Scott Avenue Reconnection Project

Technical Advisory Committee Meeting #4

9 January 2014

Scott Avenue Reconnect History

- Recommended Alternative in 2009 TISP
  - TISP Signed by City, County, CWCOG, WSDOT, and Port
  - CWCOG Model used for traffic analysis
- 3/2012 Legislature approves $2 Million for study as part of transportation bill
- 4/23/12 and 5/14/12 City & Port meet w/WSDOT
- 7/13/12 City receives funding letter from WSDOT which requires City to “Re-evaluate completed studies” before obligation of funding

Scott Avenue Reconnect History

- 1/2013 Alternatives Analysis Submitted to WSDOT (Included with packet)
  - City, Port, County, and School District all endorse project
- 2/20/13 Project Funding Obligated
- 3/7/13 City Receives RFP's from 5 firms
- 6/24/13 City signs contract with BergerABAM
  - City, CWCOG, Port, and WSDOT involved in selection of consultant.

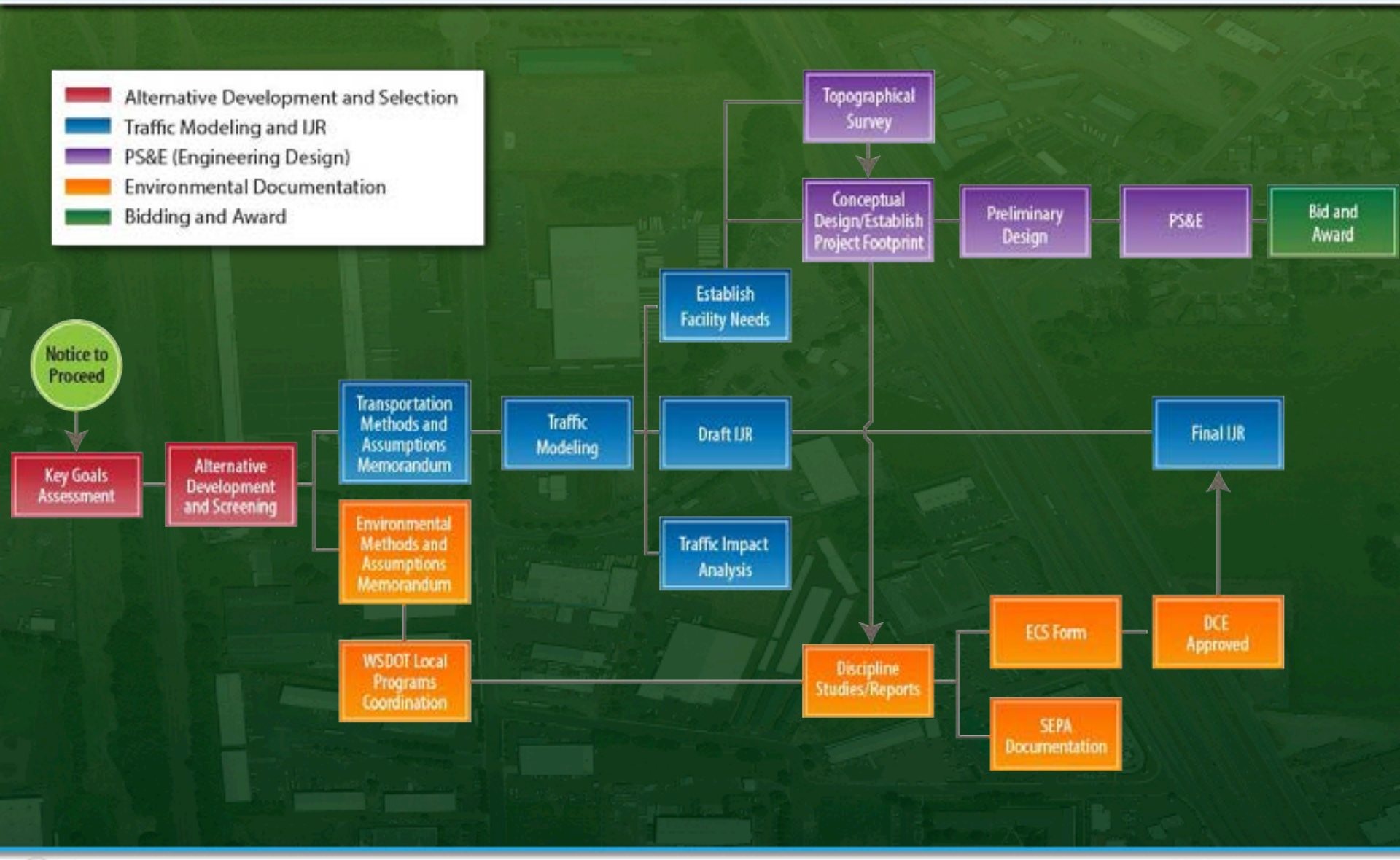
Why Third Crossing is Important

- Provide a crossing that meets seismic standards
- Emergency vehicle access to middle of City
- Improve industrial area connections to the east side of the City and northbound I-5
- Improve connections to commercial area on Pacific from residential eastside.
- Provide another route for school buses.
- Improve traffic flow throughout City (not just Interchange 21).

