

Projects By Location



To respond to the challenges presented by existing and future transportation needs, the *Action Strategy* includes a list of projects that will provide more choices, improve mobility and safety, and will do so in a way that is sustainable to the University Area community and the City.

Project Selection

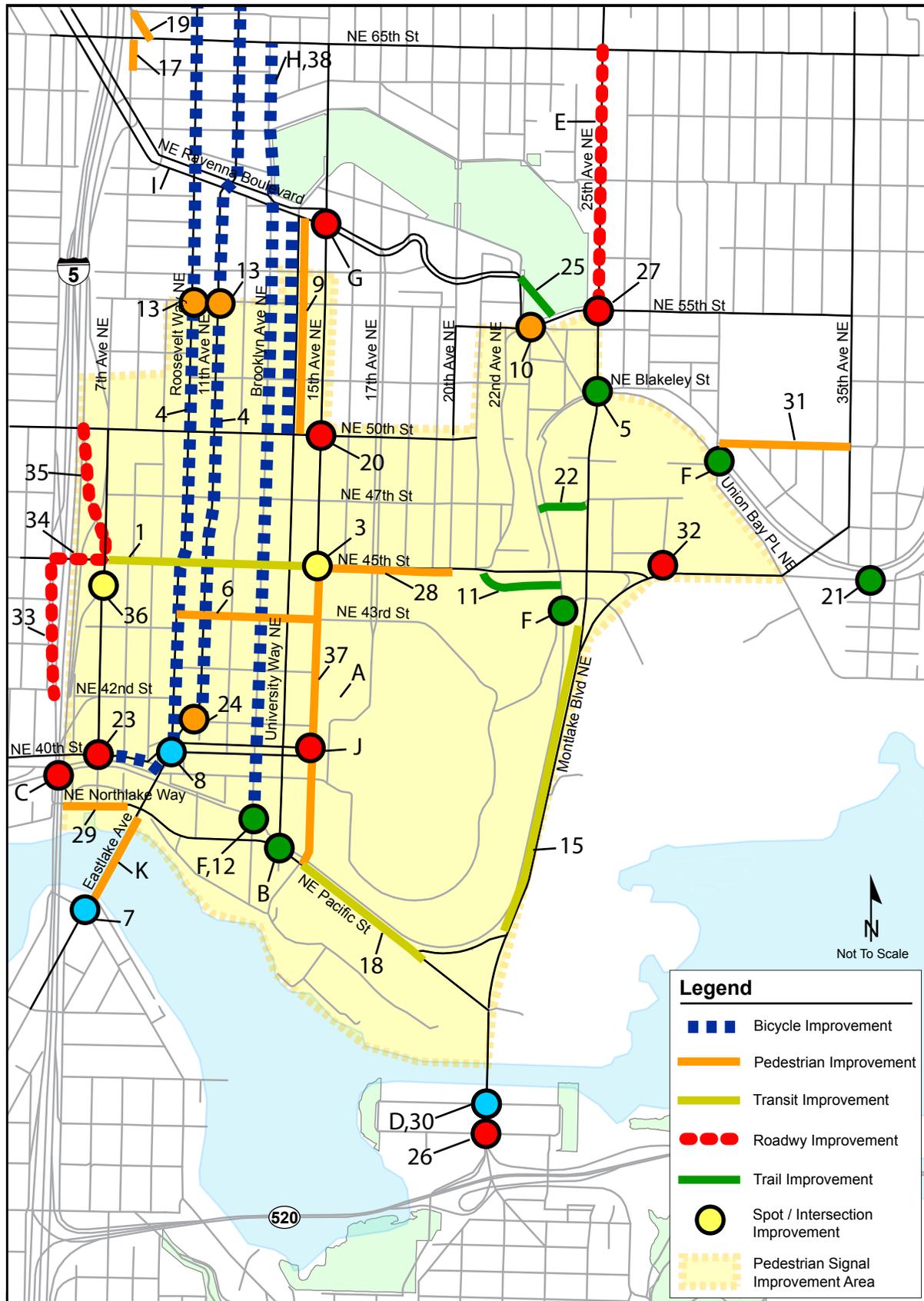
Each of the *Action Strategy* projects addresses a critical need or needs for the University Area. The recommended projects are more than a location-by-location response to the deficiencies identified by the performance measure analysis. They represent the thoughts and ideas of the community expressed during this project, as well as from past and on-going planning efforts. In some cases, identified deficiencies may not be solved by the *Action Strategy* projects, either because of high costs or competing interests. Only the best of these projects - those that meet the goals of mobility, sustainability, safety, access, and choice within reasonable constraints - were chosen for the *Action Strategy*.

The project team reviewed each proposed project based on four general criteria:

- Level of **community support**. Does the University Area community support the project?
- **Geographic equity**. Who does the project help and are overall project benefits distributed fairly across the University Area?
- Emerging **opportunities**. Does the project support a future opportunity such as the SR 520 bridge or North Link light rail?
- **Cost vs. Benefit**. Is the project important to the mobility of the University Area and can it be accomplished at a reasonable cost?

The selected projects are those that best reflected the four review criteria. Projects that were not selected may have had costs that were too high, whether in dollars or to the community, or benefits that were not deemed significant or likely. Other projects were included to meet community needs and goals that were not necessarily reflected in performance measures. All in all, the *Action Strategy* proposes a set of projects to promote a transportation system that will best meet the needs of the University Area

Figure 9 - Action Strategy Project Recommendations



The numbers and letters identifying each project correlate to the project numbers and categories that are in the projects by location description and the individual project sheets in Section X.

and its communities. **Figure 9** shows the recommended projects for the University Area.

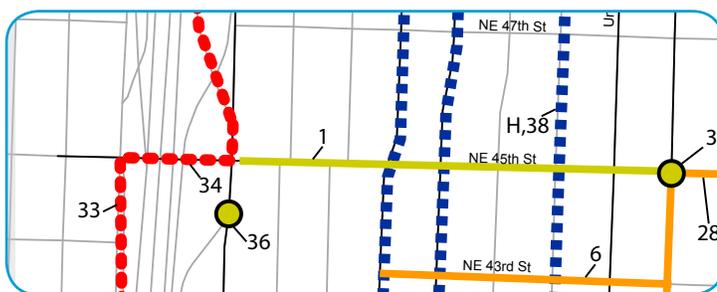
Project Organization

For the purposes of this report, the projects are grouped by a combination of geographic areas and corridors. The seven groupings used in this report are:

- **NE 45th St Corridor**
- **North/South Corridors**
(Roosevelt/11th Ave, Brooklyn Ave NE, University Way NE and 15th Ave NE)
- **University Bridge/Northlake Way/NE 40th St**
- **Ravenna/Roosevelt Area** (including 25th Ave NE)
- **Montlake Boulevard NE/NE Pacific St**
- **Burke-Gilman Trail**
- **Targeted Improvements**

In the following sections, the issues of the geographic areas and corridors are described, with each one followed by a list of recommended projects. In addition, other projects that affect the corridor or area are listed as Related Projects. Projects identified by letters, A through K, are the Early Implementation projects, that is projects that are thought to be (relatively) easy to accomplish using existing funds. The other three categories of projects – High Priority, Medium Priority, and Partnership Projects – are identified on the individual “project sheets” in Section 4.

