Opportunity Sites – Issues and Recommendations

This section describes the local and regional access issues associated with each of the 15 opportunity sites and presents recommendations for further action. The following is a brief summary of the issues and recommended solutions along with a map showing the location of each issue for each of the key sites.

Site 1: Time Oil

Time Oil is a vacant 45-acre site located in the southwest portion of the Rivergate Industrial District. The site housed offices and storage tanks for Time Oil Company, but it is now unoccupied with a few remaining buildings and tanks (see Figure 3).

Time Oil Site Access

Truck and auto access to the Time Oil site from the north is via N Lombard Street and N Rivergate Boulevard and from the south is via N Burgard Street and N Time Oil Road.

Access to the site from the north includes three at-grade railroad spur crossings, suggesting a risk of occasional blockage. The intersection of N Rivergate Boulevard and N Lombard Street is stop controlled and subject to queues developing at peak times.

Access to the Time Oil site from the south via N Time Oil Road and N Burgard Street has no at-grade rail crossings. N Time Oil Road is privately-owned and has substandard width with no shoulders. The road also includes a series of speed bumps that limit truck mobility. The intersection of N Time Oil Road and Burgard Street is stop controlled with sight distance concerns related to curves and elevation change. The existing access to the Time Oil site via Time Oil Road has a sharp skew, making it too tight a turn for trucks to access from the north. Improved truck access could be accommodated via Time Oil Road by reconstructing the intersection so that it would have a less severe angle.

Speed bumps and substandard shoulders on N Time Oil Rd.

Sight distance issue at intersection of N Time Oil Rd and N Burgard St.
Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive uses include:

- City acquisition and improvement of Time Oil Road.
- Evaluation of traffic signal warrants at the N Rivergate Boulevard/N Lombard Street intersection.
- Reconfiguration of the N Burgard/Time Oil Road intersection.

Site transportation issues, recommendations and cost estimates are described below in Table 3.

Table 3: Time Oil (Site 1) – Transportation System Issues and Recommendations

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blockage due to at-grade spur track rail crossings.</td>
<td>No action recommended – Time Oil Road offers a route with no rail crossings.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Skewed intersection of existing site access with Time Oil Road.</td>
<td>Re-align driveway to reduce skew.</td>
<td>$80,000</td>
</tr>
<tr>
<td>3</td>
<td>Unsignalized intersection at North Rivergate Boulevard and North Lombard Street.</td>
<td>Perform signal warrant analysis.</td>
<td>$3,000</td>
</tr>
<tr>
<td>4</td>
<td>Speed bumps along Time Oil Road.</td>
<td>Consider city acquisition and improvement of Time Oil Road.</td>
<td>$6M to $9M¹</td>
</tr>
<tr>
<td>5</td>
<td>Time Oil Road is narrow and has no shoulders.</td>
<td>Consider city acquisition and improvement of Time Oil Road.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Unsignalized intersection at Time Oil Road and North Burgard Street.</td>
<td>Reconfigure intersection and Straighten curve.</td>
<td>$180,000</td>
</tr>
<tr>
<td>7</td>
<td>Sight distance issues at Time Oil Road and North Burgard Street.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹Includes both acquisition of the private roadway and improvement

Time Oil Site – Regional System Access

There are three primary routes for access from the Time Oil site to the major regional transportation facilities.

- Via N Lombard Street and N Marine Drive to I-5.
- Via N Lombard Street and N Columbia Boulevard to I-5.
- Via N Lombard Street, the St Johns Bridge to US 30 and I-405.

Regional system projects that could improve accessibility to and from the Time Oil site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via N Lombard Street and N Marine Drive to I-5.
  - Widen Lombard – Purdy to Simmons (49).
  - Lombard at Columbia Slough – Strengthen bridge (47).
  - Marine Drive (at Rivergate West) Rail Crossing, Phase 2 (41).
Figure 3:
Access Issues: Site 1 - Time Oil

Working Harbor Reinvestment Strategy:
Transportation Infrastructure Analysis

Legend
- Site Location
- Access Issue
- Railroad

July 2007
• Via N Lombard Street and N Columbia Boulevard to I-5.
  o Burgard-Lombard Street Improvements (76).
• Via N Lombard Street, the St Johns Bridge to US 30 and I-405.
  o Lombard (Burgard) bridge replacement (48).
  o Lombard/St. Louis/Ivanhoe Multimodal Improvements (63).
  o Ivanhoe/Philadelphia Intersection Improvements (62).
Site 2: Langley St. Johns

The Langley St. Johns site is a 7-acre unoccupied site located on The Willamette River adjacent to Cathedral Park, just north of the St. Johns Bridge (see Figure 4).

Langley St. Johns Site Access

Truck and auto access to the Langley St. Johns site is via N Bradford Street and N Baltimore Avenue, which is a primarily residential street with a very steep slope. A spur line of the Union Pacific Railroad runs past the site along N Bradford Street in a shared right-of-way, suggesting a risk of occasional train blockage. The pavement and the rails are both in very poor condition.

The primary truck route through St. Johns, N Lombard Street connecting the St. Johns Bridge to N Columbia Boulevard, has an offset intersection at N St. Johns Avenue requiring trucks to cross the center line or use the parking lane in order to maneuver through the intersection. An alternative access could be provided by extending N Bradford Street northward through the T-4 property to N Terminal Road. This would avoid N Baltimore Avenue, Downtown St. Johns, and the offset intersection at N Lombard Street and N St. Johns Avenue for truck traffic destined for N Marine Drive or N Columbia Boulevard.

Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive use include:

- Resurfacing the pavement on N Bradford Street in front of the site and at the intersection with N Baltimore Avenue.
- Repairing or replacing the railroad tracks in N Bradford Street from N Baltimore Avenue to the site.
- Increasing lane widths and turning radii on N Lombard Street at N St. Johns Avenue for northbound and southbound trips.
- A feasibility study of connecting N Bradford Street northward through T-4 to connect with N Terminal Road.

Site transportation issues, recommendations, and cost estimates are described below in Table 4.
Table 4: Langley St. Johns (Site 2) – Transportation System Issues and Recommendations

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Primary access is a residential street – N Baltimore Avenue.</td>
<td>Study feasibility of connecting N Bradford Street to N Terminal Road in T-4.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Steep slope on primary access street – N Baltimore Avenue.</td>
<td>Study feasibility of connecting N Bradford Street to N Terminal Road in T-4.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Very poor pavement condition on North Bradford and North Baltimore Avenue.</td>
<td>Mill roadway surface and overlay with new top coat to limits of roadway with poor surface (500 linear ft.).</td>
<td>$175,000</td>
</tr>
<tr>
<td>4</td>
<td>Very poor rail condition on the Union Pacific tracks along Bradford Street.</td>
<td>Replace rails in conjunction with mill and overlay.</td>
<td>$100,000</td>
</tr>
<tr>
<td>5</td>
<td>Blockage and safety issues due to street and railroad sharing right-of-way along Bradford Street.</td>
<td>No action recommended.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Poor geometry on N Lombard Street at N St Johns Avenue.</td>
<td>Increase lane width and turning radius for through trips on N Lombard Street.</td>
<td>$20,000</td>
</tr>
</tbody>
</table>

Langley St. Johns – Regional System Access

There are two primary routes for access from the Langley St. Johns site to the major regional transportation facilities:

- Via N Ivanhoe Street, N Lombard Street, and N Marine Drive to I-5.
- Via N Ivanhoe Street, N Lombard Street, and N Columbia Boulevard to I-5.
- Via N Ivanhoe Street and the St. Johns Bridge to US 30 and I-405.

Regional system projects that could improve accessibility to and from the Langley St. Johns site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via N Ivanhoe Street, N Lombard Street, and N Marine Drive to I-5.
  - Lombard/St. Louis/Ivanhoe Multi-Modal Improvements (63).
  - Lombard (Burgard) Bridge replacement (48).
  - Widen Lombard – Purdy to Simmons (49).
  - Lombard at Columbia Slough – Strengthen bridge (47).
  - Marine Drive (at Rivergate West) Rail Crossing, Phase 2 (41).
- Via N Ivanhoe Street, N Lombard Street, and N Columbia Boulevard to I-5.
  - Lombard/St. Louis/Ivanhoe Multi-Modal Improvements (63).
  - Lombard (Burgard) Bridge replacement (48).
  - I-5 Delta Park – Highway widening and ramp improvements, including reconstruction of the Denver Viaduct (1 and 5).
- Via N Ivanhoe Street and the St. Johns Bridge to US 30 and I-405.
  - Ivanhoe/Philadelphia Intersection Improvements (62).
Figure 4:
Access Issues: Site 2 - Langley St. Johns

Legend
- Site Location
- Potential New Access Road

Working Harbor Reinvestment Strategy:
Transportation Infrastructure Analysis

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Site 3: Arkema, Site 4: ESCO, and Site 5: Aventis Cropscience USA

Sites 3, 4, and 5 are unoccupied sites located on the west side of the Willamette River at the north end of NW Front Avenue, south of the St. Johns Bridge. Site 3 is located east of NW Front Avenue with river frontage. Sites 4 and 5 are on the west side of NW Front Avenue. There are a total of 85 unoccupied acres on the three sites. All three sites share the same access issues (see Figure 5).

Arkema, ESCO, and Aventis Site Access

Truck and auto access to the Arkema, ESCO, and Aventis sites is via NW Front Avenue and either NW 61st Avenue/NW Balboa Avenue or NW Kittridge Avenue.

Access via NW 61st Avenue/NW Balboa Avenue includes one at-grade crossing of the BNSF main line and three at-grade spur rail crossings, one of which is located within the intersection of NW 61st Avenue and NW Front Avenue. These may present blockage as well as safety issues. Movement is restricted at the intersection of NW Balboa Avenue and US 30, with only a right turn allowed onto US 30. In addition, trucks carrying hazardous materials are prohibited from using NW 61st Avenue/NW Balboa Avenue.

Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive use include:

- A study of intersection geometry, signage, and striping at NW 61st Avenue and NW Front Avenue.
- A comprehensive study of the cost-benefit of constructing a new grade separated crossing of the BNSF main line with a new full directional intersection or interchange with US 30 in the vicinity of NW Balboa Avenue.
Site transportation issues, recommendations, and cost estimates are described below in Table 5.