Long Term View of Project

- Completing this project does not mean that improvements to Interchange 21 will not be done. The 2009 TISP recommended alternative included improvements to Interchange 21 as well as a third crossing to meet City needs.
- This is a once in a Century project, not a 20-year project. What is the best alternative for the City 100 years from now when the population of the area has tripled and over 400 acres of industrial land are built up?

Project Process



Project Mission Statement

To identify a preferred third east/west connection within the vicinity of Scott Avenue that will improve access to I-5, businesses, residential areas and industrial properties in Woodland while improving reliability, safety and reducing congestion for public and emergency vehicle access at the I-5/SR 503 interchange.

Alternatives Development

- Three Categories
  - East/West Connection Alternatives
  - Alternatives for Improved I-5 Access
  - Alternatives for Revisions of I-5/SR503 Interchange
- Total of 17 Alternatives

Alternatives Screening

Two Tiered-Screening

- Level 1 – Qualitative Analysis
  - *Does it meet the project's purpose and need?*
  - *Is the cost of the project feasible and consistent with costs for other similar projects in the region?*
  - *Is the alternative likely to receive key permits and approvals? (e.g. NEPA and IJR)*
- Level 2 – Quantitative Analysis

Level 1 Screening Results

(5 Alternatives)

Baseline Option – I-5 Overpass at Scott Ave

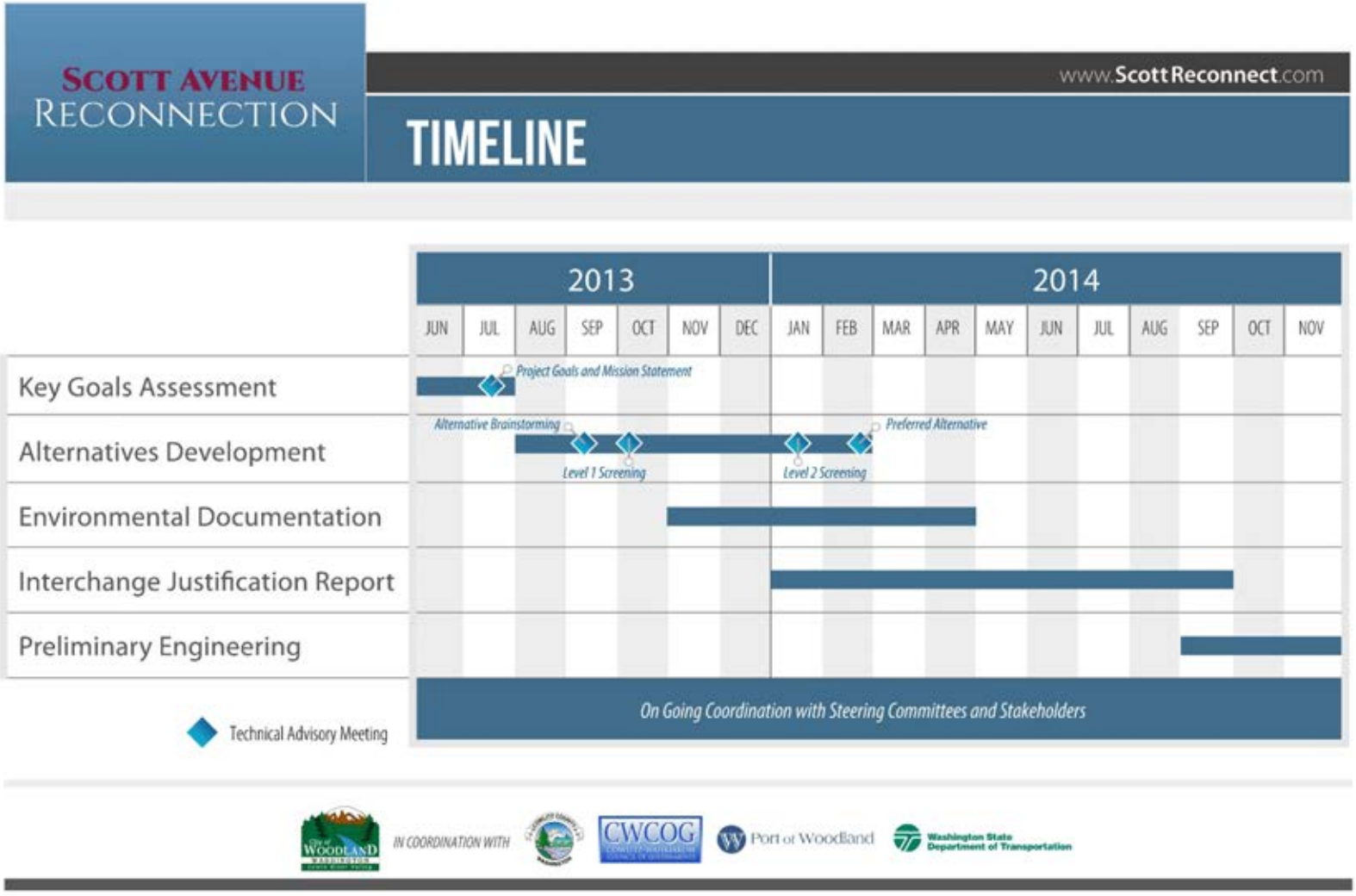
Alternative 3 – Scott Overcrossing + Realignment