NE 45th Street



NE 45th Street is a critical street for moving vehicles, particularly transit vehicles moving east-west and for general purpose access to Interstate 5. Along its length, the character of the street changes considerably, from six-lanes east of 25th Ave NE, to three-lanes climbing up the viaduct at the edge of the campus, to a four-lane urban arterial through the University District.

The street is heavily congested, particularly during the evening commute when travel speeds drop to around 10 mph. By 2030 travel speeds are forecasted to be 7 mph in the westbound direction and 5 mph in the eastbound direction. The number of buses picking up and dropping off passengers will affect the amount traffic NE 45th St can handle.

Issues

Intersections operate below acceptable thresholds. Five of the eight intersections along NE 45th St between 15th Avenue NE and

I-5 operate poorly. At signalized intersections, the signals operate with a separate phase for vehicles turning left, which reduces the time available for the primary east-west and north-south flow of traffic.

The I-5 ramps and overcrossing create spillover traffic. West of the freeway, the dual turn lanes from NE 45th St to the southbound I-5 on-ramps are not efficiently used because there is only one, relatively short, general purpose on-ramp available to store vehicles waiting to get on the freeway. Additionally, because the overcrossing is not wide enough to accommodate full-length left turn lanes, vehicles backup on NE 45th St blocking the through travel lanes.

Sidewalks along NE 45th St near the UW Campus are narrowed by streetlight poles, are in poor condition and have insufficient width to accommodate pedestrian volumes and create a desirable walking environment along this important pedestrian corridor.

Project Recommendations

#1: Create a westbound lane for transit, business access and right turns only by removing left turn lanes and left turn signals and movements. The recommended project would start at University Way and end at the I-5 northbound ramps at 7th Ave NE. If additional transit travel time savings are needed, the lane could be started at 15th Ave NE. The project will benefit corridor travel times for both transit and vehicles by simplifying intersection signal operation and by separating buses and right turning movements from other traffic in the westbound direction.

#6: Widen the sidewalks and provide curb extensions along NE 43rd St in anticipation of the planned Brooklyn Station for Sound Transit light rail.

#28: Widen and repair the sidewalks on NE 45th St along the northern edge of the University of Washington campus.

#33: Create an additional southbound I-5 on-ramp lane to provide more vehicle storage and to gain full use of the dual left turn lanes on the NE 45th St freeway overcrossing.

#34: Expand the width of the NE 45th St overpass of I-5 to allow full length left turn lanes, bicycle lanes and improved sidewalks.

#35: Provide an additional northbound I-5 on-ramp lane to reduce traffic spillovers onto NE 45th St.

#36: Create a transit-only lane on 7th Ave NE to improve the crossing of the I-5 northbound off-ramps for buses and provide direct access to the NE 45th St transit facility and the I-5 northbound on-ramps.

Related Projects

#3: Extend the 15th Ave NE northbound-to-westbound left-turn pocket at NE 45th St and modify the signal timing to improve transit operations and reduce blocking problems for through traffic.

#11: Develop a pedestrian and bicycle path from the University of Washington campus to the Burke-Gilman Trail underneath the NE 45th St Viaduct.

#32: Install variable message signs near the junction of Montlake Boulevard and NE 45th St to better inform drivers of the relative travel times and delays in the two corridors.

**Discussion:
45th St Transit Lane**

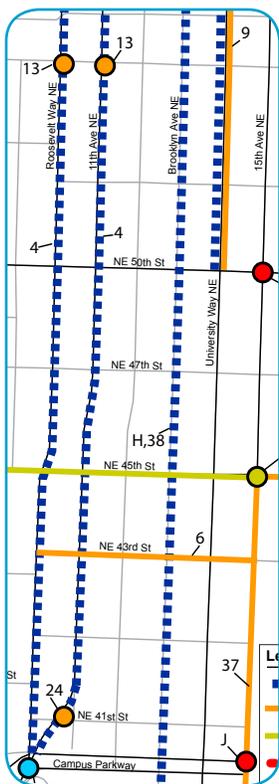
A westbound transit and business access lane on NE 45th St would create a major change to the operation of this corridor. The current configuration between 7th Ave NE and University Way NE is two travel lanes in each direction, with left turn pockets at intersections. Left turns are not currently allowed at 11th Avenue NE (except for eastbound transit) and at University Way NE. The proposed change described in Project No. 1 would eliminate left turns along the corridor and create a westbound business access and transit lane. This discussion compares the advantages of the existing corridor configuration to that of the proposed project.

Current configuration: NE 45th St operates as part of a street network and provides access to adjacent businesses and side streets from a two-way-left turn lane (west of Roosevelt) or from striped turn pockets between Roosevelt Way NE and 11th Ave NE. If left turns are eliminated, drivers will have to find new routes to their destinations, either by making a series of right turns around the block to cross NE 45th St, or by using streets north and south of NE 45th St as primary access routes.

Transit and access lane: NE 45th St has peak hour travel speeds of 9 mph eastbound and 11 mph westbound. These speeds are a result of delays at intersections for vehicles turning left, for right turning vehicles waiting for pedestrians in the crosswalk, and buses stopped in the traffic lane to pick up and drop off passengers. The westbound transit and access lane would benefit corridor travel times for both transit and vehicles by simplifying intersection signal operation (eliminating the left turn signal phasing) and by separating vehicles turning right and buses from general westbound traffic.

Proposed Action: The benefits of the transit and access lane far outweigh the costs. The project team modeled the effect of the project on intersection and corridor operations and found that westbound vehicle travel times in 2030 would improve from 6.5 mph to 14.0 mph. Eastbound general lane travel times would also improve from 5.0 mph to 8.0 mph. Transit operations would also be faster, increasing the westbound transit lane travel speed to 16.0 mph. There may be increased traffic on NE 43rd St and NE 47th St from vehicles going around the block to “make” a left turn. The analysis found there is adequate capacity on these parallel streets to handle the total of about 300 trips that might be diverted from NE 45th St during the PM peak hour.

North/South Corridors



Issues

Major projects, supplemented by spot improvements, are recommended in all but one of the continuous north/south corridors in the study area. The north/south corridors evaluated in this analysis are:

- Roosevelt Way NE and 11th/12th Avenue NE
- Brooklyn Avenue NE
- University Way NE
- 15th Avenue NE

Corridor projects will add dedicated bicycle facilities, widen sidewalks and bus zones, provide high-quality urban design, and generally improve safety for all modes. Below is a list of project recommendations, the issues the projects address and, where applicable, a discussion of the relative advantages of alternative approaches for each corridor.

Roosevelt Way NE and 11th/12th Avenue NE

This corridor is a one-way ‘couplet’ with southbound traffic on Roosevelt Way and northbound traffic on 11th/12th Ave. Three projects address pedestrian, bicycle and transit safety, mobility and access in this corridor.

Traffic is moderate, has grown only slightly over the last decade and operates acceptably at around 13 mph in the PM peak hour. By 2030, traffic is expected to increase by 700-900 vehicles in the PM peak hour, with peak travel speeds dropping to around 11 mph.

Parking along the street is important to businesses and residents. Parking is allowed on both sides of both streets except during commute hours when it is restricted on one side in the peak direc-

tion. North of 50th St, 11th and 12th Ave are mostly residential, but on Roosevelt Way small businesses along the length of the street rely on on-street parking for their customers.

