600 NE Grand Ave.
Portland, OR 97232-2736

Metro | *Agenda*

2018 REGIONAL TRANSPORTATION PLAN UPDATE

Regional Freight Work Group - Meeting # 1

Date: January 20, 2016
Time: 8:00 – 9:30 a.m.
Place: Metro Regional Center, Room 370 A&B
600 NE Grand Avenue, Portland, OR 97232

Agenda items

8:00	**Welcome and introductions**	Tim Collins
8:15	**Overview and work group purpose and schedule**	Tim Collins
8:25	**Draft Key Freight Trends and Logistics Issues Report** *Review table of contents to get input on missing freight reports or studies, and review some base results from the Commodities Flow Forecast.*	Tim Collins and Work Group
8:45	**Discuss first regional freight target outcome** *Jointly discuss and identify individual freight modal needs (for trucks, rail, air freight, marine and river) and constraints in the freight system.*	Work Group
9:25	**Next steps**	Tim Collins
9:30	**Adjourn**	

Meeting packet:

- Agenda
- Draft Charge and meeting protocols
- Draft Key Freight Trends and Logistics Issues Report

Irving Street Garage visitor parking policy
Visit our website for a list of parking options for visitors conducting business at the Metro Regional Center: http://www.oregonmetro.gov/metro-regional-center

Getting there

with a connected region

2018 Regional Transportation Plan update

Regional Freight Work Group

Draft Charge and meeting protocols

January 14, 2015

Background

The Regional Freight work group is one of eight technical work groups identified to provide input and technical expertise to support the 2018 Regional Transportation Plan (RTP) update. In this role, the work groups will be convened to advise Metro staff on implementing policy direction from the Metro Council, the Metro Policy Advisory Committee (MPAC) and the Joint Policy Advisory Committee on Transportation (JPACT).

Opportunities to share information and collaborate across work groups will be provided. Meetings will be open to the public. Meeting information will be posted on Metro's website at www.oregonmetro.gov.

Briefings on the progress of the technical work groups will be made to the Transportation Policy Alternatives Committee (TPAC) and the Metro Technical Advisory Committee (MTAC) as needed to prepare for Regional Leadership Forums – *joint meetings of the Metro Council, MPAC and JPACT to consider public input and provide policy direction to staff* – and other policy committee briefings. The Regional Freight work group is anticipated to meet approximately five times from early 2016 through 2017.

Work group charge

- Review status of 2010 Regional Freight Plan recommendations and help update freight data.
- Review document on key trends and challenges with updated existing conditions data.
- Review shared freight investment strategy.
- Review draft freight policy refinements and actions to support implementation.
- Provide information to your organization's leadership and/or staff about the progress of the Regional Freight Strategy.
- Integrate input from partners and the public to develop freight project recommendations to Metro staff.

Meeting protocols

- Work group members are expected to attend all meetings and notify work group lead if unable to attend. Alternates can attend in a member's place and participate in discussions, advise staff, and make recommendations.
- Metro will be responsible for distributing information to work group members, so everyone has the same information. Members should provide work group lead with electronic copies of feedback on discussion items prior to the meeting so sufficient copies can be made and distributed.
- Meeting materials will be distributed by e-mail, generally one week in advance of

meetings. Copies of all materials will be provided at the meeting.
- Agendas will be prepared for all meetings. Members can suggest agenda items by contacting the work group lead.
- Meetings will be facilitated by the work group chair.
- Meetings will begin and end on time. If agenda items cannot be completed on time, the group will decide if the meeting should be extended or if an additional meeting should be scheduled.
- Meeting summaries will be prepared and distributed with other meeting materials.

Meeting ground rules

- Treat everyone with respect.
- Expect and respect differences of opinion, but seek common ground.
- Focus questions and comments on the subject at hand and stick to the agenda.
- Listen and ask questions with the intent of understanding other points of view.
- Let others finish before speaking. Do not hold side conversations.
- Provide input and recommendations on draft materials and analysis.
- Share the air – let others speak once before speaking twice.
- Report any concerns or issues raised by leadership in their agency or organization.
- Express concerns, issues and perspectives clearly, honestly and early in the process.
- Represent the viewpoints of their jurisdictions, organizations and the committees they represent while seeking optimal solutions for the overall project.
- Participate!
- Provide constructive feedback that helps move discussions forward and improves the quality of work, while recognizing different limitations and constraints (data, time frame, resources).

Preparing for meetings

- Review materials in advance.
- Provide work group lead with electronic copies of supplemental information that other members need to hear or see.
- Share the work group's progress with their respective agency or organization staff and elected officials at meetings or by e-mail.
- Speak with each other about issues and in ways that support the group process.
- Assist Metro staff with reporting on progress of work group to technical and policy committees.
- For work group members without a member on technical and policy committees, assist Metro staff by keeping organization membership, leadership, and other interested stakeholders aware of work group activities.
- Notify the project team of any media inquiries and refer requests for official statements or viewpoints to Metro. Work group members will speak to the media about the project only on their own behalf, not on behalf of the group.

Participation

The regional freight work group consists of topical experts, Portland Freight Committee members, TPAC and MTAC members or their designees, and staff from the City of Portland, larger cities in the region, Clackamas County, Multnomah County, Washington County, Port of Portland, Port of Vancouver, Regional Transportation Council (RTC), Federal Highway Administration (FHWA), and Oregon Department of Transportation (ODOT).

	Name	Affiliation	
1.	Tim Collins	Metro	
2.	Robert Hillier	City of Portland (PBOT)	
3.	Phil Healy	Port of Portland	
4.	Tony Coleman	ODOT	
5.	Steve Williams	Clackamas County	
6.	Kate McQuillan	Multnomah County	
7.	Erin Wardell	Washington County	
8.	Kelly Clark	City of Gresham	
9.	Zoe Monahan	City of Tualatin	
10.	Sandra Towne	City of Vancouver	
11.	Steve Kountz	City of Portland (PBPS)	
12.	Don Odermott	City of Hillsboro	
13.	Nick Fortey	FHWA	
14.	Jana Jarvis (Oregon Trucking Assn.)	Portland Freight Committee (Trucking)	
15.	William Burgel (Burgel Consulting)	Portland Freight Committee (Railroads)	
16.	Pia Welch (FedEx Express)	Portland Freight Committee (Air Freight)	
17.	Jerry Grossnickle (Bernert Barge Lines)	Portland Freight Committee (Marine/River Freight)	
18.	Lynda David	Regional Transportation Council (RTC) in Vancouver WA	
19.	Jim Hager	Port of Vancouver	
20.	Raihana Ansary	Portland Business Alliance	
21.	Brendon Haggerty	Multnomah County Public Health (public health interests)	
22.	Derrick Olsen	Greater Portland Inc. (Vice President Regional Strategy)	
23.	Jill Eiland	Intel (NW Region Corporate Affairs Director)	

Work group schedule

Meeting #1: Regional Freight Strategy Overview, Work Group Purpose, Key Trends

January 20, 2016
Metro Regional Center, Room 370A and 370B

- Overview of Regional Freight Strategy and work group purpose
- Draft Key Freight Trends and Logistics Issues Report, and other existing freight data
- Discuss individual freight modal needs and constraints in the freight system

Meeting #2:

May 2016
Metro Regional Center, Room TBD

- Finalize key trends and challenges, existing commodity movement and freight economic impacts
- Review existing freight action plan, freight vision and supporting freight policies
- Start to identify tools and evaluation measures for determining updated freight needs

Meeting #3:

September – October 2016
Metro Regional Center, Room TBD

- Start updating freight vision and supporting freight policies
- Review new potential freight needs and projects
- Finalize updated evaluation framework and measures

Meeting #4:

January 2017
Metro Regional Center, Room TBD

- Review and assess regional freight needs and projects for freight action plan
- Draft update of regional freight vision and policies for 2018 RTP

2018 RTP | REGIONAL FREIGHT STRATEGY WORK PLAN

Getting there by moving freight

PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
PROJECT START UP	**REGIONAL FREIGHT TRENDS AND CHALLENGES**	**REGIONAL FREIGHT VISION, POLICIES AND NEEDS**	**SHARED REGIONAL FREIGHT INVESTMENT STRATEGY**	**ADOPTION**
May to Dec. 2015	**Jan. to April 2016**	**May 2016 to Feb. 2017**	**March 2017 to Dec. 2018**	**2018**
Describe the project purpose, schedule, and resources Establish project goals and desired outcomes Identify state, regional, and local government partners, and key freight stakeholders to engage in the project Develop project work plan	Document key trends and challenges and update existing data Document relevant research and existing system conditions for freight and goods movement	Update freight vision and supporting policies and tools for determining freight needs Update regional freight needs Update evaluation framework as part of RTP performance targets update	Inform the project solicitation process of the 2018 RTP Evaluate performance as part of 2018 RTP investment strategy analysis Update freight investment strategy and action plan Include results of other regional freight studies and investment action plans in the Regional Freight Strategy	Release draft strategy for public review Adopt Regional Freight Strategy as part of the 2018 RTP Adopt regional freight network vision, policies and investment priorities as part of the 2018 RTP
DELIVERABLES				
Draft Project Work Plan **Review of work plan by state, regional and local partners; and key freight stakeholders**	**Key trends, commodity movement, and freight economic impact**	**Regional Freight Vision and Policies** **Regional Freight Needs Assessment**	**Draft update of regional freight network vision policies for the 2018 RTP** **Freight and multimodal project scenarios for testing freight performance** **Draft Regional Freight Strategy**	**Final update of regional freight network vision policies for the 2018 RTP** **Final Regional Freight Strategy** (includes Regional Freight Vision, Freight Investment Priorities, and revised Freight Action Plan)

DRAFT OCTOBER 2015

Getting there by moving freight

2018 Regional Transportation Plan update

2018 REGIONAL FREIGHT STRATEGY

Key Freight Trends and Logistics Issues Report

DRAFT JANUARY 2016

Metro
Making a great place

Metro respects civil rights

Metro fully complies with Title VI of the Civil Rights Act of 1964 and related statutes that ban discrimination. If any person believes they have been discriminated against regarding the receipt of benefits or services because of race, color, national origin, sex, age or disability, they have the right to file a complaint with Metro. For information on Metro's civil rights program, or to obtain a discrimination complaint form, visit www.oregonmetro.gov/civilrights or call 503-797-1536.

Metro provides services or accommodations upon request to persons with disabilities and people who need an interpreter at public meetings. If you need a sign language interpreter, communication aid or language assistance, call 503-797-1700 or TDD/TTY 503-797-1804 (8 a.m. to 5 p.m. weekdays) 5 business days before the meeting. All Metro meetings are wheelchair accessible. For up-to-date public transportation information, visit TriMet's website at www.trimet.org.

Metro is the federally mandated metropolitan planning organization designated by the governor to develop an overall transportation plan and to allocate federal funds for the region.

The Joint Policy Advisory Committee on Transportation (JPACT) is a 17-member committee that provides a forum for elected officials and representatives of agencies involved in transportation to evaluate transportation needs in the region and to make recommendations to the Metro Council.

The established decision-making process assures a well-balanced regional transportation system and involves local elected officials directly in decisions that help the Metro Council develop regional transportation policies, including allocating transportation funds.

Project website: www.oregonmetro.gov/rtp

The preparation of this report was financed in part by the U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration. The opinions, findings and conclusions expressed in this report are not necessarily those of the U.S. Department of Transportation, Federal Highway Administration and Federal Transit Administration.

TABLE OF CONTENTS

FIGURES AND TABLES

INTRODUCTION

The Portland metropolitan region is the trade and transportation gateway and economic engine for the state of Oregon. Metro is working with the Port of Portland, Oregon Department of Transportation (ODOT), local government partners, and representatives of the freight community to develop a regional freight strategy that updates the 2010 Regional Freight Plan. Development of the Regional Freight Strategy will occur from October 2015 to fall of 2018. The Regional Freight Strategy (RFS) will serve as the freight component of the 2018 Regional Transportation Plan and provide a coordinated vision and strategy for moving commodities and enhancing access to global, national and regional markets, connections to and between marine and airport terminals, industrial areas, intermodal facilities, rail yards and other key freight destinations in the Portland metropolitan region. This report serves as the first work product in the work scope for the Regional Freight Strategy, and will highlight the key trends and challenges for the regional freight system, and summarize freight plans and freight logistics analysis that have been completed since the 2010 Regional Freight Plan was completed.

FREIGHT PLANS, FORECASTS, STUDIES AND LOGISTICS ANALYSES FROM MARCH 2012 TO PRESENT

The following summarizes the freight plans, freight studies and freight logistics analysis that have been completed since the 2010.

Greater Portland Export Plan – Metro Export initiative (March 2012)

In the 2011 National Export Strategy, the Trade Promotion coordinating committee (TPcc) of the federal government cited the importance of metro areas in boosting national exports. As the strategy notes, "Metropolitan areas produce 84 percent of the nation's exports and are home to unique concentrations of capital, investment, and innovation." Portland is a prime example of a metro region where export growth is leading the way to economic competitiveness. Export-focused trade missions and direct assistance to companies demonstrated that an assertive region, coordinating with state and federal resources, could offer significant value to new-to-export and new-to-market companies.