Alternative 4 –Realignment with Surface Connections

Alternative 8 –Full Diamond + Realignment

Alternative 16 –Pacific & Lewis River Intersections

Project Timeline



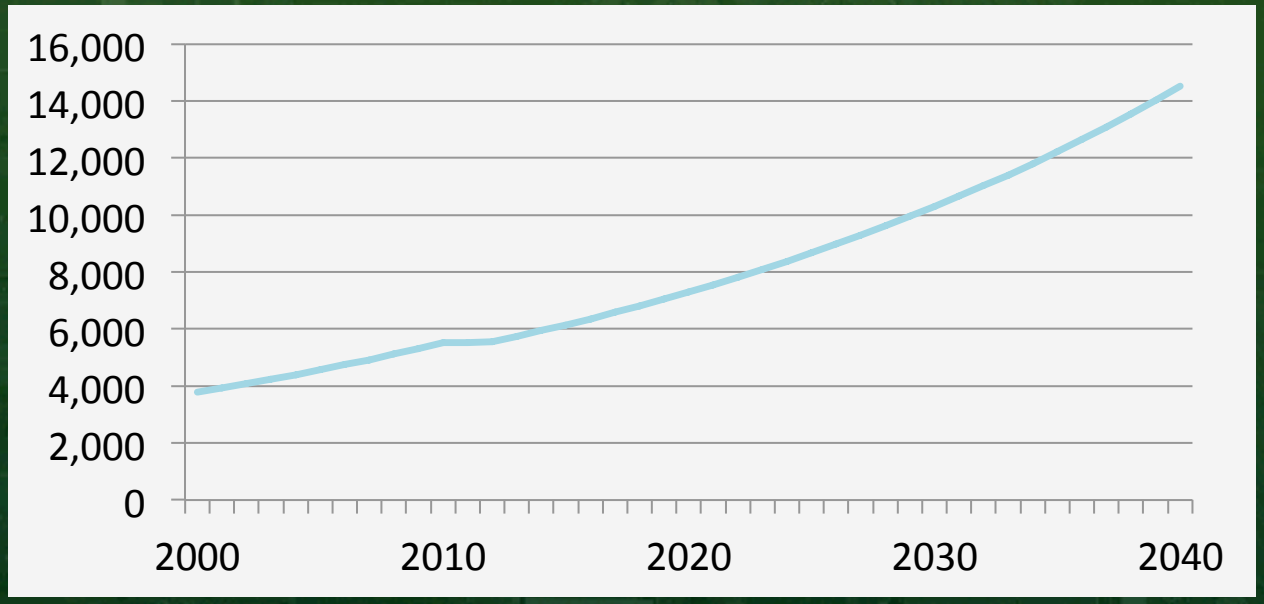
Traffic Analysis Work Plan

Task 1 – Provide qualitative and quantitative findings to support Level 2 screening of alternatives

Task 2 – Provide detailed analysis of top alternatives to support IJR and selection of preferred alternative

Population Growth Assumptions

- 2005 Comprehensive Plan identifies 3.5% annual population growth
- 3% - 4.5% from 1980-2010
- 2040 population projection: 14,516



Modeling Refinements for IJR

TAZ land use estimates

- Include development from 2004-2013
- Update assumptions for planned development through 2040

Trip rates

- Estimated outside of existing model
- Will be re-estimated for refinement

Expected changes in refined model

- Traffic patterns will change to reflect land use
- Citywide trip growth will be similar

Level 2 Screening Traffic Analysis Process

Step 1 – 2040 travel demand model No Build

Step 2 – 2040 model for each alternative network

Step 3 – Assess model outputs and comparisons

Step 4 – Identify and apply measures to highlight differences

Screening Measures for Traffic Conditions

Improve East/West Connectivity

- Traffic volume crossing I-5
- Travel time estimates

Transportation System Operations

- Study intersection level of service
- Vehicle miles travelled

Improve I-5 Access

- I-5 ramp traffic volume
- I-5 mainline level of service
- Interchange 21 congestion

