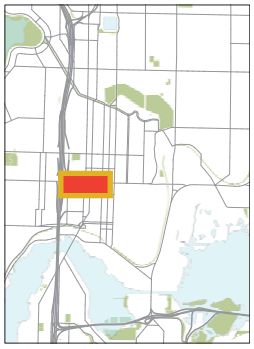
University Area Transportation Action Strategy



NE 45th Street Corridor

Transit Speed & Reliability and Vehicle Congestion

Project # 1

Add westbound Business Access and Transit-only (BAT) lane by restricting left-turns to improve transit speed & reliability and reduce congestion.

Priority Rating:	High
Cost Estimate:	$1.04 million

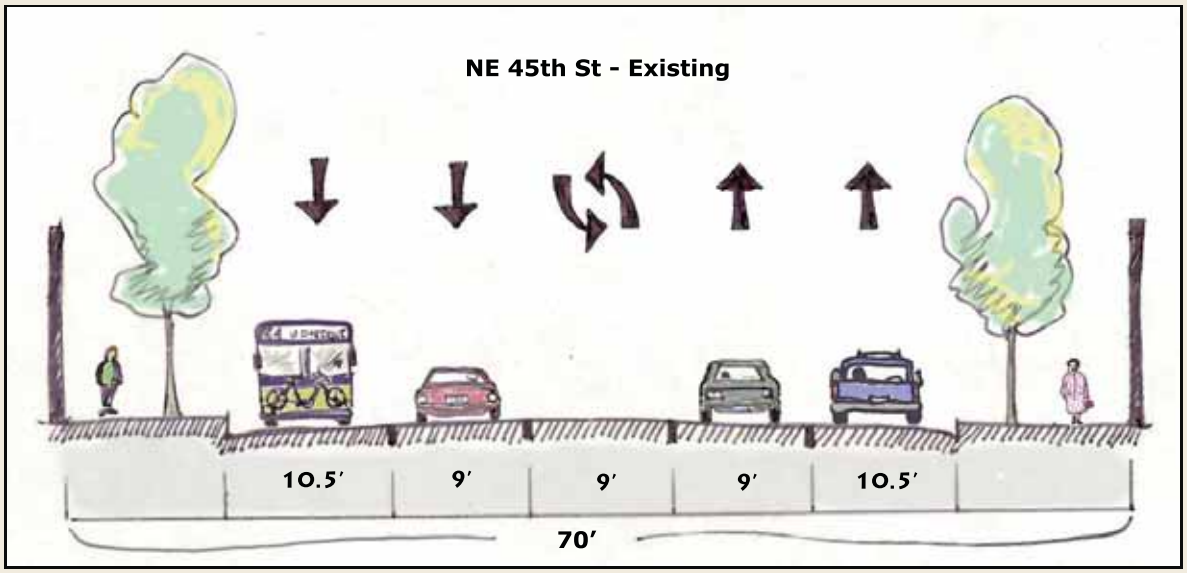
Problems and Issues

- NE 45th St is a key segment of Seattle's Urban Village Transit Network, providing the primary transit (including electric trolley) route from the University District to the Wallingford, Fremont, and Ballard urban villages. This roadway experiences severe traffic congestion during most times of day, and is one of the corridors where the City can receive additional service hours from King County Metro if transit speeds are improved by 10%.
- During the PM peak period, average vehicle speeds are 9-11 miles per hour (LOS E and F) between I-5 and 15th Ave NE. Transit vehicle speeds are substantially slower (~6 mph) due to passenger loading and operation in mixed traffic.

Existing PM Peak Travel Speeds

Vehicle	*MPH*
Auto- Westbound	11.1
Auto- Eastbound	9.4
Transit - Westbound	6.5
Transit - Eastbound	5.8

- Excessive vehicle queues are preventing buses from easily accessing the 6 bus stops along this corridor, which together average nearly 3400 boadings and alightings each weekday.
- 288 buses per weekday (66 during PM peak) travel westbound, and 221 buses per day (44 PM peak) travel eastbound along this corridor.



NE 45th Street Corridor (Continued)

Recommended Actions

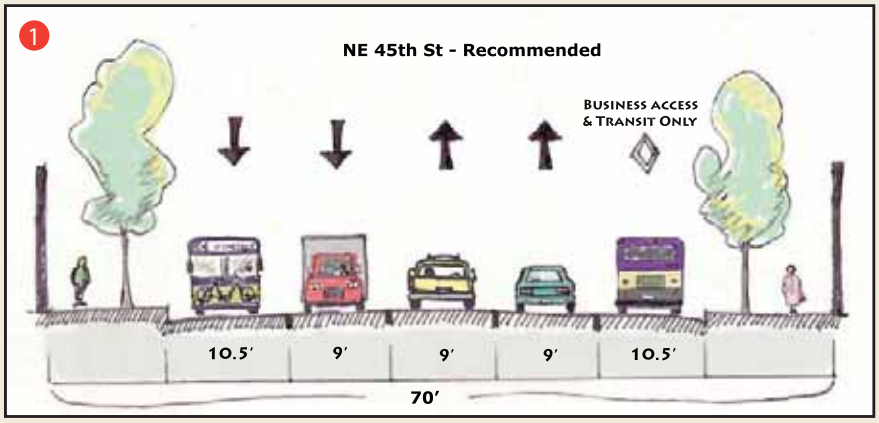
1. Convert center left-turn lane to westbound general purpose travel lane between 7th Ave NE and University Way NE. Prohibit left-turns off of NE 45th St.

1. Provide a westbound transit and business-access only (BAT) lane from University Way NE to 7th Ave NE along the north curb lane. An extension of the BAT lane to 15th Ave NE should also be considered if additional transit time savings is needed to "trigger" an increase in service hours from Metro's speed & reliability program (a program funded through Metro's 2006 *Transit Now* levy).

2. Accommodate key turning movements that would be restricted with implementation of the BAT lane. For example, traffic currently going westbound on 45th St to southbound on Roosevelt Way (the most common turning movement along this roadway segment) could be routed north onto 11th Ave, west on 47th St, and south onto Roosevelt Way; or could make a left at 15th Ave NE and access the University Bridge via Campus Parkway. Potential changes to consider include traffic signal re-timing, lengthening of certain turn pockets (e.g. left-turn to 15th Ave from NE 45th St), and conversion of some one-way streets (8th/9th Ave) to two-way.

- Prioritize pedestrian and bicycle improvements on NE 43rd St and NE 47th St (such as UATAS project #6) to help mitigate potential impacts of additional traffic displaced by BAT lane. (Note: UATAS traffic demand model analysis and past experience from other cities indicate that many drivers will anticipate the turn restrictions and utilize the street grid to adjust their trip accordiingly - i.e. the impact of the turn restrictions will likely be dispersed broadly across the study area.)

NE 45th St from 7th to 15th	Travel Time in Seconds		Travel Time Change	
	Existing	With BAT	Seconds	Percent
Auto – Westbound	166	98	- 68	- 41%
Auto – Eastbound	196	172	- 25	- 13%
Auto – Westbound to Southbound on Roosevelt	68	130	61	90%
Transit– Westbound	286	159	-127	- 44%
Transit – Eastbound	316	292	- 25	- 8%

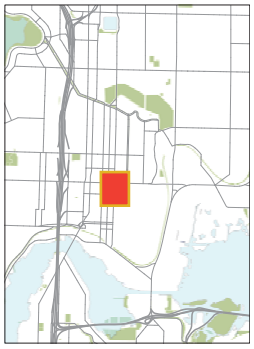


University Area Transportation Action Strategy

15th Ave NE/NE 45th St

Transit Speed & Reliability; Congestion Management

Project # 3



Extend left-turn lane pocket and modify signal to move more buses through each signal cycle and increase transit speeds.

Priority Rating: High
Cost Estimate: $97,000

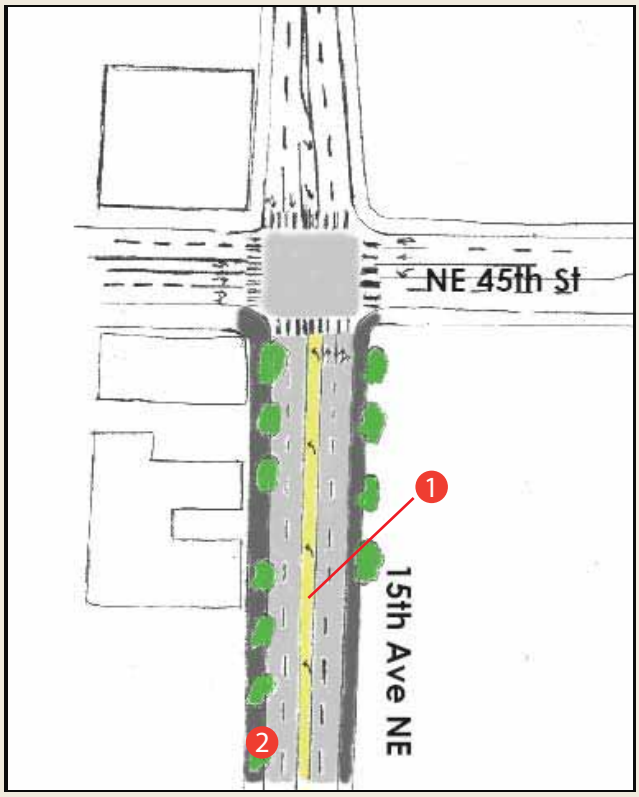
Problems and Issues

- This intersection includes an important turning movement of a primary Urban Village Transit Network (UVTN) corridor (with electric trolley service to and from Wallingford and Ballard).
- There are excessive delays at this intersection. Many northbound buses on 15th Ave turning onto NE 45th St (westbound) can't fit in the left-turn lane and/or can't make it through the intersection in one signal cycle. Buses are getting unnecessarily delayed, while northbound general purpose traffic can get blocked by vehicles waiting to enter the turn lane.
- Increased traffic volumes are projected to further reduce intersection level-of-service (and transit speed & reliability) if no action is taken.

Recommended Actions

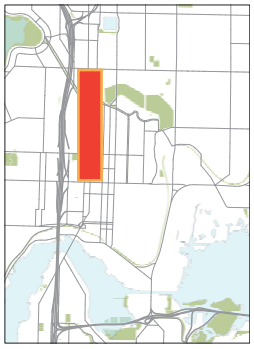
1. Increase length of the northbound-to-westbound left turn pocket to accommodate more buses.
2. Remove several on-street parking spaces on 15th Ave near 43rd St to install longer turn lane. Maintain 2 southbound through lanes during peak periods, and work with the adjacent Malloy Apartments to accommodate their loading space needs.

- Lengthen the northbound left-turn phase to clear more buses in one signal cycle.
- Coordinate signal timing with NE 45th St/University Way intersection to minimize westbound turning queues from 15th Ave.



University Area Transportation Action Strategy

Project # 4



Roosevelt Way NE/11th Avenue NE Corridor

Bicycle and Pedestrian Mobility & Safety

Restore all-day parking and add bicycle lanes to increase bicycle and pedestrian safety & mobility.

Priority Rating: High
Cost Estimate: $480,000

Problems and Issues

- The right-side curb lanes on Roosevelt Way NE and 11th/12th Ave NE allow parking most of the day, except during the peak periods when parking is restricted to accommodate an additional general purpose lane. These restrictions force pedestrians to cross three lanes of traffic (substantially decreasing safety and comfort) and encourage high speeds through several growing neighborhood business districts.

- (1) Due to its gentle grades, directness between business districts and downtown, and relative lack of signals, this one-way couplet is a major north-south bicycle route. No bicycle facilities are provided, however, and the existing configuration (with narrow curb lanes) exposes cyclists to the "door zone" of parked cars and deters all but the hardiest of riders. The Seattle Bicycle Master Plan recommends several improvement options, although curb extensions on the left side of these streets limit feasible bike improvements to the right-side of the roadways.

- The corridor is part of the Urban Village Transit Network (UVTN), with 22 buses on Roosevelt during the AM peak period and up to 59 buses on 11th Ave during the PM peak.

- The Roosevelt Neighborhood Plan calls for the City to consider returning Roosevelt Way NE and 11th Ave NE to two-way streets. UATAS analysis indicates that such a revision is not warranted at this time.

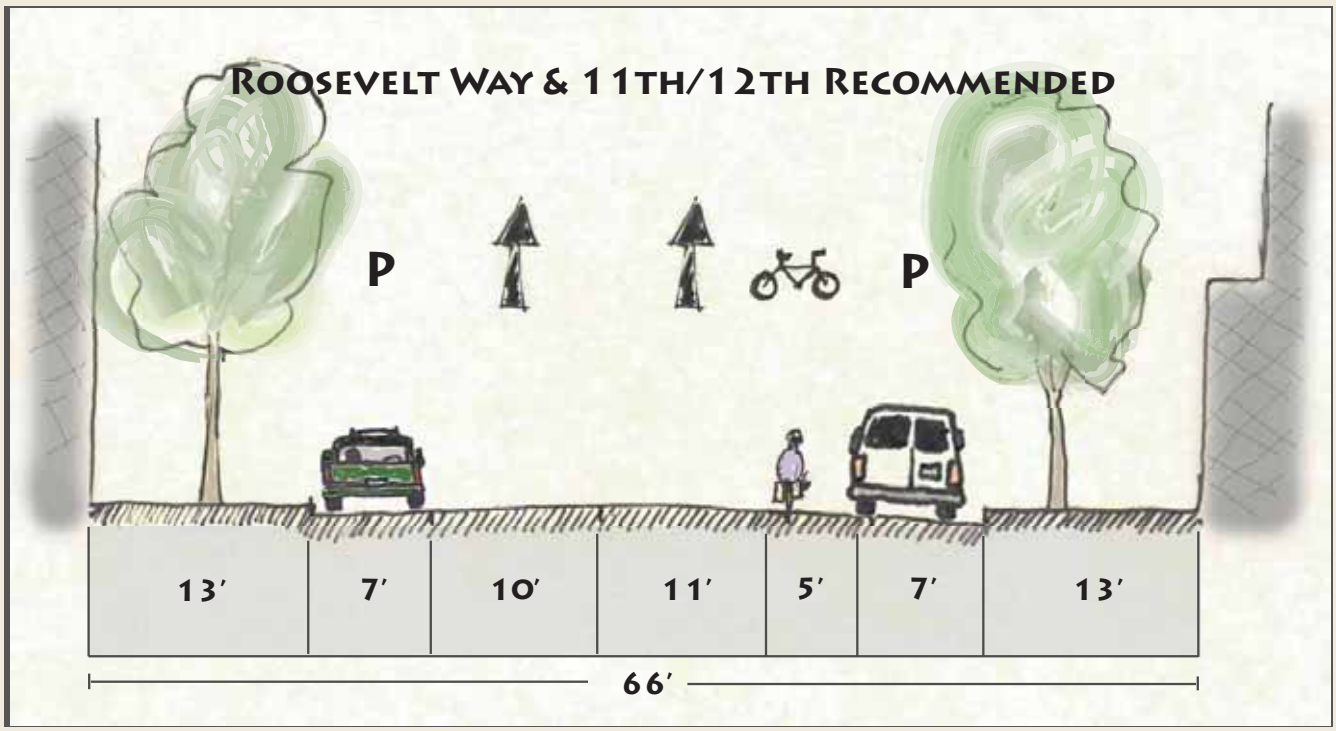
Typical lane widths for Roosevelt and 11th/12th Ave

Parking not only provides access to local businesses along Roosevelt Way and 11th/12th Ave, but a buffer for pedestrians travelling on narrow sidewalks.