Due to the gentle slopes and its connection to a direct route to downtown via the University Bridge, bicyclists are heavy users of the couplet. Riding on the couplet is not a comfortable experience, however, due to the volume of traffic and the lack of designated bike lanes.

When peak-hour restrictions are in effect, pedestrian crossing distances are long and uncomfortable. Particularly with many un-signalized intersections along these streets, improving east-west pedestrian safety by installing curb bulbs and pedestrian signals is a high priority.

Project Recommendations

#4: Create bicycle lanes and the opportunity for more sidewalk extensions on 11th/12th Ave NE and Roosevelt Way NE by eliminating peak period parking restrictions. At major intersections, such as NE 45th St and NE 50th St, continue to provide curbside turn lanes in order to maintain adequate vehicle capacity.

#13: Install curb extensions on the left side of Roosevelt Way and 11th Ave at NE 55th St to help pedestrians cross the street.

#24: Install a pedestrian signal and new crosswalks for people crossing 11th Ave NE at NE 41st St, to improve safety.

Related Projects

#8: Reconfigure and consolidate the northbound ramps from Eastlake Ave at the north end of the University Bridge. Construct new sidewalks along Eastlake Ave as it turns into 11th Ave NE.

Discussion: 2-way or couplet

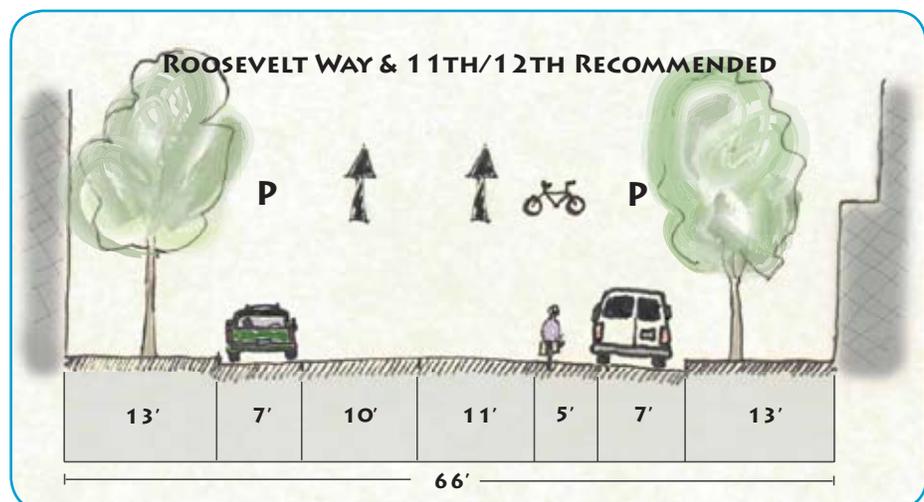
The Roosevelt Neighborhood Plan asks the City to consider eliminating the one-way couplet of Roosevelt Way and 11th/12th Ave by making both streets two-way. The intended benefit would be to improve business access for vehicles and provide a more pedestrian-friendly environment. In order to maintain vehicle capacity in the corridor, however, at least one of the two streets would need to be configured with multiple travel lanes and turn pockets to meet the expected traffic demand.

Two-way operation: Changing Roosevelt Way and 11th/12th Ave would simplify circulation patterns for drivers, particularly in the Roosevelt business district around NE 65th St; potentially calm traffic by reducing the number of through lanes; and improve street character by developing bicycle lanes and shortening pedestrian crossing distances.

The couplet: Retaining the one-way couplet would provide more vehicle capacity and faster transit times, primarily because of simpler intersection operations and the ability to make turns without opposing traffic; as well as more flexibility to configure both streets to work better for bikes and buses.

Proposed Action: Based on operational and cost-benefit analyses and public input on both options, the project team does not recommend converting these one-way streets to two-way operation. There are too many unknowns with the feasibility of two-way operation, the impact of displacing traffic, and whether the potential benefits of such a change would actually be realized.

The couplet currently is configured to move traffic with little consideration for pedestrians or bicycles. Parking is restricted during peak hours, resulting in three travel lanes in the peak direction along the length of the corridor. The third travel lane is primarily needed at major intersections such as NE 45th St and NE 50th St, where the peak traffic volumes are high. Along the remainder of the corridor, the *Action Strategy* recommends two through lanes with parking on both sides. Bicycle lanes would be striped along the outside lane of the roadway and pedestrian curb bulbs would be added to facilitate crossings. As needed at intersections, left and right turn pockets could be added now or in the future by restricting parking just prior to an intersection and not installing curb bulbs. In order to improve or maintain adequate transit speeds, in-lane bus stops could be constructed by widening sidewalks at these locations.



By allowing all-day parking on both sides of Roosevelt Way and 11th/12th Ave, a 5' bicycle lane can be added if travel lanes are slightly reconfigured. In addition to improved bicycle facilities, this project would also allow for sidewalk extensions ('curb bulbs') on both sides of the street, significantly improving pedestrian safety and comfort at key locations, including the Roosevelt Business District and at key bus stop locations.

Brooklyn Avenue NE

Brooklyn Avenue NE is a Neighborhood Green Street, a preferred biking route, and the home of a future light rail station between NE 43rd St and NE 45th St. Two projects, one short term and one long term, will help the street meet the needs of all users and function more effectively as a Green Street.

Issues Traffic today is low, with only about 4,000-5,000 vehicles a day using the street. But the 2030 forecasts predict that increased traffic will result in a number of poorly operating intersections along this corridor.

Many novice and local bicyclists currently use Brooklyn Ave, but there are no pavement markings or signs that designate this as an officially designated bicycle corridor.

The City has designated Brooklyn as a Neighborhood Green Street, but the width of the street may encourage speeding and the sidewalks need better protection from vehicle traffic.

Project Recommendations

H: Add bicycle sharrows pavement markings on Brooklyn to create an official bicycle corridor between Ravenna Blvd and the Burke-Gilman Trail.

#38: Develop an urban design/streetscape plan for making Brooklyn Ave a “real” Green Street, with features such as widened sidewalks, landscaping and appropriately scaled lighting.

University Way NE

“The Ave” went through a major streetscape improvement, south of NE 50th St, in early 2002. This project widened sidewalks, added street trees and low-level lighting, and improved pedestrian crossings. The northern portion of University Way NE (north of NE 50th St) was not included in this renovation.

Issues Traffic volumes are low, with only about 3,000 vehicles a day using this stretch of University Way NE. Much of the traffic on the street is related to vehicle parking or transit.

Bicycle lanes are identified in the Bicycle Master Plan. There are no pavement markings that designate this as a bicycle corridor.

The street is a UVTN transit corridor that carries a number of heavily traveled bus routes, including the 70 series of Metro express routes to downtown.

Project Recommendations

#9 (Phase 1): Repair damaged sidewalk segments, and install pedestrian lighting and street trees along University Way north of NE 50th St. As part of this first phase, an area-wide parking study should be completed to determine the near-term and long-range parking needs.

#9 (Phase 2): Provide bicycle lanes and improve the pedestrian environment given the parking needs in the corridor. Two potential design alternatives are either a two-way sidepath along the west side of University Way, or more typical bicycle lanes along each side of the street (see discussion below).