**Table 5: Arkema, ESCO, and Aventis (Sites 3, 4, and 5) – Transportation System Issues and Recommendations**

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blockage and safety issues due to at-grade spur rail crossings at the intersection of NW 61st Avenue and NW Front Avenue.</td>
<td>Study intersection geometry, signage, and striping for safety.</td>
<td>$4,000</td>
</tr>
</tbody>
</table>
| 2     | Blockage due to at-grade spur rail crossings along NW 61st Avenue/NW Balboa Avenue. | Prepare a comprehensive study of the cost-benefit of constructing a new grade separated crossing of the BNSF main line with a new full directional intersection or interchange with US 30 in the vicinity of NW Balboa. The study should consider the following:  
  - Value of a new grade separated crossing to existing or potential businesses.  
  - Origins and destinations of freight and commuter traffic accessing businesses in the area.  
  - Added time required to access US 30 via existing overcrossing at NW Kittridge for both northbound and southbound trips.  
  - Impact that improved access could have on the marketability of parcels in the vicinity.  
  - Emergency access. | $40,000 |
| 3     | Blockage and safety issues due to at-grade rail crossing of BNSF main line on NW Balboa immediately east of US 30. | | |
| 4     | Restricted turn movements from NW Balboa to US 30 (right turn only). | | |

1BNSF has applied to abandon this crossing. ODOT and the City of Portland are currently evaluating ways to provide alternative access.

**Arkema, ESCO, and Aventis – Regional System Access**

There are two primary routes for access from the Arkema, ESCO, and Aventis sites to the major regional transportation facilities:

- Via NW Front Avenue and NW 61st Avenue/NW Balboa Avenue to US 30 and I-405.
- Via NW Front Avenue and NW Kittridge Avenue to US 30 and I-405.
Figure 5:
Access Issues: Site 3 - Arkema, Site 4 - ESCO, & Site 5 Aventis

Working Harbor Reinvestment Strategy:
Transportation Infrastructure Analysis

Legend
- Site Location
- Access Issue
- Railroad

July 2007
Regional system projects that could improve accessibility to and from the Arkema, ESCO, and Aventis sites are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via NW Front Avenue and NW 61st Avenue/NW Balboa Avenue to US 30 and I-405.
  - Realign Saltzman/Balboa (19) (Would only occur if BNSF crossing is not closed).

- Via NW Front Avenue and NW Kittridge Avenue to US 30 and I-405.
  - ITS improvements on US 30 (24).
Site 6: City of Portland – BES (Swan Island Lagoon)

The BES (Swan Island Lagoon) site is a 10-acre vacant site located on Swan Island at the south end of the lagoon. The site is currently vacant (see Figure 6).

BES (Swan Island Lagoon) Site Access

Truck and auto access to the BES (Swan Island Lagoon) site is via N Basin Avenue and N Going Street. There are no significant issues with access to this site from the local arterial network. It has direct access from a signalized intersection on N Basin Avenue. There is only one route in and out of Swan Island (N Going Street), which may limit the attractiveness of the BES (Swan Island Lagoon) site.

Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive use include:

- Existing system level projects included in the Freight Master Plan to improve N Going Street by redesigning the Going/Greeley interchange, adding a climbing lane to N Going Street, replacing the UPRR overpass, and evaluating a potential secondary access to Swan Island by extending N River Street.
- Project currently under way to implement “smart” traffic signal system at N Going Street and N Interstate Avenue. The City should monitor the project to see if it effectively reduces congestion.

Site transportation issues, recommendations, and cost estimates are described below in Table 6.

Table 6: BES (Swan Island Lagoon) (Site 6) – Transportation System Issues and Recommendations

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Potential congestion issues on N Going Street.</td>
<td>Addressed by projects 31 and 32, ITS improvements on Going St. and interchange improvements at Going St. and Greeley Ave., already identified, and by current plans to improve the signal controller at N Going St. and N Interstate Ave.</td>
<td>NA</td>
</tr>
</tbody>
</table>

BES (Swan Island Lagoon) – Regional System Access

There are two primary routes for access from the BES (Swan Island Lagoon) site to the major regional transportation facilities.

- Via N Basin Avenue and N Going Street to I-5 (northbound).
- Via N Basin Avenue and N Going Street to N Greeley Avenue and I-5 (southbound).
Figure 6: Access Issues: Site 6 - City of Portland BES (Swan Island Lagoon Site)
Regional system projects that could improve accessibility to and from the BES (Swan Island Lagoon) site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via N Basin Avenue and N Going Street to I-5 (northbound).
  - Going Street at Swan Island – Replace bridge over UPRR (30).
  - Going/Greeley Climbing Lane and Interchange Improvements (31).
  - Going Street ITS improvements (32).
  - Evaluate secondary access road to Swan Island by extending N River Street (33).

- Via N Basin Avenue and N Going Street to N Greeley Avenue and I-5 (southbound).
  - Going Street at Swan Island – Replace bridge over UPRR (30).
  - Going/Greeley Climbing Lane and Interchange Improvements (31).
  - Going Street ITS improvements (32).
  - Evaluate secondary access road to Swan Island by extending N River Street (33).
Site 7: City of Portland – BES (T-1 North)

The BES (T-1 North) site is a 19 acre unoccupied site located on the west side of the Willamette River just north of the Fremont Bridge on NW Front Avenue at the east end of NW Nicolai Street (see Figure 7).

BES (T-1 North) Site Access

Truck and auto access to the BES (T-1 North) site is via NW Front Avenue and either NW Nicolai or NW 26th Avenue to US 30 and I-405.

Access via NW Nicolai Street includes a tight turning radius eastbound where NW Nicolai Street turns into a one-way couplet and directs eastbound traffic onto NW Sherlock Avenue and NW 21st Avenue. The Nicolai couplet crosses the BNSF main line just west of NW Front Avenue, potentially resulting in occasional delays. The intersection of NW Nicolai Street and NW Yeon Avenue (US 30) is subject to queuing during peak times. There is no left turn lane on NW Nicolai Street westbound and no protected left-turn signal.

