A ULI Advisory Services Panel Report

Seattle
Washington

March 3–6, 2014

Urban Land Institute

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Sound Transit Operations and Maintenance Satellite Facility

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About the Urban Land Institute

THE MISSION OF THE URBAN LAND INSTITUTE is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. ULI is committed to

- Bringing together leaders from across the fields of real estate and land use policy to exchange best practices and serve community needs;
- Fostering collaboration within and beyond ULI's membership through mentoring, dialogue, and problem solving;
- Exploring issues of urbanization, conservation, regeneration, land use, capital formation, and sustainable development;
- Advancing land use policies and design practices that respect the uniqueness of both built and natural environments;
- Sharing knowledge through education, applied research, publishing, and electronic media; and
- Sustaining a diverse global network of local practice and advisory efforts that address current and future challenges.

Established in 1936, the Institute today has more than 32,000 members worldwide, representing the entire spectrum of the land use and development disciplines. ULI relies heavily on the experience of its members. It is through member involvement and information resources that ULI has been able to set standards of excellence in development practice. The Institute has long been recognized as one of the world's most respected and widely quoted sources of objective information on urban planning, growth, and development.

Cover photo: Sound Transit

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About ULI Advisory Services

THE GOAL OF THE ULI ADVISORY SERVICES program is to bring the finest expertise in the real estate field to bear on complex land use planning and development projects, programs, and policies. Since 1947, this program has assembled well over 400 ULI-member teams to help sponsors find creative, practical solutions for issues such as downtown redevelopment, land management strategies, evaluation of development potential, growth management, community revitalization, brownfields redevelopment, military base reuse, provision of low-cost and affordable housing, and asset management strategies, among other matters. A wide variety of public, private, and nonprofit organizations have contracted for ULI's advisory services.

Each panel team is composed of highly qualified professionals who volunteer their time to ULI. They are chosen for their knowledge of the panel topic and screened to ensure their objectivity. ULI's interdisciplinary panel teams provide a holistic look at development problems. A respected ULI member who has previous panel experience chairs each panel.

The agenda for a three-day panel assignment is intensive. It includes an in-depth briefing day composed of a tour of the site and meetings with sponsor representatives; a day of hour-long interviews of typically 30 to 40 key community representatives; and one day of formulating recommendations.

Long discussions precede the panel's conclusions. On the final day on site, the panel makes an oral presentation of its findings and conclusions to the sponsor. A written report is prepared and published.

Because the sponsoring entities are responsible for significant preparation before the panel's visit, including sending extensive briefing materials to each member and arranging for the panel to meet with key local community members and stakeholders in the project under consideration, participants in ULI's five-day panel assignments are able to make accurate assessments of a sponsor's issues and to provide recommendations in a compressed amount of time.

A major strength of the program is ULI's unique ability to draw on the knowledge and expertise of its members, including land developers and owners, public officials, academics, representatives of financial institutions, and others. In fulfillment of the mission of the Urban Land Institute, this Advisory Services panel report is intended to provide objective advice that will promote the responsible use of land to enhance the environment.

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Foreword: The Panel's Assignment

SOUND TRANSIT, THE CENTRAL Puget Sound Regional Transit Authority, is in the process of adding five new extensions to its Link light-rail system, in the second phase of the system's development. These lines will join the Central Link/Airport, from downtown Seattle to Seattle-Tacoma International Airport, which began service in 2009. The second phase will extend light-rail service from Seattle in three directions: north to Lynnwood, east to Redmond, and south to the Kent and Des Moines area. Together, the first and second phases will bring a total of 50 miles of light rail to the region by 2023.

The expansion of the Link light-rail system supports regional long-range plans for transportation and development, including those adopted by the Puget Sound Regional Council. Like Sound Transit's Regional Transit Long-Range Plan, the council puts a high priority on transit-oriented development and economic development in connection with the system. The Central Puget Sound is already the eighth most congested region in the country, so transportation alternatives are critical to its future viability.

Sound Transit's transit-oriented development policy supports land development that integrates transit and land use, promoting ridership while advancing community development visions. These visions typically include walkable communities and reduced need for driving, along with improved access to jobs and economic opportunities. Concurrent goals include reductions in regional traffic congestion, air pollution, and greenhouse gas emissions. In pursuit of all these values, Sound Transit seeks cooperation and partnerships with public and private entities.

To complete its expansion, Sound Transit must increase its light-rail vehicle fleet to about 180 vehicles by 2023. This will almost triple the number of vehicles now in service, requiring additional operations and maintenance capacity to be in place by 2020. Operations and maintenance satellite facilities (OMSFs) for these links will join the original light-rail operations and maintenance facility, which is in an industrial area south of downtown Seattle. Sound Transit's 25-acre Forest Street Operations and Maintenance (O&M) Facility is sized and configured to store and service 104 vehicles; it has been recognized for design excellence.

Regional map.

Although the OMSFs are necessary and consistent with sustainable development and overall environmental goals, they are inherently industrial, and the tracks used to move and store vehicles occupy acreage that cannot be integrated with a typical urban street grid. This makes OMSFs practically and politically difficult to accommodate and puts them at odds with some goals for transit-oriented and economic development—especially the overall goal of walkable communities, residential neighborhoods, and mixed-use development around transit.

Sound Transit is in the process of adding five new extensions to its Link light-rail system.

Sound Transit has identified four possible sites for new OMSFs based on their physical and operational requirements. These sites, in the cities of Lynnwood and Bellevue, are near light-rail segments along the phase two line extensions, in locations that would not compromise light-rail service. They can be in use during the nightly service window of 1:00 a.m. to 5:00 a.m. The sites are generally rectangular and include 20 to 25 acres of land. They can each accommodate at least 80 vehicles.

The four sites under consideration are:

- Alternative 1: Lynnwood with Burlington Northern Santa Fe Railroad (BNSF) storage tracks in Bellevue
- Alternative 2: SR520 site, Bellevue
- Alternative 3: BNSF site, Bel-Red neighborhood of Bellevue
- Alternative 4: BNSF site, modified

The panel was not asked to select the best site, but rather to look at each site and provide recommendations and thoughts on how to make it the best in terms of neighborhood impact, community and economic development, and other factors. Specifically, the sponsor asked the panel to address the following issues:

- What strategies could Sound Transit consider to help integrate an OMSF into the surrounding land use at each location?
- What potential opportunities exist for transit-oriented development and/or economic development on the surplus property associated with each site?
- What insights and suggestions does the ULI panel have regarding the potential for constructing housing or commercial uses over a public facility?
- What options or strategies should Sound Transit consider to encourage transit-oriented or other economic development opportunities adjacent to light-rail O&M facilities and nearby station areas?