Roosevelt Way NE/11th Avenue NE Corridor (Continued)

Recommended Actions

- Restore all-day parking on both sides of the street by removing peak hour restrictions on the right-side curb lanes.
- Restripe roadway to provide a southbound bicycle lane on Roosevelt Way and a northbound bicycle lane on 11th/12th Ave. Work with SDOT's Ped/Bike Program to design transitions from bicycle lanes to vehicle right-turn lanes at the intersections of NE 50th St, NE 45th St, and other locations with heavy turning movements.
- Begin to allow pedestrian curb-bulbs on both sides of the street (in feasible locations) to decrease crossing distances and improve pedestrian safety and comfort. Areas of particular benefit would include the Roosevelt business district and at key crossings in the University District where pedestrian volumes are high.
- Work with King County Metro on street design concepts that include bicycle lanes and in-lane bus stops. Coordinate in-lane stops with potential increases in transit service, such as when light rail operation to Roosevelt begins.

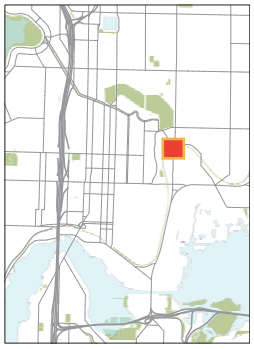


University Area Transportation Action Strategy

Burke Gilman Trail/25th Ave NE

Pedestrian and Bicycle Safety

Project # 5



Modify signal timing and intersection design, and upgrade crossing to improve safety for pedestrians and bicyclists.

Priority Rating: High
Cost Estimate: $102,000

Problems and Issues

1. High volumes of pedestrians and bicycles cross this intersection as a part of the Burke Gilman Trail.
- This intersection has one of the highest rates of turning vehicle/pedestrian conflicts in the study area.
- 2 bicycle collisions were reported at this intersection between 2004-2006, and historically the intersection has been considered a high collision location.

- The Bicycle Master Plan identified a need to "further study" this intersection for necessary improvements, which the UATAS study has done.

Recommended Actions

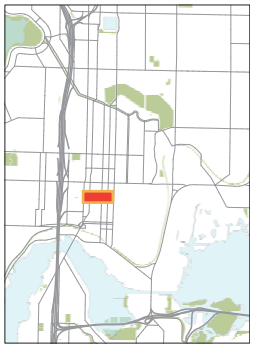
1. Provide a raised, colored crosswalk on the south leg of the intersection where the Burke Gilman Trail crosses 25th Ave NE.
2. Provide a tighter turning radius for the eastbound-to-southbound movement from Ravenna Place NE onto 25th Ave.
- Provide a 5-10 sec "lead phase" for the pedestrians and bicyclists crossing the trail.

University Area Transportation Action Strategy

NE 43rd St Corridor

Pedestrian Mobility & Safety; Transit Connections

Project # 6



Widen sidewalks and add curb extensions to improve pedestrian capacity & safety and encourage transit use.

Priority Rating:	High
Cost Estimate:	$930,000

Problems and Issues

1. NE 43rd St will be the major east-west pedestrian corridor linking the University campus and neighborhood with Sound Transit's light rail station at Brooklyn Ave.
- In anticipation of light rail, the City has given a pedestrian priority designation to NE 43rd St. This street is also designated a Neighborhood Green Street by the University District Neighborhood Plan.
- All or portions of the sidewalk fail to meet both the pedestrian clear space and the pedestrian buffer space performance measures as established by UATAS analysis.
- There is currently more than enough right-of-way to widen sidewalks while maintaining adequate roadway width for vehicles.

Recommended Actions

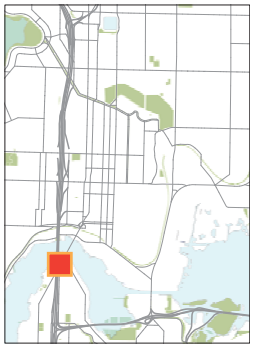
- Widen sidewalks and place curb extensions on NE 43rd St between Roosevelt Way NE and 15th Ave NE.

University Area Transportation Action Strategy

Eastlake Avenue E

Bicycle Mobility and Safety

Project # 7



Add bicycle signal queue jump and upgrade sidewalk access to improve bicycle safety and comfort

Priority Rating: High
Cost Estimate: $496,000

Problems and Issues

- Eastlake Ave E (University Bridge) to Harvard Ave E is a critical path for many cyclists travelling between Capitol Hill and the University District.
- (1) Experienced cyclists use the southbound Eastlake Ave left-turn lane to access Harvard Ave E, merging from the Fuhrman Ave intersection across 2 lanes of heavy traffic.
- (2) Less confident cyclists continue straight through the Fuhrman intersection and access Harvard Ave E from a signalized crosswalk farther south on Eastlake Ave, although raised curbing and sidewalk clutter (large utility and Metro poles, overgrown vegetation) make it difficult to reach the pedestrian-actuated push button on the sidewalk.
- 4 bicycle-vehicle crashes were reported on Eastlake Ave between Harvard Ave E and Fuhrman Ave E between 2004-2006.

Recommended Actions

- (1) Provide a southbound bicycle queue jump at Fuhrman Ave signal to allow lead time for cyclists to merge across Eastlake before general purpose southbound traffic gets the green light. This movement could be coordinated with the left-turn only signal phase for southbound vehicles turning onto Furhman Ave E.
- Upgrade curb ramps on west side of Eastlake to improve bicycle access to sidewalk and the pedestrian push button farther south. Look to consolidate utility and transit poles, and widen sidewalks, when opportunities allow.

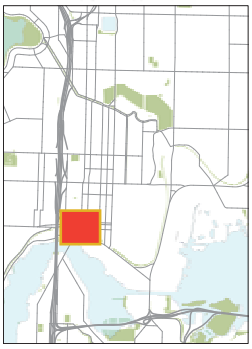
Bicycle-only signals have been effectively implemented in other cities, such as Portland and Berkeley.

University Area Transportation Action Strategy

Eastlake Ave and Campus Parkway

Bicycle and Pedestrian Safety & Mobility

Project # 8

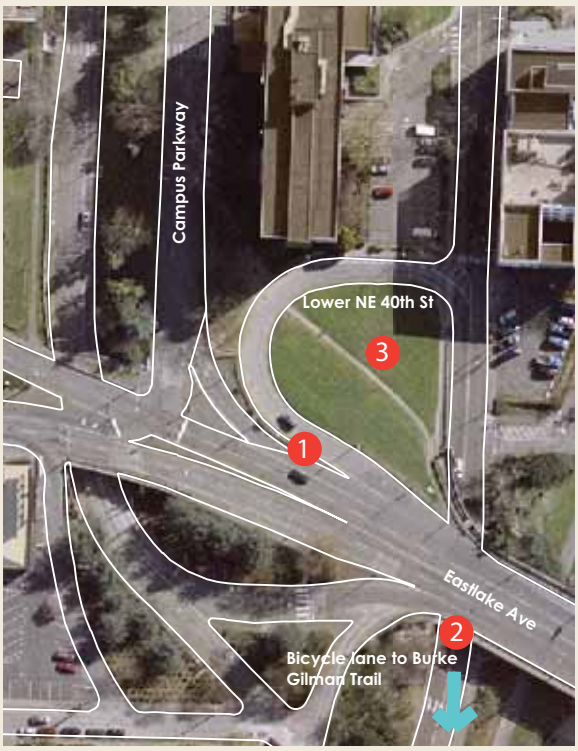


Reconfigure intersection, and add bicycle lanes and sidewalks, to reduce conflicts between modes and improve safety.

Priority Rating: High
Cost Estimate: $1.17 million

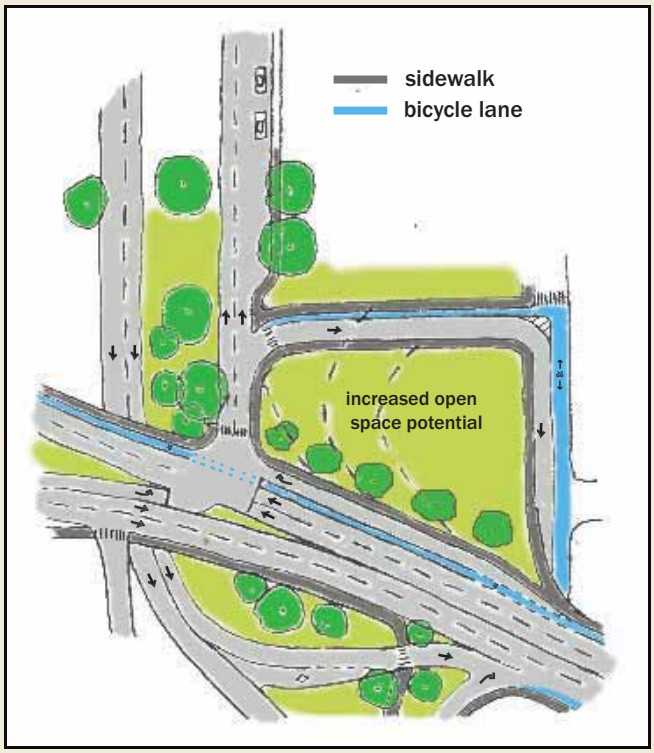
Problems and Issues

1. Multiple conflict points between right-turning vehicles and cyclists are a significant problem at the north end of the University Bridge:
   - Northbound to westbound vehicles turning onto the NE 40th St loop ramp travelling at excessive speeds.
   - Eastbound vehicles turning onto Campus Parkway.
   - Heavy bicycle demand for both right-turn movements as well as for continuation northbound.
2. No bicycle facilities currently exist along Eastlake, even though this segment is critical to the Urban Trails and Bikeways System and the planned South Lake Union Loop Trail, and is a heavily-utilized connector to the Burke Gilman Trail.
3. Sidewalks are generally in poor condition throughout the project area, and an informal trail across the grass between the bridge and Campus Parkway indicates demand for improved facilities.



Recommended Actions

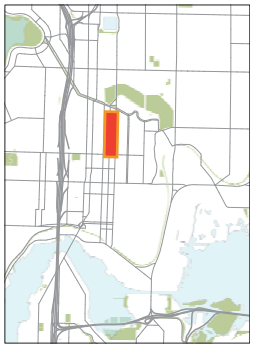
- Consolidate right-turns by relocating the westbound loop ramp from Eastlake Ave to Campus Parkway. Create a single right-turn pocket for vehicles and cyclists travelling to Campus Parkway and the loop ramp.
- Add/improve sidewalks along Eastlake Ave and the NE 40th St ramp.
- Add solid-colored northbound bike lanes on Eastlake Ave E between the University Bridge and 11th Ave NE.
- This action implements a "key corridor recommendation" in the Bicycle Master Plan and a "gateway treatment" recommendation from the neighborhood plan.



University Way NE from NE 50th St to 15th Ave NE

Pedestrian & Bicycle Mobility, Urban Design

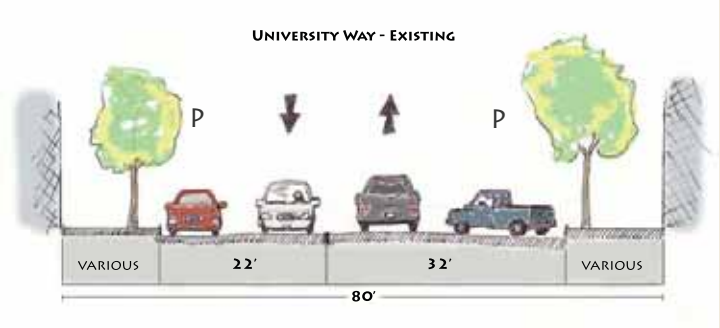
Project # 9



Reconfigure University Way to provide dedicated bicycle facilities, wider sidewalks, and improved urban design.

Priority Rating:	High
Cost Estimate:	$2.7 million

Problems and Issues



- University Way is the "main street" of the University District and Urban Center, and a designated bicycle route. Several years ago it was upgraded south of NE 50th St.
- North of 50th St the roadway is wider, although sidewalk widths and pedestrian "buffer" spaces are inadequate and no bicycle facility is provided. The Bicycle Master Plan recommends full bicycle lanes along this segment.
- University Way is a major transit route, with direct service to downtown. Access to bus waiting areas and their general quality should be improved as housing density and commercial activity increase over time.

Recommended Actions - Phase 1

- In the near term, repair broken sidewalk segments and tree pits, and install pedestrian lighting and banner poles, to improve the pedestrian environment of "The Ave" north of NE 50th St.
- As the area redevelops, prohibit new curb cuts and prioritize vehicular access from the alleys in order to maintain and/or improve the pedestrian environment.
- By 2012, undertake a parking analysis to identify parking needs and key issues.

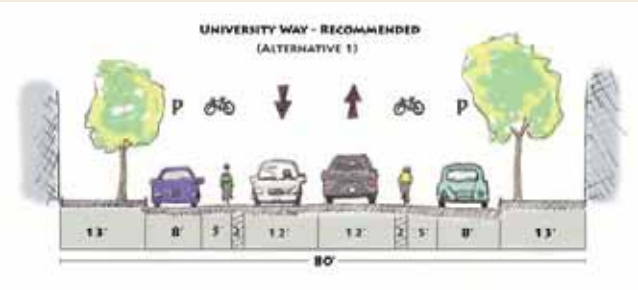
Increased road width and the University Heights Center/Farmers' Market (above) provide many urban design opportunities for University Way north of NE 50th St.

