

DATE 8/10/2023



REEDSPORT RAIL CROSSING STUDY

PROJECT ADVISORY COMMITTEE (PAC) MEETING #2

Agenda

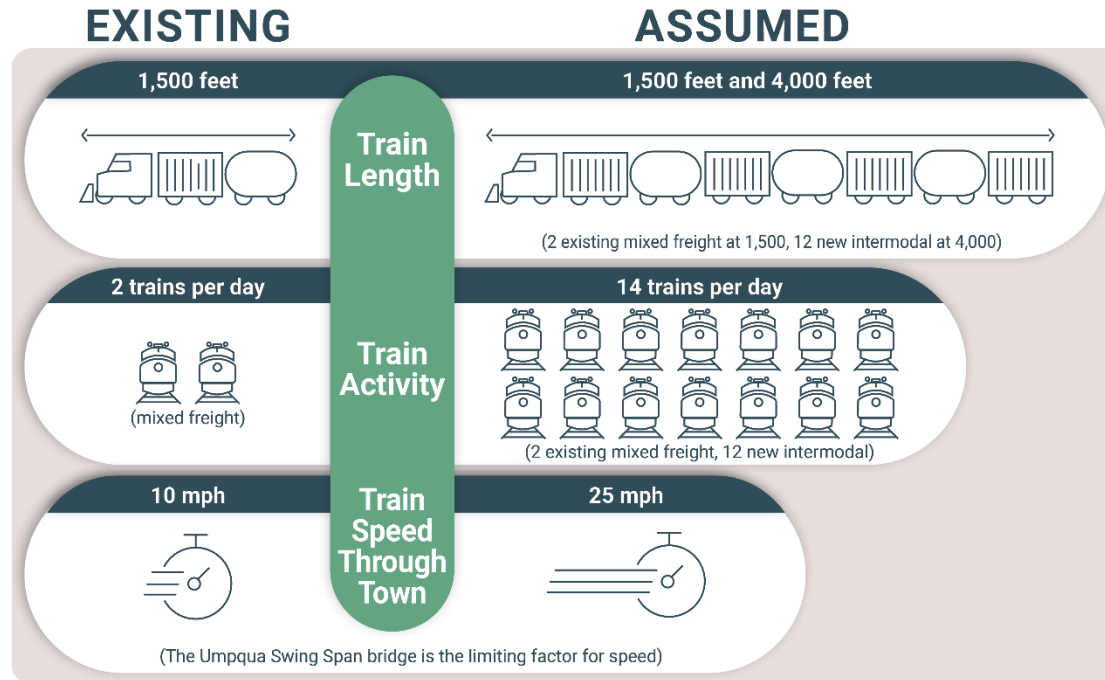
- Project Overview (Refresh)
- Project Update
- Transportation System Alternatives (Tech Memo #6)
- Roundtable Discussion
- Next Steps
- Summary of Action Items