The panel had access to a study recently conducted by Kidder Mathews Consulting for Sound Transit to provide decision makers with a market assessment of the potential for transit-oriented development adjacent to the future OMSF sites.

Like many developments, the proposed OMSF is meeting resistance and likely to see more. Because of the

essentially industrial nature of the facility, its size, and its connection with transportation and trains, nearby residents have often made inaccurate assumptions about its impact on a neighborhood. Chief among the complaints are noise, light, traffic, air pollution, and 24-hour activity.

However, an OMSF does not pose the same noise issues as heavy rail or even facilities for motorized vehicles, largely because the vehicles are powered by electricity and are therefore quieter, but also because of the design of light-rail vehicles and facilities. Light can be tightly controlled through design and behavior so as to be sensitive to surrounding land uses, including residential ones. Although the OMSF will bring over 200 employees to the site in a 24-hour period, they primarily travel outside the peak travel hours.

Although such a facility serves a needed and environmentally sustainable transit system, it does take land out of development and may interrupt the pattern of streets in a community. There are opportunity costs associated with the location of an OMSF which, though real, should be understood in the context of larger forces that have a great impact on the development of cities and urban neighborhoods, including the positive impact of transit itself. Opportunity cost is hard to calculate over time, especially because transit-oriented development around light-rail stations is essential to the economic and environmental health of the region but can take 20 years or more to build out. Municipalities adapt zoning codes and incentive provisions to the ongoing course of development, including the locations of light-rail storage and maintenance facilities. All these issues have been taken into consideration in the panel's recommendations.

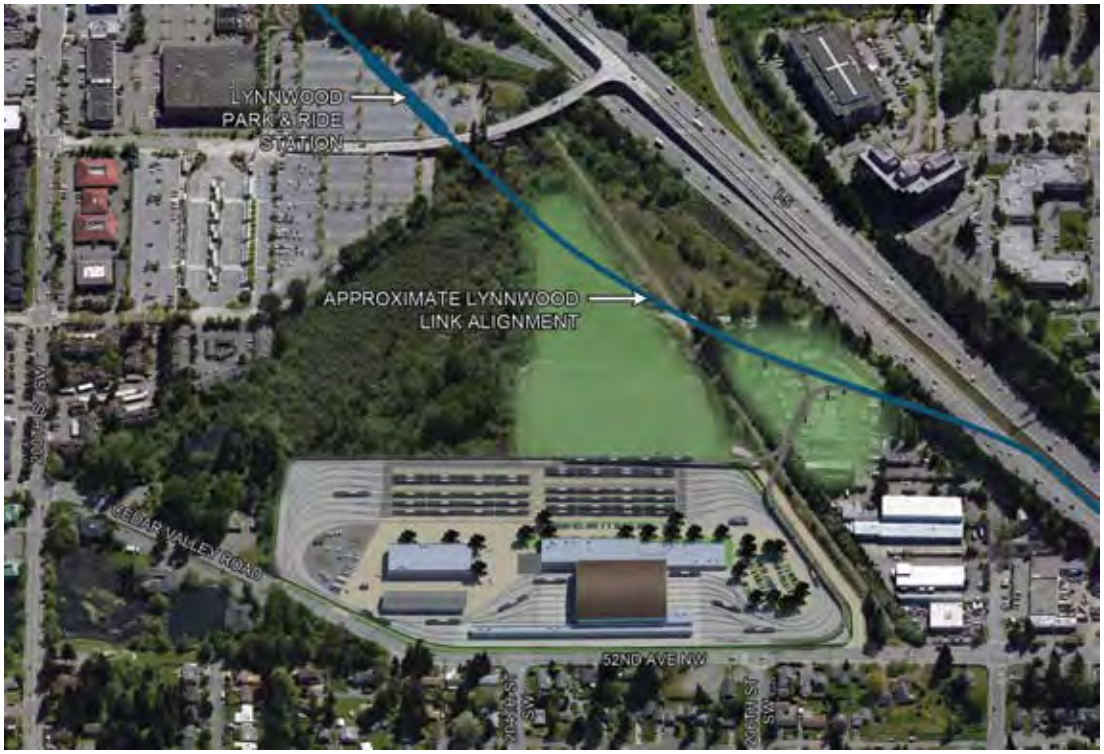
Primary Recommendations

THE PANEL CONSIDERED the four alternatives now being studied by Sound Transit, all of which could satisfy the functional requirements for OMSF: Lynnwood, SR520, BNSF, and BNSF Modified. The Lynnwood site is coupled with use of the BNSF storage tracks in Bellevue. A total of 32 light-rail vehicles (8 four-car trains) would need to be stored on the east side in Bellevue in order to begin service at 5:00 a.m. In the process of analyzing these alternatives, the panel identified a fifth alternative, BNSF Hybrid. Each offers special challenges and opportunities, which are summarized in the following subsections.

Lynnwood

Alternative 1 is located in the city of Lynnwood, between the Interstate 5 corridor, the arterial 52nd Avenue West, and residential areas south and east of the designated Lynnwood City Center. The proposed OMSF site offers strong opportunities for OMSF development in an appropriate area conforming to existing land use, but the site's significant challenges stem from one of the current owners—the Edmonds School District—and its plans for the site.

The school district plans to build 60,000 square feet of administrative offices, locate its food distribution services there, and build a major bus storage and maintenance facility in the approximate geographic center of the site. Although the construction timeline for additional district facilities on or near the proposed OMSF footprint is unclear, use of the site for an OMSF would require active negotiation and cooperation between Sound Transit and



Alternative 1 is located in the city of Lynnwood, between the Interstate 5 corridor, the arterial 52nd Avenue West, and residential areas south and east of the designated Lynnwood City Center.

the district. Although there could be mutual advantages to co-development and adjacency, there has been no indication that the Edmonds School District is interested in negotiating.

