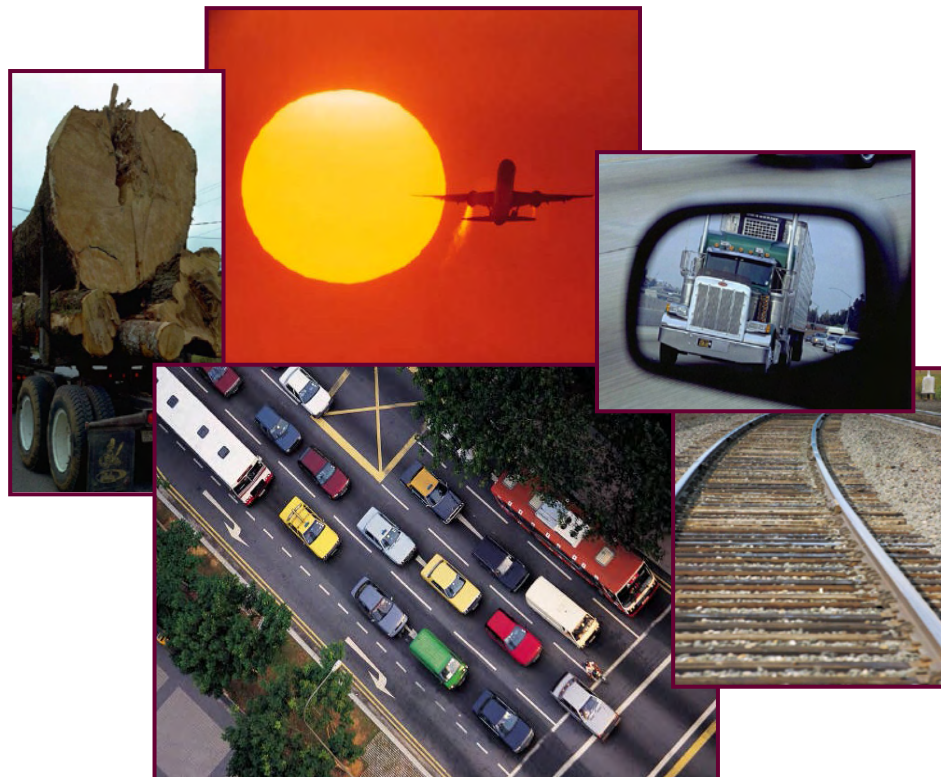


# Rogue Valley



**Metropolitan Planning Organization**  
RVMPO is staffed by Rogue Valley Council of Governments

## Freight Study Phase III Report



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# **Freight Study Phase III Report**

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**Findings of Phases I & II**

**Coordination of This Project with State Freight Mobility Program and Process**

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## The Role of Freight Transportation in the Regional Economy

Economists like to say that the demand for transportation is a *derived* demand— that is, not something we want for its own sake, but for the related benefits that it brings<sup>1</sup>. Nowhere is this economic definition of transportation more true than in freight transportation. It’s a necessary element to get goods from A to B, and we need it to work well.

Economic *base* theory<sup>2</sup> holds that each region produces *basic* goods and services that it sells to other regions, trading for *basic* goods and services from outside that it cannot produce locally, thereby increasing its own prosperity. If a region could not buy and sell from beyond its own area, but was relegated to subsisting only on what it could produce locally, the standard of living and variety of commodities would be much lower. Indeed, as students of historical geography know, it was the desire for alien commodities such as silk, spices and beaver pelts that caused Europeans to start exploring other continents five hundred or more years ago. The discovery and exchange of goods motivated world exploration to a very high degree<sup>3</sup>.

By contrast, *non-basic* jobs are those involved in buying and selling locally produced goods and services in the local region, or, as the British put it, “taking in each others’ washing [laundry]”. In the relatively small and isolated Rogue Valley economy, dependence on trade —on the sale, outside the region, of a range of basic goods, and the importation of other basic goods -- is greater than it may be in larger, more self-sufficient regions. This area depends on freight transportation to convey to the outside world its specialty commodities produced here and exported such as timber, mining and farm products.

In addition to external trade, freight transportation is very important in carrying goods from within one part of the region to another. Sometimes this is from source to factory, prior to further shipment outside the region, and sometimes it is from source to local consumers or from consumer to landfill. While secondary in terms of the region’s economic health, this non-basic transportation requirement is equally dependent on a good internal transportation network.

### Purpose

The purpose of RVCOG’s Freight Study, Phase III is fourfold:

- To address the freight-related needs of the new communities added to the MPO— Ashland, Talent, Eagle Point, White City and Jacksonville -- by identifying roadway problems affecting freight activity and developing highway projects to better serve these freight needs;
- To coordinate with and integrate into RVCOG plans the activities of ODOT’s fast-tracked Freight Mobility Program;
- Thereby to refine, extend and prioritize the RVCOG’s freight project list; and

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<sup>1</sup> For example, the demand for a hot water heater is so that we can have hot water for showers, laundry, dishes etc, not because we want to display or directly use this object as part of our home furnishings.

<sup>2</sup> Charles Tiebout et al, for example at <http://garnet.acns.fsu.edu/~tchapin/urp5261/topics/econbase.htm>

<sup>3</sup> Not counting economic imperialism, another but more unilateral form of trade.

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- To provide a more in-depth context for Rogue Valley freight activities, through a review of the recently developed ODOT commodity flow analysis.

## **Findings of Phases I and II**

The prior years' freight studies resulted in three products. Phase I focused on gaining an understanding of the existing freight system and identifying problem routes. Contributing to the research effort was a committee composed of MPO Technical Advisory Committee members and representatives of the freight industry. The product of this phase was a document profiling the freight transportation system in the Rogue Valley. While all modes of transportation were considered, the report's findings demonstrate that the road system presents the most problems for freight movement, and that the most severe bottlenecks identified were between Interstate 5 and White City.

The freight profile was refined in Phase II, leading to a draft freight element of the 2002 Regional Transportation Plan (relating to the unexpanded MPO)<sup>4</sup>, and a multimodal Strengths and Weaknesses report, published in 2003<sup>5</sup>. Many freight improvement projects within the (then) MPO boundaries were identified during this work. Consistent with the findings from Phase I that most problems centered on the road system, most of the recommendations concentrated on street improvements, but also included improvements to the rail tunnel system and supporting multi-modal connections with the Rogue Valley International - Medford Airport.

