Working Harbor Reinvestment Strategy: Transportation Infrastructure Analysis

July 2007
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Introduction

The purpose of the Working Harbors Transportation Infrastructure Analysis is to identify and rank transportation projects that support economic and job development within the Working Harbor industrial districts. This report summarizes transportation deficiencies noted in business interviews and describes transportation projects that have been identified in the Portland harbor area of North and Northwest Portland.

The study focused on fifteen key sites in the Working Harbor area that were identified by the City of Portland as opportunity sites for potential redevelopment for industrial and other employment uses. This report evaluates access to and from the opportunity sites and provides recommendations on transportation system improvements that could increase the potential for site redevelopment.

The Working Harbor area has been divided into four general subareas:

- Rivergate/St. John’s
- Swan Island
- NW Industrial
- Linnton

The Rivergate/St. John’s subarea includes port facilities along the Columbia and Willamette Rivers and rail and warehousing facilities along Marine Drive and North Lombard and in the St. John’s neighborhood.

The Swan Island subarea is located on the east side of the Willamette River, south of the Rivergate/St. John’s subarea. It includes the Swan Island industrial area and the Albina industrial area.

The NW Industrial subarea is located on the west side of the Willamette River, from the Fremont Bridge to the vicinity of the BNSF railroad bridge across the Willamette near Wacker Siltronics.

The Linnton subarea is located on the west side of the Willamette River, north of the St. John’s Bridge.

The fifteen sites are summarized in Table 1 below and shown in Figure 1.
Table 1: Potential Redevelopment Sites & Associated Subareas

<table>
<thead>
<tr>
<th>Site #</th>
<th>Owner</th>
<th>Land Available For Redevelopment</th>
<th>Total Land Area</th>
<th>Subarea</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Time Oil</td>
<td>45 acres</td>
<td>45 acres</td>
<td>Rivergate/St. John’s</td>
</tr>
<tr>
<td>2</td>
<td>Langley St. Johns</td>
<td>7 acres</td>
<td>7 acres</td>
<td>Rivergate/St. John’s</td>
</tr>
<tr>
<td>3</td>
<td>Arkema</td>
<td>59 acres</td>
<td>59 acres</td>
<td>NW Industrial</td>
</tr>
<tr>
<td>4</td>
<td>ESCO</td>
<td>10 acres</td>
<td>10 acres</td>
<td>NW Industrial</td>
</tr>
<tr>
<td>5</td>
<td>Aventis Cropscience USA</td>
<td>16 acres</td>
<td>16 acres</td>
<td>NW Industrial</td>
</tr>
<tr>
<td>6</td>
<td>City of Portland – BES (Swan Island Lagoon)</td>
<td>10 acres</td>
<td>10 acres</td>
<td>Swan Island</td>
</tr>
<tr>
<td>7</td>
<td>City of Portland – BES (T-1 North)</td>
<td>19 acres</td>
<td>19 acres</td>
<td>NW Industrial</td>
</tr>
<tr>
<td>8</td>
<td>Linnton Plywood</td>
<td>25 acres</td>
<td>25 acres</td>
<td>Linnton</td>
</tr>
<tr>
<td>9</td>
<td>Lakea Corporation</td>
<td>1 acre</td>
<td>1 acre</td>
<td>NW Industrial</td>
</tr>
<tr>
<td>10</td>
<td>Oregonian</td>
<td>11 acres</td>
<td>11 acres</td>
<td>NW Industrial</td>
</tr>
<tr>
<td>11</td>
<td>Siltronic</td>
<td>15 acres</td>
<td>80 acres</td>
<td>NW Industrial</td>
</tr>
<tr>
<td>12</td>
<td>Stauffer Chemical</td>
<td>15 acres</td>
<td>31 acres</td>
<td>Rivergate/St. John’s</td>
</tr>
<tr>
<td>13</td>
<td>Vigor (Cascade General)</td>
<td>25 acres</td>
<td>65 acres</td>
<td>Swan Island</td>
</tr>
<tr>
<td>14</td>
<td>PGE</td>
<td>34 acres</td>
<td>74 acres</td>
<td>Linnton</td>
</tr>
<tr>
<td>15</td>
<td>Malafouris</td>
<td>2 acres</td>
<td>2 acres</td>
<td>Swan Island</td>
</tr>
</tbody>
</table>
Working Harbor Reinvestment Strategy:
Transportation Infrastructure Analysis

