

# Metro | Agenda

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## 2018 REGIONAL TRANSPORTATION PLAN UPDATE

### Regional Freight Work Group - Meeting # 4

Date: November 8, 2016  
Time: 8 a.m. – 10 a.m.  
Place: Metro Regional Center, Council Chamber  
600 NE Grand Avenue, Portland, OR 97232

#### Agenda items

8:00	<b>Welcome, and introductions</b>	All
8:10	<b>Regional Freight Challenges and Opportunities</b> <i>Confirm content of draft memo to MTAC on current constraints, challenges and opportunities to improve freight and goods movement by mode.</i>	Tim Collins
8:20	<b>Recommended changes to 2018 RTP Freight System Evaluation Measures</b> <i>Confirm "Freight Truck Delay" measure</i> <i>Discuss and recommend "Cost of freight delay" measure</i> <i>Discuss and recommend "Freight Congestion" measure and mapping</i> <i>Discuss and develop "Freight Accessibility" measure</i> <i>- "Access to Industry &amp; Freight Intermodal Facilities (#11) - freight travel times in Mobility Corridors (part of System Evaluation Measure #12)</i>	All
9:20	<b>Development of potential freight measures to inform near- and long-term investment priorities</b> <ul style="list-style-type: none"> <li><i>Congestion measure</i></li> <li><i>Reliability measure</i></li> <li><i>Travel time to/from key intermodal facilities</i></li> </ul>	All
9:50	<b>Next steps</b> <i>Review RTP freight projects for updated Regional Freight Plan; and begin updating the Regional Freight Network map. Next Regional Freight Work Group meeting in mid-January 2017.</i>	Tim Collins
10:00	<b>Adjourn</b>	

#### Meeting packet:

- Agenda
- Meeting minutes from September 27, 2016 Regional Freight Work Group meeting
- Regional Freight Challenges and Opportunities memo (available at meeting)
- Summary of Recommended changes to RTP System Evaluation Measures table
- Potential freight measures to inform investment priorities memo (available at meeting)

#### Irving Street Garage visitor parking policy

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# Meeting minutes

Meeting: RTP Freight work group meeting  
 Date/time: Tuesday, Sept. 27, 2016/ 8-10 a.m.  
 Place: Metro Regional Center Council Chambers  
 Purpose: **Phase 3: Regional freight vision, policies and needs – April 2016 to February 2017.** Update freight vision and supporting policies and tools, update freight needs, update evaluation framework.

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## Committee Attendees

William Burgel  
 Mike Coleman  
 Tony Coleman  
 Kate Dreyfus  
 Nicholas Fortey  
 Jerry Grossnickle  
 Brendon Haggerty  
 Robert Hillier  
 Jana Jarvis  
 Todd Juhasz  
 Steve Kountz  
 Kate McQuillan  
 Zoe Monahan  
 Don Odermott  
 Lidwien Rahman  
 Pia Welch  
 Erin Wardell  
 Steve Williams

## Affiliation

Burgel Rail Group  
 Port of Portland  
 Oregon Department of Transportation  
 City of Gresham  
 Federal Highway Administration  
 Bernert Barge Lines  
 Multnomah County Health Department  
 City of Portland  
 Oregon Trucking Association  
 City of Beaverton  
 City of Portland  
 Multnomah County  
 City of Tualatin  
 City of Hillsboro  
 Oregon Department of Transportation  
 FedEx  
 Washington County  
 Clackamas County

## Metro Attendees

Tim Collins, Chair  
 Cindy Pederson  
 Jessica Martin  
 Marie Miller

Senior Transportation Planner  
 Principal Researcher & Modeler  
 Administrative Supervisor  
 Administrative Specialist

## Welcome and Introductions

Tim Collins welcomed committee members to the meeting. An overview of the agenda was given. Additional handouts were noted

- Regional Freight Network Map
- List of priority freight needs by mode
- Buffer and Modified Planning Time Index

## Review Regional Priority Freight Needs

Following the May 23, 2016 RTP Freight work group meeting, information has been gathered on freight needs by various modes. Discussion was held on concerns to address efficiency, safety and travel time with freight in the region, with ideas for options and improvements.

- Congestion on I-5 North continues to spread over more hours per day
- Commodities traveling from Washington Co. strain the current infrastructure

- Increase truck travel around the Rose Quarter and over the bridge on I-5 North
- Freight deliveries, when delayed, are being picked up by flight deliveries
- Rail crossings remain unsafe, particularly in highly used pedestrian and vehicle areas
- The \$8.2 million North Portland junction improvements should help significantly
- Increase in passenger trains, as well as industrial
- The Kenton line along Sandy Blvd. with rail line study is in the works
- Union Pacific RR would benefit from higher speeds in the region, the Steel Bridge, in particular
- Air freight service at the Hillsboro Airport possible or needed?
- Congestion to rail freight facility on Westside
- High water levels impede barge access under bridges with freight and safety

Tim Collins reviewed the current list of priority freight needs and current restraints to freight movement identified by the work group. Comments on what might be added include:

- Identify the needs, not the projects in the list
- Define “Bottleneck” and be consistent with ODOT’s definition.
- Issues of livability in the state highway system are not addressed
- Asking for a percentage better clarifies the need, and measures size/scope and reliability
- Freight oriented development – multiple access needs to be clustered, freight districts, and demands for freight facilities
- Marine issues with deepening channel (Hayden Island)
- The congestion on Highway 217 & Highway 26 and Cornelius Pass are not included.
- Reliable measurements for recording peak freight travel time
- Lack of information from east Multnomah County regarding freight movement
- Impact of completion of the east Multnomah County arterial roadway access projects and grid work
- Improvements are needed to the Willamette Falls Locks to allow river freight movement that would get some trucks off the highway coming into the region.
- Jana Jarvis will send a list of additional truck travel needs.

