

# Edmonds Waterfront Access Study

## Level 1 Screening Criteria

### Introduction

The purpose of the Edmonds Waterfront Access Study is to identify near-term and long-term solutions for the at-grade crossings at Main and Dayton Streets in order to provide safe, reliable and efficient access for vehicular traffic (including freight), transit, emergency vehicles, pedestrians, and bicyclists between downtown Edmonds and the waterfront, including regional transportation links. The project is intended to:

- Provide for continuous emergency response access
- Reduce delays and conflicts for pedestrians, bicyclists and motorists at the Dayton Street and Main Street railroad crossings
- Provide safe and efficient intermodal passenger connectivity between ferry, commuter rail, bus transit, pedestrian, bicycle and motor vehicle modes of travel.

The study involves two phases of alternatives evaluation. The first is the Level 1 screening, which reviews a wide array of solutions that have been developed to a conceptual level. The criteria applied to the solutions in Level 1 are directed toward distinguishing between the concepts' ability to meet the project's purpose and needs. The concepts that remain after the Level 1 screening will then be developed further and evaluated using more quantified criteria in the Level 2 evaluation, with the intention of determining preferred alternative(s) for implementation.

### Solution Concepts

Over 40 distinct solution concepts were compiled from prior studies and analyses, public outreach efforts, and project team development. They are briefly described in Table 1, where they are organized by solution type. Multiple locations are identified where a given solution may be appropriate.

Table 1. Compiled Solution Concepts for Level 1 Screening

Identifier	Solution Concept Description
<b>Roadway Overpass</b>	
Overpass 1	South end of Admiral Way from lower yard at Unocal site ("Pine Street Extension")
Overpass 2	Marina Beach Park/Edmonds Crossing area from relocated ferry terminal flyover
Overpass 3	Near Edmonds Yacht Club
Overpass 4	Dayton Avenue
Overpass 5	Mid-block, near Senior Center
Overpass 6	Main Street (including ferry loading)
Overpass 7	Pedestrian/bicycle overpass spanning Main Street and Railroad
Overpass 8	Extension of Bell Street to Brackett's Landing Park North
Overpass 9	Extension of Edmonds Street to Brackett's Landing Park North
Overpass 10	Near Haines Wharf Park
<b>Roadway Underpass</b>	
Underpass 1	Main Street
Underpass 2	Dayton Street for all travel modes
Underpass 3	Salish Crossing (north of Dayton) for small service vehicles, pedestrians, bicycles only
Underpass 4	Main Street undercrossing for small service vehicles, pedestrians, bicycles only
<b>Railroad Modifications</b>	
Railroad 1	Train Trench: Full clearance under both Main & Dayton
Railroad 2	Train Trench: Full clearance under Main Street, with raised roadway at Dayton
Railroad 3	Combination Rail Underpass plus Roadway Overpass
Railroad 4	Combination Rail Overpass plus Roadway Underpass
Railroad 5	Elevated rail to pass over road crossings
Railroad 6	Relocate tracks into tunnel beneath Edmonds
Railroad 7	Double-track to optimize train passage and reduce passing time
Railroad 8	Relocate freight rail to east of I-405 along former Eastern Subdivision ROW

Identifier	Solution Concept Description
<b>Operational</b>	
Ops 1	Limit the daily number of long trains passing through crossings
Ops 2	Operate long trains only at night
Ops 3	Synchronize ferry schedule and train crossings to reduce conflicts
Ops 4	Emergency signals to halt trains short of Main Street and Dayton Street
Ops 5	Advance notification of hazardous cargo shipments on trains
Ops 6	Improve emergency operation of crossing gates
Ops 7	Tsunami evacuation plan
<b>On-site Improvements</b>	
Site 1	Emergency first aid training to employees on west side of railroad tracks
Site 2	Station emergency response staff and equipment on west side of railroad tracks
Site 3	Helipad for evacuation from west of railroad tracks
Site 4	At-grade crosswalk improvements at Dayton Street and Railroad Avenue
Site 5	At-grade crosswalk improvements at Main Street and Railroad Avenue
<b>Ferry Terminal Modifications</b>	
Ferry 1	Edmonds Crossing (Point Edwards Concept)
Ferry 2	Expanded Terminal Concept (enlarged trestle for greater vehicle storage)
Ferry 3	Mid-Waterfront Concept (vehicle storage @ Harbor Square w/ trestle at Dayton St.)
Ferry 4	Multimodal Center Garage/ferry vehicle storage, from Dayton St. to flyover to ferry
Ferry 5	Underground Ferry holding with pedestrian bridge extended
Ferry 6	Vehicle holding garage off Dayton Street with overpass to Railroad Avenue
Ferry 7	Trumpet flyover at Dayton Street with surface vehicle storage west of Railroad Avenue
Ferry 8	Surface parking at Salish Center with flyover at Main Street
Ferry 9	Railroad Avenue Holding Lanes accessed via at-grade crossing through Unocal site
Ferry 10	Railroad Avenue Exiting Lanes via at-grade crossing from through the Unocal site
Ferry 11	Relocate railroad tracks to current holding lanes and move holding lanes to west side of relocated tracks

## Level 1 Screening Criteria

Input to the proposed screening criteria was drawn from a number of sources: the stated purpose and need for the project, commonly applied evaluation and environmental review categories, and from community input. Table 2 presents the criteria to be applied in the Level 1 screening.

Applying the criteria to a solution concept will result in a colored response, with Green ▲ being most positive, Red ● being least positive, and Yellow ● indicating a rating between Green and Red (in some cases neutral).

Initially the solution concepts were screened applying only Criteria 1 through 4, as these comprise the project's purpose and need. A preliminary screening using these first 4 criteria follows as Table 3.