The Phase I and II projects reports are available on the RVCOG web site ([www.rvcog.org](http://www.rvcog.org)) and are not duplicated here.

## **Coordination of This Project with State Freight Mobility Program and Process**

For some years, the federal government has been encouraging states and MPOs to give higher consideration to freight transportation needs. In 2003, the Oregon State Legislature developed a fast-track freight program to improve highway freight mobility and help jobs creation in Oregon. Working with RVACT, ODOT District 8 developed a highway project improvement list for the Rogue Valley in consultation with the MPO. While some project segments were defined differently, there was considerable overlap with local priorities. The decision-making process for this program was through RVACT making recommendations to the OTC. In April 2004, the OTC made its decisions and no Rogue Valley projects were on its Tier 1 list for immediate funding. However, many regional projects were accepted into the Tier 2 list. Consequently, RVCOG staff folded these Tier 2 projects into their existing list.

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<sup>4</sup> RVMPO. *Freight Transportation Element*. Regional Transportation Plan, April 2002. Available on the web at:

<sup>5</sup> RVMPO. *Strengths and Weaknesses of the Current Transportation System*, September 2003. Available on the web at:

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## Rail Issues

Rail tends to carry some of the lowest value, low time-sensitivity commodities, as will be discussed below. Statistics show that the Central Oregon & Pacific Railroad (CORP) has held a steadily declining market share in terms of both tonnage and value, as trucking becomes the ever more dominant mode. However, in November 2003, a fire in Tunnel 13 near the California border essentially closed down rail service, with trains being rerouted via Klamath Falls until repairs can be performed and the tunnel reopened, anticipated in the late summer of 2004.

This period of rail detours, however, has been sufficient to convince shippers and carriers from all over the state about the importance of the railroad to many businesses. Strategically, even though rail handles only a small proportion of all freight, it seems likely that future state initiatives will focus more on rail. For example, at a “Summit Meeting” of MPOs held in June 2004, Stuart Foster, chair of the OTC, said<sup>6</sup>:

“We have to figure out a way to improve freight rail. We need to get our Congressional delegation to push at the federal level. Truck travel is going to double on I-5 by 2020—the only solution is to improve the freight rail system. Fuel prices will continue to push that as well.”

## Aviation Issues

Aviation tends to handle the low-bulk, high-value commodities, as is discussed in the commodity flow section below and in Appendix A. Aviation market share is growing rapidly; a component of this is mail and express packages<sup>7</sup>. As internet retail grows, more and more goods can be expected to be shipped in and out of the region by air. This requires not only a reliable airfreight system in terms of air operators, but also air to ground sorting and distribution, and a ground transportation fleet.

## Freight Study Outreach

Past approaches to Freight Study broad public involvement have relied upon the staging of Public Open Houses. Despite newspaper ads, large mailings targeted to public employees and to persons interested in or engaged in the freight industry, attendance at these events has always been disappointing. The time and effort dedicated to developing attractive and engaging Open House displays made low attendance doubly disappointing and raised questions about the efficacy of Open Houses, in general. Given this experience, it was decided that alternative methods of outreach should be attempted in this phase of the Freight Study.

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<sup>6</sup> Remarks are paraphrased from the June 8 meeting notes summary.

<sup>7</sup> The air-dependent component of the regional freight economy tends to be partly hidden. An example is Darex, which ships drill bits and drill sharpening kits to customers worldwide. Another example is Earthly Goods, which a few years ago developed a retail web site, hired experts to help them drive internet traffic to it, and reportedly went from selling one pair of shoes a week to 325 per day, requiring 11 clerks to process orders.

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The selected method is to communicate with targeted interested persons via an e-mail distribution list. This method facilitates the sharing of information with people who are unable to attend meetings or participate in lengthy studies, but are still interested in the output of such work and wish to provide input to project staff. It is also very time and cost effective.

### ***Oregon Truckers' Association***

Bob Russell, Executive Director, Oregon Truckers' Association (OTA), was contacted to explore the idea of his providing staff with an email list serve of trucking companies and truck drivers. While he was not free to share e-mail addresses, he offered the use of the OTA weekly newsletter for sharing information about the Freight Study with his members. Russell suggested that many people outside our region would be interested to learn what was happening in the region, since they pass through or deliver freight here. It was agreed that staff would provide the OTA with information about the Freight Study and invite people to join the e-mail list serve that MPO staff were developing or to call the Project Manager directly.

### ***Freight Interest Groups***

Staff developed an e-mail list serve of persons interested in the movement of freight and cargo, including staff from pertinent agencies, trucking companies, manufacturers, aggregate companies, airport and railroad representatives, private sector truck rest stops and organizations concerned with economic development. The list was developed using lists of trucking companies and truck stops developed by ODOT during the viaduct seismic retrofit, a list of large employers and manufacturers developed by Southern Oregon Regional Economic Development, Inc., and lists developed by MPO staff during its research in previous phases of the Freight Study.

This idea of learning about the study via informative e-mails was very well-received by trucking companies and some manufacturers, since they are interested in the topic, but have little time to devote to meetings and outreach events. The email distribution list, entitled Freight Interest Groups, is attached. The list currently includes sixty (60) persons. Staff may now use this list to provide a variety of information to interested persons and groups.

## **How Freight Moves Within, Through and In / Out of the Rogue Valley Region**

A critical part of this study of freight transportation in the Rogue Valley is an understanding of commodities that move in, out, within and through the region. A commodity flow analysis helps to evaluate the impacts of freight movements on the region's infrastructure. For instance, an analysis of commodities' weight is important in developing an understanding of the way in which freight vehicles affect roads and highway infrastructure through pavement consumption and bridge stress.

An understanding of freight movement, whether it travels in- or outbound, internal to the region or through it, is critical when addressing such factors as congestion, capacity, infrastructure, investment, economic development and quality of life. An evaluation of the type and value of freight, in particular in- and outbound freight, leads to a better understanding of the regional economy and an appreciation the role of transportation within it.