Key stakeholders in Greater Portland decided to pursue a comprehensive export strategy. The region competed for, and was selected as one of four pilot metros in the nation to partner with the Brookings institution on a Metro Export initiative (MEi). The Greater Portland MEi aims to convene and focus the regional trade community across traditional political boundaries, establishing shared export objectives across different agencies, levels of government, and the public and private sectors. The Metro Export initiative (Mei) is coordinated from the offices of Greater Portland Inc (GPI), the region's public-private economic development organization.

There were three primary deliverables of the Greater Portland Export Plan: 1) A Market Assessment; 2) an Export Plan; 3) a Policy Memo.

Key Findings of the Market Assessment

1. The great recession that started in 2008, was deeper in the Portland region than in the nation as a whole. The region shed 80,000 jobs—7.4 percent of its total employment—between March of 2008 when the local recession began and December of 2009 when it ended (based on Brookings analysis of Moody's Analytics data). Unemployment peaked in June of 2009 at 11.2 percent of the labor force and stayed above 10 percent until February of 2011 (based on Bureau of Labor Statistics 2011).

2. The Portland region has been near the forefront of economic recovery. The Portland region recovered jobs at a faster rate than the nation and seen unemployment fall nearly twice as fast, from its peak of 11.2 percent to 8.5 percent in December 2011 (based on Bureau of Labor Statistics 2011).

3. Exports are at the core of the region's economic resilience and potential. Between 2003 and 2010, Portland increased its export volume by 109.3 percent, creating 45,863 new jobs. This growth made Portland the second-fastest growing export market among the 100 largest metropolitan areas. The region was 12th largest by volume in 2010, with $21 billion in

exports, and had the third highest export intensity, with exports accounting for 18.2 percent of its economy.

4. A handful of companies and clusters drive much of the region's export strength. Ninety percent of the region's exports in 2010, and ninety-two percent of the export growth from 2003 to 2010, came from the region's top 10 exporting industries. The region's largest export industry is the computer and electronic products industry; which accounts for 57 percent of total exports and 63.4 percent of export growth.

5. The region's more latent export strengths show strong potential for growth. The region's manufactured goods and service exports also play an important role and make the region one of the nation's more balanced metropolitan export markets.

6. The region's identified clusters are not reflected in the region's export strengths. This represents an opportunity for new export growth.

7. The region's economy is rich with small and mid-sized companies that have limited awareness of global opportunities. Many of the smaller companies have trouble getting out of the gate to pursue exports. Companies most frequently cited their limited knowledge of foreign export opportunities as the most significant challenge to expanding into new markets.

8. Small and mid-sized companies in the region fear the risks and hassles related to exporting. Several interviewees said they wanted to export, but don't know how to navigated the many risks involved.

9. The region's most successful exporting companies are intentional about exporting. Companies acknowledged that pursuing business opportunities in new foreign markets requires significant resources and persistence.

10. The region boasts a good quality, yet fragmented export service system. Though the region has a good set of export services providers to support, advise, and direct companies through the many obstacles to exporting, the system has gaps and is reactive in nature. Companies are often not aware of or do not fully understand the export services available to them and don't know who to go to for help. As a result only 21 percent of firms report having received assistance from these service providers.

The export plan

Goal: Consistent with the national export initiative, the Greater Portland Metro Export Initiative aims to double exports in five years.

Objectives: Based on the key findings from the market assessment, the Greater Portland Metro Export Initiative has three primary objectives designed to support the region's vision for export growth:

1. Create and retain export related jobs, and maintain the region's standing as a leading export region.
2. Diversify export industries, increasing the number of companies exporting and the markets they access.
3. Create a strong local export culture and a global reputation for our region as a competitive trading region.

Strategies: Greater Portland Metro Export Initiative proposed four core strategies designed to best drive attainment of the goals and objectives:

1. Leverage primary exporters in the computer and electronic products industry.
2. Catalyze efforts under exporters in the manufacturing sector
3. Build and improve the existing export pipeline for small business
4. Use "We Build Green Cities" as a brand and market Greater Portland inc's (GPi) global edge

Policy:

Part of the purpose of the Mei is to identify impediments to export growth, and to propose policy corrections for improved export performance. Greater Portland Inc gathered initial policy recommendations during the development of the Mei for both federal and state/local policymakers on the following topics:

1. Funding for export led growth
2. Metro-wide level of export tracking data
3. Freight strategy to support export growth
4. Effective land use and tax structure
5. Movement of people and ideas
6. Alignment of performance measures

Additional details related to regional export policy recommendations are in a separate Greater Portland Inc Export Policy Memo.

The Traded Sector in Portland's Regional Economy (April 2012)

In December 2010, the Value of Jobs Coalition began an effort to gain a better understanding of the Portland-metro region's economy. As a continuation of that effort, this study focused on the Portland-metro's traded sector, and it shed some new light on why the traded sector is a critical part of the region's economy.

The study revealed the following reasons why the Portland-metro should support a strong and healthy traded sector:

- Expanding the Portland-region's traded-sector firms can help small business and inspire business creation. On average in 2011, thirty-two new businesses were created in Oregon for every 10,000 adults. This was comparable to the US average but represents a decline in job creation from the rates in 1999 to 2001.

- Generating more traded-sector jobs may increase family incomes because, on average, traded-sector workers earn about $15,300 more per year.

- The traded sector is competitive and changes over time. To be successful in growing, retaining and attracting future traded-sector jobs, the region must invest in its human, natural and physical capital.

What is the Traded Sector? How does it differ from the Local Sector?

The traded sector includes industries and employers which produce goods and services that are consumed outside the region where they are made. The local sector, on the other hand, consists of industries and firms that produce goods and services that are consumed locally in the region where they were made.

Most forms of manufacturing, specialized design services, advertising and management, and technical consulting are classified as traded in this analysis. Retail trade, construction, healthcare, education, real estate and food services are found in all metropolitan areas and mostly fall into the local sector.

The traded and local sectors differ in these important ways:

- Historically, the amount of output (or "value added") per job has been higher in traded sector industries.

Across industries, one can compare the value of the output (related to Gross Domestic Product) to the number of jobs require to produce it. The division yields a measure of value added per worker. If a job in the US is tied to the global supply chain and has a low value-added, it is at-risk of being outsourced to a foreign location where labor is less costly. In manufacturing, for example, a combination of outsourcing and automation over the past several decades has eliminated lower value-added US jobs in the traded sector. Such dynamics are less prevalent in the local sector.

- The growth in value added per job in the traded sector accelerated during the past decade and outpaced the growth in value added in the local sector.

The traded sector had a surge in value added per worker in a number of sectors. Notably, the electronics sector expanded exponentially the computing power available at a given price.

- Workers in the traded sector tend to be better educated, work more hours, and earn higher average wages.

On average, traded sector workers earn more than local sector workers. In Portland, the average annual wage for traded sector workers is $51,600 and the average annual wage in the local sector is $36,300.4 Consistent with this result, traded sector workers are also more likely to have a college degree and are more likely to work full time.

Executive Summary

The study contains the following findings from the executive summary:

(1) Portland's traded sector pays higher wages, on average ($51,600 vs. $36,300), employs more full-time workers (70% vs. 56%), and employs more college graduates (40% vs. 31%) than the local sector.

(2) The traded sector is not static. It changes over time. Over the past forty years, the share of traded sector employment in the traded goods sector has declined substantially as employment in traded services has grown. In Portland, the traded sector is constantly in flux as old industries die, new industries emerge, and industries move from one region to another. Over the past forty years, the largest traded sector industries changed from wood products, agriculture, and shipping to electronics, computers, and other business services.

(3) Variation in regional economic performance is tied to differences in the composition and performance of regional traded sectors. Across metro areas, the traded sector typically makes up 35-40 percent of total employment; however, the industries that comprise each area's traded sector differ.

Over the past 40 years, Portland's traded goods sector has performed well – increasing employment and wages at a rate faster than the US metro average; however, over the past 10 years, Portland's traded goods sector has lost employment and wages have fallen.

(4) Empirical research confirms that the health of a region's traded sector significantly affects regional employment growth, income growth, and housing prices. Growth in the traded sector generates growth in the local sector, more people and more money means more customers for local businesses. On average, one additional traded sector job creates 1.6 local sector jobs. The traded sector also significantly influences regional income and price differences. Higher productivity and wages in the traded sector generate higher wages in the local sector and higher wages throughout the region tend to increase the cost of living.

(5) Over the long-run, variation in traded sector (and thus regional economic) performance across regions stems from differences in regional economic capacity (e.g., natural resources, workforce skills, transportation infrastructure, social norms and governing institutions, innovative ability).

Conclusions

Over the past several decades, the U.S. traded sector has shifted from predominantly goods producing to predominantly services producing. This transition can be linked to growth in global trade and technological changes.

The Portland-metro region benefits from a strong base of traded-sector jobs, and there are numerous reasons to grow and strengthen Portland-metro's traded sector: new money introduced in the economy; potentially higher wages for local- and traded-sector workers; and potentially higher entrepreneurialism and small business growth.

For state and regional policy-makers, the challenge is to determine what factors help or hinder both our traded-goods and traded-services sectors and develop a strategy for nurturing those factors that encourage the location, formation and growth of traded-sector firms.

While the Portland-metro region has certain "fixed" natural and physical advantages for some traded-sector firms, employers rely on "un-fixed" resources such as: an educated and trained workforce, modernized infrastructure, available land supply and a favorable business climate. Public- and private-sector leaders must work together to ensure that the Portland-metro region's natural, physical, human and social capital is up to par for traded-sector firm needs. This means:

- Investments in education as well as trade programs and research institutions;
- Modernized, affordable infrastructure that provides access to market;
- Sufficient supply of market-ready, developable land; and
- Tax structures that encourage investment and economic growth.

Central City Sustainable Freight Strategy (October 2012)

xx.

Columbia Multimodal Corridor Study - Final Report (December 2012)

This report focused on providing an overview of the existing transportation conditions within the Columbia Corridor and the best improvements for the coming twenty years. Below is a map showing the corridor boundary area. Businesses surveyed as part of this study indicated that access to efficient, multimodal transportation facilities is the reason they are located here. The study examined current and future congestion and travel times in order to identify bottlenecks that will erode the Corridor's transportation advantage.

Columbia Multimodal Corridor Study Area

- The Corridor Boundary Area

The Corridor area is serviced by a number of major transportation gateways including Interstate 5, Interstate 84, Interstate 205, Columbia Boulevard, Marine Drive, Sandy Boulevard, Martin Luther King Jr. Boulevard, and Airport Way. Other gateways in the Corridor are marine terminals, rail lines, and international airport (airport and cargo) facilities.

Businesses and Interviews

Within the Corridor boundary, there are numerous businesses that make a large impact on the regional and state economy. There are approximately 2,600 total businesses within the Corridor area, and roughly 65,000 total jobs. This equates to about 8% of the total Portland metropolitan business inventory. The top three types of businesses in the CCA boundary are manufacturing (21%), transportation/warehousing (18%), and wholesale trade (12%).

As part of the study, surveys were conducted with 10 businesses within (or in close proximity to) the Corridor boundary. Businesses were selected to help represent a wide variety of geographic, type of business, and use of the transportation system. Survey responses indicated the primary reason many of these businesses located in the Corridor is easy access to regional facilities such as Interstate 5, Interstate 205, and Interstate 84. In addition they feel the area provides access to other non-motorized modes of transport like heavy rail, marine and air cargo facilities. Company representatives note congestion as the number one problem facing business operations now and in the future. Congestion and the reliability of roadways limit their ability to have on-time deliveries and receive/ship goods. Much of their delivery time is incurred in the "last mile" which references the last segment of roadwayin and out of their business.

Project Summaries

There are a number of projects identified by both the Regional Transportation Plan (RTP) and the Port's Transportation Improvement Plan (PTIP) within the Corridor. Approximately 70 projects were identified but not all projects may have an expected benefit of freight movement, or mobility

and access. Based on current (and future) congestion plots, approximately 30 projects were selected for additional analysis and focus with individual project sheets.

The projects range from localized intersection improvements to longer corridor improvements. The total estimated cost for the shorter list of projects that detailed sheets have been developed for is approximately $290 million dollars.

These projects were selected to have more detailed information developed to provide background information, problem statement, project description, forecasted growth and user origin/destination information. The following is a list of the projects that have more detailed information that can be found in the final report; and a status of each project as of the end of 2015:

Burgard-Lombard North Street Improvements. Status: Project was re-scoped and is now fully funded. Time Oil Road and N. Burgard intersection will start construction in 2016.

N Columbia Blvd/N Portland Road Intersection Improvement. Status: Is funded through the STIP (as part of the St. Johns Truck Study Phase 2). Design in 2016 with construction in 2017 or 2018.