Part of the site is planned to be used for school bus storage on a surface parking lot. This use conforms with current zoning but conflicts with adjacent neighborhood desires for clean air and presumably with the goals for the city of Lynnwood, which include ample pedestrian access to the nearby bus transit station and to the adjacent Interurban Trail. Siting an OMSF here would help to ensure clean air in the adjacent neighborhood without presenting any new disadvantages. It would not carry opportunity costs because there is currently only very limited pedestrian access to the identified center of Lynnwood and the site presents no special opportunities for activation of that center.

Given these conditions and constraints, siting an OMSF in Lynnwood presents a number of opportunities for environmental preservation and enhancement.

Enhanced green space. Along with site planning for an OMSF, a swath of trees growing along the east side of the site could be protected and enhanced. This would provide a buffer between the residential community and the OMSF as well as an amenity and scenic resource for the area. It could add value to the Interurban Trail that passes by the site as well as a link to this important recreational and natural resource.

New funding source for the school district. There is a good opportunity for shared resources and codevelopment in an administration building that would provide new office space for the district at much lower cost than would be possible otherwise. In that sense, colocation with Sound Transit could be a funding opportunity for the school district. It would, however, require revisiting and revising school district plans and perhaps reframing programmatic needs so that the transit agency and school district could be accommodated in the codevelopment.

Support for Lynnwood development goals. The city of Lynnwood might be expected to support this cooperation because it would create a more densely developed site and quality open space, while supporting goals for transit, transit-oriented development, and the emergent Lynnwood City Center.

The challenges of the competing site needs of the Edmonds School District and Sound Transit could be overcome if a partnership were actively pursued that allowed both organizations to achieve their programmatic objectives. Although the school district has already made significant investments in the site, property cost differences between Lynnwood and Bellevue would result in potential savings for Sound Transit, even accounting for compensating the school district and investing in a transit-oriented structure to house the administrative offices. In addition, shifting some school district functions across the street to the parcel under the elevated tracks would create value for a site with limited functionality.

Legal channels for land condemnation from one public entity to another are unclear for this particular site but would no doubt produce significant political challenges and potential community opposition if Sound Transit were to pursue land acquisition without a willing partner in the school district. The preferred option would be for Sound Transit to engage the school district in developing a plan that is attractive to both public entities and could result in a willing partnership that would accommodate school and transit needs, as well as instill community confidence that the land is being designed for its highest and best use to serve public interests.

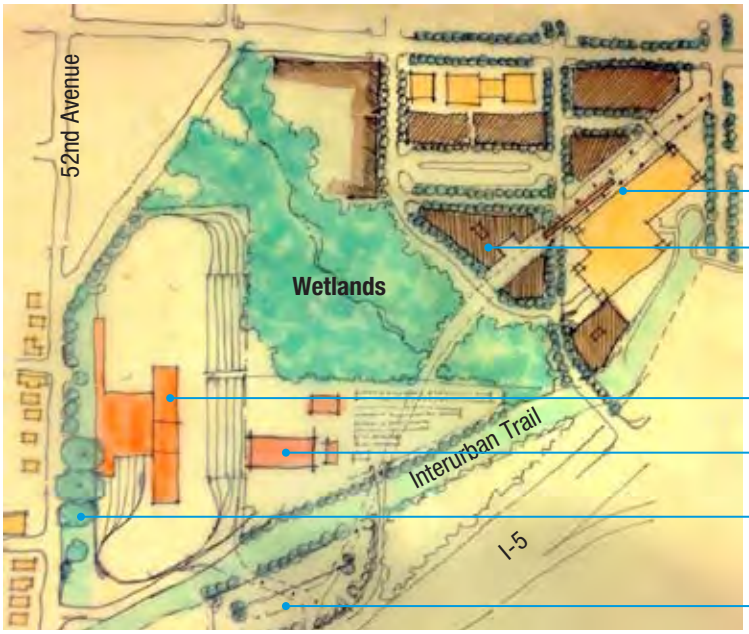
There is always the possibility of completely relocating the school district to an alternative property, as the school district does not have the same physical constraints as Sound Transit (i.e., the need to be located within access of the fixed light-rail tracks). However, the remaining portion of land that would be surplus to Sound Transit is not currently suited to high-density development and would face some challenges because of its overhead light-rail tracks. Although alternative development uses are pos-

sible, it appears that the city of Lynnwood is encouraging development of the city center north of the transit center, rather than in this location, which faces inefficient road alignments for potential site tenants. The school district uses proposed for this area appear to be ideal neighbors for Sound Transit, and neighboring uses might be less costly than a complete relocation of the school district. Final decisions about the best use for the potential surplus property if the school district were to relocate altogether would require further information on the city's plans for the areas around the stations.

In addition to the school district's existing investment in the site, the proposed timing for development of the site might outpace Sound Transit's plans. Sound Transit's timing should present no conflict for the school district's construction of the bus and food distribution facilities. However, depending on the transit-oriented development site selected for the administrative offices, it is possible that the school district offices may need to remain in their current location longer than preferred or relocate temporarily to an intermediate location. In order to propose a solution that would be amenable to the school district, the existing location and condition of the school district administrative offices require further investigation.

The surrounding community appears to have pledged support for the school district's plans, despite associated traffic impacts and pollution emanating from the bus depot. One reason for community support is the perceived lack of visual impact presented by those plans. Sound Transit's current plans call for the removal of an existing row of large conifers along the primary frontage on 52nd Avenue. It is likely that Sound Transit could reduce community opposition by reconfiguring its plans to accommodate the preservation of existing trees and to add landscaping and an attractive service building along the rest of the 52nd Avenue frontage.

The extensive length of Sound Transit's proposed building along 52nd Avenue could be perceived as a positive design factor if the facility is constructed in a visually appealing way, similar to Sound Transit's existing maintenance facility. Landscaping and an attractive building would shield the residential community from the sight of both light-rail car and school bus storage. In addition, although the electric rail cars are generally quiet, the building and landscaping border along 52nd Avenue could help damp the sound of bus engines activated in the early morning hours when residents are home and exposed to the operational disturbance.



Modifying the site plan would bring together complementary uses and enhance transit-oriented development opportunities.

