanes with a median turning lane. \$4,160,000
4	Smooth Avenue G and Kirkland Road Intersection	Project funded for FY 2011. \$2,250,000.
5	Kirtland Road and Blackwell Road Intersection	Intersection modified to make Kirtland the through road, and create a T intersection. Project complete.
6	Table Rock Road and West Vilas Road Intersection	No Action
7	Table Rock Road and Hamrick Road Intersection Improvements	No Action
8	East Vilas Road: Haul Road to Crater Lake Avenue	No Action. Ties into Highway 62 project
9	Improve east/west flow on Pine Street	Project underway in 2011
10	Improve traffic flow at Central Point 1-5 interchange	Subject of an Interchange Area Master Plan (IAMP). Turning lanes installed on Peninger.
11	Fern Valley – 99 to North Phoenix	IAMP completed. Scheduled for construction in 2013. \$75,000,000
12	Widen Avenue G and Highway 62 Connection	Part of a 2008 project
13	Delta Waters at Highway 62	No action, but could be affected by Hwy 62 bypass
14	Rehabilitate Avenue G	In County TSP as financially constrained short-range project
15	Table Rock Road; Wilson to Antelope Road	To be constructed in FY2012. \$2,940,000
16	Phoenix: Houston Road to industrial site	No Action
17	Antelope Road: Table Rock to 7 th Street	Project completed in 2007. \$2,280,000
18	New Traffic Signal at East Vilas Road and Airway Drive	No action
19	Widen Kirtland Road- High Banks to Blackwell Road	Bridge over Bear Creek replaced and road widened to Blackwell Road. Remainder in ODOT Highway 240 connection study.
20	North Runway Drive Extension	No action
21	Repair Hamrick Road, south of Pine Street	No action

RVMPO Freight Study

Modal Features

Rank	Project	Status
22	Table Rock Road intersection @ Airport Road	No action
23	East Pine and Peninger intersection	IAMP. Dedicated turn lane added in 2011.
24	Highway 238, Jacksonville and west of Jacksonville	No action
25	Ross Lane: (Old) Jacksonville Hwy to McAndrews Road	Completed 2011. \$2,560,000
26	Hersey Street at North Main	Realignment under study
27	Table Rock Road: Bear Creek to Pine Street/ Biddle Road	No Action
28	Extend Owen Drive	Completed 2011. See #1
29	Ross Lane: McAndrews Road to Rossanley Road	Completed 2011. \$1,750,000

Rail

Two firms provide rail transportation in the Rogue Valley, Central Oregon & Pacific Railroad (CORP), and White City Terminal Utility (WCTU).

Central Oregon & Pacific Railroad (CORP) purchased the Southern Pacific Line in 1995. What is known as the Siskiyou Line was originally part of the main line between Oregon and California, completed in the 1880s. In 1926, the Southern Pacific completed a new line between Eugene and Black Butte, California, via Oakridge and Klamath Falls, relegating the Siskiyou line to secondary status. CORP owns the line extending from Coos Bay to Eugene and then south through the Rogue Valley to Black Butte near Weed, California, stretching a distance of 449 miles. The line's volume has grown from 30,000 carloads per year to 50,000 carloads. On a daily basis, 30 carloads leave the Rogue Valley and 15 carloads arrive from out of the region.

Listed according to volume, CORP delivers sand and gravel from Gold Hill to Certainteed in White City, veneer to various mills, feed and fertilizer to Grange Co-op, and a nearly even volume of asphalt and propane. Outgoing products include lumber and plywood, oriented strand board, products from Certainteed, and particle board. Nearly 90 percent of transfers are rail to rail, typically switching full carloads from one train to another.

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Modal Features

Poor track conditions and inadequately sized tunnels to both the south and north of the Rogue Valley hinder an expanded role for rail. The tunnels are adequate for current rail transport, but existing diameters are too small to accommodate a growing market in piggyback containers. CORP is investigating the cost/benefits of enlarging at least the tunnels to the south to improve access to California markets. The 2010 Oregon Rail Study estimated a cost of approximately \$27.5 million to increase the size of two of the three tunnels along this segment. At this time, the \$7.87 million cost of enlarging tunnels between the Rogue Valley and Roseburg also reduces the viability of making similar improvements to the north.

White City Terminal Utility (WCTU) manages a spur line extending from Tolo (near the intersection of Blackwell Road and Kirtland Road) to White City. The following table lists the commodities transported by WCTU.