The first phase of Project 9 would improve the streetscape by improving broken sidewalk segments and adding street trees and pedestrian lighting along the University Way corridor. In addition, a parking study would be done to evaluate the needs of businesses and residents along the street. A second phase would study how to improve pedestrian and bicycle facilities. The project team developed two potential alternative configurations for the bicycle lanes on the northern portion of University Way NE. Alternative 1 would stripe bicycle lanes in both directions, and Alternative 2 would create a two-way bicycle “sidepath” along the west side of the roadway between the sidewalk and the parking lane. This sidepath would create a new corridor between the bicycle lanes on Ravenna Boulevard and the University Heights Community Center at NE 50th St.

Discussion: Bicycle Lanes or “Sidepath”

Single lanes: Single lanes would be easily understood by bicyclists and keep bicycles moving in the direction of traffic flow, including at intersections where oncoming bicyclists would be more visible to vehicles turning left across the bicycle lane. This alternative requires only street re-striping and allows the existing curbs to remain in place.

The Sidepath: A bicycle sidepath would connect the Ravenna Boulevard bicycle lanes with a similarly significant facility, and create “something new” that could attract more novice users. It also would reduce transit-bicycle and parked vehicle-bicycle conflicts and allow for the creation of bus loading areas (“bus bulbs”) and additional street plantings. The sidepath would also provide a major extension of quality “public space” adjacent to the University Heights Center and Saturday Farmers’ Market.

Proposed Action: The project team is excited at the prospects of the sidepath for this corridor because of its potential to create a strong bicycle connection between Green Lake and University neighborhoods. There is a concern, however, regarding the op-

eration at intersections, where cyclists may be less visible traveling in the same direction as turning vehicles. Additional work needs to be done to design these side street crossings in order to slow bicycle traffic and warn drivers of sidepath activity. Work is also needed to further clarify the connections at the north and south ends of the sidepath. The *Action Strategy* will keep both projects as alternatives for this corridor.

University Way - Alternative 1



University Way - Alternative 2



15th Avenue NE

15th Ave NE is an important transit corridor that forms the western edge of the University of Washington campus. Two early implementation projects and three additional recommendations were identified for this corridor.

Issues Future traffic growth on 15th Ave NE requires additional improvements to meet forecasted traffic needs. The 2030 evaluation found that the intersections at NE 65th St, Ravenna Boulevard, NE 45th St, and NE Pacific St would drop below desired performance thresholds if no improvements are provided.

In the last three years, 3 pedestrian-vehicle collisions occurred at 15th Ave NE/Campus Parkway. Review of the intersection shows the potential for conflicts between northbound vehicles making left turns and pedestrians crossing the west leg of the intersection.

The street is a primary UVTN transit corridor that carries a number of heavily traveled bus routes. Improvements are needed to reduce transit delay, particularly for northbound buses making a left turn onto NE 45th St.

There were 15 collisions at NE 50th St/15th Ave NE in the last three years, the highest total number of intersection collisions in the study area. A steep slope that produces poor sightlines for turning vehicles is likely contributing to these collisions.

Project Recommendations **G:** Monitor the intersection of 15th Ave NE/NE Ravenna Boulevard to see if traffic congestion worsens to the point where a traffic signal is needed at this location.

J: Evaluate the impact of a protected northbound left-turn phase the intersection at 15th Ave NE/Campus Parkway on transit speed and reliability. If transit performance is impacted, seek implementation of an alternative that addresses vehicle and pedestrian conflicts, such as improved signage and more prominent crosswalks.

#3: Lengthen the northbound left-turn pocket at NE 45th St and modify the signal timing to improve transit operations and reduce blocking problems for through traffic.

#20: Add protected eastbound and westbound left turn phases at the NE 50th St/15th Ave NE intersection to reduce vehicle conflicts.

#37: Complete a corridor study of 15th Ave NE from NE 50th St to NE Pacific St to improve the overall design for pedestrian and transit movements.

Related Projects

#1: Create a westbound transit lane on NE 45th St by removing the center turn lane and restricting left-turns from 45th St between 7th Ave NE to 15th Ave NE.

University Bridge/NE Northlake Way/NE 40th Street Area

Projects at both ends of the University Bridge will greatly improve safety by addressing conflicts between drivers, bicyclists and pedestrians. These projects include improvements to the bridge approaches and on NE 40th St, NE Northlake Way, Eastlake Ave and Campus Parkway.

Issues

At the north end of the bridge, bicyclists must ride unprotected in the traffic lane. Two vehicle exits, one looping to lower NE 40th St and one to Campus Parkway, result in a large expanse of pavement where heavy right-turn volumes create vehicle-bicycle conflicts. For pedestrians, there is no sidewalk for those travelling north to 11th Ave NE or turning onto Campus Parkway from the north end of the University Bridge. The only pedestrian route to Campus Parkway is an informal path across a grassy area inside the NE 40th St loop ramp.



The lack of adequate pedestrian facilities (such as sidewalks) on the north end of the University Bridge is highlighted by the worn-down path that crosses the NE 40th St loop ramp. Inadequate lighting also contributes to a lack of pedestrian comfort and safety.

At the south end of the bridge, eight vehicle-bicycle crashes occurred between 2004 and 2006 on Eastlake between Fuhrman Ave E and Harvard Ave E. Bicyclists turning at Harvard Ave E, to continue up to Capitol Hill, must cross two lanes of traffic to get to the left turn lane.

Poor lighting along the bridge lowers the comfort of pedestrians and bicyclists, and makes drivers less aware of people walking and bicycling in the area.

West of the University Bridge, the intersections of 6th Ave NE/Lower NE 40th St and 7th Ave NE/NE 40th St operate below performance thresholds. Long queues often form at these intersections, particularly during peak hours.

Generally speaking, there are poor bicycle connections between the Burke-Gilman Trail and the University Bridge, two of the most important and heavily travelled bicycle corridors in the city.

Sidewalks and bicycle lanes on NE Northlake Way end suddenly

west of the University Bridge. The public right-of-way is undefined and is used for haphazard parking, with parallel parking, angle parking and 90 degree parking all occurring on the same small section of roadway.

There are no bicycle lanes on either side and no sidewalks on the south side of “upper” NE 40th St between 8th Ave E and the University Bridge, the route for westbound to southbound bicyclists and pedestrians.

Many of these deficiencies were identified as needing improvement in the University Community neighborhood plan.

Project Recommendations

C: Stripe left turn lanes on 6th Ave NE and westbound on Lower NE 40th St to improve intersection operation.

K: Install pedestrian lighting along the length of the University Bridge to improve the visibility of pedestrians and bicycles and to celebrate the bridge as a prominent entry into the University District.

#7: Add a southbound bicycle signal at Fuhrman Ave E to allow riders to safely cross to the left turn lanes at Harvard Ave E.

#8: Reconfigure and consolidate the northbound ramps from Eastlake Ave at the north end of the University Bridge and add bicycle lanes to reduce potential conflicts between vehicles, pedestrians, and bicyclists.

#14: Add an eastbound bicycle lane on “upper” NE 40th St between 7th Ave NE and the University Bridge.

#23: Construct a roundabout at 7th Ave NE/NE 40th St to improve traffic flow and reduce potential conflicts.