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In 2004, the Oregon Department of Transportation, through a contract with Cambridge Systematics, Inc., developed detailed estimates for 1997 and forecasts for 2005 of commodity flows for the state, metropolitan areas, and selected counties. The estimates feature weights and values of 32 commodities (STCC2) by transportation mode, and freight movement within each mode.

With this rich data set, questions central to freight transportation planning may be addressed such as: What are the major commodities that flow into and out of the region? What modes of transport are employed for given commodities? What role does Interstate 5 play in the movement of freight through the region? What commodities move within the area, accessing secondary roads and impacting urban traffic flows? How does the Rogue Valley region compare with other metropolitan areas outside Portland in terms of freight movements, tonnage and commodity value? This appendix reports major findings of an analysis of the commodity flows database by mode, by commodity type, and by movement, and then compares freight characteristics of the Rogue Valley metropolitan area with those of other metropolitan areas outside of the Portland area.

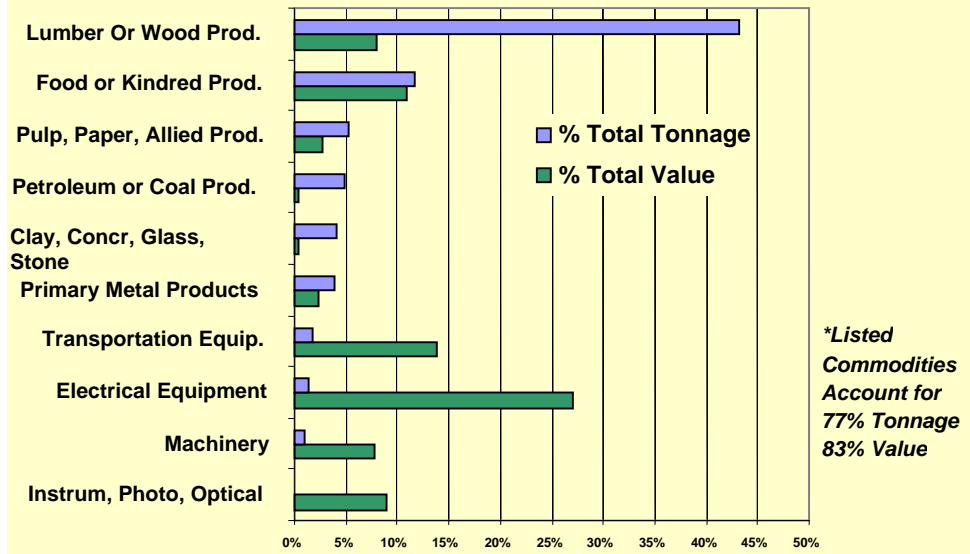
### ***Key Findings***

**The findings may be summarized as follows:**

- This MPO has a much higher value per ton of freight than other areas of OR. This needs further investigation as to why.
- 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, no great surprise.
- Internal volumes are on a par with other regions.
- Growth in truck traffic is 20 percent over last 7 years.
- Internal freight traffic is strongly dominated by the category “non-metallic minerals” i.e. rock, aggregate, gravel etc.
- The data is from a 1997 survey and updates will be available shortly.

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.

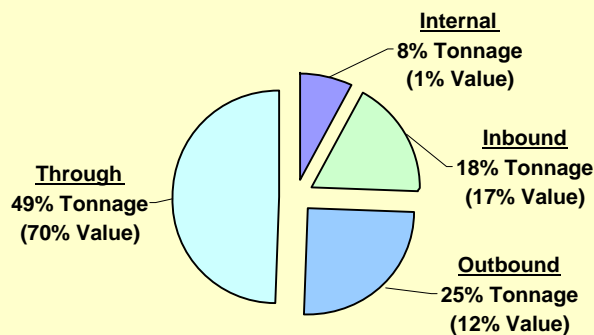
**Major Commodities\* by Tonnage and Value  
Rogue Valley MPO Area (1997)**



**Trucked Freight:**

Trucks transported freight in, out, within and through the metropolitan area. Because of the proximity of Interstate 5, freight conveyed through the region comprised the largest share by movement, accounting for nearly half of all truck freight, and 70 percent of truck freight value. Freight moved within the region, 8 percent of freight tonnage, was dominated by low-value, high-weight commodities, such as non-metallic minerals, waste, and scrap materials. The remaining 43 percent of trucked freight moved into or out of the region. Using a trade balance concept, the region was a net exporter in terms of tonnage, and a net importer in terms of commodity values.

**Commodity Tonnage & Value  
by Movement: Trucks  
Rogue Valley Metro Area (1997)**





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## **Comparisons with other Metropolitan Areas**

Commodity flows for Rogue Valley MPO were compared to those four other metropolitan areas outside of Portland: Eugene-Springfield, Salem, Corvallis and Bend. In terms of total tonnage, Rogue Valley MPO ranks third. Its 39 million tons of freight are about one-third the freight weights of Eugene and Salem, and well above the tonnages for Corvallis (10 million) and Bend (26 million). However, values per ton of Rogue Valley MPO freight, \$1300 per ton, far exceeded those of all the other metropolitan areas, which ranged from \$869 for Salem to \$553 for Bend. All the metropolitan areas, except Corvallis, are located on major highways, and all these areas had high shares of through freight. Nearly three-quarters of Eugene-Springfield's freight was transported through the area, over half for Salem, and nearly half for Rogue Valley MPO.

## **Other Findings**

Most freight was moved by truck in all five metropolitan areas, ranging from 84 percent-98 percent of freight tonnage. Rail and pipeline moved 7 percent of Eugene's freight and 15 percent of freight in Bend.

Rail freight moved 383,719 tons, valued at \$274 million in the Rogue Valley MPO area. Lumber and wood products accounted the largest share of rail freight, most of which was transported out of the area. Four commodity groups, chemicals or allied products, lumber and wood products, fabricated metal products and transportation equipment, totaled 97 percent of rail freight value.

In 1997, 1,895 tons of freight was moved into or out of the region by air, valued at \$17 million, two-thirds of which was outbound. Machinery, electrical, transportation, photo and optical equipment and instruments accounted 45 percent of airfreight tonnage, and for 90 percent of value.