Commodities flowing to/from White City Industrial Area via WCTU

Firm	Commodity Received	Origin, if Identified	Commodity Sent
Spectrum (Boise Cascade	Veneer		Particle Board
White City Plywood (BC)	Veneer	Yreka, Weed	Plywood
Medply	Veneer		Plywood
Medford Ready Mix (now Knife River)	Cement, fly ash		Cement
Waver Forest Products (mill)	Strandboards	British Columbia	Lumber; strandboard beams
LTI	Methanol, urea		Fertilizer; glue; formaldehyde
Georgia Pacific	Veneer		Plywood
Boise Cascade; Boise Cascade LVL	Strandboards		Strandboard beams
Willamette Egg Farm	Corn; mash		
Garris Environmental	Caustic soda		Oils, antifreeze to recyclers
VSS Emultech	Lignite; Asphalt	Montana	Asphalt; lignon sulfanate
Kodak Imation	Methyl ethyl ketone (MEK)	Baton Rouge	MEK

Major commodities transported by White City Terminal Utility in 2001.

Public funding for rail improvements trails public funding for highway improvements. The 2001 State Legislature passed a bill that provides grant funds for shortline track improvements. Congress is also considering federal legislation that would provide funds for shortline railroads to make system changes allowing them to handle larger cars.

RVMPO Freight Study

Modal Features

Aging tracks slow rail transport on many segments of the rail system serving the Rogue Valley. Rail has potential for helping relieve highway congestion. One rail **car** holds the same volume as 2.5 truckloads.

Air

Rogue Valley International-Medford Airport serves as a primary commercial service airport for southwest Oregon. It is located in the northwest corner of Medford. Its service area extends into northwest California. The airport has two main runways, the longest being 8,800 feet. A 3,155-foot auxiliary runway provides service to smaller planes during periods of crosswinds. Approximately 310,000 passengers boarded flights from Medford in 2010. There were 70,000 annual operations (landings and takeoffs) in 1998. Horizon Air and United Airlines combine to provide 52 daily passenger trips.



Rogue Valley International-Medford Airport is one of ten airports in Oregon with scheduled freight service exceeding 50 tons per year. Air freight carrier facilities based at the airport include Airborne Express, Federal Express, Horizon Airlines, and United Airlines. Local freight carriers who use the airport are Air Enterprises, Ameriflight, Avery Air Express, Delivery Express, DHL Express, H&S Package Delivery, Medford Air Cargo, ORCA, RJ Fulk, Secured Carrier, Summit Trade Systems, Swift Couriers, Trans Box Systems, UPS – Medford and Grants Pass, United Couriers, U.S. Mail Contractors, Velocity Express, and Western Parcel Service. Rogue Valley International Airport ranked third in 2000 for certificated carriers, shipping a volume of 1,258 tons. (These volumes reflect material being sent from Medford, but do not include incoming freight. **The draft Master Plan Update for the airport states that approximately 2,719 tons of freight were enplaned and deplaned in 2010. Projected annual volume increase is 2.1 percent.**) Eugene had 2,005 tons, while by far the greatest volume, 165,000 tons, enplanes in Portland. These numbers do not reflect volumes carried by dedicated freight movers such as FedEx.

Coffman Associates conducted a shipper's survey in October 2000 to determine the airport's market potential. The survey asked companies to list the principal destinations of their outbound air shipments and the point of origin for incoming air shipments. The following table lists the top five responses in each category:

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Modal Features

Medford airport origins and destinations

Destinations		Origins	
<i>Domestic</i>	<i>International</i>	<i>Domestic</i>	<i>International</i>
Minnesota	Canada	California	Thailand
Colorado	England	Nebraska	India
Alaska	Germany	Colorado	France
California	Switzerland	Florida	Germany
Illinois	Mexico	New York	England

Based on cargo weight estimates supplied by shippers, the consultant concluded that the airport ships 200 tons domestically and 180 tons internationally per year.

