CORRIDOR CONCEPTS: NEIGHBORHOODS/EMPLOYMENT SEGMENT

The Neighborhoods/Employment Segment of the alignment in inner Southeast Portland extends from SE Division to SE Steele streets and includes the Clinton Street, Rhine Street and Holgate Boulevard station areas (Fig. 27). It has a community scale with a mix of lower density residential, commercial and industrial uses. Many of the well-established neighborhoods are highly desirable and offer historic homes on tree-lined streets, coffeehouses, eclectic restaurants, locally owned shops and good public schools. The strong employment base is anchored by the PGE, Fred Meyer and TriMet corporate headquarters, PECO Manufacturing and the various businesses in the industrial sanctuary.

The Union Pacific Railroad (UPRR) runs through the area and creates a significant barrier between neighborhoods. Three new pedestrian/bicycle overcrossings and other bicycle and pedestrian improvements, combined with development opportunities in close proximity to the stations, can help reconnect divided neighborhoods in this segment.

FIGURE 27: Neighborhoods/Employment Segment map
Neighborhood Context, Opportunities and Challenges

The area immediately surrounding the Clinton Street station is largely comprised of industrial/commercial uses and is bisected by the Union Pacific Railroad (UPRR). The Hosford-Abernethy residential neighborhoods extend to the north (Ladd’s Addition) and the east (Clinton), and the Brooklyn neighborhood is south of the station and Powell Boulevard. The Clinton neighborhood’s commercial center begins approximately eight blocks to the east of the station on SE Clinton Street. The new station and related improvements present opportunities to help connect these neighborhoods.

The light rail project necessitates extensive coordination with UPRR as the alignment will run adjacent to the existing rail lines and require several shared crossings (Fig. 28). There is a strong neighborhood desire for a quiet zone in this area; this requires careful design to secure the intersections so that neither light rail nor freight horns need to be sounded (see Quiet Zones section).

There are opportunities to improve the pedestrian and bicycle connections through this area toward the waterfront. SE Clinton Street is a popular bicycle boulevard from SE 51st to SE 12th Avenue, where cyclists face a difficult crossing over the railroad tracks and Milwaukie Boulevard to reach the bike boulevard on SE 9th Avenue.

The station is near the crossroads of three major Southeast Portland arterials (SE Division, Milwaukie and Powell) but will have little visibility from these streets. There is the opportunity to include an art installation to draw visual attention to the platform.

The project requires right-of-way acquisition of commercial and light industrial properties along this segment of the alignment, and active relocation support is essential to keep jobs in the corridor.

Development opportunities: There is strong redevelopment potential for the NW Natural Gas Company property adjacent to the station platform—master planning efforts are currently underway for this triangular site. Additional redevelopment opportunities are strong immediately south and east of the station. A number of private property owners are interested in assembling a larger redevelopment site bounded by Milwaukie Avenue/Powell Boulevard/Gideon Street. This station is also likely to have a positive effect on development along the SE Division Street corridor. There may also be the opportunity to utilize remnant acquisition parcels for transit-oriented development or community use.

Current Design Direction

The Clinton Street station platform will be located east of SE 12th Avenue, parallel with SE Gideon Street (Fig. 29). There will be a buffer between SE Gideon Street and the station platform that will likely include a landscaped storm water quality zone and a large number of bicycle parking amenities. Vertical art elements have been identified as opportunities to provide a strong visual connection to the station from SE Division and SE Powell.

Powell Boulevard over/underpass: The project will include significant bicycle and pedestrian improvements in this area (Fig. 26). A new Powell Boulevard overpass will provide a safe and direct
CLINTON STREET STATION AREA

Neighborhood Context:
While the area immediately surrounding the Clinton Street station area is largely comprised of industrial/commercial uses and is bisected by the Union Pacific Railroad (UPRR), the Hosford-Abernethy residential neighborhoods extends to the north (Ladd’s Addition) and the east (Clinton), and the Brooklyn neighborhood is south of the station and Powell Boulevard.