The one-way couplet of NW Nicolai Street and NW 21st Avenue could potentially be removed, making NW Nicolai Street two-way across the BNSF tracks and closing the NW 21st Avenue rail crossing.

Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive use include:

- A local circulation study to evaluate whether NW Nicolai Street could be made two-way between NW Sherlock Avenue and NW Front Avenue, and whether the BNSF crossing at NW 21st Avenue could be closed.

Site transportation issues, recommendations, and cost estimates are described below in Table 7.
### Table 7: BES (T-1 North) (Site 7) – Transportation System Issues and Recommendations

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tight turning radius from NW Sherlock Avenue eastbound to NW 21st Avenue northbound.</td>
<td>The City is currently planning a study to determine local and regional system access needs and determine a circulation plan that meets the needs of area businesses. The study should evaluate whether NW Nicolai Street could be made two-way between NW Sherlock Avenue and NW Front Avenue, and whether the BNSF crossing at NW 21st Avenue could be closed.</td>
<td>$25,000</td>
</tr>
<tr>
<td>2</td>
<td>Blockage and safety issues due to at-grade rail crossings on NW Nicolai Street and NW 21st Avenue east of NW Sherlock Avenue.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Queuing on NW Nicolai Street westbound at NW Yeon Avenue (US 30).</td>
<td>Evaluate traffic operations at the intersection of NW Nicolai Street and US 30 and determine if improvements are warranted.</td>
<td>$10,000</td>
</tr>
<tr>
<td>4</td>
<td>No protected left-turn signal for westbound NW Nicolai Street traffic turning southbound onto US 30.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### BES (T-1 North) – Regional System Access

There is one primary route for access from the BES (T-1 North) site to the major regional transportation facilities.

- Via NW Yeon Avenue (US 30) to I-405.

Regional system projects that could improve accessibility to and from the BES (T-1 North) site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via NW Yeon Avenue (US 30) to I-405.
  - ITS improvements on US 30 (24).
Figure 7:
Access Issues: Site 7 - City of Portland BES (T-1 North)
Site 8: Linnton Plywood

The Linnton Plywood site is a 25-acre underutilized site located on the west side of the Willamette River just south of downtown Linnton, north of the St. Johns Bridge off of US 30 (see Figure 8).

Linnton Plywood Site Access

Truck and auto access to the Linnton Plywood site is via an access road off of US 30.

The access road meets US 30 at a signalized intersection. The pavement on the access road is in poor condition. There is an at-grade rail crossing at the entrance to the property approximately 350 feet east of US 30.

Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive use include:
- Resurfacing the access road approaching US 30.
- Installation of new, larger signal heads at the intersection of the access road with US 30.

Site transportation issues, recommendations, and cost estimates are described below in Table 8.

Table 8: Linnton Plywood (Site 8) – Transportation System Issues and Recommendations

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blockage due to at-grade rail crossing.</td>
<td>No action recommended.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Access road is in poor condition.</td>
<td>Mill and overlay access driveway where needed.</td>
<td>$40,000</td>
</tr>
<tr>
<td>3</td>
<td>Traffic signal heads need to be updated.</td>
<td>Replace signal heads at intersection of site access with US 30.</td>
<td>$20,000</td>
</tr>
</tbody>
</table>

Linnton Plywood – Regional System Access

There are three primary routes for access from the Linnton Plywood site to the major regional transportation facilities.
- Via NW St. Helens Road (US 30) to I-405.
- Via NW St. Helens Road (US 30) to the St. Johns Bridge and N Columbia Boulevard to I-5.
- Via NW St. Helens Road (US 30) to the St. Johns Bridge, N Lombard Street, and N Marine Drive to I-5.
Working Harbor Reinvestment Strategy:
Transportation Infrastructure Analysis

Figure 8:
Access Issues: Site 8 - Linnton Plywood

Legend
- Site Location
- Access Issue
- Railroad

July 2007
Regional system projects that could improve accessibility to and from the Linnton Plywood site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via NW St. Helens Road (US 30) to I-405.
  - ITS improvements on US 30 (24).
- Via NW St. Helens Road (US 30) to the St. Johns Bridge and N Columbia Boulevard to I-5.
  - Lombard (Burgard) Bridge replacement (48).
  - I-5 Delta Park – Highway widening and ramp improvements, including reconstruction of the Denver Viaduct (1 and 5).
- Via NW St. Helens Road (US 30) to the St. Johns Bridge, N Lombard Street, and N Marine Drive to I-5.
  - Lombard (Burgard) Bridge replacement (48).
  - Widen Lombard – Purdy to Simmons (49).
  - Lombard at Columbia Slough – Strengthen bridge (47).
  - Marine Drive (at Rivergate West) Rail Crossing, Phase 2 (41).
Site 9: Lakea Corporation

The Lakea Corporation site is a one acre unoccupied site located on NW 35th Avenue between NW Yeon Avenue (US 30) and NW St. Helens Road (see Figure 9).

Lakea Corporation Site Access

Truck and auto access to the Lakea Corporation site is primarily from the north via NW Yeon Avenue (US 30) and NW 35th Avenue. There is a secondary access from the south via St. Helens Road and NW 35th Avenue.

Access to the site from the north includes a signalized intersection at NW 35th Avenue and US 30. This intersection is subject to queues developing at peak times. There is an at-grade rail crossing immediately south of this intersection on NW 35th Avenue.

Access to the Lakea Corporation site from the south via NW St. Helens Road and NW 35th Avenue involves an at-grade, unsignalized rail crossing at an unconventional intersection of three streets (NW St. Helens Road, NW 35th Avenue, and NW Industrial Street), requiring trucks to stop on the tracks in order to see traffic on NW St. Helens Road.

Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive uses include:

- Capacity analysis at the signalized intersection of NW 35th Avenue and US 30.
- Signalize the intersection of NW 35th Avenue and NW St. Helens Road and install a right-turn lane on NW St. Helens Road.

Site transportation issues, recommendations and cost estimates are described below in Table 9.
Table 9: Lakea Corporation (Site 9) – Transportation System Issues and Recommendations

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Queuing problem at NW 35th Avenue and NW Yeon Avenue (US 30)¹.</td>
<td>Perform intersection capacity analysis.</td>
<td>$8,000</td>
</tr>
<tr>
<td>2</td>
<td>Blockage due to at-grade rail crossing on NW 35th Avenue immediately south of NW Yeon Avenue (US 30).</td>
<td>No action recommended.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Poor intersection geometry at NW 35th Avenue and NW St. Helens Road.</td>
<td>Signalize and install a right-turn lane on St. Helens Rd northbound.</td>
<td>$250,000</td>
</tr>
<tr>
<td>4</td>
<td>Blockage and safety issues due to at-grade rail crossing on NW 35th Avenue immediately north of NW St. Helens Road.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ May be addressed by Lake Yard Hub access improvement which adds a fourth leg to this tee intersection (project 14).

Lakea Corporation – Regional System Access

There are two routes for access from the Lakea Corporation site to the major regional transportation facilities.

- Via NW Yeon Avenue (US 30) to I-405.
- Via NW St. Helens Road and NW Nicolai Street to I-405.

Regional system projects that could improve accessibility to and from the Lakea Corporation site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via NW Yeon Avenue (US 30) to I-405.
  - ITS improvements on US 30 (24).
Figure 9:
Access Issues: Site 9 - Lakea Corporation
Site 10: Oregonian

The Oregonian site is an 11 acre vacant site located on the northwest corner of NW Yeon Avenue (US 30) and NW Nicolai Street. The site formerly housed the Oregonian newspaper printing facilities (see Figure 10).

Oregonian Site Access

Truck and auto access to the Oregonian site is directly off of NW Yeon Avenue (US 30) and NW Nicolai Street. There are three existing driveway cuts along NW Yeon Avenue and one along NW Nicolai Street. ODOT access spacing standards would restrict the use of the driveways on the NW Yeon Avenue side of the property to one access every 750 to 990 feet, depending on interpretation of the standards. Queuing on NW Yeon Avenue approaching NW Nicolai Street may be an issue.

Primary access would likely be via NW Nicolai Street. NW Nicolai has a westbound lane-drop at the location of the existing driveway, which may result in safety issues. There may be queuing problems for eastbound traffic approaching NW Yeon Avenue (US 30). Access from NW Nicolai Street could be limited to right-in right-out depending on intersection operations at NW Nicolai Street and NW Yeon Avenue (US 30).

Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive uses include:

- Construct a new access road on the north side of property, connecting to the existing signalized intersection of NW 26th Avenue and US 30. This can potentially be extended further west to access additional sites or connect to NW Industrial Street.

Site transportation issues, recommendations and cost estimates are described below in Table 10.
Table 10: Oregonian (Site 10) – Transportation System Issues and Recommendations

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Access on the east side of the property directly onto US 30 may not be allowed due to ODOT access standards.</td>
<td>Construct new access road on north side of property, connecting to the west side of the existing signalized intersection of NW 26th Avenue and US 30.</td>
<td>$120,000</td>
</tr>
<tr>
<td>2</td>
<td>Queuing problem on NW Yeon Avenue (US 30) approaching NW Nicolai Street.</td>
<td>Evaluate need for improvements at intersection of NW Nicolai Street and US 30.¹</td>
<td>$30,000</td>
</tr>
<tr>
<td>3</td>
<td>Westbound lane-drop on NW Nicolai Street in the vicinity of existing access on the south side of the property.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Possible queuing problem on NW Nicolai Street approaching NW Yeon Avenue (US 30).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹May be addressed by project to install ITS equipment on NW Yeon Avenue (project 24).

**Oregonian – Regional System Access**

There are two routes for access from the Oregonian site to the major regional transportation facilities.
- Via NW Yeon Avenue (US 30) to I-405.
- Via NW Nicolai Street to I-405.

Regional system projects that could improve accessibility to and from the Oregonian site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):
- Via NW St. Helens Road (US 30) to I-405.
  - ITS improvements on US 30 (24).
- Via NW Nicolai Street to I-405.
  - ITS improvements on US 30 (24).
Figure 10:
Access Issues: Site 10 - Oregonian

Legend
- Site Location
- Access Issue
- Potential New Access Road
- Railroad

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Site 11: Siltronic

Site 11 is an 80 acre occupied site located on the west side of the Willamette River at the north end of NW Front Avenue, south of the St. Johns Bridge. There are 15 unoccupied acres on the west side of the site, closest to US 30. The Siltronic site shares the same access issues as sites 3, 4, and 5, except that it has a secondary access on its north side off of US 30 and a cul-de-sac of NW Front Avenue (see Figure 11).

Siltronic Site Access

Truck and auto access to the Siltronic site is primarily via NW Front Avenue, south of the site, and either NW 61st Avenue/NW Balboa Avenue or NW Kittridge Avenue. The secondary access on the north side is via a dead end segment of NW Front Avenue that does not connect to the other part of NW Front Avenue on the south side of the property.

