



# **COLUMBIA COUNTY RAIL SAFETY AND MOBILITY STUDY**

**May 2022**





# Project Partners

## **Public –**

**City of Scappoose**

**City of St. Helens**

**City of Columbia City**

**City of Clatskanie**

**Columbia County**

**Columbia Economic Team**

**Port of Columbia County**

## **Private –**

**Global Partners**

**NEXT Renewable Fuels**

# Railroad crossing delays undermine economic prosperity and public safety.

## Study Purpose

- Evaluate existing at-grade railroad crossings in Columbia County
- Recommend priority crossings for safety improvements
- Seek community endorsement
- Consider project funding sources



## Phase 1: Existing Conditions

- Listen to the community stakeholders
- Evaluate existing conditions
- Draft evaluation criteria
- Categorize railroad crossings (3 Tiers)

## Phase 2: Conceptual Solutions

- Re-engage steering committee
- Solicit additional community feedback
- Finalize Evaluation Criteria and priorities
- Recommend improvements (top tier)
- Consider project funding sources

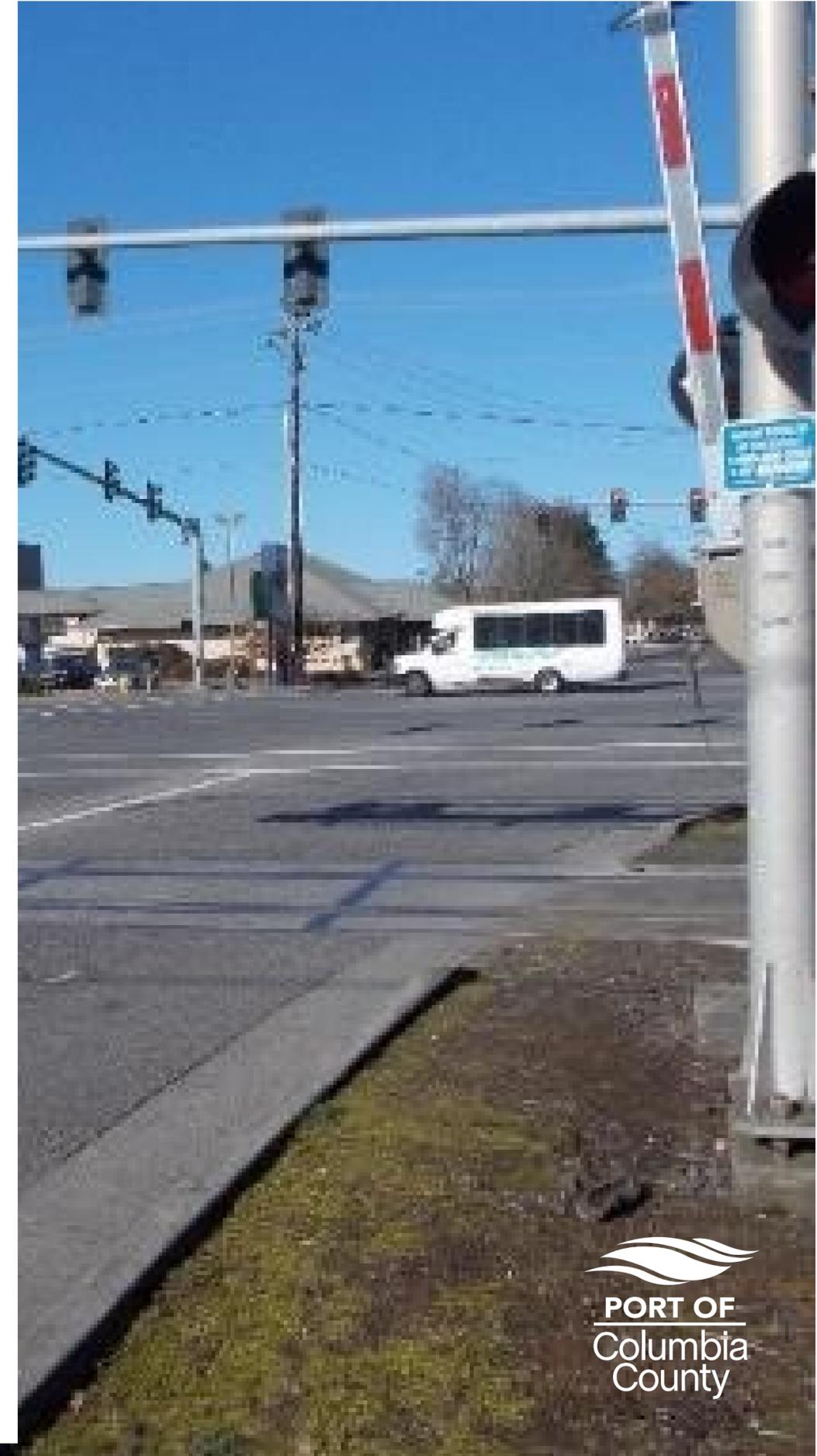


## Columbia County

- Experiencing population and job growth
- Population growth is concentrated in Scappoose & St. Helens
- 49 at-grade public rail crossings today

## Portland & Western Railroad

- Private railroad
- 90 trains monthly (some over 100 rail cars long)
- Travel speeds up to 25 mph



## February 2020

- Consultant conducted 6 group stakeholder interviews
- Provided local knowledge and experiences
- Guide the decision-making process

### What we heard:

- Safety and mobility challenges, especially in south Columbia County
- Local businesses rely on the railroad
- School access and bus operations impacted by certain crossings
- Residents have ideas for potential solutions



## **Safety**

- Number of Federal Railroad Administration (FRA) Recorded Incidents

## **Public Input**

- Concern expressed through interviews

## **Mobility**

- 2020 Peak Hour Vehicles per Hour
- 2020 Peak Hour Vehicle Delay (min)

## **Three Tiers (vehicle delay):**

- Tier 1 = Nine crossings (>10 min delay and/or with significant public concerns)
- Tier 2 = Twelve crossings (3-10 min delay)
- Tier 3 = Twenty-seven crossings (<3 min delay)

# TIER 1 PRIORITY CROSSINGS

<b>Crossing</b>	<b>FRA Incidents</b>	<b>Public Input</b>	<b>Delay</b>
Lower Columbia River Highway	0	Significant Concerns	93 min.
Gable Road	4	Significant Concerns	27 min.
Deer Island Road	3		18 min.
St. Helens Street	1	Some Concerns	13 min.
Columbia Avenue	0		12 min.
Columbia Boulevard	1	Significant Concerns	11 min.
Wyeth Street	0		10 min.
High School Way	2	Most Significant Concerns	4 min.
Crown Zellerbach Road	0	Significant Concerns	4 min.



## Phase 1:

- “Columbia County Safety & Mobility Study Existing Conditions Memorandum” - available on Port website

