Central Oregon Travel Demand Models & Projects

Presentation Outline

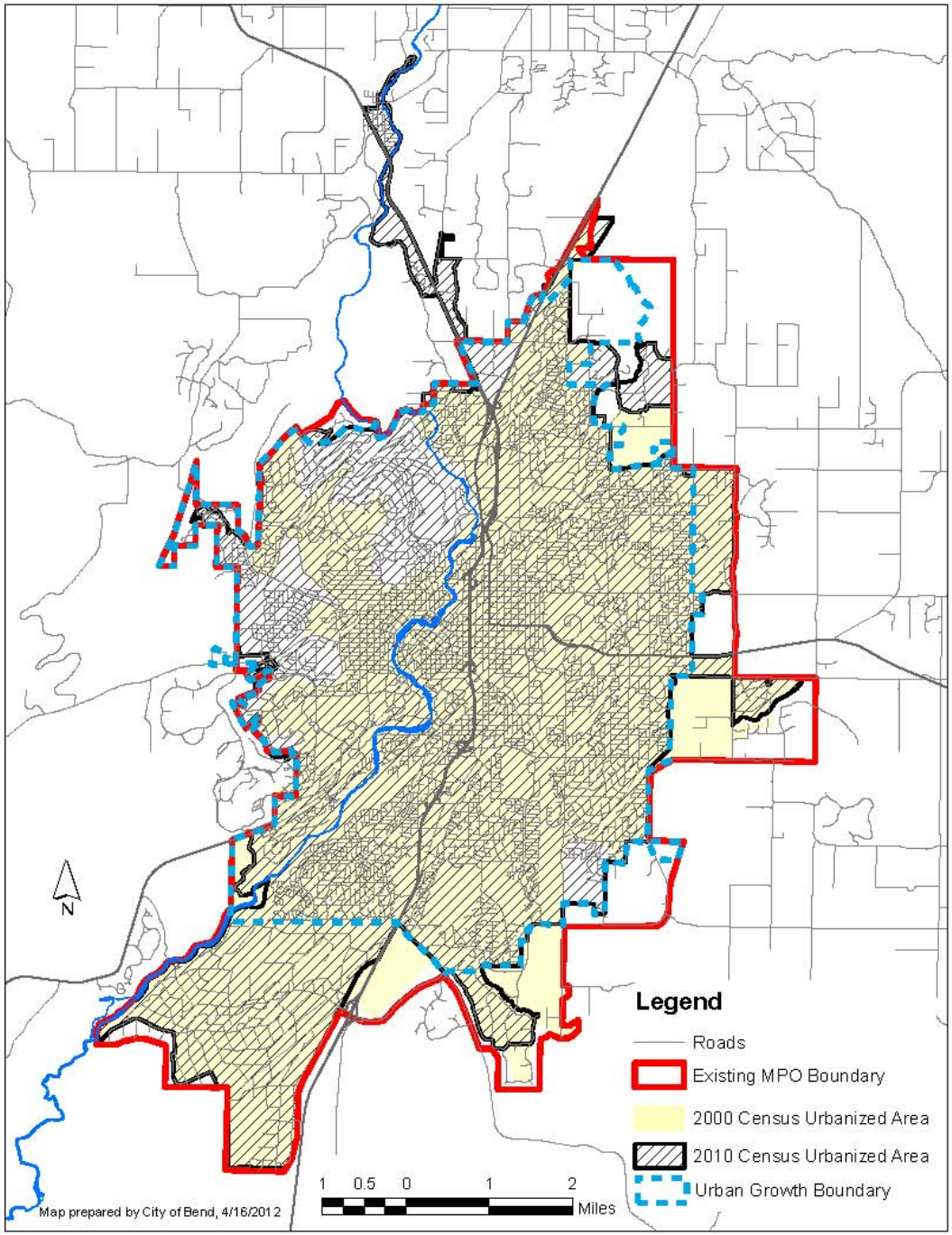
- Bend MPO map
- Central Oregon Models
  - Existing models
  - New Bend-Redmond model
  - Future activity based model
- Central Oregon projects

Bend MPO boundary

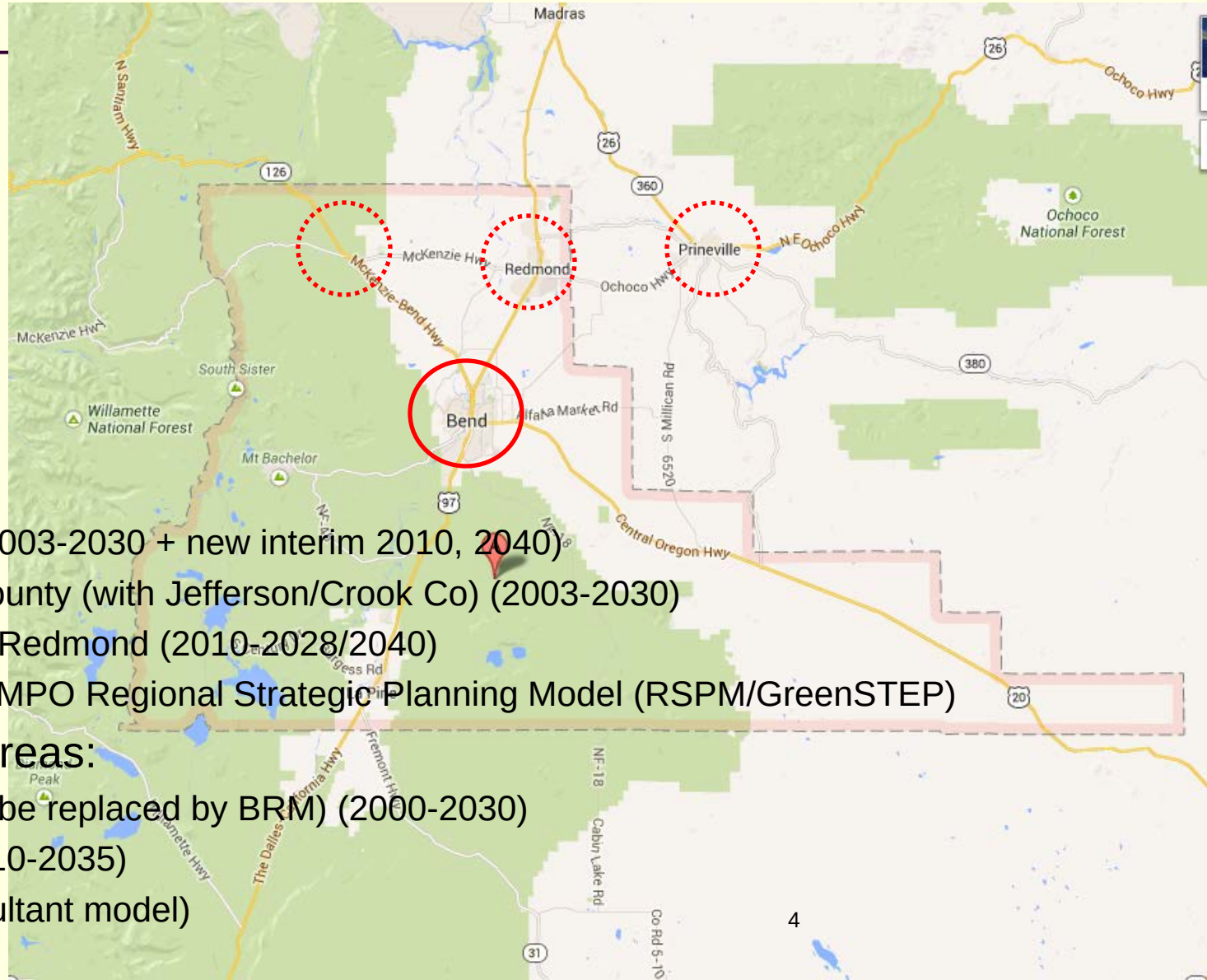
*Blue dashed line represents existing City UGB. Red line represents current MPO boundary.