Primary access via NW 61st Avenue/NW Balboa Avenue includes one at-grade crossing of the BNSF main line and three at-grade spur rail crossings, one of which is located within the intersection of NW 61st Avenue and NW Front Avenue. These may present blockage as well as safety issues. Movement is restricted at the intersection of NW Balboa Avenue and US 30, with only a right turn allowed onto US 30. In addition, trucks carrying hazardous materials are prohibited from using NW 61st Avenue/NW Balboa Avenue.

Access from NW Kittridge Avenue is via a grade-separated overcrossing over the BNSF main line. This route includes three at-grade crossings of spur rail lines, but no at-grade main line crossings. Kittridge Avenue provides access in both directions at US 30 at a signalized intersection and does not have any restrictions of trucks carrying hazardous materials.

The dead end segment of NW Front Avenue on the north side of the site could be used as the primary route to access the vacant portion of the Siltronic site. It includes a signalized intersection with US 30, and an at-grade crossing of the BNSF main line tracks immediately east of the intersection. This crossing, however, is located on the line heading toward the coast, beyond the point where the more heavily used north-south line branches off.

Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive use include:

- A study of intersection geometry, signage, and striping at NW 61st Avenue and NW Front Avenue.
- A comprehensive study of the cost-benefit of constructing a new grade-separated...
crossing of the BNSF main line with a new full directional intersection or interchange with US 30 in the vicinity of NW Balboa Avenue.

- Evaluate the feasibility of using the segment of NW Front Avenue on the north side of the site as the primary access.

Site transportation issues, recommendations, and cost estimates are described below in Table 11.

**Table 11: Siltronic (Site 11) – Transportation System Issues and Recommendations**

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blockage and safety issues due to at-grade spur rail crossings at the intersection of NW 61st Avenue and NW Front Avenue.</td>
<td>Study intersection geometry, signage, and striping for safety.</td>
<td>$4,000</td>
</tr>
</tbody>
</table>
| 2     | Blockage due to at-grade spur rail crossings along NW 61st Avenue/NW Balboa Avenue.   | Prepare a comprehensive study of the cost-benefit of constructing a new grade-separated crossing of the BNSF main line with a new full directional intersection or interchange with US 30 in the vicinity of NW Balboa. The study should consider the following:
  - Value of a new grade separated crossing to existing or potential businesses.
  - Origins and destinations of freight and commuter traffic accessing businesses in the area.
  - Added time required to access US 30 via existing overcrossing at NW Kittridge for both northbound and southbound trips.
  - Impact that improved access could have on the marketability of parcels in the vicinity.
  - Emergency access. | $40,000 |
| 3     | Blockage and safety issues due to at-grade rail crossing of BNSF main line on NW Balboa immediately east of US 30\(^1\). | Evaluate the feasibility of using the intersection of NW Front Ave and US 30 as the primary access. | NA             |
| 4     | Restricted turn movements from NW Balboa to US 30 (right turn only)\(^1\).             | Evaluate the feasibility of using the segment of NW Front Avenue on the north side of the site as the primary access. | NA             |

\(^1\)BNSF has applied to abandon this crossing. ODOT and the City of Portland are currently evaluating ways to provide alternative access.
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Figure 11:
Access Issues: Site 11 - Siltronic

Legend
- Site Location
- Access Issue
- Railroad
Siltronic – Regional System Access

There are two primary routes for access from the Siltronic site to the major regional transportation facilities:

- Via NW Front Avenue and NW 61st Avenue/NW Balboa Avenue to US 30 and I-405.
- Via NW Front Avenue and NW Kittridge Avenue to US 30 and I-405.

Regional system projects that could improve accessibility to and from the Siltronic site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via NW Front Avenue and NW 61st Avenue/NW Balboa Avenue to US 30 and I-405.
  - Realign Saltzman/Balboa (19) (Would only occur if BNSF crossing is not closed).
- Via NW Front Avenue and NW Kittridge Avenue to US 30 and I-405.
  - ITS improvements on US 30 (24).
Site 12: Stauffer Chemical

The Stauffer Chemical site is made up of two tax lots that are separated by N Marine Drive. The lot on the north side of N Marine Drive is a long narrow lot with a steep slope that runs between N Marine Drive and the Columbia River. A small portion on the west end of the site could be developed. The lot on the south side of N Marine Drive is a much larger parcel. There are 15 total vacant acres on the two sites (see Figure 12).

Stauffer Chemical Site Access

It is not practical to provide access to the portion of the site north of N Marine Drive. There is a steep slope up to N Marine Drive and this section of N Marine Drive is on top of a berm, at the end of an overpass, and on a curve, presenting significant sight distance issues. N Marine Drive could be accessed from the eastern portion of the site, but a long access road to would need to be built along the shore, which is steep and narrow, in order to access the developable portion at the west end. It may not be worth building this long access road to access such a small site.

Access from the west would require a very long access road through the T-6 property on the opposite side of the rail yard from N Marine Drive. This would not be a practical means of accessing such a small site. However, the Port of Portland owns all of the property west of the Stauffer Chemical Site, suggesting that if T-6 is expanded towards the east, it would be reasonable for the Port of Portland to acquire this site.

Access to the portion of the Stauffer Chemical site south of N Marine Drive is via N Suttle Road on its southern boundary. North Suttle Road connects to N Portland Road at an unsignalized intersection, providing access to N Marine Drive and I-5. North Suttle Road includes three at-grade spur rail crossings, including one at the intersection of N Suttle Road and N Portland Road, suggesting occasional train blockage and potential safety issues.