## Phase 2:

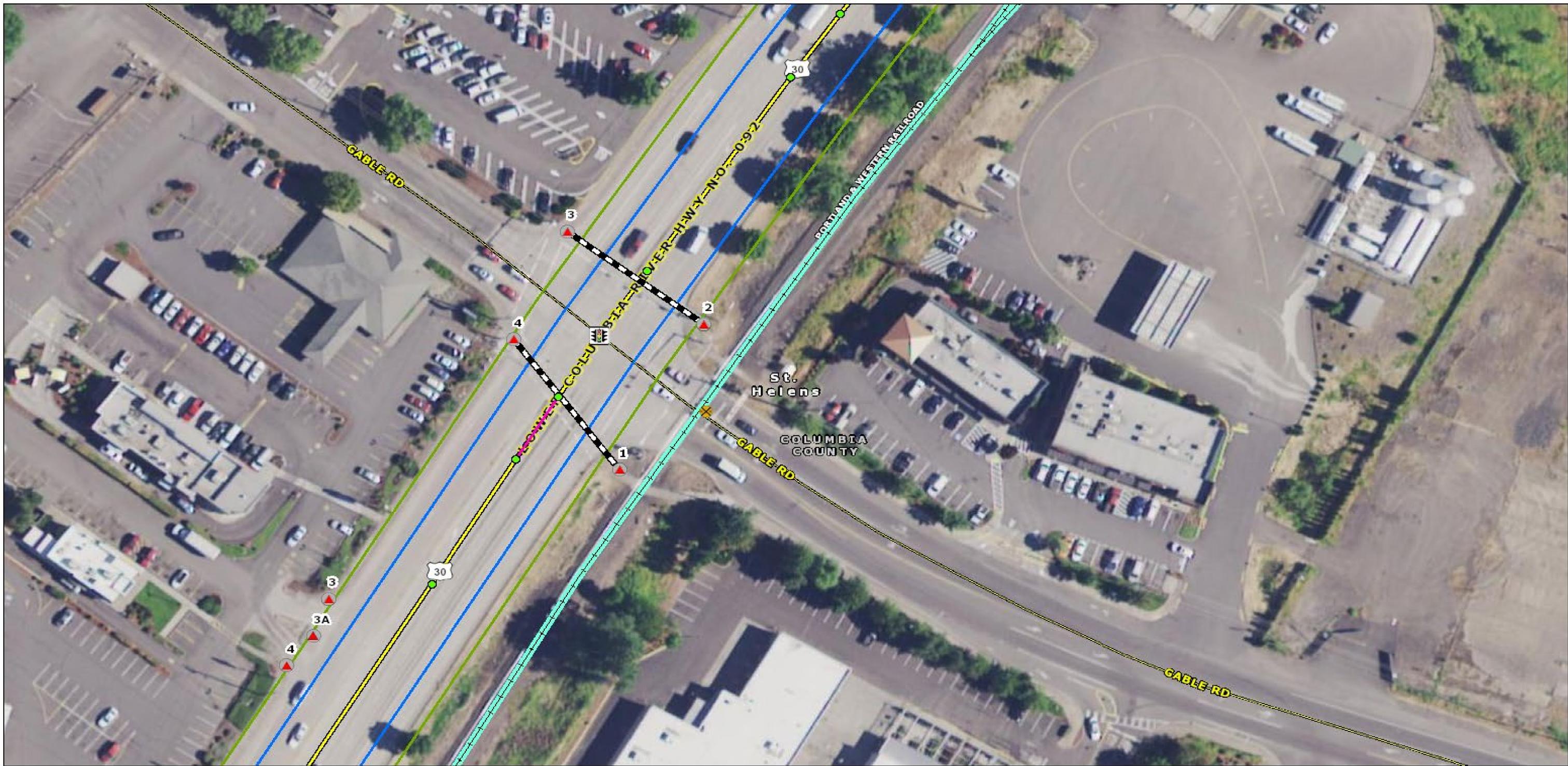


# PRELIMINARILY IDENTIFIED TIER 1 PRIORITY CROSSINGS

Crossing	FRA Incidents	Public Input	Vehicles/ Hour	Delay
Lower Columbia River Highway	0	Significant Concerns	1,100	93 min.
Gable Road	4	Significant Concerns	520	27 min.
Deer Island Road	3		390	18 min.
St. Helens Street	1	Some Concerns	320	13 min.
Columbia Avenue	0		290	12 min.
Columbia Boulevard	1	Significant Concerns	270	11 min.
Wyeth Street	0		250	10 min.
High School Way	2	Most Significant Concerns	90	4 min.
Crown Zellerbach Road	0	Significant Concerns	120	4 min.

## **CROSSING: GABLE ROAD**

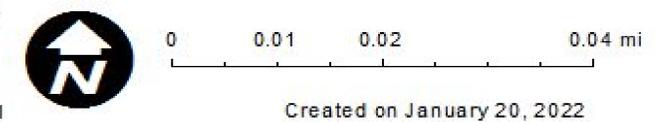
- Most dangerous and inconvenient crossing, with very long waits for unit trains and high levels of traffic.
- Insufficient distance between railroad track and traffic light stop bars for a single modern standard truck or bus.
- Breaking down or storing trains at the St. Helens yard contribute to delays.