University Way NE (Continued)

Recommended Actions - Phase 2

- Reconstruct University Way NE from NE 50th St to 15th Ave NE with the following elements:

  - Wider sidewalks at key locations
  - Pedestrian-scaled lighting
  - Dedicated bicycle facilities
  - Bicycle parking
  - Additional street trees & landscaping
  - High-amenity transit stops



Phase 2 - Alternative 1

- **Street Design - Alternative 1**

  Install extra-wide, or "buffered," bicycle lanes to encourage bicycling and improve bicycle safety. Where feasible, install in-lane transit stops to improve transit speed and transit waiting areas.

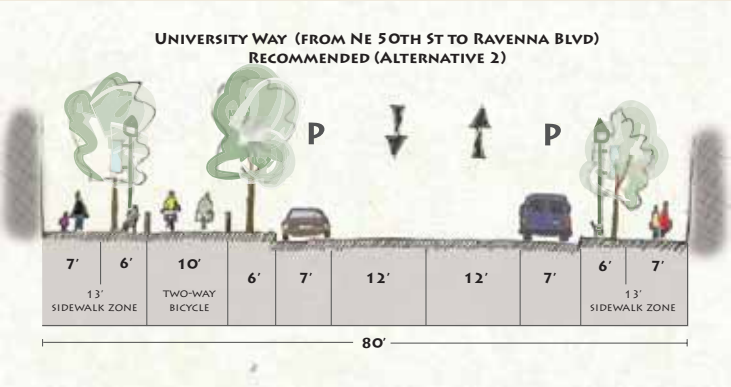
  (This alternative would allow the existing curb-to-curb roadway width to remain as it is.)

- **Street Design - Alternative 2**

  Reconstruct University Way NE from NE 50th St to 15th Ave NE to provide a dedicated two-way, 10-ft wide bicycle "sidepath" in addition to wider sidewalks, pedestrian lighting, and improved urban design. The "sidepath" would be on the west side of NE 50th St from the University Heights Center to Ravenna Blvd, which would provide a high-quality, dedicated bicycle facility from the heart of the University District to Greenlake without forcing users into mixed traffic.

  Provide in-lane transit stops to improve transit speed, reliability and comfort. With this alternative, there would be no conflict with bicycles and buses.

  (This alternative would require significant reconstruction of University Way due to the reconfiguration of roadway width.)



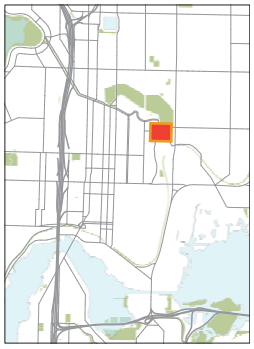
Phase 2 - Alternative 2

University Area Transportation Action Strategy

Ravenna Ave NE/NE 55th St Corridor

Traffic, Pedestrian & Bicycle Safety

Project # 10



Reconfigure corridor to provide curbs, gutters and sidewalks, and to delineate street corners to improve safety

Priority Rating: High
Cost Estimate: $1.2 million

Problems and Issues

- Where Ravenna Ave NE, NE 55th St, NE 54th St, 22nd Ave NE, and Ravenna Place NE come together is an awkward and confusing series of intersections.
- Poorly-defined street corners confuse some drivers and encourage others to speed.
- Long crossing distances and a lack of sidewalks create an extremely poor pedestrian environment and a gap in the bicycle network. The Bicycle Master Plan calls for improved connections to the adjacent off-street trail within Ravenna Park.

- NE Ravenna Place is designated as a Neighborhood Green Street.

Recommended Actions

- Reconstruct the geometries of the Ravenna Ave NE, NE 54th/55th St, 22nd Ave NE, & Ravenna Pl NE corridor with more regularized intersections and tighter corners, while maintaining sufficient curb radii for turning buses.
- Add new curbs, sidewalks, landscaping, and crosswalks to improve and delineate pedestrian facilities, and improve access for cyclists to and from the off-street, multi-use park trail at Ravenna Park.

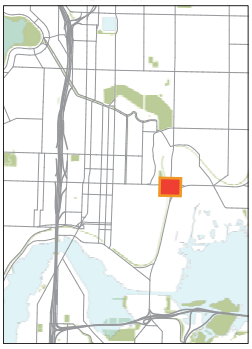
1. If phasing is needed, prioritize the narrowing/landscaping of NE Ravenna Pl at 55th St to help reduce the speeds and volume of right-turning vehicles headed southbound for 25th Ave. Consider angled back-in parking on Ravenna Place as an additional traffic calming measure.

University Area Transportation Action Strategy

NE 45th St Corridor & Burke Gilman Trail

Pedestrian and Bicycle Mobility & Safety

Project # 11



Construct a pedestrian and bicycle trail connection between NE 45th St and the Burke Gilman Trail to improve mobility and safety.

Priority Rating:	High
Cost Estimate:	$2.26 million

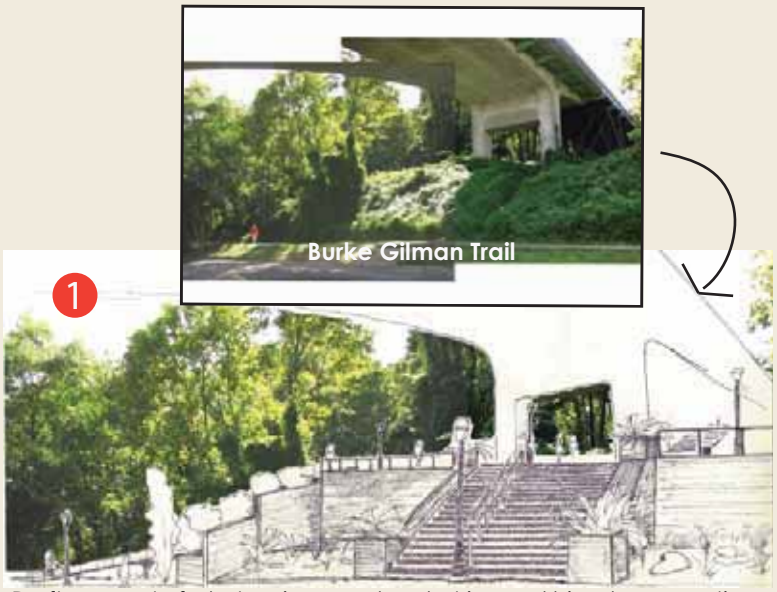
Problems and Issues

- The extremely long, narrow and uncomfortable environment along the NE 45th St viaduct is the only direct pedestrian or bicycle connection from the University campus and the heart of the University District to the University Village area.
- 1 An informal pedestrian trail currently exists under the viaduct, hinting there is a "latent demand" for improving pedestrian and neighborhood connections. Thick vegetation, steep grades, and public safety concerns, however, limit the widespread use and functionality of this area.
- Visual access to the natural area known as Kincaid Ravine and the potential for natural drainage enhancements make this area a "place-making" opportunity as well as a transportation opportunity.

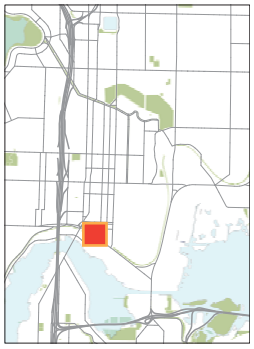
Looking east towards the NE 45th St viaduct with Kincaid Ravine on the right.

Recommended Actions

- 1 Construct a pedestrian path and bicycle trail under the NE 45th St viaduct to provide a direct connection between the UW Campus and business district along 45th St with the Burke Gilman Trail.
- Work with Seattle Public Utilities, the University of Washington, and perhaps the Parks Department on the design and funding of this project.
- Seek partnership with SDOT's partial replacement of the NE 45th St viaduct set for 2010 as a way to meet SDOT's adopted "Complete Streets" policy.



Draft concept of what an improved pedestrian and bicycle connection might look like.



Burke-Gilman Trail Crossing at Brooklyn Avenue NE

Pedestrian and Bicycle Safety

Project # 12

Realign trail and add a raised, colored crosswalk to improve safety.

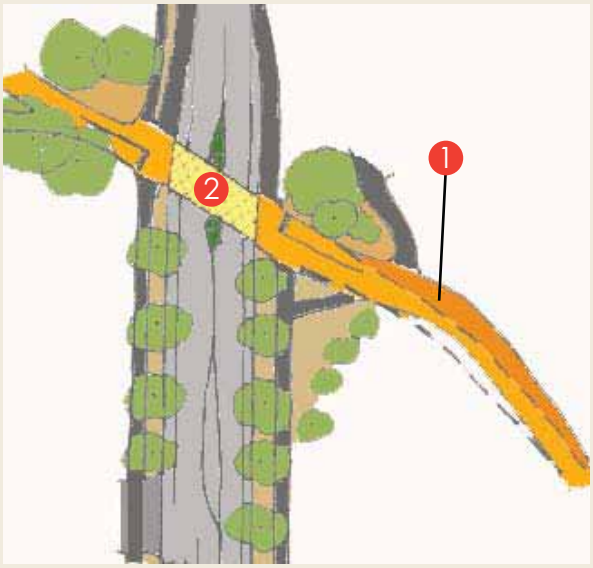
Priority Rating:	High
Cost Estimate:	$340,000

Problems and Issues

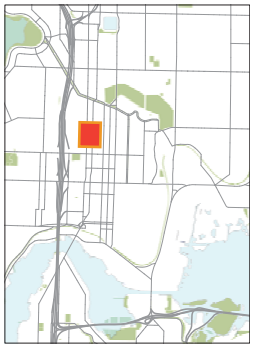
- The Burke Gilman Trail approaches Brooklyn Ave midblock at an angle, limiting sight distances and increasing the potential for bicycle/vehicle conflicts.
- Current safety warnings consist of a pedestrian crossing sign and a regularly striped crosswalk, which do not adequately indicate to drivers the importance of this is a heavily-used trail crossing.
- Brooklyn Ave is designated as a Neighborhood Green Street, which means that pedestrians and bicycles are given higher priority in street design and operations.

Recommended Actions

1. Modify the angle of the Burke Gilman Trail crossing and square off to Brooklyn Ave as much as possible to improve visibility and reduce crossing distances.
2. Add raised and colored crosswalk, roadway medians, specialized trail crossing signs, and pedestrian-scaled lighting to properly distinguish and improve the trail crossing.
- This project should be considered in conjunction with UATAS Project F, which could reprioritize traffic control to give trail users the right-of-way at the crossing with Brooklyn Ave.



University Area Transportation Action Strategy



Roosevelt Way/11th Ave NE & NE 55th St

Pedestrian Mobility & Safety

Project # 13

Install curb extensions to improve pedestrian safety.

Priority Rating:	High
Cost Estimate:	$43,000

Problems and Issues

- Traffic speeds and volumes are high for most of the day along the Roosevelt way NE and 11th Ave NE one-way couplet.
- 1 In order to cross safely, many pedestrians walk along the side of the road and jaywalk when a gap in traffic presents itself, or have to walk out of their way to reach a fully signalized intersection.

11th Ave NE at 55th St

- Pedestrians must cross 3 lanes of traffic during the peak periods, when parking restrictions add a curbside lane for traffic. These uncomfortable crossings limit pedestrian accessibility to a growing set of businesses along Roosevelt Way near NE 55th St.

Recommended Actions

1. Install curb extensions along the left-sides of Roosevelt Way NE and 11th Ave NE at NE 55th St to shorten pedestrian crossing distances and improve safety.

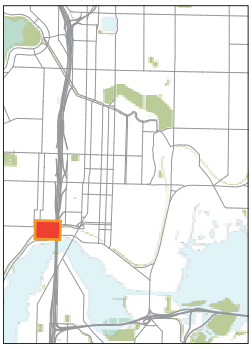
Roosevelt Way NE at 55th St

University Area Transportation Action Strategy

Burke Gilman Trail/NE 40th St to University Bridge

Bicycle Mobility & Safety

Project # 14



Improve connection from Burke Gilman Trail to the University Bridge by constructing bicycle lanes along Upper NE 40th St.

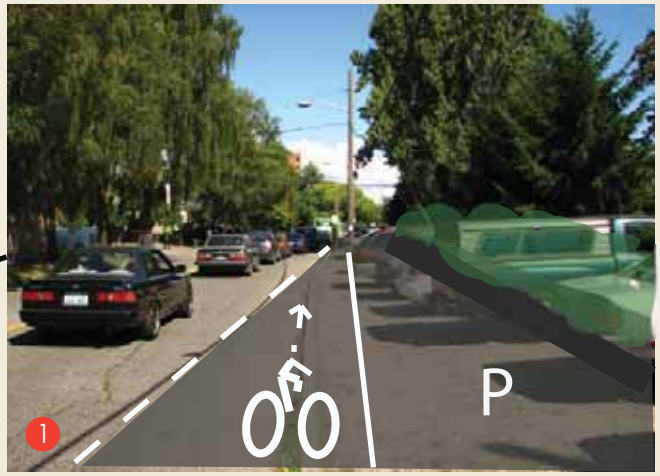
Priority Rating:	High
Cost Estimate:	$437,000

Problems and Issues

- The Burke Gilman Trail and the University Bridge are two of the most heavily utilized corridors for bicyclists, and critical components of the Urban Trails and Bikeways Network and the Lake Union Loop Trail.
- A poorly defined path of travel, various curbed barriers, and gravel shoulders with 90 degree parking on Upper NE 40th St create significant gaps in these trail systems.
- Eastbound to southbound bicyclists using the BG Trail and University Bridge must first mix with traffic along Upper 40th St and are then required to make an unprotected merge onto the bridge. The bicycle lane doesn't begin until much farther south on the bridge.

Recommended Actions

1. Add eastbound bike lane on NE 40th between University Bridge (Eastlake Avenue E) and 7th Avenue NE by reconfiguring 90-degree parking to parallel.
- Extend bicycle lane on west side of University Bridge northward to the intersection with NE 40th St to improve the safety and comfort of eastbound cyclists merging southbound onto the bridge.
- Reconstruct the crosswalk on lower NE 40th St to the east of the 7th Ave intersection; provide curb ramps with wide flares and improved geometries from the Burke Gilman Trail to upper NE 40th St.