Opportunities
1. Create transit-oriented developments on underutilized sites to help bridge Hosford-Abernethy and Brooklyn neighborhoods
2. Locate the station at the crossroads of major southeast corridors of Division, Milwaukie and Powell
3. Incorporate an art installation to draw visual attention to platform
4. Redevelop large parcels in station area
5. Improve pedestrian and bicycle crossings over and under SE Powell Blvd and over the Union Pacific tracks
6. Provide good bicycle connections between the station and Clinton Street bike route, add bike lanes to Milwaukie Avenue, create bicycle/pedestrian multi-use path along busway between SE 11th and SE 8th/9th avenues, and create future improved connections to the bridge
7. Utilize remnant acquisition and right-of-way parcels for transit-oriented development/community uses

Challenges
8. Draw attention to the station, which has little visibility from major corridors
9. Design an attractive pedestrian bridge over Union Pacific tracks
10. Enhance north/south connections; street improvements may be necessary
11. Provide good pedestrian access to the station
bicycle/pedestrian route over Powell Boulevard. Cyclists heading south from the Clinton Street station will have direct access from the overpass to new bike lanes on SE 17th Avenue. Those heading northbound will have direct access to SE 16th Avenue and into the station. Originally the project was not going to modify the Powell Boulevard underpass, which is currently perceived to be unsafe due to poor lighting and blind switchbacks. However, with the reconstruction of the structure, the underpass along the west side of Powell Boulevard will be modified to improve safety for cyclists and pedestrians by providing a straighter route, better lighting and a more open feel. There will be no changes to the east side of the underpass.

The existing pedestrian bridge that crosses the railroad tracks at SE Brooklyn/SE 16th Avenue will be relocated to SE 14th Avenue to link directly to the light rail station and the SE 13th Avenue pedestrian crossing of Powell Boulevard, thereby better connecting the Brooklyn and Hosford-Abernethy neighborhoods. In response to the Inner Powell Boulevard Streetscape Plan, SE Milwaukie Avenue will be widened to include bike lanes from SE Powell to the 11th/12th Avenue split adjacent to the station, connecting the existing bike network south of Powell Boulevard to the inner southeast network including the Clinton Street bike boulevard. The three rail crossings at SE 8th Avenue, SE 9th Avenue and Division Place will be consolidated into a single, realigned, signalized crossing at SE 8th Avenue that includes light rail. SE Clinton Street will be closed between SE 11th and 12th avenues, and the crossings at SE 11th and SE 12th avenues will be modified to accommodate light rail. These crossing improvements are intended to meet the standards required for a quiet zone.

Between SE 9th and Milwaukie avenues, the project will purchase right-of-way adjacent to the existing railroad for light rail tracks, an exclusive bus lane and a future shared bicycle/pedestrian path (however, the shared path will not be constructed as part of the PMLR project). The project’s closure of SE Clinton Street between SE 11th and 12th avenues will require cyclists heading east or west to reroute using the SE 12th Avenue crossing.

TriMet must place a third light rail track in the central eastside, as close as possible to the Willamette River Bridge, to allow for temporary train storage to keep the entire regional system on schedule. The third track will be located just south of the Clinton Street station and will be used for schedule recovery, to clear track of inoperable light rail vehicles, or to store extra vehicles for a planned event. Fencing will be installed from the new Water Avenue to SE 17th Avenue to provide safety and prevent people from accessing or crossing the light rail trackway or the UPRR tracks beyond.
The City of Portland and TriMet project staff are working to ensure that the Portland Fire Bureau’s station house located at SE Gideon/13th Place can maintain response times utilizing 12th Avenue. Traffic signal and train communication tools may be utilized within the station house to provide confirmation of any traffic blockage or train crossing delay that would allow the Fire Bureau to select alternative routes as quickly as possible. This issue will be resolved in Final Design.

The light rail project improvements in this area will be consistent with the Inner Powell Boulevard Streetscape Plan.

Other Design Options

**Signalized crossing at SE 8th and Powell:** Earlier in the planning process there was consideration of adding a traffic signal at SE 8th and Powell to provide a direct bus connection from the Willamette River Bridge to Powell Boulevard. However, the Oregon Department of Transportation raised significant concern over this proposal, citing safety concerns with potential unacceptable accident rates and potential queuing onto the Ross Island Bridge. For this reason, alternative routes for east side bus access to/from the transit bridge were studied. The alternatives were evaluated based on travel time, cost impacts, additional right-of-way requirements and operational attributes. The selected eastbound route utilizes additional right-of-way on the NW Natural Gas Company site to develop a separate bus...
roadway facility adjacent to the light rail alignment. This connects eastbound buses from the realigned SE 8th/9th intersection at Division Place and drops them onto southbound Milwaukie Avenue just south of Clinton Street (Fig. 26). This route saves several minutes of bus travel time. Westbound buses will access the shared transitway via SE 8th Avenue. The shared transitway is expected to save 3.3 minutes for bus patrons during the peak period compared to buses that would remain on the Ross Island Bridge.