Figure 1:
Project Study Area & Constrained Opportunity Sites

Legend
- Selected Sites
- Freeway
- Railroad
- Arterial

0 0.5 1 1.5 2
Miles
Deficiencies and Projects

This section summarizes the results of interviews with local businesses conducted in 2006 and projects relevant to the Working Harbor study area previously identified in the following documents:

- **City of Portland Freight Master Plan adopted May 10, 2006 (FMP)** provides a road map for managing freight movement and commercial delivery of goods and services in Portland, today and into the future. Identified as a need in the Transportation System Plan (TSP), this plan ascertains freight transportation system needs and deficiencies, and develops solutions. Its goal is to foster a freight system that works for the community and its objectives center around three main themes: mobility, livability, and a healthy economy. Projects identified in the following Technical Memoranda are also included:

- **PDOT Capital Improvement Plan (CIP)** identifies capital improvements to be considered for fiscal years 2003-04 through 2007-08. These improvements are driven by City Council goals and consistent with its mission. This report reviewed the online Capital Improvement Plan that includes major projects.

- **Regional Transportation Plan, METRO, 2004 (RTP)** is the blueprint that guides investments in the region’s transportation system to reduce congestion, build new sidewalks and bicycle facilities, improve transit service and access to transit and maintain freight access. This plan includes a vision, an assessment of need based on growth and estimates costs of projects and proposes funding strategies to meet these costs. All projects that receive federal or state funds must be included in the RTP.

- **St John’s Truck Strategy, PDOT, 2001 (SJTS)** is part of the Columbia Corridor Transportation Study. It identified ways in which truck circulation can be improved between the St. Johns Bridge, Rivergate and I-5 and determined how non-local truck traffic can be eliminated or reduced on residential and retail commercial streets. It listed a range of possible improvements and then recommended a subset of them.

- **Port of Portland Transportation Improvement Plan, 2006 (PTIP)** is a compilation of road, rail, waterway, transit, bike, pedestrian and transportation demand management projects that have been identified through transportation and other studies managed by or in coordination with the Port. The plan also identifies the Port’s transportation project priorities. Updated annually and approved by the
Port of Portland Commission, the PTIP provides a long-range vision of transportation improvements that support the Port's mission. This report includes those projects identified in the adopted 2006 plan or included in the draft 2007 plan.

For purposes of this study, relevant projects are those that facilitate or improve the movement of freight by road, rail or ship. Pedestrian or bicycle improvements are not included. The projects are organized by subarea; Rivergate/St. Johns; Swan Island, NW Industrial area, and Linnton. Table 2 below presents information about:

- Project name
- Type of deficiency or problem
- Plan references
- Project description
- Estimated cost.
- Priority level
- Funding status

*Priority level* refers to the level of importance each plan gives the project. The Freight Master Plan classifies projects into four priority levels:

- Funded – Projects with full or partial funding identified, and will be implemented in the short term.
- Tier 1 – Anticipated implementation within five years.
- Tier 2 – Anticipated implementation within ten years.
- Tier 3 – Anticipated implementation within twenty years.

The Regional Transportation Plan includes the most important projects in the “Financially Constrained” portion of the plan. The Port TIP lists the most important projects as a “priority”.

Table 2 combines a list of deficiencies identified in the business interviews with a list of projects identified in the plans listed above. Several of the deficiencies are addressed by projects identified in the plans, while other deficiencies are not. For deficiencies that are not addressed by an existing project, a recommendation is made regarding further action. Also, several of the projects listed do not address a deficiency that was specifically mentioned in the business interviews. These are also shown in Figure 2.

The table is divided into the four Working Harbor subareas as well as a regional level for projects or deficiencies that are relevant to the larger region. The table is further divided into types of deficiencies. The following relevant types were identified:

- Access deficiencies: Issues that make a particular site or area difficult to access.
- Bridge deficiencies: Weight restrictions or otherwise substandard bridges that limit the type or size of truck that can access a particular site or area.
- Congestion: Roadway congestion that makes it time consuming to get to and from a particular site or area.
- Marine capacity: Issues such as inadequate river channel depth or berth depth to accommodate large shipping vessels, and other on-site capacity constraints at the Port of Portland marine terminals.
- Minimizing truck impacts on neighborhood streets: A specific issue that comes up frequently in the St. Johns neighborhood is the conflict between truck traffic and pedestrians and bikes and neighborhood scale streets and land uses.
- Rail capacity: Constraints in the rail system that limit the length of trains, the ability to switch cars and store trains on sidings, and bottlenecks in the main lines.
- Safety: Issues that are related to safety, such as unprotected rail crossings or frequent unsignalized accesses on high-speed roadways.
### Table 2: Deficiencies and Projects Previously Identified

