

1. Executive Summary

With the voter repeal of the Monorail Green Line, the Mayor and City Council directed SDOT to look at transit alternatives for the West Seattle and Ballard neighborhoods that would have been served by the monorail. These transit connections are particularly important given that construction of the Alaskan Way Viaduct and Seawall Replacement (AWV/SR) project will likely require partial or full closures of the existing viaduct. Providing transit as an alternative to driving will be a critical construction mitigation strategy during this time. This report summarizes SDOT's approach to address these needs, progress to date, and next steps.

SDOT reviewed existing transit studies and planning efforts and identified key considerations to guide this work:

- The Ballard-to Downtown and West Seattle-to-Downtown transit markets should be evaluated separately.
- Transit alternatives should connect neighborhoods and transit hubs in support of the *Seattle Transit Plan*.
- Improvements should be targeted to the next 3 to 5 years, in advance of the AWV/SR project and must coordinate with construction mitigation strategies.
- The implementation strategy should reflect available resources to ensure it is feasible.
- The City should partner with transit agencies to leverage improvements.

With these considerations, SDOT concluded that making transit speed and reliability improvements for bus service, such as dedicated transit lanes and signal priority, is the best way to prepare for viaduct replacement with available resources and take the first step towards increasing transit capacity in these corridors. King County Metro is a partner with SDOT in developing a bus rapid transit (BRT) concept that could greatly improve existing transit service to these neighborhoods. With adequate funding, this BRT service could include special low-floor, low-emission vehicles and improved bus stops with real-time bus information. BRT service would be fast, frequent, and reliable and fulfill the goals of the Seattle Transit Plan.

In developing the BRT concept and transit speed and reliability improvements to serve these neighborhoods, work is being coordinated with the AWV/SR project and SDOT's Center City Access program to determine the appropriate transit routes and improvements through Downtown. Different phases of viaduct replacement will require changes to Downtown transit routes, and the Ballard and West Seattle routes are being considered as part of that work. The focus of this BRT effort is on the neighborhood portions of these transit corridors to complement those efforts Downtown.

SDOT is hiring a consultant to evaluate impacts and develop cost estimates for the BRT concept and associated transit speed and reliability improvements. SDOT and Metro will develop possible funding scenarios, which will include programming existing operations and

maintenance funding, AWW/SR mitigation funding, potential new local funding for infrastructure repair, and potential increases of Metro service funding. This information will be presented to the public this summer and will help form recommendations to the Mayor and City Council.

This approach seeks a near-term solution for improving bus service to West Seattle and Ballard to address viaduct replacement. These improvements would provide the next step in prioritizing transit in the right-of-way, emphasizing the presence of transit in these corridors, and building transit ridership.

2. Existing Transit Studies and Planning

The West Seattle and Ballard corridors have long been identified as priorities for transit improvements. The City is building on a city-wide transit plan, a study of intermediate capacity transit, lessons from the Monorail Green Line, initial streetcar segments, the city-wide Comprehensive plan and neighborhood plans.

In 2005, the City completed the *Seattle Transit Plan* and *Seattle Transit Connections*, a long-range vision for an enhanced citywide transit network. The *Seattle Transit Plan* includes recommendations for key transit corridors to connect Seattle neighborhoods, key transfer points in major activity centers, criteria for evaluating transit quality and service measures, and a transit priority treatment toolbox. The plan shows how different transit services work together as a city-wide network.

In 2001, the City completed the *Seattle Transit Study for Intermediate Capacity Transit (ICT)*. The ICT study assessed the feasibility of developing enhanced transit services that would operate faster and more reliably than existing bus service. Operations, costs and ridership were developed at a conceptual level for bus rapid transit (BRT), streetcar, and elevated transit, for several corridor and route options. Ballard and West Seattle emerged as two of the most important corridors to serve.

The Seattle Monorail Project developed the Green Line as a way to serve these corridors. The City completed *Station Area Planning* to integrate the monorail into the neighborhood fabric. Although the Green Line was repealed by voters, the study provided an analysis of key issues along the corridor.

The *Seattle Streetcar Network and Feasibility Analysis* (2004) identifies ways that transit can attract private investment and contribute to economic development. The analysis and progress towards construction of the South Lake Union Streetcar have generated excitement about transit as a community-building tool.