- Signs
- 🚦 Signals
- ▲ ADA Ramps
  - ▲ Good
  - ▲ Fair
  - ▲ Poor
  - ▲ Missing
  - ▲ Not Needed
- ADA Corners
- Marked Crosswalks (no connecting ADA ramps)
- ▬ Marked Crosswalks (connecting ADA ramps)
- Side walks
- Bicycle Facilities**
  - Bike Lane
  - Shoulder > 5'
  - Shared Lane
- Traffic Barriers**
  - Cable
  - Concrete
  - Guard Rail

# CROSSING: GABLE ROAD

## EXISTING CONDITIONS



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Oregon Department of Transportation

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# CROSSING: GABLE ROAD

## Previously identified improvements

- 2 proposed improvements in the *2011 St. Helens Transportation System Plan*:
  - Installation of dual left turn lanes and separate right-turn lanes on all four intersection approaches
  - Implement coordinated signal timing along the highway corridor
- Recommended improvements in the *2017 Columbia County Transportation System Plan*:
  - Infill development and enhanced roadway crossings to promote walking
  - Bicycle and pedestrian accommodations including on-road bike lanes, wide shoulders, and off-road shared-use paths
  - Pedestrian crossing at US 30 and Gable Road

# CROSSING: GABLE ROAD

## Grade Separation Conceptual Alternative at Port Avenue

- Assessed potential crossings within ½ mile north and south of Gable Road and US 30
- Considered bridge length, wall length, right-of-way impacts and existing city infrastructure
- Improvements would be required to Port Avenue, Maplewood Drive, Matzen Street, and driveways on west side of US 30

## Fundability

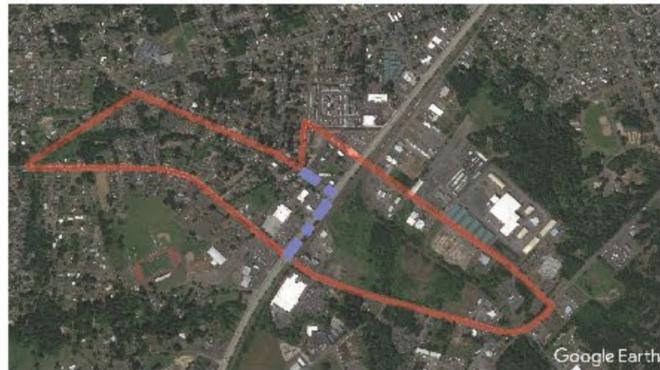
- Approximately \$61 million (escalated to 2030)
- Multiple funding sources required
- RAISE grants