## **Findings of Phase III Interviews**

### ***The Research***

To learn about freight mobility issues in communities recently incorporated within the MPO boundary, interviews were conducted with the following:

- Ashland: The City, Darex, Oak St. Tank and Steel, Siskiyou Transportation.
- Talent: The City, Wal-Mart, Sawyer Paddle & Oars, Southern Oregon Pottery.
- Phoenix: The City, Associated Fruit, Norman Lumber, Norton Lumber.
- Eagle Point: The City.
- Jacksonville: The City, Rogue Aggregates.
- Trucking Companies: Conway (Medford), Reddaway (Central Point), TP Trucking (Central Point).

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## **Findings by Community**

### **Eagle Point**

Freight Routes include:

- Highway 62
- West-East route is Linn to Loto/Royal intersection and over a new bridge to Shasta and Lava. OTIA funds are being requested to extend Loto; the RVMPO Policy Committee has ranked this project tenth of ten prioritized projects.
- North-South route is old Hwy 62 to Royal to Brownsboro-Eagle Point Road to Hwy 140.

Issue Identified by the City:

- Need sidewalks and bike paths up all of Brownsboro Rd. to protect pedestrians and bicyclists from freight traffic.

Freight Generators in the City/Region:

- None in City limits.
- Alumaweld on Rogue River Drive, off Hwy 234.
- Galpin's rock pits west of the City on Linn Road.

### **Ashland**

Freight routes include:

- TSP allows freight on all city streets.
- Hersey St. is intended as a local freight route; serves the industrial area near Hersey/Helman.
- The industrial zone on the southeast side of town (former Croman site) is served by Tolman Creek Rd. to Hwy 66/Ashland St. to I-5.

Freight generators include:

- Plants tend to be light industrial, rather than heavy.
- The few plants contacted had no issues with the transportation system.

Issues identified by trucking companies:

- Difficulty exiting from the I-5 off-ramps due to traffic volume & lack of signal.
- Lack of loading and parking zones in downtown Ashland.
- Sightlines at Hersey and Main intersection are not good.
- Trees are not trimmed high enough for truck drivers' needs.
- The E. Main/Mountain intersection is very tight for trucks.

Issues identified by the City:

- 
- Freight needs must be served within an overall framework that provides for pedestrian, bicycle and vehicular needs.
  - A signal at Hersey St./Main St. intersection is planned, but City wishes to resolve the misalignment of Wimer St. with Hersey St. (across Main St.) at the same time. The RVMPO ranked this realignment as the sixth of ten 2006–2009 STIP project priorities.

## **Jacksonville**

Freight routes include:

- Pair-A-Dice Ranch Rd. into town onto California, to N. 5<sup>th</sup> St. and Highway 238 for destinations in Medford and Central Point.
- California St. to S. Stage Road for destinations to the south.

Freight generators include:

- Restaurants, Gary West, lumber company, but none with constant or heavy freight traffic.
- Aggregate pits are located up Pair-A-Dice Ranch Rd. and log trucks pass through town as they haul logs from the Applegate Valley.

Issues identified by the City:

- Pedestrian traffic and freight traffic conflict in the downtown core. Aggregate trucks are most frequent; log truck traffic depends on federal timber sales. The City has been actively pursuing a by-pass to address these problems.
- The city is proposing to expand their UGB to incorporate the by-pass route around the northwest of the City. In this way, the by-pass becomes a more manageable issue, involving fewer jurisdictions.
- More timber trucks will pass through town as BLM sales are implemented in the Applegate Valley.
- The City plans for future industrial and light industrial growth to occur on the north and east side of town, to avoid additional through traffic for industrial purposes.
- Trucks park in travel lanes on side streets while making downtown deliveries, creating hazards for local traffic.

Issues Identified by Freight Producers:

- For aggregate trucks, time is of the essence, since materials costs are low. The length of time to travel to the construction site determines costs. Demand for Jacksonville aggregate has increased as congestion on Hwy 62 has increased. Development in southwest Medford has also increased the use of Jacksonville pits.
- Getting onto and off Interstate 5 becomes more difficult all the time. Note the congestion at the Central Point Interchange.

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## Phoenix

Freight Generators include:

- Norman Lumber is a large wholesale distributor of lumber, serving an area from Bend to Redding. Some 20 – 40 trucks arrive each day at Norman Lumber. Canadian companies bring maxi-loads @65,000 lbs. each of spruce and cedar from Canada to the Norman plant.
- Norton Lumber is a building supplies retailer to contractors and homeowners. Norton sees about 21 truckloads a day.
- Aug. thru Oct., Associated Fruit has 45 inbound trucks per day to their cold storage facility at the corner of 1<sup>st</sup> and C Streets. Their outbound is almost entirely by truck; only 12 railroad cars are shipped per year.

Issues identified by the City

- Exploring the idea of developing a road through the Madden property north to the industrial site that currently has no access. The road would run from Houston Road (west of the Norman Lumber site) north to the industrial site. The freight route would be Hwy 99 to 4<sup>th</sup> St. through to Houston Road. 4<sup>th</sup> Street has already been improved from Hwy 99 to Rose St. It would need to be improved from Rose to Houston. Colver Rd. is the other access route.

Issues Identified by Freight Generators

- Both the fruit and lumber industry would like to see the railroad tunnels reconstructed to the south to allow piggyback containers. Accessing “fast track service” in Bakersfield would allow much more freight to travel east by rail.

## Talent

Freight generators

- The largest manufacturer is Fabricated Glass Specialties, Inc. on Rapp Road. We will continue to pursue an interview with them.
- There is a light industrial development with several small businesses off Talent Ave., but none of them generates heavy freight highway movement; they use mainly UPS, FedEx, etc.

Issues Identified by the City

- The best place for light industrial development may be on Hwy 99.
- The signalization of the intersection of Rapp Rd. and Hwy 99 by the OTIA project will improve the safety and ease of movement of freight into Fabricated Glass.

Issues Identified by Freight Generators/Carriers

- 
- Deliveries are difficult, since there is no way to get trucks off Talent Ave. Trucks park half on the sidewalk to get out of the driving lane. When deliveries require a forklift, this adds to the potential risk.
  - Establishing delivery times would make it difficult for deliveries. “Semis have a hard time keeping appointments,” said one manager.