These transit plans have all been developed in the context of a strong, shared vision for land use and development put forth in the City's *Comprehensive Plan* and neighborhood plans, the key building blocks for an integrated land use and transportation strategy.

3. Goals and Criteria

Based on existing planning work and transit studies, SDOT summarized a number of key goals for making transit improvements in these corridors. These goals include:

- Neighborhood Compatibility/Economic Development. Monorail station area planning and neighborhood planning efforts promote transit service that serves the center of communities and support local land use and economic development goals.
- Speed. Transit speed should be faster than current buses mixed with general traffic. The *Seattle Transit Plan* established a performance standard of transit speeds greater than 30% of the posted arterial speed limit (including time at bus stops and traffic lights).
- Reliability. Transit should be more reliable than trips by private automobile. A goal for these corridors is that when traffic becomes congested, transit is able to bypass—or is minimally affected by—the congestion.
- Frequency. The *Seattle Transit Plan* promotes service in these corridors to be at least every 15 minutes, 18 hours a day, 7 days a week. Service this frequent means you don't need a schedule, and all-day service encourages riders to use transit for entertainment, shopping, and other non-work travel in addition to commuting.
- Making Connections. The Ballard and West Seattle Corridors connect urban villages and urban centers together. The corridors will connect at our transit hubs and provide seamless easy to understand connections for riders. Transit integration is critical to leverage other corridor investments.
- Cost-Effectiveness. Grade-separation and water crossings are expensive. Use of existing infrastructure and the ability to make incremental improvements will help if funding is constrained or uncertain. The ability to make priority spot improvements and receive transit benefits without requiring the full set of corridor improvements may be a necessary implementation strategy.
- Implementation Timeframe. A reasonably short implementation timeframe is a goal, given the effort that has already been put into planning for these corridors, and the need to provide transportation alternatives during replacement of the Alaskan Way Viaduct.

4. Ballard & West Seattle Transit Improvements

Using these goals and criteria, SDOT developed the following project assumptions to guide our approach and focus our efforts:

- The Ballard-to Downtown and West Seattle-to-Downtown transit markets should be evaluated separately.
- Transit alternatives should connect neighborhoods and transit hubs in support of the *Seattle Transit Plan*.
- Improvements should be targeted to the next 3 to 5 years, in advance of the AWW/SR project and must coordinate with construction mitigation strategies.

- The implementation strategy should reflect available resources to ensure it is feasible.
- The City should partner with transit agencies to leverage improvements.

The *Seattle Transit Study for Intermediate Capacity Transit* evaluated elevated transit, streetcar, and bus rapid transit (BRT) in the West Seattle and Ballard transit corridors. The study did not identify a preferred technology, but demonstrated differences in ridership, project cost, and measures of cost-benefit. In general, elevated transit showed the highest potential ridership, while BRT showed the least cost and highest cost effectiveness for these corridors. The Monorail Green Line was proposed for this corridor and ultimately repealed by voters. SDOT is also gaining experience with the planned construction of the South Lake Union streetcar and has looked at Sound Transit's Tacoma Light Rail, which operates much like a streetcar.

Given the need for a transit strategy that can be put in place prior to AWW/SR construction and limited potential funding to make improvements, SDOT is working with Metro to develop BRT in these corridors. Key considerations are the exceedingly high cost of new or modified water crossings at the West Seattle Bridge and the Ballard Bridge, and the flexibility of BRT to coordinate with AWW/SR construction Downtown. The BRT concept can be phased in as resources allow, and provides an initial step in building ridership and the potential for higher capacity transit in the future.

To be fully realized, the BRT concept requires that SDOT make transit speed and reliability improvements in the right-of-way and that Metro improve the frequency and character of the bus service in the corridor. A goal of the BRT concept is to brand the corridor with a special low-floor, low-emission transit vehicle and improved bus stops with real-time bus information. SDOT and Metro have pursued elements of this concept on Aurora Ave and will apply lessons learned to the Ballard and West Seattle corridors.