Volumes of freight passing through the airport are relatively small, but the designation in 1995 of a portion of the airport property as Foreign Trade Zone (FTZ) No. 206 increases the potential for growth. Foreign Trade Zones are specially designated areas, in or adjacent to a U.S. Customs Port of Entry, which are by definition outside the Customs Territory of the U.S. The designation has a major related benefit of requiring the presence of local customs agents who, because they are available to inspect FTZ products, can also inspect items flowing into the market for which duty is paid. Other services available at what is known as the Airport Commerce Park are the U.S. Customs Service, U.S. Immigration and Naturalization Service, U.S. Department of Agriculture, U.S. Fish and Wildlife, Southern Oregon International Trade Council, Foreign Commercial Service/Export Assistance, International Wildlife Recovery Center, and the Korean Consulate Office. The FTZ is positioned to become an increasingly significant intermodal facility, permitting transfers between trucks and planes. The loss in January 2003 of a customs official at the airport will make growth of international freight trade more challenging until demand exists again for an on-site agent.

When the study began in 2002, the Foreign Trade Zone (FTZ) was identified as an asset to the freight system, one that improved the Rogue Valley's position in the international market and held promising potential. However, there was inadequate demand to justify the approximate \$100,000 total expenditure for a full-time customs agent. Consequently, FTZ clearance activities have ceased, although the zone itself is still active. The FTZ must have an on-site customs agent to function. If one or more large clients/companies present themselves, the FTZ will be able, once again, to afford a full-time customs official.

FTZ No. 206 is one of four in Oregon, the others being in Coos County, Klamath Falls, and Portland. Only Portland and Medford have overseas offices. Washington has 12 zones, but only two have overseas offices. FTZ No. 206 consists of more than 700 acres, divided among 12 sites in Jackson and Josephine Counties. Those in the study area include:

- Airport Commerce Park 95 acres

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Modal Features

- Crater Lake Center 38 acres
- North Medford Business Center 54 acres
- Medford Industrial Park 215 acres
- KOGAP Business Center 90 acres
- **Carestream 79 acres**

Surface connections are vital to the efficient function of the FTZ . Connectors to the FTZ headquarters include Commerce Drive, Vilas Road, Table Rock Road, and the Medco Haul Road. Vilas Road was widened to accommodate increased traffic, and Coker Butte Road is being extended west of Crater Lake Highway to serve the vicinity of the FTZ.

Recently extended runways and other improvements allow larger planes to land, improving cargo capabilities. For example, runway expansion has allowed a large Antonov jet to transport Erickson Air Crane products worldwide. An apron was constructed at the Free Trade Zone facility that can accommodate three large planes at a time.

North American Free Trade Agreement (NAFTA)

The North American Free Trade Agreement (NAFTA) took effect on January 1, 1994. A few of the objectives of the agreement are to:

- Eliminate barriers to trade in, and facilitate the cross-border movements of, goods and services between Canada, the U.S., and Mexico;
 - Promote conditions of fair competition in the free trade area;
 - Increase substantially investment opportunities in the territories of the three countries;
- Oregon's trade with Canada and Mexico benefits from NAFTA. More than 80 percent of current NAFTA trade by truck and rail in the year 2000 was with Canada.

Pipeline

The Rogue Valley is served by one pipeline, a natural gas line managed locally by Avista Corporation. While national security risks prevent Avista from providing detail about the location of the facility, the pipeline originally extended from Portland to Medford. A subsequent project connected Medford to a line that crosses central Oregon, permitting a loop system to exist. The value of completing a loop system was confirmed when the original line was disabled by an explosion near Wolf Creek, yet service to the Rogue Valley remained uninterrupted.



Avista provided the following information:

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Modal Features

Consumption of natural gas in the greater Medford area:

1997	69 million therms	1999	78 million therms
1998	77 million therms	2000	77 million therms

Projected consumption of natural gas in the greater Medford area

2002	73 million therms	2005	80 million therms
2003	75 million therms	2010	95 million therms
2004	77 million therms	2015	113 million therms

Since 1997, the use of natural gas as a motor fuel in the greater Medford area has offset the transport of 668,000 gallons of petroleum fuels. Rogue Valley Transportation District's use of natural gas has also offset the transport of 579,000 gallons of diesel.

Conclusions

The freight transportation industry is strong in Jackson County, building on its proximity to California as a staging area for modifying trucks from two to three trailers and vice versa. The agriculture and forest products industries continue to require transportation services, and a growing segment of manufacturers and other businesses not using farm or forest resources are replacing job and freight volume losses in the resource-based industries.

Air freight is poised for growth. Expansion of the runway permits larger planes to use the airport, and development of high technology products and other high-value products can take advantage of the faster delivery times provide by air delivery. The Foreign Trade Zone is also well positioned to accommodate international trade.