Marine Drive ITS. Status has not changed since 2012.

NE Martin Luther King Junior Blvd/NE Columbia Blvd Area Improvements. Status: Mostly unchanged from 2012. RTP project #10339 "Columbia Blvd. N/NE Bikeway is funded. Currently in right of way purchase. Construction scheduled for 2017 or sooner.

SW Quad Access. Status has not changed since 2012.

NE Cornfoot Road Improvements. Status has not changed since 2012.

NE Columbia Blvd Improvements: NE 60th Ave to NE 82nd Ave. Status has not changed since 2012.

NE Airport Way/NE 82nd Avenue Grade Separation. Status has not changed since 2012.

NE Airport Way ITS Improvements. Status has not changed since 2012.

NE 122nd Avenue Improvements. Status has not changed since 2012.

NE 181st Avenue Improvements. Status has not changed since 2012.

NE Sandy Boulevard Improvements. Status has not changed since 2012.

NE 207th Avenue Arterial Corridor Management. Status has not changed since 2012.

NE Sandy Boulevard Reconstruction. Status has not changed since 2012.

Troutdale Interchange Improvements. Status: Project is completed.

NW Graham Road Improvements. Status has not changed since 2012.

NE Airport Way Braided Ramps. Status: This project may have been re-scoped.

I-205/NE Airport Way Interchange Improvements . Status: Project is completed.

I-5 Interchange Improvements at Marine Drive and Hayden Island. Status has not changed since 2012.

Rail Crossing Improvements. (A) Rivergate Boulevard Status: Rivergate Boulevard is mostly funded but still has a funding gap**. (B) Cathedral Park/St. Johns Lead Whistle Free Zone. (C) Marine Drive Grade Separation. (D) Peninsula Junction. (E) 11th /13th rail crossing. (F) Cully Grade Separation. (G) Graham Line - at 112th.** Status of projects B to G has not changed since 2012.

Regional ITS Projects. (A) Rivergate ITS (B) MLK Jr. - N Columbia Blvd. – CEID (C) PDX ITS. Status of projects A to C has not changed since 2012.

International Trade and the Portland Harbors Impact (2013)

General Overview:

This report was part of a series produced for the Value of Jobs Coalition to track and understand the opportunities and challenges in the Portland- metro region's economy. This report includes summaries from three related studies:

1st study was an update of international trade trends;

2nd study was an assessment of the Portland Harbor's economic impact; and

3rd study was an economic analysis of trade based businesses.

The second and third studies are about the connection between international trade and businesses engaged in trade activities, examining the economic impact of the Portland Harbor and that of five marine industrial businesses. The study about the Portland Harbor, including the Port of Portland, sheds some light on the harbor's economic impact – including income earned by the businesses that operate there and employees who work there.

The third study drills down even further into five marine industrial firms, demonstrating how traded-sector businesses catalyze the region's economy, creating more local-sector jobs through their procurement of goods and services.

The findings of each study show that, with access to one of the best multimodal transportation hubs on the West Coast, Portland-metro and Oregon businesses continue to rely on, and reap huge benefits from, efficient connections to domestic and international markets.

International trade trends (1st Study):

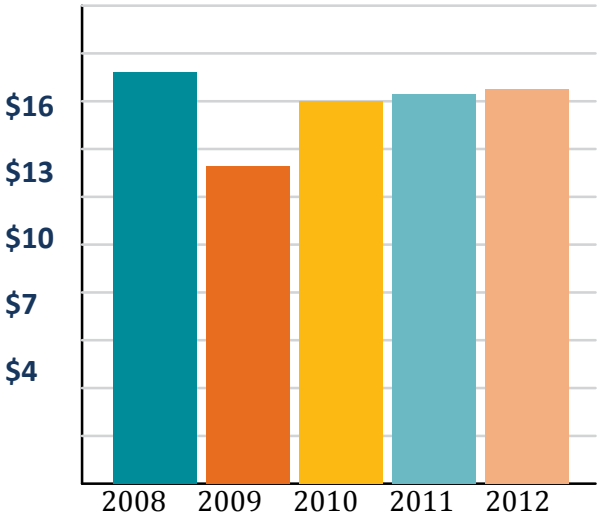
Key Findings

- The Portland-metro region exported one- fourth of its economic output in 2012.
- On the state level, goods exports accounted for 8.4 percent of Oregon's GDP in 2011.
- Oregon manufacturers and their workers depend on foreign customers for one in every four sales dollars.
- Oregon manufacturers and their workers depend on foreign customers for one in every four sales dollars.
- Overseas investment continues to provide regional jobs. During 2010, nearly 43,000 Oregonians worked for overseas-based companies throughout the state.
- Recent studies have found that workers in export industries and firms earned substantially more than those in non-exporting businesses. A previous 2010 Value of Jobs study concluded that export-related jobs pay on average 18 percent more than non-exporting jobs across all industries.

Trends in Goods and Services Exports

In 2012, all exported goods from Oregon reached $16.5 billion as shown in Figure 1. Compared to 2008, this total was down from $17.2 billion (about 6 percent), but represented a third successive year of post-recession growth.

Figure 1: Oregon-made goods exported to the world, 2008-2012 (Value in billions of dollars)

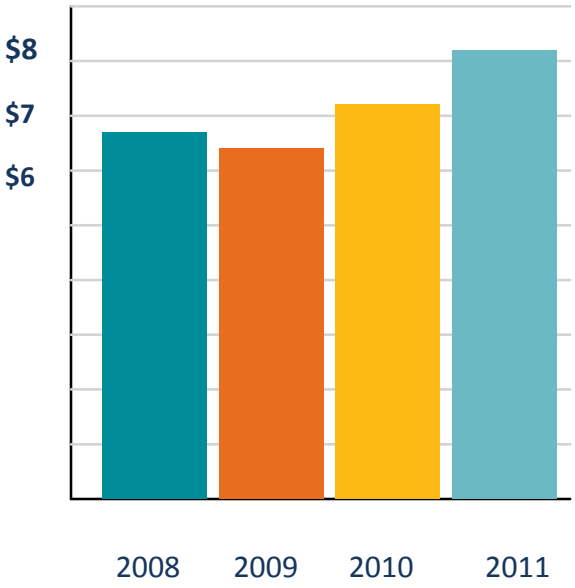


Source: U.S. Census Bureau

Ten leading sectors continue to account for the majority of Oregon's exported goods; in 2012 they were responsible for 88 percent of export revenue. However, nearly 40 percent could be attributed to just one sector – computers and electronics. Machinery, chemicals and transportation equipment together represented about 27 percent of total merchandise exports.

Exported services are increasingly important to the region's economy, which in 2011 totaled $8.2 billion, see Figure 2. Compared to 2008, this total was up from $6.7 billion. Particularly important is the export of technical services such as industrial process royalties, software licenses, and research and development.

Figure 2: Oregon's services exports to the world, 2008 to 2011 (Value in billions of dollars)



Sources: The Trade Partnership from U.S. government and private industry data

Oregon Imports as an Economic Driver

More than $16 billion in goods were imported to Oregon in 2012. More than 65 percent of the imports were raw materials, processed raw materials and components, and machinery and industrial equipment used by farmers, manufacturers and others to produce goods and services in Oregon.

Additionally, by providing access to lower cost materials, imports continue to play an important role enabling regional manufacturers and service providers to compete for sales in global, national and regional markets.

Portland Harbor's Economic Impact (2nd Study)

Overview

While the first section of this report looks at the macro level of international trade, this second report is focused on the economic impact and local benefits of all Portland Harbor activities. These activities include private terminals, manufacturing areas and public terminals owned by the Port and leased to private entities. Together harbor-related firms earned $1.5 billion in income and of those earnings, spent $1.47 billion with local businesses.

The harbor area is where all major cargo vessels come into the Port of Portland, taking goods in and out of the region to other cities around the globe.

Portland's intermodal connectivity – serving as a hub for goods moving from sea, to rail, to river, to road – gives Portland-metro a competitive advantage, but new investments are needed to stay competitive.

For example, Port investments designed to expand auto-import facilities and attract a major potash trader have paid off with new investments and jobs in the region. Portland is now the second largest auto import gateway on the West Coast and the largest potash exporter in the U.S.

Key Findings

- More than 7,000 jobs – from longshoremen and barge operators to accountants and administrators – are directly tied to harbor activities in 2011.
- An additional 4,000 jobs are indirectly supported by harbor activities, such as vendors who supply goods or services to harbor businesses but are not directly engaged in trade in 2011.
- Another 7,000 jobs throughout the region are supported by the spending of employees of harbor businesses, also called induced jobs in 2011.
- About half of direct trade-related jobs are with the Port of Portland.
- Harbor-related jobs are generally higher paying than the average wage for the Portland-metro region, sometimes substantially so.
- Harbor-related business spending amounted to $367 million in direct economic activity such as payroll for employees and procurement of local goods and services in the Portland-metro area.
- Harbor-related businesses generated an additional $200 million in indirect economic activity in 2011.

Economic Analysis of Trade-based business (3rd Study)

Overview

This last study took a deeper dive into businesses that are engaged in trade-related activity and how those activities then translate into dollars spent in the local Portland-metro economy.

By looking at the relationships between large local marine industrial businesses and small- to medium-sized businesses that serve as their vendors and suppliers, one can see the connection between the traded and local sectors. Five such firms were interviewed about their spending on direct and indirect materials, services and capital over a two-year period, 2011 and 2012. In those two years, the five marine industrial businesses spent $1.29 billion with more than 50 percent of that spent with local firms.

Key Findings

- Marine industrial businesses have a significant economic impact on local business. In 2012 alone, the five firms surveyed spent $660 million on goods and services, of which more than 40 percent, or $264 million, was infused into the local economy.
- More than 80 percent of the $264 million in local spending by these harbor firms is for raw materials and components, and professional services, maintenance, catering and other services.
- Local firms supported by these dollars include those involved in planning and architecture, engineering, law, transportation, graphic arts/media production, software and information technology, advanced manufacturing plant production equipment, energy and utilities, and skilled trades such as electricians.
- About 288 local employers are supported by these harbor businesses.
- Even if spending on capital goods, materials and supplies goes to national or international firms, many maintain a local presence such as a distributor, service center, or local warehouse, with local employees and representatives.

The economic analysis projects that all marine industrial businesses spend between $6-7 billion a year, driving a significant portion of the local- sector economy.

Port of Portland Rail Plan (September 2013)

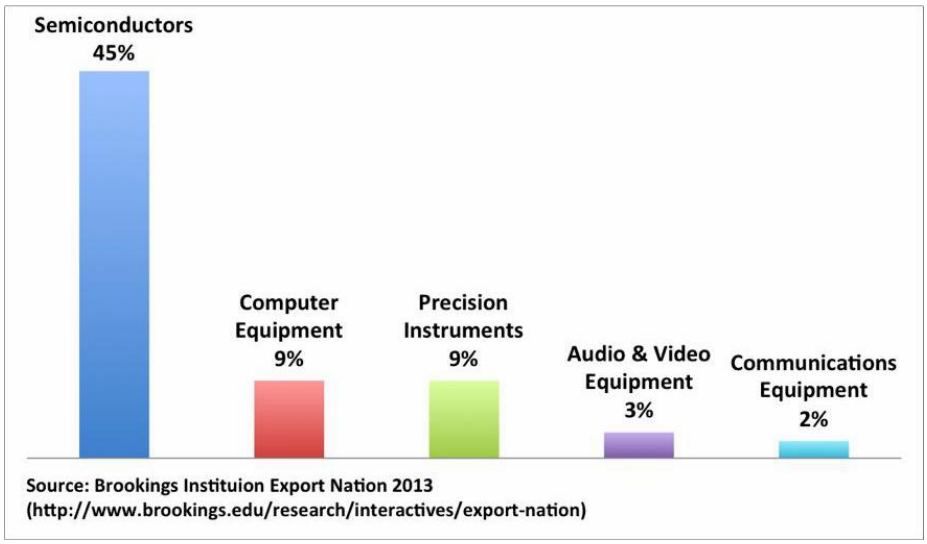
xx.

Portland Region Westside Freight Access and Logistics Analysis (October 2013)

Portland's economy has long relied on export industries, serving broad domestic and international markets and bringing outside dollars into the region. Increasingly, Portland's export economy relies on the computer and electronics (C&E) industry, which accounts for over half the total value of the region's exports (Figure 3). This industry is primarily located in the region's Westside (sometimes called the "Silicon Forest") and depends on a tightly managed supply chain to efficiently bring products to markets that are mostly outside of the Portland Metropolitan area. This study provides recommendations on how to improve goods movement from the Westside C&E industry to Portland International Airport (PDX) freight consolidation locations.

While this study focuses on a single sector of the region's export economy, it is important to recognize that the policies and investments that support the C&E industry may support other key export industries such as footwear, apparel, and agricultural products.