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

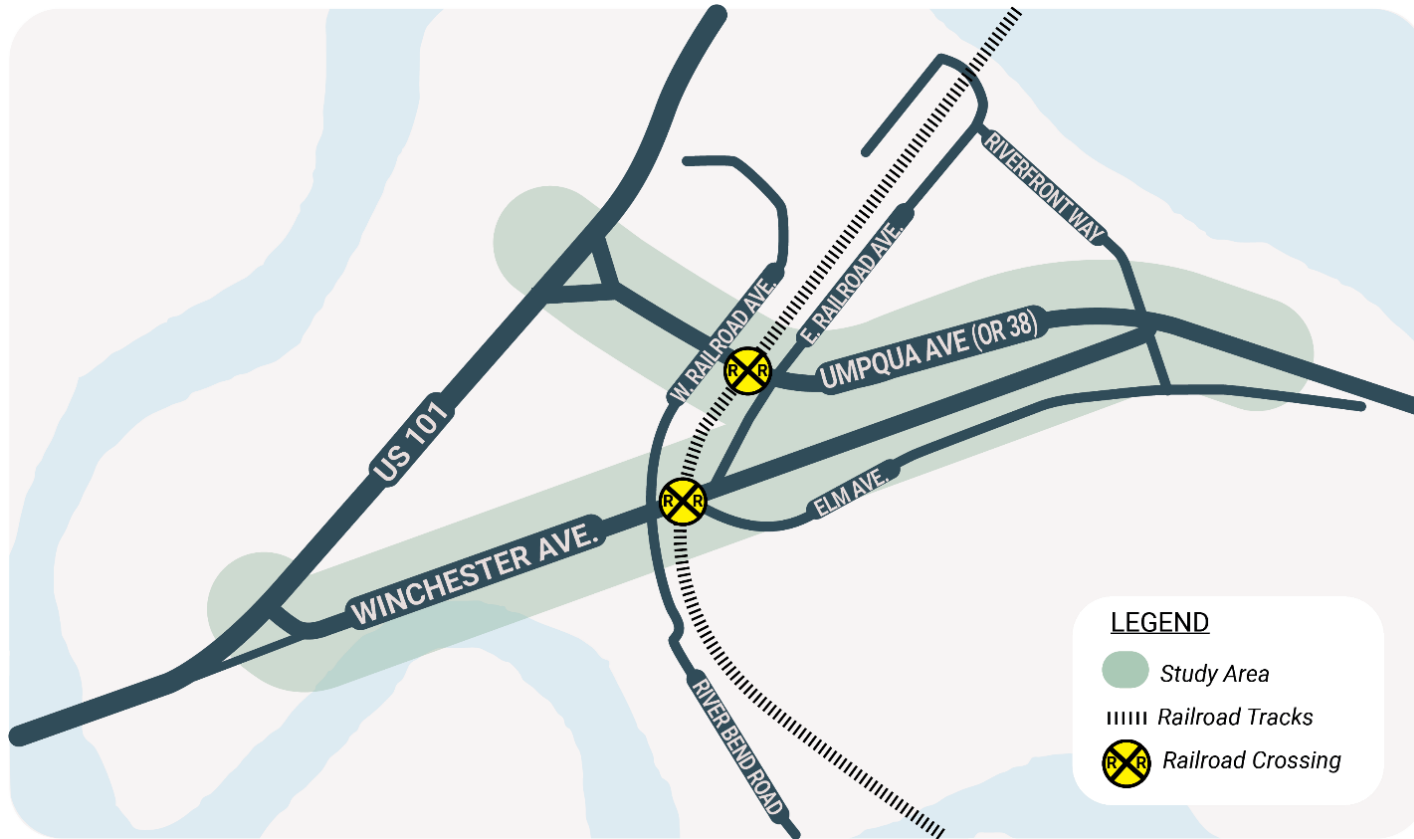
Project Overview

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

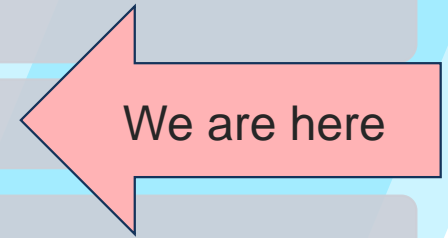
- TM #7: Preferred Improvement and Project Sheets