**KEY**

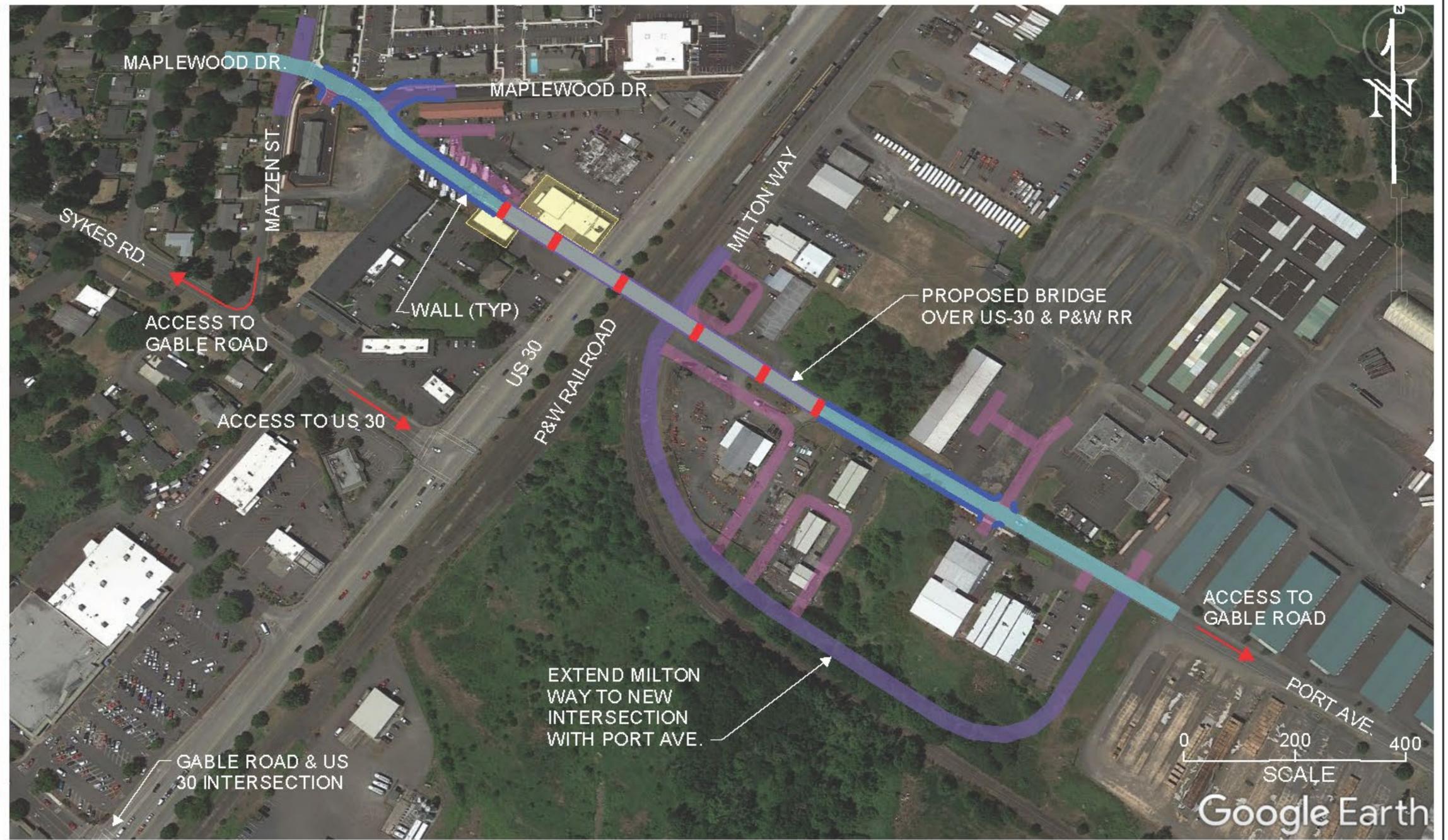
-  CONCEPTUAL ALIGNMENT FOR GRADE SEPARATION OF PORT AVENUE
-  BRIDGE LIMITS
-  CONCEPTUAL MODIFIED CITY STREETS
-  CONCEPTUAL MODIFIED PRIVATE DRIVEWAYS
-  RETAINING WALLS
-  BUILDING IMPACTS (LIKELY)