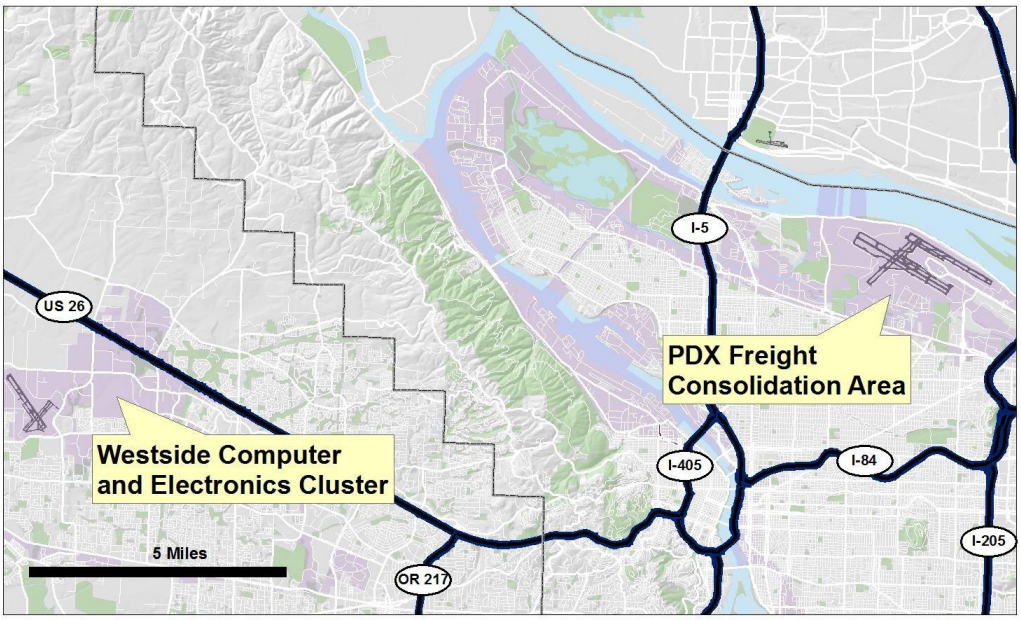
Figure 3: Industries Representing Two Percent or More of the Portland Region's Exported Goods



Study Focus

This study focuses on the outbound movement of goods from Westside C&E manufacturers to the freight consolidation area at Portland International Airport (PDX), as shown in Figure 4. While not all C&E goods fly out of PDX, the freight consolidation area, generally located north of Columbia Boulevard and south of the terminal, is home to several firms that support international and domestic service by handling and combining C&E goods before trucking them north or south of the Portland region for consolidation at other airports. For the purposes of this study, Westside C&E firms are assumed to be clustered south of US 26 in the vicinity of Brookwood Parkway.

Figure 4: Study Area for Westside C&E manufacturers to Portland International Airport



Five industry manufacturers were interviewed along with seven of their freight forwarder or integrators and carriers (trucking). These twelve stakeholders were interviewed to determine the factors that influenced their supply chain/ logistics decisions. The interviews highlighted that the span of control over the movement of products does not reside with any single entity, institution, or supply chain node from end to end. This results in the forwarders and integrators as primarily having the high level routing decisions; determining gateways and mode of travel. The factors driving logistics decisions are:

1) Fastest routing
2) Carrier equipment
3) Carrier qualification
4) Cost

Issues and Considerations

The following summarizes key issues identified through the assessment of how the transportation system is used and how well it performs to move goods from the Westside C&E area.

1) **Limited route choice.** Route choice for vehicles travelling from the Westside to consolidation facilities near PDX is constrained by topography and limited system redundancy. Once east of Cornelius Pass Road, vehicles are typically past the "point of no return" and must generally remain committed to their route.
2) **US 26 travel time reliability.** Average peak period travel time is significantly slower than free flow conditions on US 26. In addition, incidents and other issues can

further degrade the performance and cause travel times to be unreliable. Downstream bottlenecks at I-405 cause queues to spill back to US 26 in both the inside and outside lanes as eastbound traffic approaches downtown Portland.

3) **I-5 travel time reliability.** Similar to US 26, I-5 has poor travel time reliability. The variation of travel time is due to downstream bottlenecks such as the Interstate Bridge over the Columbia River.

4) **US 30 to Columbia Boulevard connection.** Traffic using the Cornelius Pass route headed for eastbound Columbia Boulevard must travel a route that is significantly out of direction, both to cross the St. Johns Bridge and to maneuver through the existing street network in and around the St. Johns neighborhood.
5) **Cornelius Pass Road condition.** Due to limited right of way and terrain, this important connection between US 26 and US 30 involves both horizontal and vertical curves that are not optimal for freight mobility.
6) **Freeway Access and Ramp Meters.** From anecdotal information, these queues can frequently spill back onto the arterial streets, and delays can range 10 to 20 minutes.

Project Analysis Results

Projects were grouped into the following categories based on how well they met identified needs:

- **Group 1** – Projects that address specific needs of Westside C&E freight movements to freight consolidation areas
- **Group 2** – Projects that address general Westside freight movements (beyond C&E)
- **Group 3** – Other long-range projects that provide benefits to freight.

Three projects demonstrated the greatest potential for benefits to Westside freight movement and are categorized as Group 1. Each would provide significant travel time benefits and address specific needs identified by the Westside C&E industry. In addition, each project could be implemented as short-term improvements that would immediately benefit freight movement.

Group 2, still provided value to the wider region and has benefits to transportation system users other than those related to Westside C&E goods movement. However, when considering the specific travel needs of the freight routes considered in this analysis, these projects do not provide direct benefits to the same degree as the Group 1 projects.

One project, I-5 Rose Quarter, has been categorized as Group 3. While it does not directly address the two identified routes for Westside freight, it would provide benefits to other regional freight movement. Table 5 lists each project and the evaluation criteria that were applied.

Table 1: Westside Freight Access and Logistics Analysis - Project Analysis Summary Matrix

Project Number	Project Name	Benefits by Evaluation Criteria					Project Group
		Travel Time (Average)	Travel Time (Reliability)	Overall Distance	Corridor Segment	Connection	
GROUP 1							
3	Traveler Information		■				1
6	Ramp Meter Bypass	■	■				1
27	Enhanced Incident Response		■				1
GROUP 2							
1	Green Signals	•	•				2
7	Helvetia Widening	•					2
8	West Union Widening	•					2
9	US 26 Widening	•	•				2
10	Cornelius Pass Safety		•				2
17	Burgard-Lombard Widening	•					2
19	Lombard Communications	•	•				2
20	Columbia Communications	•	•				2
25	Cornfoot Widening	•					2
26	Airtrans/Cornfoot Improvements	•					2
28	Century Extension	•				■	2
29	Columbia Rail Crossing Improvements		•				2
32	Schaaf Extension	•				■	2
GROUP 3							
21	I-5 Rose Quarter		•				3

Legend: (blank) = no benefit, • = potential for nominal benefit, ■ = potential for significant benefit

Recommendations

Three strategies emerged from this study that show clear benefit to Westside C&E freight movement and can potentially be implemented in a short timeframe. These strategies are shown in Table 1.

Table 2: Westside Freight Access and Logistics Analysis Recommended Priority Projects

Project Name	Description	Benefits
Enhanced Traveler Information	Provides predictive traveler information at key points on routes approaching US 26, alerting drivers to congestion on US 26, through the central city loop, or on Cornelius Pass Road northbound.	Provides more reliable travel time by alerting drivers of incidents, reducing non-recurring delay.
US 26 Truck Ramp Meter Bypass	Modify select US 26 on-ramps to allow freight to bypass ramp meter queues.	Potential to reduce queue-related delay by 10 to 20 minutes.
Enhanced Freeway Incident Response	Increase incident response and clearing capacity on key US 26/I-405/I-5 freight route to reduce non-recurring congestion impacts.	Reduces delays due to incidents.

Economic Impacts of Congestion in Oregon (February 2014)

xx.

International Trade and Logistics Initiative (April 2015 – Present)

xx.

Oregon Trade and Logistics Fact Sheet

Oregon Trade and Logistics Solutions Preliminary Trade Data

Oregon Trade and Logistics Stakeholders' Forum (Portland - Nov. 13th)

Port of Portland Commodity Flow Forecast (April 2015)

The Commodity Flow Forecast and technical memorandum that addressed key questions by task, was completed for the Port of Portland by Cambridge Systematics Inc. The following provides a general summary of the key aspects of this work.

The Freight Analysis Framework (FAF), produced through a partnership between Bureau of Transportation Statistics (BTS) and Federal Highway Administration (FHWA), integrates data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation. FAF incorporates data from agriculture, extraction, utility, construction, service and other sectors. The FAF data was used to help develop a commodity flow database for this project.

The overall purpose of the Port of Portland Commodity Flow Forecast project is to develop a commodity flow database with future forecasts for the Portland-Vancouver region using baseline FAF data. However, the Portland study area from FAF data consists of an area much larger than the region; and includes Columbia, Clackamas, Multnomah, Washington and Yamhill counties in Oregon. With the help of additional data from the TRANSEARCH database, Clark County Washington was also added to the study area.

Changes to the Portland region's key industries

Forest Products Industries - Traditionally, forest products have been most important in the region. Currently they are experiencing a decline domestically, but and increases in overseas shipments. Timber production and jobs in the forest products industries has declined, due to a reduction of logging on Federal lands. The movement of forest products is dependent on US housing and construction markets, and increasingly on exports of these products to China.

Manufacturing - High-tech electronics has become a highly significant sector in manufacturing. High-tech manufacturing drives growth in manufacturing activities in Portland, especially from Intel's semi-conductor production. The percentage of Oregon's gross domestic product (GDP) that is in Computers and Electronics grew from about 5% in 2003 to about 20% in 2012. The recent large capital investments in the local industry will mean even more high-tech manufacturing activity in the future.

Agriculture - Traditionally, agricultural products have been very important part of freight movement in the Portland region. Significant shares of agricultural products are exported to Asia.

Energy – Energy dependence in the Portland region is shifting from hydroelectric power to other renewable energy sources and natural gas. This creates changes in future demand both in terms of commodities and mode of transport. The sources used for energy consumption in Oregon have shifted over the last twenty to twenty to twenty-five years. From 1990 to 2010 the use consumption of hydroelectric energy is down by nearly one third, and the consumption of natural gas has about doubled. Renewable energy sources for Oregon were almost non-existent in 2000, but are now a small but rapidly growing part of energy consumption.

The following sections reflect a summary of three work tasks (technical memorandum) with important findings that impact freight movement in the Portland-Vancouver region:

Task G: Identify Trends/Changes in Transportation Technologies of each Commodity Group

The objective of this task was to look at how changes in transportation technologies could affect transportation network conditions in the Portland-Vancouver region so that plans can be made to either take advantage of opportunities this presents or to plan for mitigation.

New potential transportation technologies/ trends that could affect the Portland/Vancouver region's commodities in the future include:

1. ***Conversion of oil shipments from pipeline to rail (i.e. Crude, oil shale, and tar sands by rail)***
   For over a year, the Port of Tacoma has been handling inbound rail containers of Bakken Oil

from the Dakotas bound for refineries in California. At present, none of this cargo is moving through the Port of Portland, but it could in the future.

2. ***Increase of less-than-trailer load (LTL) shipments of fast moving consumer goods***

3. ***Increase in trans-loading of imported goods from international marine containers to domestic 53- foot rail and truck containers in a trans-load warehouse near the U.S. gateway port.*** Trans-loading is the service in which the contents of a marine container are transferred directly into a 53-foot rail or truck container in a warehouse near a U.S. gateway port. The loss of container service at Terminal 6 has outweighed any short term trend from trans-loading imported goods from marine containers to 53 foot containers that could impact the Portland –Vancouver region.

4. ***Increased exportation of minerals and bulk products such as cooper ore, LNG and coal*** China, in particular, has stepped up its level of importation of minerals and energy sources to fuel its manufacturing sector. This could increase the volume of these goods moving through the ports of Portland and Vancouver USA.

5. ***Conversion of fuel used in the transportation of freight from diesel to LNG (trucks and rail)***

6. ***Adoption of electric vehicles for freight movements***

7. ***Continued concerns over security of freight movements***

8. ***Continued pressure to reduce noise, dust, pollution and other environmental impacts in the supply chain***

9. ***Environmental pressure to increase fuel mileage in all vehicles*** This will push automakers and other vehicle manufactures to look at developing not only more efficient engines but also to develop vehicles that have the same safety ratings but are lighter in weight. The manufacturers will have to look to new materials to achieve this weight reduction.

Summary of Findings:

All of the trends will have some effect on cargo movements into and out of the region. The only trend identified in this section that is expected to have limited effect is the conversion of oil shipments from pipeline to rail, due to the expectation that most of the cargo is transported primarily by truck. This trend and the anticipated increase of exportation of minerals and bulks should have the same effect on all the commodities that use rail as a transportation mode.