## **General**

- Colver Road: This route is being used for local deliveries in order to avoid traffic on Hwy 99 between Phoenix and Talent.
- Site Design Issues: Quote from the head of a large trucking company: “The problem is trucks are getting bigger and the spaces are getting smaller. Spaces keep getting tighter and tighter. Developers don’t design with freight in mind when they build shopping malls; they don’t design delivery sites that work. Cities don’t design their streets and highways with freight in mind. Medians are put in that require trucks to make many turns. They build small access roads to large retail establishments. Turning lanes are built so tight that you have to pull out into the other lane to make the turn. Their beautification efforts create special curbs and corners and 12’ driveways that you can’t turn around or into.”

## **Project Selection Criteria**

### ***Rationale***

Because the number of improvement projects identified in Phases I and II of the Freight Study exceeds funding capability, criteria must be established to determine priorities for construction.

### ***Assumptions***

List projects as high, medium or low priority. To assist in distinguishing one category from another, points have been assigned for each factor. The Freight Advisory Committee determined that multi-modal considerations are less important in the Rogue Valley than in other parts of the state, the maximum number of points for that factor would be 10 while the others would be 30. Placing a project in a medium or low priority does not mean an improvement will not be constructed, since there will be occasions when a project achieves another community goal, but it also improves freight movement.

Retain projects with identified transportation improvement project funding, since funding levels and priorities can change. Projects dropped from one community’s list might still have a regional value.

### ***Factors***

The following factors were used to assist in determining high, medium, and low priorities:

- 
- 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.

- 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)

**Figure 1**

**RVMPO 2004 Freight Project List, Ranked**

<b>Project</b>	<b>Importance to Freight</b>	<b>Create and Sustain Jobs</b>	<b>Multi-modal</b>	<b>Remove Barriers</b>	<b>Total Score</b>	<b>Rank</b>
Coker Butte at Hwy 62	30	25	6	24	85	1
Southbound Loop Ramp, Blackwell Interchange	30	24	0	30	84	2
Table Rock Road: Pine Street/Biddle Road to Wilson	30	22	0	30	82	3
Smooth Avenue G and Kirtland Road Intersection	30	20	0	30	80	4
Kirtland Road and Blackwell Road Intersection	30	20	0	30	80	5
Table Rock Road and West Vilas Road intersection	30	14	6	30	80	6
Table Rock Road and Hamrick Road Intersection Improvements	20	30	0	30	80	7
East Vilas Road: Haul Road to Crater Lake Avenue	30	12	6	30	78	8
Improve east/west flow on Pine Street	30	10	6	30	76	9
Improve traffic flow at Central Point I-5 interchange	30	10	6	30	76	10
Fern Valley - 99 to North Phoenix	30	15	0	30	75	11
Widen Avenue G and Highway 62 Connection	30	20	0	24	74	12
Delta Waters at Highway 62	30	10	4	30	74	13
Rehabilitate Avenue G	30	30	3	5	68	14
Table Rock Road: Wilson to Antelope Road	30	22	0	12	64	15
Phoenix: Houston Road to industrial site	20	20	6	18	64	16
Antelope Road: Table Rock to 7th Street	30	0	2	30	62	17

<b>Project</b>	<b>Importance to Freight</b>	<b>Create and Sustain Jobs</b>	<b>Multi-modal</b>	<b>Remove Barriers</b>	<b>Total Score</b>	<b>Rank</b>
New Traffic Signal at East Vilas Road and Airway Drive	15	30	3	12	60	18
Widen Kirtland Road - High Banks to Blackwell Road	30	10	0	18	58	19
North Runway Drive Extension	0	30	3	22	55	20
Repair Hamrick Road, South of Pine Street	5	30	0	18	53	21
Table Rock Road intersection with Airport Road	20	10	2	18	50	22
East Pine and Peninger intersection	10	10	0	30	50	23
Highway 238, Jacksonville and west of Jacksonville	20	10	0	20	50	24
Ross Lane: (Old) Jacksonville Hwy to McAndrews Road	25	0	0	24	49	25
Hersey Street at North Main	20	10	0	18	48	26
Table Rock Road: Bear Creek to Pine Street/Biddle Road	20	10	0	10	40	27
Extend Owen Drive	0	0	5	30	35	28
Ross Lane: McAndrews Road to Rossanley Road	10	0	0	18	28	29

Source: RVMPO FAC Meeting, June 21, 2004



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## Future Areas to Address

The RVMPO should explore further investigation of the following:

### Data and research

- Analysis of the 2002 Commodity Flow data (shortly forthcoming from ODOT) and comparison with the 1997 data presented here;
- Analysis of more detailed traffic counts for shifts in truck volume vis-à-vis other traffic;
- Gathering of more information on the nature, direction, end users and quarry life of aggregate volumes, which may constitute as much as 80 percent of internal truck traffic in the region and thus tend to direct many improvement project priorities;
- Investigate lands used and formerly used for rail freight terminals and develop, with local jurisdictions, a series of strategies for appropriate protection or re-use;
- Identify in more depth the nature of air freight requirements, which depend not only on an excellent airport but on air-ground transfer facilities and ground distribution fleets and operations;
- Evaluate the merits of, and potential for, freight-sensitive urban design standards so that the region's designated freight routes are a roadway hierarchy but so that also, smaller community "high streets" and other local roads are protected from incursion by trucks too large for the designs of the roads. This requires collaboration with major truckers to encourage transfer to smaller trucks for local distribution and collection of goods.

### Projects and policies

- Continue to develop a freight roadway hierarchy for the region that is responsive to shippers' needs while protecting the character of smaller roads and of congested downtowns;
- Continue to work closely with ODOT's Freight Mobility Program through RVACT and District 8 liaison to ensure maximum participation in the next round of ODOT funding;
- Give appropriate weight to freight projects in developing the entire project list for the 2005 Regional Transportation Plan;
- Work with ODOT, RVACT, TRADCO, SOREDI and CORP. to gain a greater understanding of the long term role of rail freight in the region and develop future freight improvement projects that address rail needs;

## Next Steps

The work of this study will be continued into FY 2005 as this report becomes the basis for the Freight Element or Chapter of the 2005 RTP. The RVMPO Freight Advisory Committee will continue to meet periodically in FY 2005, possibly jointly with RVACT.