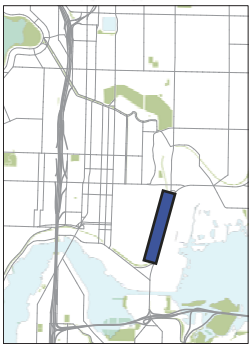
Upper NE 40th St to University Bridge with bike lane concept.

University Area Transportation Action Strategy

Montlake Boulevard NE

Transit and HOV Speed & Reliability

Project # 15



Extend HOV lane on southbound Montlake Blvd from NE Pacific Pl to 25th Ave NE to increase speeds of high-occupancy vehicles and encourage new transit service.

Partnership Project
Cost Estimate: $11.5 million

Problems and Issues

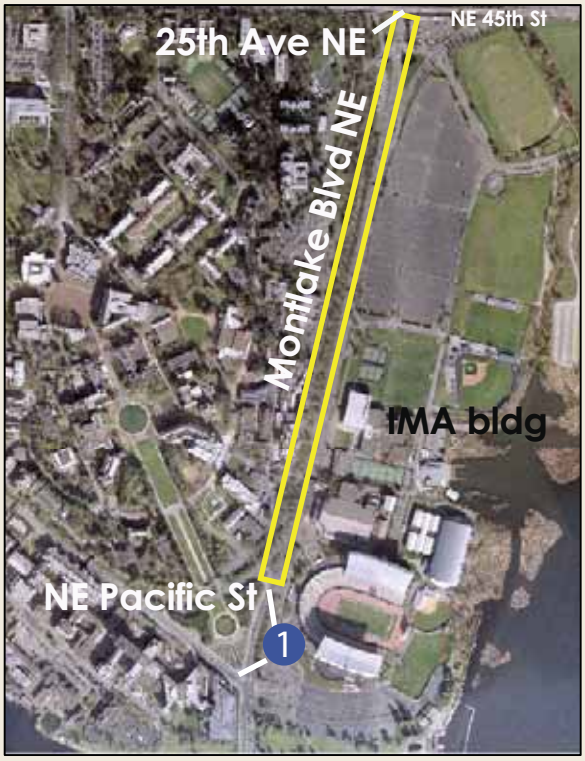
1. An HOV lane on Montlake Blvd southbound is provided for the short block between NE Pacific Pl and NE Pacific St to facilitate bus turns around the Rainier Vista triangle.

- Montlake Blvd (a state roadway) is highly congested; ***the average speed for southbound vehicles during the PM peak period is 3 miles per hour***.

- Due to traffic congestion, King County Metro cannot provide adequate transit service. Poor transit access to the University's Intramural Activities Building and the University Village was one of the most common complaints during the UATAS outreach process.

- Adding an HOV lane would require reconstruction of the existing pedestrian overpasses on Montlake Blvd, although at least one has been flagged as structurally deficient and needs replacement.

- Sound Transit's Husky Stadium Station and the planned HOV improvements to the SR 520 Bridge will only increase the value of HOV facilities in this area.



Recommended Actions

- Work with WSDOT and the UW to construct a southbound HOV lane from Pacific Pl. to 25th Ave NE to allow transit and high-occupancy vehicles to bypass general purpose congestion. Convert the existing short HOV segment to "Transit Only" to ensure HOV traffic does not impede bus turn-arounds.

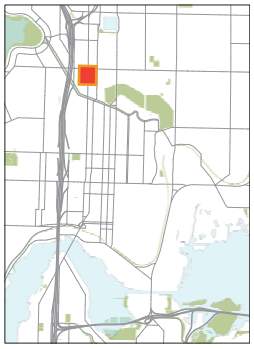
- Reconstruct pedestrian overpasses connecting the main campus with the east side of Montlake Blvd.

- Work with Metro and the UW to introduce transit service along the Montlake Blvd corridor. Ensure additional service enhances, not degrades, transit access to the University's main campus.

Constructing an HOV lane on Montlake Blvd would be an opportunity to replace aging infrastructure like this pedestrian bridge to the UW's IMA.

University Area Transportation Action Strategy

Project # 17



8th Ave NE between NE 64th and 65th St

Pedestrian Safety; Congestion Management

Construct curb extension, widen sidewalk, and provide northbound right-turn pocket to improve safety for pedestrians and vehicles.

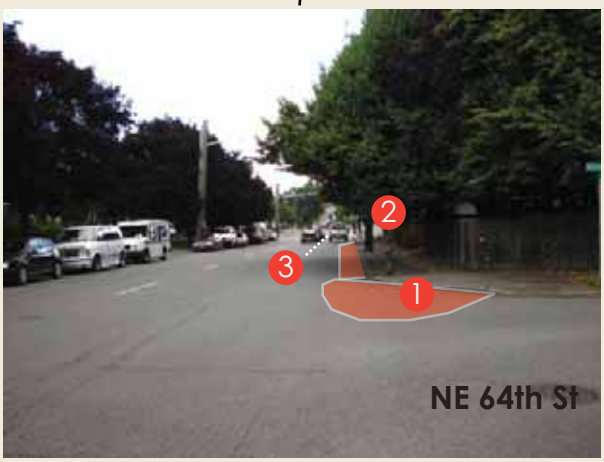
Priority Rating: High
Cost Estimate: $154,000

Problems and Issues

- 8th Ave NE is a wide two-lane arterial connecting the I-5 off ramp with NE 65th St. Pedestrians must cross the equivalent of 3 lanes of traffic.
- There is a large park-n-ride lot west of 8th Ave that generates a significant number of pedestrian crossings. This pedestrian connection will increase in volume and importance when Sound Transit's Roosevelt light rail station begins operation.
- Narrow sidewalks on the east side of 8th Ave limit pedestrian mobility and access to an adjacent bus stop.
- The lack of a delineated turning lane on 8th Ave may be hindering its full utilization by vehicles.

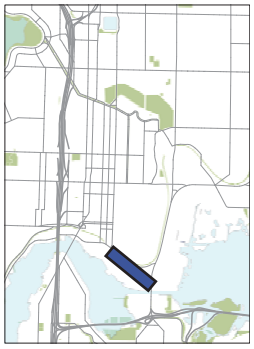
Recommended Actions

1. Construct a curb bulb at the 8th Ave NE /NE 64th St intersection.
2. Widen sidewalks on the east side of NE 8th Ave between NE 64th St and NE 65th St.
3. Re-stripe 8th Ave approach to NE 65th St to provide a northbound right-turn pocket.



University Area Transportation Action Strategy

Project # 18



NE Pacific St Corridor

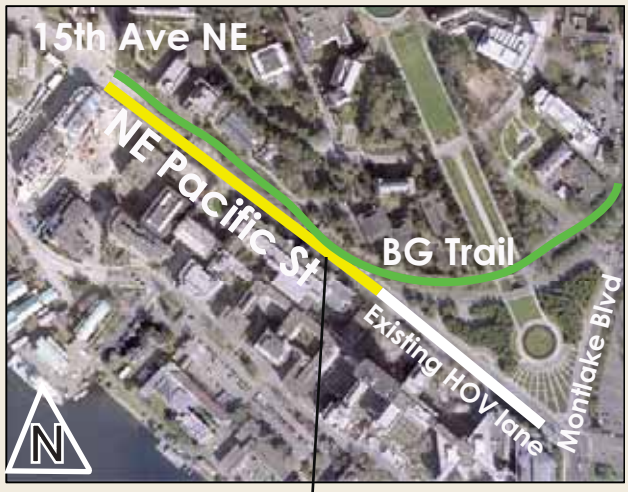
Transit Speed & Reliability; Corridor Planning

Extend existing eastbound HOV lane to 15th Avenue NE and widen Burke-Gilman Trail.

Partnership Project
Cost Estimate: $4.9 million

Problems and Issues

- Pacific Street is a major east-west transit corridor serving the University of Washington's south campus and health sciences facilities. About 92 buses travel eastbound on NE Pacific Street during the PM peak in the existing HOV lane.
- When Sound Transit completes the light rail station at Husky Stadium, and when additional HOV facilities are provided on the SR 520 Bridge, bus volumes and transfers on this street will increase.
- ***Vehicles on eastbound NE Pacific Street travel at an average of 6 mph during the PM peak hour, which is LOS F.***
- This project would provide an opportunity to widen and improve the Burke Gilman Trail, which may need additional person capacity with the opening of Sound Transit's Husky Stadium light rail station.

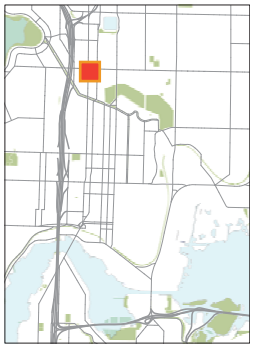


Recommended Actions

- Extend the HOV lane on eastbound NE Pacific Street from the existing end of the HOV lane at Pacific Place to 15th Avenue NE.
- 1 Pacific Street needs to be widened toward the north side to add the HOV lane. This will require the reconstruction of retaining walls and several small bridge spans related to the Burke Gilman Trail, providing an opportunity to widen and significantly improve both facilities.

University Area Transportation Action Strategy

Project # 19



Weedin Pl/8th Ave NE/NE 65th St

Pedestrian Mobility; Open Space & Urban Design

Close north end of Weedin Place to traffic and provide landscaping and other pedestrian amenities to encourage walking.

Priority Rating:	High
Cost Estimate:	$178,000

Problems and Issues

- This section of Weedin Place is a stop-controlled, diagonal street that connects NE 65th St to NE 66th St. It's function is somewhat redundant as turns from NE 65th St to 8th Ave are possible.
- 1 The City has discouraged use of Weedin Place by painting a wide curb bulb at the NE 66th St corner and limiting traffic to one lane.
- Weedin Place creates extra gaps in the sidewalk network along NE 65th and NE 66th St, & slices through several commercially-zoned parcels limiting their potential to redevelop. It is also a cost-effective opportunity to implement recommendations from the Roosevelt Neighborhood Plan, including R-EDS3: "Coordinate and support the creation and maintenance of consistent, signature street treatments within the commercial core and at gateway entry points to the neighborhood."

Recommended Actions

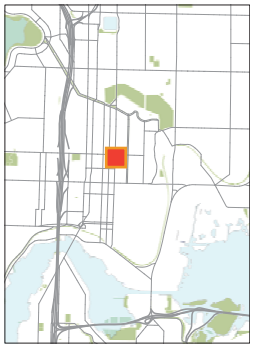
- 2 Close Weedin Place to vehicles where it meets 8th Ave NE at NE 66th St. Provide new sidewalks, landscaping, benches, and public art to create a pocket park and neighborhood gateway.
- Consider vacating the remaining portion of Weedin Pl between 65th and 66th St if neighborhood support exists; maintain property and service access by developing a new alley off of 8th Ave NE.
- If partial closure cannot be supported, construct a landscaped curb bulb to replace the pedestrian striping at 66th St.

University Area Transportation Action Strategy

NE 50th St/15th Ave NE

Vehicle Safety

Project # 20



Provide left-turn pockets and/or modify signal operations, and restrict parking to improve safety.

Priority Rating:	High
Cost Estimate:	$172,000

Problems and Issues

- This intersection has the highest collision rate in the study area,* based on number of collisions vs. traffic volumes over a 3-year period.
- Left-turning vehicles from NE 50th St do not have a "protected" signal phase, and due to the steep slope of the roadway drivers may be failing to see on-coming vehicles.
- Because parking is allowed close to the 15th Ave intersection, drivers trying to bypass left-turning vehicles are potentially making unsafe maneuvers through tight spaces.

* While the highest in the study area, the overall number of crashes and rate remain relatively low compared to numbers citywide.

Recommended Actions

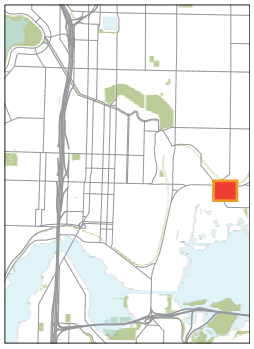
1. Add left-turn pockets, provide exclusive left-turn phase, or eliminate left-turns for eastbound and westbound vehicles on NE 50th St.
2. Extend no parking zones for longer distances from the corners of the 15th Ave NE/ NE 50th St intersection.

University Area Transportation Action Strategy

36th Ave NE/Burke Gilman Trail

Bicycle & Pedestrian Mobility

Project # 21



Create new ramp connection between 36th Ave NE at NE 45th St with Burke Gilman Trail to improve bicycle mobility.

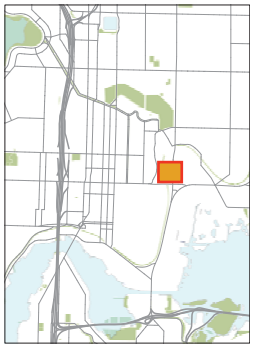
Priority Rating:	High
Cost Estimate:	$82,000

Problems and Issues

- The Bicycle Master Plan's Recommendations for Key Corridor and Focus Areas includes the following (#5): "Identify best connection between trail on east side of UW Campus and Burke-Gilman Trail (across Union Bay Place NE)." This connection will improve access to and from the waterfront/Ship Canal Trail and will be increasingly important as the area continues to grow.
- The elevation of the trail adjacent to Union Bay Place NE and the long signal cycle at the 5-way intersection with NE 45th St limit the feasibility of a worthwhile trail connection at Union Bay Place NE.
- NE 36th Ave at NE 45th St is a signalized intersection and has enough surplus right-of-way to construct a bicycle ramp adjacent to the existing set of stairs.

Recommended Actions

1. Provide a new bicycle ramp with access to the Burke Gilman Trail from the 36th Ave NE street end.
- Include signage connecting the Burke Gilman Trail to the Ship Canal Trail via NE 36th Ave and NE 41st St.



University Area Transportation Action Strategy

Burke Gilman Trail/NE 47th St/University Village

Bicycle and Pedestrian Mobility & Safety

Project # 22

Create new pedestrian connections along the NE 47th St right-of-way, and realign intersections along 25th Ave, to improve mobility for all modes.