Alternative 2 is located in the city of Bellevue, along the south side of State Route 520 in the Bel-Red corridor.

Encroachment on existing wetlands presents another challenge to activation of the site for Sound Transit. The proposed design appears to include efforts to minimize wetlands encroachment, but it is clear that the track configuration requirements impose restrictions on eliminating impacts altogether. It appears that the community places a high value on the wetlands, so Sound Transit should pursue mitigation strategies elsewhere in the surrounding wetlands to reduce impacts, both as a requirement for environmental approvals and to build community support. It is likely that the Interurban Trail will see much more activity once the new light-rail station opens, and there are opportunities for targeted wetlands improvements and educational engagement along the trail through the wetlands to the station.

Identifying the preferred site configuration for shared use by the two entities requires more information from the school district on its plans and needs. However, it appears likely that this site and surrounding property opportunities present a strong solution for both Sound Transit and the school district. If funding partnerships and collaboration efforts are strong enough to develop a solution for both parties, there is potential to have the rail yard and its attractive building and landscaping serve as a visually appealing buffer between the residential community and the bus depot.

Meanwhile, the school district's priority needs could be located within walking distance of each other and the transit station, linked by an attractive pedestrian trail through the locally valued wetlands. Sound Transit would benefit from potentially lower acquisition costs than those in Bellevue, from a functional lot suited to its OMSF needs, and from an anchor tenant in the school administration to support its transit-oriented development efforts surrounding the new Lynnwood Station.

SR520

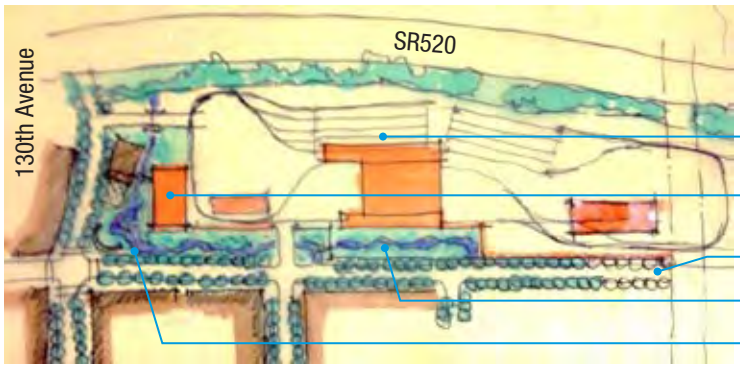
The SR520 alternative is inside the city of Bellevue, along the south side of State Route 520 in the Bel-Red corridor, the growing urban center between Bellevue and Redmond on the eastern side of the Seattle metropolitan area. This area has historically been dominated by small businesses and auto dealerships but, on the basis of land use projections, has the potential for increased demand for commercial development and housing in the city of Bellevue. Redmond is the terminus of the likely next phase of Sound Transit's Link light-rail expansion plans.

Bel-Red has been the focus of intensive planning for the last decade, based in part on the expected arrival of light-rail service, with three stations planned for the area. The intensive planning is also based on the projected high demand for commercial and residential space in Bellevue. The SR520 site is zoned for less intense development than other parts of Bel-Red, with 45-foot height limits, as compared with limits of up to 150 feet elsewhere. The SR520 site is close to the planned 130th Station but outside the quarter-mile radius around it.

The SR520 location poses two major challenges:

- *Intense existing use:* Because the designated footprint contains many existing businesses with complex tenant

A Proposal to "Slenderize" the SR 520 Site



relationships, acquiring the land needed to use this site as an OMSF would seem cost prohibitive.

- *Impractical to build over:* Cantilevering or building over a podium does not seem to be a viable option at this location. The sloping topography makes it less practical to build on, and transit-oriented development overhead would be inhibited by the 45-foot height limit and the lack of buildable air rights after a podium adequate to house any part of the OMSF program is built.

Even given these formidable challenges, it would be possible to build an OMSF that is compatible with the desired redevelopment of the Bel-Red corridor. Doing so could hinge on three interrelated strategies:

1. Move the OMSF footprint a step eastward. This achieves two important advantages over the current placement. It opens space on the west side that allows for a scenic and environmental amenity for the redeveloping community, and possibly a daylighted creek (Goff Creek) that meets the environmental goals of the city and the region. And it brings the facility closer to the Sound Transit light-rail right-of-way to the east. This right-of-way appears to include an aerial guideway that would be problematic for many kinds of development. The combination of the OMSF site alternative as currently laid out and the position of the guideway would also tend to isolate the parcel that now lies between these two. Moving the footprint to the east and acquiring the parcel next to the guideway may present opportunities for shared parking or other compatible uses there and make the OMSF a better net contributor to the economic development of Bel-Red.

Because of the positions of the two roadways on either side of the site (State Route 520 and Northeast 20th Street), accomplishing this shift would require a number of measures to compress the north–south width of the OMSF, especially at the eastern end. However, this appears to be feasible without sacrificing the functionality of the facility (see strategy 3).

2. Develop a public open space and green buffers. By creating a park-like open space along 130th Avenue Northeast on the west side of the OMSF, Sound Transit has the opportunity to give the redeveloping neighborhood a functional green buffer that could accommodate daylighted Goff Creek and accomplish an established environmental goal for Bel-Red and surrounding neighborhoods. Moving the OMSF program 250 feet to the east could accomplish this. It could join a green strip along Northeast 20th Street on the southern edge of the currently proposed OMSF. The contiguous landscape could be designed to feature a combination of trees, a naturalistic creek bed, rain gardens, paths, and educational signage. The intersection of 130th Avenue Northeast and Northeast 20th Street could become a gateway into the Bridle Trails neighborhood to the north. The green space could enrich the daily lives of new residents and provide an attractive amenity for the few Sound Transit personnel who occupy the OMSF site during daylight hours.

The BNSF site is located in the Bel-Red corridor along the east side of a BNSF right-of-way, now called the Eastside Rail Corridor.

3. Consolidate the program and move the operations building. There are two strategies for fitting the OMSF onto the narrower, eastward-shifted footprint. The first is to cantilever the administrative building, now shown near the center of the site, over the storage tracks. The other is to move the operations building around to the west, just inside the green space along 130th Avenue Northeast. Looking over open space on one side, the operations building could be a landmark, viewable from the 130th Station and other points in Bel-Red.