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

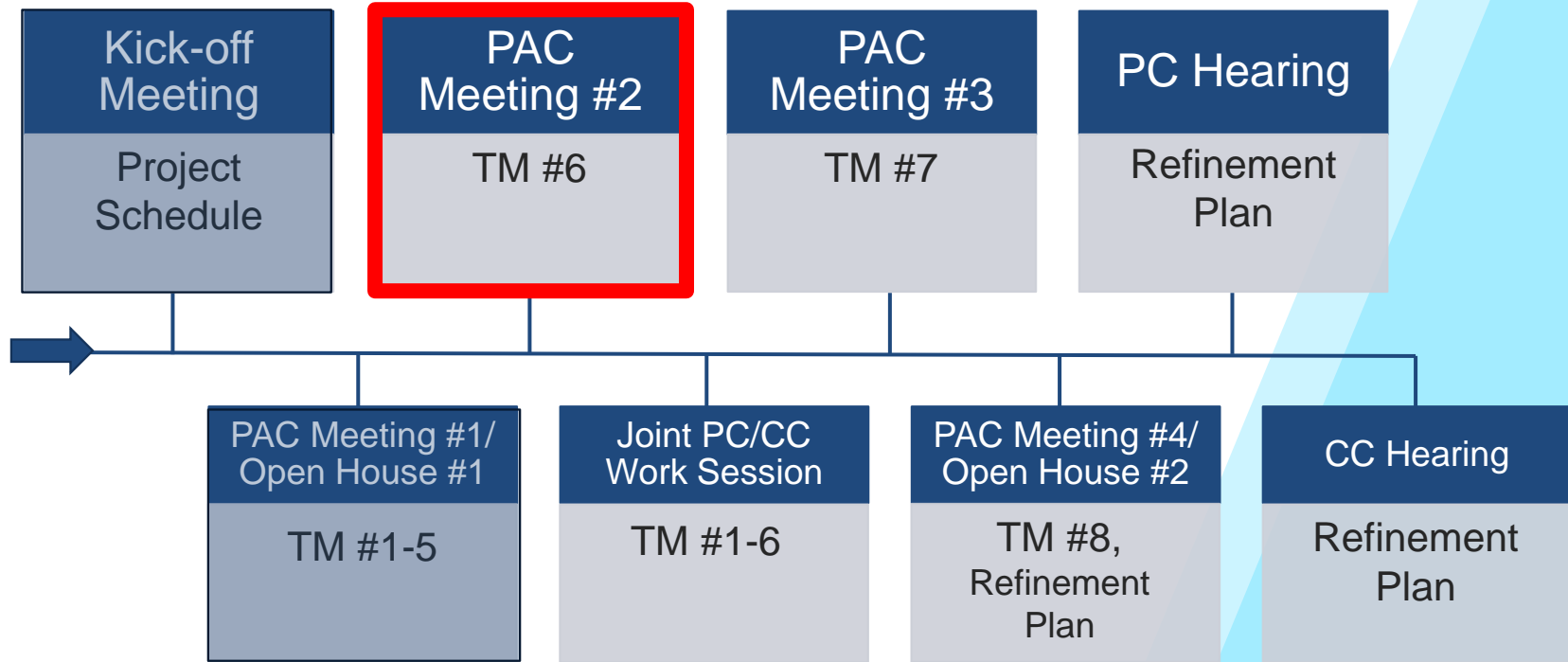


We are here



PAC
Meeting

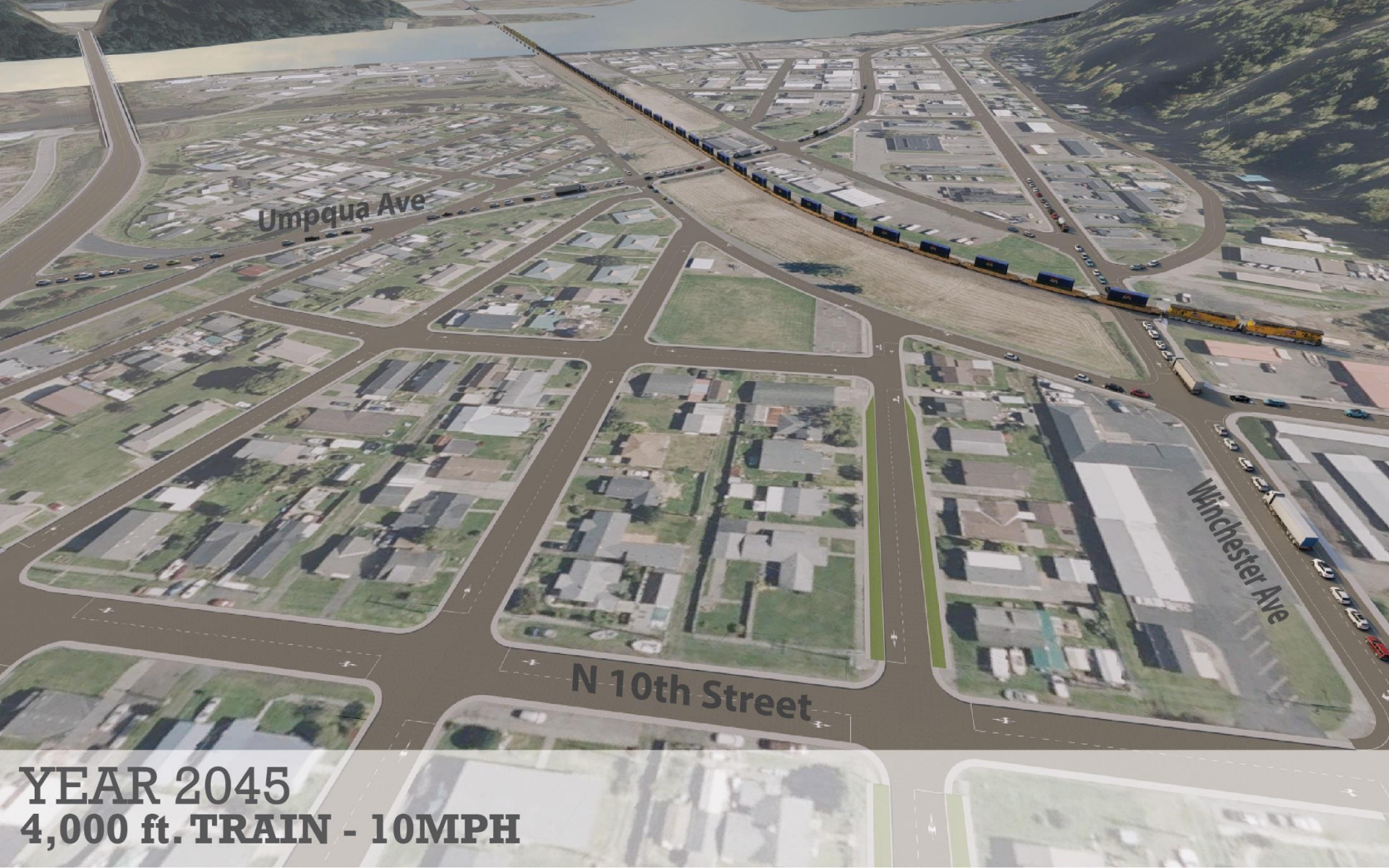
