Planning and Prioritizing At-Grade Railroad Crossings

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Today’s Presentation

• Analyze impacts of rail traffic on transportation system
• Identification of needs/issues
• Prioritization process
• Data used
• Going from regional needs to project level
SKAGIT COUNTY RAIL-CROSSING STUDY
SKAGIT COUNTY RAILROAD OVERVIEW

• 56 at-grade crossings in Skagit County
• BN Mainline
• 2 oil refineries
• Major connection to Canada
Crossing Prioritization Criteria

- Gate-down time
- Impact to emergency services
- Accident history
- Vehicle queueing
- ADT
EXISTING AND FUTURE GATE-DOWN TIMES
Key Crossing Identification

• List of crossings narrowed to 12 key crossings
• Identify mitigation strategies
  – Grade separation
  – ITS strategies
  – Crossing consolidation
Priority Crossings

• Added to Regional Transportation Plan
  – One included in constrained project list, two in illustrative list
• Not necessarily the most-impacted crossings
  – Feasibility
  – Proximity to other crossings
Road-Rail Conflicts in Washington State
STUDY PURPOSE

Legislative Direction

• Evaluate the impacts of prominent road-rail conflicts

• Develop a corridor-based prioritization process
STATEWIDE RAIL CROSSING STUDY
STUDY OBJECTIVES

• Understand current and future mobility, community impacts, and safety problems
• Understand and apply state, local, and private policy interests
• Develop a criteria-based prioritization process
Overview of the prioritization process

4,171 Crossings
Active Rail Line
Publicly Accessible
At-Grade Crossing

2,197 Crossings
Step 1
Filtering

~300 Crossings
Step 2
Sorting

Prioritized List of Crossings
Screening Process

- **Level 1**
  - Less detailed
  - Identifies higher priority crossings
  - Intent not to miss important crossings

- **Level 2**
  - More detailed
  - More specific data
  - Prioritizes most important crossings
Key Findings

- The road-rail conflicts at the Top 50 at-grade crossings are substantial and there are few funding sources to address them.

- The prioritization results point to a significant need for additional funding to address crossing improvements.

- The database and prioritization process provide a mechanism to compare and understand the magnitude of crossing improvement needs on a statewide basis.
SCOOG Cook Road Corridor Study
Cook Road Corridor Study

- Priority from Rail Crossing Study
- Multiple projects included in Regional Transportation Plan
- Significant existing and forecast congestion
Traffic Conditions

Existing Queuing on Cook Road During PM Peak (4-7 PM)

- Queue (feet) on I-5 NB Off-Ramp
- Queue (feet) on Cook Road east of I-5 NB Off-Ramp
- Queue (feet) on Cook Road Overpass west of I-5 NB Off-Ramp

Duration of train crossing event

10 minutes after train crossing event
SHORT-TERM SOLUTIONS

• Intersection operations analysis
  – Simulations
• Feasibility assessment
• Installation of signals, increased freeway ramp capacity, increased roadway capacity
LONG-TERM SOLUTIONS

• Grade separation
• Major tradeoffs
  – Operational analysis concerns
  – Property taking concerns
• Constructability concerns
• Funding concerns
LONG-TERM SOLUTIONS
Summary

• Highest-ranked crossing is not necessarily highest priority
• Data exists but has challenges
• Important to maintain the data/tool
• Build in flexibility in criteria
• System effects difficult to assess regionally or statewide
UPCOMING WORK

• Statewide
  – Prioritization of rail-crossing projects
  – Data base refinements
  – Input of conflicts to regional plans

• SCOG - Cook Road
  – Short-Term Projects seek funding
  – PE for Long-Term in a couple years
RESOURCES

• WA Joint Transportation Committee Road-Rail Study and associated links:
  – http://leg.wa.gov/JTC/Pages/Road-Rail-Study.aspx

• SCOG Rail-Crossing Study:
  – http://scog.net/transportation.skagit-rail-crossing-study/
Questions?

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