Traffic Volume Crossing I-5

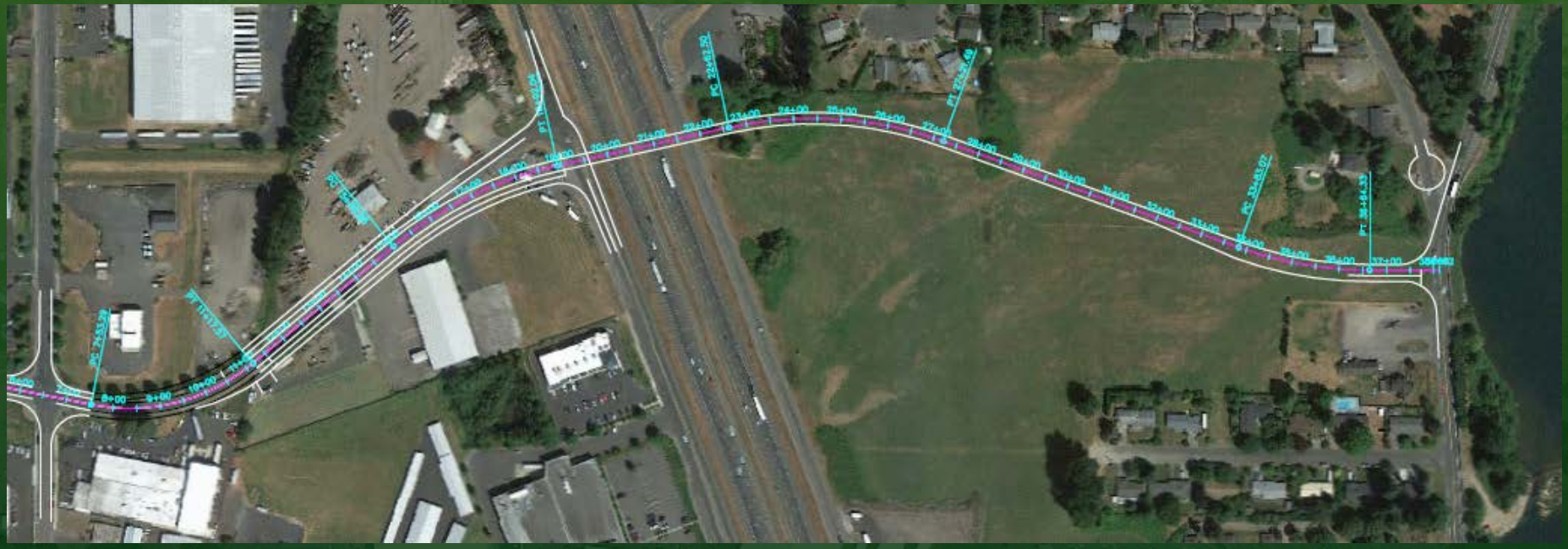
- Based on intersection forecasts
- No Build and Alternative 16: no Scott Ave crossing
- Alternative 0: Scott Ave highest and Lewis River Rd lowest
- Other alternatives compared to Baseline: Scott Ave ~70% less and Lewis River Rd ~30% more

No Build	**Dike Access Rd: 1,770** **Scott Ave: 0** **Lewis River Rd: 4,320**
0	Dike Access Rd: 1,080 Scott Ave: 2,125 Lewis River Rd: 2,850
3	Dike Access Rd: 1,715 Scott Ave: 585 Lewis River Rd: 3,795
4	Dike Access Rd: 1,675 Scott Ave: 620 Lewis River Rd: 3,755
4a	Dike Access Rd: 1,610 Scott Ave: 665 Lewis River Rd: 3,670
8	Dike Access Rd: 1,440 Scott Ave: 820 Lewis River Rd: 3,535
16	Dike Access Rd: 1,770 Scott Ave: 0 Lewis River Rd: 4,320

Alt 0 Baseline – Crossing Volume

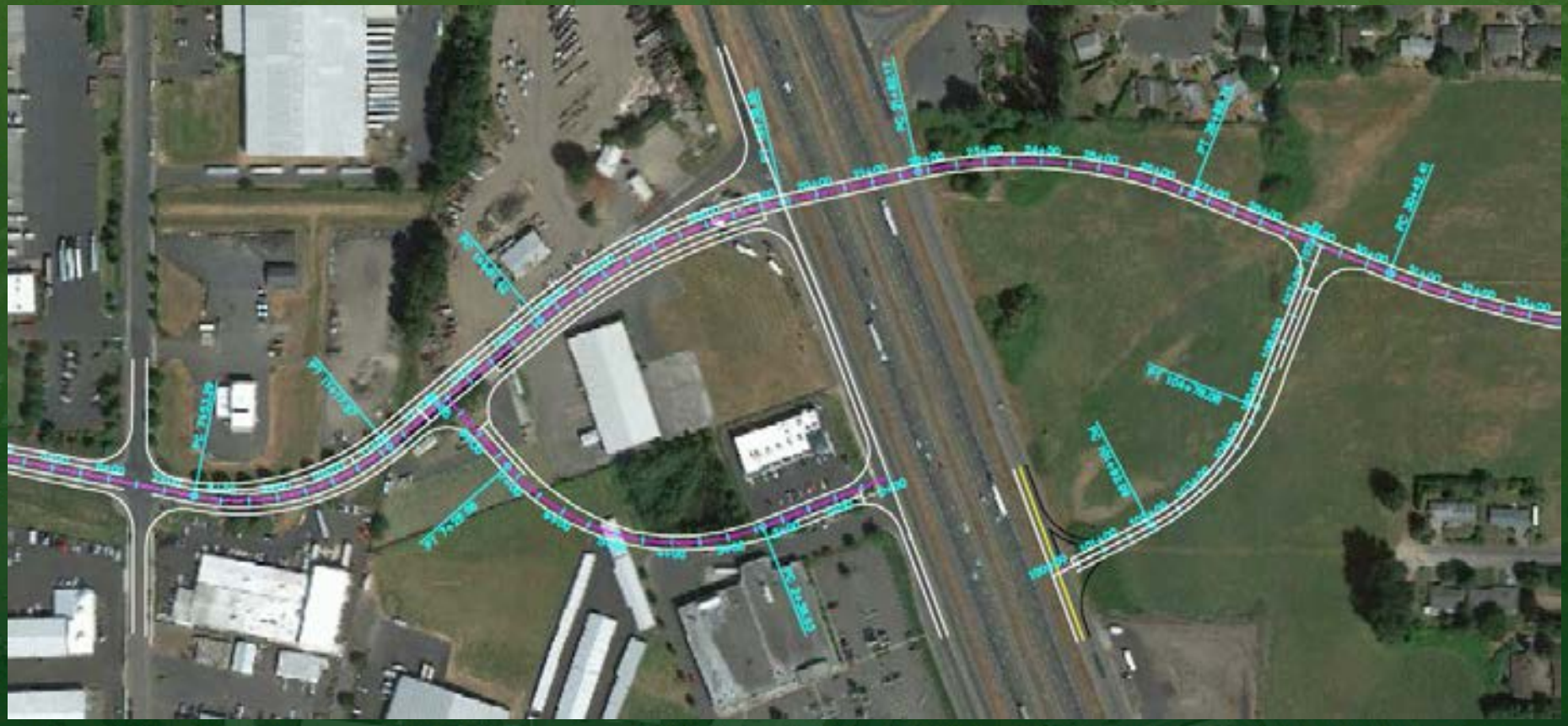
Direct connection between ramps, frontage roads and overpass