**GABLE ROAD DETOUR ROUTE**

DISTANCE TO TRAVEL WHEN GABLE ROAD IS BLOCKED BY TRAIN NEAR US 30 INTERSECTION



-  GABLE RD. LOOP = 3.0 MILES
-  US 30 LOOP = 1.7 MILES



**CONCEPTUAL GABLE ROAD GRADE SEPARATED RAILROAD CROSSING ALTERNATIVE**

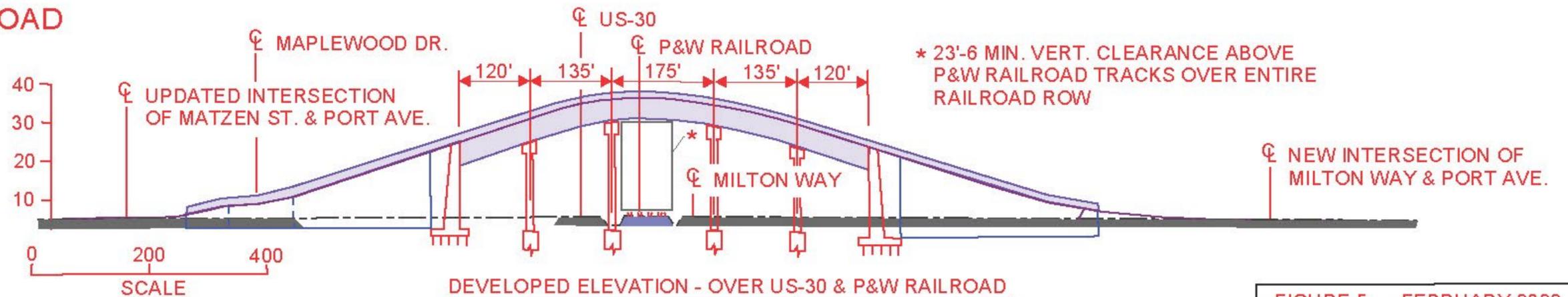