#29: Reconstruct Northlake Way by adding sidewalks, a shared-use path and improved bicycle facilities.

Related Projects

#4: Create bicycle lanes and on-street parking on 11th/12th Avenue NE and on Roosevelt Way NE.

#24: Install a pedestrian signal, new crosswalk, and widen sidewalks for people crossing 11th Ave NE at NE 41st St to improve safety.

#17: Widen the sidewalk along the east side of 8th Ave NE between NE 64th St and NE 65th St and add a curb extension at NE 64th St to enhance pedestrian crossings. The project would also stripe a northbound right turn lane to improve turning movements.

#19: Close off the north end of Weedin Place between at NE 66th St to improve pedestrian connections to the Roosevelt Business District and provide an opportunity for a “pocket” open space.

#25: Improve the off-street trail in Ravenna Park that runs parallel to Ravenna Ave NE to connect to the shared roadway corridor on NE 58th St. This will connect NE 55th St and NE Ravenna Blvd

#27: Create northbound and southbound left turn pockets and protected left turn phases for 25th Ave NE/NE 55th St.

Related Projects

H: Add bicycle sharrow pavement markings on Brooklyn to create a bicycle-friendly corridor between Ravenna Blvd. and the Burke-Gilman Trail.

#4: Create bicycle lanes and improve pedestrian crossings on 11th/12th Ave NE and on Roosevelt Way NE.

#5: Provide a bicycle and pedestrian “lead phase” and improves the visibility of the Burke-Gilman crossing.

#38: Develop an urban design/streetscape plan for making Brooklyn a “real” Green Street, with features such as widened sidewalks, landscaping and appropriately-scaled lighting.

**Montlake Boulevard NE/
NE Pacific St**



Montlake Boulevard NE and NE Pacific St carry the highest volumes of traffic within the University Area. These streets provide a connection to SR 520, I-5 and Capitol Hill to the south, and to Sand Point Way NE, Children's Hospital, Magnuson Park and other areas along Lake Washington to the northeast.

Most of the traffic congestion in the southbound direction on Montlake Blvd and eastbound on NE Pacific St, is related to the vehicle access to the SR 520 and I-5 freeways. One Early Implementation project and four additional recommendations would promote better traffic flow and bicycle safety.

Additional recommendations would promote better traffic flow and bicycle safety.

Issues

Pedestrian crosswalks on E Shelby St at the south end of the Montlake Bridge are set back from the intersection. This requires pedestrians to unnecessarily walk extra distances to safely cross the intersection.

NE Pacific St is an important UVTN transit corridor that carries a number of heavily traveled routes. This will be the primary link for future transit routes serving the future light rail station near Husky Stadium.

Bicyclists travelling from the north end of the Montlake Bridge have a difficult time accessing Lake Washington Blvd E, a key connection in the Urban Trails and Bikeways System. Lake Washington Blvd E connects with both Montlake Blvd and 24th Ave E just south of SR-520. One route from the Montlake Bridge requires bicyclists to ride down the sidewalk against traffic to gain access to E Hamlin St to access 24th Ave E to Lake Washington Blvd.

Montlake Blvd NE and NE Pacific St are the most congested corridors in the study area. Traffic volumes already exceed capacity, causing vehicle travel speed to drop to walking speed during peak hours. By 2030, Montlake Blvd will have corridor travel speeds as low as 2 mph; Pacific St speeds will be as low as 4 mph. Traffic backs up well in advance of the NE Pacific St HOV lane, limiting the potential travel time savings for buses and carpools.



The Montlake Bridge area is a critical connection in Seattle's Urban Trails and Bikeways System, but has inadequate facilities for both pedestrians and bicyclists. While the SR 520 Bridge replacement project may provide a major opportunity for new facilities, there are some relatively minor improvements - such as removing curbed barriers and striping a bicycle lane - that could be accomplished in the meantime to significantly improve conditions.

Project Recommendations

D: Create a southbound bicycle lane on Montlake Boulevard from the Montlake Bridge to SR 520.

#15: Add a southbound HOV lane from NE 45th St to NE Pacific Place along the west side of Montlake Boulevard. This will improve travel speeds and potentially tie to future HOV ramps on the SR 520 bridge. The Children's Hospital has expressed support for the Montlake HOV lane and has interest in exploring a future extension to the north to improve the access to its hospital campus.

#18: Extend the existing eastbound HOV lane to provide a continuous lane from 15th Ave NE to Montlake Blvd.

#26: Extend the northbound u-turn lane on Montlake Blvd at E Hamlin St to prevent vehicles from blocking through movements.

#30: Redesign the intersection at NE Shelby St to improve bicycling and pedestrian travel routes through the area.

#32: Install variable message signs near the junction of Montlake Blvd and NE 45th St to better inform drivers of projected travel times and potential closures on the two corridors.

Discussion: Montlake Triangle

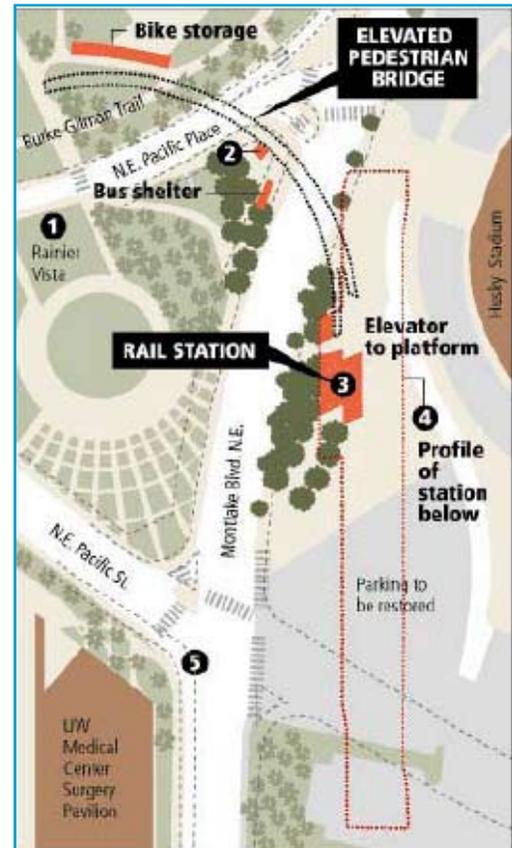
The "Triangle" is the area formed by Montlake Blvd, NE Pacific St and NE Pacific Place. This discussion reviews the existing operation and needs of the Triangle as compared with potential alternatives.

Existing Operations: King County Metro currently uses the Triangle to terminate a number of its transit routes, to turn vehicles around, load and drop-off passengers and for bus layover parking. Pedestrians cross the Triangle between the UW Campus and the UW Medical Center and Husky Stadium facilities. The Triangle is part of the Rainier Vista view corridor from the University of Washington.

Sound Transit Plans: As part of the Husky Stadium Station, Sound Transit has proposed a pedestrian overpass that would cross Montlake Boulevard, the Triangle and Pacific Place to provide a direct connect to the UW campus along the Rainier Vista and the Burke-Gilman Trail. This alternative would separate vehicles from pedestrian while retaining transit operation of the Triangle.

