



PRIORITIZATION OF PROMINENT ROAD-RAIL CONFLICTS

Advisory Panel Meeting

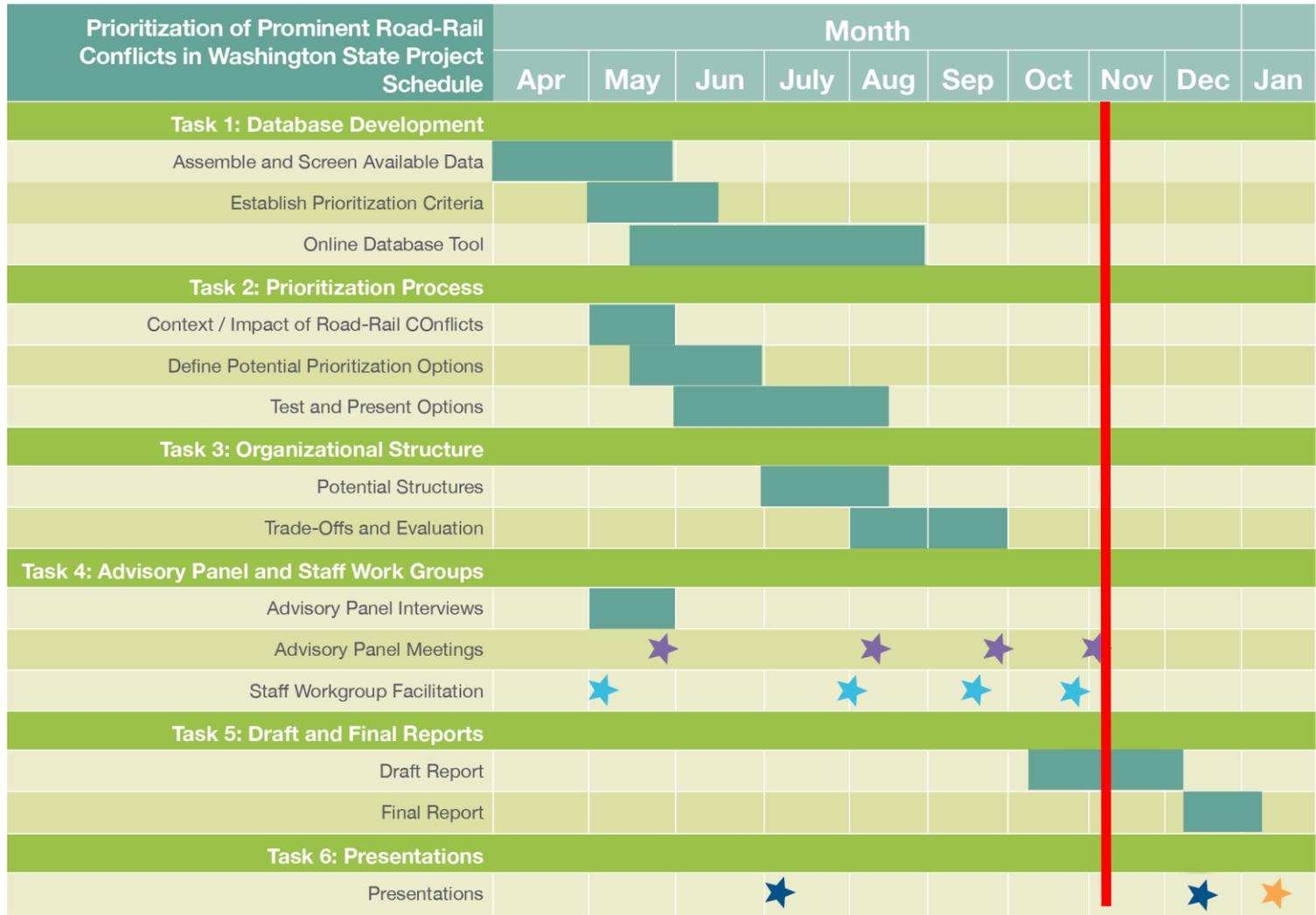
November 2, 2016

MEETING AGENDA

- Introductions
- Updated Prioritization Results
- Corridor-Based Evaluation
- Draft Findings and Recommendations
- Next Steps



SCHEDULE



★ Advisory Panel Meeting

★ Staff Workgroup

★ Presentation

★ Presentation During 2017 Legislative Session

WE ARE HERE

PRIORITIZATION RESULTS

- Overview of Refinements
- Summary of Updated Results
- Corridor-Based Evaluation Summary

OVERVIEW OF THE PRIORITIZATION PROCESS



FEEDBACK FROM LAST MEETING

- Scoring
 - Consider incorporating “Severity” of Collisions
- Step 2 Results
 - Concerned about low volume railroad branch lines appearing as top priority crossings
 - Introduce additional screening for low volume crossings before finalizing scores from Step 2
- Weighting
 - Supported Option 3: Emphasis on Mobility (Mobility 50%, Safety 25%, Community 25%)