An alternative access to N Marine Drive on the north side of the site would not be recommended. There are sight distance issues and traffic on N Marine Drive travels at high speed.

Occasional train blockage on N Suttle Road.  High speed and sight distance issues on N Marine Drive (looking east).
Transportation strategies that should be considered to improve the attractiveness for employee intensive or truck intensive uses include:

- Upgrade of traffic and railroad control at the intersection of N Suttle Road and N Portland road.

Site transportation issues, recommendations and cost estimates are described below in Table 12.

**Table 12: Stauffer Chemical (Site 12) – Transportation System Issues and Recommendations**

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue (north of N Marine Drive)</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sight distance issues at west end of site.</td>
<td>No action recommended.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Potential sight distance issues at east end of site.</td>
<td>No action recommended.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Long access road along steep slope required to access site from the east.</td>
<td>No action recommended.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Long access road through Port of Portland T-6 property required to access site from the west.</td>
<td>No action recommended.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue (south of N Marine Drive)</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Blockage due to at-grade rail spur crossings along Suttle Road.</td>
<td>No action recommended.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Blockage and safety issues due to at-grade rail spur crossings at intersection of N Suttle Road and N Portland Road.</td>
<td>Upgrade geometry, striping, and other traffic control devices.</td>
<td>$45,000</td>
</tr>
<tr>
<td>7</td>
<td>Unsignalized intersection at N Suttle Road and N Portland Road.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Sight distance problems accessing site directly from N Marine Drive.</td>
<td>Access directly to N Marine Drive does not appear to be a feasible option due to sight distance and high speeds on N Marine Drive.</td>
<td></td>
</tr>
</tbody>
</table>

**Stauffer Chemical – Regional System Access**

There are three primary routes for access from the Stauffer Chemical site to the major regional transportation facilities.

- Via N Marine Drive to I-5.
- Via N Portland Road, N Columbia Boulevard, N Lombard, and the St Johns Bridge to US 30 and I-405.
- Via N Marine Drive, N Lombard, and the St Johns Bridge to US 30 and I-405.
Figure 12: Access Issues: Site 12 - Stauffer Chemical
Regional system projects that could improve accessibility to and from the Stauffer Chemical site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via N Marine Drive to I-5.
  - ITS improvements on Marine Drive (3).
- Via N Portland Road, N Columbia Boulevard, N Lombard, and the St Johns Bridge to US 30 and I-405.
  - Columbia Blvd/Portland Rd intersection improvements (61).
  - Lombard (Burgard) bridge replacement (48).
- Via N Marine Drive, N Lombard, and the St Johns Bridge to US 30 and I-405.
  - Marine Drive (at Rivergate West) Rail Crossing, Phase 2 (41).
  - Lombard at Columbia Slough – Strengthen bridge (47).
  - Widen Lombard – Purdy to Simmons (49).
  - Lombard (Burgard) bridge replacement (48).
Site 13: Vigor (Cascade General)

The Vigor (Cascade General) site 13 is located at the northwestern end of Swan Island at the end of N Lagoon Avenue and N Channel Avenue. The site has 65 occupied acres with 25 acres available for redevelopment (see Figure 13).

Vigor (Cascade General) Site Access

Truck and auto access to the Vigor (Cascade General) site is via N Going Street and N Lagoon Avenue (westbound) and N Channel Avenue (eastbound).

There are approximately five at-grade spur rail crossings on N Channel Avenue, suggesting occasional blockage. There is only one route in and out of Swan Island (N Going Street), which may limit development of the Vigor (Cascade General) site if congestion is an issue.

Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive use include:

- Existing system level projects included in the Freight Master Plan to improve N Going Street by redesigning the Going/Greeley interchange, adding a climbing lane to N Going Street, replacing the UPRR overpass, and evaluating a potential secondary access to Swan Island by extending N River Street.
- Project currently under way to implement “smart” traffic signal system at N Going Street and N Interstate Avenue. The City should monitor the project to see if it effectively reduces congestion.

Site transportation issues, recommendations, and cost estimates are described below in Table 13.

Table 13: Vigor (Cascade General) (Site 13) – Transportation System Issues and Recommendations

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blockage due to at-grade rail crossings on N Channel Avenue approaching the site.</td>
<td>No action recommended.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Potential congestion issues on N Going Street.</td>
<td>Addressed by projects 31 and 32, ITS improvements on Going St. and interchange improvements at Going St. and Greeley Ave., already identified, and by current plans to improve the signal controller at N Going St. and N Interstate Ave.</td>
<td></td>
</tr>
</tbody>
</table>
Figure 13:
Access Issues: Site 13 - Vigor (Cascade General)

Legend
- Site Location
- Access Issue
- Railroad

Willamette River
N Channel Ave
N Lagoon Ave
N Interstate Ave
N Going St
N Creasy Ave
N Dash AVE
N Reeley AVE

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Vigor (Cascade General) – Regional System Access

There are two primary routes for access from the Vigor (Cascade General) site to the major regional transportation facilities.

- Via N Lagoon Avenue/N Channel Avenue and N Going Street to I-5 (northbound).
- Via N Lagoon Avenue/N Channel Avenue and N Going Street to N Greeley Avenue and I-5 (southbound).

Regional system projects that could improve accessibility to and from the Vigor (Cascade General) site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via N Lagoon Avenue/N Channel Avenue and N Going Street to I-5 (northbound).
  - Going Street at Swan Island – Replace bridge over UPRR (30).
  - Going/Greeley Climbing Lane and Interchange Improvements (31).
  - Going Street ITS improvements (32).
  - Evaluate secondary access road to Swan Island by extending N River Street (33).