This alternative could ultimately be cost prohibitive because the site is fully developed and fully operational. Existing businesses would have to be relocated. Although retail structures across the street could house relocated retailers, the resulting one-sided retail would not be ideal and tenants might be apprehensive about the OMSF operations across the street.

BNSF Sites

The BNSF site and its alternatives lie within the Bel-Red corridor in a north–south orientation along the east side of a former BNSF railroad right-of-way, now called the Eastside Rail Corridor. The site is currently dominated by lower-intensity warehouse uses, but the south end is well within a quarter-mile radius of the planned 120th Station and near the center of an area designated for very dense transit-oriented development. A medical district lies to the west, on the other side of the 100-foot-wide rail corridor right-of-way.

Two alternatives for the use of the BNSF site have been studied by Sound Transit. BNSF Base is situated entirely to the east of the BNSF right-of-way and to the west of the current path of 120th Avenue Northeast. BNSF Modified shifts the footprint of the OMSF to the west, spanning the former BNSF right-of-way. The panel proposes a third alternative, BNSF Hybrid. It would make partial use of the former BNSF right-of-way and also alter the street grid slightly by straightening the path of 120th Avenue Northeast.

BNSF Base

The BNSF site presents a challenge, not because of current land uses on and around it, but because the city of Bellevue undertook a four-year process to replan and rezone the 912 acres in anticipation of the light-rail service. The plan focuses on two stations—120th Station and 130th Station—with a third, Hospital District Station, bordering the area to the south. Bel-Red is poised to transition from primarily industrial and auto-dependent uses to much more dense commercial, residential, and mixed-use development. The city of Bellevue has identified a demand by 2030 for over 4.5 million square feet of commercial space and 5,000 new housing units, and therefore has rezoned the entirety of what was once a largely light industrial warehouse district into what is expected to be a vibrant transit-oriented development district with floor/

BNSF Modified is a variation of the BNSF Base site that shifts the facility's footprint to the west.

area ratios up to 4.0 and height limits for commercial and residential uses of 150 feet.

The BNSF site, buffering the medical district with 100 feet of BNSF right-of-way on the west, a car dealership to the south, and a warehousing and bus storage facility to the north and east, would have been ideal before the approval of the Bel-Red plan in 2009. Now an OMSF use there is seen as incompatible with the current vision for the corridor and projects underway by the public and private sectors.

Each of the BNSF alternatives presents a special challenge owing to conflicting demand for dense, transit-oriented development on and near the site. For example, the south end of the rectangular OMSF site is located within the transit-oriented development node immediately adjacent to the 120th Station. This station is at the center of the Spring District master-planned development, an extremely dense, mixed-use, transit-oriented community and the focus of long-range planning within Bel-Red.

Advantages of the location include the fact that Sound Transit has already acquired a large portion of the necessary 25 acres, a 10.3-acre parcel formerly owned by International Paper. There is a car dealership to the south of the OMSF footprint and warehousing and a bus storage facility to the north and east of it.

BNSF Base accommodates all of the needs for the OMSF at a reasonable cost and incorporates land already acquired by Sound Transit for this use. The plan provides for 24 storage bays, accommodating 96 trains as well as the appropriate support facilities. The former BNSF right-of-way itself provides a valuable buffer for the site, while accommodating a future hike-and-bike trail. As currently configured, the OMSF is pushed northward toward the existing rail spur, which leaves the southern and southeastern edge, facing the Spring District, available for transit-oriented development.

Because of the height and density now allowed by the city of Bellevue, it seems financially as well as practically feasible to construct podium-based development over the southern third of the site, which would expand the possibilities for transit-oriented development and further accommodate the Bel-Red plan. This may be considered feasible because of the long-term buildout of transit-oriented planning in Bel-Red and the extensive infrastructure component of that buildout. Two special considerations could make podium development feasible and desirable for the BNSF site:

Site planning. The support buildings as well as the traction power substation should be placed to the north and parking moved to the south, essentially flipping the base plan along its north–south axis. Parking is an element of the program that would be conducive to placement under a podium.

Construction. Accommodations could be made to provide Sound Transit access to parts of the facility located within the podium structure during the over-podium construction, so as not to interfere with the daily operations of the OMSF.

BNSF Modified

This alternative would use the BNSF site but shift the OMSF footprint to the west, crossing the existing railroad right-of-way and freeing the east side of the BNSF site for transit-oriented development in the future.

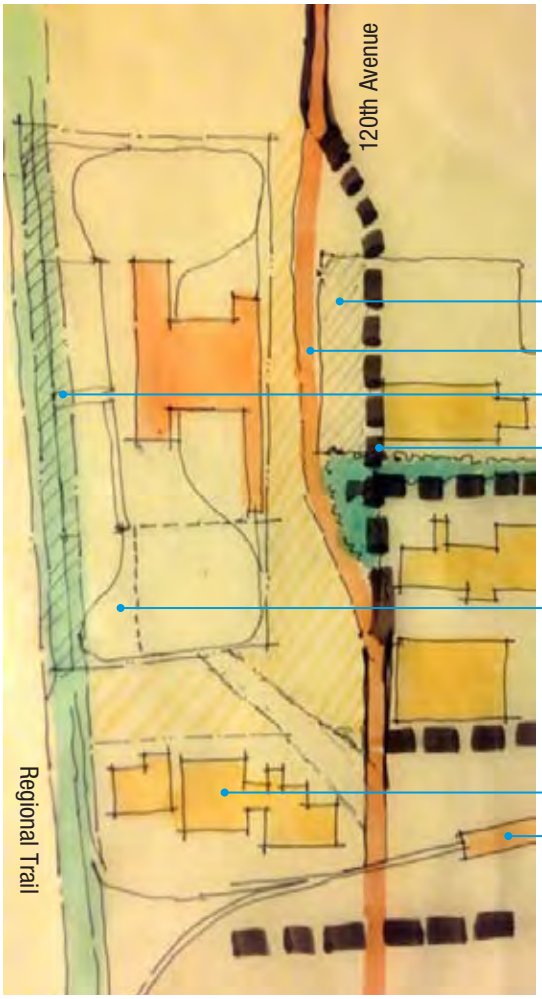
There are two major challenges associated with this alternative. The first is that it encroaches on a medical and office district to the east, requiring extensive takings including a regional public safety training facility. The second is that it would necessitate three aerial crossings of the BNSF right-of-way by light-rail tracks. In addition to bisecting the site, this could present potential security issues, as well as design issues related to the use of the right-of-way to extend light-rail service to nearby Kirkland.