Alt 3 – Crossing Volume



No connection between frontage roads and overpass

Alt 4a – Crossing Volume



Loops provide connection between frontage roads and overpass

Travel Time Estimate

Route: SR 503/Gun Club Rd <--> Pacific Ave/Columbia St

- Based on distance, estimated speed and intersection delay
- Similar times for alternatives with Scott Ave crossing (~13 mins RT)
  - Alternative 4 and 4a: shortest time EB
  - Alternative 0, 4a and 8: shortest time WB
- No Build and Alternative 16: longest time (~20 mins RT)

No Build	**Eastbound: 9.2 mins Westbound: 11.6 mins Route Distance: 1.8 miles**
0	Eastbound: 7.8 Westbound: 5.0 Route Distance: 1.3
3	Eastbound: 7.5 Westbound: 5.5 Route Distance: 1.8
4	Eastbound: 7.1 Westbound: 5.3 Route Distance: 1.8
4a	Eastbound: 7.0 Westbound: 5.0 Route Distance: 1.5
8	Eastbound: 8.3 Westbound: 5.0 Route Distance: 1.8
16	Eastbound: 9.2 Westbound: 11.6 Route Distance: 1.8

Travel Time Routes

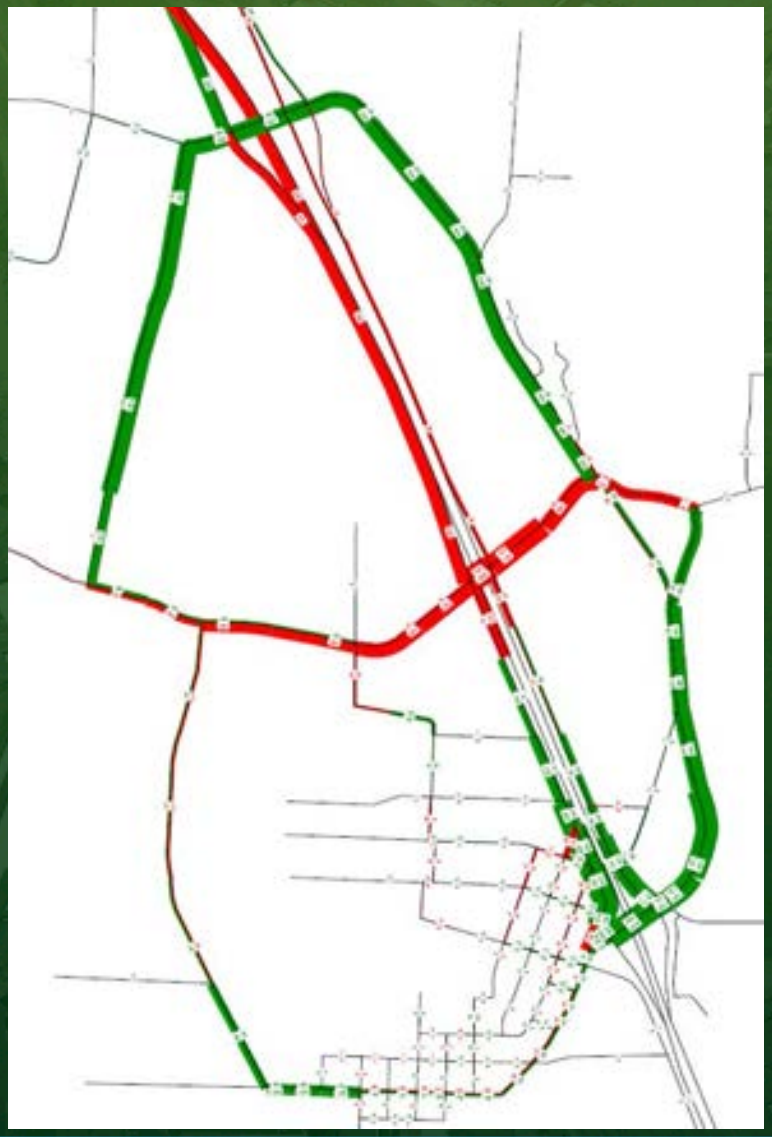
Future Travel Demand

2040 Volume Difference

No Build to Alt 0 Baseline

- Green – volume decrease
- Red – volume increase

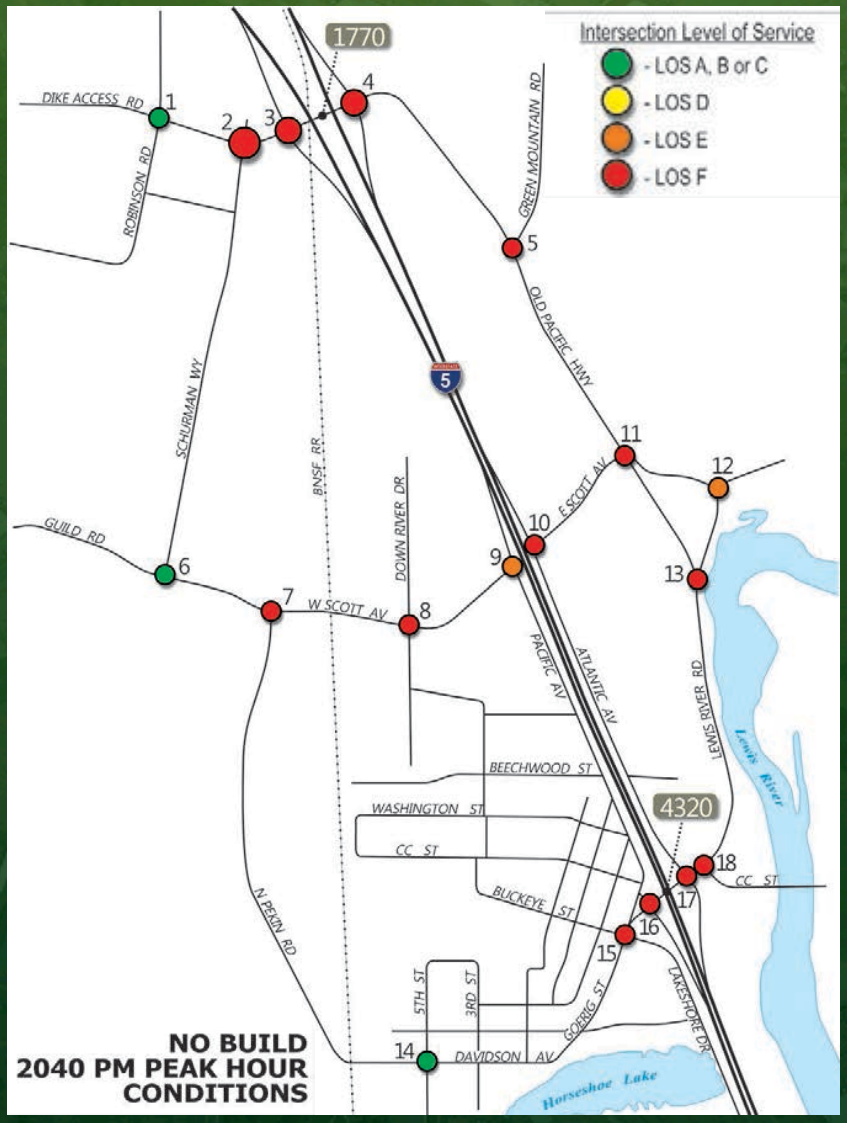
- Alt 0 highest volume diversion



Intersection Level of Service

No Build Alternative

- Includes planned improvements at Lewis River Rd/Scott Ave (12)
- 3 of 18 study intersections LOS D or better
- All I-5 ramps intersections LOS E or F