Rail continues to be hampered by aging infrastructure and inadequacy of tunnels to accommodate containers (piggyback) and longer cars with greater weight allowances. Tunnel improvements to the south through the Siskiyou would open the Rogue Valley to improved rail technology, but the \$27.5 million cost is a significant barrier. High costs for similar improvements diminish the potential to the north, but if the commuter rail proposal moves forward, tracks would be improved from Grants Pass to Ashland.

Pipelines remain a smaller component of freight movement in the Rogue Valley, but use of natural gas is projected to grow. Gas delivered by pipeline reduces to a small extent the number of fuel-delivery trucks on highways and local roads.

In addition to this profile, RVMCOG developed documents outlining the strengths, weaknesses, and possible improvement to the area's freight system. These documents are included as exhibits.

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Coordination with Statewide Freight Mobility Program

Oregon Highway Plan

The 1999 Oregon Highway Plan elevated the importance of freight in transportation planning. The Plan added a policy to “maintain and improve the efficiency of freight movement on the state highway system and access to intermodal connections. The State shall seek to balance the needs of long distance and through freight movements and local transportation needs on highway facilities in both urban areas and rural communities.” This includes working with the private sector, local governments, metropolitan planning organizations, and others to improve planning coordination between public investments in highways and other investments in the freight movement infrastructure.

In June 2009, Parsons-Brinkerhoff published a study on the effects of freight movement on the Oregon economy. Key findings include:

- Oregon’s economy is highly tied to freight in a number of sectors, except for three of the “Top Industries”: professional and technical services, real estate and information technology
- Many of Oregon’s industries are highly dependent on exports
- Computers/electronics and agricultural and commercial fishing are key industries in Oregon and are highly dependent on freight transportation.
- Providing freight transportation, distribution and logistics accounts directly or indirectly for approximately one in six Oregon jobs
- A substantial amount of Oregon’s jobs are directly or indirectly dependent on Oregon’s port system.
- Much of Oregon’s production and distribution of goods occurs in the Portland Metro area and Willamette Valley. This area already has a good, interconnected network of freight modes. Issues tend to be freight mobility due to highway and rail congestion.
- Outside of the Willamette Valley, Oregon’s consumers are highly dependent on maintaining and improving freight infrastructure to enable goods to reach them in timely and cost-effective manner. These consumers and industries are more dependent on freight access and ensuring that freight corridors remain open to traffic more so than they are affected by the highway and rail congestion issues that are prevalent in the Willamette Valley
- Freight investments will generally benefit Oregon’s top industries but with varied results.

Commodity Flow Forecast

Parsons Brinkerhoff published an Oregon Commodity Flow Forecast in 2009, covering the years 2002 to 2035. The study forecasts that volume of freight will grow by 87 percent, and the value will increase 161 percent. Trucks will continue to be the dominant haulers, increasing their share of tonnage from 75 percent in 2002 to 78 percent in 2009.

Water and air transportation will see increases in value of freight hauled, with air freight's value share increasing from 6 percent to 11 percent. Southern Oregon's share of rail tonnage will reduce from 1.6 percent of the state's total to 1.4 percent.

ODOT's Transportation Planning Analysis Unit provided a modeling analysis technical memo in August 2010, noting that Oregon will export nearly 60 percent of the value of goods it produces. About 70 percent of all goods consumed in the state will be imported. The memo also notes that future demands on the freight system will be large, even if economic growth is muted.

Appendices

Appendix A: Information Sources

Task: To research and describe and identify sources of readily-available sources for data and information relating to freight in southern Oregon.

I. Commodity Data

A. *Commodity Flows Database*, Oregon Department of Transportation (Cambridge Systematics). Estimates for 1997 and for 2005. Draft spreadsheets for Rogue Valley MPO area sent to Consultant and RVCOG.

1. Data: Tonnage and value breakdown by 32 commodity groups (STCC2) by mode (trucking, rail, air and pipeline freight), and by movement (internal, inbound, outbound, through) with respect to geographical area. Data available for Oregon, 6 metropolitan areas, 10 ACTs, and 4 counties.
2. Example of data: For Rogue Valley MPO Area, in 1997, 38,779,272 tons of freight was transported in, out, within, or through the Rogue Valley MPO area. 98 percent of the freight tonnage and 91 percent of the freight value was transported by trucks.
3. 2005 forecasts due to ODOT by July 2004.