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# Appendices

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## Appendix A

### Rogue Valley MPO Area Commodity Flow Analysis

#### 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, as well as 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.

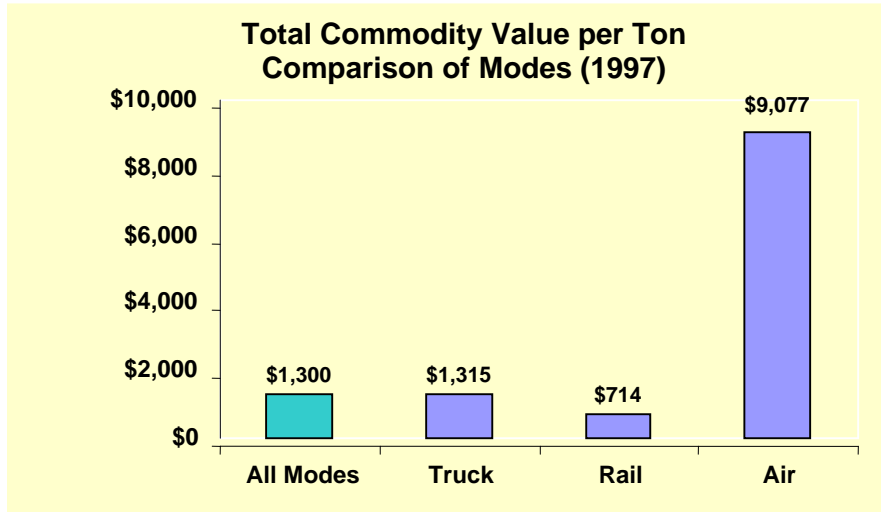
To provide transportation planning organizations with much-needed detailed commodity flow information, the Oregon Department of Transportation contracted with Cambridge Systematics, a transportation planning consulting firm, to develop commodity flow estimates and forecasts. Their final report *Oregon 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 appendix presents analyzes of 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, by a net importer by value of commodities. Otherwise stated, overall, the region trades resource-rich, primary goods, for relatively highly-processed, higher-value goods.

#### Overall Totals

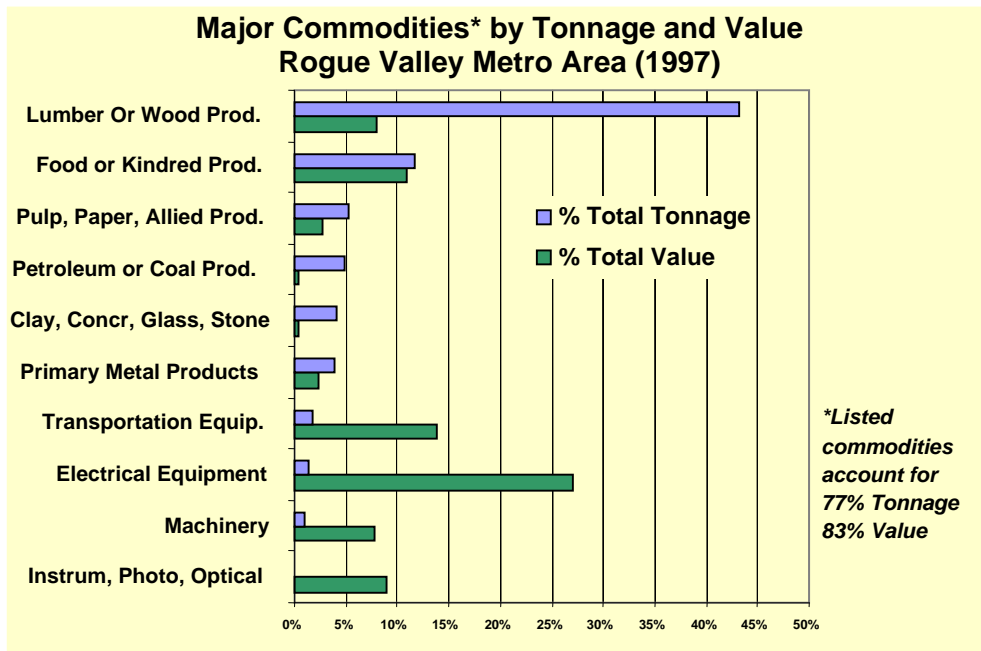
Cambridge Systematics estimates that 38.8 million tons of freight, valued at \$50.42 billion moved through, in, out, or within the Rogue Valley metropolitan area in 1997. Trucking was the prevailing mode of moving freight, which moved 98 percent of all freight tonnage and 99 percent of freight values. 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.



## 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 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 to 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.

## 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.

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

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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.

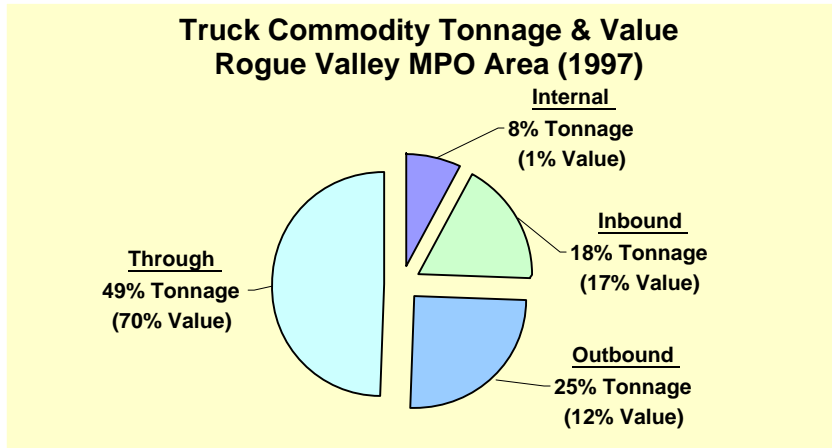
## **Outbound Freight**

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 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**