- Via N Lagoon Avenue/N Channel Avenue and N Going Street to N Greeley Avenue and I-5 (southbound).
  - Going Street at Swan Island – Replace bridge over UPRR (30).
  - Going/Greeley Climbing Lane and Interchange Improvements (31).
  - Going Street ITS improvements (32).
  - Evaluate secondary access road to Swan Island by extending N River Street (33).
Site 14: PGE

The PGE site is located north of Linnton, just south of the Sauvie Island Bridge. It is currently in use by PGE for power lines. It has 34 acres available for redevelopment (see Figure 14).

PGE Site Access

Truck and auto access to the PGE site is via NW Marina Way, which meets US 30 south of the site.

Access to the site includes a stop-controlled intersection at NW Marina Way and US 30, which has sight distance limitations. There is one at-grade railroad crossing approximately 300 feet east of US 30, suggesting a risk of occasional blockage. NW Marina Way is a dead-end street.

Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive uses include:

- Evaluation of traffic signal warrants and sight distance at the intersection of NW Marina Way and US 30.

Site transportation issues, recommendations and cost estimates are described below in Table 14.

PGE – Regional System Access

There is one primary route for access from the PGE site to the major regional transportation facilities.

- Via NW Marina Way and US 30 to I-405.
- Via NW Marina Way and US 30 to the St. Johns Bridge and N Columbia Boulevard to I-5.
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Figure 14:
Access Issues: Site 14 - PGE
Table 14: PGE (Site 14) – Transportation System Issues and Recommendations

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stop-controlled access to US 30.</td>
<td>Perform signal warrant and sight distance analysis at intersection of NW Marina Way and US 30. Consider a more comprehensive study of safety and access to Highway 30 for adjacent land uses in the area north of the Linnton community.</td>
<td>$3,000</td>
</tr>
<tr>
<td>2</td>
<td>Blockage due to at-grade rail crossing on NW Marina Way.</td>
<td>No action recommended.</td>
<td></td>
</tr>
</tbody>
</table>

- Via NW Marina Way and US 30 to the St. Johns Bridge and N Marine Drive to I-5.

Regional system projects that could improve accessibility to and from the PGE site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via NW Marina Way and US 30 to I-405.
  - ITS improvements on US 30 (24).
- Via NW Marina Way and US 30 to the St. Johns Bridge and N Columbia Boulevard to I-5.
  - Lombard (Burgard) Bridge replacement (48).
  - I-5 Delta Park – Highway widening and ramp improvements, including reconstruction of the Denver Viaduct (1 and 5).
- Via NW Marina Way and US 30 to the St. Johns Bridge and N Marine Drive to I-5.
  - Lombard (Burgard) Bridge replacement (48).
  - Widen Lombard – Purdy to Simmons (49).
  - Lombard at Columbia Slough – Strengthen bridge (47).
  - Marine Drive (at Rivergate West) Rail Crossing, Phase 2 (41).
Site 15: Malafouris

The Malafouris site is a 2 acre occupied site located on the east side of the Willamette River, at the south end of the Albina Rail Yard, just north of the Fremont Bridge. It is on the shoreline of the river and is currently in non-river dependent use (see Figure 15).

Malafouris Site Access

Truck and auto access to the Malafouris site is via N Interstate Avenue and N River Street.

Access to the site includes an overcrossing on N River Street over the Union Pacific railroad tracks, west of N Interstate Avenue. N River Street shares right-of-way with a railroad line that runs down the center of the road in places. The street is in very poor condition and has a significant amount of truck traffic. Several sites along N River Street load and unload trucks in the roadway, creating congested conditions. There is also a significant amount of employee parking along the roadway adjacent to loading areas.

Transportation strategies that should be considered to improve the attractiveness for employment intensive or truck intensive uses include:

- Resurface pavement along N River Street.

Site transportation issues, recommendations and cost estimates are described below in Table 15.
Table 15: Malafouris (Site 15) – Transportation System Issues and Recommendations

<table>
<thead>
<tr>
<th>Map #</th>
<th>Potential Access Issue</th>
<th>Recommended Solution</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blockage and safety issues due to existing railroad tracks down the middle of N River Street.</td>
<td>No action recommended.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Very poor pavement condition on N River Street.</td>
<td>Full depth pavement reconstruction along N River St. from approximately N Harding Avenue to N Essex Avenue (approximately 1000 feet).</td>
<td>$140,000</td>
</tr>
<tr>
<td>3</td>
<td>Congestion due to parking and truck loading on N River Street.</td>
<td>No action recommended.</td>
<td></td>
</tr>
</tbody>
</table>

Malafouris – Regional System Access

There are two primary routes for access from the Malafouris site to the major regional transportation facilities.

- Via N River Street, N Interstate Avenue, and N Going Street to I-5.
- Via N River Street, N Interstate Avenue, and N Broadway Street to I-5.

Regional system projects that could improve accessibility to and from the PGE site are included in Figure 2 – System Transportation Deficiencies and Projects. Significant system-level projects include (Note: The number in parentheses is the project map number in Figure 2):

- Via N River Street, N Interstate Avenue, and N Going Street to I-5.
  - I-5 Reconstruction and Widening, Greeley to I-84 (8).
- Via N River Street, N Interstate Avenue, and N Broadway Street to I-5.
  - I-5 Reconstruction and Widening, Greeley to I-84 (8).
Figure 15:
Access Issues: Site 15 - Malafouris

Legend
- Site Location
- Access Issue
- Railroad

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