Priority Rating:	High
Cost Estimate:	$895,000

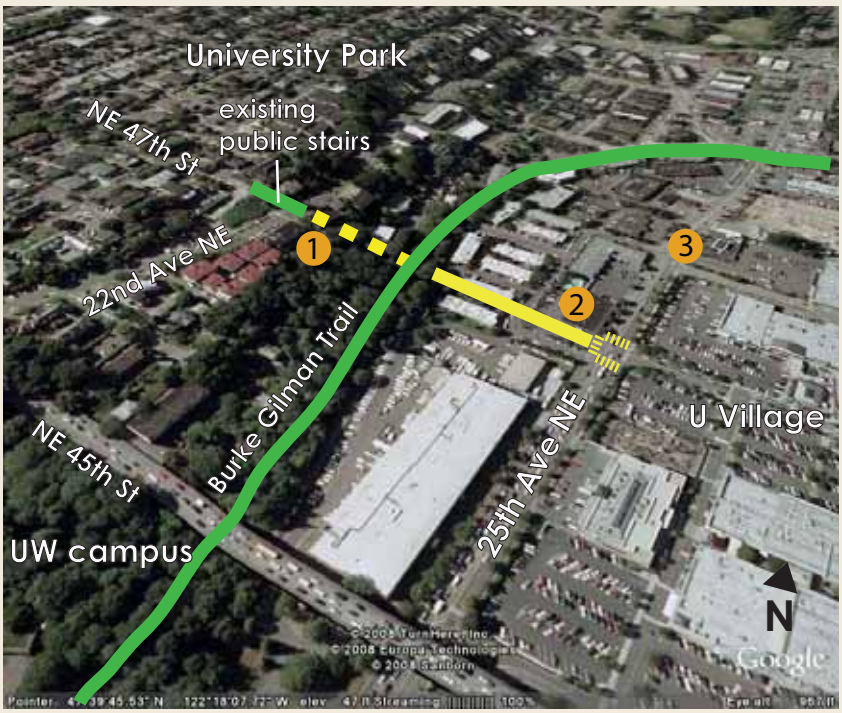
Problems and Issues

- A steep hillside separates the University Park neighborhood from the University Village shopping area. Neither the Burke Gilman Trail nor existing public stairs provide a direct pedestrian connection.
- The major access 'roads' to/from the University Village are not aligned with NE 47th and NE 49th Streets across from 25th Ave NE. This increases traffic congestion and reduces pedestrian comfort and safety.
- The area between the Burke Gilman Trail and 25th Ave NE is projected to intensely redevelop by 2030. A plan that improves trail connections and simplifies vehicle circulation patterns is needed.

Currently, trail users cannot directly access NE 47th St and the University Village due to a guardrail, University parking facilities, and the lack of a paved connection.

Recommended Actions

1. Create a new pedestrian connection from 22nd Ave NE to the Burke Gilman Trail. Upgrade the existing public stairs along NE 47th St to provide a direct pedestrian connection from University Park to the Burke Gilman Trail.
2. Work with the University and other adjacent property owners to realign NE 47th St with the University Village entrance on 25th Ave NE; create a 4-way signalized intersection with crosswalks.
3. Pursue additional opportunities to consolidate curb cuts and simplify intersections along 25th Ave NE, such as at NE 49th St where there are multiple retail entrances.

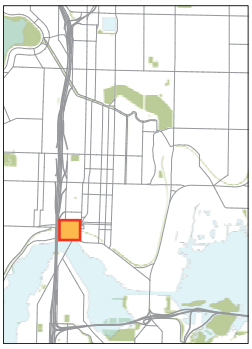


University Area Transportation Action Strategy

7th Ave NE and NE 40th St

Congestion Management & Safety for All Modes

Project # 23

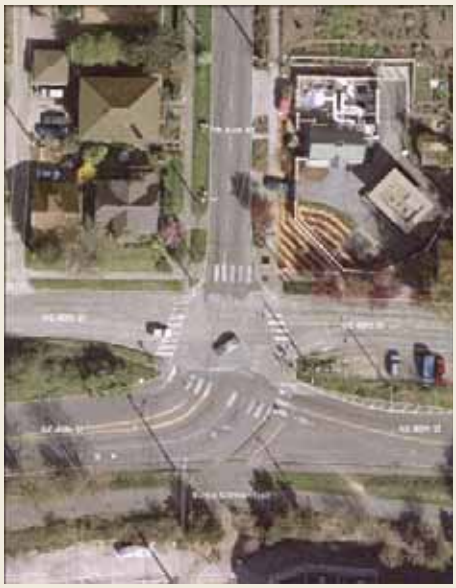


Construct a roundabout to improve traffic flow and reduce conflicts for all modes.

Priority Rating:	Medium
Cost Estimate:	$1.13 million

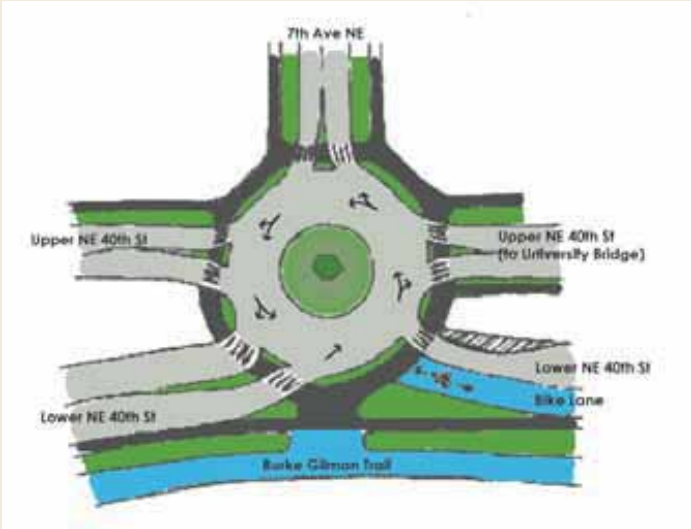
Problems and Issues

- This is a 5-legged intersection with all-way stops for traffic control. Lower NE 40th St is one-way westbound, with the other lane a dedicated two-way bicycle facility.
- During the PM peak, this intersection is operating at level of service (LOS) F with an average 93 sec delay. Vehicles from westbound lower NE 40th St experience the longest delays.
- It is projected that this intersection without improvements would operate at LOS F with an average 152 seconds of delay in 2030.
- At a juncture between the University Bridge and Burke Gilman Trail, bicycle and pedestrian improvements at this intersection would greatly contribute to the Urban Trails and Bikeways Network.

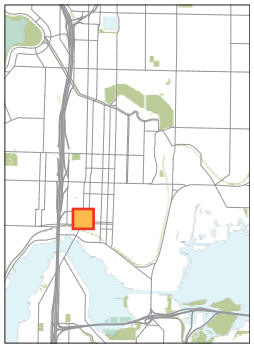


Recommended Actions

- Construct a roundabout and improve the approach roadways at the 7th Ave NE/NE 40th St intersection. Ensure that the design accommodates bus turning movements.
- Together with UATAS project #14, which focuses on improved connections between the Burke Gilman Trail and the University Bridge, this project would provide a comprehensive, multi-modal upgrade to the west University Bridge approach.



University Area Transportation Action Strategy



11th Ave NE/Eastlake Ave and NE 41st St

Pedestrian Safety

Project # 24

Install pedestrian-actuated signal, and upgrade sidewallks and crosswalks to improve safety.

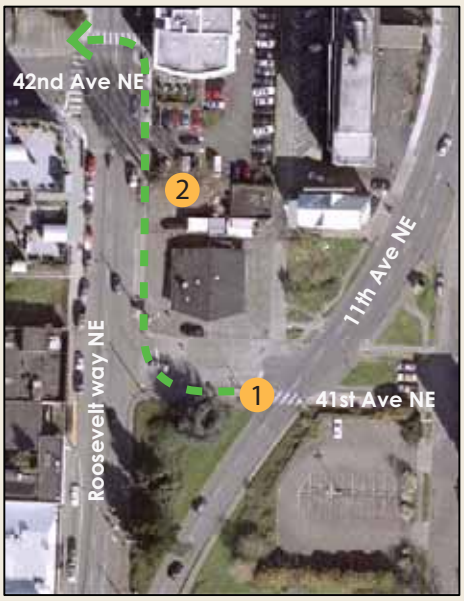
Priority Rating:	Medium
Cost Estimate:	$242,000

Problems and Issues

1. A marked crosswalk without traffic control is provided at the crossing of 11th Ave NE/Eastlake Ave at NE 41st St.

- Many pedestrians do not feel safe crossing this unsignalized intersection due to high speeds and volumes of northbound traffic. The curving of the road which marks the transition from Eastlake Ave E to 11th Ave NE also reduces the visibility for pedestrians.

2. Full pedestrian crossing of the Roosevelt Way/11th Ave NE couplet includes use of the NE 42nd St/Roosevelt Way crosswalk, which is a signalized "T" intersection.

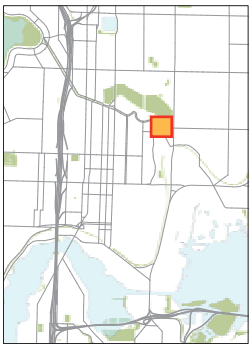


Recommended Actions

- Install a pedestrian-actuated signal at the intersection of 11th Ave NE and NE 41st St to stop traffic for crossing pedestrians.

- Provide upgrades to adjacent sidewalks and wayfinding to help navigate the full crossing of the Roosevelt Way/11th Ave couplet.

University Area Transportation Action Strategy



Ravenna Ave NE/55th Ave/Ravenna Park

Bicycle and Pedestrian Mobility & Safety

Project # 25

Improve off-street mutli-use trail parallel to Ravenna Ave NE to improve pedestrian & bicycle mobility and safety.

Priority Rating:	Medium
Cost Estimate:	$423,000

Problems and Issues

1. Ravenna Ave to the Burke Gilman Trail is a popular bicycle connection that lacks adequate facilities. The Bicycle Master Plan recommends constructing a northbound bicycle climbing lane.

- There is not sufficient roadway width to provide 2 traffic lanes and a 5-foot climbing lane. The BMP recommendation would require roadway widening and could be prohibitively expensive.

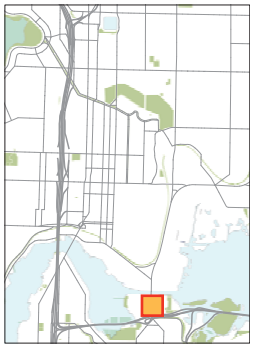
2. An effective, less expensive solution is to provide a trail within Ravenna Park that runs parallel to Ravenna Ave NE.

Recommended Actions

1. Provide off-street bicycle and pedestrian trail at Ravenna Park from 55th Ave NE to Ravenna Blvd with improved surfacing, lighting, and signage. This will likely involve working with the Parks Department on cost-sharing and maintenance strategies.

2. Upgrade crosswalks and sidewalks that connect the off-street trail to the street network.

- Together with UATAS project #10, this project provides a comprehensive, multi-modal upgrade to the street network.



Montlake Boulevard E and E Hamlin St

Congestion Management & Vehicle Safety

Project # 26

Extend northbound left/U-turn lane at E Hamlin St to reduce congestion on Montlake Boulevard.

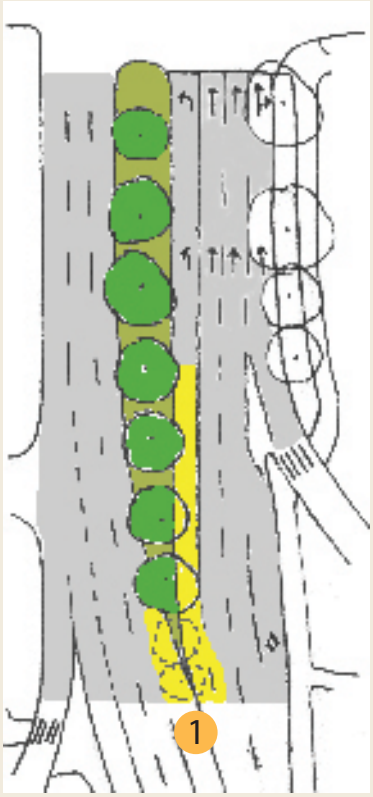
Priority Rating:	Medium
Cost Estimate:	$72,000

Problems and Issues

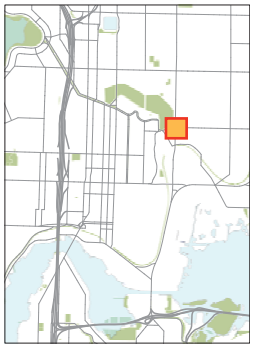
- The existing U-turn lane on Montlake Blvd is the principle turn for northbound vehicles accessing State Route 520.
- 1 The turn lane is currently not long enough to store the vehicles wanting to access SR 520. Vehicles regularly spill back into the through-lane and block northbound traffic.
- While the replacement of the 520 Bridge is expected to cause major road revisions in the near future, there are low-cost improvements that can and should be done now to improve traffic flow.

Recommended Actions

1. Add vehicle storage capacity to the existing northbound left/U-turn on Montlake Blvd at E Hamlin St by removing part of the median.
- Work with the Washington State DOT to gain approvals for this project, which is technically in state-owned right-of-way.
- Additional congestion management can be achieved along Montlake Blvd by asking WSDOT to add a sign on SR-520 directing westbound-to-southbound drivers to utilize the Lake Washington Blvd exit, which is a more direct route than using Montlake Blvd.



University Area Transportation Action Strategy



25th Ave NE/NE 55th St

Congestion Management & Safety for All Modes

Project # 27

Provide northbound and southbound left-turn pockets to reduce congestion and improve safety.

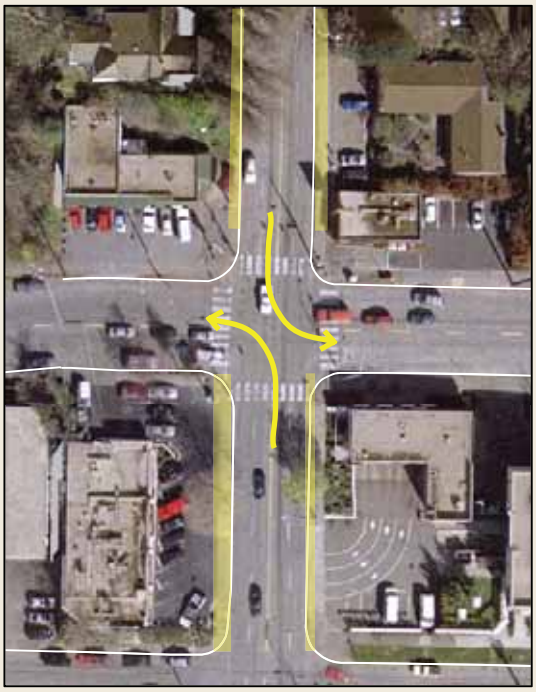
Priority Rating:	Medium
Cost Estimate:	$849,000

Problems and Issues

- This intersection has one of the highest collision rates of the study area, based on number of crashes and traffic volume.
- There is high demand for northbound and southbound left turns but they are not currently "protected."
- Making this intersection more attractive to drivers travelling to and from Ravenna Blvd could help reduce traffic (and thus vehicle/bicycle/ped conflicts) at the Burke Gilman Trail crossing at NE Blakely St/25th Ave NE.