STEP 2 METHODOLOGY - SCORING

Updated the criteria

Final Scoring



Increase Risks

30pts →

10pts
10pts
10pts

1. Number of Alternate Grade-Separated Crossings
2. Number of Mainline Tracks
3. Proximity to Emergency Services

Safety Record

30pts →

20pts
10pts

4. Incident History: Total
5. Incident History: Severity

Infrastructure Status

40pts →

40pts

6. Level of Protection



Freight Demand

15pts →

15pts

7. Roadway Freight Classification

People Demand

30pts →

20pts
10pts

8. Existing Vehicle Volumes
9. Future Vehicle Volumes

Mobility Barrier

55pts →

15pts
10pts
30pts

10. Network Sensitivity
11. Crossing Density
12. Gate Down Time



Economic

50pts →

25pts
25pts

13. Employment Density
14. First/Last Mile Freight Facilities

Human Health

50pts →

10pts
20pts
10pts
5pts
5pts

15. Population Density
16. Daily Emissions
17. Noise: Quiet Zones
18. Percent Minority
19. Percent Low-Income

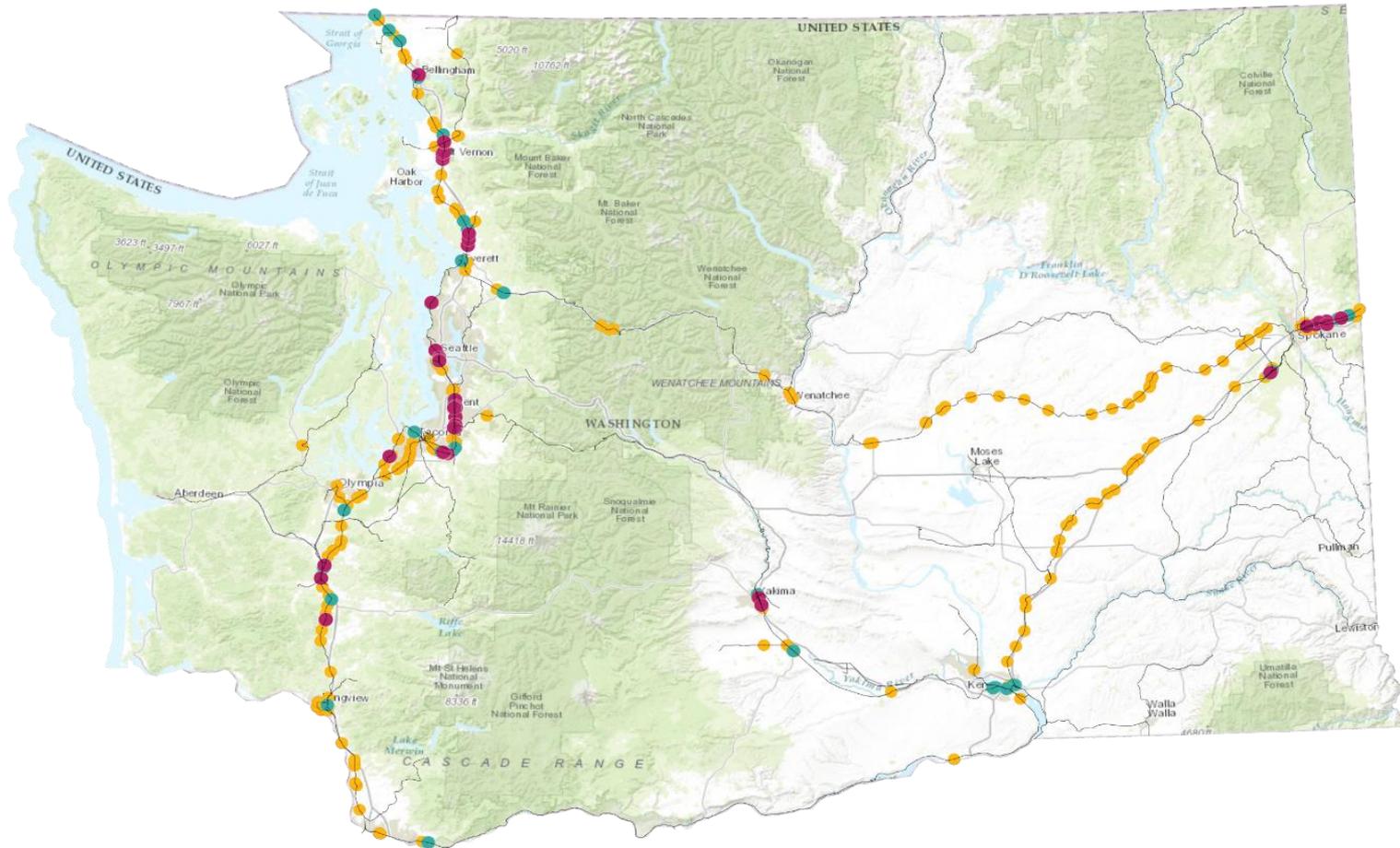
CROSSINGS SUMMARIZED BY PRIORITY GROUP

RANKINGS:

1-50

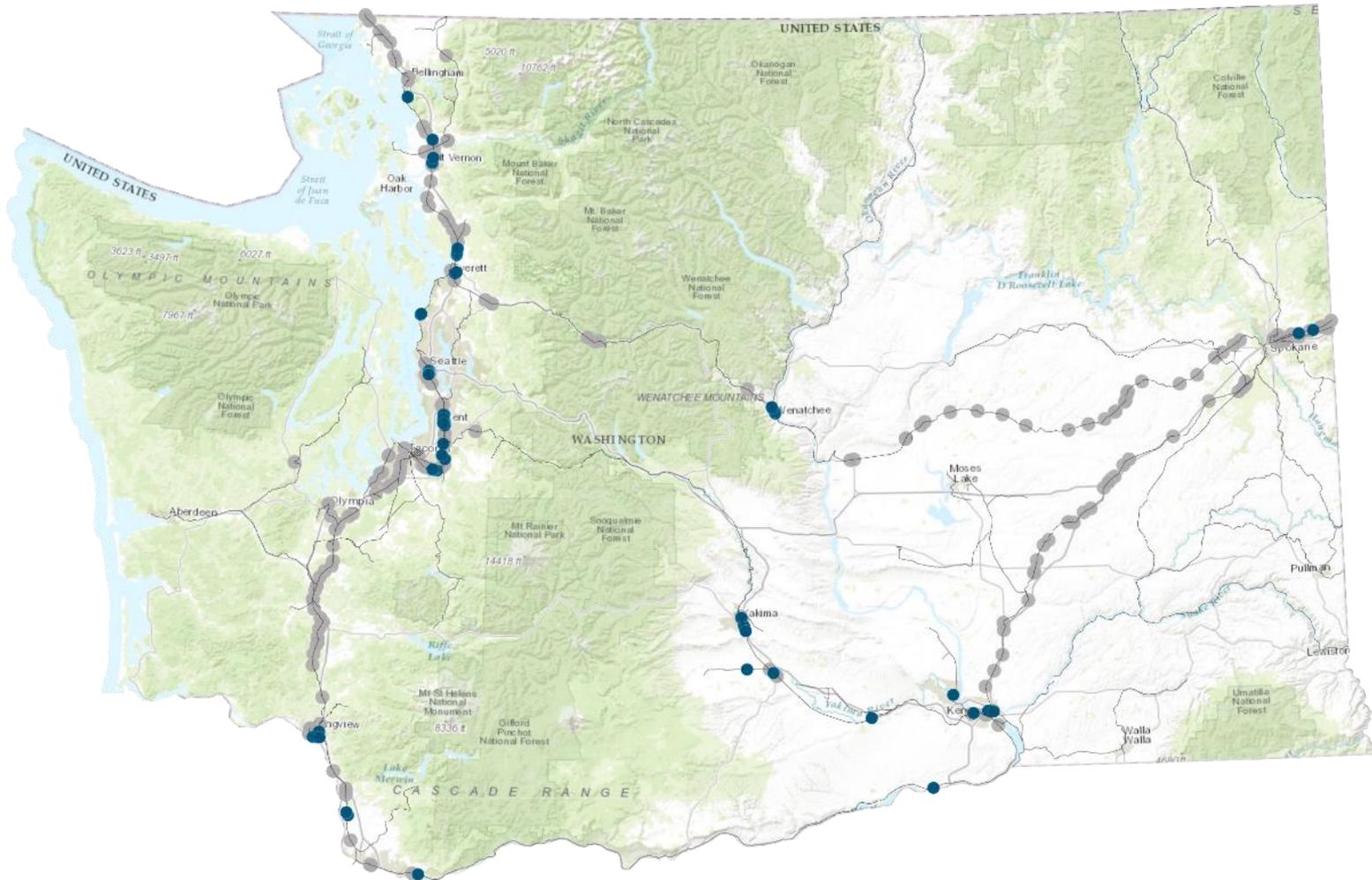
51-100

101-302



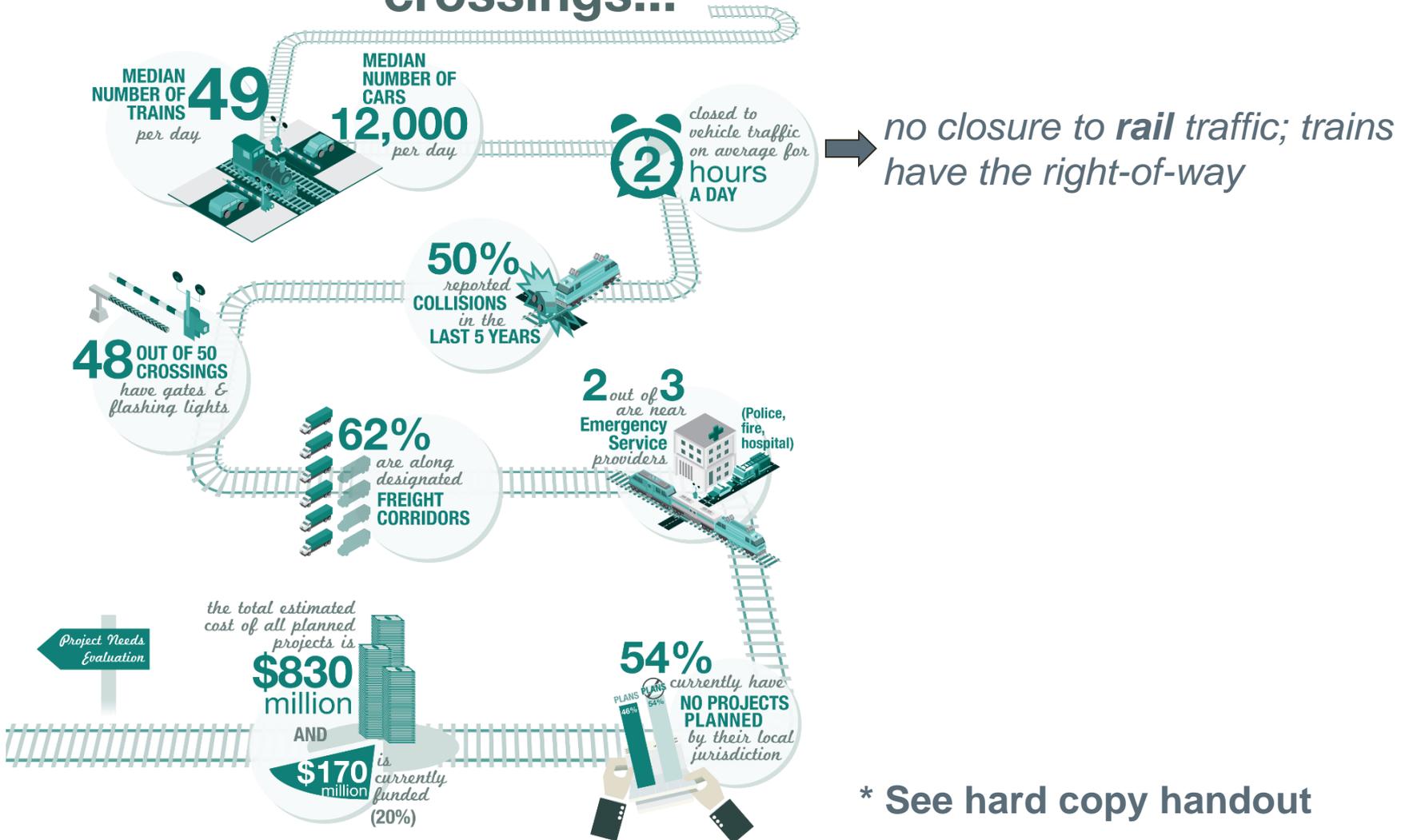
LOCATIONS OF FUTURE PLANNED PROJECTS

 FUTURE PROJECT  NO PROJECT



KEY FACTS FROM THE PRIORITIZATION RESULTS

Of the top 50 crossings...