*MPO boundary will be expanded in 2014 to include Tumalo area – result of 2010 Census

*2000 Census: Approximately 340 MPOs in U.S. Bend MPO one of less than 10 MPOs covering a single city



Existing Models



- MPO Models
  - Bend MPO (2003-2030 + new interim 2010, 2040)
  - Deschutes County (with Jefferson/Crook Co) (2003-2030)
  - **Future** Bend-Redmond (2010-2028/2040)
  - **Future** Bend MPO Regional Strategic Planning Model (RSPM/GreenSTEP)
- Small Urban Areas:
  - Redmond (to be replaced by BRM) (2000-2030)
  - Prineville (2010-2035)
  - Sisters (consultant model)

Existing Model Types

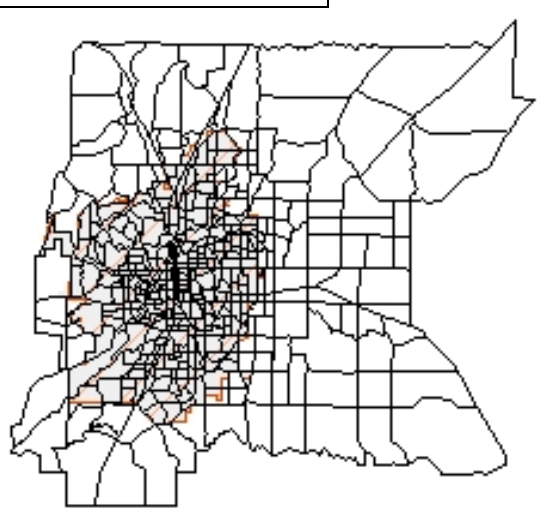
- Common attributes
  - Average weekday
  - No visitor models (MPO has hotel attractions)
- MPO models (Bend MPO, Deschutes Co, future BRM)
  - Auto, transit, walk, bike, shared ride modes
  - Daily and PM peak time periods
- Small Urban Area models (all others)
  - Auto mode only
  - Hourly results, daily is sum of 24 hours

Existing Geographic Coverage

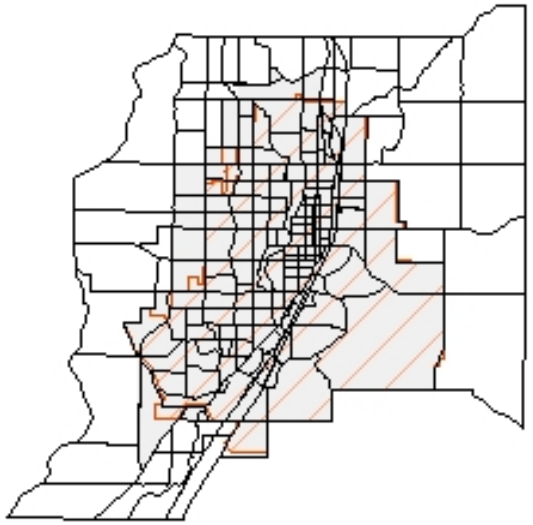
Transportation Analysis Zone (TAZ)

City Limits

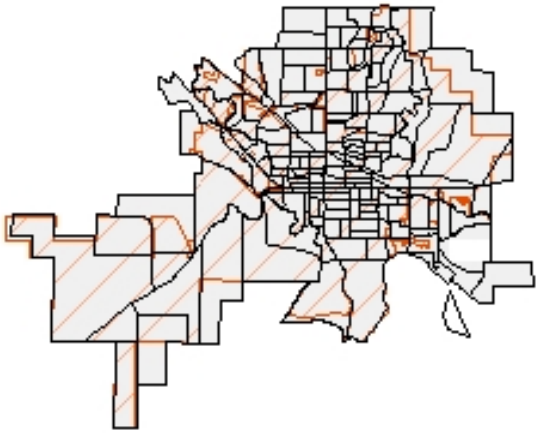
Urban Growth Boundary (UGB)



Bend

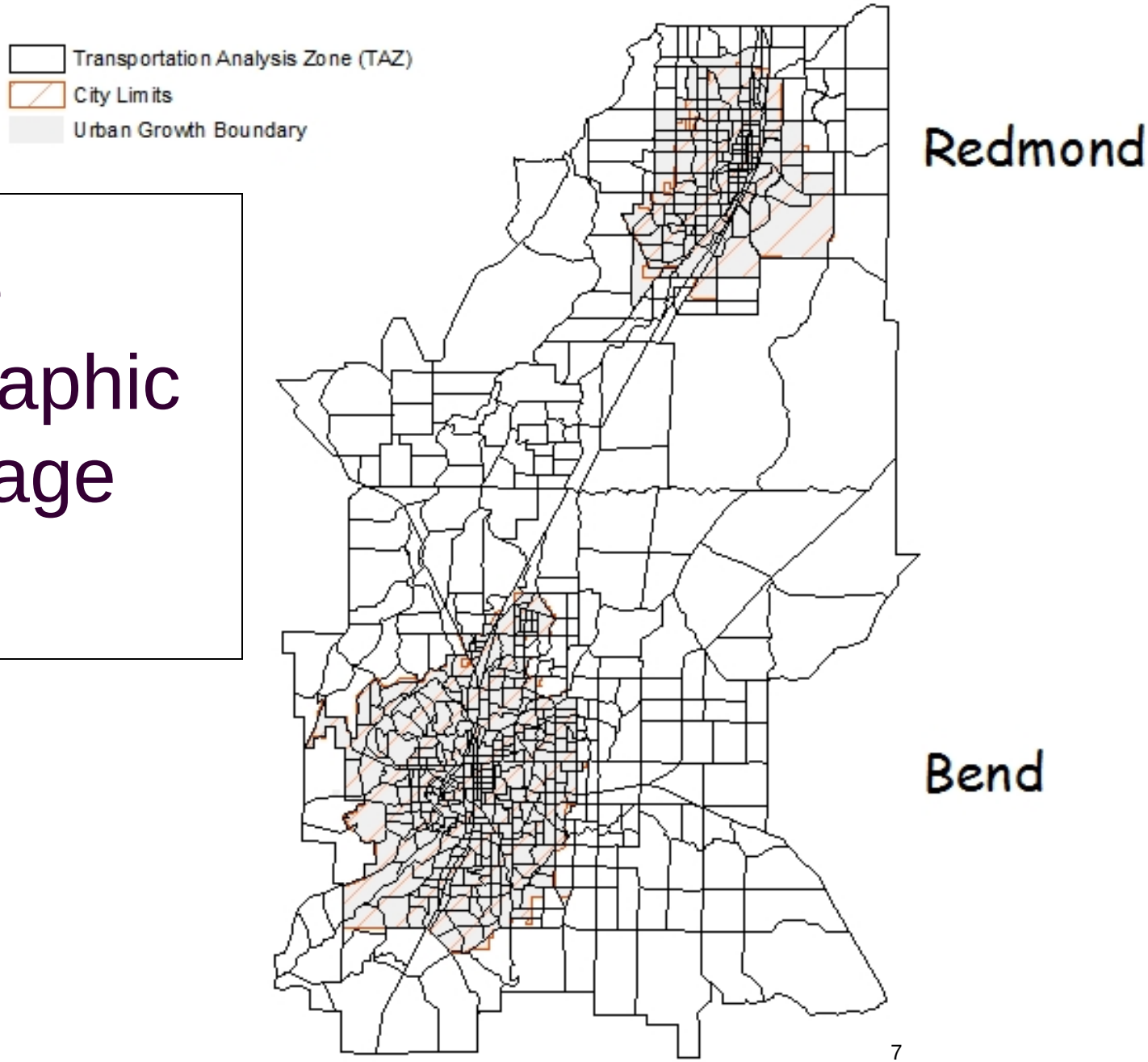


Redmond



Prineville

Future Geographic Coverage (BRM)



Bend-Redmond Model Enhancements
(combined model underway)

- 2010 Census (prior models 2000)
- Calibrate to 2010 HH and on-board transit survey (prior models used survey data from 1994-1996)
- External demand from Statewide Model
- Commercial Vehicle Model
- University Model
- Updated Transit (within model boundaries)

<u>Under consideration</u>:

- Synthetized Population (detailed future household & person attributes)
- Link with RSPM/GreenSTEP land use scenarios (regional population & dwelling units by TAZ vs. TAZ HH & Pop inputs)

Future BRM Activity-Based-Model

- 5-year plan, RVMPO pilot started 2014
- Changes:
  - Tours instead of trips (consistent choice of mode, better understanding of non-home based trips, etc.)
  - Persons instead of Households (HH interactions, value of time variation, etc.)
  - Travel diary for the entire population (Synthetic Population vs. average behavior by income/size/worker groups)
- Improved Policy sensitivity (e.g. parking, tolls, etc.)
- Improved Output analysis (e.g. equity)

Central Oregon Projects

- Bend area
  - Bend MPO plan update; US97 North Corridor EIS; Bend Central Area MMA; Bend UGB; Central Westside TGM project; US97 Parkway Study
- Redmond area
  - City TSP, S US97 project
- Other projects
  - TRIP 97, Madras TSP, others?

*Note: Bend UGB and Central Westside TGM project will use the Envision Tomorrow tools. Also discussing options for using the RSPM (formerly GreenSTEP) tool for those projects.