Transit speed and reliability improvements support SDOT's goal of moving more people by managing our limited right-of-way to promote transit. Ideas that SDOT will consider as a part of this BRT concept include:

- Dedicated or managed bus lanes with in-lane bus stops and bus bulbs. Transit-only or business-access-and-transit (BAT) lanes are particularly useful between urban villages, but may not be appropriate in the heart of business districts. In business districts, in-lane bus stops and bus bulbs allow the bus to avoid pulling out of traffic and waiting to re-enter the travel lane. Bus bulbs also provide additional sidewalk space to improve the pedestrian environment and provide passenger amenities.
- Signal timing changes and transit priority at signals. Signal timing changes can improve the general traffic progression of the corridor and transit priority can allow buses to make the first move across key intersections or congestion-choke points.
- Parking removal or peak-hour restrictions. Providing transit lanes will have impacts on parking and curb use. The City's *Transportation Strategic Plan* prioritizes transit over parking in key transit corridors.

- Restricted general purpose traffic movements. Channelization and restricting left-turn or right-turn movements can improve general traffic progression and may be necessary to provide dedicated right-of-way or signal time for transit.

Service changes and improvements to existing bus service will be needed to make full use of these investments in the right-of way. Ideas that Metro will consider as part of this BRT concept include:

- Changes to existing bus routes and service levels. Rerouting buses can provide more transit service on these corridors. With improved transit speed and reliability along a corridor, frequent buses can eliminate the need for riders to keep track of bus schedules. The *Seattle Transit Plan* has a minimum goal for transit service of at least every 15 minutes for 18 hours a day. Service to Ballard and West Seattle should exceed these goals.
- Improved bus stops with real-time bus information can improve the passenger waiting experience. New fare collection methods may offer an opportunity to speed passenger loading and unloading in these corridors. Experience with Aurora Ave have shown the need to improve information technology infrastructure to provide real-time information at a reasonable cost.
- Consolidated bus stops and improved transfer points. Bus stops along these corridors, particularly between urban villages, would be consolidated to roughly ¼ mile stops. This allows faster transit service in these corridors. Key transfer points for connecting to other bus routes would be identified and improved.
- New low-floor, low-emission buses. New, unique vehicles help brand transit service in these corridors and provide a better passenger experience. These vehicles would be appropriate to high-ridership, urban corridors.

In developing the BRT concept for these corridors, SDOT and Metro are coordinating with the AWW/SR project and Center City Access program to determine appropriate transit routes and improvements through Downtown. Different phases of viaduct replacement will require changes to Downtown transit routes, and the Ballard and West Seattle routes are being considered as a part of that work. The focus of this BRT effort is on the neighborhood portions of these transit corridors. For Ballard and Crown Hill, this includes the Western/Elliott/15th Ave NW corridor from Denny Way to NE 85th St. For West Seattle, this includes the 35th Ave SW/Alaska/California corridor from the West Seattle Bridge to SW Morgan St.

5. Consultant Scope of Work

SDOT is hiring a consultant to quantify the transit benefits of the BRT concept and associated transit speed and reliability improvements. As part of the evaluation, the consultant will identify impacts to general traffic, parking, bus zones, and other community concerns. The consultant will also develop cost estimates based on conceptual engineering for the proposed improvements. As Metro is partnering with SDOT and is developing bus service scenarios and routing options, service planning will not be part of the consultant scope of work. The consultant

will consider enhanced bus stop and new vehicle needs in the evaluation of the BRT concept for these corridors.

SDOT and Metro have identified a number of key issues that will need to be addressed through the consultant study. These issues are listed below and shown on attached maps.

Key Issues for Ballard and Crown Hill (see attached map)

- Connections through Uptown. Existing local bus service in the corridor is routed through the heart of Uptown and Seattle Center while express service skirts this area. Routing through Uptown provides transit service hours to this urban center, but adds significant time to the Ballard/Crown Hill route. Traffic patterns on Denny Way will likely change as a result of the AWV/SR project. The optimal route and service levels through this area need to be identified.
- Magnolia Bridge intersection. Traffic movements to the Magnolia Bridge ramps at Elliott Ave W may require special treatment to maintain bus speed and reliability through this intersection.
- W Dravus St bus stops. Bus stops are located on the ramps at signalized intersections. Signal and intersection improvements would be needed to improve bus operations in this area.
- Ballard Bridge capacity and queue jump. As a 4-lane roadway, Ballard Bridge remains a congestion point in the corridor. Transit improvements will be needed to ensure buses get to the head of the bridge queue when congestion occurs.
- Routing through Ballard. Metro ridership in Ballard is fairly evenly split between bus routes on 24th Ave NW and 15th Ave NW. Development is occurring throughout the urban village and the center of the Ballard commercial district (and major bus stop) is near the corner of NW Market St and 20th Ave NW. 15th Ave NW is the key transit corridor to Crown Hill. The optimal route and transfer points for serving Ballard need to be identified.
- End of line/Terminus. Level of service issues drive layover and turnaround needs at the end of the corridor. Metro operates existing routes that continue along Holman Road to Northgate as well as neighborhood routes in Sunset Hill, Blue Ridge and North Beach.