Meetings and Milestones



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





Umpqua Ave

Winchester Ave

N 10th Street

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



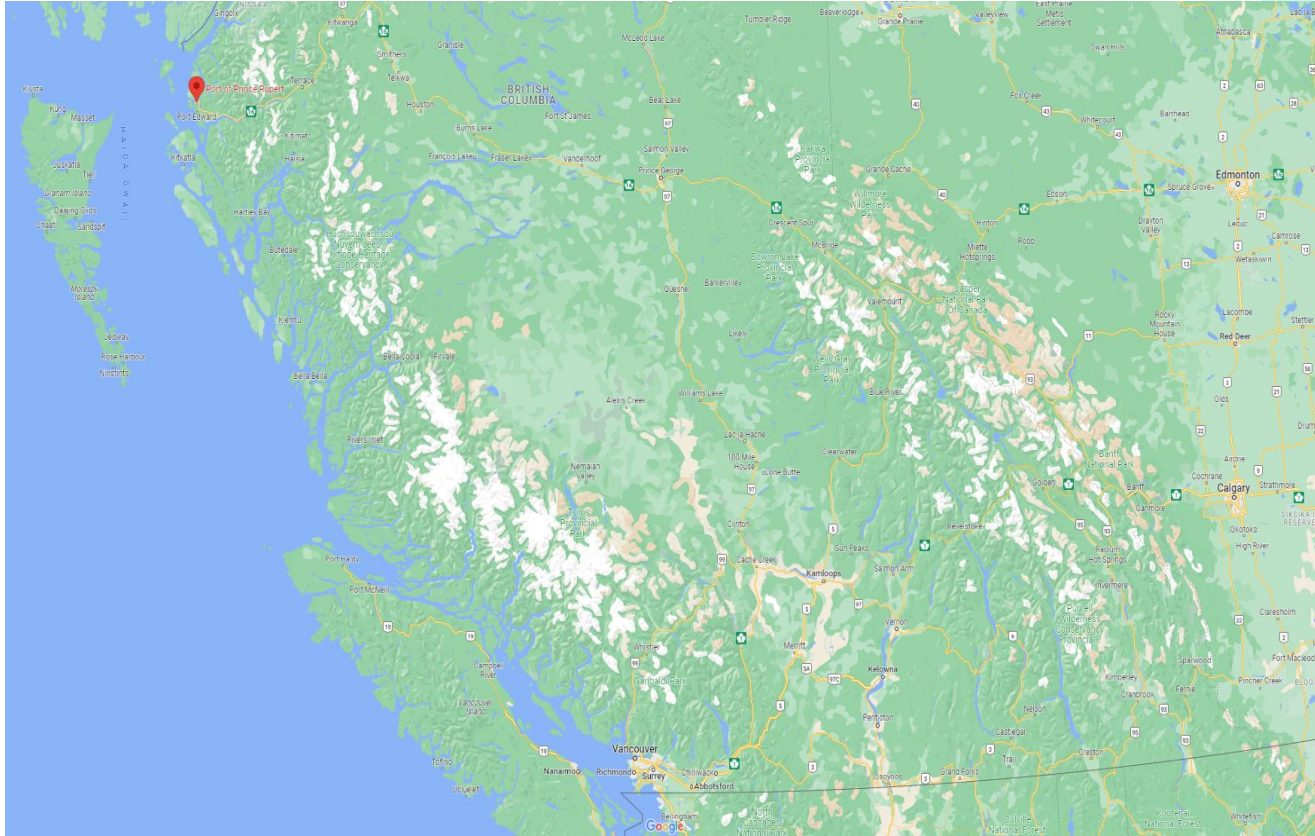
Contextual Understanding



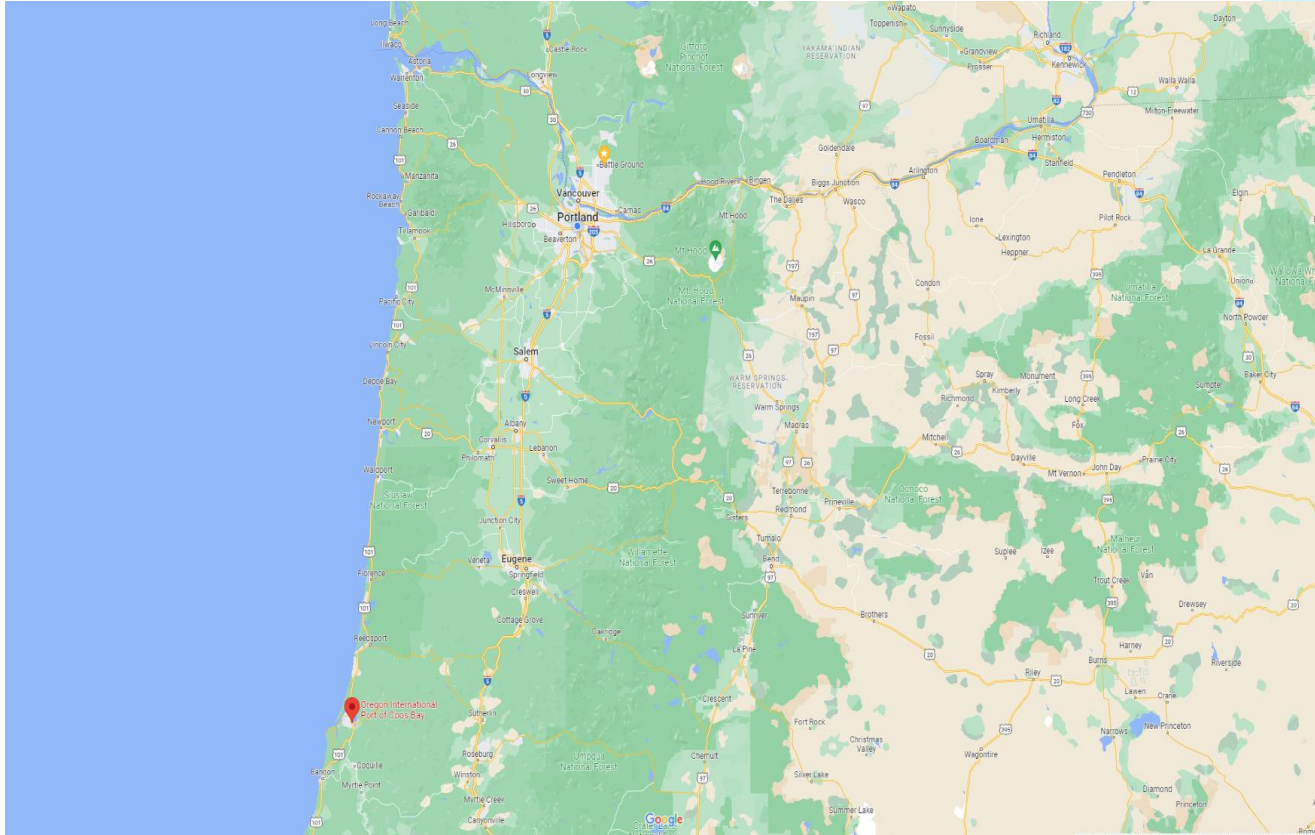
Credit: Prince Rupert Port Authority



Contextual Understanding



Contextual Understanding



Transportation Alternatives



No Build

TM #6, Pg 5

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:

TM #6, Pg 5

- 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

TM #6, Pg 6

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



Cost Opinion
\$360,000



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



At Grade Rail Crossing Alternatives: 1C

TM #6, Pg 8

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



At Grade Rail Crossing Alternatives: 1D

TM #6, Pg 9

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

TM #6, Pg 10

- 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

TM #6, Pg 10

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

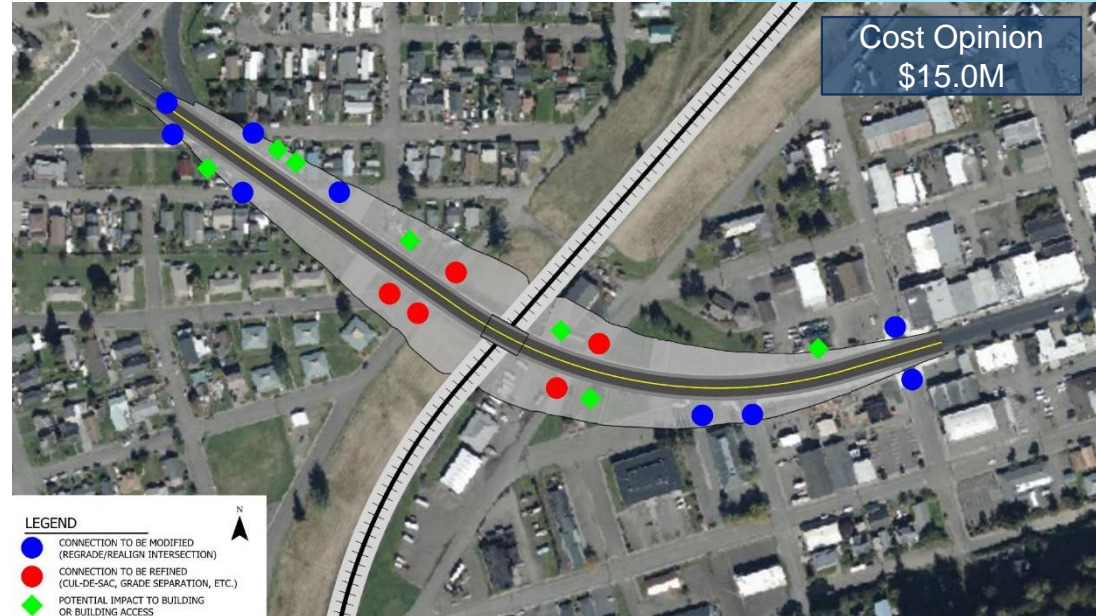


At Grade Rail Crossing Alternatives: 2A2

TM #6, Pg 11

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

TM #6, Pg 13

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

TM #6, Pg 14

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



Cost Opinion
\$15M

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

TM #6, Pg 16

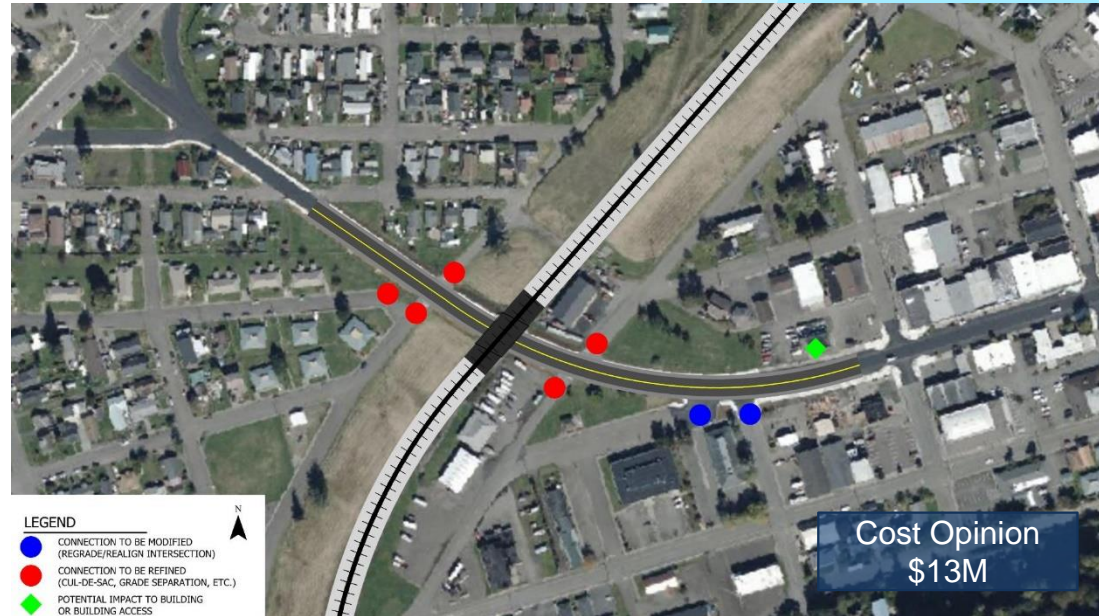
OR 38 Rail Undercrossing with Retaining Walls

- 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

TM #6, Pg 16

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 queueing 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 queueing 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