Recommended Actions

- Provide left-turn pockets on 25th Ave NE at NE 55th St; 25th Ave will need to be widened near the intersection to provide enough room.

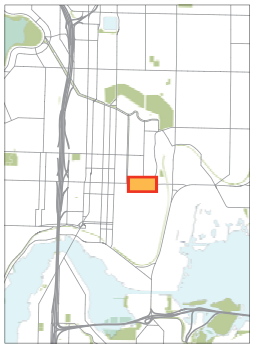


University Area Transportation Action Strategy

NE 45th St from 18th to 22nd Ave NE

Pedestrian Mobility & Safety

Project # 28



Widen sidewalks and install landscaped pedestrian refuge islands to improve pedestrian capacity and safety

Priority Rating:	Medium
Cost Estimate:	$1.4 million

Problems and Issues

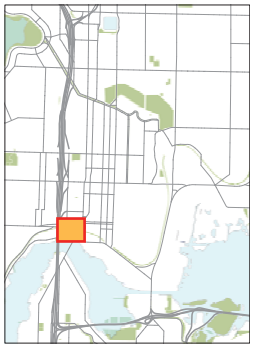
- NE 45th St is a principal arterial connecting the north University campus area with the business district and the east campus. Pedestrian volumes are high, especially north-south.
- This section of NE 45th St has narrow sidewalks, particularly on the north side, and fails pedestrian performance measures for width (LOS F) as established by UATAS.
- Sidewalks on both sides of the street are narrow. However, right-of-way constraints - and the potential for an improved pedestrian connection from the south side of NE 45th St underneath the NE 45th St Viaduct (see UATAS Project #11) - make focusing on the south side of the street (and connections to it) the most feasible and appropriate option for improving pedestrian safety and connectivity.

Recommended Actions

1. Widen sidewalks on south side of NE 45th St from 18th Ave NE to 22nd Ave NE. This improvement will be particularly valuable if a new pedestrian connection is established from NE 45th St to the Burke Gilman Trail as part of the NE 45th St Viaduct replacement project slated for 2009-2010.
2. Install landscaped pedestrian refuges on NE 45th St at 18th Ave and 20th Ave by replacing the 'dead spaces' where center turn lanes are not needed.

- When parcels redevelop on either side of 45th St, the City should require additonal setbacks for wider sidewalks.

University Area Transportation Action Strategy



Northlake Way Corridor

Pedestrian, Bicycle and Transit Mobility & Safety

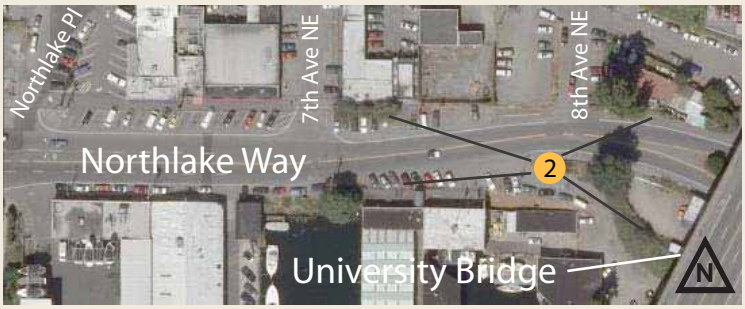
Project # 29

Reconstruct Northlake Way; add sidewalks and landscaping, upgrade bus stops, and provide off-street shared use path to improve mobility and safety

Priority Rating: Medium
Cost Estimate: $1.62 million

Problems and Issues

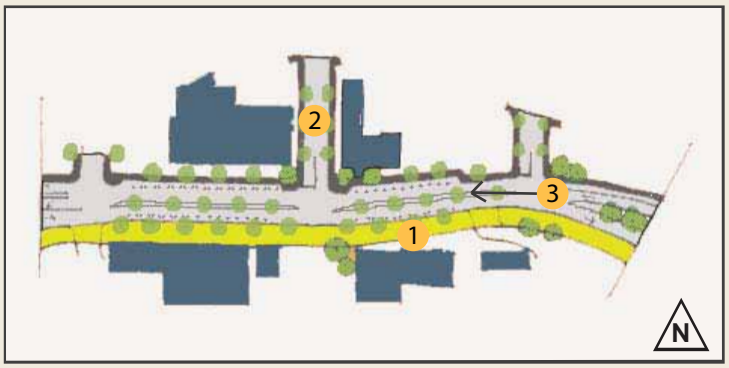
- Community plans call for new sidewalks and street trees in this area. Northlake Way is also a key section of the proposed Lake Union loop trail, which is in the Bicycle Master Plan and the Parks Foundation's 'Bands of Green' report.
- 1 This area currently lacks continuous sidewalks and well-defined pedestrian and bicycle facilities.
- 2 Underutilized and/or unregulated public rights-of-way provide ample opportunities to improve all modes, introduce more sustainable infrastructure, and activate the waterfront edge.
- Northlake Way is classified as a major truck street, and many adjacent properties are currently zoned for industrial use.



Recommended Actions

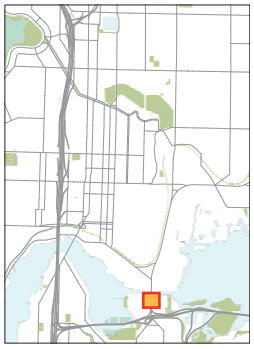
1. Reconstruct Northlake Way from University Bridge to 6th Ave NE. Shift roadway configuration to the north to provide an off-street shared-use trail from NE Boat St westward along the waterfront side.
2. Provide continuous sidewalks with street trees on the north side of Northlake Way, and along 7th and 8th Ave NE to Northlake Place.
3. Remove 90-degree parking to allow for an extension of the current landscaped center median on NE Pacific St to Northlake Way. Develop a comprehensive plan to manage parking by 2012.

- Maintain freight and business access. Consider potential impacts and/or changes to industrial lands as area is improved.



- Upgrade bus stops (covered seating, lighting, in-lane stops, etc.), and consider east-west transit improvements such as additional service hours and new connections as area develops and light rail operation begins.

University Area Transportation Action Strategy



Montlake Boulevard NE / NE Shelby St

Pedestrian & Bicycle Mobility, Safety for All Modes

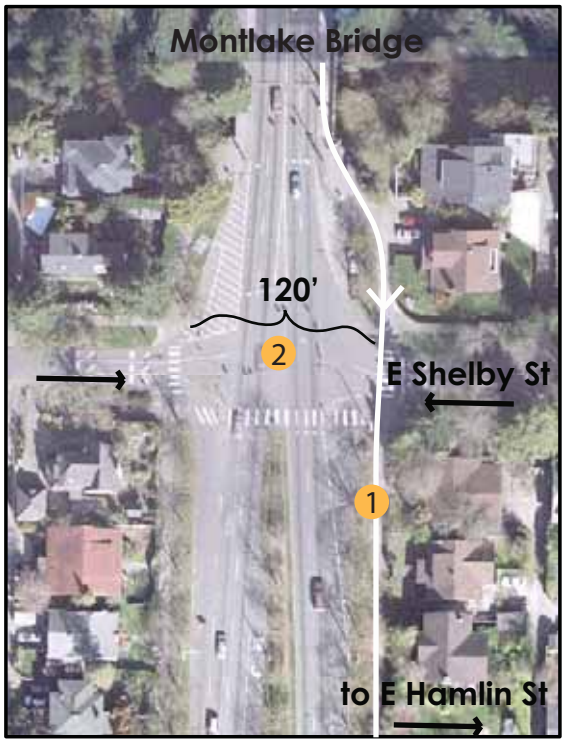
Project # 30

Narrow intersection, add bike lanes and widen sidewalks to improve safety. (Phase 2 of 2 - see Project #D)

Priority Rating:	Medium
Cost Estimate:	$785,000

Problems and Issues

- This intersection is a key connection in the designated Urban Trails and Bikeways Network, providing access over the Montlake Bridge from several major bicycle corridors.
- 1 E Shelby St and E Hamlin St are a one-way couplet. The majority of cyclists from Montlake Bridge are heading to Lake Washington Blvd from the east side of the bridge, and are forced onto the sidewalk for a full block before accessing Hamlin St, the signed eastbound route.
- 2 The intersection is wide with some painted stripes to reduce perceived width. Sidewalks are narrow, curb ramps are non-compliant, nighttime visibility is poor, and no bicycle facilities are provided.
- Whichever design is chosen, the 520 Bridge Replacement Project will provide an opportunity to redesign this intersection.



Recommended Actions

- Reconstruct intersection with tighter curb radii, wider sidewalks, and bicycle-friendly ramps.
- Provide a southbound bike lane from Montlake Bridge to SR 520.
- Improve the southbound bicycle connection from the east side of Montlake Bridge. Provide contra-flow bicycle lane or shared-use path to Hamlin St, or consider reversing direction of one-way couplet.
- Add pedestrian-scaled lighting to improve night-time visibility.

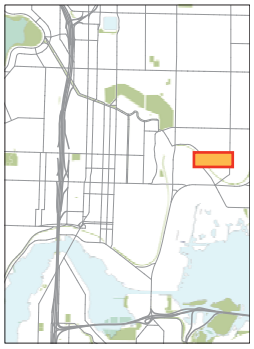
A more detailed design concept including the recommended actions should be completed when the SR 520 interchange location is decided as part of the WSDOT 520 Bridge Replacement Project.

University Area Transportation Action Strategy

NE 50th St / 30th Ave to 35th Ave NE

Pedestrian Safety

Project # 31



Complete sidewalk along south side of roadway and provide traffic calming devices to reduce vehicle speeds and improve pedestrian safety.

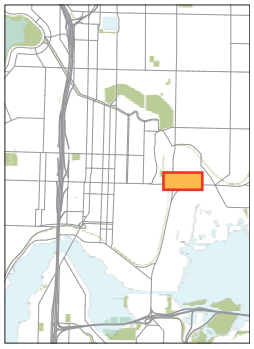
Priority Rating:	Medium
Cost Estimate:	$390,000

Problems and Issues

- NE 50th St between 30th and 35th Ave NE is a non-arterial residential street, bordered for most of its north side by a cemetary. Drivers often cut-through to avoid congested NE 45th St and travel at excessive speeds.
- Gaps in the sidewalk exist for several blocks along the south side of the street, while the north side is an unimproved shoulder with an earth embankment and parking toward the cemetary corners.

Recommended Actions

- Extend sidewalks along south side of street to provide a continuous off-street pedestrian path.
- Prioritize NE 50th St for the installation of traffic calming devices such as chicanes, speed humps, and"woonerf"-style alternating on-street parking.



Montlake Blvd/NE 45th St Corridors

Congestion Management

Project # 32

Install variable message signs in the vicinity of the Montlake Blvd/NE 45th St intersection to relay real-time traffic information.

Priority Rating:	Medium
Cost Estimate:	$728,000

Problems and Issues

- Traffic on Montlake Blvd southbound and on NE 45th St eastbound during peak periods is heavily-congested; drivers generally expect long delays. On the shoulders of the peak, and during off-peak hours, however, drivers may be unsure which route is faster to get to Interstate-5 and other destinations.
- Traffic cameras in this area linked to the internet are consistently the most-viewed cameras from SDOT's webpage, indicating a strong demand for real-time information.
- Better information can reduce vehicle trip times, improve safety around construction zones, and more efficiently distribute vehicles over the roadway system.

A rare moment of calm looking south along Montlake Blvd. But what will it look like up ahead?

Recommended Actions

- Install variable message signs before Montlake Blvd on southbound 25th Ave NE and westbound NE 45th St to inform drivers of heavy delays and average trip times.
- Signs could play a big role in alerting drivers to delays and re-routings related to the SR 520 Bridge Replacement Project.

University Area Transportation Action Strategy

I-5/NE 45th St Interchange

Congestion Management

Project # 33

Provide additional lane on southbound I-5 on-ramp at NE 45th St to reduce vehicle delay.

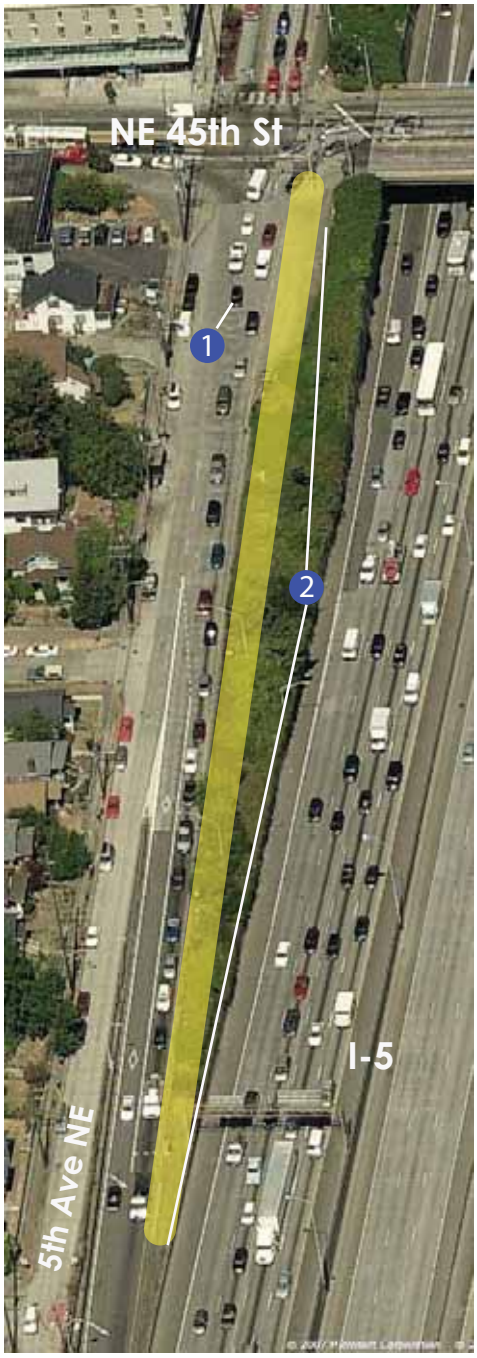
Partnership Project
Cost Estimate: TBD

Problems and Issues

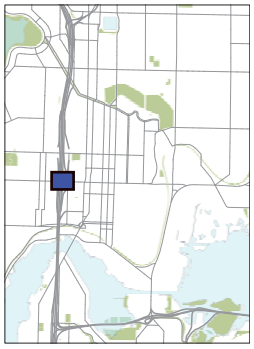
- The lack of adequate vehicle storage capacity on the I-5 on-ramp causes significant delays to traffic on NE 45th St.
- 1 Because there is only one general purpose lane on the I-5 on-ramp, single-occupant drivers do not use both westbound left turn lanes onto I-5 from NE 45th St. When they do, they turn into the HOV bypass lane and must merge left, blocking the lane for carpoolers.
- There is sufficient right-of-way so that an additional on-ramp lane can be added relatively easily.