Central Oregon Projects

Central Oregon Projects										
		2014	2015				2016			
	Status	Oct-Dec 2014	Jan-Mar 2015	Apr-June 2015	July-Sept 2015	Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Jul-Sept 2016	Oct-Dec 2016
Bend MPO plan: Phase 1	Complete									
US97 N Corridor EIS	Complete									
Bend Central Area MMA	Complete									
Bend-Redmond Model Development										
Bend UGB										
Central Westside TGM										
US97 Parkway Study										
Bend MPO plan: Phase 2										
Redmond TSP										
S US97 project (Redmond)	??									
Madras TSP	??									
TRIP 97	??									

Questions?

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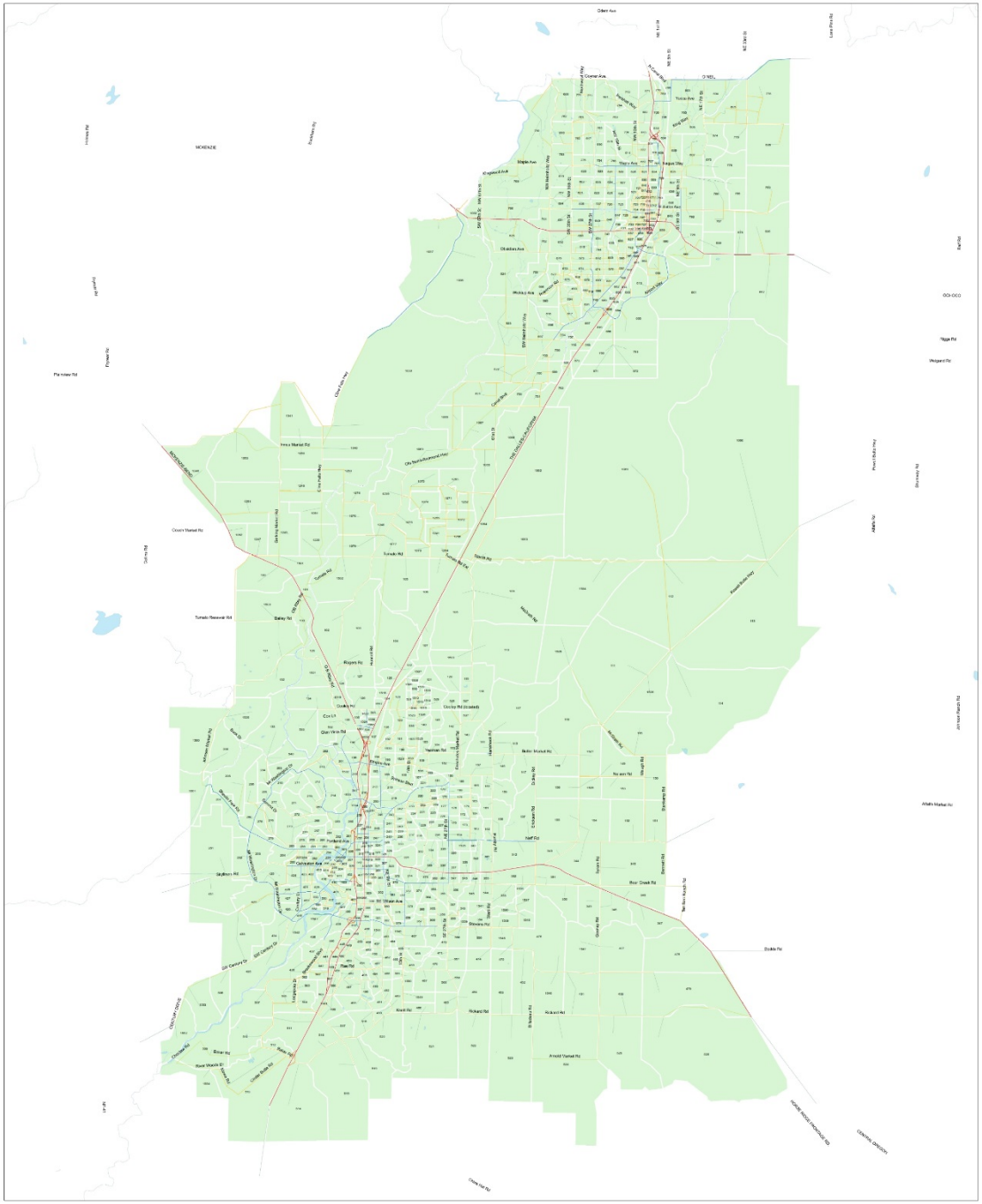
Bend + Redmond Model

July 3, 2013



ODOT DMV Vehicle Master File Project

Oregon Modeling Steering Committee

October 22, 2014

Becky Knudson

Once upon a time...

Objective

One <u>Consistent</u> Data Set with Improved <u>Accuracy</u> using an <u>Efficient</u> Process

The DMV Vehicle Master File

How the Data is Used/ Why it is Needed

TDD Economic & Financial Analysis	TDD Transportation Planning Analysis	Department of Environmental Quality
• ODOT Revenue Forecast • Legislative Analysis (HB4131 from the 2014 Session is a good example) • Fleet Characteristics Analysis	• Legislative Analysis (HB3543, HB2186, SB1059, HB2001) • GHG model development and analysis • Statewide Policy Economic Impact Analysis • Long range travel forecasting	• Air Quality Conformity • Legislative Analysis • Emission testing • Forecasting conditions

Previous Process

TPAU

- Submit one-time data Request to DMV
- Process data set and Manually add EPA factors

EFAU

- Receive automated file on regular basis
- Process and manually add EPA factors

DEQ

- Receive template file upon request
- Process and summarize data for analysis, missing desired elements

MPOs

- No data received, but data need exists

What's wrong with the way things are?

Previous Process

TPAU

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Objective

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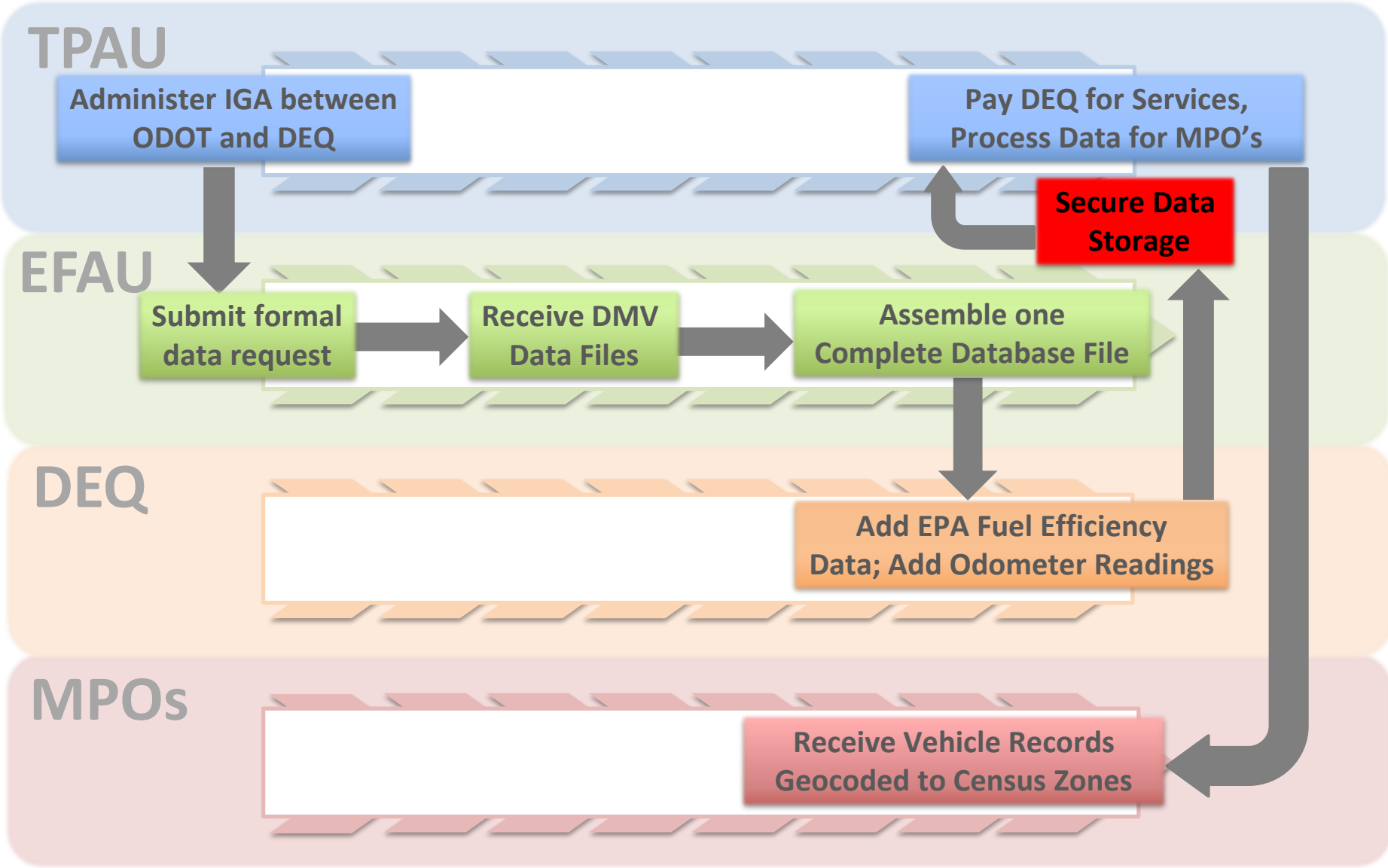
New Process