Shifting the OMSF footprint to the west would free up land in a location that is very desirable for mixed-use, pedestrian-oriented development around the 120th Station that includes the Spring District master-planned development in Bel-Red. The BNSF Modified alternative would achieve three goals: leaving a strip of land available for development on the east side of the site, providing a green buffer between the facility and the street grid, and helping to support nearby development and the city's plan for greater density around transit.

BNSF Hybrid

The hybrid alternative is a second modification of the BNSF site, one that has not yet been studied. It would overcome some of the challenges inherent in the site by realigning a street, 120th Avenue Northeast, so that a buffer of green space and development could flank the OMSF on the east. To this advantage could be added the option

BNSF Hybrid Recommendations



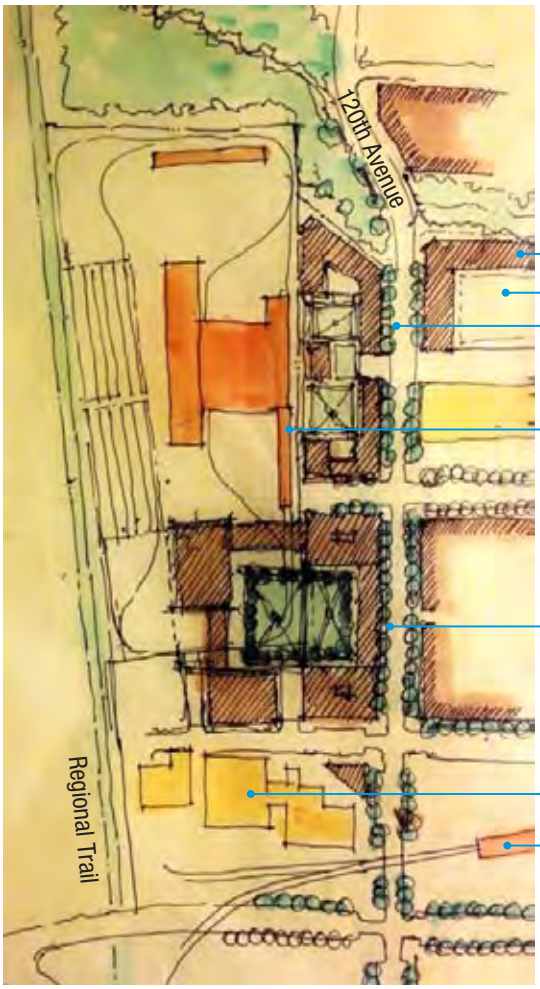
to build a podium on the southern third of the OMSF and allow for dense development in the air rights above it.

The BNSF Hybrid alternative would use a portion of the former BNSF right-of-way to accommodate 8 to 24 light-rail vehicle storage bays extending north. Compared with BNSF Modified, this alternative would consolidate the OMSF while pulling vehicular storage back to the east side of the right-of-way and away from the medical district, leaving enough right-of-way for the regional hike-and-bike trail and future extension of light rail to Kirkland along the right-of-way.

A key component of BNSF Hybrid is the proposed realignment of 120th Avenue Northeast toward the east. This would straighten the roadway's jagged north–south alignment, running it partially over a bus yard and opening up land for transit-oriented development. It would, however, significantly affect the number of buses that could park at the facility.

As noted above, the area surrounding the BNSF site still contains mostly light industrial and warehouse uses, including a large bus yard owned by King County. These uses will give way to transit-oriented development over time. As with the BNSF Base alternative, BNSF Hybrid would allow for decking over the southern third of the site. This hybrid could be accomplished over the long term and phased in as development opportunities occur, while accommodating the current needs and future goals of both Sound Transit and Bellevue as they move into a future developed around light rail.

BNSF Hybrid Buildout



Key Elements

AS DECISIONS ARE MADE about situating and designing OMSFs, careful consideration must be given to three key elements: design, facility size and capacity, and messaging and mitigation.

Design Considerations

Several thoughtful design strategies can be taken into account when integrating a light-rail operations and maintenance facility into existing land uses, to help improve community acceptance and address or mitigate perceived negative impacts of the facility, including noise, visual impact, light spillover, and aesthetics.

Examples of strategies that have been used in projects around the country involve various elements:

- *Site planning.* Overall orientation and layout can minimize impacts on the most sensitive surroundings. Setbacks from the edge of the site allow for community benefits in the form of development or open space.
- *Screening.* Larger buildings can be used to screen the train storage yard from surroundings.
- *Sound.* Special walls can damp sound in sensitive spots.
- *Materials.* With minimal expense, the selection of materials can make buildings more acceptable and more compatible with surroundings.
- *Architecture.* High-quality design can make a significant difference in community acceptance.
- *Landscaping.* Integration of green strips and trees and other plantings into the project can soften long facades and make an OMSF a better neighbor.
- *Tracks.* Careful planning can eliminate unnecessary train movements and associated noise. Larger-curve radii can mitigate the sound of wheels squealing.
- *Noise containment.* Enclosing vehicle washing and blowers, limiting the use of public address systems, lowering the decibel levels of train bells during sensitive time frames, and conducting limited or no exterior train maintenance can all be employed to reduce noise coming from the operations.
- *Sustainability.* Overall integration of efficiencies and environmentally responsible design is likely to enhance community acceptance and support.

Case Example: Exposition OMSF

An example of such a facility is the Exposition OMSF currently being constructed in Los Angeles, California, by the Exposition Construction Authority (Expo). The proposed facility started in a highly controversial manner, with little to no public support from community stakeholders or elected officials. Throughout the selection, design, and entitlement process, Expo staff and the design team held numerous community meetings and workshops in an effort to understand the concerns of the community so that the facility could be designed to mitigate perceived impacts while still achieving the operational goals of the facility.

As could be expected, the primary concerns from the community centered on impacts such as incompatibility with the adjacent residential and office land use, noise, light pollution, hazardous materials, air quality, and aesthetic issues. Furthermore, an undercurrent of environmental justice ran through the selection process, because the affected residential neighborhood is a lower-income one with little open space and a disproportionate share of city infrastructure.