B. *Oregon Freight Truck Commodity Flows: Analysis and Summary*, ODOT, Transportation Planning Analysis Unit (1998). From a 1997 survey of truckers at Oregon weigh stations. Data collected: Direction of travel, weight, origin, destination, commodity category, carrier type.

1. Commodity flow regions are Portland Metro, Valley, /SW Oregon (Northwestern to southwestern border, excluding Portland), and Eastern Oregon
2. Local data potentially-available (with more analysis) for subset of truckers interviewed at Ashland Weigh Station.
3. Data: Volume, weight and values of three major commodity types (food products, lumber and wood products, general freight) by freight origin and destination
4. Example of data
 - i. Using sub-tabulations: X percent of freight moved through the Rogue Valley originated from California, and Y percent was destined to Portland.
 - ii. Volume, weight and value imported and exported from commodity regions (pps. 24-25)
 - iii. Empty weight tables by vehicle type and configuration (Appendix A-2)
5. To Locate:
http://www.odot.state.or.us/tddtpau/papers/other/ODOT_CFS_2.pdf.

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For sub-tabulations of truckers interviewed at Ashland Weigh Station, contact Becky Knudson at ODOT.

II. Data for transportation-related employment and income

A. *Covered Employment and Wages*, Oregon Employment Department

1. Data: By industry, number of employees, total and average wages by industry (SIC categories before 2001, NAICS after 2001)
2. Data reported annually by state and county
3. Locate at: <http://www.qualityinfo.org/olmisj/CEP>
4. Example: Warehousing and Transportation services accounted for 3 percent of covered employment in 2003 in Jackson County. (NAICS: Transportation, Warehousing and Utilities minus Utilities employment)

B. Economic Census (1), *1997 Summary Statistics for Rogue Valley MPO*, US Census Bureau

1. Data: By industry, number of establishments, employees, receipts, and annual payroll for NAICS Code 48-49: Transportation and Warehousing (also more detailed industry levels).
2. Data reported every 5 years for metropolitan areas and states
3. Example: in 1997, Jackson County had 154 establishments (with employees) employed 2,357 and earned \$243,706,000 in receipts.
4. Data for transportation-dependent industries also reported: Wholesale, Retail, Manufacturing, Agriculture
5. Located at: <http://www.census.gov/epcd/ec97/metro4/M4890.HTM>

C. Economic Census (2), *1997 Nonemployer Statistics for Rogue Valley MPO*, US Census Bureau. (Nonemployers are businesses with no paid employees and includes only firms subject to federal income tax)

1. Data: By industry, number of establishments, employees, receipts, and annual payroll for NAICS Code 48-49: Transportation and Warehousing (also more detailed industry levels)
2. Data reported every 5 years for metropolitan areas and states
3. Example: In Jackson County in 1997, 411 establishments earned \$26,340,000 in receipts (establishment=1 person-owned firm). Therefore, 15 percent of employment in the transportation sector is in nonemployer firms, earning 10 percent of transportation-related receipts in the county.
4. Located at: <http://www.census.gov/epcd/nonemployer/1997/metro4/M4890.HTM>
5. Combining Employer and Nonemployer statistics from the Economic Census gives a total view of transportation employment

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6. 2002 Economic Census (Geographic area series due to be released mid 2004. See schedule at <http://www.census.gov/econ/census02/guide/g02sched.htm>)
- D. Bureau of Economic Analysis, *Personal Income by Industry*
1. Data: By industry, income derived from industrial sector, including self-employment income. See 0800, Transportation and warehousing sector)
 2. Annual series
 3. Example: in 2002, residents of Jackson County earned \$117,555,000 in the transportation and warehousing sector. This is 5.3 percent of earned income for 2002.
 4. Located at: <http://www.bea.gov/bea/regional/reis/> , Choose detailed income and employment tables by NAICS industry, 2001-2002 (CA05 and CA25)
- E. Bureau of Labor Statistics, Occupational Employment and Wage Estimates for Transportation and Materials Moving Occupations (OES SOC code #53-0000)
1. Data: By occupation, number of employees and wage estimates in transportation and material-moving occupations for 2001. More detailed occupational data available.
 2. Annual series
 3. Example: in 2001, 6,170 people (9 percent of total) worked in transportation and materials moving occupations, earning an average of \$11.61 per hour and \$24,150 annually.
 4. http://www.bls.gov/oes/2001/oes_4890.htm#b53-0000

III. Data by Transportation Mode

A. Trucking

1. Commodity data: *Commodity Flows Database* in IA above.
2. *Transportation Volume Tables*, Oregon Department of Transportation
 - a. Data: Annual counts of average daily traffic (ADT) by vehicle type
 - b. Traffic recorders: 15-002 at Neil Creek, 3.1 mi. south of Ashland; 15-001 at Gold Hill (2 miles west of Gold Hill), 15-019 at Pacific Highway No. 1 (south approach of Medford viaduct)
 - c. Example: 2001 Average Daily Traffic at 15-019 is 46,175. Single trailer truck-5 axle make up 9.5 percent of ADT or 4,387 ADT for this type of vehicle.

