

DATE 8/10/2023



REEDSPORT RAIL CROSSING STUDY

PROJECT ADVISORY COMMITTEE (PAC) MEETING #2

Agenda

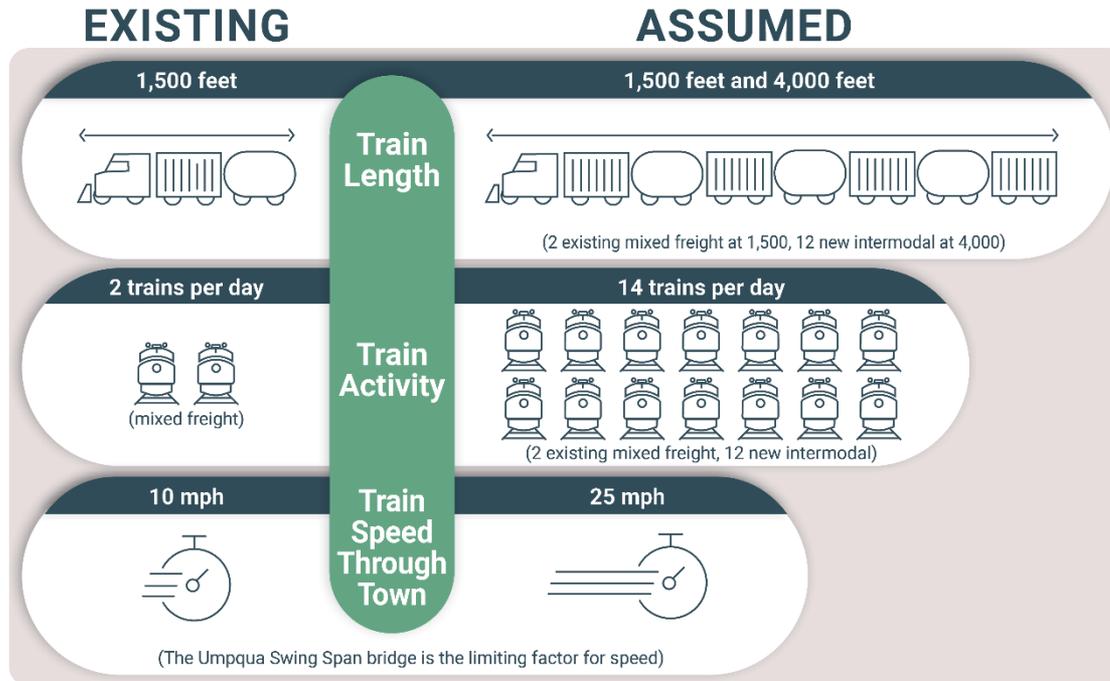
- Project Overview (Refresh)
- Project Update
- Transportation System Alternatives (Tech Memo #6)
- Roundtable Discussion
- Next Steps
- Summary of Action Items



Project Overview

Project Background

- The Oregon International Port of Coos Bay is proposing a new multimodal container facility on the North Spit in Coos County,



- The trains are expected to impact traffic operations and safety at the at-grade rail crossings in Reedsport