TPAU
Administer IGA between ODOT and DEQ
Pay DEQ for Services, Process Data for MPO's
Secure Data Storage
EFAU
Submit formal data request
Receive DMV Data Files
Assemble one Complete Database File
DEQ
Add EPA Fuel Efficiency Data; Add Odometer Readings
MPOs
Receive Vehicle Records Geocoded to Census Zones

Lessons Learned

Communicate with people, not Agencies: Do not assume others understand or share your perspective

Build a common understanding: Include responsible parties, while considering stakeholders

More info:

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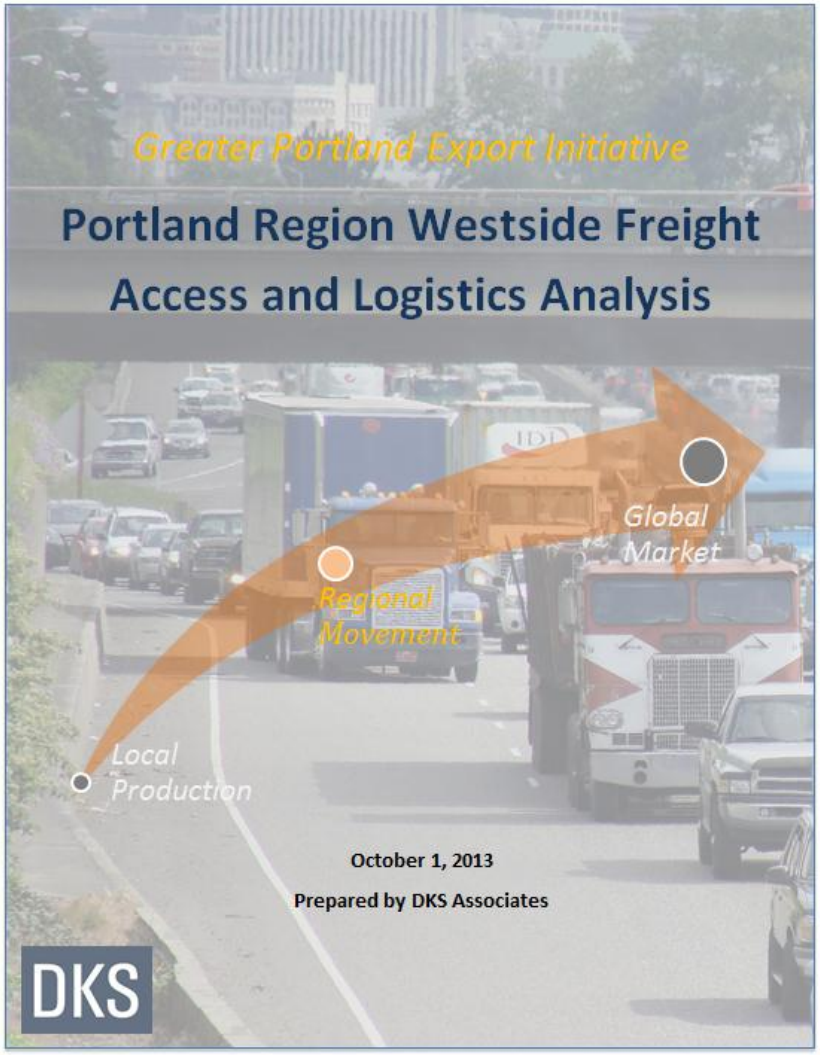
IMPROVING TRAVEL TIME RELIABILITY TO INCREASE PORTLAND'S EXPORTS

Chris Maciejewski, Garth Appanaitis
Oregon Modeling Steering Committee
October 22, 2014

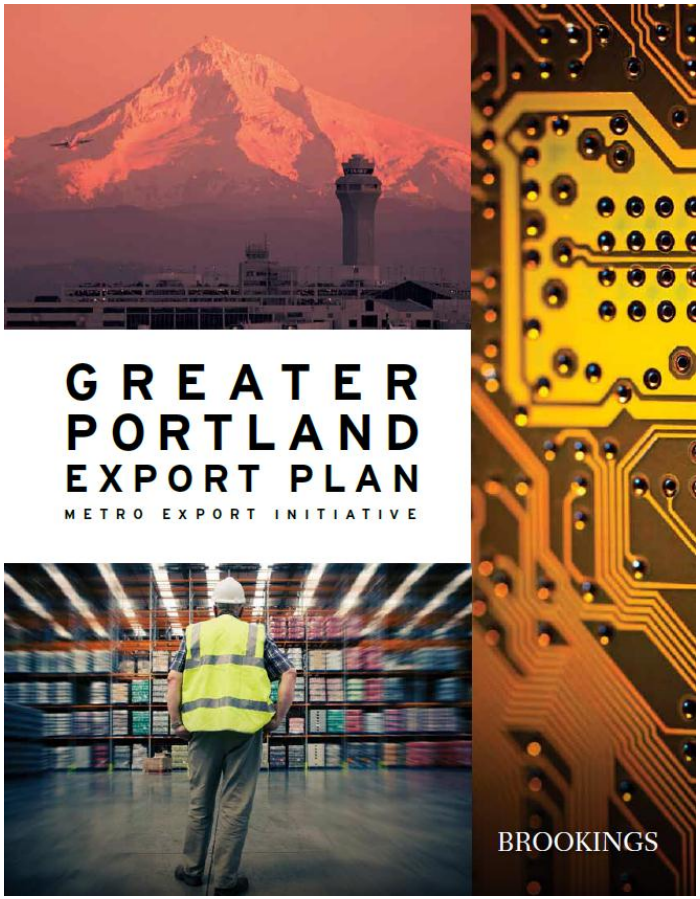
Overview

- Regional Export Story
- Greater Portland Export Initiative
- Role of C&E
- Westside Freight Challenges
- Near Term Transportation Strategies