**At-grade crossing vs. pedestrian bridge:** While the City of Portland reviewed the location of the grade separated pedestrian and bike crossing near Clinton Street station and requested the structure move to align with SE 13th and 14th avenues, city staff suggested that the preferred approach would be to build the crossing at grade with existing roadways and across the UPRR and light rail tracks. The project team developed this alternative and proposed it to the UPRR, TriMet Operations and the Oregon Department of Transportation. All three entities had significant concerns with an at-grade crossing, particularly due to the number of train movements on the main line, switching movements related to the Brooklyn Yard, and the number of train movements on the light rail line and pocket track—all...
of which would affect the pedestrians attempting to cross at this location. Additionally, given that the proposal also would have been a secondary response route for the Portland Fire Bureau, there was concern over how to protect the crossing from other vehicle traffic. Given the significant safety concerns, a pedestrian bridge is planned for this crossing.

**Alternative station location:** A thorough, multi-agency approach was used to review the various options for station locations throughout the alignment. Most of the alternative locations considered for this station were either further east to tie more directly to SE Powell Boulevard, or further west to anchor future redevelopment on the NW Natural site. It was determined that existing land use, transportation connections, and site constraints support placing the station at the proposed location.

**Bicycle “HAWK” signal:** The City of Portland had plans to install a bicycle HAWK (High-intensity Activated crossWalK) signal at SE Clinton/11th/12th to improve crossing safety at this intersection. The HAWK signal project was cancelled due to the intersection redesign with light rail and a potential revised bike circulation scheme from SE Clinton Street across SE 11th/12th and at the periphery of the NW Natural Gas site.

**Outstanding Issues**

- The next series of Station Area Planning efforts, to begin spring 2010, will address zoning and development issues and opportunities in this station area
- Treatment of the 50-foot setback zone between the freight rail and PMLR trackway
- Opportunities for remnant parcels from right-of-way acquisitions
- Design of pedestrian/bike bridge and detail of the Powell Boulevard overpass to be the subject of design workshops during Final Design
- Clinton Street bike crossing at SE 11th/12th Avenue
- Strategies to ensure that the Portland Fire Bureau’s station house located at SE Gideon/13th Place can maintain response times utilizing 12th Avenue
- Planning, design and funding of multi-purpose path along NW Natural Gas property between SE 9th and Milwaukie Avenue
- Multi-use path adjacent to the light rail alignment between SE 7th and 9th avenues and on Caruthers between SE 4th and SE 7th
Neighborhood Context, Opportunities and Challenges

This station area is characterized by the Brooklyn neighborhood’s residential and commercial properties to the west of the alignment and the industrial area to the east. Most of the properties immediately adjacent to the light rail trackway are commercial and industrial properties, but a single-family residential neighborhood begins half a block west of the alignment.

The project must be designed to accommodate heavy truck traffic in the area, and also fit light rail into the neighborhood character and retain an effective buffer for the single-family residential properties to the west. The project presents opportunities to reinforce connections between the Brooklyn neighborhood, Powell Park and Fred Meyer corporate headquarters (Fig. 30).

The city’s bicycle network is currently fragmented in this area. There are difficult connections across SE Powell Boulevard and down SE 17th Avenue until a bike route starts on SE 16th Avenue south of SE Lafayette Street. There is a lack of east-west connections over the railroad tracks and through the industrial sanctuary. This project presents opportunities to add bike lanes and make other improvements to strengthen the bicycle connections through this area.

Development opportunities: There are some redevelopment opportunities in this station area, particularly along SE Powell Boulevard. Light rail project improvements in this area will support the Inner Powell Boulevard Streetscape Plan.

The project requires right-of-way acquisition of commercial and light industrial properties along this segment of the alignment, and active relocation support is essential to keep jobs in the corridor (Fig. 30).
Opportunities and Challenges

RHINE STREET STATION AREA

Neighborhood Context:
This station area is characterized by the Brooklyn neighborhood's residential and commercial properties to the west of the alignment and regionally significant industrial lands to the east, with properties immediately adjacent to the light rail trackway dedicated to commercial and industrial uses. The surrounding employment base includes Fred Meyer, Portland General Electric, Union Pacific Railroad's Brooklyn Yard and TriMet.