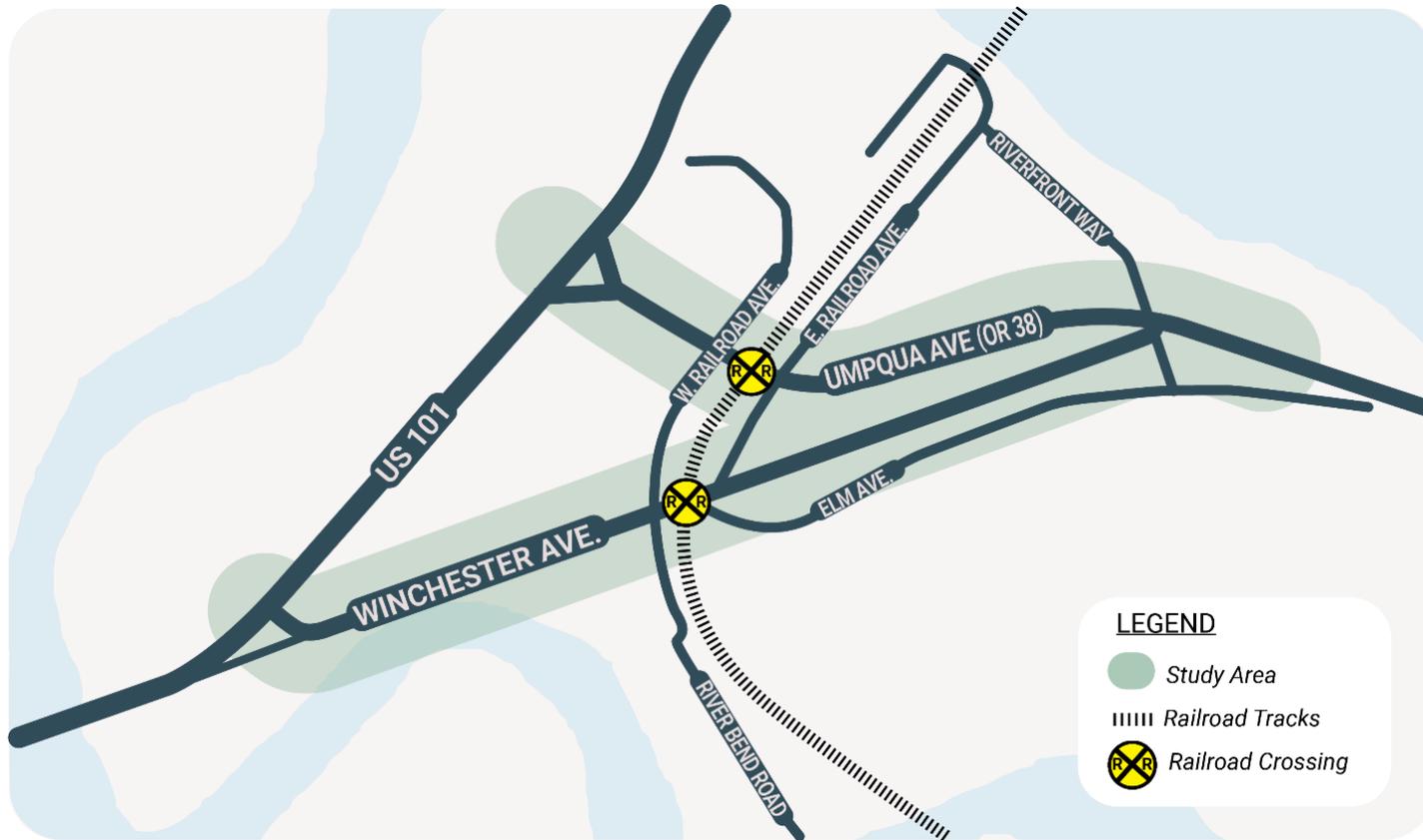
Project Overview

Project Background

- Prepare the Rail Crossing Study and Refinement Plan
 - Focus on the immediate area surrounding the rail line and rail crossings
 - Evaluate impacts of increased rail activity on the Umpqua Avenue (OR 38) and Winchester Avenue rail crossings
 - Identify solutions at the crossings, supported by other improvements
- Amend the City's Transportation System Plan to incorporate the rail crossing study by reference



Study Area



Major Tasks and Deliverables

1. Project Management

- Project Schedule

2. Public And Stakeholder Involvement

- Public Involvement Plan
- Project Website
- Stakeholder Interviews

3. Goals And Objectives

- TM #1: Plan, Policy, and Code Review & Port of Coos Bay Expansion Review
- TM #2: Purpose & Need, Goals, Objectives, and Evaluation Criteria

4. Existing And Future Conditions Analysis

- TM #3: Analysis Methodology Memorandum
- TM #4: Existing Transportation Conditions
- TM #5: Future Land Use and Transportation Conditions

5. Develop And Evaluate Transportation System Improvements

- TM #6: Transportation System Improvement Alternatives

6. Preferred Improvements And Funding Program

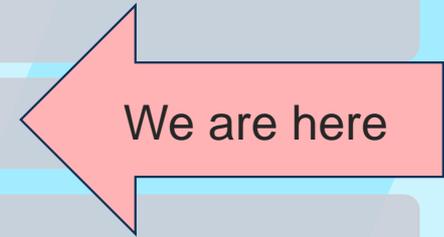
- TM #7: Preferred Improvement and Project Sheets