The largest design consideration made by the design team occurred early on, when Expo and the city agreed to set aside an approximately three-acre linear strip that traversed the entire frontage of the facility so as to buffer the facility from the residential neighborhood. This buffer

was envisioned as either development or open space, but eventually the community coalesced around the idea of a community park. Expo is setting aside the land, and the city and community continue to collaborate on the design of the community park.

Several other considerations were included within the design of the Expo facility to address perceived negative impacts:

- Lengthening and elongating the maintenance and administration building to mitigate noise impacts;
- Installing a 12-foot-high sound wall around the facility;
- Designing an aesthetically pleasing glass lobby, which acts as an introduction and a focal point;
- Landscaping to soften the edges of the sides and facade;
- Thoughtfully selecting materials and the design of the exterior walls and building;
- Relocating the traction power substation for least intrusion;
- Relocating the emergency generator and sound-attenuating enclosure;
- Using shrouded directional lighting as opposed to typical "stadium" lighting;
- Minimizing unnecessary train movements;
- Instituting policies such as prohibiting public address systems and requiring that shop doors be closed during work at night; and
- Incorporating sustainable features into the design, such as stormwater retention, energy efficiency, and drought-tolerant landscaping.

The Expo facility is just one example among many of how thoughtful design and community collaboration can enhance a facility and mitigate perceived environmental impacts. The key is to work collaboratively with community stakeholders, listen, and actually incorporate the design solutions into the project.

Case Example: SoDo OMSF

The SoDo OMSF in Seattle is another good example of integration with the surrounding land use. Although the neighborhood is more industrial, the architecture is very attractive, public art was integrated into the facility, there do not appear to be negative impacts, and no complaints have been received from the surrounding uses (including residential lofts). It is apparent that Sound Transit has integrated much of this thinking and these design solutions into the proposed OMSF sites in Bellevue and Lynnwood.

Facility Size and Capacity Considerations

Facility size and capacity determine both the ease with which a facility can be integrated within an existing context and its impacts on economic development. There are certain operational needs and requirements for the OMSF, but even within those parameters the width of the facility's physical footprint can sometimes be reduced. This can yield excess land in the form of frontage that can be used to address community goals such as economic development, landscaping and screening, open space, and other public benefits. Although it is clear that in order to operate efficiently some operational needs and requirements cannot be sacrificed, some potentially deployable strategies could reduce footprints.

Reduce Fleet Size

If it is possible to revisit fleet size and storage capacity, doing so could yield important options for better compatibility with the community. All of the proposed OMSF sites appear to be designed for a fleet of 96 vehicles. If operational constraints allowed for a reduced fleet of 82 vehicles, two storage tracks and one service and inspection bay could be removed from the site plan. If this reduction worked with the track geometry and switching, it could produce perhaps 60 feet of frontage land that could be used for some type of development, screening, or public use.

Cantilever Building Construction

Another approach is to look for a way to move or reorient the primary maintenance facility farther away from the

street frontage by cantilevering building footprints over the storage tracks. An example of this approach is the Expo facility in Santa Monica, where the administration building and yard tower are cantilevered over storage and runaround tracks. Although this may add expense, it is potentially feasible and may help to address community concerns and meet development goals.

Messaging and Mitigation Considerations

The larger Puget Sound area has embraced light-rail service and expansion. However, the prospect of OMSFs for trains is already meeting resistance within specific communities where they might be situated. Concerns voiced include perceived environmental issues such as pollutants, noise, light spillover, and aesthetic impacts. The following specific concerns are typical:

- *Pollutants.* There are no air quality impacts or hazardous material concerns for any of the proposed OMSF sites. The train sets are electric and produce no emissions. The only known sources of emissions on the proposed sites would be the 30 non-revenue vehicles expected there and an emergency generator that would be used only occasionally. Sound Transit has also committed not to operate a paint and body shop at the proposed site, which eliminates the need for usage of hazardous materials with the exception of small quantities of gear oil and cleaners.
- *Noise.* Unlike traditional train yards, very few noise sources are involved in the operation of the OMSF sites. But anticipating the minor sources that do exist and mitigating or eliminating them could preclude clashes with the community, either before or after construction. Possible sources include train bells (required before moving a train), public address systems, train washing and blowers, potential wheel squealing at tight turns, ventilation of the traction power substation, and coupling of trains. Maintenance of the vehicles will be performed within the building, and all of the site plans contain washing and blow-drying activities within a building. Through design considerations such as building length and sound and security walls, the perceived noise issues of train bells and wheel squeal can be addressed. Public address systems can be replaced with mobile communication devices. The panel also understands that Sound Transit environmental staff have performed noise studies and sound analyses which confirm no or minimal impact.
- *Light.* Light spillover and aesthetic concerns can be addressed easily through thoughtful design and architecture that accomplishes the facility goals but is also sensitive to each community.
- *Aesthetic impacts.* There are numerous examples across the country of light-rail operations and maintenance facilities that have been designed under public scrutiny and defy the expectations of a typical rail yard. A few of them are the Elati OMSF in Denver, Colorado; the Sky Harbor OMSF in Phoenix, Arizona; the Expo OMSF in Santa Monica, California; and, most important, the SoDo OMSF in Seattle. All of these facilities went through public vetting processes and were designed and constructed to be compatible with the surrounding land uses, and none have impacted surrounding communities negatively. Sound Transit staff could use these examples and others in a messaging campaign to dispel the negative connotation of “train yard” and garner community support for the proposed sites.

Sound Transit staff should make a priority of refining and improving messaging regarding the OMSF, in an attempt to preempt and mitigate community concerns that an OMSF is an incompatible land use—a noisy, polluting “train yard”—in their neighborhood. Although it may never be possible to gain complete community support, the concept of a “softer” light industrial facility—one that could add to the community aesthetic rather than detract from it—should be communicated to the community stakeholders for each site.

Conclusion

THE PUGET SOUND AREA is a sophisticated region, already setting national and global models for development. Transit, and especially Sound Transit's Link light-rail service, is a key driver of the development of the city and the region. The existing O&M facility, along with two additional O&M facilities planned, will support the system far into the future.