Recommended Actions

- 2 Add a lane to the southbound I-5 on-ramp from NE 45th St. This would provide two general prupose on-ramp lanes and an HOV bypass lane.
- Modify the ramp meter to accommodate the 2 general purpose lane approach.



Project # 34



I-5/NE 45th St Overpass

Pedestrian & Bicycle Mobility; Congestion Mangement

Widen NE 45th St/I-5 overpass to reduce vehicle delays and incorporate better sidewalks and bike lanes

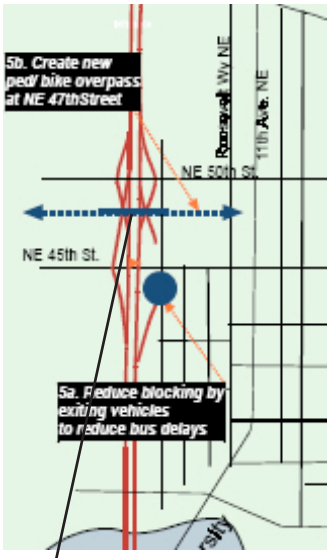
Partnership Project
Cost Estimate: TBD

Problems and Issues

- The lack of adequate westbound-to-southbound left-turning vehicle storage capacity causes significant delay to east-west traffic movements on NE 45th St.
- The existing overpass does not provide adequate pedestrian and bicycle connections across I-5.
- 1 The Bicycle Master Plan, the 2002 UATS report, and adjacent neighborhood plans call for a new shared-use overpass at NE 47th St. Such an action may be prohibitively expensive.

Recommended Actions

- Widen NE 45th St/I-5 overpass to accommodate lengthened left-turn lanes towards on-ramp, widened sidewalks with landscaping, and bike lanes. Consider as part of any major I-5 reconstruction efforts.



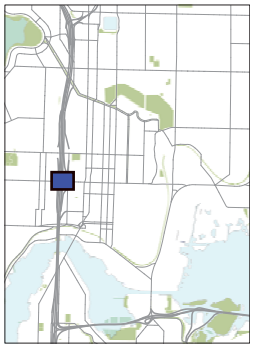
1 The need to improve east-west pedestrian and bicycle connectivity over I-5 has been a long-standing concern of the area. The 2002 University Area Transportation Study (top) and the 2007 Bicycle Master Plan (above) both call for a new I-5 overpass at NE 47th St. If such a project is not considered feasible due to cost concerns, WSDOT must consider a widening and enhancement to the NE 45th St overpass as part of any major new project on I-5.

University Area Transportation Action Strategy

I-5/NE 45th St Interchange

Congestion Management

Project # 35



Provide additional northbound on-ramp from 7th Ave NE to reduce vehicle delay.

Partnership Project
Cost Estimate: TBD

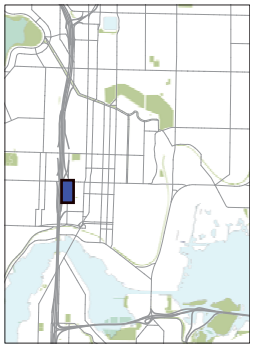
Problems and Issues

- NE 45th St, a key east-west vehicle and transit corridor, is heavily-congested during most of the day. A significant source of delay are vehicles looking to access Interstate 5.
- Inadequate vehicle storage capacity of the I-5 northbound on-ramp forces traffic spillovers back onto NE 45th St. Vehicles waiting to access I-5 from the westbound 45th St curb lane often slow east-west through traffic.
- There is sufficient right-of-way to provide additional storage capacity for the north-bound I-5 on-ramp, which would reduce spillovers onto NE 45th St and improve levels-of-service.

Recommended Actions

1. Add a lane to the northbound I-5 on-ramp from NE 45th St.
- Modify ramp meter to accommodate a two-lane ramp approach.

Project # 36



7th Ave NE/I-5 off-ramp at NE 45th St

Transit Speed & Reliability

Provide transit queue bypass lane to improve transit speeds & reliability.

Partnership Project
Cost Estimate: TBD

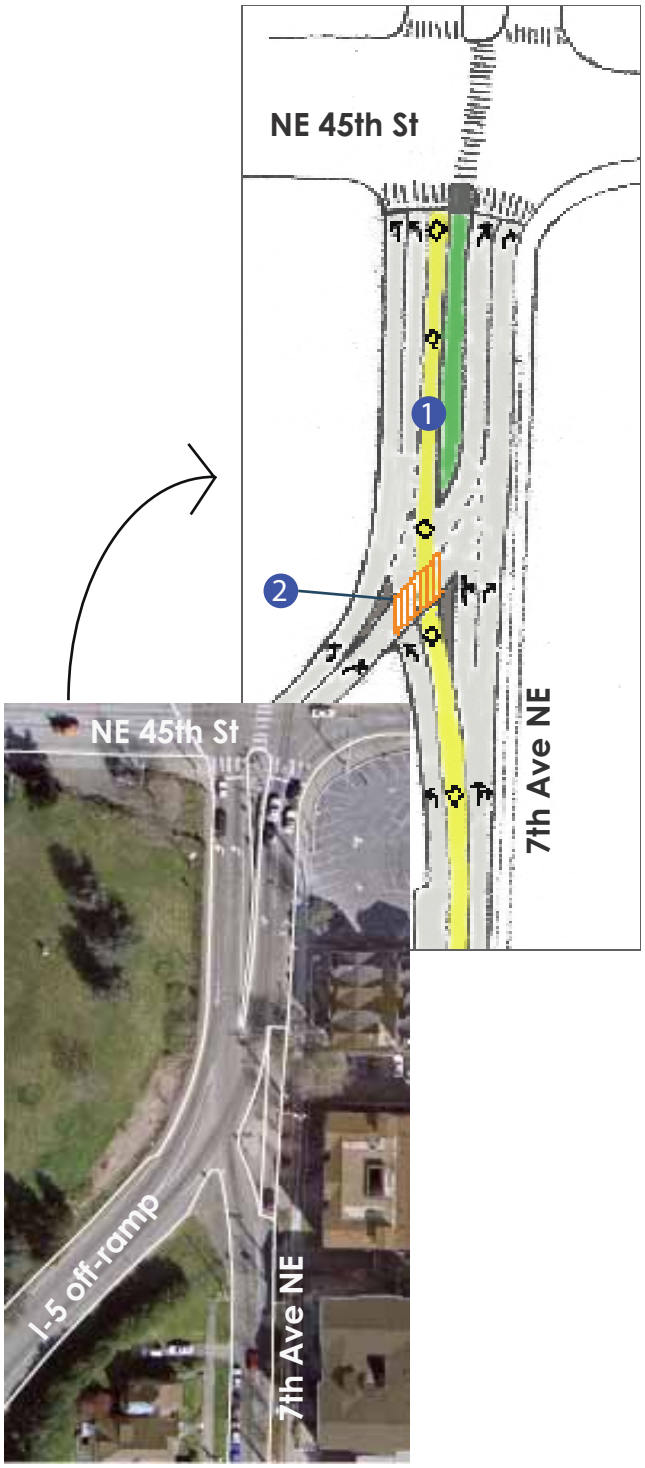
Problems and Issues

- 7th Ave NE is a northbound one-way arterial street. The I-5 northbound off-ramp approaching NE 45th St is not signalized as it crosses 7th Ave, while 7th Ave is controlled by a stop sign. This intersection performs poorly in the peak periods.
- Traffic backups on the NE 45th St I-5 off-ramp sometimes block the intersection with 7th Ave.
- Transit vehicles (28 buses in the AM peak and 22 in the PM peak) experience severe delays getting through this intersection and the intersection at NE 45th St.

Recommended Actions

1. Construct a transit queue bypass lane on northbound 7th Ave NE south of NE 45th St.
2. Create a clearly delineated intersection with the I-5 northbound off-ramp, improving pavement markings and signage that indicate to drivers not to block the intersection.

- This project will provide significant time savings to peak period transit. Potential negative impacts include increased I-5 off-ramp congestion and some parking removal along 7th Ave.
- The need for this project will greatly diminish once light rail service is established to and from Northgate. WSDOT and the City should prioritize the implementation of this project in order to maximize the accrued benefit to existing transit service.

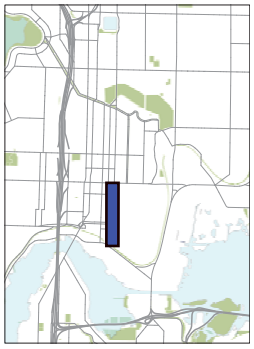


University Area Transportation Action Strategy

15th Ave NE Corridor

Multi-Modal Corridor Planning; Urban Design

Project # 37



Conduct a corridor study in cooperation with the UW and King County Metro to improve pedestrian and transit facilities, manage congestion, & improve urban design.

Partnership Project
Cost Estimate: TBD

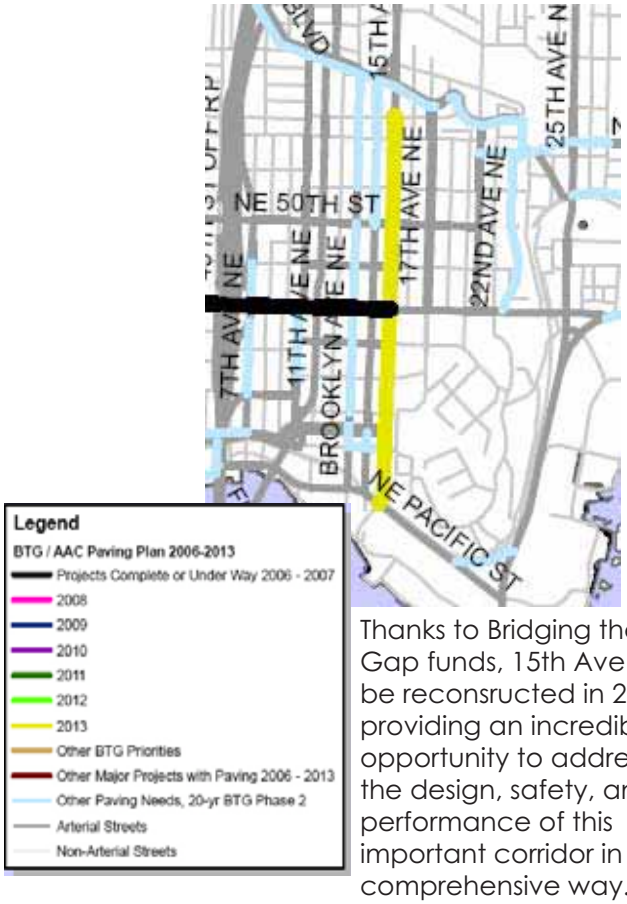
Problems and Issues

- 15th Ave NE carries a high volume of pedestrian, transit, and vehicle traffic - all of which are forecasted to increase.
- Existing pedestrian facilities are generally substandard, particularly the sidewalk and connection with campus on the east side of the street.
- The lifting of the University 'lease lid' and expected development of light rail at Brooklyn Ave, as well as increased employment and housing densities, all contribute to the importance of improving east-west connections across 15th Ave.
- Forecasted increases in north-south vehicle and transit volumes - especially if an interchange north of Montlake is chosen for the 520 Bridge Replacement Project - will only heighten the need to comprehensively manage all of the demands placed on 15th Ave NE.

Forecasted increases in transit and new development, such as the William Gates Hall Law Center (above), will only continue to place pressure for improving 15th Ave NE for all modes.

Recommended Actions

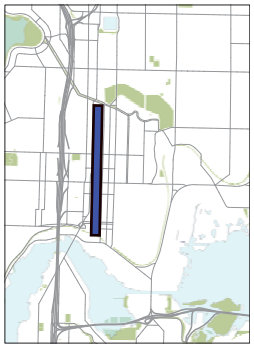
- Conduct a corridor study in conjunction with the University of Washington and King County Metro to develop improvement concepts and implementation strategies for 15th Ave NE. Focus particularly on the east side of the street where the roadway and west campus edge intersect.
- Improvement concepts developed by this study should be considered in conjunction with SDOT reconstruction of 15th Ave NE scheduled for 2013 or for mitigation related to the SR 520 Bridge Replacement Project.



Thanks to Bridging the Gap funds, 15th Ave will be reconsructed in 2013, providing an incredible opportunity to address the design, safety, and performance of this important corridor in a comprehensive way.

University Area Transportation Action Strategy

Project # 38



Brooklyn Ave NE Corridor

Multi-Modal Corridor Planning; Streetscape Design

Develop a streetscape concept plan and implementation strategy to encourage coordinated urban design/sustainable infrastructure, and to leverage development activities.