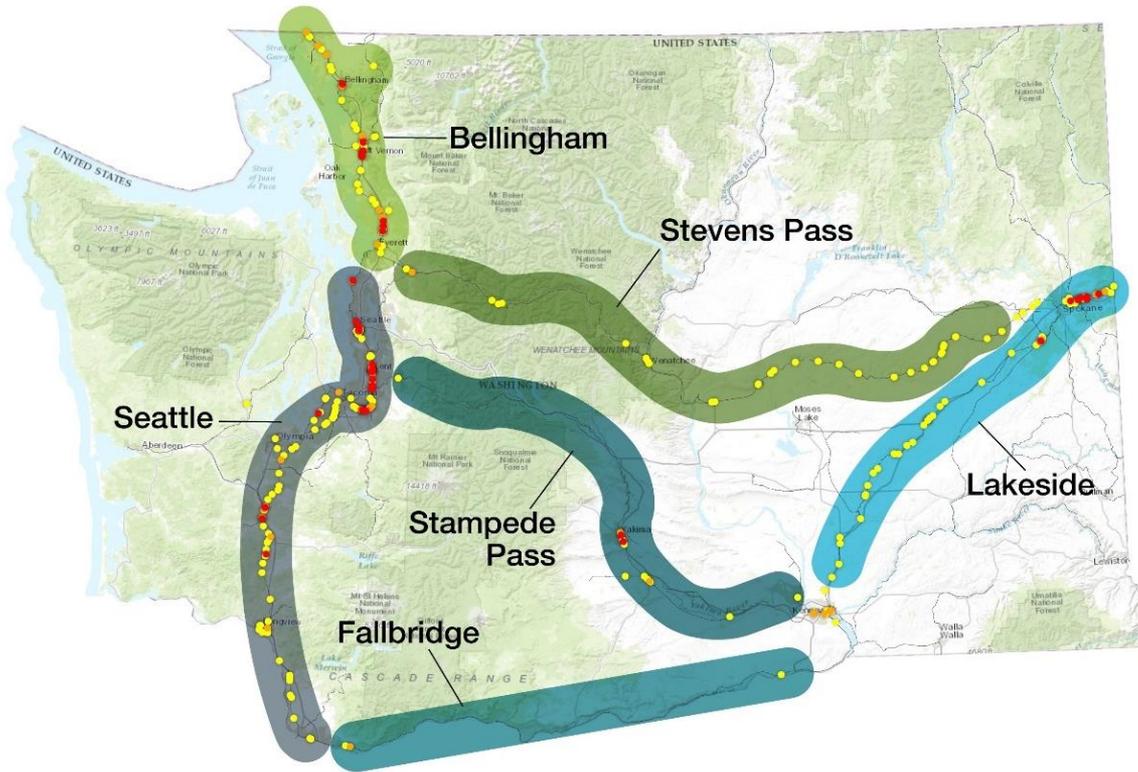


CORRIDOR-BASED EVALUATION

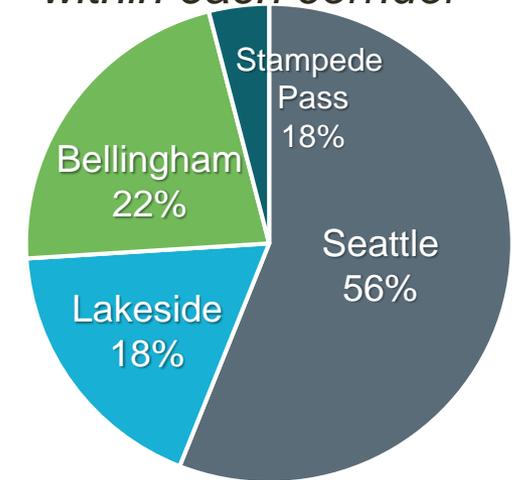
- A study objective was to consider a “corridor-based prioritization process”
- The database of at-grade crossings is a key foundation for any type of corridor-based evaluation
- Summarized the crossings utilizing three types of corridors or geographic boundaries
 - Rail Corridors (based on Marine Cargo Forecast)
 - Within/Outside Cities
 - RTPO Boundaries
- Further defined corridors by grouping the identified projects for the Top 50 crossings into smaller distinct corridors

SUMMARY OF CROSSINGS BY RAIL CORRIDOR

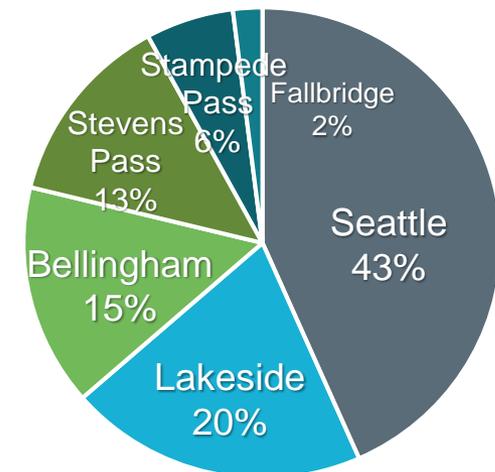
- Based on Marine Cargo Forecast corridors
- Top 50 crossings are only on 4 of the 6 corridors
- Top 302 crossings are primarily along 4 corridors



Percent of the Top 50 crossings within each corridor



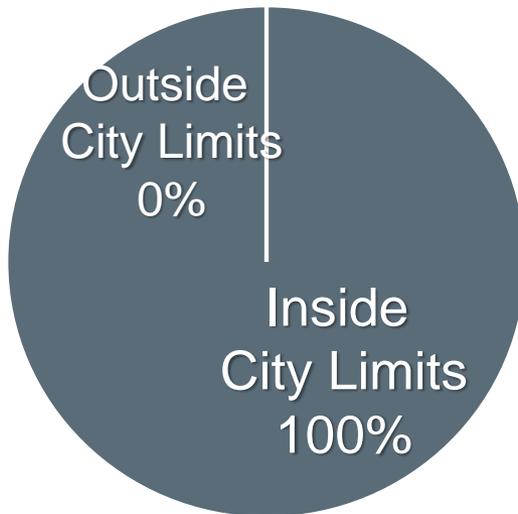
Percent of the Top 302 crossings within each corridor