7. Prepare Refinement Plan and City TSP Update

- TM #8: Amendment & Implementing Measures
- Rail Crossing Refinement Plan

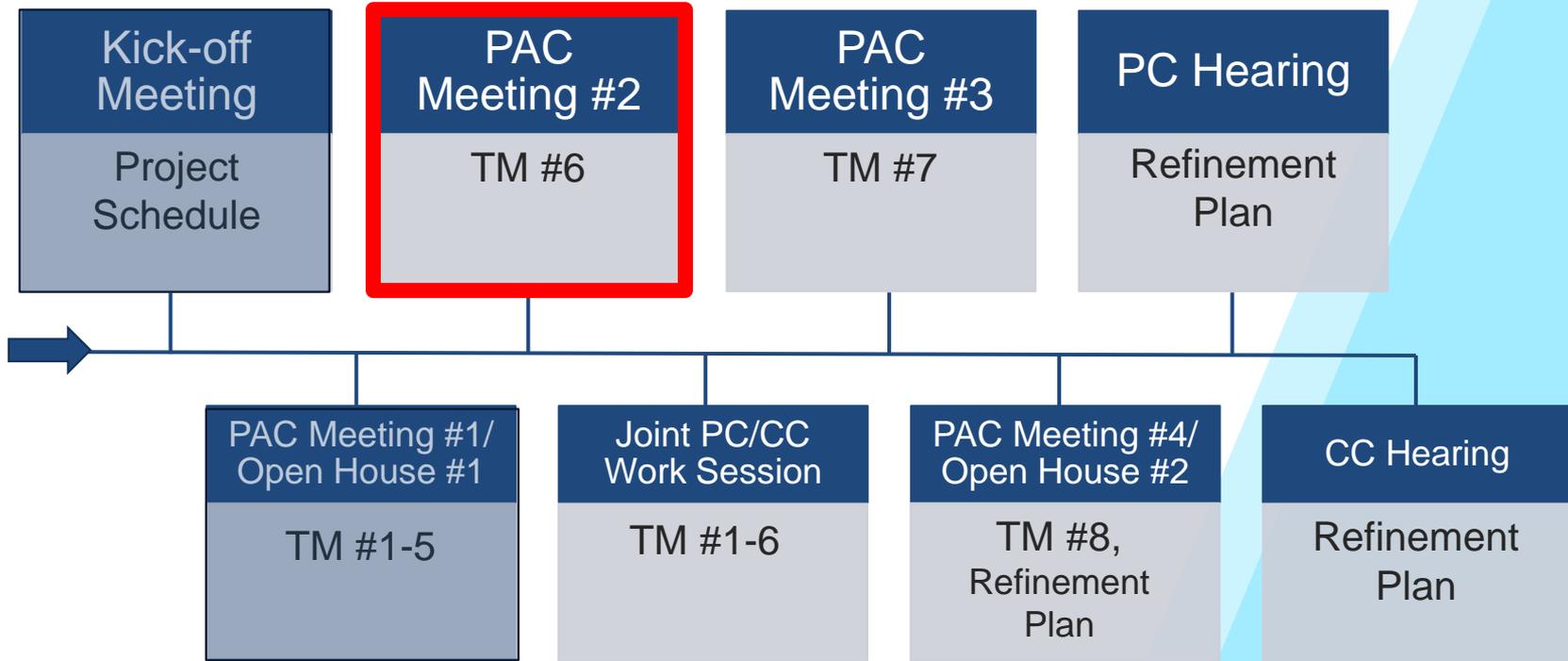
8. Refinement Plan and City TSP Update Adoption

- Final Refinement Plan
- Title VI Report



PAC
Meeting

Meetings and Milestones



Needs Statement

- Rail crossing delays and access/circulation barriers (4,100-foot train at 10 mph)
 - Vehicle queues on OR 38 spill back to US 101
 - Cycle failure at OR 38/US 101 intersection
 - Delays of 5½ minutes or greater on OR 38 and Winchester Avenue
 - Local circulation and access delays exceeding 60 seconds
 - Traffic volume increases at Port Dock Road undercrossing





YEAR 2045
4,000 ft. TRAIN - 10MPH

Needs Statement (cont.)

- Increased train activity (2 to 14 trains per day)
 - Increased probability of delays to emergency service providers
 - Increase train horn noise during school or nighttime hours
 - Increased pedestrian/train conflicts
 - Increased peak hour queues on OR 38 and Winchester Avenue that create local circulation/access delay
 - Increased use of Port Dock Road undercrossing and related increases in cut-through traffic on local streets
 - Increased frequency of issues



Needs Statement (cont.)

- US 101/OR 38 Mobility Deficiency
 - Signalized intersection forecasted to operate at capacity ($v/c = 1.0$) in Year 2045



Other Factors

- Degradation factors:
 - Longer trains – Exceeding 4,100 feet at 10 mph
 - Slower trains – Traveling at speeds less than 10 mph
 - Increased number of trains – Greater than 14 trains per day
 - Traffic conditions exceeding the 30th highest peak hour demand on OR 38 – Higher peak hour volumes and proportion of trucks and recreation vehicles
- Minimization factors:
 - Shorter trains – Less than 4,100 feet at 10 mph
 - Faster trains – Traveling in excess of 10 mph
 - Reduced number of trains – Less than 14 trains per day