TM #6, Pg 18

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

TM #6, Pg 20

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



Rail Line Upgrade Alternative: 3A1

TM #6, Pg 20

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

TM #6, Pg 20

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

TM #6, Pg 21

- 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

TM #6, Pg 26

Improvement Package #1

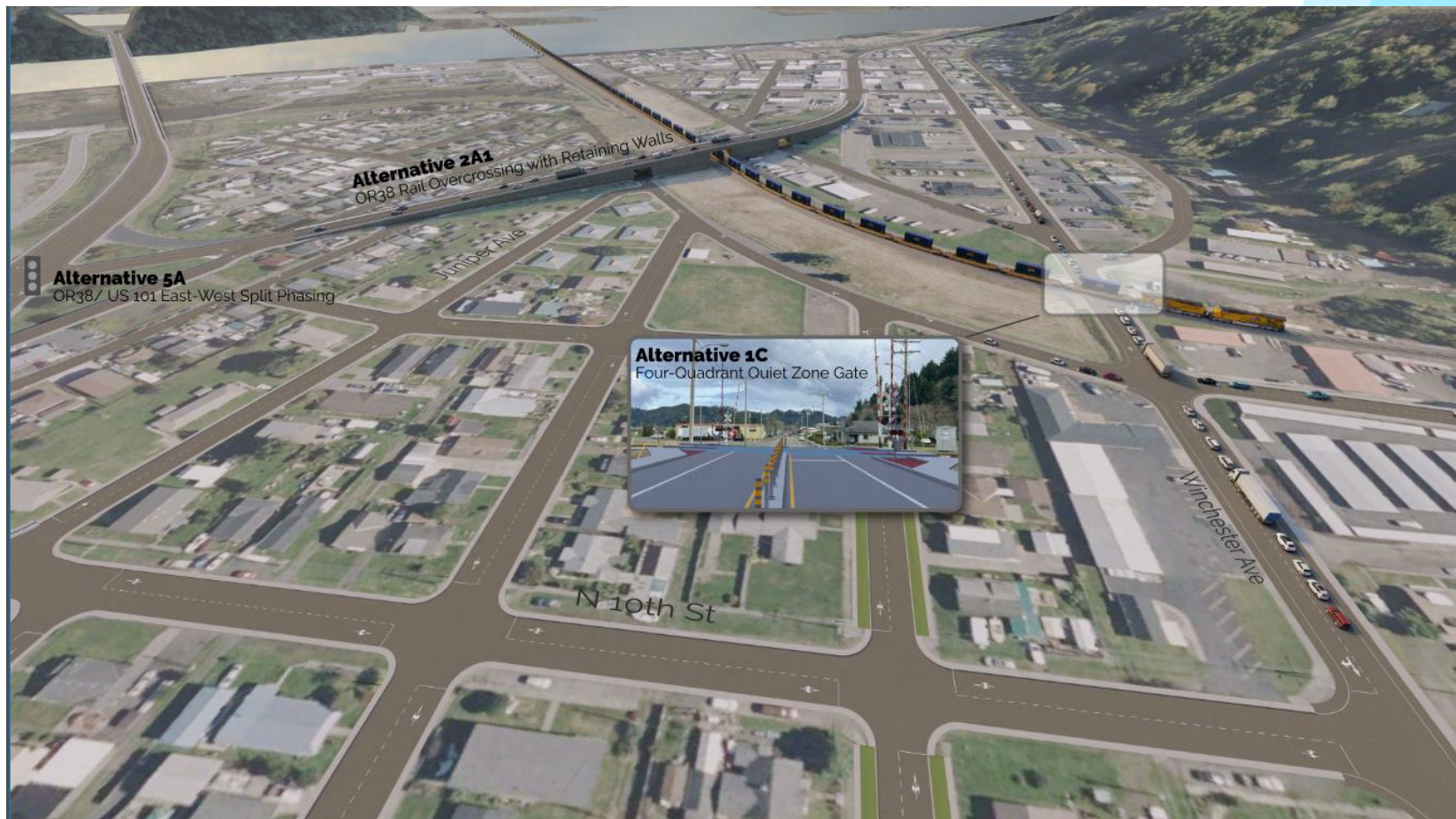
- 1C – Four-Quadrant Gated Rail Crossing on Winchester Ave
- 2A1 – OR 38 Rail Overcrossing with Retaining Walls
- 5A – OR 38 / US 101 East-West Split Phasing

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 queueing 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



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