For those commodities that are transported by rail, there may be an effect on those cargos as congestion on the rail lines increase. When this happens the railroads will prioritize cargos that

they would like to come through the region that is most profitable for them to handle. This will be done in two ways. First, the railroads will set commodity transportation pricing for specific commodities in a way that the Beneficial Cargo Owners (BCOs) are influenced either to use this region as a gateway or not to use it as such due to the throughput cost generated by the railroads. Second, the railroads will set a priority for each type of train as it moves through a specific rail network. This will either increase or decrease the delivery times which will also be a signal to BCOs about the railroads' preference for different commodities through a specific location or gateway.

Transloading and LTL will continue and will put additional pressure on communities near ports to provide the land for warehousing and transportation facilities that these services require.

Environmental concerns will continue to be in the forefront for both local communities and the shipping community. This will include the movement of certain commodities through the community as well as the mode on which they are transported. The use of alternative fuels will be a national issue for which all stakeholders in supply chains will need to prepare.

The push for the use of electrification should be easier for the Pacific Northwest to deal with as a majority of the local power is hydro generated.

Task I: List Advantages and Limitations of the Portland Metropolitan Area

The objective of this task is to provide a general assessment of the strengths and weaknesses of the Portland/Vancouver metropolitan area for transportation of the commodities most important to the metro region. This type of information can inform what is traditionally referred to as a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis. The SWOT can be used to evaluate options available to be implemented to maximize the benefits of the Portland/Vancouver area as a freight hub for particular types of freight movements.

The section below point out the key strengths, weaknesses, opportunities and threats (a subset from the list in task I) of the region's transportation system as it relates to the products most important to the regional economy.

Strengths

1 The Columbia River barge system provides an economical mode for grain, animal feed, and fertilizer exporters; the domestic construction industry; coal shippers; and companies shipping petroleum products to refineries or gas stations, particularly considering many of the products are low in value.

2 Washington County offers financial incentives for manufacturers of these high-value products to locate and expand.

3 The solid base of high-value manufacturers on Portland's Westside and in the Wilsonville area creates momentum for attracting others in this highly desired sector.

4 Companies with high-energy requirements during manufacturing benefit from plentiful and relatively economical hydropower.

5 The Port of Vancouver USA has heavy-lift cranes to move break-bulk products.

6 The dual mainline rail (BNSF and UP) and short line system in the Portland/Vancouver region enable goods to move economically to domestic and international markets and offer Beneficial Cargo Owners (BCOs) modal choice besides truck.

7 Factories in the region have easy access to rail, and truck modes to reach international and domestic markets.

Weaknesses

1 Increasing highway and road congestion on the West side, in downtown Portland, and near Portland International Airport (PDX) negatively impacts the these sectors, forcing companies to compress manufacturing schedules to account for unreliable, longer transit times when transporting raw materials and components to the factories and high-value, time-sensitive finished goods to international and domestic destinations.

2 Highway congestion increases transit times and transportation costs for time-sensitive perishables moving from the Willamette Valley and Salem region north on I 5 to the Port of Portland and PDX to international markets and via I 84 to eastern domestic markets.

3 Limited direct airfreight service at PDX forces BCOs to transport some perishable, time-sensitive, high-value cargo to Seattle-Tacoma International Airport (SEA) and San Francisco International Airport (SFO), which increases costs and overall transit time.

4 There is a general lack of highway and road redundancy, which adds to transit times and decreases transit reliability when the route is congested and no good alternative is available.

Opportunities

1 The base of companies in these high-value sectors is expanding, providing synergies and economies of scale. Companies benefit from the abundance of skilled labor and easy access to the multimodal transportation system that includes ocean vessels, barges, rail, truck, and air.

Threats

1. Dwindling containerized ocean carrier service at Port of Portland is reducing choices, causing BCOs to look to ports in WA and CA. Once they get used to these alternate ports, it may be difficult to recapture this business.

2. Transportation comprises a large percentage of the total landed cost of these products and sales can hinge on a few cents per pound. It is too expensive for exporters to truck products from the region to the ports of Tacoma, Seattle, or Oakland, so sales can be lost without adequate containerized ocean carrier service at Port of Portland.

3. Land for logistics uses (large-lot industrial land) is scare scarce in the Portland/Vancouver region, especially on or near the waterfront which limits the number of cargo handling facilities and distribution centers that can be built in the future, an impediment to attracting more manufacturing, warehousing, and distribution to the State.

Task J: Identify Potential Global Trends

The objective of this task was to identify global trends that may influence the volume and value of the commodity flow estimates derived in previous tasks.

The following are some of the most important domestic and global trade and transportation trends (a subset of the findings in task J) that are impacting or will likely impact Beneficial Cargo Owners (BCOs) moving goods in, out, or through the Portland/Vancouver region in the next few years. These trends will influence the use of the region's multimodal transportation system depending upon how BCOs adjust their supply chain strategies to deal with these trends and the policies and transportation infrastructure projects that regional policy-makers implement.

Re-shoring of Manufacturing to the U.S.

In 2012, The Boston Consulting Group (BCG) conducted a survey of 106 executives about their manufacturing location plans. "More than a third of U.S. manufacturing companies with sales greater than $1 billion are planning to relocate production facilities to the United States from China or are considering it. The BCG report "identified transportation goods, appliances and electrical equipment, furniture, plastic and rubber products, fabricated metal products, and computer and electronics as prime candidates for insourcing as China's cost advantage erodes in the near future.

The Portland/Vancouver region is in a good position to capture some re-shoring of computer and electronics manufacturing since the base is strong and skilled labor is plentiful here, particularly on Portland's West side. Moreover, labor costs are likely less expensive than in Northern California's Silicon Valley or New York's Silicon Alley, making the Portland/Vancouver

area even more competitive. As an example, in 2014, nearly 50,000 Ford vehicles were exported through the port, which is a 400% increase from 2013.

Since the transportation equipment and fabricated metals sectors are prevalent in the region, they may be good candidates to capitalize on the re-shoring trend. With the abundance of relatively low-cost energy sources like hydropower, sectors with high-energy demands like steel mills might pick up the pace of production.

Distribution Strategies

Many BCOs, particularly big box retailers, have shifted from ‘‘push’’ supply chains where they push product to stores in the hopes consumers will purchase them to ‘‘pull’’ supply chains in which demand forecasts and actual sales data are used to determine how much and what product to pull into stores at a given time. ‘‘Pull’’ supply chains tend to decrease the volume of inventory and reduce obsolescence and discounting of merchandise because supply is matched more closely to demand. In order for ‘‘pull’’ supply chains to function well, the point of distribution needs to be as close to the ultimate consumer as possible to enable fast store inventory replenishment.

BCOs are increasingly establishing regional distribution centers as opposed to having one or two national distribution centers, thus enabling them to delay the final delivery decision to direct cargo to the right stores to meet customer demand, since the regional facility is closer to the customer. Often BCOs use a four-corner distribution center strategy, positioning a facility in the Pacific Northwest, Southern California, the Northeast, and Southeast.

As delivery time requirements become shorter, it is likely that more companies will embrace a decentralized distribution center strategy in the coming years. This means that some might find the Portland/Vancouver region an attractive place to locate their Pacific Northwest facilities. The issue for the region will be the amount of land that will be available for this purpose.

These outcomes will affect companies in the region that import or manufacture fast moving consumer products more than industrial products.

Mega Vessels

Containerized ocean carriers are continuing to push the envelope when it comes to deploying larger vessels being designed and constructed in shipyards. A limited number of ports and marine terminals around the world have the operating capacity and naturally deep channels to service mega vessels. The 43-foot draft of the Columbia River Channel limits the size of container vessels able to call at the Port of Portland, which basically precludes the Port from taking advantage of the mega vessel trend. Deep water ports such as Tacoma, Seattle, Oakland, Long Beach and Los Angeles that can handle mega vessels for a greater portion of their shipments. This trend could negatively impact the Port of Portland’s future container volumes.

Exporters of heavy products will have a harder time shifting their shipments to alternate ports and may lose sales as a result of limited ocean service at Port of Portland.

Bulk and break-bulk vessels also are increasing in size and becoming more technologically advanced to achieve lower operating costs for the carriers. This could present a challenge for the ports of Portland and Vancouver USA in the future similar to the situation with container vessels. These vessels are very important to exporters of agricultural goods, raw materials, and heavy industrial products.

Note: In early 2015 the main ocean carrier container service (Hanjin) stopped making calls at the Port of Portland's Terminal 6.

Asian Demand for Raw Materials

In the past five years, Asian manufacturers, particularly in China, have become hungrier for raw materials mined or processed in the U.S. such as coal and oil to power factories. Inputs to craft metal products are in demand. The construction industry desires wood products and building materials. Fertilizers enrich the soil to increase crop yields in the agriculture sector. Livestock producers must have more grain to feed the animals being raised to satisfy the growing appetite for meat among the Asian middle class.

Much of these raw materials are exported on bulk rather than container vessels. The Columbia River is a natural conduit for bulk barges moving from interior points in the U.S. to the ports of Portland and Vancouver USA for transfer to ocean going bulk vessels, poising the region to capture some of this business.

Demand for Recycled Products

Instead of using 100 percent virgin raw materials, Asian factories increasingly use recycled paper, metals, glass, and plastics as inputs in the manufacturing process for goods and packaging materials. This demand can create opportunities for producers and collectors of such recycled products in the region.

Such products are exported in containers and on bulk vessels. Having the ports of Portland and Vancouver USA in close proximity is an advantage for companies in this trade, as the products are typically low in value, with transportation comprising a sizable percentage of the cost of goods. Domestic manufacturers also use recycled products, and these typically move via motor carrier and less, frequently, by truck or barge.

KEY FREIGHT ANALYSIS, FORECASTS, AND FREIGHT STUDIES PRIOR TO JUNE 2010 REGIONAL FREIGHT PLAN

Xx

Freight Analysis Framework (2007 Base Year Survey Data)

The Freight Analysis Framework (FAF), produced through a partnership between Bureau of Transportation Statistics (BTS) and Federal Highway Administration (FHWA), integrates data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation. FAF incorporates data from agriculture, extraction, utility, construction, service and other sectors.

The FAF data was used to help develop a commodity flow database and was based on the commodities survey completed in 2007 (FAF3). Surveys are completed every five years, and the survey that was completed in 2012 (FAF4) has not been released for use. The results from the 2012 survey will be available in phases throughout 2016.

Portland Freight Master Plan (May 2006)

Xx

St. Johns Truck Strategy - Report and Recommendation (May 2001)

Xx

Cost of Congestion to the Economy of the Portland Region (November 2005)

Xx

COMMODITIES MOVEMENT AND KEY FREIGHT TRENDS

SUMMARY OF LOGISTICS ISSUES THAT NEED TO BE ADDRESSED

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and sustainable transportation and living choices for people and businesses in the region. Voters have asked Metro to help with the challenges and opportunities that affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to providing services, operating venues and making decisions about how the region grows. Metro works with communities to support a resilient economy, keep nature close by and respond to a changing climate. Together we're making a great place, now and for generations to come.