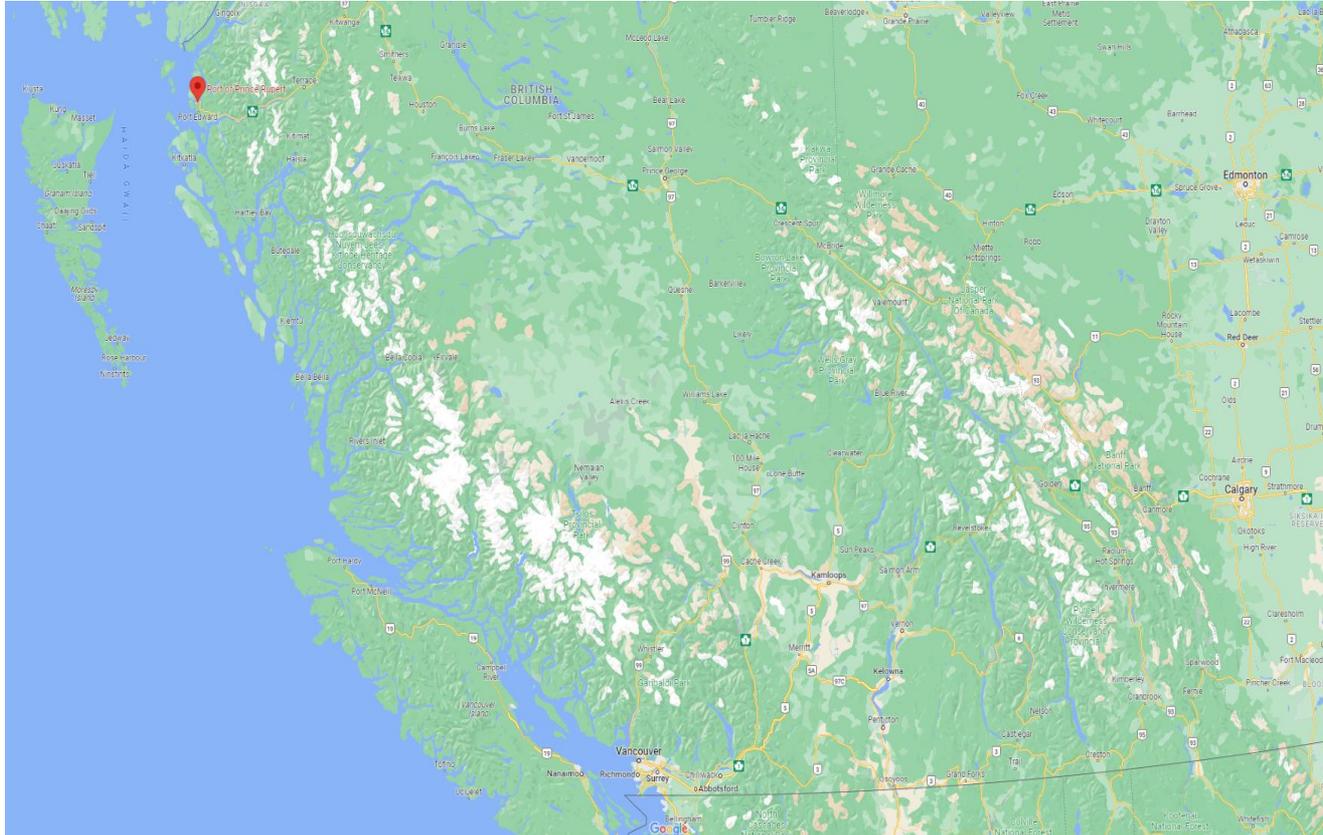
Contextual Understanding



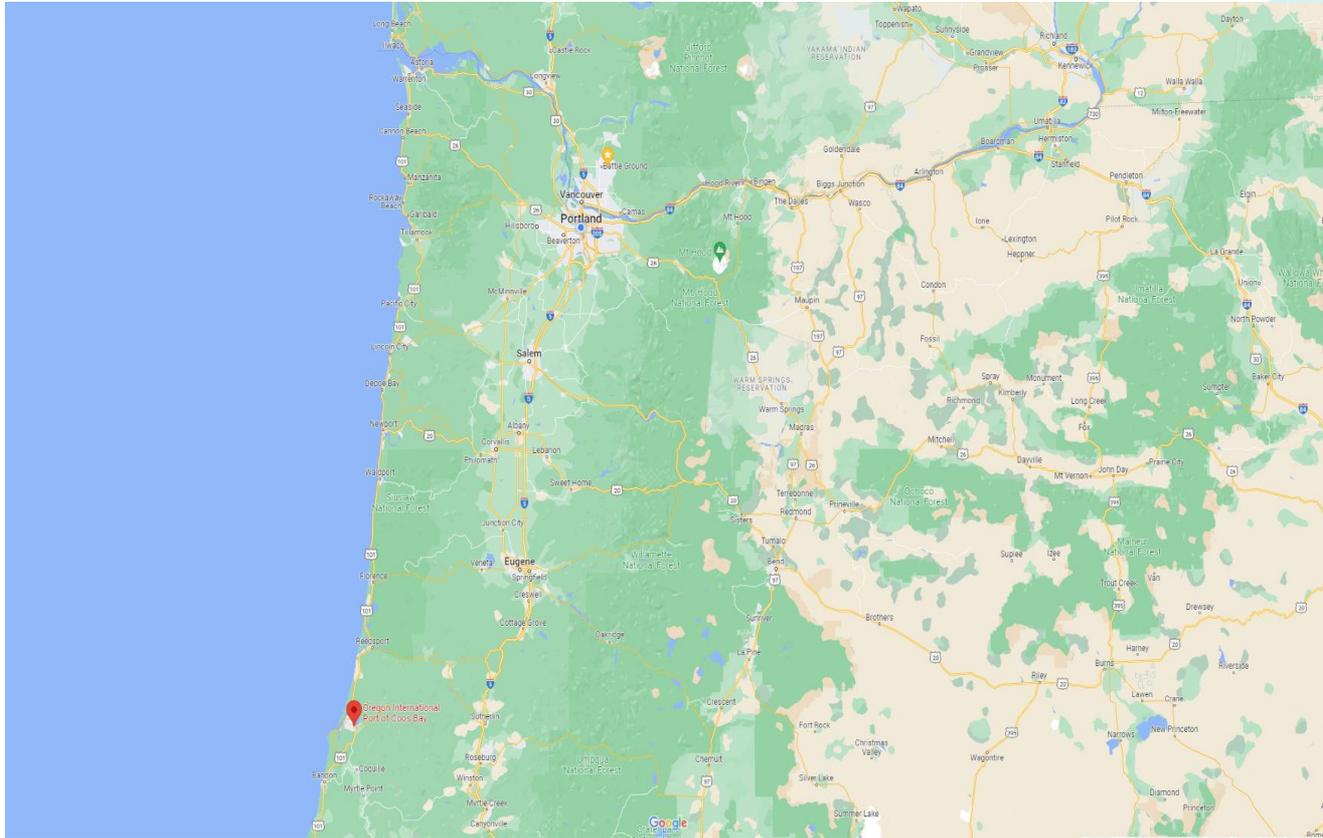
Credit: Prince Rupert Port Authority



Contextual Understanding



Contextual Understanding



Transportation Alternatives



No Build

No improvements at rail crossings or along OR 38 or Winchester Avenue. Area remains as is today.



Winchester Avenue at Grade Rail Crossing (Looking Eastbound)



OR 38 At-Grade Rail Crossing

Avg Eval Score: -1 | Rank: 17



Evaluation Criteria

Project Goal

Livability

1. Develop a transportation system to enhance Reedsport's livability and meet federal, state, and local requirements.

Connectivity

2. Create a balanced transportation system

Safety

3. Improve safety of transportation system

Efficiency

4. Develop efficient transportation system that will accommodate future growth

Accessibility

5. Provide a transportation system that is accessible to all members of the community

Freight

6. Develop a transportation system to provide for efficient freight movement

Funding

7. Create a funding system to implement the recommended transportation system improvement projects



At Grade Rail Crossing Alternatives:

- 1A – Four-Quadrant Gated Rail Crossing on OR 38
- 1B – Median Barrier on OR 38
- 1C – Four-Quadrant Gated Rail Crossing on Winchester Ave
- 1D – Median Barrier on Winchester Ave



At Grade Rail Crossing Alternatives: 1A