<table>
<thead>
<tr>
<th>Map #</th>
<th>Deficiency Identified in Business Interviews</th>
<th>Deficiency Type</th>
<th>Project Identified in Planning Documents</th>
<th>Committed Funding</th>
<th>Priority</th>
<th>Improvement</th>
<th>Cost</th>
<th>Plan</th>
<th>Further Action Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Turning radius at Interstate/ Lombard and Interstate/5 (Going St ramps) too tight for trucks.</td>
<td>Access</td>
<td>Denver Viaduct</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td>no</td>
<td>1</td>
<td>Reconstruct viaduct to improve truck access to I-5 (part of Delta Park project)</td>
<td>2M</td>
<td>FMP(B7),PTIP</td>
</tr>
<tr>
<td>2</td>
<td>1-5 through Delta Park is a bottleneck.</td>
<td>Congestion</td>
<td>1-5 Columbia Blvd Improvements (no project identified in current plans)</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td>no</td>
<td>Priority 2</td>
<td>CCTV and changeable message signs at intersections</td>
<td>750K</td>
<td>FMP(SM11)</td>
</tr>
<tr>
<td>3</td>
<td>I-5 Interstate Bridge is a bottleneck.</td>
<td>Congestion</td>
<td>Marine Drive (Portland Rd to 185th)</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td>no</td>
<td>2</td>
<td>Work with the trucking community to establish alternative truck routes.</td>
<td>34-71M</td>
<td>FMP(H6)</td>
</tr>
<tr>
<td>4</td>
<td>I-5 Columbia River Crossing</td>
<td>Congestion</td>
<td>I-5 Delta Park</td>
<td>Priority 3</td>
<td>yes</td>
<td>Widen to 6 lanes</td>
<td>48M</td>
<td>FMP(H7)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1-5 Interstate Bridge is a bottleneck.</td>
<td>Congestion</td>
<td>1-5 Columbia River Crossing</td>
<td>Priority 7</td>
<td>no</td>
<td>Local share of Alternatives Analyses currently underway</td>
<td>200M</td>
<td>FMP(B11)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Peninsula Junction is a bottleneck.</td>
<td>Rail Capacity</td>
<td>Peninsula Junction Rail Improvements</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td>no</td>
<td>2</td>
<td>Add rail connection between the Brooklyn and Graham Lines to increase rail capacity.</td>
<td>11M</td>
<td>FMP(R13),PTIP</td>
</tr>
<tr>
<td>7</td>
<td>Peninsula Junction is a bottleneck.</td>
<td>Rail Capacity</td>
<td>BNSF Line at Columbia Bridge Track Improvements</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td>no</td>
<td>2</td>
<td>Modernize freeway and ramps to improve access to the Lloyd District and Rose Quarter</td>
<td>106M</td>
<td>FMP(H6),RTP</td>
</tr>
<tr>
<td>8</td>
<td>I-5/I-84 interchange is a bottleneck</td>
<td>Congestion</td>
<td>I-5 Re-Construction and Widening Greeley to I-84</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td>no</td>
<td>1</td>
<td>Short-term improvements to I-5/I-84 interchange are included in Central City Freeway Loop study.</td>
<td>75M</td>
<td>FMP(B17),RTP,PTIP</td>
</tr>
<tr>
<td>9</td>
<td>Portland Triangle System inefficiency due to at-grade crossings, single-track, substandard sidings, and other bottlenecks.</td>
<td>Rail Capacity</td>
<td>North Portland Junction Rail Improvements</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td>no</td>
<td>2</td>
<td>Prepare a strategy that can maintain and improve access to the rail system for smaller shippers.</td>
<td>9.2M</td>
<td>FMP(R5)</td>
</tr>
<tr>
<td>10</td>
<td>Keton line needs double tracking and overcrossings on its entire length.</td>
<td>Rail Capacity</td>
<td>Peninsula Junction UP/BNSF Main Line</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td>no</td>
<td>2</td>
<td>Add rail connection between the Brooklyn and Graham Lines to increase rail capacity.</td>
<td>3.5M</td>
<td>FMP(R6)</td>
</tr>
<tr>
<td>11</td>
<td>There is no northbound to eastbound or westbound to southbound rail connection for trains at East Portland junction.</td>
<td>Rail Capacity</td>
<td>Keton Rail Line Upgrade</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td>no</td>
<td>3, Priority 3</td>
<td>Upgrade to double track with new sidings.</td>
<td>25.4M</td>
<td>FMP(R3),PTIP</td>
</tr>
</tbody>
</table>