Depressed Pacific Place: This alternative would lower Pacific Place to separate vehicles from pedestrians. Pedestrians would cross Pacific Place "at grade" with a pedestrian bridge or lid

In addition to the unknown configuration and location of the SR 520 Bridge Replacement Project, there are still numerous design issues to be worked out related to Sound Transit's Husky Stadium Station and connections to the University of Washington campus. This graphic shows the concept of a grade-separated pedestrian bridge over Montlake Blvd and Pacific Place as part of Sound Transit's 30% station design. The final configuration of the bridge, and whether there are other alternatives that might better accommodate transit riders, pedestrians, and bicyclists, is still to be determined.



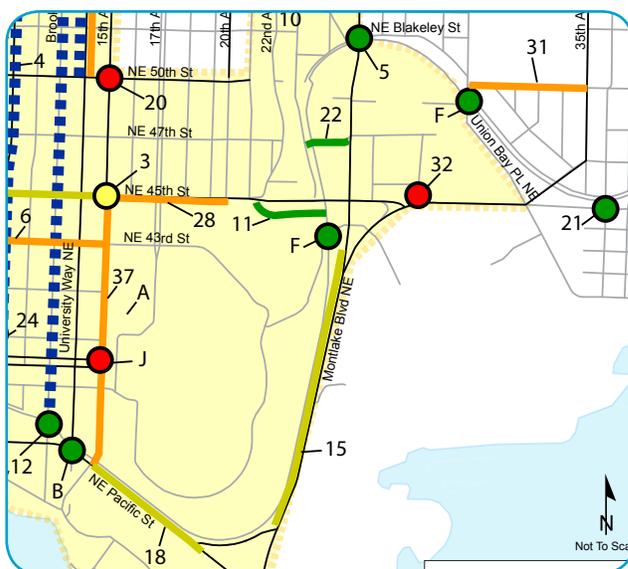
over the depressed Pacific Place. This concept has a number of engineering issues that would require additional analysis to fully explore the feasibility of this concept. A transit-only lane would be created along Pacific Place to bypass vehicle queues from the Montlake Boulevard/Pacific Place intersection. The alternative would retain the current transit bus layover areas.

Proposed Action: The *Action Strategy* does not include any specific recommendations related to the Triangle area, and recommends further analysis of the alternatives. There are a number of unknowns related to this area that, once decided, should better clarify HOV, pedestrian and transit options and needs. Further analysis of the Triangle area should be conducted once the final locations and designs of the Sound Transit light rail station, the proposed Husky Stadium rebuild/restoration and the SR 520 Bridge Replacement Project are better known.

Burke Gilman Trail

The Burke-Gilman trail is the centerpiece of the non-motorized transportation system in the University District. The trail

connects to Ballard and Fremont to the west, and to northeast Seattle and the communities along Lake Washington to the east. Heavy bicycle and pedestrian use is particularly prevalent along sections that run near and through the University of Washington campus. The *Action Strategy* recommends developing new connections to the trail and improving trail crossings of roads.



Traffic controls give the right-of-way to drivers at trail crossings, but general practice is for drivers to yield to bicyclists and pedestrians.

Issues

Visibility of bicyclists at certain trail crossings is poor because of brush and shrubs. There were 4 crashes in three years at the trail crossing of University Way.

The Burke-Gilman crossing at NE Blakeley Street/25th Ave NE has had a high number of bicycle-vehicle collisions. The Bicycle Master Plan identified this intersection as needing additional study to address crossing issues.

There is no direct connection between the University of Washington Campus, the Burke-Gilman Trail and the University Village Shopping Center. University students must travel out of their way or use a steep, overgrown informal trail through a ravine to access the Burke-Gilman Trail, or cut through private property to directly access University Village.

The Ship Canal Trail, running along the east portion of the University's property, lacks a bicycle connection to the Burke-Gilman Trail near 36th Avenue NE.

Project Recommendations

B: Clear or trim trees and shrubs and add a more visible textured and colored crosswalk to better define where the Burke-Gilman Trail crosses University Way NE.

F: Coordinate with the University of Washington and the SDOT Traffic Management Division to develop a consistent set of the controls and signs at the Burke-Gilman Trail cross-

ing at Pend Oreille Road, Brooklyn Avenue NE and Ne Blakely St (east of the University Village Shopping Center) that promotes pedestrian and bicycle movements and reflects driver behavior. At Brooklyn Ave NE, complete a traffic study to ensure that changes at the trail crossing would not impact adjacent intersections.



#5: Provide a bicycle and pedestrian “lead phase” and improve the visibility of the Burke-Gilman Trail crossing 25th Ave NE.

#11: Develop a pedestrian and bicycle path from the University of Washington campus to the Burke-Gilman Trail underneath the NE 45th St Viaduct.

#12: Realign the Burke-Gilman Trail crossing at Brooklyn Ave NE and add a raised, colored crosswalk to improve bicycle and pedestrian visibility at this location.

#21: Improve the bicycle connection between the Burke-Gilman Trail and the Portage Bay Trail/east campus area by constructing a ramp at the 36th Ave NE that connects to NE 45th St.

#22: Develop a pedestrian connection between 22nd Ave NE, the Burke-Gilman Trail, and 25th Ave NE at NE 47th Street. This would provide an east-west access from the trail along NE 47th St through the University of Washington property. The eastern portion would be designed to accommodate bicycles and would require coordination with the University to minimize conflicts with service vehicle operations.



Targeted Improvements

There are two project recommendations that fall outside the main geographic areas identified: one targets pedestrian safety improvements in a residential area just northeast of University Village, while the other would affect the entire University Community Urban Center.

Issues

Push button signals create unnecessary delay for pedestrians at intersections within the University Urban Center. Some signals require a pedestrian to push a pedestrian crossing button rather than providing a WALK phase for every signal cycle, particularly at night. Other pedestrian push buttons are inactive, but their presence creates unnecessary confusion and frustration for pedestrians.

There is not a continuous sidewalk on NE 50th St between 30th Ave NE and 35th Ave NE. Cut-through traffic trying to bypass the signal at NE 45th St and Union Bay Place often exceed the desired speed limit for this residential street and contributes to pedestrian safety concerns.

Project Recommendations

A: Change the signal controls to add a pedestrian "WALK" phase at all intersections within the Urban Center at all times, eliminating the need for pedestrians to trigger a push button.

#31: Complete the sidewalk along the south side of NE 50th Street and introduces traffic calming devices to reduce vehicle speeds and improve pedestrian safety.

Finance & Implementation



A major challenge in moving forward with the *University Area Transportation Action Strategy* is to work to ensure that the recommended projects can be implemented by 2030. The *Action Strategy* requires approximately \$20.5 million to complete all of the Early Implementation, High and Medium Priority projects; and an additional \$16.5 million to complete the Montlake Blvd and Pacific St HOV Partnership projects. These figures do not include the costs of the recommended improvements to I-5, as these projects will have to be led and principally funded by WSDOT.

Prioritization & Funding

To successfully meet this financial challenge, SDOT must have a mechanism in place for moving the *Action Strategy* recommendations from the early planning stage, through project design development, and finally towards construction. This process involves two critical steps.