Metro | *Making a great place*

Metro Regional Center
600 NE Grand Ave.
Portland, OR 97232-2736
www.oregonmetro.gov

2018 Regional Transportation Plan

www.oregonmetro.gov/rtp

Oct. 26, 2015

Getting there

by transit

Regional Freight Strategy

a component of the 2018 RTP

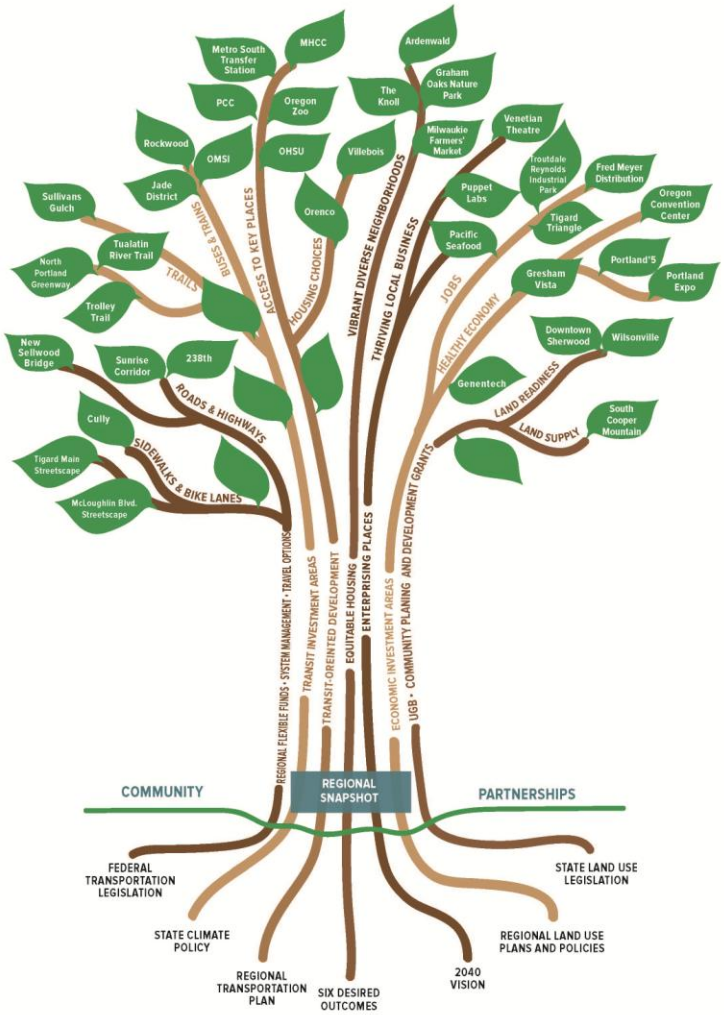
Regional Freight Work Group Meeting #1

January 20, 2016

Regional Freight Strategy

Today's agenda:

- Welcome and Introductions
- Work group purpose
- Overview of the Regional Freight Strategy (RTS)
- Base results from Commodities Flow Forecast
- Discussion: what are the modal freight needs



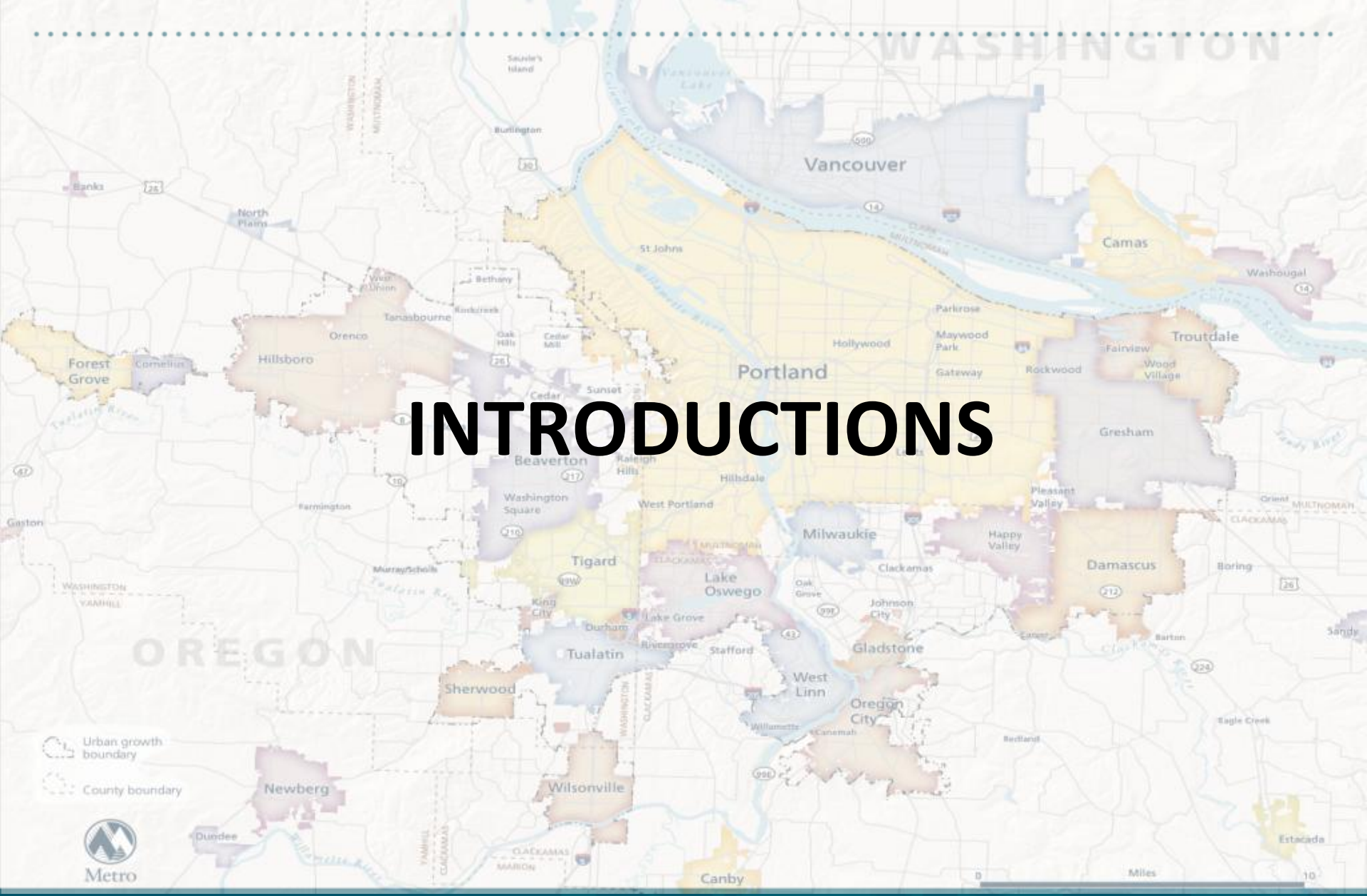
Freight Work Group Meeting #1

Purpose of today's meeting

Get to know each other, provide an overview of the Regional Freight Strategy, discuss work group purpose and discuss individual freight modal needs and constraints

Desired outcome of today's meeting

Initiate the Regional Freight Strategy



INTRODUCTIONS

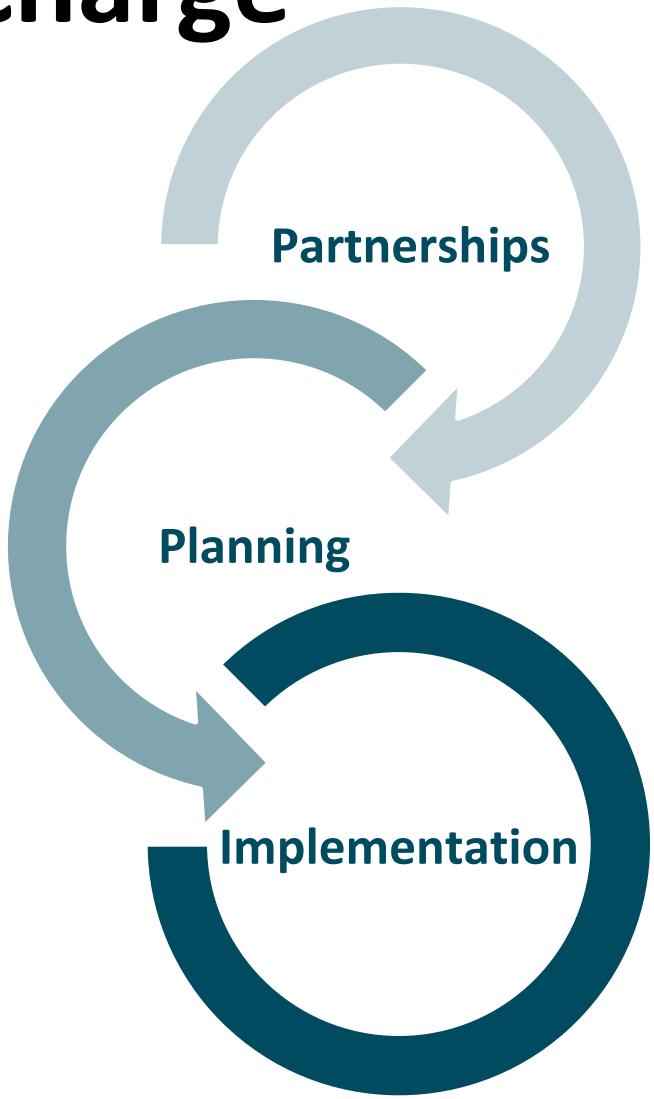
Introductions

- Name
- Agency/group you represent
- Freight or transportation related efforts you are involved in?
- What do you like about moving freight or freight planning?

FREIGHT WORK GROUP CHARGE

Freight Work Group charge

Participation!



Freight Work Group charge

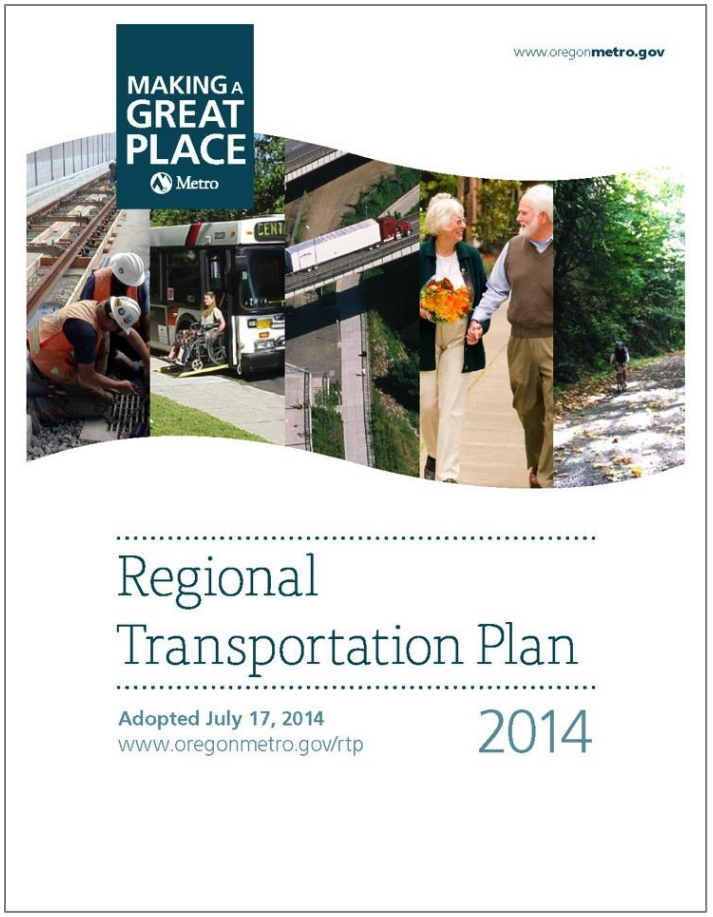
- Review 2010 Regional Freight Plan recommendations
- Review Key Freight Trends and Logistics Issues Report
- Review shared freight investment strategy
- Review draft freight policy refinements and actions
- Assist in building awareness
- Consider input from partners and the public
- Participate!

2018 REGIONAL TRANSPORTATION PLAN

2018 RTP and 2018-2021 MTIP

Regional Transportation Plan

- Region's long-range transportation blueprint
- Identifies the capital transportation investments we want to make in the next 20+ years



2018 RTP Timeline

2018 REGIONAL TRANSPORTATION PLAN WORK PLAN

Getting there with a connected region

PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
GETTING STARTED	FRAMING TRENDS AND CHALLENGES	LOOKING FORWARD	BUILDING A SHARED STRATEGY	ADOPTING A PLAN OF ACTION
Action*	Action*	Action*	Action*	Action*
May to Dec. 2015	Jan. to April 2016	May 2016 to Feb. 2017	March to Dec. 2017	2018
Identify partners and stakeholders to engage Establish project goals and desired outcomes Develop project work plan and public engagement plan Compile data and analysis tools ☆ ***Approve work plan***	Document key regional trends and challenges to address in update Summarize relevant federal, state and regional policies to identify gaps and areas for refinement Document relevant research, existing system conditions and current plan performance	Update vision, goals, and targets Document regional transportation needs Refine evaluation framework and criteria Update financial assumptions ☆ ***Approve policy direction to guide building RTP investment strategy and action plan***	Update regional transportation priorities (Call for projects) Assess and report on performance of draft priorities across economic, social equity and environmental goals Identify policy changes and implementation actions ☆ ***Approve policy direction to guide finalizing draft plan for public review***	Conduct air quality conformity analysis Release draft 2018 RTP and its components for public review Prepare legislation and findings ☆ ***Adopt 2018 RTP and its components***

WE ARE HERE

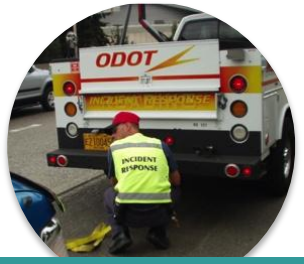
2 Technical work groups

Transit

Equity

Metro staff will convene technical work groups to provide input to staff on draft materials and implementing policy direction from Regional Leadership Forums.