FIGURE 5 FEBRUARY 2022

# CROSSING: DEER ISLAND ROAD

## Previously identified improvements

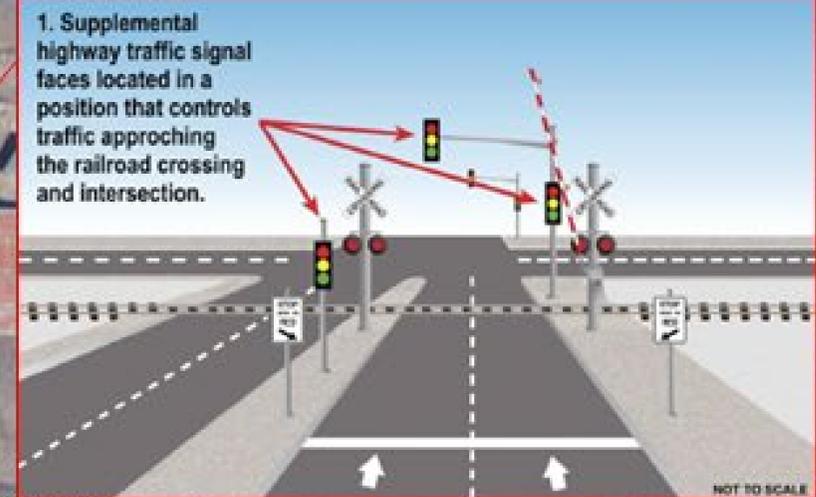
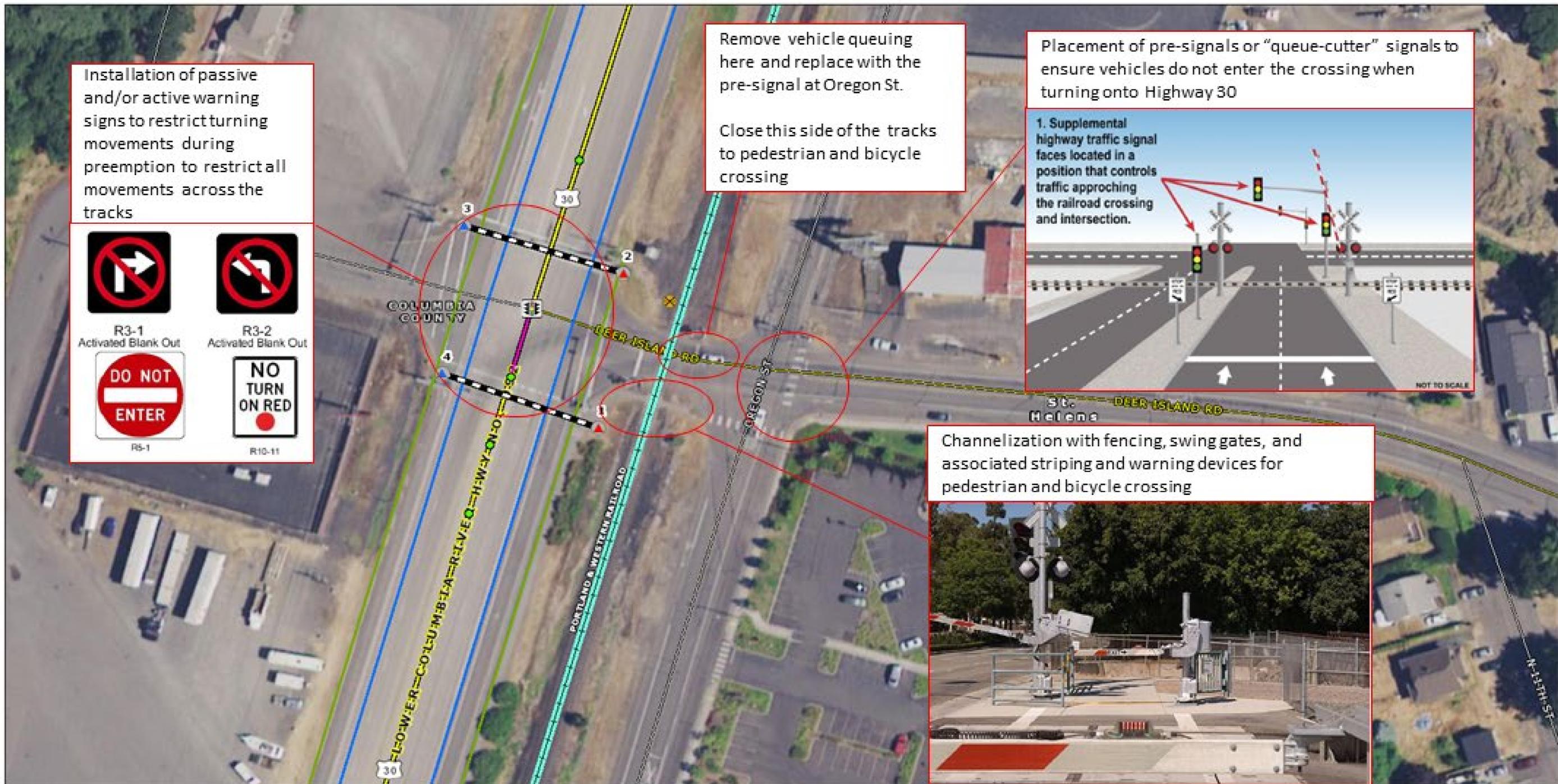
- 8 proposed improvements in the *2011 St. Helens Transportation System Plan*