Opportunities

1. Reinforce connection between Brooklyn neighborhood, Powell Park and Fred Meyer corporate headquarters
2. Reconstruct and realign the pedestrian/bike bridge that crosses the Union Pacific's Brooklyn Yard
3. Improve pedestrian and bicycle crossings over and under SE Powell Blvd
4. Add new bike lanes and green features on SE 17th Avenue
5. Pursue the few redevelopment opportunities along SE Powell Blvd

Challenges

6. Lack of east-west connections over the railroad tracks and through the industrial area
7. View of the pedestrian bridge from the station platform is partially obscured by adjacent development parcels
8. Heavy freight and bus traffic on SE 17th Avenue
9. Few transit-oriented development and redevelopment opportunities in area
10. Relatively long walking distance to neighborhood destinations

FIGURE 30: Rhine Street station area—Opportunities and Challenges
Current Design Direction

This section of the alignment crosses SE Powell Boulevard on a new structure and then continues south in the center of a rebuilt SE 17th Avenue. The station platform is in a center island configuration between SE Haig Street and SE Rhine Street (Fig. 31).

Powell Boulevard overcrossing: The reconstructed 17th Avenue crossing of Powell Boulevard will include a wide multi-use path that directly connects the Brooklyn neighborhood to the north side of Powell. This path will also provide a direct connection from the Rhine Street station to the Clinton Street station via Gideon Street (Fig. 26).

TriMet has conducted traffic and truck access studies to ensure that industrial use remains functional after light rail is introduced to SE 17th Avenue. The project improvements are designed to accommodate over-height freight routes and truck turning movements based on current industrial and fire response vehicle sizes.

Bicycle and pedestrian improvements are planned for the station area. The pedestrian/bike bridge that crosses the UPRR’s Brooklyn Yard between SE Lafayette and SE Rhine Streets will be reconstructed and realigned to better connect to the station platform. It will provide station access to the Creston-Kenilworth neighborhood and the Fred Meyer corporate headquarters. The bridge presents numerous opportunities for art enhancements. On SE 17th Avenue sidewalks will be rebuilt to 12 feet in width to meet City of Portland standards and new bike lanes will be added.

Other Design Options

Design of Powell Boulevard overcrossing: The Powell Boulevard crossing proposed herein is a vast improvement over earlier plans. The Locally Preferred Alternative called for modest widening of the Powell Boulevard crossing to accommodate light rail. This provided for a single light rail track (which would impact MAX travel time), impacted bike and pedestrian crossings and did not meet a variety ODOT standards, including lane widths for autos/trucks. After extensive consultation and evaluation with project partners and key stakeholders, a new design evolved that provided three key improvements: (1) added a 12-foot crossing that allows cyclists and pedestrians to cross over Powell Boulevard within a well lit and designed crossing, (2) added a second track that would provide for better light rail service through this corridor, and (3) provided better sightlines for westbound pedestrians and cyclists using the Powell Boulevard undercrossing.

Station configuration and consolidation: Both the Rhine Street and Holgate Boulevard stations were originally configured with split platforms located on either side of the intersection (e.g., a northbound platform on the north side of Rhine Street and a southbound platform on the south side), which created significant right-of-way impacts and conflicts with truck turns. To mitigate these impacts, the project team then proposed consolidating the Rhine Street and Holgate Boulevard stations to one station north of SE Holgate, but both the community and the City of Portland expressed strong concerns with this option. By changing from split platforms to island configurations at both stations, TriMet was able to optimize the design to mitigate the right-of-way and truck impacts and create better station environments.
Outstanding Issues

- Use of the remainder of parcels obtained through right-of-way acquisitions (on west side of the alignment)—possible redevelopment or reuse opportunities
- Appropriate track treatment that balances noise and vibration, addresses water quality and is responsive to the character of the area
- Design of pedestrian bridge and detail of the Powell Boulevard overpass will be the subject of design workshops during Final Design

FIGURE 31: Rhine Street station area plan
Neighborhood Context, Opportunities and Challenges

The alignment through this section runs down SE 17th Avenue between the Brooklyn neighborhood’s residential and commercial properties to the west and the industrial sanctuary to the east. This station is situated at a gateway location at the southeast corner of the Brooklyn neighborhood’s residential core. Most of the properties immediately adjacent to the alignment are commercial and industrial properties, with single-family homes to the west of the alignment. The properties east of the alignment include TriMet’s bus staging area and maintenance facility and the Brooklyn Rail Yard.

Holgate Boulevard provides east/west connections through this area. The Milwaukie Avenue commercial corridor extends just south of the station area (Fig. 32).

The project requires right-of-way acquisition of commercial and light industrial properties along this segment of the alignment, and active relocation support is essential to keep jobs in the corridor. It must also address the challenge of transitioning the light rail tracks at SE Schiller from a center- to a side-running alignment.

The project must be designed to accommodate heavy truck traffic in the area, and ensure light rail fits into the neighborhood character and retains an effective buffer for the single-family residential properties to the west. The project is also challenged to create a safe and attractive environment for pedestrians and bus transfers; adequate pedestrian facilities on SE Holgate and SE 17th are needed for good station access. There are opportunities to make green enhancements on SE 17th Avenue that can help improve the pedestrian experience.