Committee members provided news and input:

- There are statewide legislative concerns, with the importance of “fix Portland first”. There is a higher demand for freight mobility and scheduling needs. Need to have a priority list and make visible progress, on network throughout the Portland region. Costs need to be matched to projects; applications for funds need to be competitive.
- The Port of Portland is involved with freight issues at regional airports, business areas and other properties. We need to stay ahead of plans.
- Tualatin will benefit from transit plans, including freight projects that lighten traffic congestion.
- Damascus needs to be part of the Regional Freight Network map.
- Regarding the map, topography and geography challenges to transportation challenges are not shown.
- Connect the process: Rail to barge. Barge to trucking. Trucking to air service. Developed view of entire freight system helps evaluate and improve systems in high traffic areas.

**Review 2018 RTP Regional Freight Performance Measures and potential measures for project prioritization**

Tim Collins reminded the committee that the only RTP Performance Target for freight currently in the 2014 RTP is “by 2040, reduce vehicle hours of delay per truck trip by 10 percent compared to 2010”. The committee discussed other proposed System Evaluation Measures.

Total truck delay on the regional freight network from 10 a.m. to 4 p.m. does not capture air travel transfer times. Should the time be extended to 6 p.m.? This measure keeps 4 – 6 PM and the PM peak hours. Pia Welch suggested including truck delay between 6 – 7 PM due to this being a key truck delivery period.

The current measurement of accessibility lists number and cost of freight projects on the regional freight network that improve accessibility to facilities. It fails to measure the movement of freight in and out of the region, off major systems, into other modes/facilities of freight travel. Federal levels focus on speed of delivery, rather than delay. Accessibility needs to measure both systems. Measuring one point of the system may focus on access locations and issues. Reliability should be measured as speed or delay on the whole system.

Forecast measurements to accommodate long-range and mid-range growth expected. Measuring various freight systems expected in the future will provide better planning in the region. Jana Jarvis suggested using a freight systems approach.

Rail travel operates and measures travel times 24 hours/day. Freight trains are staged outside the region for scheduling. We should be able to get reliability for rail travel times too. Reaching out for information with agencies and other freight travel modes through the region can better forecast needs.

There is a need to measure tangible projects with real travel time. Match these measurements with funding. Peak hours of congestion are spreading in the region. Intermodal measures give the opportunity to show outside benefits, focusing less on broad measurements, but level of regular freight plans with specific results and outcomes.

Freight demand has been increasing incrementally. The lack of investment with this is a great concern. Freight measures need to show the economic value to the region. Accessibility may not be an acceptable measure at the regional level.

Gaining time may be of more interest to measure than accessibility. The Port of Portland has future projected data on air freight forecasts. Accessibility may be measured by more localized means, with the last mile interconnection different than the state systems. Suggestion was to keep the accessibility measure simple. Maybe use travel time on the key (last mile) intermodal connector roadways. This could be a monitoring measure for the RTP at the Mobility Corridor level.

Ideas were shared on trends and logistics to better measure and monitor freight transportation:

- Develop smart phone collection data for ‘real-time’ freight travel times in congestion areas
- Infrastructure focus with the planning process
- Make policy changes easy to understand; known amount of policy changes to incorporate in the planning process
- Monitor GPS data on a regular basis, processing speed factors with costs, weather factors and regulations.

- Measure impacts within the whole system, including physical restraints, like rail crossings
- Metro is the guardian of the system. Look at the whole system; operating hours, freight traffic added to the system, housing on truck routes, shifts in population by area and regulations.
- Measures should identify needs, not projects. Use system measurements, including maps.
- Keep it simple. Policy and technology changes can help drive projects. Last mile measurements are useful.
- Colors on the Regional Freight Network Map: Can they become interactive? Geographic related? Other committees working on this? Goal of measures is to help map out bottlenecks/congestion. Utilize real-time map for increasing reliability.
- Rail side of freight has a mapping system in place that is very reliable.

Tim told the group that currently there are no monitoring measures for freight. The freight goal is to reduce fuel emissions with cleaner, new diesel truck engines with DEQ incentives. Focus on more conversions that monitor results with freight travel, matched to Federal requirements. The city of Portland has information about measuring fuel emissions with EPA/DEQ data and the percentage changes based on current regulations.

Tim Collins introduced a new RTP regional freight performance measure for determining how reliable the Main Roadway Routes on regional freight network are, 'Buffer Index and Modified Planning Time Index'. It was noted that the Index is the same one used in ODOT's Freight Highway Bottlenecks List Project to measure freight reliability on the Oregon State Highway System.

Comments on the Index:

- It assumes normal distribution, where variations in peak time could vary higher in travel time.
- Data comes from Metro and State Highway Systems. Certain projection data may not be known now to use this measure.

### **Next steps**

More compilations of data for presentations and reports will be gathered to finalize the Freight Performance Measures. Additional Regional work group meeting will be needed in early November. A Doodle Poll will be sent to committee members asking for availability for a meeting during the first two weeks of November.

### **Adjourn**

There being no further business, Chair Tim Collins adjourned the meeting at 10 a.m.

Respectfully submitted,  
Marie Miller

Attachments to the minutes:

1. Agenda
2. 2018 RTP Regional Freight Performance Measures Memo
3. Draft Performance Measures Scoping Report (April 2016)
4. Regional Freight Network Map
5. List of Priority Freight Needs by Mode
6. Buffer and Modified Planning Time Index



# Memo

Date: November 7, 2016  
 To: Regional Freight Work Group and draft for next MTAC meeting  
 From: Tim Collins, RTP Freight Work Group Lead  
 Subject: 2018 RTP: Regional Freight Challenges and Opportunities

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## Background

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.