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- d. To locate: ODOT website, for 1993-2002:
http://www.odot.state.or.us/tdb/traffic_monitoring/tvtable.htm
- e. Future traffic volume forecasts at:
http://www.odot.state.or.us/tddtpau/papers/analysis/2022_Future_Volumes.PDF
3. Employment data:
 - a. Oregon Employment Department, *Covered Employment and Payroll* (IIA), 2002 Truck transportation employment (NAICS 484) at:
<http://www.qualityinfo.org/olmisj/CEP?action=industry&indtype=N&areacode=04000029&indcode=50D484840000>
 - b. Economic Census 1997 (IIB and IIC) for truck transportation (NAICS 484) at:
http://www.census.gov/epcd/ec97/metro4/M4890_48.HTM (for employers) and
http://www.census.gov/epcd/nonemployer/1997/metro4/M4890_48.HTM (for nonemployers)
 - c. Income data: Bureau of Economic Analysis (IID), Truck Transportation (0804) at
<http://www.bea.gov/bean/regional/reis/action.cfm?catable=CA05N&areatype=41000&years=2002,2001&fips=41029&format=htm>
 - d. For Trucking Occupations (see IIE): Truck Drivers, Heavy and Tractor-Trailer (53-3032), Truck Drivers, Light Or Delivery Services (53-3033), Industrial Truck and Tractor Operators (50-7061)
 - e. *Freight Moves the Oregon Economy*, ODOT 1999, located at: http://www.odot.state.or.us/intermodal-freight/Reports/FreightMoves/freight_moves_contents_new.htm, pps. 28-31.
 - f. "Trucking Industry Employment in Oregon" in *Policy Notes*, Oct. 1999, ODOT at: http://www.odot.state.or.us/intermodal-freight/Reports/trucking_employment.pdf. Statewide data.
4. Other information sites of interest related to trucking
 - a. Research-related reports
 - i. *Survey Methods for Assessing Freight Industry Opinions*, ODOT, 2002. Report located at:
<http://www.odot.state.or.us/tddresearch/reports/pdf/ship-carrier.pdf>
 - ii. *Truck Trip Data Collection Methods*, ODOT, 2/.2004. Report located at:
http://www.odot.state.or.us/tddresearch/reports/pdf/Truck_Trip_Data.pdf

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- iii. *Guidebook for Evaluating Indirect Land Use and Growth Impacts of Highway Improvements*, ODOT, 2001. Report located at:
<http://www.odot.state.or.us/tddresearch/reports/pdf/guidebook.pdf>
- b. Other Links: Intermodal Freight/ Highways and Trucks. Website of ODOT with links:
http://www.odot.state.or.us/intermodal-freight/Links/trucklinks_new.htm

B. Rail

1. Commodity data: Commodity Flows Database in IA above.
2. Income data: Bureau of Economic Analysis (IID), Rail Transportation (0802) at
<http://www.bea.gov/bean/regional/reis/action.cfm?catable=CA05N&areatype=41000&years=2002,2001&fips=41029&format=htm>
3. Note: rail transportation not covered in Economic Census nor BLS occupational series.
4. Central Oregon and Pacific Railroad, Inc. information at:
<http://www.uprr.com/customers/shortline/lines/corp.shtml>, products carried, officers, customers served.
5. North American Rail Shippers Association website at:
<http://www.railshippers.com/>, organization of rail owners and users.
6. *Mail Tribune* article: “Next Stop: Tunnel 13” (May 9, page 1) about repair of CORP’s Tunnel 13 available in archives at:
<http://www.mailtribune.com/archive/2004/0509/local/stories/01local.htm>. Good background on history and current use of the tunnel.
7. *Freight Moves the Oregon Economy*, ODOT 1999, located at:
http://www.odot.state.or.us/intermodal-freight/Reports/FreightMoves/freight_moves_contents_new.htm, see pps. 32-33, 43-44
8. Rail Division, Oregon Department of Transportation, homepage at:
<http://www.odot.state.or.us/rail/> with rail links at:
http://www.odot.state.or.us/intermodal-freight/Links/raillinks_new.htm
9. 2001 Oregon Rail Plan, ODOT at:
http://www.odot.state.or.us/rail/2001_Rail_Plan/RAILPLAN01_LOCKED.PDF
10. Fact sheet from Association of American Railroads (AAR) on Oregon railroad at:
http://www.aar.org/PubCommon/Documents/AboutTheIndustry/RRState_OR.pdf?states=RRState_OR.pdf