Grey shaded box means that there is a project identified in plans, but a deficiency was not specifically mentioned in the business interviews.

Projects for which partial or full funding has been identified.

Priority levels for identified projects:

- Tier 1 - Advancement for funding and implementation within five years.
- Tier 2 - Advancement for funding and implementation within ten years.
- Tier 3 - Advancement for funding and implementation within twenty years.
- Constrained - Project is included in the Regional Transportation Plan financially constrained project list.
- Priority - Project is identified as high-priority in the Port of Portland Transportation Improvement Plan.

Plan in which project is identified:

<table>
<thead>
<tr>
<th>Map #</th>
<th>Deficiency Identified in Business Interviews</th>
<th>Deficiency Type</th>
<th>Project Identified in Planning Documents</th>
<th>Committed Funding</th>
<th>Priority</th>
<th>Improvement</th>
<th>Cost</th>
<th>Plan</th>
<th>Further Action Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW INDUSTRIAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Difficulty with safe access to Yeon, especially during shift changes.</td>
<td>Access</td>
<td>US 30 at Lake Yard Hub: Access improvements</td>
<td>yes</td>
<td>2M</td>
<td>Provide an access lane on US 30 and add a signal.</td>
<td>FMP(S42)</td>
<td></td>
<td>Local circulation study in the NW Industrial District.</td>
</tr>
<tr>
<td>18</td>
<td>It is difficult to access the Willbridge loading racks.</td>
<td>Access</td>
<td>US 30 in Willbridge area</td>
<td>no</td>
<td>1</td>
<td>Install center turn lane to NW Front</td>
<td>FMP, (538), RTP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Hazmat Trucks aren't allowed on Balboa.</td>
<td>Access</td>
<td>US 30 at Saltzman/Balboa⁴</td>
<td>no</td>
<td>2</td>
<td>Realign intersections</td>
<td>FMP(S39)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>The roads are in bad shape. There are a lot of potholes.</td>
<td>Access</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Bad street connectivity. There are only two roads connecting Front with Yeon that are grade separated from the railroad tracks.</td>
<td>Access</td>
<td>14/16th Connections</td>
<td>no</td>
<td>3</td>
<td>Improve or create connections to route non-local traffic to 14th/16th Ave couplet</td>
<td>FMP(S6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>There is too much access on Yeon, which slows down traffic. Access control would speed access to 1405.</td>
<td>Congestion</td>
<td>Yeon/US 30 (Nicolai to St. Johns Bridge) ITS</td>
<td>no</td>
<td>1, Constrained</td>
<td>Interconnect signals and install CCTV and variable message signs.</td>
<td>FMP(SM16), RTP</td>
<td></td>
<td>Local circulation study in the NW Industrial District.</td>
</tr>
<tr>
<td>23</td>
<td>Traffic backs up at the 61st Avenue crossing in front of the truck rack onto Front Avenue.</td>
<td>Congestion</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Railroad crossings on Front Avenue at Thurman and under the Steel Bridge cause traffic backups.</td>
<td>Congestion</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Rail speed on the Steel Bridge is limited to 6 mph.</td>
<td>Rail Capacity</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Gray shaded box means that there is a project identified in plans, but a deficiency was not specifically mentioned in the business interviews.

¹Projects for which partial or full funding has been identified.
²Priority levels for identified projects:
Tier 1 - Advancement for funding and implementation within five years.
Tier 2 - Advancement for funding and implementation within ten years.
Tier 3 - Advancement for funding and implementation within twenty years.
Constrained - Project is included in the Regional Transportation Plan financially constrained project list.
Priority - Project is identified as high-priority in the Port of Portland Transportation Improvement Plan.