The 2018 RTP Freight Work Group is one of eight technical work groups identified to provide input and technical expertise to support updating the Regional Freight Plan and development of the 2018 Regional Transportation Plan (RTP). In this role, the work groups are convening 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). Meetings are open to the public and all meeting information will be posted on Metro’s website at [www.oregonmetro.gov/rtp](http://www.oregonmetro.gov/rtp).

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.

## Work group charge

The main charge of the freight work group is to provide technical input and make recommendations to Metro staff on updating the Regional Freight Plan and related investment priorities and actions to respond to new issues and changing conditions that have emerged since the 2010 Freight Plan was adopted. Additionally work group members have been asked to:

- Provide information to their organization’s leadership and/or staff about the progress of the work (in addition to technical and policy committee representatives).
- Integrate input from partners, the public and other RTP work groups (safety, transit, equity and freight) to develop recommendations to Metro staff.
- Review shared freight investment strategy
- Review updates to the Regional Freight Network, draft freight policy refinements and actions that support implementation.

## Work Group Roster

The work group consists of local jurisdictions, topical experts and representatives from MTAC and TPAC, or their designees.

	Name	Affiliation
1.	Tim Collins	Metro lead
2.	Robert Hillier (PBOT)	City of Portland
3.	Phil Healy	Port of Portland
4.	Tony Coleman	Oregon Department of Transportation

	<b>Name</b>	<b>Affiliation</b>
5.	Steve Williams	Clackamas County
6.	Kate McQuillan Joanna Valencia (alternate)	Multnomah County - Planning
7.	Erin Wardell Karen Savage (alternate)	Washington County
8.	Kate Dreyfus	City of Gresham
9.	Zoe Monahan	City of Tualatin
10.	Sandra Towne Patrick Sweeney (alternate)	City of Vancouver
11.	Steve Kountz (PBPS)	City of Portland
12.	Don Odermott Gregg Snyder (alternate)	City of Hillsboro
13.	Nick Fortey	Federal Highway Administration
14.	Jana Jarvis	Oregon Trucking Association; Portland Freight Committee (Trucking)
15.	William Burgel	Burgel Rail Group; Portland Freight Committee (Railroads)
16.	Pia Welch	FedEx Express; Portland Freight Committee (Air)
17.	Jerry Grossnickle	Bernert Barge Lines; Portland Freight Committee (Marine/River)
18.	Lynda David	Regional Transportation Council
19.	Jim Hagar	Port of Vancouver
20.	Raihana Ansary	Portland Business Alliance
21.	Brendon Haggerty	Multnomah County - Public Health
22.	Kathleen Lee	Greater Portland Inc., Business Development Manager
23.	Jill Eiland	Intel, NW Region Corporate Affairs Director
24.	Gary Cardwell	NW Container Service, Divisional Vice President
25.	Todd Juhasz	City of Beaverton
26.	Joel Much	Sunlight Supply (in Vancouver, WA)

### **2016 Work Group Activities**

The Regional Freight Work Group has met three times to review and discuss:

- the regional freight vision, freight-related policies and the designated Regional Freight Network as reflected in the 2014 RTP;
- a draft report on key freight trends and logistics issues<sup>1</sup> that highlights challenges for the regional freight system and summarizes freight planning and logistics analysis that have been completed since the 2010 Regional Freight Plan was completed;
- the 2013 Corridor Bottleneck and Operations Study (CBOS) prepared by the Oregon Department of Transportation (ODOT); and
- potential updates to freight-related system evaluation measures.

The work group discussions served as the basis for identifying challenges affecting freight and goods movement on the designated Regional Freight Network. A summary of current constraints, challenges and opportunities to improve freight and goods movement (by mode) follows.

### **Constraints and challenges on roadways and highways**

- Increased congestion and congestion spreading over more hours per day on I-5 north of the Fremont Bridge (I-405).
- Capacity constraints exist at the Columbia River Bridge on I-5 that should be addressed.
- Constraints on roadway connections and intermodal connectors to I-5 are causing goods movement delays.
- I-5 at the Rose Quarter has been identified as a major traffic constraint.
- Highway 217 south of Beaverton-Hillsdale Highway has been identified as a major traffic constraint.
- Intra-county freight movements; such as high value commodities from Washington County that need to get to the air freight facility near PDX in Multnomah County, present a major challenge.
- Increased congestion and congestion spreading over more hours per day on US 26 (west of downtown Portland) create traffic constraints that cause trucks to avoid the freeway and travel out of direction on NW Cornelius Pass Road (north of US 26) and Highway 30 as an alternative route to avoid delays and unreliable travel times.
- For truck trips, NW Cornelius Pass Road has curvature and other design issues that need to be addressed.
- Increased demand for trucking on the region's freeway systems presents a major challenge to moving freight during congested hours.

### **Constraints and challenges on and around rail lines**

- Rail speed is slow, with some industrial trains that are a mile long (100+ cars), and at-grade railroad crossings cause major traffic impacts on the roadway system.
- Grade separating rail crossings at many more locations in the region presents a challenge. An example that was mentioned is the need for grade separation of the Union Pacific line as it crosses SE 8<sup>th</sup> Ave., SE Milwaukie Ave., and SE 12<sup>th</sup> Ave. (south of SE Division St.). The current at-grade crossings cause major delays to cars and trucks on the street network around these crossings in an active industrial area. This delay is amplified when freight trains and scheduled Light Rail Transit occur within a short time of one another.
- Freight rail demand on shared rail tracks at North Portland and Peninsula Junction is causing long delays to other freight trains and passenger trains (Amtrak). This year the Oregon Transportation Commission approved an \$8.2 million Connect Oregon VI project for rail improvements at North Portland Junction. However, improvements at Peninsula Junction are not included in this project and that constraint will be addressed later .
- The Union Pacific Kenton Line that runs adjacent to Sandy Boulevard needs some double-tracking to address rail capacity constraints.
- There is an opportunity to address the issue of double-tracking with the Kenton Rail Line Study.
- Short term need for speed improvements to the Union Pacific Railroad line just north of the Steel Bridge river crossing. The current train speeds are 6 mph in the curves and would require a realignment of the tracks to improve speed.
- Capacity constraints on major rail lines in the region to may require consideration of more double-tracking to: 1) improve freight train reliability; and 2) provide staging locations for freight trains off-line of the Seattle/Portland/Eugene passenger train corridor.