C. Air

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1. Commodity data: Commodity Flows Database in IA above.
2. Income data: Bureau of Economic Analysis (IID), Air Transportation (0801) at
<http://www.bea.gov/bean/regional/reis/action.cfm?catabe=CA05N&areatype=41000&years=2002,2001&fips=41029&format=htm>
3. Establishments, employees: Economic Census 1997 (IIB and IIC) for air transportation (NAICS 481) at:
http://www.census.gov/epcd/ec97/metro4/M4890_48.HTM (limited county-level data)
4. Air Freight Forecasts: Federal Aviation Administration, Terminal Area Forecasts (TAF). Located at:
<http://www.apo.data.faa.gov/faatafall.htm>, use Query Data, check “Facility,” “Detail report,” and “MFR, Rogue Valley International Airport.”
5. *Airport Activity Statistics of Certificated Route Carriers, Table 6.* FAA. Annual figures for tonnages by airport (including enplaned mail tonnage and cargo tonnage). 2001 totals: Mail: 854.7 tons (81 percent of total cargo), cargo: 197 tons. Contact Steven Kale, ODOT or FAA directly: Jennifer Fabrizi (202 366-8513)
6. *Economic Impacts of Airports*, Oregon Department of Transportation, Aeronautics Section
 - a. 1995 estimates of economic impacts in terms of employment, payroll and output using IMPLAN
 - b. Airport impacts: 1,221 persons employed through direct impacts, with additional 1,184 persons employed through secondary impacts. Total output impact (directly and indirectly) \$119,613,700 (p.6).
 - c. Contact Charles Riordan, Dept. of Aviation.
7. Rogue Valley International Airport Homepage:
<http://www.co.jackson.or.us/SectionIndex.asp?SectionID=5>, FBO and Airline information at:
<http://www.co.jackson.or.us/Page.asp?NavID=74>
8. Oregon Department of Aviation webpage at:
<http://www.aviation.state.or.us/>
9. FAA Economic analysis links at: <http://apo.faa.gov/pubs.asp?Lev2=4>
10. Oregon aviation plan at:
<http://www.aviation.state.or.us/airports/OregonAviationPlan.pdf>
11. Historical and passenger statistical information by month, year, and carriers available through RV International Medford Airport, Operations Coordinator, Jeanie Stark. Year-to-date (December 2003) freight total was 6,952,907 pounds (?), 87 percent of December total carried by Ameriflight and Empire Air (with who Fed Ex contracts).
12. *Freight Moves the Oregon Economy*, ODOT 1999, located at:
<http://www.odot.state.or.us/intermodal->

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[freight/Reports/FreightMoves/freight_moves_contents_new.htm](http://www.ops.fhwa.dot.gov/freight/Reports/FreightMoves/freight_moves_contents_new.htm), see pps, 37-38.