Key Issues for West Seattle (see attached map)

- West Seattle Bridge transit-only lanes exist in the eastbound direction only. The benefits and impacts of a westbound transit-only lane on the bridge need to be evaluated.
- West Seattle Freeway vs SW Avalon Way. The benefits and impacts of alternate routes connecting to the West Seattle Bridge need to be evaluated.
- Routing through the West Seattle Junction. Existing transit service to the West Seattle Junction is routed one block to the west of SW California Ave to the major bus stop.

Opportunities to simplify this transit routing could save travel time and need to be balanced with the character of the West Seattle Junction commercial district. The function of the all-way scramble signal and mid-block pedestrian crossings in the area need to be considered.

- End of line/Terminus. Level of service issues drive layover and turnaround needs at the end of the corridor. Metro operates existing routes that continue to the Fauntleroy Ferry, White Center, South Center and Westwood/Highland Park.

6. Potential Resources and Funding

SDOT and Metro have identified a number of potential resources which could be used to improve transit service, speed, and reliability in the Ballard and West Seattle corridors. The availability and limitations of potential funding was a key consideration in pursuing a BRT concept that could be implemented quickly, in advance of viaduct replacement. Potential resources include:

Alaskan Way Viaduct and Seawall Replacement mitigation programs. The AWW/SR project will need to determine priority transit routes through Downtown during construction. Project staff are working with Metro and SDOT's Center City Access program to make sure buses will be able to get in and out of Downtown. The AWW/SR project will include key transit improvements in the Center City as part of the construction mitigation strategy, and could potentially pay for additional transit service hours during construction. Construction could begin as early as 2010.

Existing and future Metro service hours. Metro operates a number of productive bus routes in the Ballard and West Seattle corridor. Restructuring service and providing more efficiency through improved transit speed and reliability could significantly improve service to these corridors. King County has the ability to increase Metro transit funding through a 1/10th percent sales tax increase, and a portion of that funding could be used in these corridors. Metro's next 6-year transit development plan will cover 2008 to 2014.

SDOT operation and maintenance programs and potential local funding package. As a means to address the maintenance backlog of critical basic transportation infrastructure, the Executive is exploring the option of a local funding package. The West Seattle and Ballard corridors have on-going maintenance needs and are candidates for additional road investments as part of a local package. SDOT operations and maintenance projects, such as signal upgrades, structural concrete and pavement repair, provide an opportunity to include signal and roadway improvements for transit such as transit-only lanes, signal queue jumps, bus bulbs, and channelization changes.

With the repeal of the Monorail Green Line, the Seattle Monorail Project is being dissolved and the vehicle excise tax will expire in August 2006. This tax authority was dedicated for monorail construction and cannot be transferred to other transit improvements.

Based on these available and potential resources, SDOT and Metro will develop funding scenarios to provide implementation options for the Mayor and City Council.

7. Next Steps

SDOT's consultant study will show the range of transit benefit, impacts to traffic and adjacent communities, and costs of the proposed BRT treatments. This will help prioritize elements of the BRT concept for implementation. The analysis will be complete in Summer 2006.

At the same time, SDOT and Metro will develop funding scenarios which will include existing and potential future funding sources, together with AWV/SR construction mitigation. These scenarios will demonstrate the range of transit investments that SDOT and Metro can afford to make in these corridors. A phased or early implementation strategy may be employed.

This information will be presented to the public this summer and will form the basis of recommendations to the Mayor and City Council. Subject to available funding, priority improvements would be made in advance of AWV/SR construction. Implementation would be accomplished through on-going operations and maintenance programs, programming of new capital funding, allocation of Metro service hours, and coordination with the AWV/SR project.

Anticipated Schedule

- Evaluation of BRT Concept: now to July 2006
- Development of conceptual cost estimates: July and August 2006
- Development of Funding Scenarios: now to August 2006
- Public Outreach (open houses, presentations to neighborhood groups): August 2006
- Recommendations to Mayor and Council: September 2006