## Additional conceptual solutions

- Installation of passive and/or active warning signs
- Remove vehicular queuing
- Placement of pre-signal (also known as queue-cutter signals)
- Channelization with fencing, swing gates, striping, and bike/ped. warning devices

## Fundability

- Section 130 funds
- Non-federal, 10% match from local sources required



- Signs
- 🚦 Signals
- ▲ ADA Ramps
  - ▲ Good
  - ▲ Fair
  - ▲ Poor
  - ▲ Missing
  - ▲ Not Needed
- ADA Corners
- Marked Crosswalks (no connecting ADA ramps)
- ▬ Marked Crosswalks (connecting ADA ramps)
- Sidewalks

- Bicycle Facilities
  - Bike Lane
  - Shoulder > 5'
  - Shared Lane
- Traffic Barriers
  - Cable
  - Concrete
  - Guard Rail



0 0.01 0.02 0.04 mi

Created on January 20, 2022

# CROSSING: DEER ISLAND ROAD

## CONCEPTUAL IMPROVEMENTS

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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# **CROSSING: HIGH SCHOOL WAY**

## **Stakeholder-recommended improvements**

- Exemption to State school bus crossing standards
- School walk zone in Scappoose School District
  - Multiple pedestrian-vehicle collisions at this intersection
- Construct a pedestrian bridge
  - Estimated cost \$10 million - \$25 million
  - Significant right-of-way impacts

## **Fundability**

- Section 130 funds
- Non-federal, 10% match from local sources required
- Pedestrian overcrossing will require substantially more funding, potentially through RAISE grant.