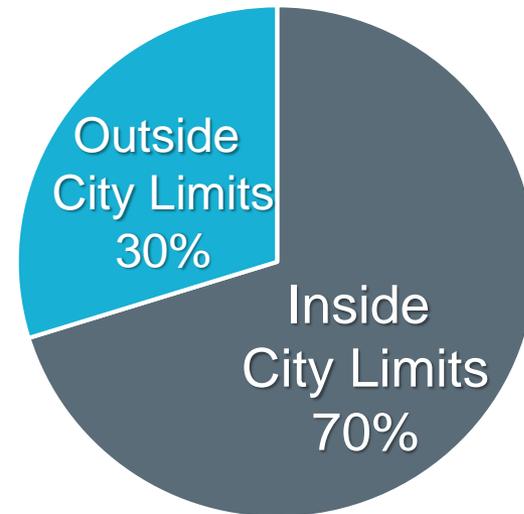
SUMMARY OF CROSSINGS WITHIN/OUTSIDE CITIES

- Crossings within city limits vs. outside city limits
- Not surprising that all Top 50 crossings are within cities
- Crossings outside city limits represented 30% of the Top 302 crossings, reflecting continued mobility and safety needs in unincorporated areas

*Percent of Top 50 crossings
within each corridor*



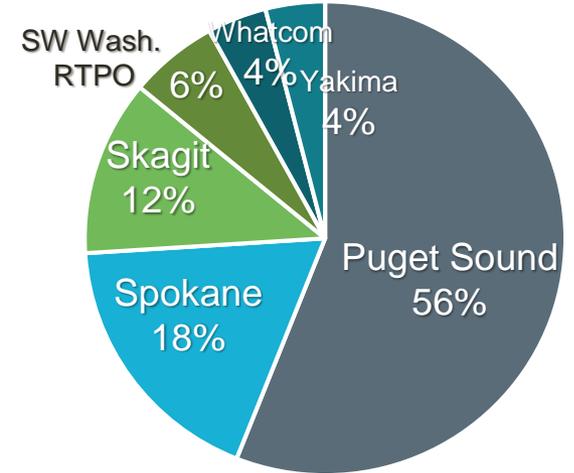
*Percent of Top 302 crossings
within each corridor*



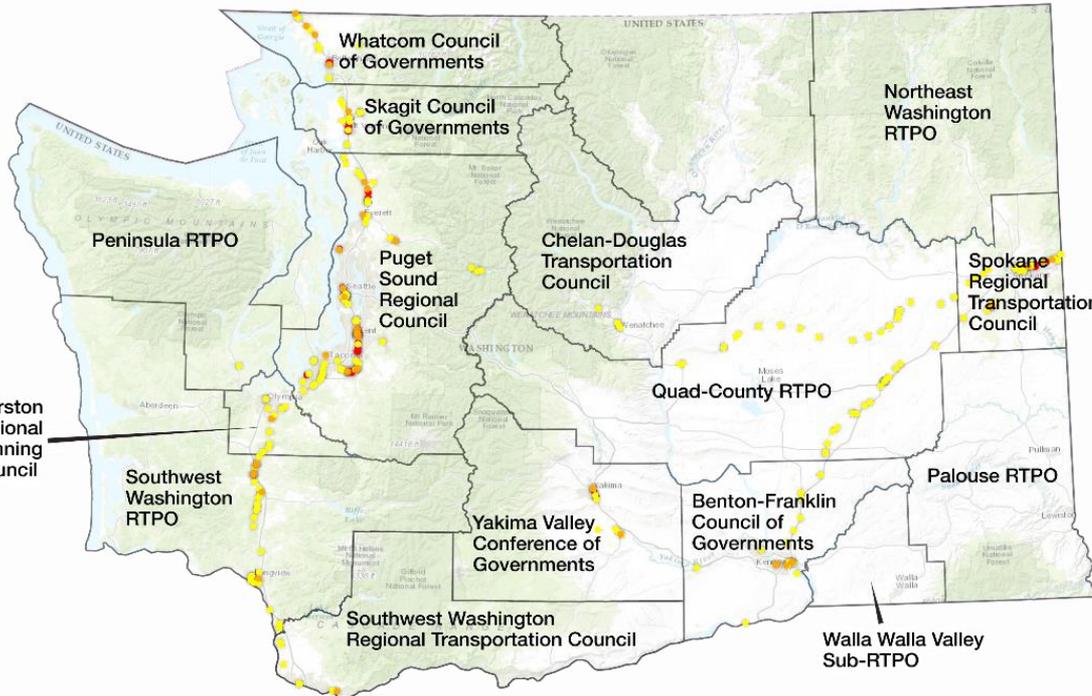
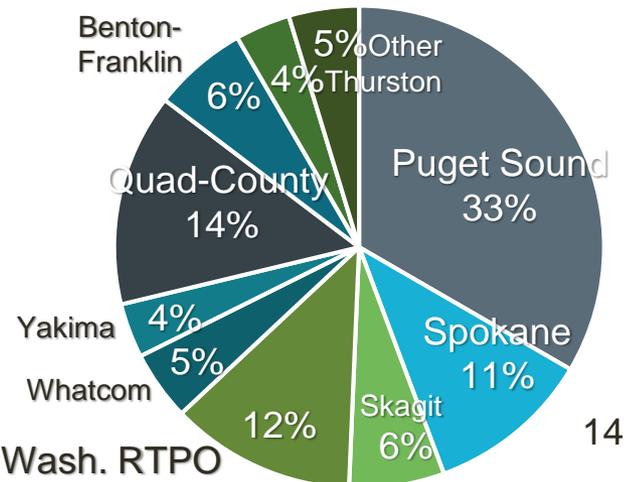
SUMMARY OF CROSSINGS BY RTPO BOUNDARIES