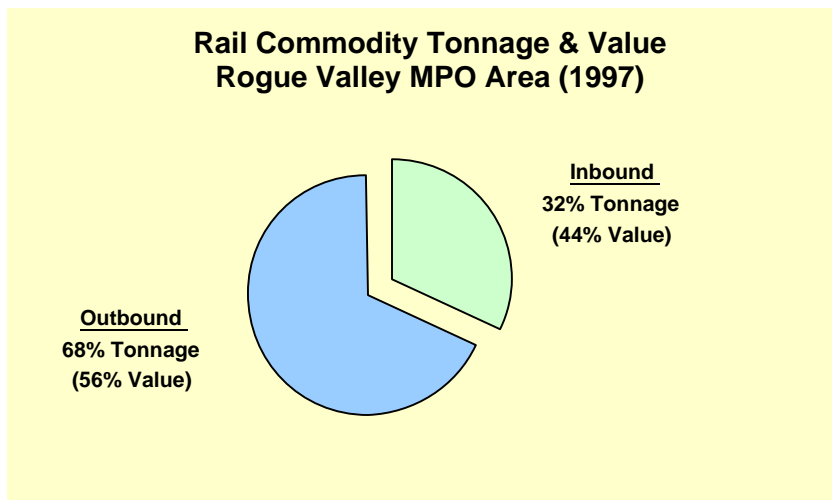
Freight that originates from but has destinations to locations within a region is measured by internal freight movements. An example of an internal freight movement would be sand and gravel aggregate mined in western Jackson County then trucked and used for new sidewalks in Medford. Internal movements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



## 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.

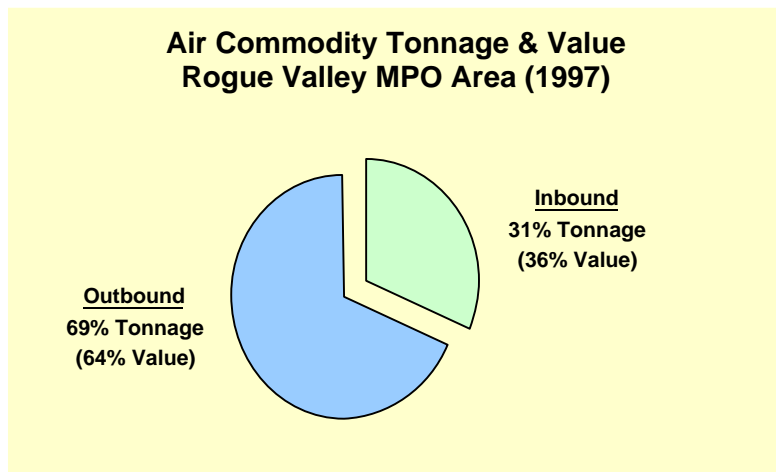


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Four major commodity groups sum to 89 percent of total rail freight tonnage and 97 percent of value. The largest of these was the lumber and wood products group, accounting for two out of three tons of rail freight, and over 20 percent of its value. 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.

## Air

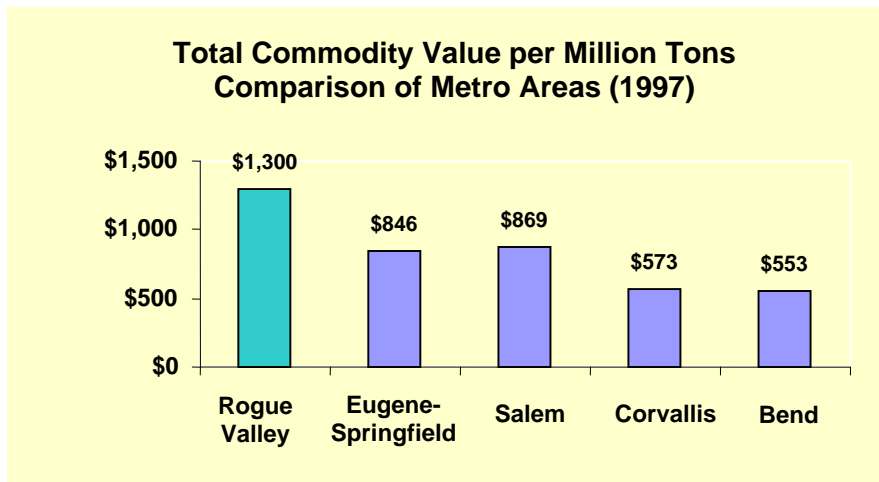
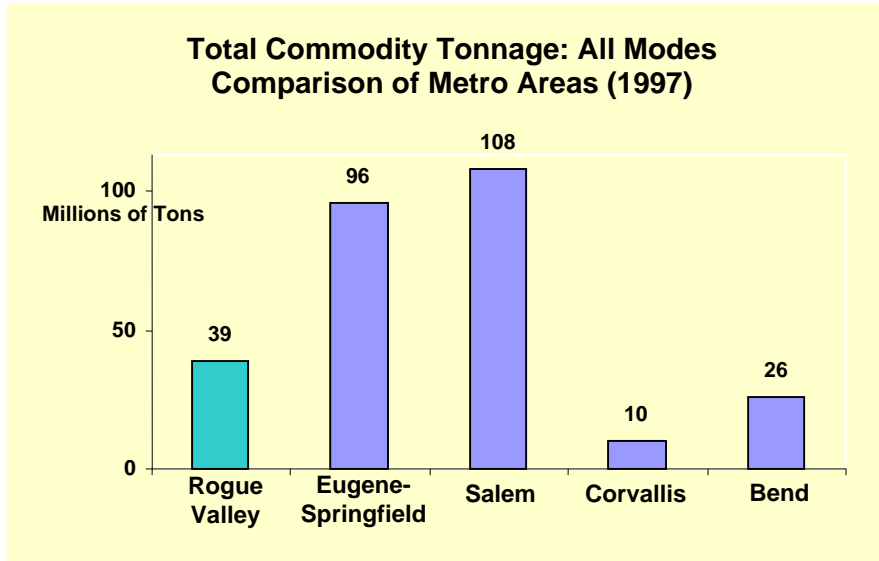
Shipping freight by air is generally reserved for relatively high-value, low-weight products, often destined to national or international locations. In fact, the value per million tons of air freight, \$9,077, is seven times that of trucked freight. In 1997, 1,895 tons of cargo, valued at \$17 million, 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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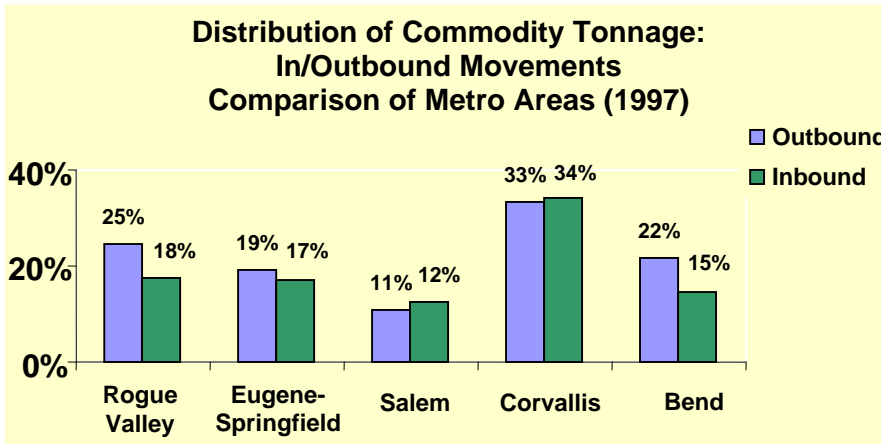
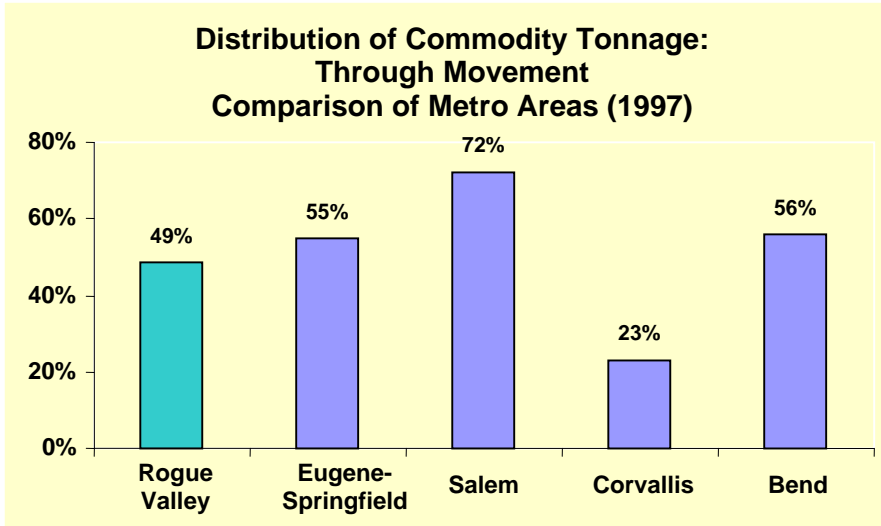
## Comparison of Metropolitan Areas