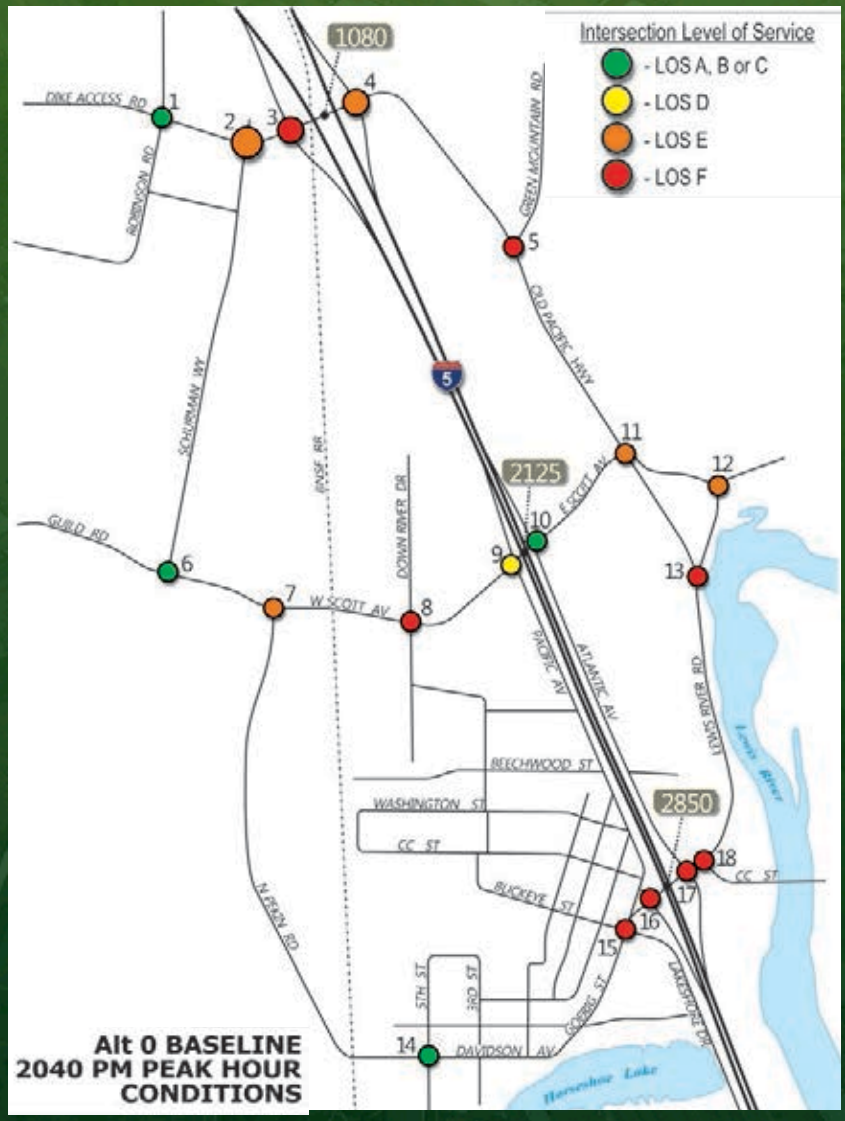
Intersection Level of Service

Alternative 0

- New signals on Scott Ave at Atlantic and Pacific (9) (10) improve to LOS D or better

Alternatives 3, 4, 4a, 8

- New signal at Scott Ave/ Down River Rd (8) improve to LOS D or better



Vehicle Miles Travelled

- 2040 PM peak hour demand model output for Woodland urban area
- Baseline alternative: lowest miles travelled
- No Build + other alternatives similar (<1% higher)

No Build	+920
0	173,556
3	+860
4	+800
4a	+640
8	+770
16	+920

I-5 Ramp Traffic Volumes

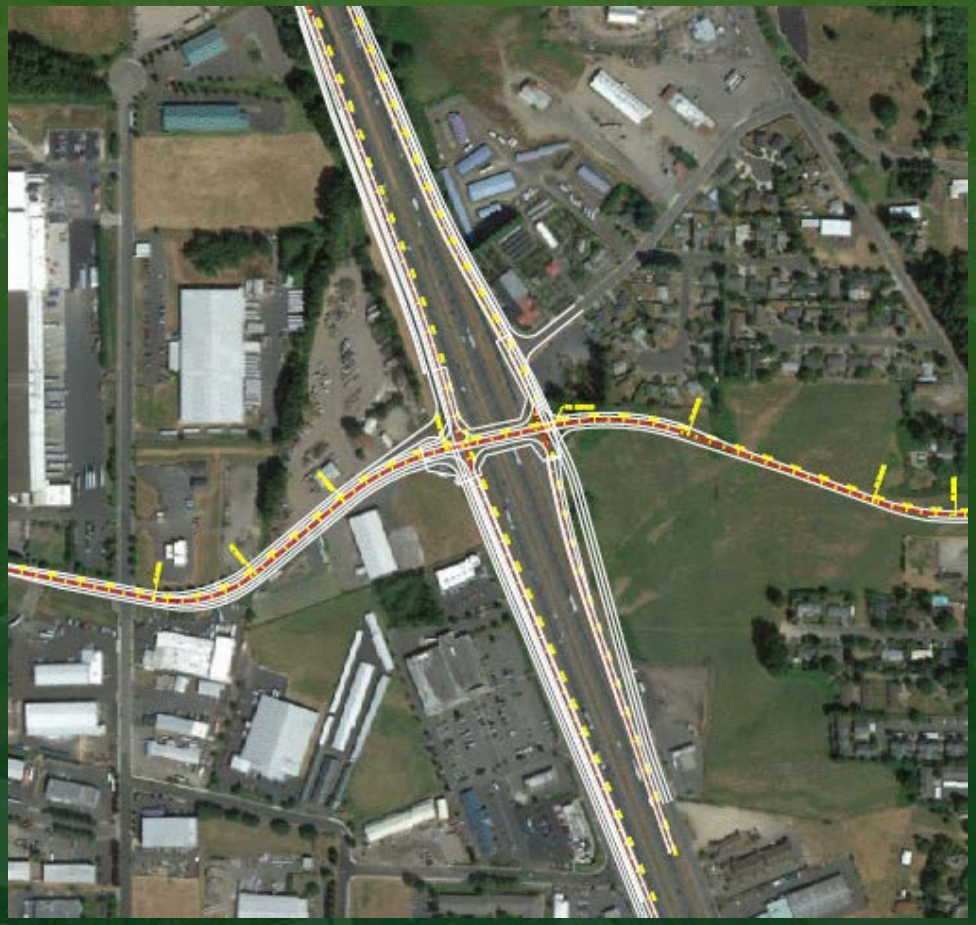
- Sum of ramp volumes at each interchange
- Alternative 8: Scott Ave highest and Lewis River Rd lowest
- Baseline alternative: Scott Ave 2nd highest and Dike Access Rd lowest

