PRESENTATION AGENDA

- Study Overview
- Role of MPO’s/RTPO’s
- Scoring Methodology
- Project Priorities
- How to report?
- Unanswered Questions
- Next Steps
Engrossed Substitute Senate Bill SB 5096 (2017), Section 206:

The appropriation in this section is subject to the following conditions and limitations: $60,000 of the motor vehicle account—state appropriation is provided solely for the board, from amounts set aside out of statewide fuel taxes distributed to cities according to RCW 46.68.110(2), to manage and update the road-rail conflicts database produced as a result of the joint transportation committee’s "Study of Road-rail Conflicts in Cities (2016)." The board shall update the database using data from the most recent versions of the Washington state freight and goods transportation system update, marine cargo forecast, and other relevant sources. The database must continue to identify prominent road-rail conflicts that will help to inform strategic state investment for freight mobility statewide. The board shall form a committee including, but not limited to, representatives from local governments, the department of transportation, the utilities and transportation commission, and relevant stakeholders to identify and recommend a statewide list of projects using a corridor-based approach. The board shall provide the list to the transportation committees of the legislature and the office of financial management by September 1, 2018.
PHASE 1 EVALUATION CRITERIA
MOBILITY 50%, SAFETY 25%, COMMUNITY 25%

Scoring and weighting are described in detail on pages 19 to 24 in the report.
### SCHEDULE

#### TASKS
- Review Project Data from MPO/RTPOs
- Develop Project Evaluation Process
- Prepare Project Priorities
- Finalize Project Recommendations

#### MEETINGS
- Advisory Committee Meeting
- MPO/RTPO Coordinating Committee
- FMSIB Board

### Meeting Topics
1. Confirm Project Evaluation Criteria
2. Provide Feedback on Project Priorities
3. Confirm Project Priorities

*Legislative Deadline (9/1/18)
• Validate Phase 1 Crossing Priorities
• Categorize Phase 1 Crossing Priorities into Project Readiness Tiers
• Review Phase 2 Project Prioritization Criteria
• Review Phase 2 Project Prioritization Methodology
• Review Phase 2 Project Prioritization
Request sent to MPO/RTPOs:

Based on the Phase 1 list of conflict priorities, sort projects into 3 tiers for your region:

1. Tier 1 – Projects that are designed and awaiting full construction funding
2. Tier 2 – Projects that are planned with varying levels of design completed
3. Tier 3 – A crossing in the Top 300, but no project has been studied, scoped, or identified
Responses Received:
All RTPO’s, except for 3 which had few, if any, crossings.
RECEIVED PROJECTS

Projects that are in design and awaiting full construction

TIER 1
16 Projects (10 Fully Funded)

Projects that are planned with no design completed

TIER 2
34 Projects

A crossing in the Top 300, but no project has been studied, scoped, or identified

TIER 3
27 Crossings
<table>
<thead>
<tr>
<th>Category</th>
<th>Type of Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Separation</td>
<td>Bridge or Overpass</td>
</tr>
<tr>
<td>Pedestrian Only Grade Separation</td>
<td>Pedestrian Bridge</td>
</tr>
<tr>
<td>Safety Enhancements</td>
<td>• Signs</td>
</tr>
<tr>
<td></td>
<td>• Gates</td>
</tr>
<tr>
<td></td>
<td>• Lights</td>
</tr>
<tr>
<td></td>
<td>• Quiet Zone</td>
</tr>
<tr>
<td>Mobility Solutions</td>
<td>• ITS / Adaptive Signal Control</td>
</tr>
<tr>
<td></td>
<td>• Dynamic Signage / Traveler Information Systems</td>
</tr>
<tr>
<td></td>
<td>• Signal Interconnects / Pre-emption</td>
</tr>
<tr>
<td>Railroad Enhancements</td>
<td>Reducing number of tracks, relocating tracks, operational changes</td>
</tr>
</tbody>
</table>
PHASE 1 EVALUATION CRITERIA
MOBILITY 50%, SAFETY 25%, COMMUNITY 25%

SAFETY
- Increase Risks
- Safety Record
- Infrastructure Status

MOBILITY
- Freight Demand
- People Demand
- Mobility Barrier

COMMUNITY
- Economic
- Human Health

RED HIGHLIGHTS: Criteria used to score the projects in Phase 2

1. Number of Alternate Grade-Separated Crossings
2. Number of Mainline Tracks
3. Proximity to Emergency Services
4. Incident History: Total
5. Incident History: Severity
6. Level of Protection
7. Roadway Freight Classification
8. Existing Vehicle Volumes
9. Future Vehicle Volumes
10. Network Sensitivity
11. Crossing Density
12. Gate Down Time
13. Employment Density
14. First/Last Mile Freight Facilities
15. Population Density
16. Daily Emissions
17. Noise: Quiet Zones
18. Percent Minority
19. Percent Low-Income
PHASE 2 SCORING METHODOLOGY