Four-Quadrant Gated Rail Crossing on OR 38

- Four quadrant gated rail crossing
- Two gate arms and flashers (both sides / directions)
- Gate arms and flashers across ped facilities (both sides / directions)

Avg Eval Score: -0.2 | **Rank:** 13

Considerations

Does not address the identified Rail Crossing Delays and Access/Circulation Barriers issues



At Grade Rail Crossing Alternatives: 1B

TM #6, Pg 7

Median Barrier on OR 38

- Median Barrier at each approach

Avg Eval Score: -0.4 | **Rank:** 15

Considerations

Does not address the identified Rail Crossing Delays and Access/Circulation Barriers issues



Cost Opinion
\$550,000



At Grade Rail Crossing Alternatives: 1C

Four-Quadrant Gated Rail Crossing on Winchester Ave

- Four quadrant gated rail crossing
- Two gate arms and flashers (both sides / directions)
- Gate arms and flashers across ped facilities (both sides / directions)

Avg Eval Score: -0.2 | **Rank:** 13

Most Promising

Considerations

Does not address the identified Rail Crossing Delays and Access/Circulation Barriers issues without grade separated solutions at OR 38



Cost Opinion
\$285,000



At Grade Rail Crossing Alternatives: 1D

Median Barrier on Winchester Ave

- Median Barrier at each approach

Avg Eval Score: -0.4 | **Rank:** 15

Considerations

Median cannot be effectively placed due to proximity of the E Railroad Avenue-Elm Avenue intersection