### **Constraints and challenges around Air freight**

- Providing increased access to the Portland Airport (PDX) and consolidation facilities is challenging. Air freight demand will grow as the area's population grows.



- The US Post Office has moved onto Air Trans Way near PDX. Increased truck demand, construction project impacts and overall traffic in the airport area will be challenging.
- There is an opportunity for Port of Portland to study Hillsboro Airport needs and the possibility for an air freight facility (Port of Portland will conduct the study).
- The Westside Logistics Study showed computer and electronics shipments face constraints get to the air freight facility on Air Trans Way, with congestion and reliability issues on US 26 (Sunset Highway) causing delays and other freight routing to get to east Portland.

### **Constraints and challenges around energy pipelines**

- Pipelines that supply fuels and other energy sources to the region are clustered along the Willamette River in the NW Portland Industrial area face the costs and challenges of retrofits for seismic resiliency.

There are also challenges with providing seismic retrofits for resiliency on the major freight system.

### **Constraints and challenges for Marine/River (for ships and barges)**

- Providing more marine terminal space could be challenging.
- Deepen the Willamette River Channel for shipping has high costs and environmental challenges.
- There is a need to restore full container service at Terminal 6. The impacts and short term challenges for commodity movement and freight modal changes have been addressed by ODOT and the Port of Portland.
- The barges on the Columbia River cause the lift span on the I-5 Bridge to open when the river rises over six feet. There have been some years with nine months of high water.
- The location of the narrow opening of the railroad bridge (adjacent to the I-5 Bridge) makes for a difficult s-curve maneuver of barge traffic on the Columbia River that comes under these two bridges without lifting the I-5 Bridge. Barge safety is a major concern at this location. Barge traffic must avoid causing I-5 bridge lifts during peak traffic periods. During high water bridge lifts on I-5 cause major traffic delays even during off-peak hours.
- There is a need to restore operations of the Willamette Falls Locks to expand freight traffic on the Willamette River and reduce demand for trucks on the highways coming into the region. The historic Willamette Falls Locks in West Linn “were built in the early 1870s to move river traffic around the 40-foot horseshoe-shaped basalt ridge between Oregon City and West Linn” (US Army Corps of Engineers website). Since December 2011, the Willamette Falls Locks have been in a “non-operational status”.

### **Next Steps**

The Regional Freight Work Group has worked on developing and reviewing system evaluation measures for freight.

In 2017, the freight work group will be reviewing RTP investments that address freight needs/challenges, updating the regional freight network map, and development of criteria to help inform identification of near-term and longer-term freight investment priorities.

# Memo



Metro

600 NE Grand Ave.  
Portland, OR 97232-2736

Date: November 7, 2016  
To: Regional Freight Work Group  
From: Tim Collins, RTP Freight Work Group Lead  
Subject: Potential freight measures to inform investment priorities memo

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This memo is intended to describe three potential freight measures that could be used to inform near and long-term investment priorities on the Regional Freight Network. These three measures will be discussed and further developed at the Regional Freight Work Group meeting on November 8, 2016. The three measures are as follows:

- **A congestion measure** (using the Interim Regional Mobility Policy in the 2014 RTP to determine if a facility on the Regional Freight Network meets the deficiency thresholds defined in the policy)
- **A reliability measure** (using a modified planning time index as the new reliability index for all main roadway routes and some of the intermodal connector facilities on the Regional Freight Network)
- **A travel time measure on key intermodal facilities** (using modeled travel times on intermodal connectors between key intermodal facilities and major freeways or highways)

## Congestion Measure

The congestion measure for freight is intended to help prioritize freight projects and throughway projects in the 2014 Financially Constrained RTP and on the Regional Freight Network, along with other potential freight measures. During both the one-hour mid-day, and the two hour PM peak the measure would look at congestion levels based on whether a facility meets the deficiency thresholds defined in the Interim Regional Mobility Policy.

### Interim Regional Mobility Policy (from Chapter 2 of the 2014 RTP)

The interim mobility policy shown in **Table 2.4** (see handout) describes operational conditions that are used to evaluate the quality of service of the auto network, using the ratio of traffic volume to planned capacity (referred to as volume/capacity ratio) of a given roadway. The measures are used to diagnose the extent of auto congestion during different times of the day in order to identify deficient roadway facilities. The interim regional mobility policy shows the minimum performance level desired for auto transportation facilities within the region. Originally adopted in 2000 and amended into the Oregon Highway Plan in 2002, the interim regional mobility policy reflects a level of performance in the region that the Oregon Transportation Commission (OTC) deemed tolerable at the time of its adoption, but is also recognized as an incremental step toward a more comprehensive set of measures that consider system performance, as well as financial, environmental and community impacts.

The OTC has indicated a desire for Metro to advance beyond the traditional mobility performance measure used to guide investment decisions. Metro, ODOT and other regional partners will continue to work together to update the current regional mobility policy to better align with RTP outcomes.

This evaluation helps the region develop strategies to address roadway congestion in a more strategic manner, given limited transportation funding and potential environmental and

community impacts. The region cannot achieve the mobility policy in Table 2.4 within current funding levels.