# **CROSSING: HIGH SCHOOL WAY**

## **Quiet Zone improvement alternative (safety upgrades to current conditions)**

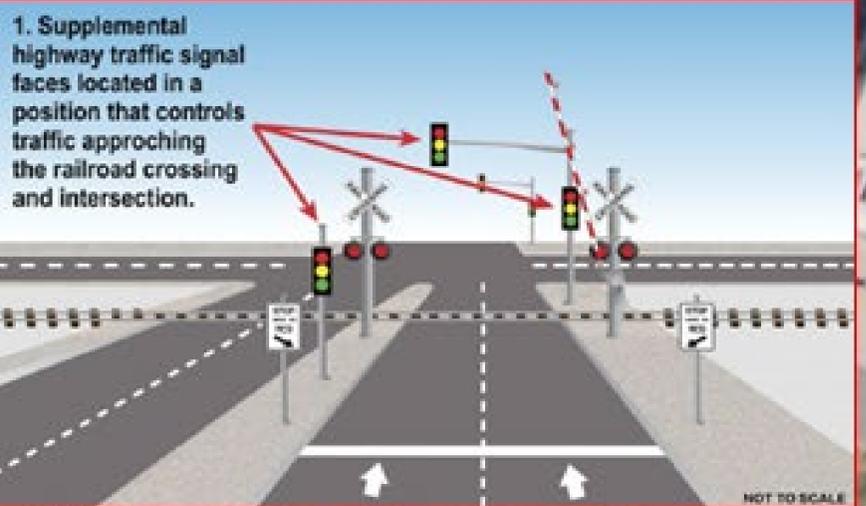
- Quiet Zone can be considered at this crossing OR between Havlik Drive and Crown Zellerbach Road
- Installation of vehicular four-quadrant gate system with a pedestrian automatic gate
- Installation of passive and/or active warning signs
- Remove vehicular queuing
- Placement of pre-signal (also known as queue-cutter signals)
- Channelization with fencing, signage, and striping, and bike/ped. warning devices

**Process for Quiet Zone implementation is guided by the FRA, established by ODOT**

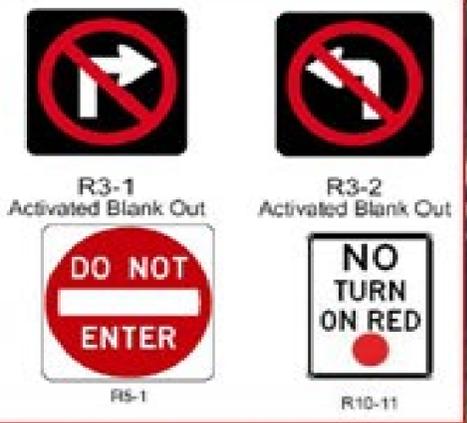
# Establishment of a Queue Zone

Remove vehicle queuing here and replace with the pre-signal

Placement of pre-signal or "queue-cutter" signal to ensure vehicles do not enter the crossing when turning onto Highway 30



Installation of passive and/or active warning signs to restrict turning movements during preemption to restrict all movements across the tracks



Installation of a vehicular four-quadrant gate system with a pedestrian automatic gate that shares the same assembly as the vehicle automatic gate  
Pedestrian channelization using fencing, signage, and striping



● Signs	🚦 Signals	ADA Ramps	● ADA Corners	○ Marked Crosswalks (no connecting ADA ramps)	▬ Marked Crosswalks (connecting ADA ramps)	— Sidewalks	Bicycle Facilities	Traffic Barriers
		▲ Good					— Bike Lane	— Cable
		▲ Fair					— Shoulder > 5'	— Concrete
		▲ Poor					— Shared Lane	— Guard Rail
		▲ Missing						
		▲ Not Needed						

Created on January 19, 2022

# CROSSING: HIGH SCHOOL WAY CONCEPTUAL IMPROVEMENTS

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# OTHER CROSSINGS

## General improvements to consider throughout Columbia County include:

- Installing better freight route and directional signage
- Initiating a safety outreach campaign, supported by Operation Lifesaver
- Investing in Intelligent Transportation Systems so commuters can respond to delay in real time

## Improvement alternatives can be grouped by community to better address local issues

- Final report will list potential improvements for all 49 rail crossings



# Funding Partners

## PHASE 1 - \$50,000

City of Scappoose	\$7,500
City of St. Helens	\$7,500
City of Columbia City	\$1,000
City of Clatskanie	\$3,000
Columbia County	\$10,000
Columbia Economic Team	\$2,500
Global Partners	\$3,750
NEXT Renewable Fuels	\$7,500
Port of Columbia County	\$7,250*

## PHASE 2 - \$84,000

City of Scappoose	\$7,500
Port Planning & Marketing Grant (State of Oregon)	\$30,000
Port of Columbia County	\$34,000*

**FUNDING ASK - \$7,500**

\*Plus staff time



## **CONTACT**

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