- Crossings within RTPO boundaries
- Puget Sound, Spokane, and Skagit reflect half of the Top 302 crossings, and 86% of Top 50 crossings
- Quad-County has second highest number of Top 302 crossings, but no Top 50 crossings

Percent of Top 50 crossings within each corridor



Percent of Top 302 crossings within each corridor



GROUPING OF PROJECTS BY SMALLER CORRIDORS

- Projects have already been identified to address impacts at many of the Top 50 crossings, but don't address all crossings within corridor group
- Easier to identify potential impacts and solutions at smaller corridor level

KEY:
Corridor Group (Number of Crossings)
• Projects Identified by RTPO

Edmonds (1)
• Grade Sep.

Seattle (8)
• Lander Grade Sep.
• Other SODO crossing improvements

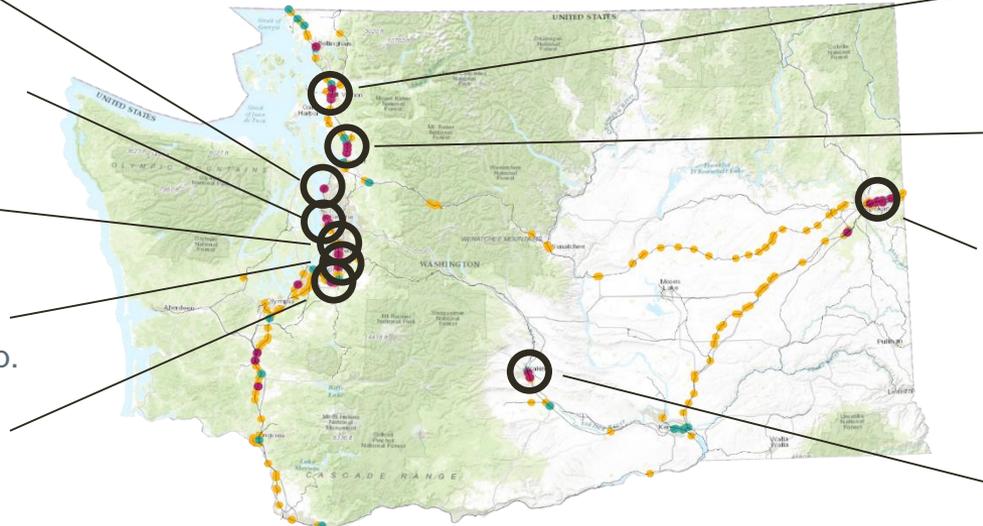
Kent (5)
• 3 projects

Auburn (5)
• BNSF Yard Grade Sep.

Puyallup (6)
• Canyon Rd North Ext.

RANKINGS:

1-50 51-100 101-302



Mount Vernon (4)
• Kincaid St
• College Way Grade Sep.

Marysville (3)
• SR 529/1-5 IC

Spokane Valley (6)
• SR 27/SR 290 Grade Sep.
• Barker Rd Grade Sep.

Yakima (2)
• Washington Ave Grade Sep.

CORRIDOR-BASED EVALUATION FINDINGS

- Crossing rank does not necessarily equate to project need or feasibility, so prioritization or funding allocation by corridor would need more information about projects
- Corridors should be scaled to match the type of projects envisioned, or how a group of crossings are inter-related
- The database and crossing prioritization tool helps RTPOs and local jurisdictions understand crossing impacts, leading to the next step of project identification and corridor-based solutions

DRAFT FINDINGS & RECOMMENDATIONS

- Findings (Draft)
- Recommendations (Draft)

FINDINGS & RECOMMENDATIONS (DRAFT)

1. The road-rail conflicts at grade crossings are substantial

- On average, the Top 50 crossings serve 49 trains and 12,000 cars per day. Other key findings:
 - Closed to **vehicle** traffic for an average of 2 hours per day
no closure to **rail traffic; trains have the right-of-way*
 - 62% of the crossings are along designated freight corridors
 - 50% of the crossings reported a collision in the last 5 years
 - 48 out of the 50 crossings have gates and flashing lights
- New investments in grade crossing improvements are justified

FINDINGS & RECOMMENDATIONS (DRAFT)

2. Improvement needs at crossings are likely much greater than currently planned and funded

- While half of the Top 50 crossings currently have no projects identified, it is possible not all crossings need improvements or that a solution exists
- Of those with projects identified, estimated costs: \$830 million
- Approximately \$170 million in funding has been secured for these projects, or 20% of the total estimated costs
(\$100 million is for Seattle's Lander Street)*
- Additional FMSIB and federal FAST freight funds will add \$150 million over the next 5 years for all types of freight projects