### **New Reliability Measure**

The new reliability measure for freight is intended to help prioritize freight projects and throughway projects on the Regional Freight Network, based on current data collected on travel times at different times of the day.

A new 2018 RTP regional freight performance measure has been developed for determining how reliable the Main Roadway Routes and some of the intermodal connector routes, on the regional freight network are. The new performance measure for freight reliability would be a modification of a planning time index. A 'planning time index" (PTI) provides a ratio that compares the travel time needed to be on time for 95 percent of the trips compared to the travel time during free-flow conditions. Instead of a ratio that compares the travel time needed to be on time for 95 percent of the trips to the travel time during free-flow conditions; this new index would compare it to the travel time needed to be on time 50 percent of the time. Therefore, if the travel time on US 26 from I-405 to Highway 217 is 20 minutes to be on time 95 percent of the time and the travel time is 10 minutes to be on time 50 percent of the time; then the modified PTI ratio would be 2.0 (20 minutes divided by 10 minutes). The equation for calculating the new reliability index (modified PTI) that is being suggested is as follows:

$$\text{New Reliability Index} = \frac{\text{95th Percentile Travel Time (in minutes)}}{\text{50th Percentile Travel Time (in minutes)}}$$

This new reliability index is the same one being used in ODOT's Freight Highway Bottlenecks List Project to measure freight reliability on the Oregon State Highway System. Using this measure for the 2018 RTP to determine freight reliability will be consistent with the current measure being used statewide in Oregon.

The freight work group needs to discuss which freight facilities would be most important for determining reliability and what times of the day would be most useful to measure,

### **Travel time measure on key intermodal facilities**

This measure for freight is intended to provide additional information on modeled truck travel times during different times of the day, between key intermodal facilities and major freeways or highways. These travel times would be on specific roadway facilities that are aligned with the mobility corridors in the 2018 RTP. This measure still needs to be better defined, and the freight work group needs to discuss which freight facilities would be most important and where the beginning points (which intermodal facility) and end points (connection to the freeways) are located for each of the freight corridors.

### **Next Steps**

In 2017, the freight work group will be reviewing RTP investments that address freight needs/challenges, updating the regional freight network map, and further developing measures and other criteria to help inform identification of near-term and longer-term freight investment priorities.

**Table 2.4**  
**Interim Regional Mobility Policy**  
**Deficiency Thresholds and Operating Standards**

Location	Standard	Standard	
		PM 2-Hour Peak <sup>A</sup>	
	Mid-Day One-Hour Peak <sup>A</sup>	1st Hour	2nd Hour
Central City Regional Centers Town Centers Main Streets Station Communities	.99	1.1	.99
Corridors Industrial Areas Intermodal Facilities Employment Areas Inner Neighborhoods Outer Neighborhoods	.90	.99	.99
I-84 (from I-5 to I-205)	.99	1.1	.99
I-5 North (from Marquam Bridge to Interstate Bridge)	.99	1.1	.99
OR 99E (from Lincoln Street to OR 224 interchange)	.99	1.1	.99
US 26 (from I-405 to Sylvan interchange)	.99	1.1	.99
I-405 <sup>B</sup> (I-5 South to I-5 North)	.99	1.1	.99
Other Principal Arterial Routes I-205 <sup>B</sup> I-84 (east of I-205) I-5 (Marquam Bridge to Wilsonville) <sup>B</sup> OR 217 US 26 (west of Sylvan) US 30 OR 8 (Murray Boulevard to Brookwood Avenue) <sup>B</sup> OR 212 OR 224 OR 47 OR 213	.90	.99	.99

A. The demand-to-capacity ratios in the table are for the highest two consecutive hours of weekday traffic volumes. The mid-day peak hour is the highest 60-minute period between the hours of 9 a.m. and 3 p.m. The 2<sup>nd</sup> hour is defined as the single 60-minute period, either before or after the peak 60-minute period, whichever is highest.

B. A corridor refinement plan is required in Chapter 5 of the RTP, and will include a recommended mobility policy for each corridor.

**Attachment 1.** Summary of Recommended changes to RTP System Evaluation Measures. November 4, 2016 (Reflects input from 10/28/16 TPAC and 11/2/16 MTAC discussions)