³Plans in which projects is identified:
FMP - City of Portland Freight Master Plan, 2006. Project number listed in parentheses.
RTP - Regional Transportation Plan, Metro, 2004.
PTIP - Port of Portland Transportation Improvement Plan, 2006.
⁴BNSF has applied to abandon the rail crossing at NW Balboa. ODOT is evaluating an alternative access to this area.
<table>
<thead>
<tr>
<th>Map #</th>
<th>Deficiency Identified in Business Interviews</th>
<th>Deficiency Type</th>
<th>Project Identified in Planning Documents</th>
<th>Committed Funding</th>
<th>Priority</th>
<th>Improvement</th>
<th>Cost</th>
<th>Plan</th>
<th>Further Action Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINNTON</td>
<td>Difficulty accessing St. Helen’s Road. Long delays and safety concerns.</td>
<td>Access</td>
<td>112th Ave/US 30 intersection improvements</td>
<td>no</td>
<td>2</td>
<td>Add traffic signal to improve safety and access</td>
<td>139K</td>
<td>FMP(S11)</td>
<td>Conduct local circulation study of the Linnton area to assess feasibility of providing alternative routes to access US 30.</td>
</tr>
</tbody>
</table>

**SWAN ISLAND**

<table>
<thead>
<tr>
<th>Map #</th>
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<th>Improvement</th>
<th>Cost</th>
<th>Plan</th>
<th>Further Action Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>There are 68 at-grade rail crossings on Swan Island.</td>
<td>Access</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Internal street and rail circulation study to identify potential rail improvements or rail spurs to close.</td>
</tr>
<tr>
<td>30</td>
<td>Going Street gets very congested, especially during shift changes.</td>
<td>Bridge Strengthening</td>
<td>Going Street at Swan Island</td>
<td>Yes</td>
<td>Constrained, Priority</td>
<td>Replace weight restricted bridge over UPRR.</td>
<td>3.6M</td>
<td>FMP(B9), RTP, PTIP</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Going Street gets very congested, especially during shift changes.</td>
<td>Congestion</td>
<td>Going/Greeley Climbing Lane and Interchange Improvements</td>
<td>no</td>
<td>1</td>
<td>Redesign Going/Greeley interchange, including constructing a climbing lane on Going.</td>
<td>2M</td>
<td>FMP(S24)</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Going Street gets very congested, particularly at the intersection with Interstate.</td>
<td>Congestion</td>
<td>Going (Interstate-Swan Island)</td>
<td>no</td>
<td>1</td>
<td>Install interconnected signals and install CCTV cameras and variable message signs.</td>
<td>2.99K</td>
<td>FMP(SM8), RTP</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Need a secondary route to Swan Island.</td>
<td>Congestion</td>
<td>River Ave (Port Ctr Way-River Ave) Street Extension</td>
<td>no</td>
<td>2</td>
<td>Evaluate secondary access road to Swan Island</td>
<td>1.66K</td>
<td>FMP(S35)</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Albina Yard is operating at capacity and does not have room to hold more cars.</td>
<td>Congestion</td>
<td>UP Line Albina Yard upgrade</td>
<td>no</td>
<td>2</td>
<td>Upgrade tracks to increase track speeds</td>
<td>8.8M</td>
<td>FMP(R14)</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>The tracks on Swan Island are in poor condition and there is limited capacity to hold cars on-site.</td>
<td>Rail Capacity</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Internal street and rail circulation study to identify potential rail improvements or rail spurs to close.</td>
</tr>
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1Projects for which partial or full funding has been identified.
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### RIVERGATE/ST. JOHNS