Cost Opinion
\$400,000



Grade Separated Rail Crossing Alternatives

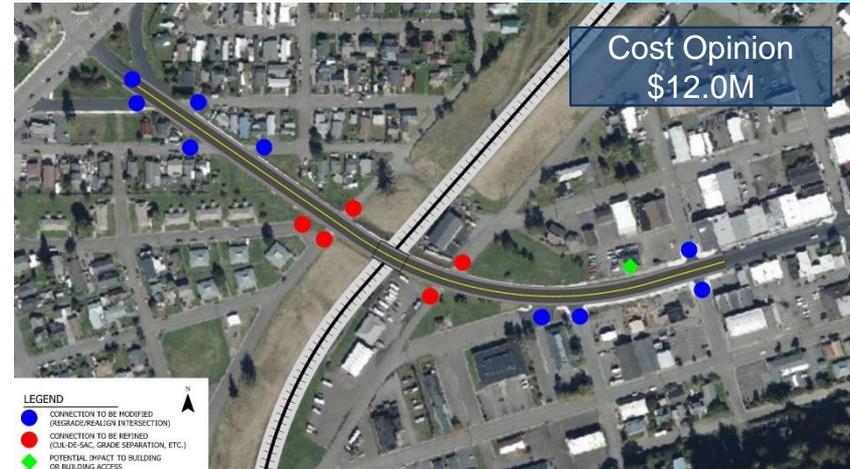
- 2A1 – OR 38 Rail Overcrossing with Retaining Walls
- 2A2 – OR 38 Rail Overcrossing without Retaining Walls
- 2B1 – Winchester Ave Rail Overcrossing with Retaining Walls
- 2B2 – Winchester Ave Rail Overcrossing without Retaining Walls
- 2C – OR 38 Rail Undercrossing with Retaining Walls
- 2D – Winchester Ave Rail Undercrossing with Retaining Walls
- 2E1 – Port Dock Road Undercrossing Upgrade
- 2E2 – Northerly OR 38 Undercrossing Upgrade



At Grade Rail Crossing Alternatives: 2A1

OR 38 Rail Overcrossing with Retaining Walls

- Grade separated overcrossing
- Approaches of 600ft on both sides (Laurel St to N 5th St)



Avg Eval Score: 1.2 | Rank: 1

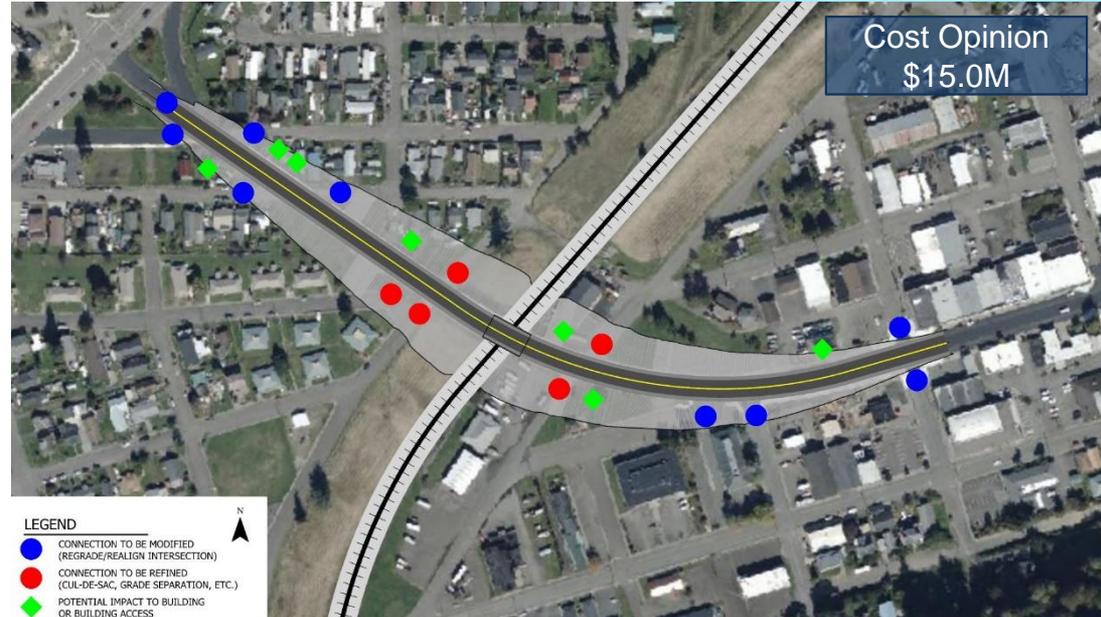
Most Promising



At Grade Rail Crossing Alternatives: 2A2

OR 38 Rail Overcrossing without Retaining Walls

- Grade separated overcrossing
- Approaches of 600ft on both sides (Laurel St to N 5th St)
- Abutment slopes, embankment support