Finance



Performance

Freight

Design

Safety

Policy actions

REGIONAL FREIGHT STRATEGY OVERVIEW

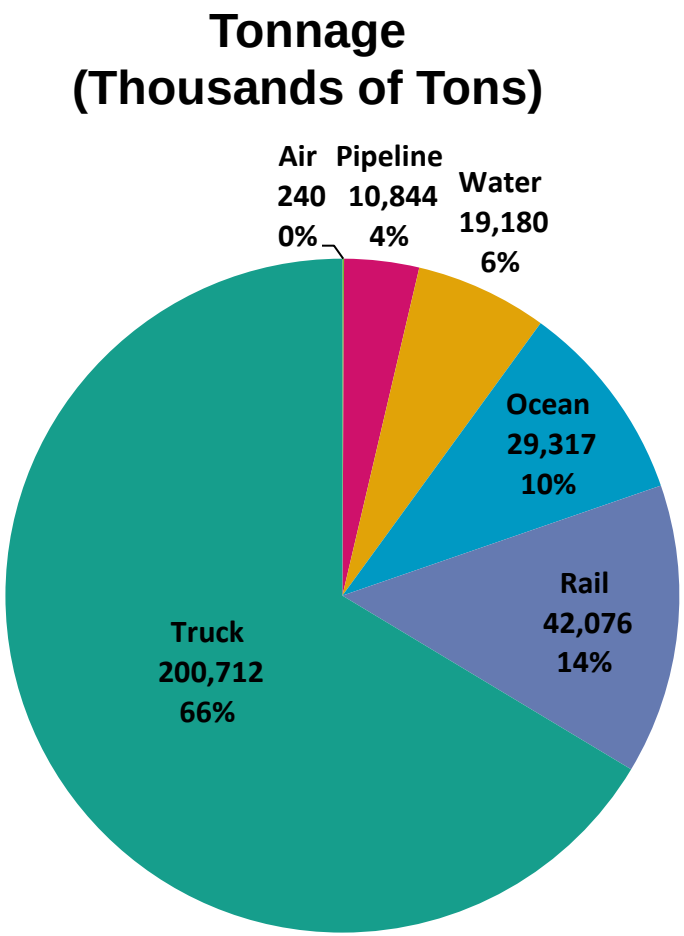
WHAT'S OUR APPROACH?

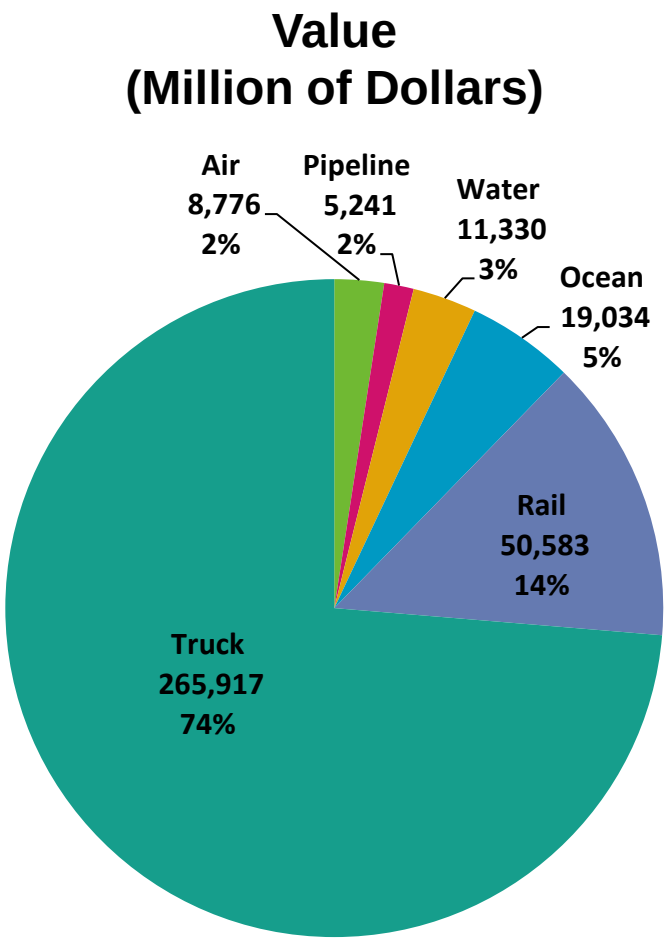
Regional Freight Strategy will include…

Freight Analysis Framework (2007 Survey) - Base Year Data on Modes and Commodities

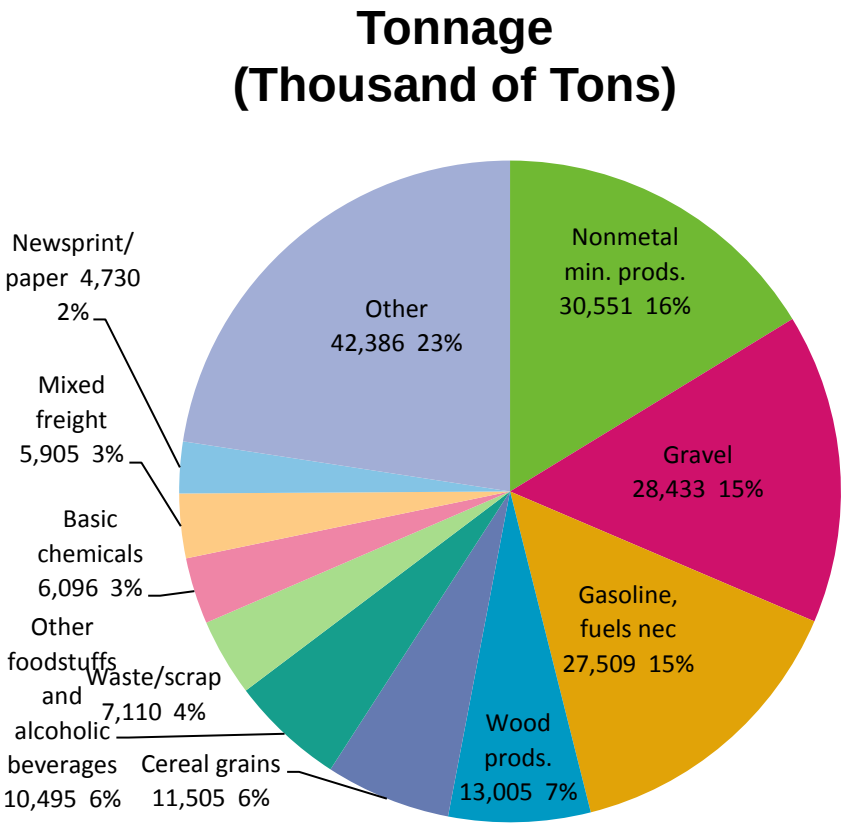
- Freight Flows by Mode of Travel
- Top Domestic Commodities
- Top Import Commodities
- Top Export Commodities

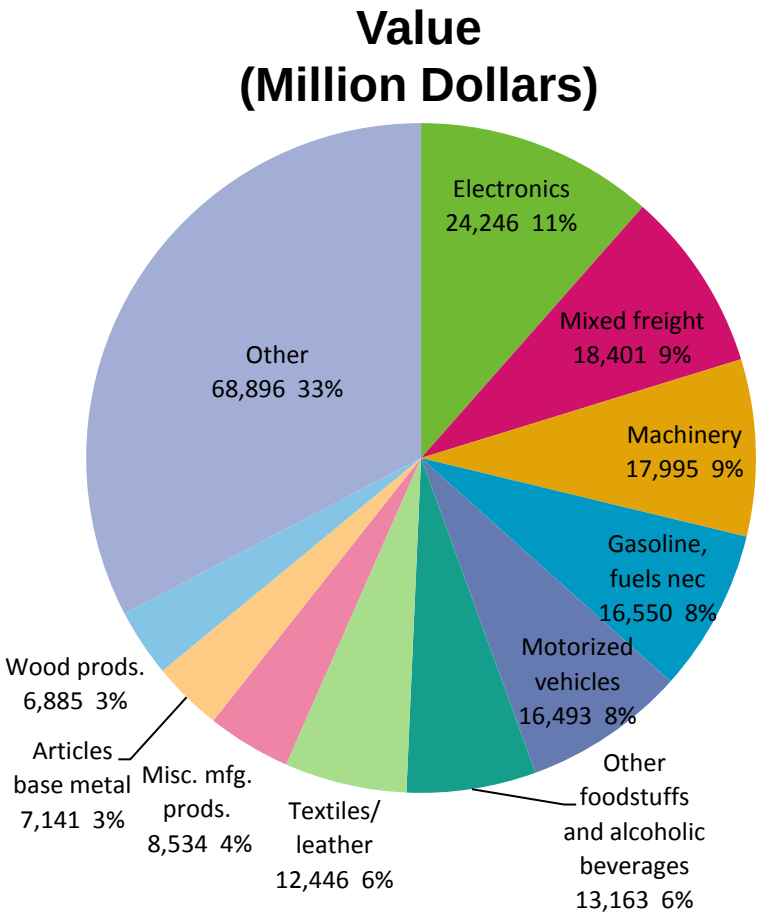
Flows by Mode





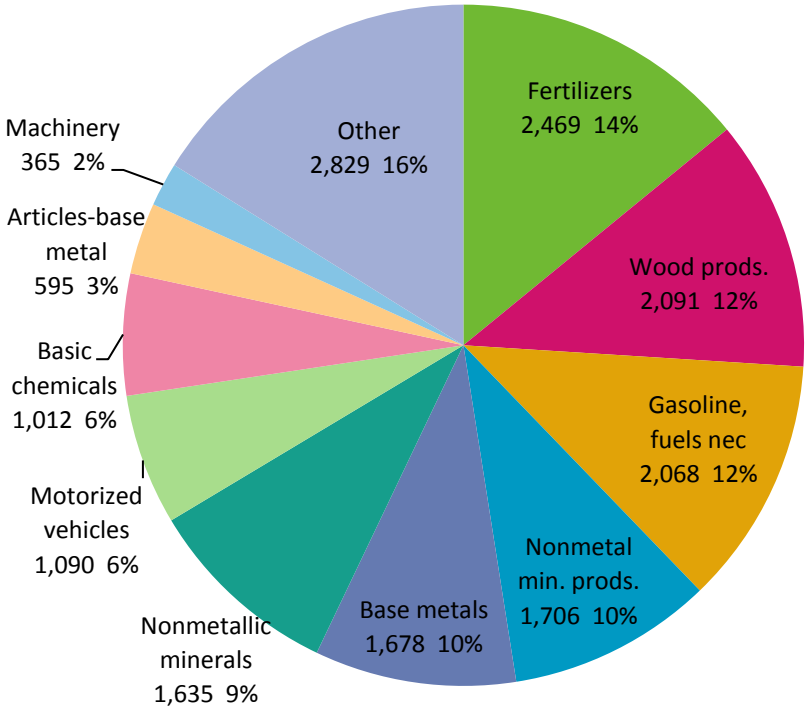
Top Domestic Commodities



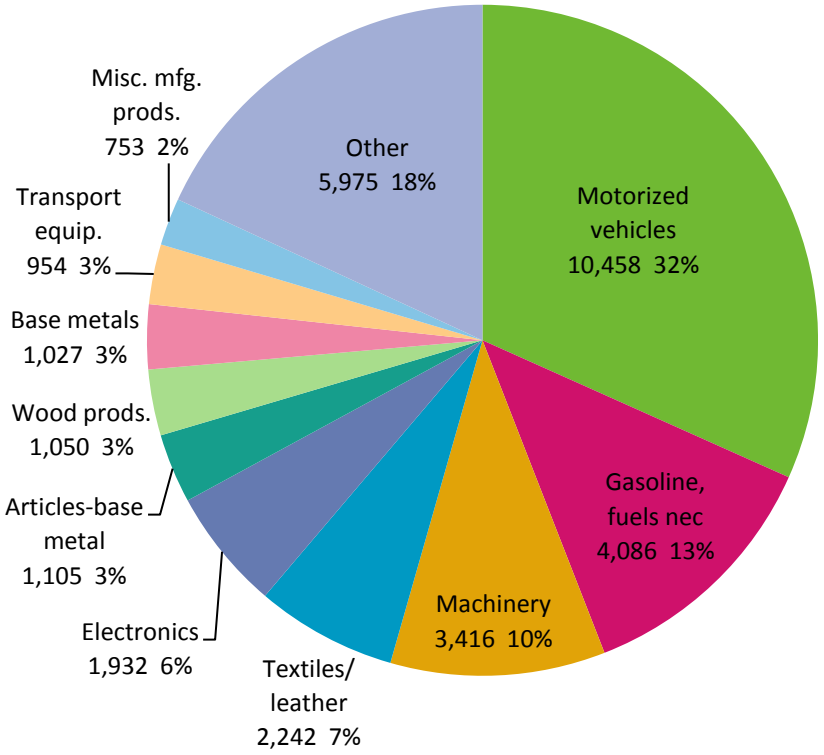


Top Import Commodities

Tonnage
(Thousands of Tons)