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</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>Access</td>
<td>Access</td>
<td>Access Tunnel at Hyundai/Kia Facility</td>
<td>no</td>
<td>1</td>
<td>Access tunnel from T-6 to Rivergate</td>
<td>3M</td>
<td>FMP(M1)</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Trains block trucks in at T-4.</td>
<td>Access</td>
<td>Terminal 4 On-Site Overcrossing</td>
<td>no</td>
<td>1</td>
<td>Construct overcrossing to improve truck access between lower T-4 and Lombard</td>
<td>2.5M</td>
<td>FMP(M9)</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Trains block trucks in at T-4.</td>
<td>Access</td>
<td>Terminal 4 Access Improvements</td>
<td>no</td>
<td>2</td>
<td>Provide terminal overpass and driveway improvements</td>
<td>1.0M</td>
<td>FMP(M11)</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Trains block trucks in at T-4.</td>
<td>Access</td>
<td>T-4 Optional Terminal Lower Lot Access</td>
<td>no</td>
<td>1</td>
<td>Regrade hill slope to provide secondary truck access route</td>
<td>7M</td>
<td>FMP(M7),PTIP</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Access</td>
<td>Access</td>
<td>Marine Drive (at Rivergate West) Rail Crossing Phase 2</td>
<td>no</td>
<td>3</td>
<td>Construct grade-separated rail crossing at Rivergate West entrance</td>
<td>1.8M</td>
<td>FMP(R4),RTP,PTIP</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Access</td>
<td>Access</td>
<td>Terminal 6 - Marine Drive Overcrossing</td>
<td>no</td>
<td>3</td>
<td>Construct grade-separated rail crossing between Marine Dr and T-6</td>
<td>18M</td>
<td>FMP(M17)</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Leadbetter Road is a dead end and has an at-grade rail crossing.</td>
<td>Access</td>
<td>Leadbetter(Marine Drive Loop) Street Extension/Overcrossing</td>
<td>Yes</td>
<td>Priority</td>
<td>Street extension and rail overcrossing</td>
<td>10.8M</td>
<td>FMP(S27),RTP,PTIP</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Need signalization and driveway intersection improvements at T-4/Schnitzer site.</td>
<td>Access</td>
<td>Terminal 4 driveway consolidation</td>
<td>yes</td>
<td>Priority</td>
<td>Consolidate driveways at T-4 and Schnitzer Steel to improve access.</td>
<td>1M (6.4)</td>
<td>FMP(S41),RTP,PTIP</td>
<td>Implement grade separation of Peninsula Junction, identified in the I-5 Rail Capacity Study, 2003.</td>
</tr>
<tr>
<td>45</td>
<td>4-grade rail crossings on Columbia.</td>
<td>Access</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>City does not want Time Oil Road (currently a private road) because it does not meet city standards.</td>
<td>Access</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Improve Time Oil Rd to city standards.</td>
</tr>
<tr>
<td>47</td>
<td>Leadbetter Road is a dead end and has an at-grade rail crossing.</td>
<td>Bridge Strengthening</td>
<td>Lombard at Columbia Slough</td>
<td>yes</td>
<td></td>
<td>Strengthen bridge and add sidewalks and bike lanes.</td>
<td>4.9M</td>
<td>FMP(B13)</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Burgard Bridge is weight restricted.</td>
<td>Bridge Strengthening</td>
<td>Lombard(Burgard)</td>
<td>yes</td>
<td></td>
<td>Replace weight restricted bridge.</td>
<td>1.5M</td>
<td>FMP(B14),PTIP</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>Congestion</td>
<td>Widen Lombard-Purdy to Simmons</td>
<td>no</td>
<td>Constrained, Priority</td>
<td>Widen N Lombard from 600 ft south of N Rivergate to Columbia Slough and add signal at Ramsay St.</td>
<td>4.4M</td>
<td>RTP,PTIP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>Congestion</td>
<td>Columbia Blvd (I-205 - Burgard) ITS</td>
<td>no</td>
<td>1</td>
<td>CCTV and changeable message signs at intersections</td>
<td>3.10K</td>
<td>FMP(SM6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Congestion</td>
<td>Rivergate ITS</td>
<td>no</td>
<td>1</td>
<td>Real time info connect to ODOT's highway ITS systems</td>
<td>2.09K</td>
<td>FMP(SM14),PTIP</td>
<td></td>
<td></td>
</tr>
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*Grade-separating North Portland Junction and Penn Junction (including Columbia Blvd) identified as long term needs in the I-5 Rail Capacity Study, 2003.
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<tbody>
<tr>
<td>52</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Congestion</td>
<td>Lombard (MLK-Philadelphia) ITS</td>
<td>no</td>
<td>3</td>
<td>CCTV and changeable message signs at intersections</td>
<td>210K</td>
<td>FMP(SM9)</td>
<td>Pursue increasing the priority of this project in the RTP</td>
</tr>
<tr>
<td>53</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Congestion</td>
<td>North Willamette Crossing Study</td>
<td>no</td>
<td>3</td>
<td>Study the need for a new bridge from US 30 to Rivergate</td>
<td>1.2M</td>
<td>RTP (not in Financially Constrained list)</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Marine Capacity</td>
<td>Terminal 6 Container Dock Extension</td>
<td>no</td>
<td>1</td>
<td>Extension of dock to accommodate larger ships</td>
<td>19.4M</td>
<td>FMP(M15),PTIP</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Marine Capacity</td>
<td>Terminal 6 Dock Structural Upgrades</td>
<td>no</td>
<td>2</td>
<td>Dock Structural Upgrade</td>
<td>15M</td>
<td>FMP(M16)</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Marine Capacity</td>
<td>Terminal 6 Computer System Upgrades</td>
<td>yes</td>
<td>2</td>
<td>Increase efficiency of terminal with improved cargo tracking systems</td>
<td>2M</td>
<td>FMP(M14)</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Marine Capacity</td>
<td>Terminal 4 Grain Elevator Barge Conveyor Rebuild</td>
<td>no</td>
<td>1</td>
<td>Rebuild conveyor connecting 4 grain elevator to Berth 405 barge unloader</td>
<td>1.5M</td>