The city’s bicycle network is currently fragmented in this area. The recommended southbound bike route runs down SE 16th Avenue, which is a neighborhood street with many stop signs, from SE Lafayette until SE Mall Street (one block north of Holgate). Cyclists continuing southbound face difficult connections down either SE 17th Avenue or SE Milwaukie Avenue all the way to SE Reedway. There is a lack of east-west connections over the railroad tracks and through the industrial sanctuary. This project offers opportunities to add bike lanes and make other improvements to strengthen the bicycle connections through this area.

Development opportunities: There are redevelopment opportunities on the west side of SE 17th Avenue at Holgate and south of SE Holgate Boulevard.

Current Design Direction

This station is in a center island configuration on SE 17th Avenue, north of the intersection with SE Holgate Boulevard (Figs. 33 and 34).
Opportunities and Challenges

HOLGATE BOULEVARD STATION AREA

Neighborhood Context:
This station area lies between the Brooklyn neighborhood’s residential and commercial properties to the west and the industrial sanctuary to the east, with Holgate Boulevard providing east/west connections through the area and the Milwaukie Avenue commercial corridor extending just to the south.

Opportunities
1. Connect to the Milwaukie Avenue commercial corridor
2. Locate station at a visible and accessible street (SE Holgate Boulevard) that provides good east/west connections
3. Optimize bus facility to improve transit-oriented development compatibility
4. Create transit-oriented development on project-owned, underutilized sites
5. Convert remnant 40-50’ deep parcels to community use (e.g. community gardens)
6. Add new bike lanes and green features on SE 17th Avenue

Challenges
7. Narrow sidewalks on Holgate
8. High traffic volumes and speeds
9. Truck circulation and access must be accommodated
10. Proximity of residential neighborhoods; potential impacts to be mitigated
11. At SE Schiller Street, the transition of light rail tracks from center- to side-running
12. Heavy bus and freight traffic at Schiller

FIGURE 32: Holgate Boulevard station area—Opportunities and Challenges
TriMet has conducted traffic and truck access studies to ensure that industrial use remains functional after light rail is introduced to SE 17th Avenue. The project improvements are designed to accommodate over-height freight routes and freight truck turning movements. A dedicated left turn lane will be added on eastbound Holgate Boulevard for access to northbound 17th Avenue.

New bike lanes will be added to SE 17th Avenue to create a safe north-south connection through this area. Green enhancements, such as storm water treatments, street trees, planters and pervious trackway (tie and ballast) will also be created along SE 17th Avenue, which is also a possible site for artwork. These improvements reinforce SE 17th as an enhanced transportation corridor that complements Milwaukie Avenue as the commercial “Main Street”.

The streetscape design along 17th incorporates required truck and bus movements. The coordination of the design adjacent to TriMet’s Center Street bus facility includes a driveway relocation and a signal aligned with SE Boise Street to facilitate bus turns to both northbound and southbound 17th Avenue.

Just south of this station area the light rail alignment transitions from the center of SE 17th Avenue to the east side of McLoughlin.

FIGURE 33: Cross sections and aerial illustrations, SE 17th Avenue

URBAN DESIGN VISION

The Holgate Boulevard station is a gateway to the Brooklyn neighborhood. It is a place that reflects the historic character of the neighborhood and supports existing industrial businesses while encouraging new neighborhood-oriented uses. It is accessible to pedestrians, cyclists and bus riders. The station has stimulated significant transit-oriented development in the area and has good connections to Milwaukie Avenue via a comfortable pedestrian environment. It is linked to new commercial development on McLoughlin Boulevard and along Holgate. Bicyclists are able to either use the new bike lanes on SE 17th Avenue or transfer to the light rail. Employees of the surrounding businesses use the light rail to access jobs, thereby diminishing parking impacts on the nearby residential neighborhoods.
Boulevard. The alignment will impact access to McLoughlin Boulevard from UPRR’s Brooklyn Yard—a truck egress point will be improved at SE Harold Street to provide freight traffic with direct access to McLoughlin Boulevard. The UPRR requires that the light rail line be elevated over this truck egress point.

**Outstanding Issues**

- Use of the remainder of parcels obtained through right-of-way acquisitions (on west side of the alignment)—possible redevelopment or reuse opportunities.
- TriMet to address employee parking needs and potentially identify off-site parking opportunities
- Impact on bus facilities
- Sidewalk widths
- Auto lane widths on Holgate Boulevard at SE 17th Avenue