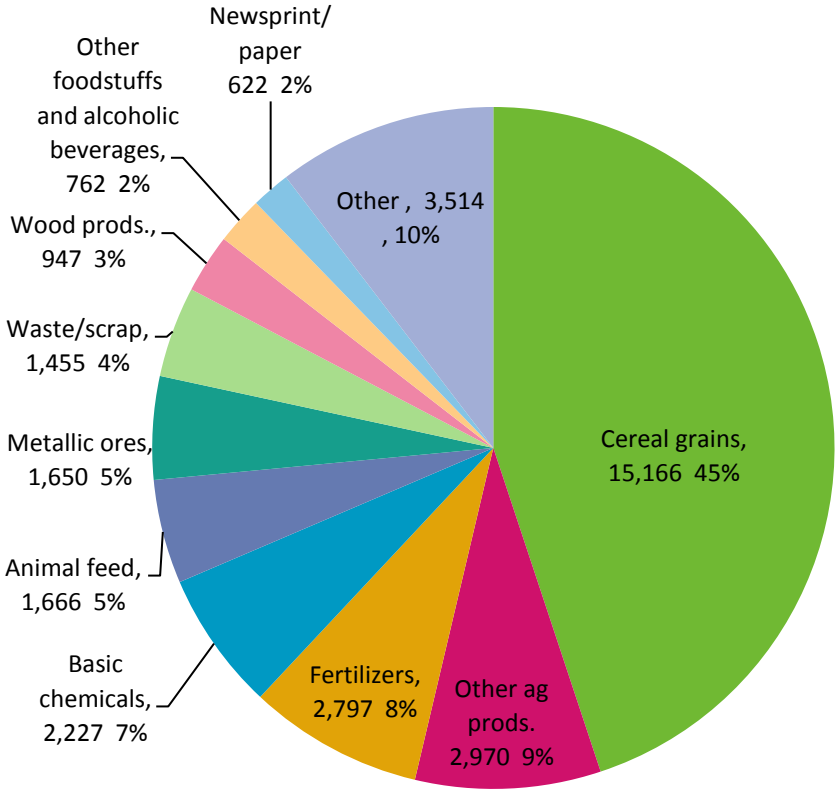


Value
(Millions of Dollars)

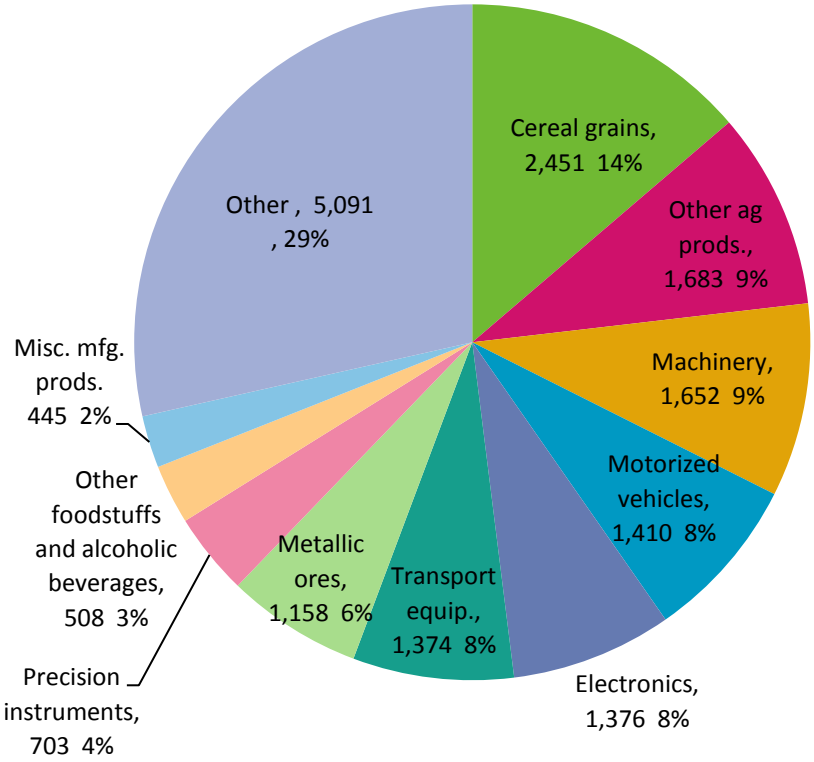


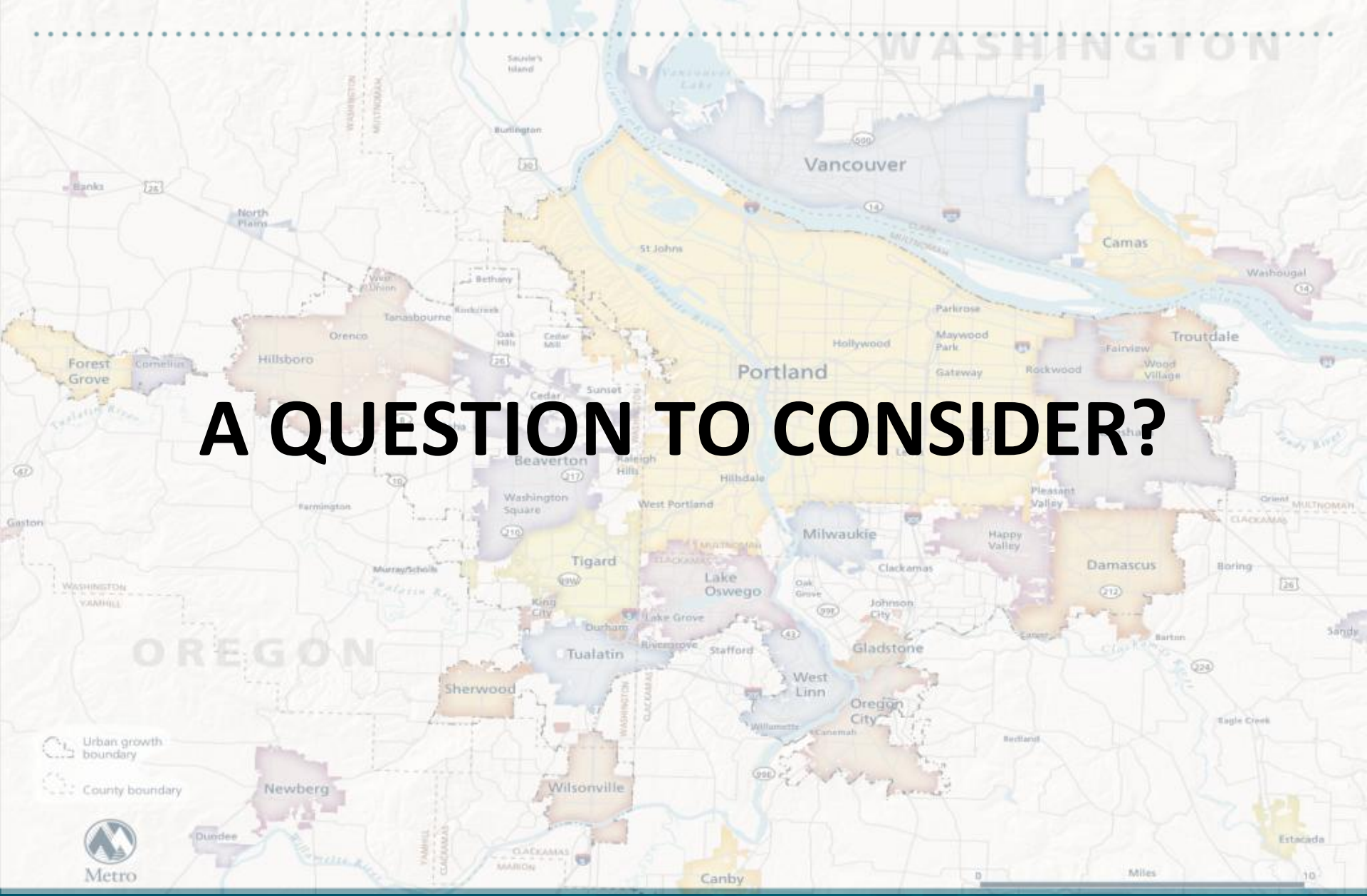
Top Export Commodities

Tonnage (Thousands of Tons)



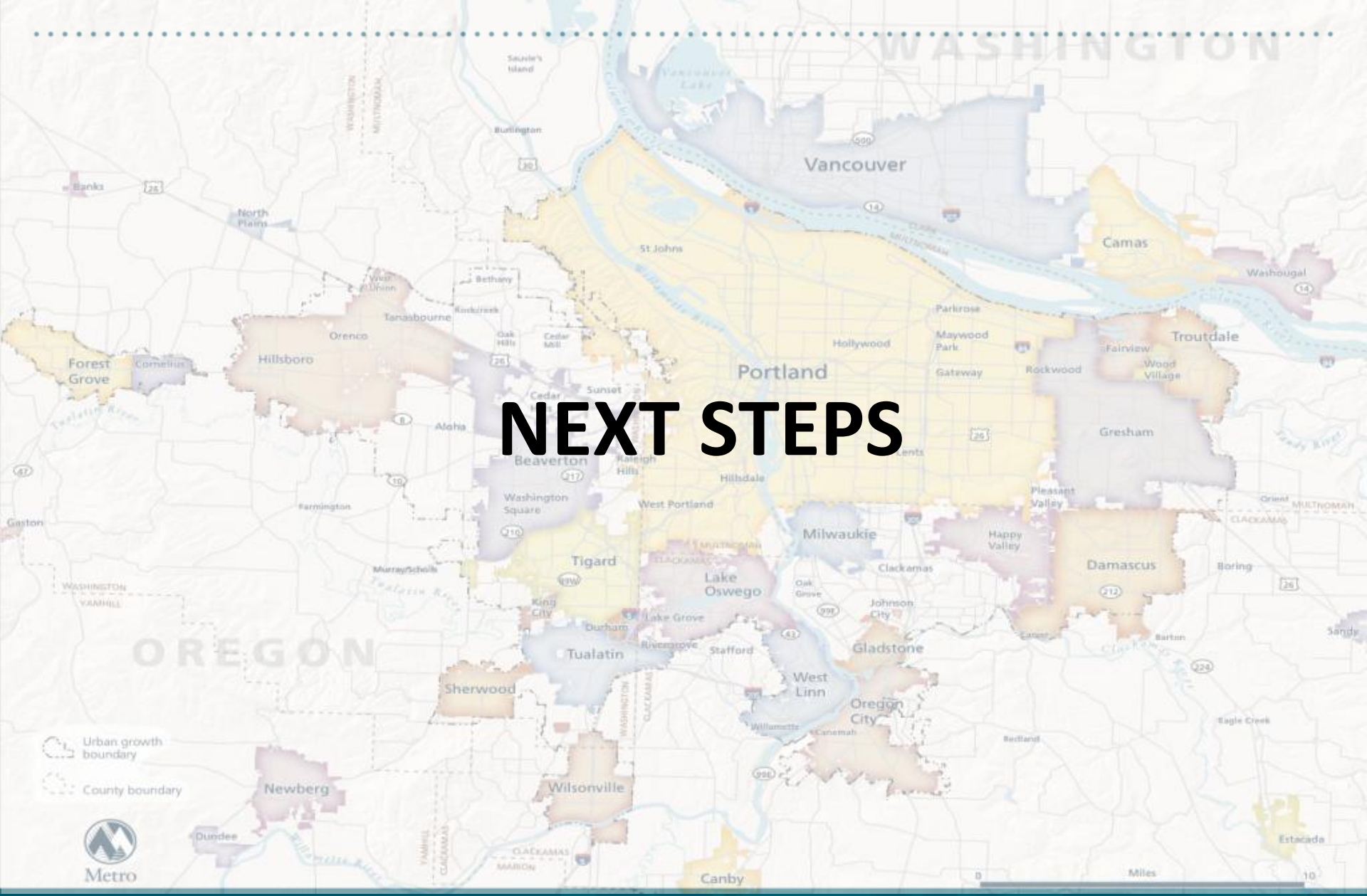
Value (Million Dollars)




A QUESTION TO CONSIDER?
Vancouver
Portland
Camas
Washougal
Troutdale
Hillsboro
Forest Grove
Beaverton
Tigard
Lake Oswego
Tualatin
Sherwood
Newberg
Wilsonville
Canby
Milwaukie
Gladstone
West Linn
Oregon City
Damascus
Happy Valley
Clackamas
Johnson City
Lake Grove
Stafford
Hillsdale
West Portland
Washington Square
Tanasbourne
Hollywood
Gateway
Rockwood
Fairview
Wood Village
Pleasant Valley
Boring
Sandy
Estacada
Eagle Creek
Barton
Bedland
Urban growth boundary
County boundary
Metro
Miles
0
10

What are some freight modal needs and constraints that should be addressed?

- Truck travel constraints?
- Rail needs and constraints?
- Air freight needs and constraints?
- River and Marine freight needs and constraints?


WASHINGTON
OREGON
Vancouver
Camas
Washougal
Troutdale
Portland
Gresham
Hillsboro
Forest Grove
Beaverton
Tigard
Lake Oswego
Tualatin
Sherwood
Newberg
Wilsonville
Milwaukie
Damascus
Oregon City
West Linn
Gladstone
Canby
Estacada
Urban growth boundary
County boundary
Metro

NEXT STEPS

Next steps

- Finalize Key Trends and Logistics Issues Report
- Review existing freight action plan, freight vision and supporting freight policies
- Identify tools and evaluation measures
- Regional Transportation Snapshot (April)
- Regional Leadership Forum (April)