First, individual projects must be prioritized either within the SDOT **Capital Improvement Program (CIP)** – which typically includes the larger, more complex and costly projects - or within an individual **SDOT annual operational program** such as:

- Pedestrian and Bicycle
- Neighborhood Traffic Calming
- Arterial Streets Traffic Operations
- Parking Management

Second, funding needs to be secured for each project. Funding can come from multiple sources such as the City's General Fund, partner agencies, private development, and/or external grants. Funds from various sources may be combined to meet total project costs. For larger projects, funding may be dedicated to a project over a period of several years. Smaller, less expensive projects are often built within a one- to two-year timeframe.

To be credible, a funding strategy must: identify fiscal resources; forecast the potential and feasible funding levels available for City transportation projects; and be based on accurate project cost estimates.

Existing & Potential Funding Sources

The City of Seattle has historically funded transportation programs through gas tax revenues dedicated to transportation purposes, other local funds, grants, loans, and developer contributions. Some previous funding sources, including a Street Utility Tax and Vehicle License fees, are no longer available to the City as a funding source. **Figure 10** shows historic transportation funding sources since 1995.

Local Funds

Local revenues make up the largest part of Seattle's transportation budget and include the City's general fund, which includes sales and property taxes, the cumulative reserve fund, the City's share of the state gas tax and the recently implemented commercial parking and employee hours taxes.

Bridging the Gap Funds

Bridging the Gap is a voter-approved nine-year funding plan for transportation maintenance, pedestrian, transit and bicycle projects. A total of over half a billion dollars will be raised through an increase in the property tax levy lid, a commercial parking tax, and a business transportation tax. Although these funds are considered to be local funds, there is a list of specific projects and programs the voters expect to be funded by the plan. In large part, Bridging the Gap makes up for the vehicle licensing fees and street utility tax revenues that are no longer collected. **Figure 11** shows the level of local transportation funds since 1995 and the effect of Bridging the Gap funds in 2007, the first year of the program.

Other Funding Sources

Grant funds are available from the Federal and State governments for the construction and maintenance of roadways. Historically, Seattle has secured between \$20 million and \$40 million in grant funds annually. SDOT maintains a grant match reserve fund to provide a local match for potential new grants and partnership opportunities. Projects that are candidates for grant funds must be competitive against the granting agency's criteria, which have specific areas of emphasis, such as accident reduction, pedestrian safety, etc.

Partnership funds could be used for projects that will be coordinated and partially funded through cooperation with a partnering agency. The proposed SR 520 Bridge Replacement Project may provide an opportunity to integrate the *Action Strategy's* recommendations with the State's bridge replacement program. Projects such as the Montlake or Pacific HOV lanes could have significant benefits to the operation of transit or carpool lane on the SR 520 Bridge, which may create an opportunity for moving forward as partnership projects.

Figure 10. Local and Grant Funds

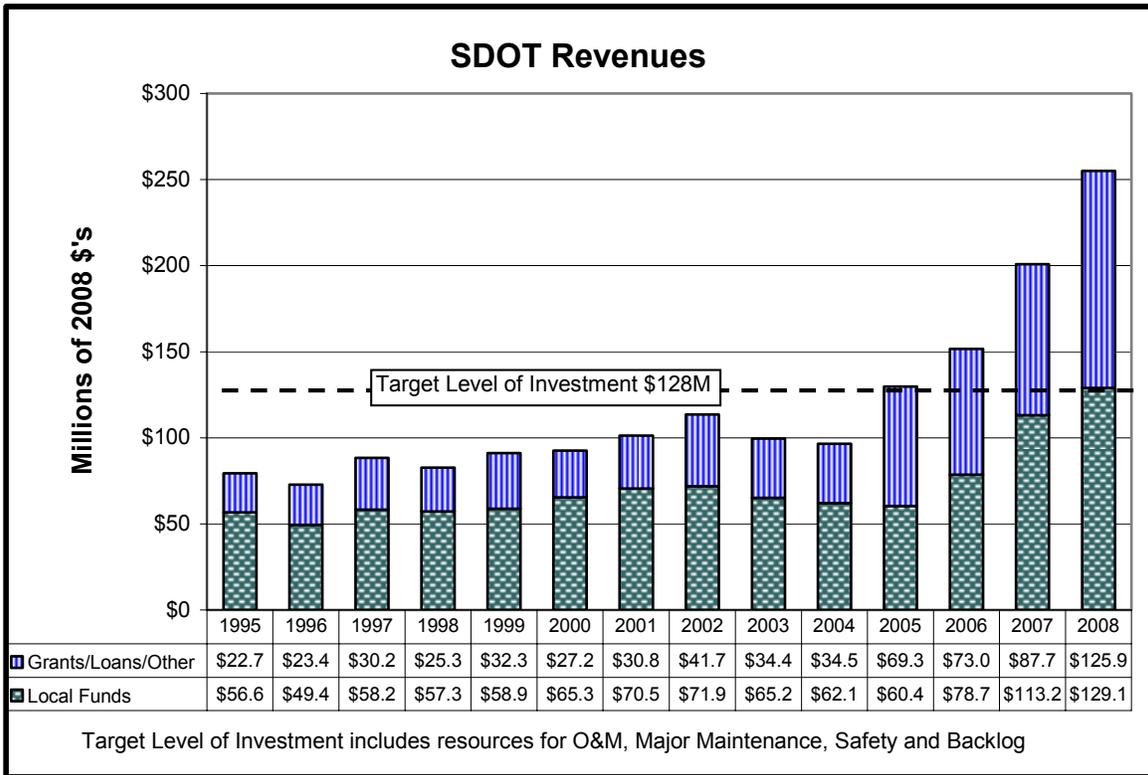
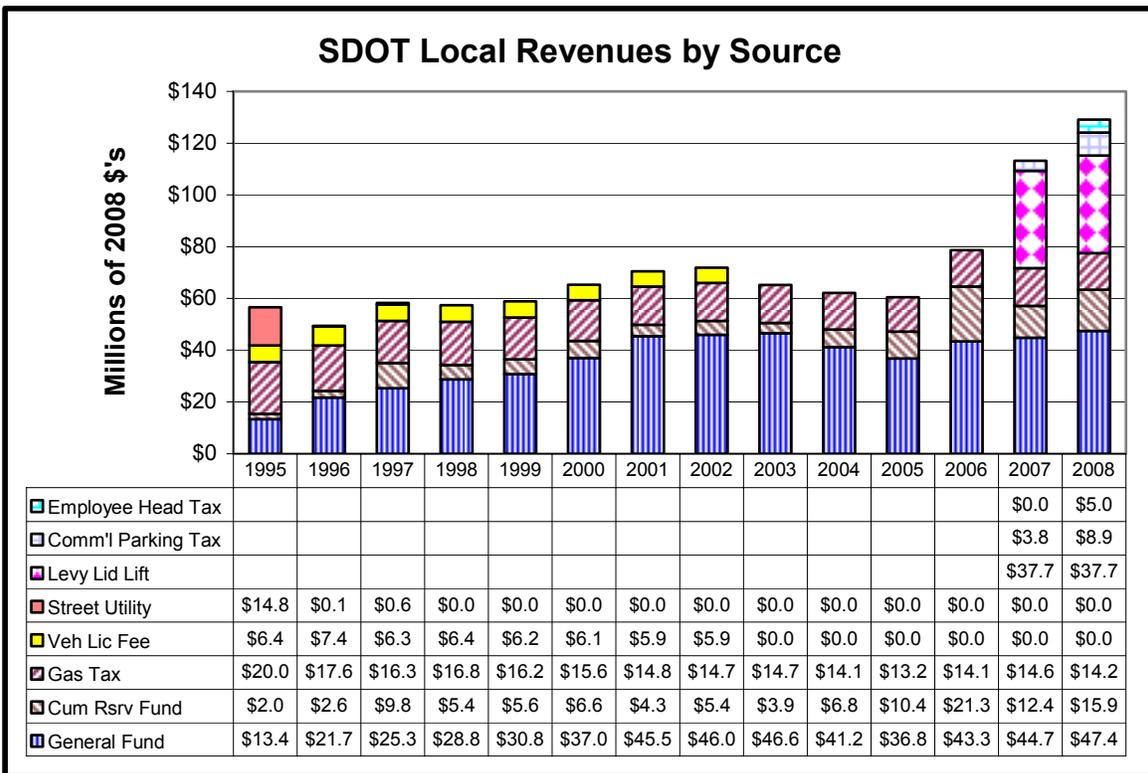