ID#	System Evaluation Measure	Staff Recommendation	Rationale / Notes	Work Group(s) Recommendation	TPAC & MTAC comments
<b>How much do people and goods travel in our region?</b>					
1.	<b>Multimodal Travel</b> A) Vehicle Miles Traveled (VMT) (total, per capita, and per employee) B) Bicycle miles traveled (total and per capita) C) Freight miles traveled D) Pedestrian miles traveled (total and per capita) E) Person miles traveled per VMT	<b>Refine and rename</b> <del>Vehicle travel and Bicycle travel</del> <u>Multimodal travel</u> Previously Metro reported vehicle miles traveled and bicycle miles traveled (both total and per capita). Staff now recommends reporting auto, bike, pedestrian and freight, as well as auto vmt per employee and person miles traveled per VMT.	This measure provides information on the amount of travel in the region. VMT per employee may better factor in fluctuation in VMT due to economic swings.	Performance work group supports the staff recommendation and reporting by # of miles and % of overall miles traveled by sub-region (urban Washington Co, urban Clackamas County, Portland, East Multnomah County) to better show variations across the region.	TPAC - "Travel Characteristics" is too ambiguous of a theme name. Try phrasing themes as questions, e.g. initial staff response for this theme: "How much and by what methods are we traveling?"
2.	<b>Active transportation and transit mode share</b> System-wide (total and share) for: A) walking B) bicycling C) transit  Non-SOV travel (total and share) for: A) Central City B) Regional Centers C) Mobility corridors D) Sub-regions.	<b>Refine and rename:</b> <u>"Active transportation and transit mode share"</u>	Narrow this measure to evaluate mode share for the Central City and Regional Centers (as well as region-wide and by mobility corridor) as done in past RTP updates. This formally acknowledges that Metro cannot accurately measure mode share at geographies as small as town centers, industrial and employment areas. Chapter 2 of the RTP (p.2-22) and table 2.5 will need to be updated to reflect this recommended change. These refinements are consistent with the state's Transportation Planning Rule (TPR) - the original impetus for creating these targets. Regional-level mode share targets will be addressed in 2017 as part of the broader RTP target-setting discussions.	Performance and transit work groups support the staff recommendation and requested the analysis be reported by sub-region (urban Washington Co, urban Clackamas County, Portland, East Multnomah County) to better show variations across the region.	
<b>How much do households spend on housing and transportation in our region?</b>					
3.	<b>Affordability*</b> Combined cost of housing and transportation	<b>Refine</b> methodology.	Staff will continue to develop a methodology. This measure is a major priority of the equity work group. The methodology will identify cost burdened households in the region.	The Equity work group supports the staff recommendation with the recognition that there are a number of methodological components that need further work in order to be useful.  Transit Work Group has expressed concerns that current tools and methods won't capture the transit cost component very well.	TPAC - A challenge with this measure is that current H+T tools are better at monitoring what's happening currently rather than projecting into the future (which is needed for a system evaluation measure).
<b>How safe is travel in our region?</b>					
n/a	<b>Fatal &amp; severe crashes</b> Fatal & severe crashes for pedestrian, bicyclists, motorists	<b>Move</b> to RTP monitoring measures.	This measure cannot be used as a system evaluation measure due to the inability of the regional travel model to directly predict crashes.	The Performance and Safety workgroups support the staff recommendation.	MTAC - Look for opportunity to take into account seismic resiliency in evaluation. <i>Staff response: Yes.</i>
4.	<b>Share of Safety projects</b> Percent of number and cost of	<b>Add</b> as new measure.	Safety is a key concern of the RTP and has not been part of past system evaluations. This measure will assess whether safety investments are being made disproportionately. Safety	The Safety, Equity and Performance work groups support the staff recommendation.	TPAC - Safety is a difficult issue for Washington County. Its arterials have access

**Attachment 1.** Summary of Recommended changes to RTP System Evaluation Measures. November 4, 2016 (Reflects input from 10/28/16 TPAC and 11/2/16 MTAC discussions)

ID#	System Evaluation Measure	Staff Recommendation	Rationale / Notes	Work Group(s) Recommendation	TPAC & MTAC comments
	safety projects in the RTP investment packages regionwide and in areas with historically underrepresented communities.		projects are defined as: “Infrastructure projects with the primary intent to address a safety issue, and allocate a majority of the project cost to a documented safety countermeasure(s) to address a specific documented risk, or improve safety for vulnerable users, including people walking and bicycling, older adults and youth.” In response to feedback from the performance and safety work groups, references to high-injury corridors and safe routes to school projects were removed from an earlier draft safety project definition.		management, so they don’t have as many high-injury crash locations as other parts of the region.
5.	<b>Exposure to crash risk*</b> The sum of all non-interstate vehicle miles traveled (VMT) in Transportation Area Zones (TAZ) for RTP investment packages region-wide, and in historically underrepresented communities.	<b>Add</b> as new measure.	Safety is a key concern of the RTP and has not been part of past system evaluations. This is an interim measure until a safety and crash predictive model is developed involving other factors. Measuring transportation safety is a priority topic area for historically underrepresented communities and there is some interest in looking at forecastable indicators to flag potential transportation safety issues. Staff has found a statistical correlation between VMT and crashes. Staff will further test the measure to determine if using per capita is the right approach and refine which limited-access facilities are excluded from the analysis.	The Safety, Equity and Performance work groups support the general approach of the staff recommendation. Additionally, the Performance work group provided general support to continue to explore this measure and use it for an initial assessment, and asked staff to use “non-throughway” or “non-freeway” instead of “non-interstate” to ensure that limited access facilities such as US 26 and OR 217 are accounted for. The safety work group recommends further testing the measure, including whether per capita is the right approach.	TPAC – Crash risk is more of an output measure than an outcome measure.
<b>How easily, comfortably and directly can we access jobs and destinations in our region?</b>					
6.	<b>Access to Travel Options – system connectivity *</b> Sub measure: Access to transit (percent of bike or pedestrian network gaps completed within ½-mile of transit)	<b>Refine, continue to develop methodology and rename</b> - “ <del>Basic Infrastructure</del> <u>Access to Travel Options – system connectivity.</u> ”	A methodology to measure street connectivity will need to be developed to implement this recommendation. Developing this measure will have resource impacts for both Metro and local governments. This measure replaces the basic infrastructure measure that was composed of total mileage of (regional networks) of sidewalk, bikeways and trails. The access to transit submeasure supports the transit supportive elements part of the regional transit vision.	The Equity work group’s preliminary recommendation is to expand this measure to add street connectivity to sidewalks, bikeways and trails with an emphasis on looking at the timing of basic infrastructure investments in historically underrepresented communities. The Performance work group recommends packaging all of the “access” measures as a suite, being sure to address completeness, route directness/connectivity, origins & destinations.	
7.	<b>Access to Jobs*</b> Number of jobs (classified by wage groups – low, middle, and high) accessible within A) 30 minutes by auto B) 45 minutes by transit C) 30 minutes by bike D) 20 minutes by walking.	<b>Add</b> as a new measure.	Access to jobs is a significant transportation priority identified by historically underrepresented communities. The Access to jobs and access to daily needs measures have been recognized by work groups and staff as extremely important. Metro Planning and Research Center staff will work to further develop these accessibility-related measures.	Equity, Transit and Performance work groups support the staff recommendation.	TPAC – Noted the importance of high wage jobs (accessed via US 26). Asked if the data set will capture the low wage jobs at Intel’s Ronler Acres campus? <i>Staff response: Yes.</i>
8.	<b>Access to Community Places*</b> 1) Measure access by bicycling, walking, transit, driving	<b>Refine and rename</b> - “ <del>Access to Daily Needs</del> Access to Community Places.”	Metro staff recommends this measure replace the Access to Daily needs measure that was composed of: Number of essential destinations accessible within 30 minutes by bicycling & public transit for low-income, minority, senior and disabled populations. The Access to Jobs and Access to Daily Needs measures have been recognized by workgroups and staff as	Equity, Transit and Performance work groups support the staff recommendation.	