Avg Eval Score: 0.7 | Rank: 4

Considerations

Impacts to up to 7 properties



At Grade Rail Crossing Alternatives: 2B1

Winchester Ave Rail Overcrossing with Retaining Walls

- Grade separated overcrossing
- Approaches of 500ft on both sides (N 11th to N 6th St)



Avg Eval Score: 0.9 | Rank: 3

Considerations

- Does not address queue impacts to upstream/downstream cross streets on OR 38
- Impacts access to up to 11 properties



At Grade Rail Crossing Alternatives: 2B2

Winchester Ave Rail Overcrossing without Retaining Walls

- Grade separated overcrossing
- Approaches of 500ft on both sides (N 11th to N 6th St)
- Abutment side slopes, embankment support



Avg Eval Score: 0.5 | Rank: 8

Considerations

- Does not address queue impacts to upstream/downstream cross streets on OR 38
- Impacts access to up to 15 properties



At Grade Rail Crossing Alternatives: 2C

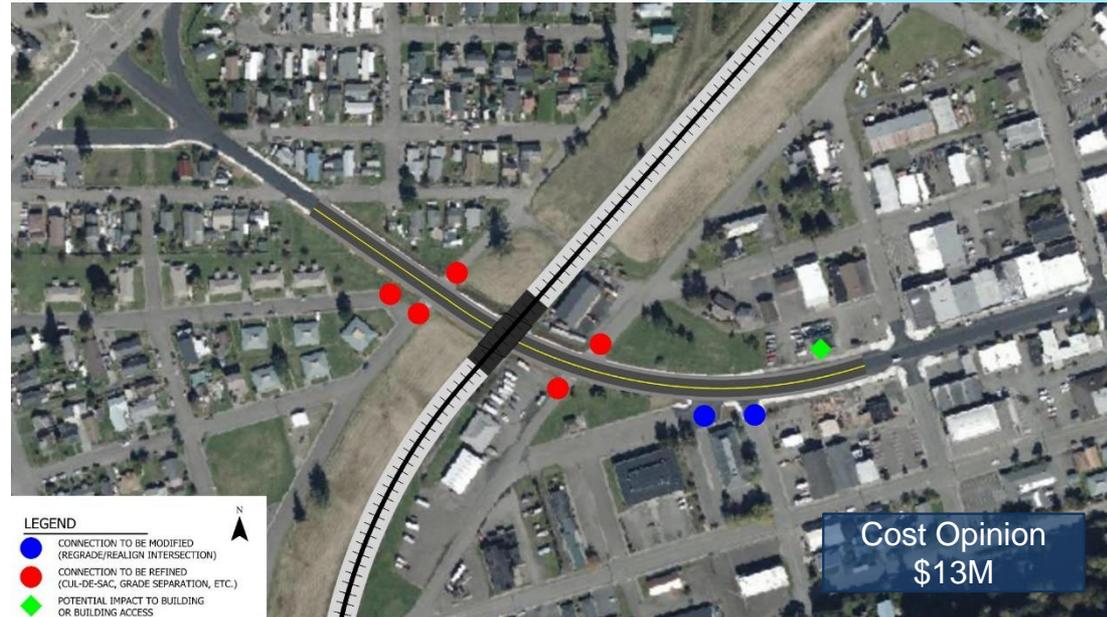
OR 38 Rail Undercrossing with Retaining Walls

- Grade separated undercrossing
- Approaches of 450ft on both sides (Laurel St to N 5th St)

Avg Eval Score: 0.5 | Rank: 9

Considerations

- Roadway flooding / pumping concerns
- Significant impacts to circulation
- Impacts access to up to 1 property



At Grade Rail Crossing Alternatives: 2D

Winchester Ave Rail Undercrossing with Retaining Walls

- Grade separated undercrossing
- Approaches of 350ft on both sides (N 10th St to N 7th St)

Avg Eval Score: 0.4 | **Rank:** 12

Considerations

- Doesn't address queuing impacts to upstream / downstream cross streets on OR 38
- Potential roadway flooding / pumping concerns
- Significantly impacts circulation
- Impacts access to up to 11 properties



At Grade Rail Crossing Alternatives: 2E1

TM #6, Pg 17

Port Dock Road Undercrossing Upgrade

- Lower existing roadway approx. 5 ft
- Replace existing bridge
- Construct new bulkhead
- Realign Riverfront Way, Port Dock Rd

Avg Eval Score: 0.4 | **Rank:** 10

Considerations

- Does not address queuing impacts to upstream / downstream cross streets on OR 38
- Introduces significant out of direction travel
- Requires significant underpass improvements
- Potential flooding concerns



At Grade Rail Crossing Alternatives: 2E2

Northly OR 38 Undercrossing Upgrade

- Upgrade existing undercrossing to provide 1 lane in each direction
- Upgrade to meet max approach grade and min vertical clearance requirements
- Replace existing bridge
- Upgrade alignment of roadways surrounding crossing