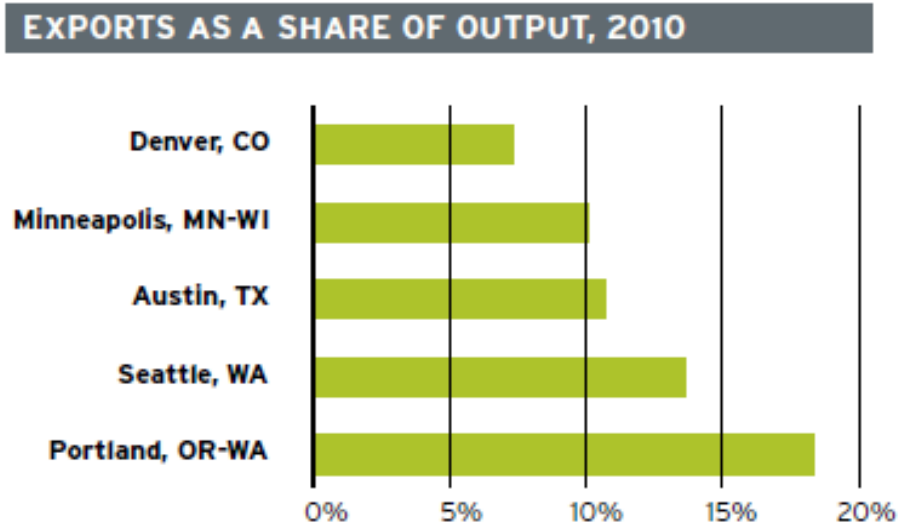


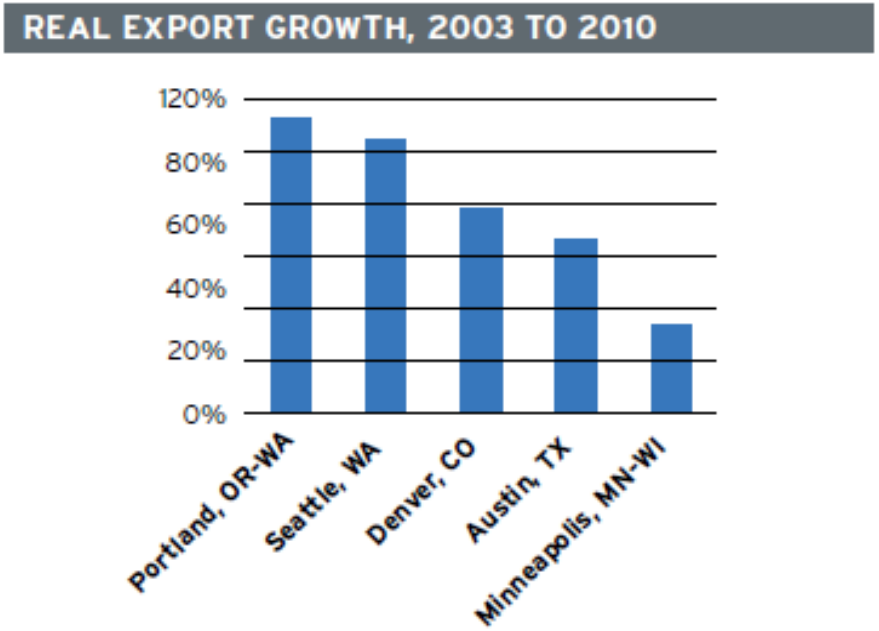
Exports drive the US & Portland economy

- U.S exports supported 12.2 million jobs (2010)
- Greater Portland's exports supported 142,270 jobs
- Nearly 1/5 of the Portland metro economy is generated by exports
- For every $1 billion in exports, and average of 5,400 new jobs are created



Portland is a leader among US metro areas for export growth



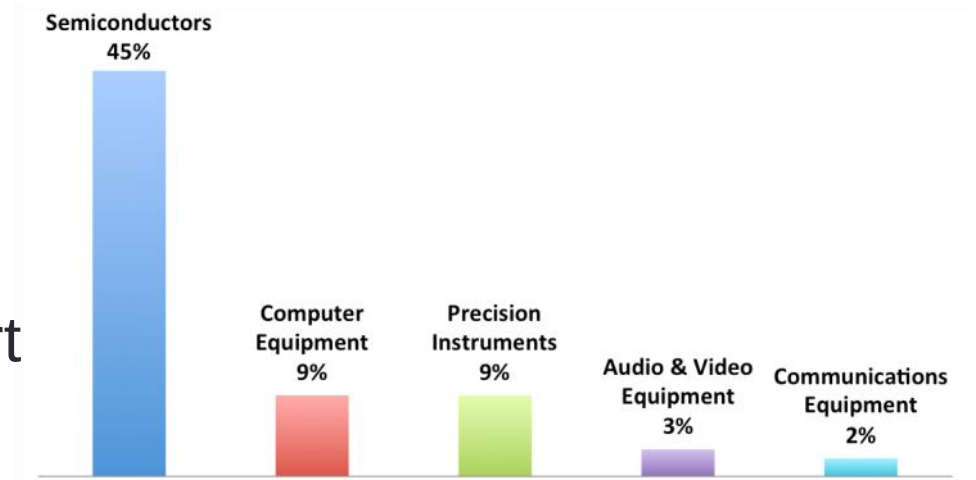


Regional export goals and industry needs drove analysis

Export Plan → Strategies to Support Exporters → Freight Access and Logistics Analysis → Industry Interviews → Transportation Study

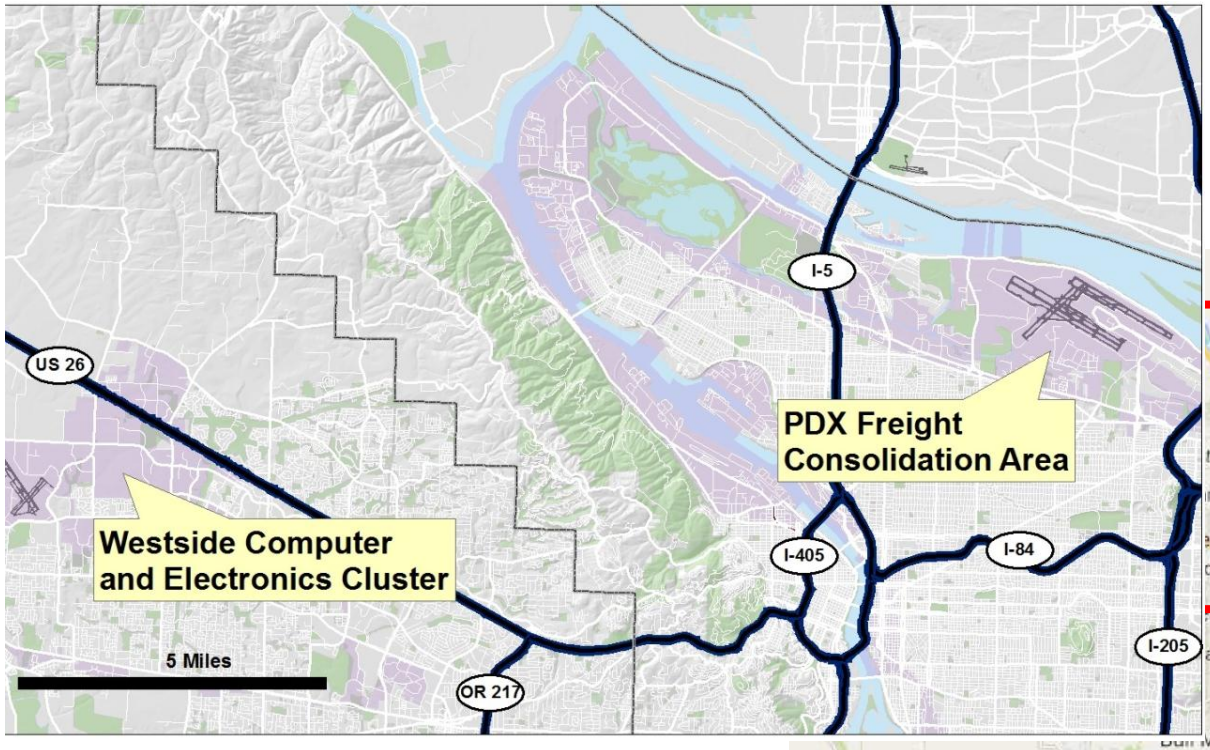
- Regional Planning Background
- Current Planning / Westside C&E
  - Greater Portland Export Plan
  - Export Initiative Business Plan

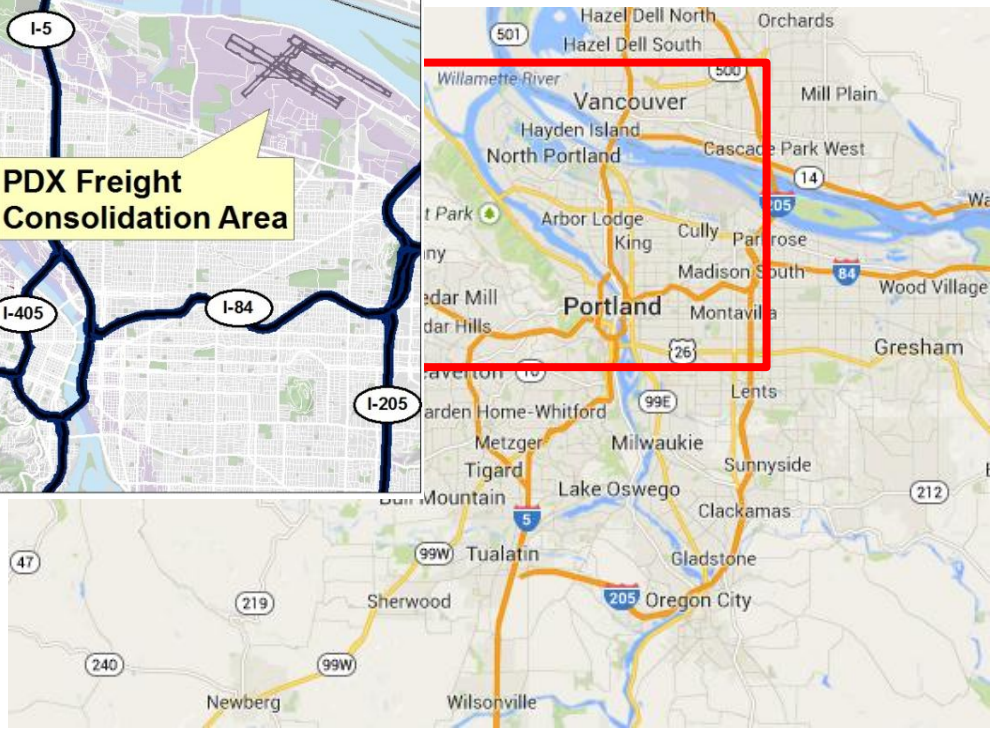
Top five export industries in Portland metro region