**Attachment 1.** Summary of Recommended changes to RTP System Evaluation Measures. November 4, 2016 (Reflects input from 10/28/16 TPAC and 11/2/16 MTAC discussions)

ID#	System Evaluation Measure	Staff Recommendation	Rationale / Notes	Work Group(s) Recommendation	TPAC & MTAC comments
	2) Adjust the time sheds for each mode 3) Define existing “daily needs” consistent with other similar efforts, including the TriMet Equity Index.		extremely important. Metro Planning and Research Center staff will work to further develop these accessibility-related measures.		
9.	<b>Access to Bicycle and Pedestrian Parkways</b> Number and percent of households within ½ mile of a bicycle or pedestrian parkway.	<b>Refine and rename –</b> “Access to Trails Bicycle and Pedestrian Parkways”	This change would better reflect access to the major regional off-street and on-street bicycling and walking routes throughout the region.	The Performance work group supports the staff recommendation.	
10.	<b>Access to Transit</b> Number and share of households, low-income households and employment within ¼- mile of high capacity transit or frequent service transit	<b>Add</b> as a new measure.	This measure was recommended through the Climate Smart Strategy and by the Transit Work Group. This measure provides information on how much of the region’s households and jobs are served by transit.	The Transit work group supports the staff recommendation. The Performance work group noted that this measure will eventually be replaced by the access measures.	
11.	<b>Access to Industry and Freight Intermodal Facilities</b>	<b>Under development.</b>	<b>Under development by RTP Freight workgroup.</b> The performance work group noted that the freight travel time measure within #12 “Multimodal travel times” may address this, making this measure unnecessary.	<b>TBD</b>	
<b>How efficient is travel in our region?</b>					
12.	<b>Multi-modal Travel Times</b> Between key origin-destinations for mid-day and 2-hr PM peak	<b>Refine and rename –</b> “Multimodal travel times”	Metro staff recommends renaming and refining this measure to evaluate bicycling and freight travel times in addition to auto and transit for each regional mobility corridor. <i>Note: the regional travel model is not currently able to forecast walking travel times.</i> Metro staff will bring back a list/map of proposed origins/destination that match up with each mobility corridor. It is possible that some important Origin/Destination pairs for biking, freight or transit don’t match up within the mobility corridors.	The Performance and Transit work groups support the staff recommendation.	
13.	<b>Congestion</b> A) Vehicle hours of delay per person B) Interim Regional Mobility Policy - Locations of throughways, arterials, and regional freight network facilities that that exceed LOS threshold C) Freight Truck delay D) Total cost of delay on freight network	<b>Under development.</b>	Metro staff will develop options for discussion by TPAC and the performance work group this winter. Discussions are underway with ODOT regarding updates to regional and state congestion measures and the Interim Regional Mobility Policy. Developing a recommendation for this measure is especially challenging since the new federal regulations relating to congestion measurement are not yet finalized.  The Freight work group recommends evaluating delay per truck trip exclusively on <u>regional freight network</u> rather than entire roadway system. Also, the measure should be called “Freight truck delay” rather than the current misnomer, “freight reliability”, since it does not measure reliability. A freight reliability measure for current conditions will be developed as part of RTP Monitoring Measures discussions in 2017.	<b>TBD</b>	TPAC – Continuing to measure delay <i>per capita</i> is very important to factor all people into the measure, including those that walk, bike, drive, take transit or telecommute.

**Attachment 1.** Summary of Recommended changes to RTP System Evaluation Measures. November 4, 2016 *(Reflects input from 10/28/16 TPAC and 11/2/16 MTAC discussions)*