<td>FMP(M8)</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Marine Capacity</td>
<td>Terminal 6 Additional Post-Panamax Cranes</td>
<td>no</td>
<td>3</td>
<td>Acquisition of three additional post-panamax cranes for T6</td>
<td>33.4M</td>
<td>FMP(M12)</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Marine Capacity</td>
<td>Columbia River Channel Deepening</td>
<td>yes</td>
<td>Constrained, Priority</td>
<td>Deepen the river channel to serve larger container ships</td>
<td>50.6M</td>
<td>FMP(M2), RTP, PTIP</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Marine Capacity</td>
<td>Terminal 6 Berth Deepening</td>
<td>yes</td>
<td>Priority</td>
<td>Deepen T6 container berths</td>
<td>1.25M</td>
<td>FMP(M13)</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Marine Capacity</td>
<td>Columbia Blvd/Portland RD</td>
<td>no</td>
<td>1</td>
<td>Intersection improvements to reinforce through-truck movements on truck streets and minimize neighborhood cut-through traffic</td>
<td>700K</td>
<td>FMP(S21), PTIP, SJTS</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Marine Capacity</td>
<td>Ivanhoe/Philadelphia Intersection Improvements</td>
<td>no</td>
<td>3</td>
<td>Redesign intersection to improve traffic and pedestrian circulation.</td>
<td>10.7K</td>
<td>FMP(S46), SJTS</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>Traffic backups on St. John’s Bridge cause safety problems. Need an additional bridge over the Willamette</td>
<td>Marine Capacity</td>
<td>Lombard/St. Louis/Ivanhoe Multimodal Improvements</td>
<td>yes</td>
<td>3</td>
<td>Redesign intersection to reinforce truck movements on truck streets.</td>
<td>1.4M</td>
<td>FMP(S29), PTIP, SJTS</td>
<td></td>
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<th>Plan</th>
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</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>Deficiency Type: Rail Capacity</td>
<td>Barnes Rail Yard - Bonneville Rail Yard Track Expansion</td>
<td>no</td>
<td>2</td>
<td>Construct additional unit train trackage to address switching bottlenecks and terminal access limitations</td>
<td>11.9M</td>
<td>FMP(R1), PTIP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>Deficiency Type: Rail Capacity</td>
<td>So. Rivergate Rail Yard Expansion Phase 1</td>
<td>no</td>
<td>1, Priority</td>
<td>Expand railroad yard</td>
<td>6M</td>
<td>FMP(R5), RTP, PTIP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>Deficiency Type: Rail Capacity</td>
<td>Terminal 5 Unit Rail Loops #3 &amp; #4</td>
<td>no</td>
<td>1</td>
<td>Construct two additional loop tracks to increase rail storage</td>
<td>2.8M</td>
<td>FMP(R10), PTIP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>Deficiency Type: Rail Capacity</td>
<td>Barnes to Terminal 4 track Expansion</td>
<td>no</td>
<td>1, Priority</td>
<td>Increase rail capacity from Barnes Yard to T-4</td>
<td>1M</td>
<td>FMP(R17), RTP, PTIP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>Deficiency Type: Rail Capacity</td>
<td>Slough Rail Bridge</td>
<td>no</td>
<td>3</td>
<td>Potential for future rail bridge across Columbia Slough connecting south Rivergate to T-6</td>
<td>4.9M</td>
<td>FMP(R9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>Deficiency Type: Rail Capacity</td>
<td>Terminal 4 Pier 2 Rail Yard Improvements</td>
<td>yes</td>
<td>Priority</td>
<td>Construct new yard to increase rail capacity</td>
<td>6.4M</td>
<td>FMP(M10), PTIP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>Deficiency Type: Rail Capacity</td>
<td>Honda Rail and Berth Upgrades</td>
<td>yes</td>
<td>Priority</td>
<td>Berth modifications, rail loading facility expansion, and construct rail overcrossing at T-6</td>
<td>3.5M</td>
<td>FMP(M4), PTIP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>Deficiency Type: Rail Capacity</td>
<td>Terminal 6 Intermodal Third Lead</td>
<td>yes</td>
<td>Priority</td>
<td>Construct a dedicated lead for T-6 intermodal yard to remove bottleneck</td>
<td>4.5M</td>
<td>FMP(R11)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>Deficiency Type: Rail Capacity</td>
<td>Terminal 6 A&amp;B Yards</td>
<td>no</td>
<td>2</td>
<td>Connect A &amp; B rail yards to increase T-6 rail capacity</td>
<td>9M</td>
<td>FMP(R12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>Development of Ramsey Rail Yard is a key project for getting trains off the main line for interchanging.</td>
<td>Ramsey Rail Complex (south of Columbia Slough Bridge): Capacity Improvements</td>
<td>no</td>
<td>1, Constrained, Priority</td>
<td>Construct six tracks and one mainline track to improve bottlenecks and storage capacity</td>
<td>12M</td>
<td>FMP(R7), RTP, PTIP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>74</td>
<td>Need double tracking on the Slough Bridge Lead in Rivergate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Safety</td>
<td>Lombard (Rivergate T-6) Multi-Modal Improvements</td>
<td>Yes</td>
<td>Widen N Lombard to two lanes with center turn lane, bike lanes, and sidewalks.</td>
<td>3.6M</td>
<td>FMP(S28)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76</td>
<td>Safety</td>
<td>Burgard-Lombard Street Improvements</td>
<td>no</td>
<td>1</td>
<td>Widen to two lanes with center turn lane, bike lanes, and sidewalks</td>
<td>17.2M</td>
<td>FMP(S48), SJTP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>Unprotected rail crossings in St. John’s in areas with recreational green space and new housing proposed.</td>
<td>NO PROJECT IDENTIFIED IN CURRENT PLANS</td>
<td></td>
<td></td>
<td>Pursue implementation of Whistle-Free Zone and potential crossing closures. Evaluate need for signage improvements.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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Figure 2:
Identified Deficiencies and Projects