Recommendations:

- (I) Provide additional funding to address crossing improvements***
- (II) Further analyze top ranked crossings to identify potential projects***

FINDINGS & RECOMMENDATIONS (DRAFT)

3. Some jurisdictions have not identified and prioritized needed crossing improvements

- Lack of dedicated funding source for crossing improvements makes it difficult for smaller jurisdictions to plan for and implement crossing improvements
- Data on train activity and crossing impacts have not been easily accessible (until the development of this database)
- When crossing improvements compete with other local funding priorities, they often don't rank as high as other priorities

Recommendations:

(III) Encourage Regional Transportation Planning Organizations (RTPOs) to identify and prioritize crossing improvements in the normal planning process

(IV) Encourage local jurisdictions to use the database and tool

FINDINGS & RECOMMENDATIONS (DRAFT)

4. In some cases, projects prioritized locally did not rank high when evaluated on a statewide basis

- Several crossing locations with planned projects did not make it into the Top 100 crossings statewide
- Low ranking locations with projects generally were at crossings with lower train activity and traffic volumes, and in non-urban areas
- Local priorities may be more focused on economic development opportunities or addressing localized congestion issues, which don't rank high on a statewide basis

Recommendation:

(V) Identify specific policy objectives to guide investments to crossings on a statewide basis

FINDINGS & RECOMMENDATIONS (DRAFT)

5. Collisions at crossings are evaluated and solutions partially funded by dedicated safety programs

- Approximately half of the Top 50 crossings have had a reported collision in the last 5 years
- Evaluation of collisions requires more specific data than a database can provide (site visits, predictive analysis, review of specific causes)
- Safety programs by WSDOT and UTC focus on evaluating collisions and potential low-cost crossing improvements
- The database and evaluation criteria should not replace the existing programs

Recommendations:

(VI) Coordinate efforts with the WSDOT and UTC safety programs to continue focusing on reducing collisions at crossings

(VII) Separately address mobility and safety impacts at crossings

FINDINGS & RECOMMENDATIONS (DRAFT)

6. The database and prioritization process are useful to compare and understand the magnitude of crossing improvement needs on a statewide basis

- The database created is the only unified statewide resource combining a wide variety of information about crossings
- It is a flexible tool that can be used in a variety of ways by state, regional, and local jurisdictions or other organizations
- FMSIB and PSRC have already expressed interest in utilizing it
- The database and prioritization tool need to be maintained and updated to keep them current and useful

Recommendation:

(VIII) Identify an agency to maintain the database and tool, in order to enable and encourage its use by a variety of entities

FINDINGS & RECOMMENDATIONS (DRAFT)

7. The database and prioritization tool would benefit from future enhancements

- Determining its use will inform the specific enhancements and the necessary resources
- If funding is provided to address crossing improvements, local jurisdictions will have a strong incentive to improve the data and plan for projects
- Enhancements would provide for additional functionality to the database and online prioritization tool
- The Marine Cargo Forecast will provide projections of train traffic through 2035, but it was not completed in time to be considered
- The screening method used during the study time frame should be modified to remove crossings with low train activity and vehicle counts

Recommendations:

(IX) Provide the agency hosting the tool with additional resources to maintain, update and enhance the database and prioritization tool

(X) Incorporate data from the Marine Cargo Forecast once it is completed

FINDINGS & RECOMMENDATIONS (DRAFT)

8. Corridor evaluation and prioritization is most useful when defining solutions to address crossing impacts

- A variety of corridors were considered, such as crossings along a rail corridor or within RTPO boundaries, but smaller geographies are likely necessary
- Corridor based prioritization requires more specific context about potential needs and solutions, such as type of crossing improvement or surrounding development patterns
- A corridor-based strategy could help evaluate solutions at a single crossing that address multiple crossings, or could evaluate a suite of solutions at multiple crossings that help traffic move through a larger corridor
- Corridor evaluation could be useful in identifying or evaluating specific project proposals, and addressing regional or urban/rural needs, otherwise high volume crossings will outrank lower volume rural crossings
- The database and mapping tool could serve as a major input into a corridor-based project prioritization

Recommendation:

(XI) Utilize a corridor-based prioritization strategy to assist in developing projects and making funding decisions

QUESTIONS

- Are you comfortable with the draft findings and recommendations?
- Are there other findings and recommendations that should be considered?

NEXT STEPS

- **Draft Report to Advisory Panel and Staff Work Group**
November 28th

- **Joint Transportation Committee Meeting**
December 15th (10:00am to 3:00pm)
Location: Olympia, John A. Cherberg Building, Hearing Room 1
TOPIC: Present Study Findings and Recommendations

MORE INFO

<http://leg.wa.gov/JTC/Pages/Road-Rail-Study.aspx>

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