Figure 11. Local Funding Sources



Private Development

The *Action Strategy* includes sufficient analysis to create a voluntary **Transportation Mitigation Payment Program**. This program would give developers an option to contribute towards the construction of a set of University Area projects, in lieu of directly funding off-site improvements mitigation as part of the State Environmental Protection Act (SEPA) requirements. The Mitigation Payment Program may be attractive to developers because of its potential to simplify the permitting and mitigation process. Developers, however, would still be required to mitigate the on-site impacts of their projects by such actions as building frontage improvements (e.g. new sidewalks).

Other Potential Sources

The Washington State Legislature has approved a number of revenue sources that, with voter approval, can be used to fund transportation improvements. These revenue sources vary with regards to whether they are available on a regional, countywide or citywide basis.

Regional Transportation Improvement District funding can be a combination of sales tax, fuel tax, licensing fee or a motor vehicle excise tax that can be used to fund new projects that benefit regional mobility. It can be implemented only at a regional level. To qualify, projects of regional significance would be competitively placed into a ballot measure and submitted to the voters for approval. Of the *Action Strategy* recommendations, the partnership projects would be the most likely to be funded with this type of funding.

Local Option Fuel Tax can be implemented on a county level only and would be restricted to roadway projects. With voter approval, up to 10% of the state fuel tax could be collected.

Local Option Vehicle License Fees can be set up within a city-wide or countywide Transportation Benefit District. Funds may be used for a variety of transportation projects. With voter approval, up to \$100 per vehicle can be collected annually under this fee.

Transportation Impact Fees can be applied to an entire city or targeted sub-area to address the traffic impacts related to development activities.

SDOT Project Selection Process

Each year, the City updates its six-year capital budget (CIP) to identify likely funding sources for the highest priority projects and programs within forecasted revenue. While the CIP identifies potential funding over a six-year period, funding is only committed

when the City Council adopts the annual budget.

Capital Improvement Program (CIP)

Within the CIP, a significant amount of funding is dedicated to annual operational programs which in turn fund the majority of small-scale projects, such as bicycle improvements or traffic calming measures. The remainder of the CIP funding is targeted to individual large-scale capital projects. SDOT uses the following multi-step process to prioritize projects for inclusion in the CIP:

Step 1. Identification of Transportation Needs. The *Action Strategy* will be one of many sources that identifies projects (and programs) to address existing and future transportation needs in Seattle. Other sources include SDOT's existing backlog of major maintenance and replacement projects, projects in the current CIP that require additional funding, projects from other planning studies, projects identified by operational program managers, and those developed in coordination with partner agencies such as WSDOT, Sound Transit, and King County Metro.

Step 2. Initial Rating of Projects. Each project is evaluated and rated on its merits using criteria that reflect the City's Comprehensive Plan goals:

- Safety
- Preserving and maintaining infrastructure
- Cost effectiveness or cost avoidance
- Mobility improvement
- Economic development
- Comprehensive Plan/Urban Village land use strategy
- Improving the environment

Action Strategy projects were evaluated using these categories to help determine how well each of the projects for the University Area meet these criteria.

Step 3. Prioritizing Projects for Implementation. After projects are rated based on their ability to further City goals, the projects' overall priority ranking is established using the following considerations:

- Funding availability
- Interagency coordination
- Geographic balance
- Constituent support

Other SDOT Programs

While the above discussion describes how individual projects are prioritized within the six-year CIP, other SDOT programs such as the Pedestrian and Bicycle Program, Traffic Signals, Neighborhood Traffic Calming, Arterial Traffic Operations, and Parking Management have also designed their own criteria and prioritization system for ranking and implementing small-scale improvements. The prioritization systems parallel the one used for the CIP in that after needs identification, they are rated on their ability to meet various City goals and then are prioritized based on a second set of considerations to maximize leveraging opportunities and ensure equity across the City. These programs will utilize appropriate project recommendations from the *Action Strategy* to develop their annual work programs.

Modal Plans

The City's **Bicycle Master Plan** will guide funding for bicycle projects throughout Seattle. The *Action Strategy* further defines recommendations from the Bicycle Master Plan and completes the analysis of projects and areas where additional analysis was called for. Bicycle elements of the *Action Strategy* will be implemented through funding opportunities identified in the Master Plan, including:

- General Fund
- Bridging the Gap funding
- Bicycle Grant Matching funds
- Bicycle Spot Improvement Program

Similarly, the Seattle **Pedestrian Master Plan** will be prepared in 2008 and will likely prioritize and set aside funding for implementing pedestrian projects throughout the city. The *Action Strategy* includes a number of pedestrian improvements which can be rolled into the plan's project recommendations.

In addition, there may be opportunities where SDOT can leverage City resources by collaborating with other area projects. For example, Seattle Public Utilities stormwater management projects or Seattle City Light's spot utility work may provide opportunities to also help complete an *Action Strategy* project.

In order to implement the full range of recommendations in the *University Area Transportation Action Strategy*, projects must be prioritized within the CIP and various City programs and a host of funding sources must be explored to move each project towards implementation.

Summary As this section describes, there is a range of potential SDOT transportation revenues that may be available for the next 23 years. A total of \$2.2 billion to \$3.1 billion (2008 dollars) is projected to be available over the 2008-2030 period for constructing, operating and maintaining the City's transportation system.

Key assumptions for this analysis include:

- Full implementation of Bridging the Gap funds over the next nine years. The analysis presents one scenario where Bridging the Gap is discontinued after the initial nine years (\$2.2 billion) and a scenario that assumes the continuation of funding for another nine years (\$3.1 billion)
- Existing funding levels for SDOT programs based on the City's 2007-2012 Capital Improvement Plan
- Continuation of grant funding and appropriations at \$20 million per year
- Funding for major projects, such as the Alaskan Way Viaduct, is not included

The funding analysis included in the preceding pages estimates future revenues that are potentially available for *Action Strategy* project implementation, while at the same time acknowledging the uncertainty involved in predicting future funding levels. Revenue streams are dependent on the health of the national and local economies, renewal of current local levies such as Bridging the Gap, and national and state policy as it directs grant programs. These variables all determine the amount of funding that will ultimately be available to implement the projects recommended in the *University Area Transportation Action Strategy*.