Source: Brookings Instituion Export Nation 2013 (http://www.brookings.edu/research/interactives/export-nation)

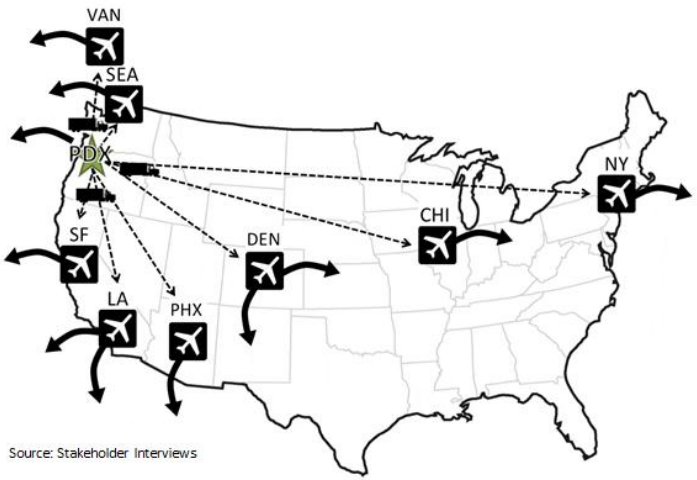
C&E manufacturing location and context





Industry interviews provided insight

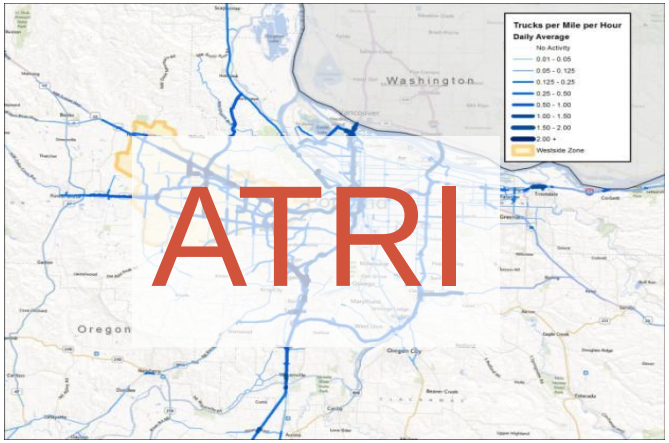
- PDX freight consolidation area is gateway
  - Air freight
  - Truck freight destined for international transfer points
- Primary freight routes to PDX from Westside are:
  - US 26 to I-405 north to I-5 north
  - Cornelius Pass Road to US 30 across St. Johns Bridge to arterial system

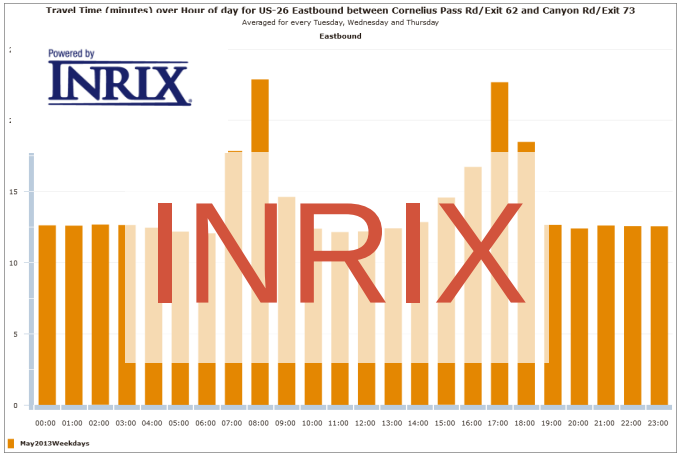


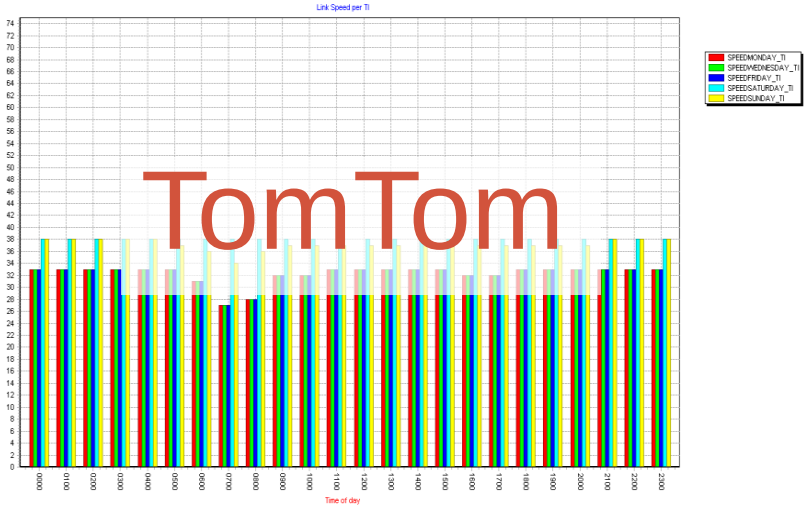
Data and measures to address freight needs

- Identified in Interviews
  - Fastest Routing → **Average Travel Time**
  - Most Direct / Optimal Proximity → **Distance, # Segments**
  - Minimize System Variability → **TT Reliability (BI)**
  - Improve System Redundancy → **New Connections**
- Additional Considerations
  - Feasibility
  - Funding Opportunities