No Build	**Dike Access Rd: 2,115** **Scott Ave: 1,555** **Lewis River Rd: 3,465**
0	Dike Access Rd: **2,000** Scott Ave: **1,840** Lewis River Rd: **3,465**
3	Dike Access Rd: **2,195** Scott Ave: **1,700** Lewis River Rd: **3,365**
4	Dike Access Rd: **2,185** Scott Ave: **1,645** Lewis River Rd: **3,345**
4a	Dike Access Rd: **2,095** Scott Ave: **1,680** Lewis River Rd: **3,395**
8	Dike Access Rd: **2,120** Scott Ave: **1,995** Lewis River Rd: **3,030**
16	Dike Access Rd: **2,115** Scott Ave: **1,555** Lewis River Rd: **3,465**

I-5 Mainline Level of Service

Performance of mainline, ramp merge and diverge on I-5, HSM method

- Alternative 8 – best overall LOS, new Scott Ave ramps divert volume from Int 21
- No Build + other alternatives similar



Interchange 21 Congestion

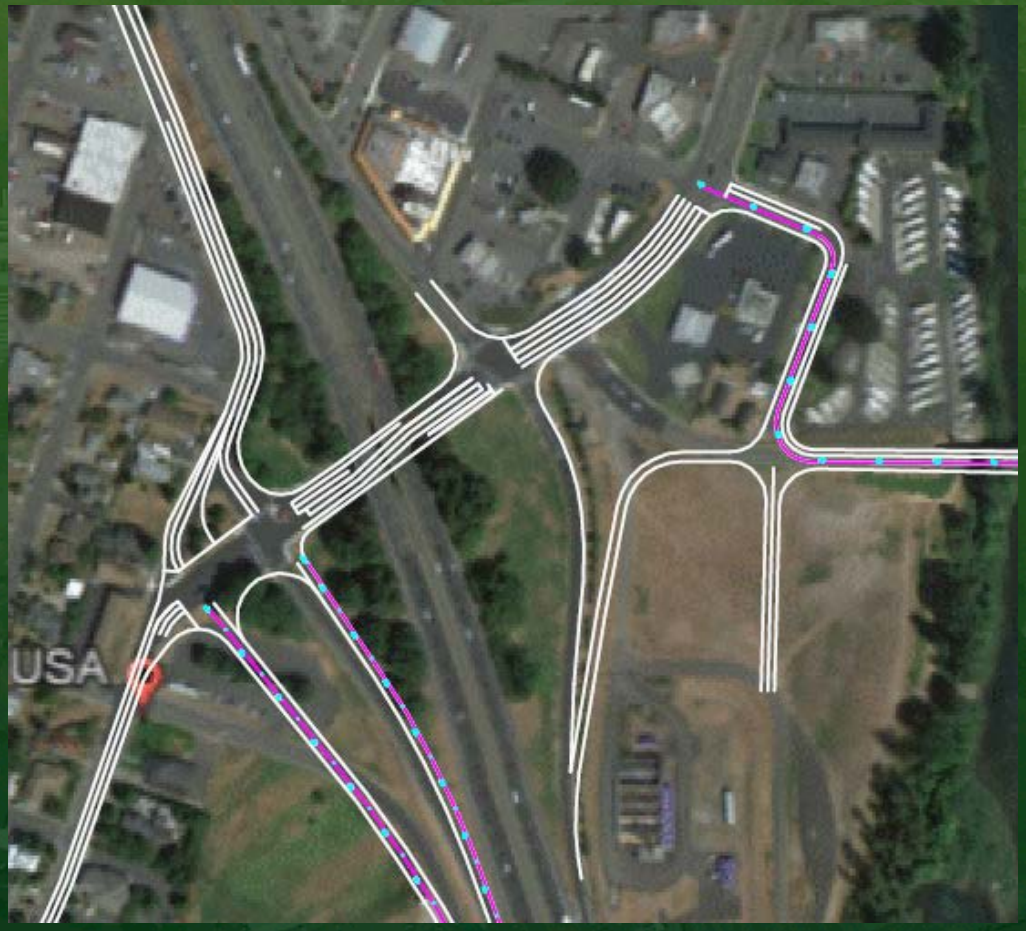
Evaluated overall vehicle delay at Lewis River Rd interchange

- Alternative 16: (16) highest delay, (17) lowest delay
- Alternative 0: (17) 2nd lowest delay
- Other alternatives: similar delays (~1 min)

No Build	(16) Lewis River Rd/Pacific Ave/ I-5 SB Ramps: 4.2 mins (17) Lewis River Rd/Atlantic Ave/ I-5 NB Ramps: 9.9 mins
0	(16) 3.6 mins (17) 8.2 mins
3	(16) 3.3 mins (17) 11.3 mins
4	(16) 3.2 mins (17) 10.8 mins
4a	(16) 3.3 mins (17) 10.7 mins
8	(16) 3.3 mins (17) 10.1 mins
16	(16) 5.9 mins (17) 5.3 mins

Alt 16 – Interchange 21 Congestion

- NB off-ramp splits to CC St
- Add lane to Lewis River Rd under I-5
- Lakeshore Dr operates with Pacific Ave/I-5 SB ramp signal



Alt 0 – Interchange 21 Congestion

- Highest volume diversion from Lewis River Rd to Scott Ave crossing

No Build

Alt 0 Baseline

Next Steps

- Level 2 Screening *– 23 January 2014*
- Value Analysis Workshop *– February 2014*
- Preferred Alternative *– March 2014*

Questions?