IV. Other information sources

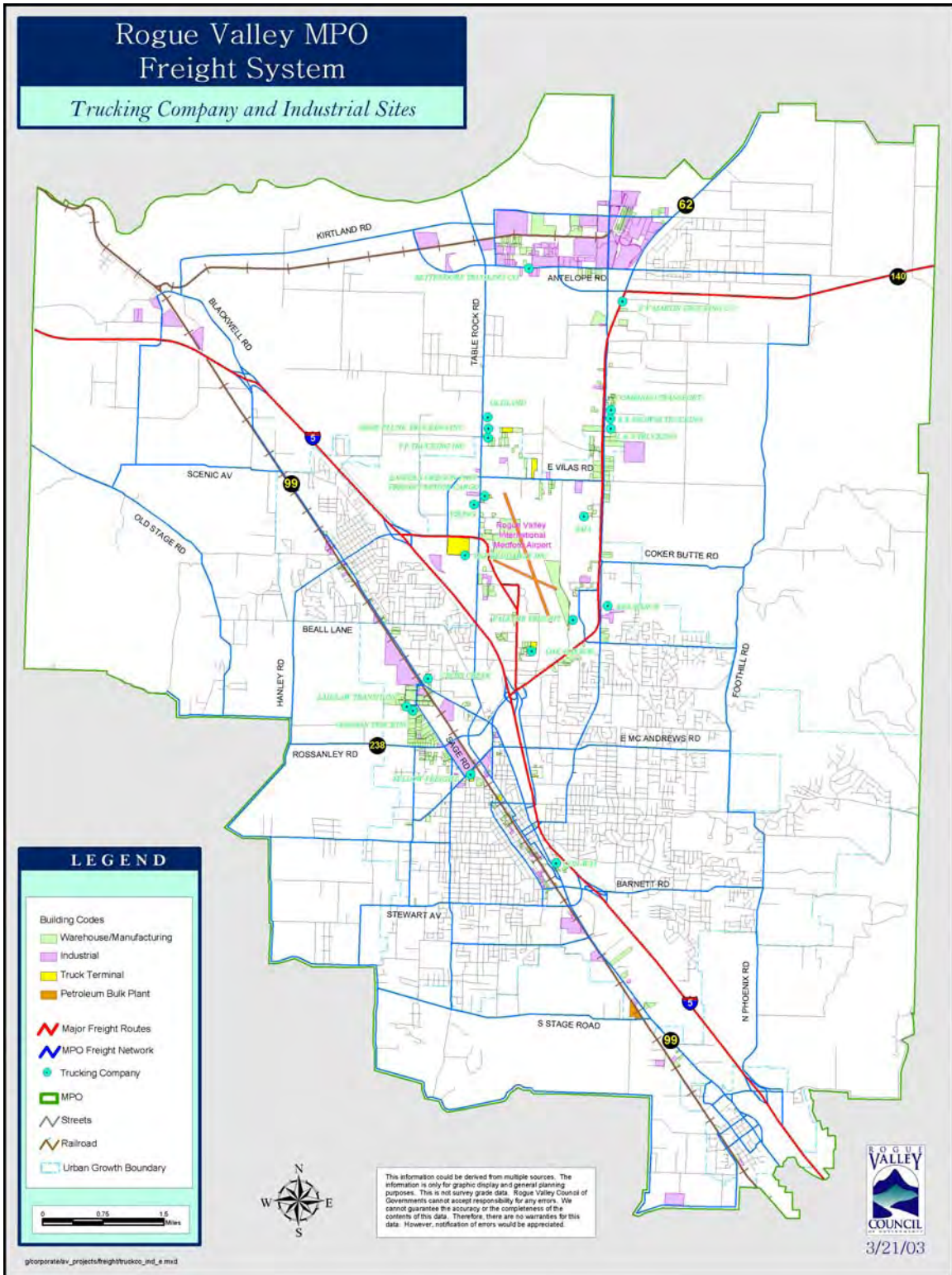
- A. *Freight Moves the Oregon Economy*, ODOT 1999, located at:
http://www.odot.state.or.us/intermodal-freight/Reports/FreightMoves/freight_moves_contents_new.htm
- B. *Freight Transportation in Oregon; Selected Data from Federal Sources*, Bureau of Transportation Statistics, 1996 at:
http://www.bts.gov/publications/state_freight_transportation_profile/oregon/index.html, statewide analysis.
- C. Federal Highway Administration (FHWA) sources:
 1. *The Freight Story: A National Perspective on Enhancing Freight Transportation*, at:
http://www.ops.fhwa.dot.gov/freight/freight_analysis/freight_story/index.htm. See section entitled “Freight Transportation in a Changing Business Environment and Key Freight Transportation Challenges.”
 2. Data source links (national and state data only) at:
http://www.ops.fhwa.dot.gov/freight/freight_analysis/data_sources.htm
 3. Oregon freight profiles and maps (statewide only) at:
http://www.ops.fhwa.dot.gov/freight/freight_analysis/state_info/oregon/or.htm

State-to-State Commodity Flows at:

http://www.ops.fhwa.dot.gov/freight/freight_analysis/faf/fafstate2state.htm

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Appendix B: Trucking Company and Industrial Sites



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Appendix B: Problem Routes and Intersections