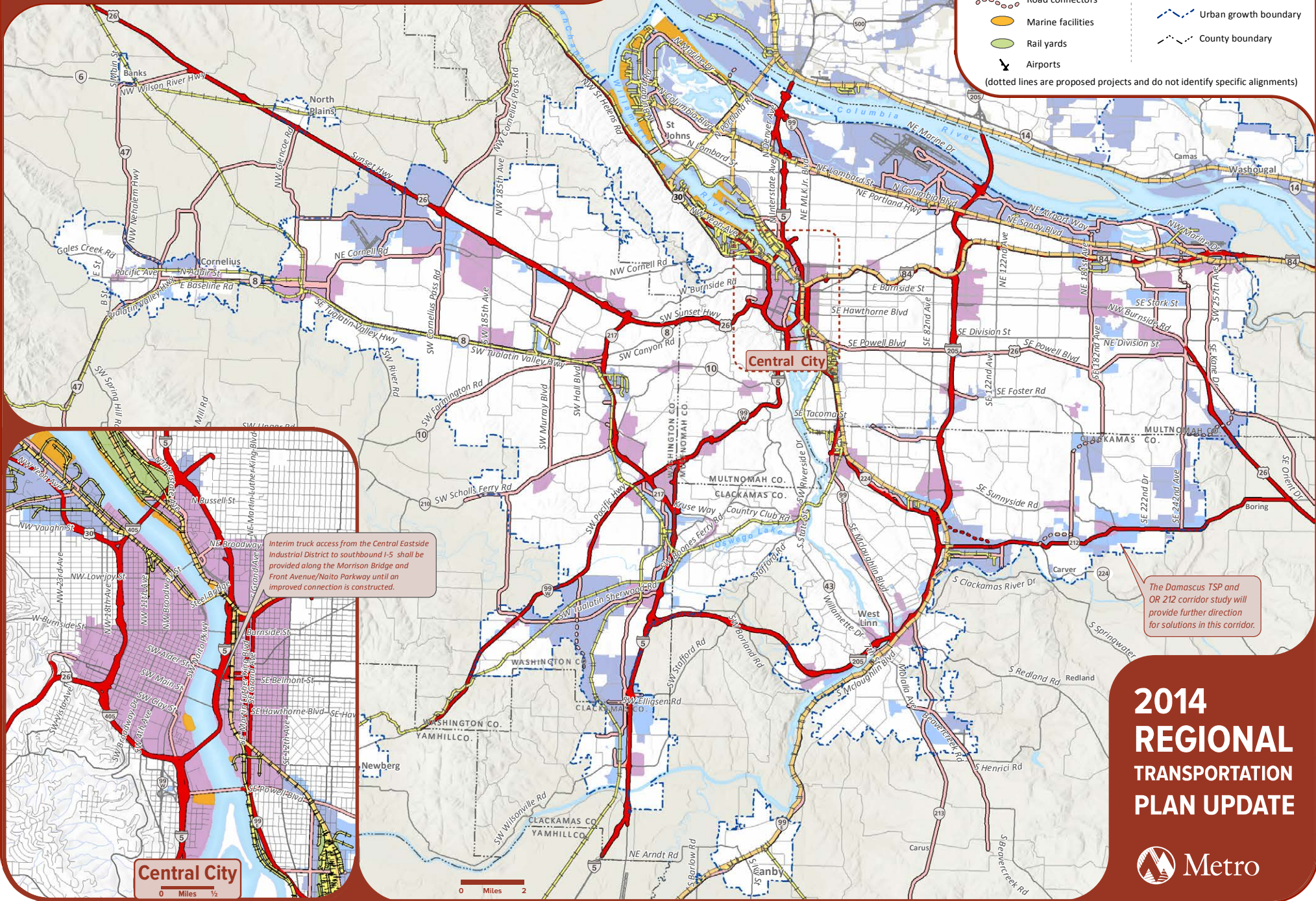
ID#	System Evaluation Measure	Staff Recommendation	Rationale / Notes	Work Group(s) Recommendation	TPAC & MTAC comments
14.	<b>Transit efficiency</b> A) Boarding rides per revenue hour for HCT & bus B) Revenue hours by transit mode C) Transit ridership system-wide by each transit service type	<b>No change to measure but rename <u>Transit Efficiency</u> Productivity.</b>	The measure provides information on the productivity and efficiency of transit service provided. Revenue hours was recommended through Climate Smart Strategy and by the Transit Work Group and provides information on the amount of transit service provided.	The Transit work group supports collapsing transit productivity and revenue hours into one measure as recommended by staff.	
<b>How will transportation impact our air quality and the environment?</b>					
15.	<b>Climate Change</b> Tons of transportation-related greenhouse gas emissions (total and per capita)	<b>No change.</b>	The region is required to measure greenhouse gas emissions to help demonstrate whether the RTP is meeting state-required per capita greenhouse gas emissions reductions. During 2017 target setting discussion, ensure that the new target is consistent with statewide target and Climate Smart Strategy.	The Performance work group supports the staff recommendation.	
16.	<b>Clean air</b> Tons of transportation related air pollutants (e.g. CO, ozone, PM-10)	<b>Refine</b> air pollutants reported.	Metro staff recommends this measure be refined. This is an important measure for evaluating transportation impact on air quality and human health. Pollutants reported may change pending further consultation with DEQ.	The Performance work group supports the staff recommendation. The work group member requested staff to provide mapping at the sub-regional level if possible since the Tualatin Valley has unique air quality compared to the east side of the region.	
17.	<b>Habitat impact*</b> Number and percent of projects that intersect high value habitat	<b>Refine methodology.</b>	The Equity work group recommends assessing whether there are disparities between historically underrepresented communities and transportation projects that may impact habitat conservation/ preservation, primarily focusing the assessment on roadway projects.	The Equity and Performance work groups support the staff recommendation. The Performance work group recommends adding contextual language to describe the purpose of this measure, better define high value habitat, and note that it is tied to federal requirements to consult with resource agencies as part of an RTP update. The Performance work group also supports continuing to use this measure to identify projects in the RTP for informational purposes for the public and project sponsors.	TPAC – Remember that many transportation projects improve habitat.  MTAC – transportation project impact on habitat is very complex and varies depending on many factors – width of asphalt, retaining walls, wildlife crossing treatments, volume of auto traffic, etc.

\* Reflects the transportation priorities identified by historically underrepresented communities and will serve as the basis for the federally-required Title VI Benefits and Burdens analysis.



# Regional Freight Network

Figure 2.15



- Main railroad lines
  - Branch railroad lines and spur tracks
  - Main roadway routes
  - Road connectors
  - Marine facilities
  - Rail yards
  - Airports
  - Urban centers
  - Employment
  - Industry
  - Urban growth boundary
  - County boundary
- (dotted lines are proposed projects and do not identify specific alignments)

**Central City**

Interim truck access from the Central Eastside Industrial District to southbound I-5 shall be provided along the Morrison Bridge and Front Avenue/Naito Parkway until an improved connection is constructed.

0 Miles 1/2

The Damascus TSP and OR 212 corridor study will provide further direction for solutions in this corridor.

## 2014 REGIONAL TRANSPORTATION PLAN UPDATE