Data reviewed for corridors

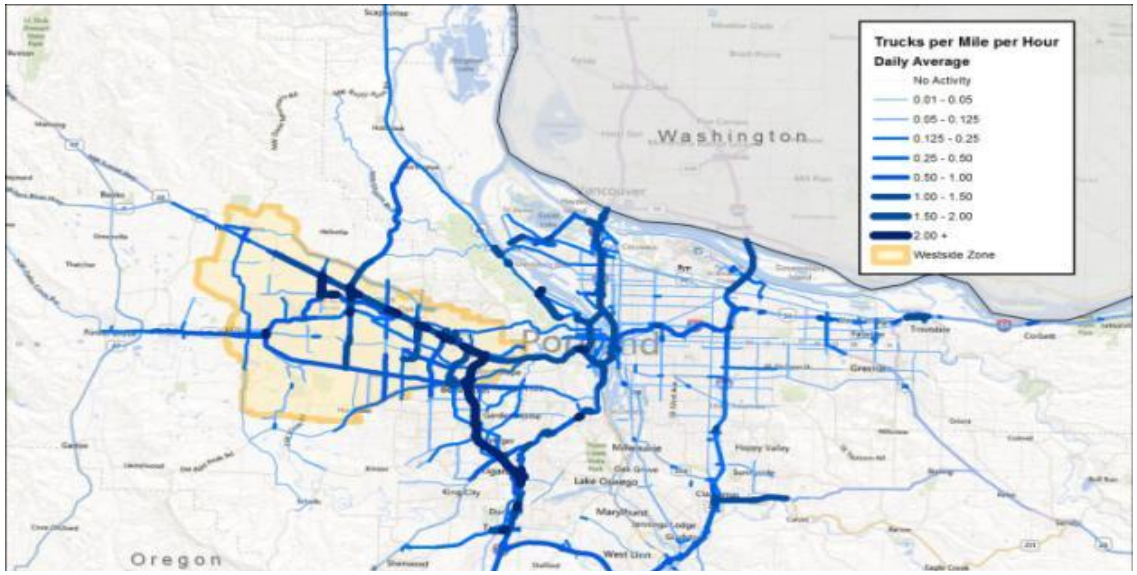


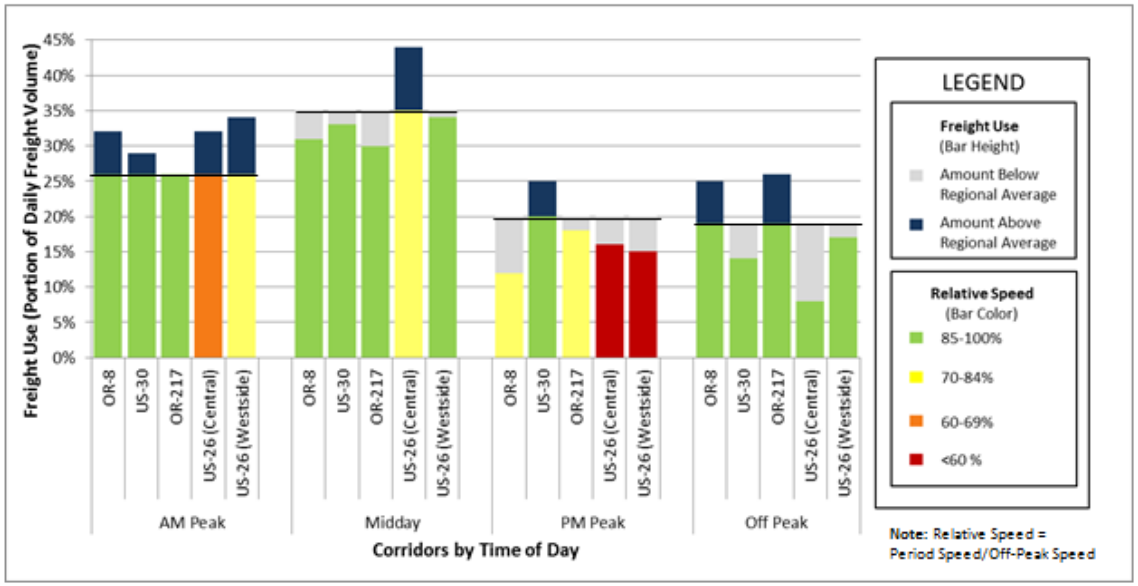




ATRI data

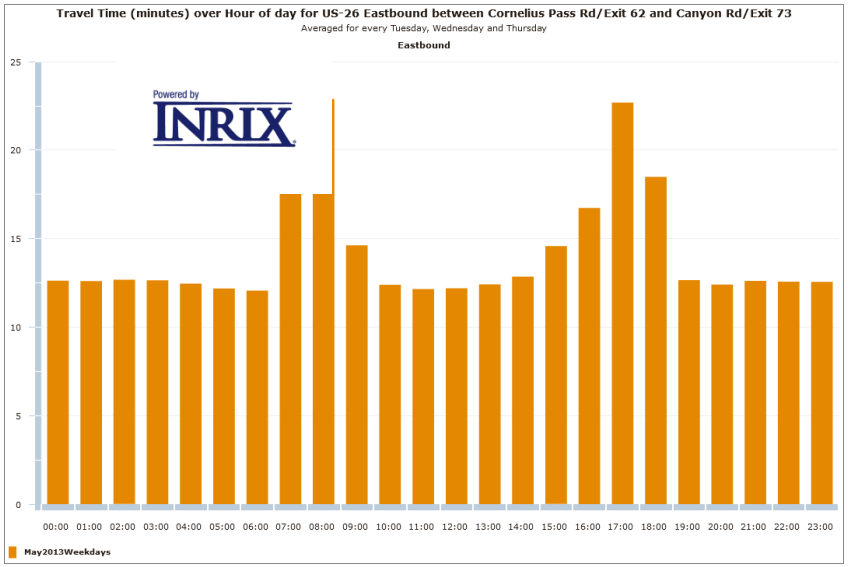
- Freight GPS Dataset
- Does not include smaller trucks
- Raw Data not available
- Report Summary used

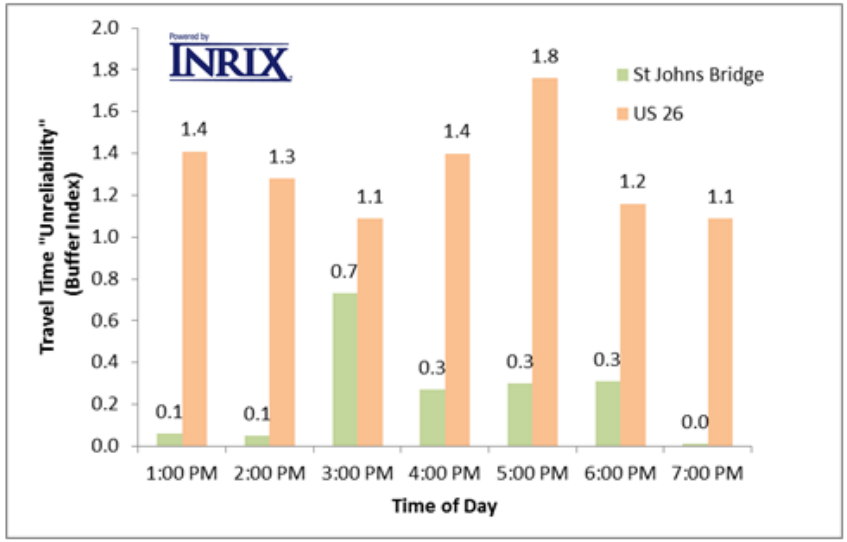




INRIX data

- Travel time data
  - Travel time profiles
  - Reliability metrics
- Web-based Tool
- Coverage for major segments (fwy, arterial)
  - Did not include ramps