Table 1. Level 1 Screening Criteria Descriptions

<b>1 – Does the concept improve reliable emergency response to the west side of the railroad tracks?</b>
Does the concept provide for continuous emergency response access across the railroad?
Does the concept reduce the likelihood of/potential for rail traffic delaying emergency response?
Does the concept improve emergency evacuation from the waterfront?
<b>2 – Does the concept reduce delays to ferry loading/unloading of vehicles?</b>
<b>3 – Does the concept reduce delays and conflicts for pedestrians, bicycles and motorists at roadway/railroad crossings?</b>
Does the concept reduce delays for pedestrians?
Does the concept reduce pedestrian conflicts between travel modes?
Does the concept improve connection between major destinations? (parks, transit, marina, ferry, downtown, restaurants)
<b>4 – Does the concept provide safe and efficient intermodal passenger connectivity between ferry, commuter rail, bus transit, pedestrian, bicycle and motor vehicle modes of travel?</b>
<b>5 – Is the concept feasible to implement?</b>
Is the concept feasible to construct?
Is the concept feasible to fund?
Is the concept feasible to permit?
<b>6 – How well does the concept avoid environmental effects?</b>
To ecosystem resources (streams, marsh/ wetlands, marine shorelines)?
To historic, cultural, and archaeological resources?
To visual aesthetics?
To noise levels?
To sites containing hazardous materials?
To use of park lands?
To air quality?
To soils and groundwater?
<b>7 – How well does the concept avoid creating social and/or economic impacts?</b>
What is the concept’s potential to avoid adverse effects on neighborhoods? To businesses?
Is the concept compatible with positive urban design?
What is the concept’s potential to avoid conflicts with parks/recreation assets?
Does the concept avoid creating safety hazards?
Does the concept improve freight mobility? (via rail, via ferry)

Preliminary Review of Solution Concepts with Purpose & Need

Identifier No.	Solution Concepts	Does concept improve reliable emergency response access to west of railroad?	Does concept reduce delays to ferry loading/unloading?	Does concept reduce delays/conflicts for pedestrians, bicycles and motorists at rail crossings?	Does concept provide safe and efficient intermodal connectivity between various travel modes?	Is the concept feasible to implement?	How well does the concept avoid environmental effects?	How well does the concept avoid creating social and/or economic impacts?
<b>Roadway Overpass - Consider various capacities at each location: All travel modes; Emergency vehicle, pedestrian, bicycle; Emergency medical cart, pedestrian, bicycle; Access from a ferry flyover ramp</b>								
Overpass 1	South end of Admiral Way from lower yard at Unocal site ("Pine Street Extension")							
Overpass 2	Marina Beach Park/Edmonds Crossing area from relocated ferry terminal flyover							
Overpass 3	Near Edmonds Yacht Club							
Overpass 4	Dayton Avenue							
Overpass 5	Mid-block, near Senior Center							
Overpass 6	Main Street (including ferry loading)							
Overpass 7	Pedestrian/bicycle overpass spanning Main Street and railroad between pedestrian ramp, Brackett's North, Brackett's South, & Intermodal Ctr.							
Overpass 8	Extension of Bell Street to Brackett's Landing Park North							
Overpass 9	Extension of Edmonds Street to Brackett's Landing Park North							
Overpass 10	Near Haines Wharf Park							
<b>Roadway Underpass - Consider various capacities at each location: All travel modes; Emergency vehicle, pedestrian, bicycle; Emergency medical cart, pedestrian, bicycle; Access from a ferry flyover ramp</b>								
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<b>Railroad Modifications</b>								
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Railroad 2	Train Trench: Full clearance under Main Street, with raised roadway at Dayton							

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Railroad 3	Combination Rail Underpass plus Roadway Overpass	Yellow	Green	Green	Yellow			
Railroad 4	Combination Rail Overpass plus Roadway Underpass	Yellow	Green	Green	Yellow			
Railroad 5	Elevated rail to pass over road crossings	Yellow	Green	Green	Red			
Railroad 6	Relocate tracks into tunnel beneath Edmonds	Green	Green	Green	Red			
Railroad 7	Double-track to optimize train passage and reduce passing time	Red	Yellow	Yellow	Yellow			
Railroad 8	Relocate freight rail to east of I-405 along former Eastern Subdivision ROW	Yellow	Yellow	Green	Green			
<b>Operational</b>								
Ops 1	Limit the daily number of long trains passing through crossings	Red	Red	Red	Red			
Ops 2	Operate long trains only at night	Yellow	Yellow	Red	Red			
Ops 3	Synchronize ferry schedule and train crossings to reduce conflicts	Red	Red	Red	Red			
Ops 4	Emergency signals to halt trains short of Main Street and Dayton Street	Green	Red	Red	Red			
Ops 5	Advance notification of hazardous cargo shipments on trains	Red	Red	Red	Red			
Ops 6	Improve emergency operation of crossing gates	Yellow	Yellow	Yellow	Red			
Ops 7	Tsunami evacuation plan	Red	Red	Red	Red			
<b>On-site Improvements</b>								
Site 1	Emergency first aid training to employees on west side of railroad tracks	Yellow	Red	Red	Red			
Site 2	Station emergency response staff and equipment on west side of railroad tracks	Green	Red	Red	Red			
Site 3	Helipad for evacuation	Yellow	Red	Red	Red			
Site 4	At-grade crosswalk improvements at Dayton Street and Railroad Avenue	Red	Red	Yellow	Yellow			

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Site 5	At-grade crosswalk improvements at Main Street and Railroad Avenue							
<b>Ferry Terminal Modifications</b>								
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