- Simplified scoring process - utilized Phase 1 criteria and data
- Methodology considered the type of crossing improvement (project type)

<table>
<thead>
<tr>
<th>Phase 1 Criteria</th>
<th>Grade Separation Projects</th>
<th>Safety Project</th>
<th>Mobility or Railroad Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Incident History: Total</td>
<td>Doubled Phase 1 points for a 100% increase</td>
<td>Increased Phase 1 points by 50%</td>
<td>No Change</td>
</tr>
<tr>
<td>5. Incident History: Severity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Level of Protection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Gate Down Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Daily Emissions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Noise Quiet Zones</td>
<td>Full points</td>
<td>Full points if enabled a quiet zone</td>
<td>Full points if enabled a quiet zone</td>
</tr>
</tbody>
</table>
The scoring methodology also considered the benefits to nearby crossings to account for a “corridor approach”

<table>
<thead>
<tr>
<th>Phase 1 Criteria</th>
<th>Scoring Methodology by Project Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Grade Separation Projects</strong></td>
</tr>
<tr>
<td>4. Incident History: Total</td>
<td>100% pts = closed crossing</td>
</tr>
<tr>
<td>5. Incident History: Severity</td>
<td>50% pts = &lt; 0.5 miles</td>
</tr>
<tr>
<td>6. Level of Protection</td>
<td>25% pts = &lt; 1 mile</td>
</tr>
<tr>
<td>12. Gate Down Time</td>
<td></td>
</tr>
<tr>
<td>16. Daily Emissions</td>
<td></td>
</tr>
<tr>
<td>17. Noise Quiet Zones</td>
<td>Full points for closed crossing</td>
</tr>
</tbody>
</table>
• Identified two potential scoring options

• Resulting project scores for each option are attached
HOW TO MEASURE PROJECT BENEFITS

DIFFERENTIAL POINTS VERSUS TOTAL COSTS (OPTION 1)

1. PHASE 1 SCORE

<table>
<thead>
<tr>
<th>BEFORE</th>
<th>AFTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>52</td>
<td>74</td>
</tr>
</tbody>
</table>

2. CALCULATE DIFFERENTIAL

$$74 - 52 = +22$$

3. ACCOUNT FOR CORRIDOR IMPROVEMENTS

<table>
<thead>
<tr>
<th>OTHER IMPACTED CROSSINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 44</td>
</tr>
<tr>
<td>#2 60</td>
</tr>
</tbody>
</table>

Total increase: $$+11 + +22 = +33$$

4. NORMALIZE USING TOTAL COST

$$\left( \frac{25,000,000}{33} \right) / 1,000 = 758$$

- Measures specific benefits of the project
- Does not account for existing crossing characteristics
HOW TO MEASURE PROJECT BENEFITS

TOTAL POINTS VERSUS TOTAL COSTS (OPTION 2)

1. PHASE 1 SCORE
   BEFORE: 52
   AFTER: +74

2. ACCOUNT FOR CORRIDOR IMPROVEMENTS
   OTHER IMPACTED CROSSINGS
   #1: 44 = 48
   #2: 60 = 67
   Total increase: +11 + +74 = +85

3. NORMALIZE USING TOTAL COST
   \( \frac{\$25,000,000}{85} \div 1,000 = 294 \)

- Accounts for existing crossing characteristics
- Less focused on project benefits
SWITCH TO OPTION 1 AND OPTION 2
SCORING RESULTS (PDF)
• Prioritize Tier 1 projects using “Total Points” (Option 2).
• Prioritize Tier 3 projects using ranking from Phase 1 (But recommend modifications to accommodate adjacent crossings).
• For Tier 2 projects, create a list of projects comparing their rank under Option 1 and their rank under Option 2. Share with the Advisory Committee and poll preferences.
WHAT WOULD BE FUNDED IN EACH TIER?

- Tier 1 funds Construction only.
- Tier 3 funds Planning only.
- Tier 2 project list contains projects in a variety of development states:
  - Early Tier 2: Only a Planning-level scope is available, project just starting design and environmental work. Cost estimate could be +/- 50-100%
  - Late Tier 2: Design nearing completion, permitting underway, R/W needs identified. Cost estimate likely to be +/- 15% or less.
UNANSWERED QUESTIONS

• Will FMSIB:
  • Recommend creation of an ongoing Road-Rail program describing actions and responsible agencies for prioritizing and directing funding to Tiers 1, 2, and 3 projects?
  • Inventory existing state and federal funding programs for grade crossings?
  • Respond to all recommendations in the Phase 1 Study, specifically, whether to recommend an agency to manage any future Road-Rail program?
1. Finalize project priorities
2. Meeting with FMSIB Board (July 24)

MAP OF PROJECTS (Turn on Project/Crossing by Tier Layer)
http://gisdev.transpogroup.com/jtccrossingstudy/