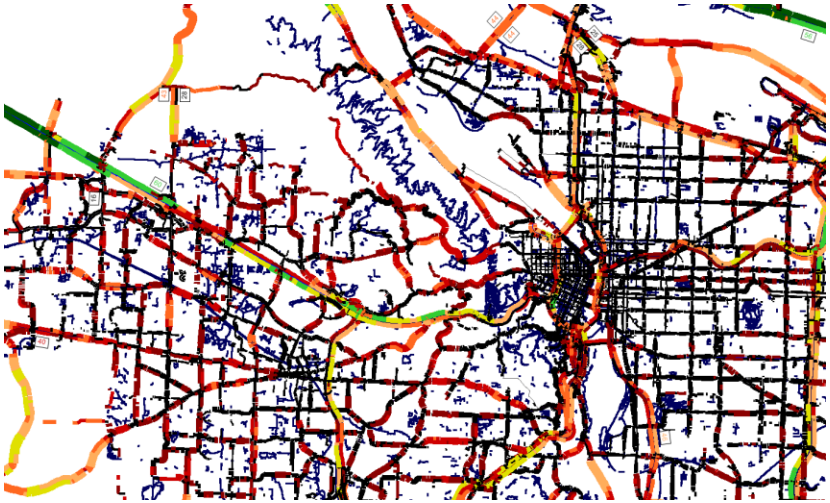


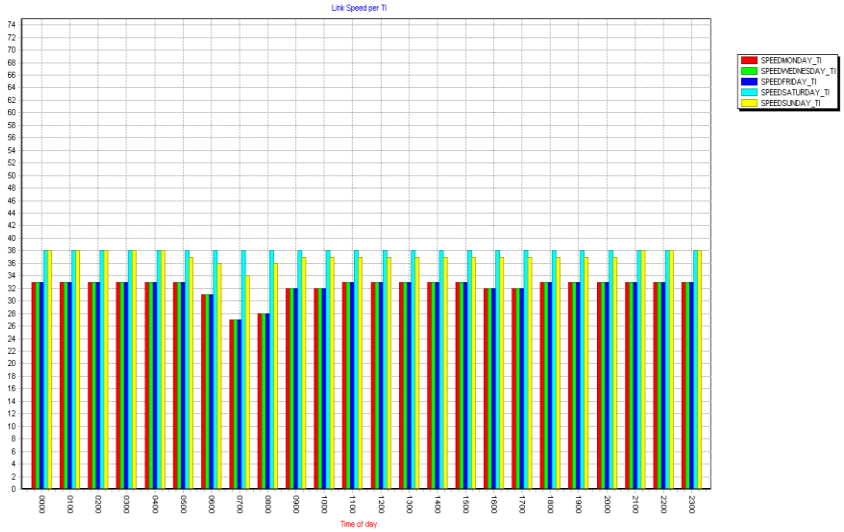


Source: INRIX

TomTom data

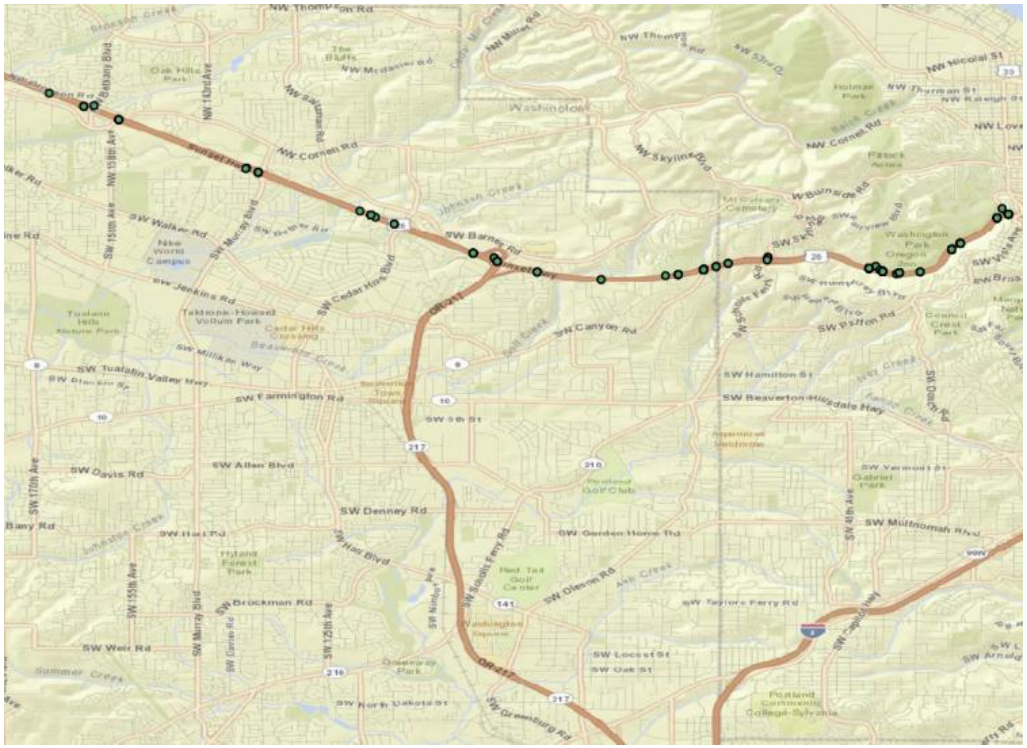
- ODOT statewide dataset
  - Historic Profiles
- Significant coverage, good segment fidelity
  - Included ramps
- Data as link summary (profiles)
- Detail for our application not present (meets other needs)





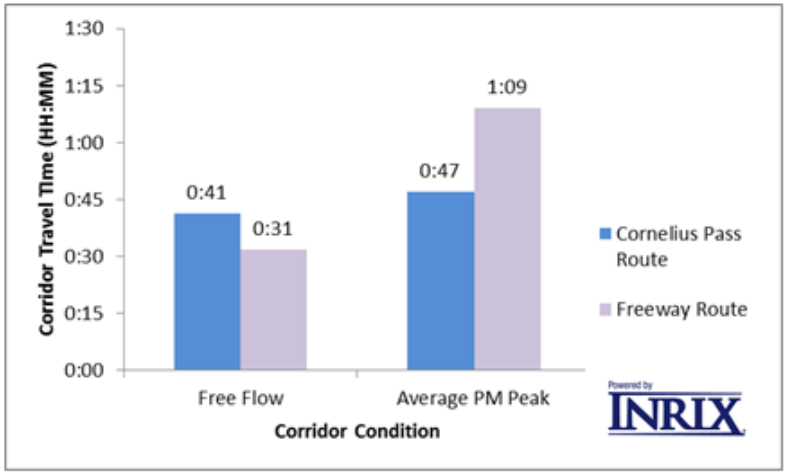
Collision data

- Freeway coverage
- Event summaries
  - Lanes closed
  - duration



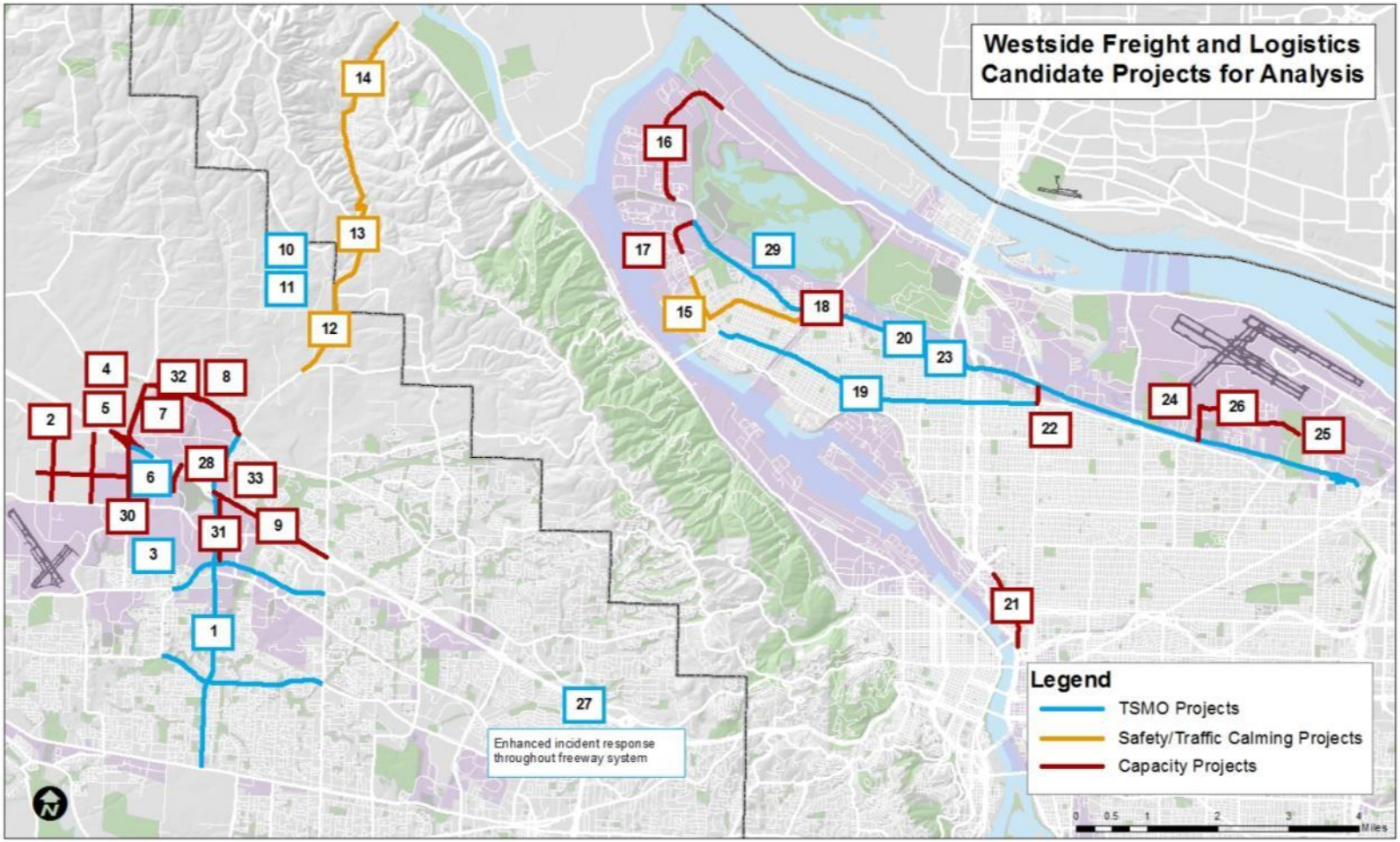
Existing routes face reliability challenges

- Limited route choice
- Travel time reliability
  - I-5, US 26
- US30/Columbia Connection
- Freeway access & ramp meters
- Conditions on Cornelius Pass Road



Source: INRIX

Projects screened for freight benefits



Three strategies advanced

- Potential to address key travel time and reliability needs
  - Enhanced traveler information
  - US 26 truck ramp meter bypass
  - Enhanced freeway incident response

Key findings

- PDX area is crucial to Portland's exports, but most goods pass through on truck
- The Westside C&E industry is heavily dependent on a rural road with known deficiencies
- Reliability of the system is key for freight movement
- Three strategies have potential for significant benefits to Westside freight movement

Acknowledgements

BROOKINGS	Hillsboro OREGON	City of Portland Oregon 1851	U.S. Department of Transportation Federal Highway Administration
GREATER PORTLAND	Greater Hillsboro Area Chamber of Commerce	intel	Metro | Making a great place
MULTNOMAH COUNTY	Oregon Department of Transportation	One Northwest Consulting, LLC	business oregon where business grows
PORT OF PORTLAND	Port of Vancouver USA	City of Portland Bureau of Transportation	PORTLAND BUSINESS ALLIANCE Commerce · Community · Prosperity
QUINN THOMAS	TRIMET	Washington County Oregon	

DKS

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Questions and discussion

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