Locating an OMSF is difficult, but Sound Transit has already made important progress in analyzing and assessing sites. Some resistance from cities and neighborhoods can be anticipated. But there are many strategies for making this non-polluting and fairly quiet facility a better neighbor, with gains for adjacent properties and neighborhoods. The benefits of making the OMSF more compatible will pay off in the long run, through healthier communities, more transit-oriented development, better ridership, and more willingness to negotiate with the agency on future land use questions. By choosing locations well and providing meaningful contributions to the economic health and livability of the surrounding areas, Sound Transit can help to ensure that OMSF placement and development is an acceptable and even welcome part of the growing Link light-rail system, and to accelerate regional progress toward a more connected, more vital, and much more sustainable future.

Panel touring BNSF site.

About the Panel

Marilee Utter

Chair
Denver, Colorado

Utter is executive vice president, district councils, at the Urban Land Institute. She oversees the staff and management of ULI's 70-plus national and district councils around the world, and holds executive team responsibility for global strategy, investment, and management.

Previously, Utter was founder and president of Citiventure Associates LLC, and managing partner of P3 West LLC. Both firms worked nationally and focused on public-private transactions, infrastructure, and development of mixed-use projects, transit-oriented developments, failed mall sites, and large-scale master plans.

In addition to her experience as a banker with what is now Wells Fargo Bank and as a private developer (with Trillium Corporation, managing the revitalization of Denver's Central Platte Valley rail yards), she established the Office of Asset Management for the city and county of Denver, and the Department of Transit-Oriented Development for the Denver Regional Transit District.

With this unique background, Utter has become a nationally known speaker, writer, and advisor on innovative approaches to community redevelopment and urban issues. She holds a masters in business administration from UCLA's Anderson School, a certificate in state and local public policy from Harvard's Kennedy School, and a designation from the Counselors of Real Estate (CRE). She is a past national trustee for the Urban Land Institute and chair of ULI Colorado. In addition, she serves on the boards of many community organizations, including the Metropolitan State College of Denver Foundation and the Center for Visual Arts.

Hannah Henn

New York, New York

Henn is assistant vice president and director of ferries in the New York City Economic Development Corporation's Ports and Transportation group. Her responsibilities include planning, procurement, management, and oversight of city-sponsored ferry services. Recent policy publications and initiatives include a citywide ferry study, which was released as a preliminary report in December 2013, and *Ferry Policy and Planning in New York City*, a discussion of ferry lessons learned and service considerations in the New York harbor. Henn also has a strong interest in providing equity and job accessibility through transit. She is currently contributing to a citywide transit access study for the city of New York.

Previously, Henn performed structural bridge design work in Philadelphia and acted as a construction manager for large-scale adaptive use urban projects in Providence, Rhode Island. She continued her engineering and construction work for the Metropolitan Transportation Authority's Bridges and Tunnels group in New York City before returning to graduate school to pursue her interest in policy. She holds a bachelor's degree in structural civil engineering from Brown University and a master's of public administration in urban policy from Columbia University.

Tim Lindholm

Los Angeles, California

Lindholm is deputy executive officer for project management for Los Angeles Metro. He has been with the agency since 1999. He is responsible for all engineering and construction projects related to Metro bus and rail facilities, including passenger terminals, stations, and 15 operations

and maintenance facilities located throughout Los Angeles County. Lindholm recently completed construction on Metro's fifth LEED Gold building, the $60 million El Monte Bus Station, which this year received an Award of Merit in transportation from *Engineering News Record*.

Currently Lindholm is managing construction of Metro's Division 13 bus operations and maintenance facility in downtown Los Angeles, a new light-rail operations and maintenance facility for the Expo Line in Santa Monica, and a new bus station within the Union Station complex in downtown Los Angeles. He is a graduate of San Diego State University and a State of California Professional Geologist.

Neal Payton

Los Angeles, California

Payton is principal at Torti Gallas and Partners Inc., where he created and directs the West Coast office in Los Angeles. Before arriving in California, he codirected the firm's urban design efforts in its Washington, D.C., area office. Often called upon to work on politically sensitive sites, including multi-ethnic or racially diverse neighborhoods, he has led more than 80 community design charrettes.

Payton's urban design efforts have been honored nationally with two American Institute of Architects (AIA) Honor Awards for Regional and Urban Design, an AIA Housing Committee Award, and four Charter Awards from the Congress for the New Urbanism. Included in these award-winning efforts are a set of transit-oriented developments along Washington, D.C.'s Metro rail lines. His master plan for Coast Highway (Historic Route 101) in Oceanside, California, received an Honor Award for Outstanding Neighborhood Planning from the California chapter of the American Planning Association in 2010. The planning of the New Wyvernwood, in the Boyle Heights neighborhood of Los Angeles, which he led, was recently awarded a Congress of the New Urbanism Charter Award. His current work includes a new Downtown-Specific Plan in Santa Monica, at the terminus of the new Expo Light Rail line, and a plan for Downtown Westminster, Colorado, on the site of a former shopping mall.

Payton is a frequent speaker at the Congress for the New Urbanism, the AIA, the Urban Land Institute, the National Association of Home Builders, and the American Planning Association, as well as a periodic guest lecturer at a number of universities. He was also a Knight Fellow in Community Building at the University of Miami, Florida.

Jack Wierzenski

Dallas, Texas

Wierzenski is director of economic development for Dallas Area Rapid Transit (DART), which he joined in 1991. He is responsible for developing and implementing strategies to capture transit-oriented-development opportunities and benefits around DART's transit system. He serves as DART's primary point of contact with the development community and the 13 cities within its 700-square-mile service area to facilitate and implement transit-supportive development initiatives.

Before joining DART, Wierzenski was chief of transportation planning in Prince William County, Virginia, at the Virginia Department of Transportation, and worked for the cities of Austin and Galveston, Texas.

Wierzenski has served on the National Railvolution Conference Steering Committee since 1997 and is a member of the Urban Land Institute. He has participated on several ULI Advisory Services panels and is currently cochair of the ULI North Texas TOD Product Council.

Wierzenski received his master's degree in urban and regional planning from Texas A&M University in 1983 and a bachelor of arts degree in geography and political science from the University of Minnesota in 1981.

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