Avg Eval Score: 0.4 | **Rank:** 10

Considerations

- Significant out of direction travel
- Significant underpass improvements
- Flooding concerns
- Queuing and road spacing issues due to out of direction travel to/from OR 38



Rail Line Upgrade Alternatives

- 3A1 – Increase Rail Speeds through Reedsport to 40 MPH
- 3A2 – Increase Rail Speeds through Reedsport to 25 MPH



Rail Line Upgrade Alternative: 3A1

Increase Rail Speeds through Reedsport to 40 MPH

- Existing curvature supports speeds of up to 40mph with increase in superelevation through curve without horizontal modification to rail alignment
- Superelevation of 2.5 inches required and likely accommodated through track structure improvements

Avg Eval Score: 0.5 | **Rank:** 5

Considerations

- Constructability, rail downtime, feasibility analysis, engineering, construction cost implications/concerns due to retrofit to or replacement of Umpqua River swing bridge, track enhancements
- Does not fully address related impacts to upstream / downstream cross streets or increased train activity issues

Cost Opinion

Significantly higher than other proposed alternatives



Rail Line Upgrade

Alternative: 3A2

Increase Rail Speeds through Reedsport to 25 MPH

- Existing Umpqua River swing span has speed restrictions due to age of structure
- 25 MPH can be achieved at no additional cost beyond planned improvements to the bridge to accommodate Port activity

Avg Eval Score: 0.5 | **Rank:** 5

Considerations

- Constructability, rail downtime, feasibility analysis, engineering, construction cost implications/concerns due to retrofit to or replacement of Umpqua River swing bridge, track enhancements
- Does not fully address related impacts to upstream / downstream cross streets or increased train activity issues

Cost Opinion

Significantly higher than other proposed alternatives



Elevated Rail Line Alternative: 4A

- Achieve 22ft 6in of elevation, sufficient for roadway vertical clearance of 16ft 6in
- Railroad gradient of .84% required

Cost Opinion
\$24.5M



Avg Eval Score: 1.1 | Rank: 2

Most Promising



OR 38 / US 101 East-West Split Phasing Alternative: 5A

TM #6, Pg 23

- Alternative signal phasing and timing
- Modifying approach from permissive to split phase reduces 2045 v/c ratio from 1.0 to 0.52

Avg Eval Score: 0.5 | **Rank:** 5

Most Promising

Cost Opinion
\$40,000



Two Most Promising Alternatives & Key Considerations



Most Promising Alternatives

Improvement Package #1

- 1C – Four-Quadrant Gated Rail Crossing on Winchester Ave
- 2A1 – OR 38 Rail Overcrossing with Retaining Walls
- 5A – OR 38 / US 101 East-West Split Phasing

Improvement Package #2

- 4A – Elevated Rail Line
- 5A – OR 38 / US 101 East-West Split Phasing



Improvement Package #1



Package 1 Considerations

- **1C – Four Quadrant Gate**
 - Addresses noise impacts from train activity on Winchester Ave
 - Feasible with minimal potential ROW or environmental impacts
 - Requires grade separated improvements on OR 38
 - Synergy with Alternative 2A1
- **2A – OR 38 Rail Overcrossing with Retaining Walls**
 - Addresses rail crossing delay and circulation issues
 - Addresses increased train activity issues
 - Addresses queuing related impacts on OR 38
 - Partially addresses queuing related impacts on Winchester Ave
 - Addresses noise impacts from increased train activity at OR 38
 - Refinements needed to minimized impacts to ROW, environmental impacts, and assess construction costs
 - Synergy with Alternative 1C
- **5A – OR 38/US 101 East-West Split Phasing**
 - Addresses 2045 mobility issues at OR 38



Improvement Package #2



Alternative 5A
OR38 / US 101 East-West Split Phasing

Alternative 5A
Elevated Rail Line



Package 2 Considerations

- **4A – Elevated Rail Line**
 - Addresses queuing impacts to upstream and downstream cross streets on OR 38 and Winchester Ave
 - Addresses noise related to train activity at OR 38 and Winchester Ave
 - Refinements needed to understand constructability, visual barrier issues, and costs
- **5A – OR 38/US 101 East-West Split Phasing**
 - Addresses 2045 mobility issues at OR 38



Roundtable Discussion

- Are there alternatives dismissed that you believe need further consideration?
- Any concerns and/or questions on the top two most promising alternative improvement packages?
- What refinements would you like the project team to explore as part of the top two most promising alternatives?



Next Steps

- Joint Planning Commission/City Council Work Session (August 28th @ 4 p.m.)
- Develop Tech Memo #7 to refine most promising alternative package
- Select a preferred alternative to address increase in rail activity