Working Harbor Reinvestment Strategy:
Transportation Infrastructure Analysis

Legend
- Selected Sites
- Park/Open Space
- Freeway
- Street
- Railroad

Deficiency Types:
- Access
- Bridge
- Congestion
- Marine Capacity
- Rail Capacity
- Safety
- Truck Route

Projects Identified
Projects not Identified

Selected Sites

Table: Site # | Owner | Land Use | Land Use Description | Total Land Area | Projects Identified
--- | --- | --- | --- | --- | ---
1 | 
2 | Langley St. Jones | 3 acres | 3 acres | 3 acres | 3 acres
3 | Airborne | 19 acres | 19 acres | 19 acres | 19 acres
4 | ESCO | 15 acres | 15 acres | 15 acres | 15 acres
5 | Port of Portland | 15 acres | 15 acres | 15 acres | 15 acres
6 | City of Portland - City Utilities | 15 acres | 15 acres | 15 acres | 15 acres
7 | City of Portland - M&O | 15 acres | 15 acres | 15 acres | 15 acres
8 | Linfield College | 15 acres | 15 acres | 15 acres | 15 acres
9 | City of Portland - City Utilities | 15 acres | 15 acres | 15 acres | 15 acres
10 | Goose Disposal | 15 acres | 15 acres | 15 acres | 15 acres
11 | Simpson | 15 acres | 15 acres | 15 acres | 15 acres
12 | Strafford Chemical | 15 acres | 15 acres | 15 acres | 15 acres
13 | New Cascade Industries | 20 acres | 20 acres | 20 acres | 20 acres
14 | POE | 20 acres | 20 acres | 20 acres | 20 acres
15 | Reederey | 20 acres | 20 acres | 20 acres | 20 acres

Miles