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 the state's major transportation artery, Interstate 5, 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 lagged 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.

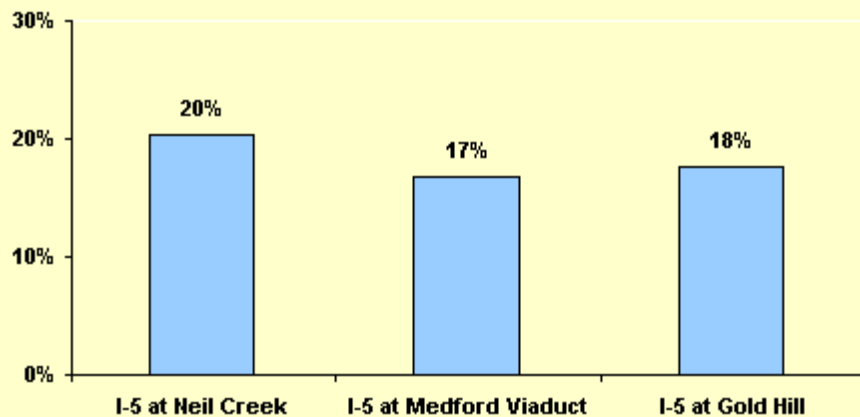


## Appendix B

### ODOT Freight Truck Traffic Counts in Region

	1997	Freight Counts/daily		2000	1997-2000 Change	
15-004: Neil Creek						
ADT	13266			15960		
Trucks	0.367	4,869		0.419	6,687	20 percent
15-019: Medford Viaduct	41228			48173		
ADT	0.1514	6,242		0.141	6,792	17 percent
Trucks						
15-001: Gold Hill	29485			34674		
ADT	0.2093	6,171		0.171	5,929	18 percent
Trucks						
	1997-2000 Change					
I-5 at Neil Creek	20 percent					
I-5 at Medford Viaduct	17 percent					
I-5 at Gold Hill	18 percent					

**Change in Average Daily Traffic: Trucks  
ODOT Traffic Recorder Stations  
1997-2002**



*Source: ODOT Traffic Volume Tables, 1997 and 2002*

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## Appendix C

### Sources of Freight Statistics and Information with Emphasis on Jackson County Data<sup>8</sup>

**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 forecasts 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.

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<sup>8</sup> Prepared for RVCOG's Freight Study By Rebecca L. Reid, May 2004

- 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](http://www.odot.state.or.us/tddtpau/papers/other/ODOT_CFS_2.pdf). 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
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](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.
  - d. To locate: ODOT website, for 1993-2002:  
[http://www.odot.state.or.us/tdb/traffic\\_monitoring/tvtable.htm](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](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:



- [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](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](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](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](http://www.aar.org/PubCommon/Documents/AboutTheIndustry/RRState_OR.pdf?states=RRState_OR.pdf)

C. Air

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/bea/regional/reis/action.cfm?catable=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](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-freight/Reports/FreightMoves/freight\\_moves\\_contents\\_new.htm](http://www.odot.state.or.us/intermodal-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](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](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](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](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](http://www.ops.fhwa.dot.gov/freight/freight_analysis/state_info/oregon/or.htm)

4. State-to-State Commodity Flows at:  
[http://www.ops.fhwa.dot.gov/freight/freight\\_analysis/faf/fafstate2state.htm](http://www.ops.fhwa.dot.gov/freight/freight_analysis/faf/fafstate2state.htm)