Partnership Project
Cost Estimate: TBD

Problems and Issues

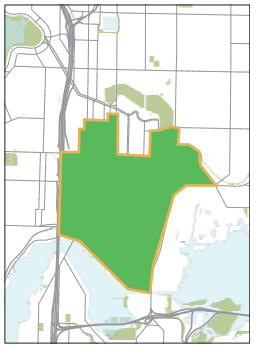
- Brooklyn Ave from Ravenna Park to NE Boat St is designated as a Neighborhood Green Street and has long been considered a key bicycle route. UATAS analysis has identified adding bicycle sharrows and widening sidewalks north of 50th St as recommended projects.
- More than adequate right-of-way provides implementation opportunities for sustainable and pedestrian-friendly improvements: the curb-to-curb distance is about 40 ft.
- Aging and substandard infrastructure, such as the pavement and utility poles/street lighting, indicate that new infrastructure investments will be needed in the foreseeable future.
- New investments are expected along Brooklyn Ave by SDOT, Sound Transit, the University of Washington, (potentially) the Parks Department, and private development. In order to facilitate coordinated construction, good urban design and the leveraging of opportunities, SDOT and the Department of Planning & Development should promote stakeholder participation in - and funding of - a concept streetscape plan for this corridor.

The 2005 University District Parks Plan is "anchored" around the development and planning associated with Brooklyn Ave.

Recommended Actions

- Develop Green Street design concept for Brooklyn Ave from Ravenna Park to NE Boat St in cooperation with DPD, Sound Transit, the UW, the Parks Department, and neighborhood property-owners and stakeholders.
- Officially designate Brooklyn Ave as a bicycle route and add shared-lane markings (sharrows).
- Prioritize pedestrian improvements, such as wider sidewalks, street trees, better trail connections, and shorter signal cycles.

University Area Transportation Action Strategy



University Area Urban Center

Pedestrian Mobility

Project # A

Automatically activate pedestrian signals at all times in Urban Center. Remove push buttons to avoid confusion.

Low Capital Cost, Early Implementation Project

Cost Estimate: $52,000

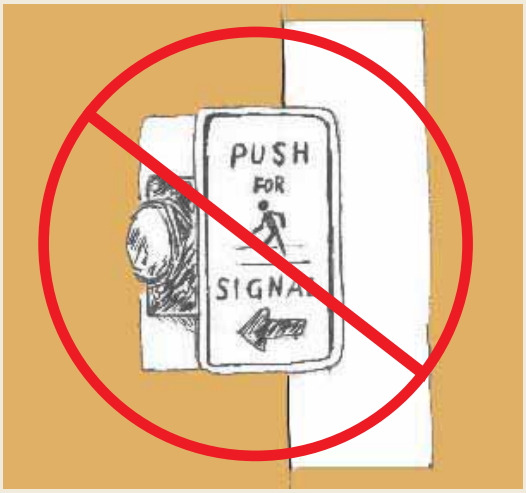
Problems and Issues

Burke Gilman Trail Crossing at 25th Ave NE

- Most signalized intersections operate with autmoatic pedestrian phases from 7am-11pm, and are pedestrian-actuated from 11pm-7am.
- Many pedestrians do not understand this push button operating practice, often resulting in user confustion and frustration.
- SDOT's current push button policy is not fully consistent with many other City and SDOT policies that aggressively promote pedestrian-friendly urban centers and modal shifts away from the automobile.*
- Any changes to the policy must be approved by the Seattle City Council.

* Current SDOT push button policy is full automation if pedestrians are persent at the main street crossing for 75% or more of the cycles for 12 hours of the day; and partial automation/partial user-activation if pedestrians are present for 50% of cycles.

Recommended Actions



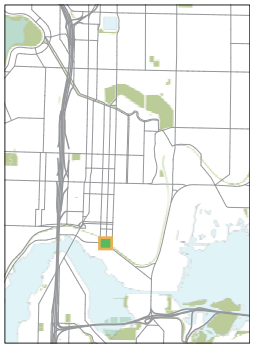
- Include within the scope of the Pedestrian Master Plan a task to examine the current SDOT policy regarding pedestrian crossing push buttons. Consider removal of pedestrian push buttons at all fully-signalized intersections within an Urban Center such as the University District Urban Center. Automatically activate the pedestrian crossing signal with every green cycle 24-hours per day.

University Area Transportation Action Strategy

University Way NE and NE Pacific St

Bicycle Safety

Project # B



Remove vegetation and add raised, colored crosswalks at Burke-Gilman Trail crossing to improve visibility & safety.

Low Capital Cost, Early Implementation Project

Cost Estimate: $50,000

Problems and Issues

- The Burke-Gilman Trail crosses University Way on the north leg of the intersection with NE Pacific Street. Drivers approaching the intersection often fail to recognize the trail crossing and pay sufficient attention to the crosswalk.
- 1 The existing vegetation planted along both sides of University Way reduces or blocks the sightlines of bicyclists traveling on the trail.
- 4 bicycle-vehicle collisions were reported here in the last three years.

Recommended Actions

- Clear where appropriate the trees and shrubs located near the Burke-Gilman trail on the northeast and northwest corners of the intersection to increase sight distances between roadway and trail.
- Provide a raised, colored crosswalk on the north leg of the University Way NE and Pacific Street NE intersection where it crosses the trail.
- Prioritize this intersection for signage improvements as recommended in the Seattle Bicycle Master Plan to improve trail visibility.

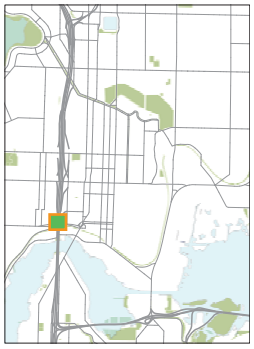
A crosswalk similar to this one above should be installed at the crossing of University Way to improve safety and visibility of the Burke Gilman Trail.

University Area Transportation Action Strategy

6th Ave NE and Lower NE 40th St

Congestion Management

Project # C



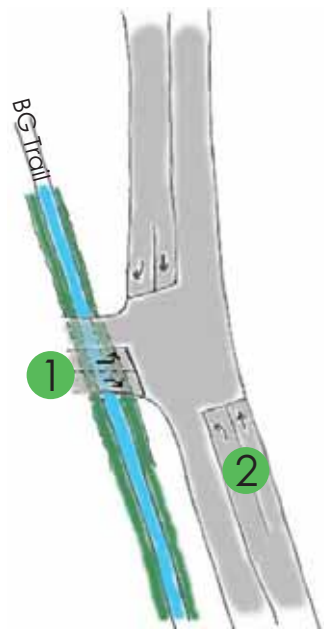
Add left turn lanes to improve traffic flow.

Low Capital Cost, Early Implementation Project

Cost Estimate: $8,000

Problems and Issues

- The intersection of 6th Ave NE and Lower NE 40th St (under I-5) is a three legged, "T"-intersection controlled by all-way stops.
- The intersection currently operates at level-of-service (LOS) F with 127 seconds of delay. In 2030, it is forecasted to operate at LOS F with an average 152 seconds of delay if actions are not taken.
- There is sufficient roadway width to accommodate turn lanes, although no striping is currently provided.



Recommended Actions

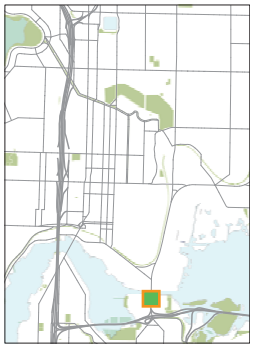
1. Stripe a northbound left-turn lane on 6th Ave NE.
2. Stripe a westbound left-turn lane on Lower NE 40th Street to improve traffic flow.
- Ensure that changes to channelization can safely accommodate buses from eastbound NE 40th St turning to southbound 6th Ave NE.

University Area Transportation Action Strategy

Montlake Blvd E and E Shelby St

Bicycle Mobility & Safety

Project # D



Modify traffic island and add a bike lane to improve safety (Phase 1 of 2 - see Project #30)

Low Capital Cost, Early Implementation Project

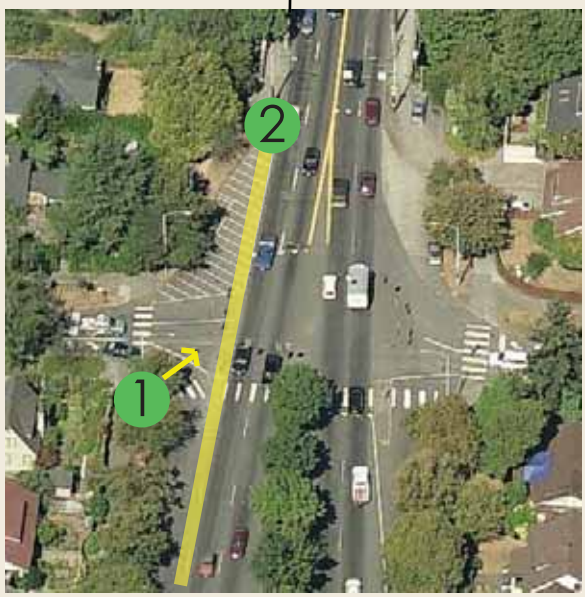
Cost Estimate: $22,000

Problems and Issues

- Montlake Blvd E is an important connection in the Urban Trails and Bikeways System, linking the UW cmpus and Burke Gilman Trail with major bicycle corridors to the south.
- The traffic island on the west leg of the intersection of Montlake Boulevard and NE Shelby Street prevents bicyclists from comfortably merging from the sidewalk on the Montlake Bridge to southbound Montlake Boulevard.
- The island is a barrier that increases cyclist discomfort and the potential for vehicle/bicycle conflicts along Montlake Blvd.
- There is no bicycle facility provided at this intersection.

Recommended Actions

1. Remove a portion of the traffic island on the west side of Montlake Boulevard NE at the intersection with NE Shelby Street to help cyclists get into the southbound general traffic lane from the sidewalk on the Mont-lake Bridge.
2. Stripe a bike lane on southbound Montlake Blvd E south of the Montlake Bridge to SR 520.
- Look to reconstruct entire intersection when the 520 Bridge Replacement Project moves forward (See Phase 2, Project #30).

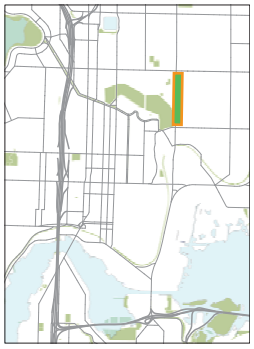


University Area Transportation Action Strategy

25th Ave NE Corridor

Congestion Management

Project # E



Extend peak-hour parking restrictions to all-day to reduce off-peak congestion.

Low Capital Cost, Early Implementation Project

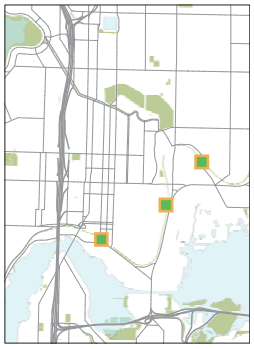
Cost Estimate: $78,000

Problems and Issues

- During the PM peak period parking on the east side of 25th Avenue NE is prohibited and two northbound through lanes are provided. As a result, the 25th Avenue NE/ NE 65th Street intersection operates at an acceptable level-of-service (LOS).
- At times when on-street parking is allowed – after 6 PM weekdays and all-day weekends – northbound vehicles approaching this intersection encounter excessive delays.

Recommended Actions

- Allow late PM and overnight parking only on the east side of 25th Avenue NE between NE 55th Street and NE 65th Street to reduce northbound traffic congestion during the off-peak period and on weekend days.



University Area Transportation Action Strategy

Burke Gilman Trail at Pend Oreille Rd, Brooklyn Ave NE, and NE Blakely St

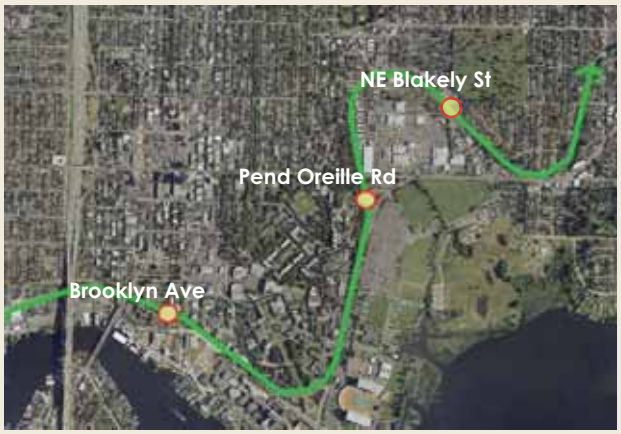
Bicycle and Pedestrian Mobility & Safety

Project # F

Add raised, colored trail crossings, and consider traffic control modifications at key mid-block intersections, to improve safety.

Low Capital Cost, Early Implementation Project
Cost Estimate: $29,000

Problems and Issues

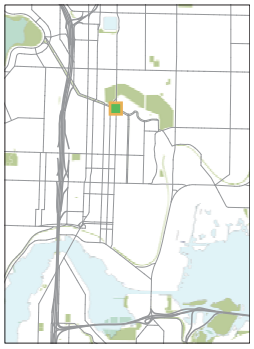


- These mid-block trail crossings are considered high accident & conflict locations. Current traffic control provides stop signs for the trail and uncontrolled right-of-way for vehicles.
- Driver and trail user behavior often do not reflect the traffic control: many drivers yield to trail traffic (which for pedestrians is state law), and many trail users (including bicyclists) have come to anticipate yielding vehicles and fail to stop along the trail.
- 1 The UW police recently placed additional warning signs along the trail at Brooklyn and Pend Oreille as a stop-gap safety measure.
- These streets have relatively light traffic volumes, while this is the most heavily used segment of the Burke Gilman Trail. Considering these specific locations and the comparison of vehicular/trail volumes, the current traffic control and signage can be considered inconsistent with City and SDOT policies that aggressively promote non-motorized transportation and sustainability.
- For more detailed discussion of SDOT's current policy related to assigning right-of-way at mid-block trail crossings, see Appendix H of the Bicycle Master Plan.

New trail signage at Pend Oreille Rd and Brooklyn Ave.

Recommended Actions

- The University of Washington may conduct a comprehensive study of the Burke Gilman Trail along campus property. Work with their transportation office to consider revising the current traffic control and signage at Pend Oreille Rd and Brookyln Ave, and replicate these modifications at the crossing of NE Blakely St to maintain consistency.
- Add raised, colored and/or patterned crosswalks to distinguish Burke Gilman Trail crossings and reduce potential conflicts with motorists.



15th Ave NE/Ravenna Blvd

Vehicle Congestion

Project # G

Monitor traffic congestion to determine if and when a signal needs to be installed to reduce delay.

Low Capital Cost, Early Implementation Project

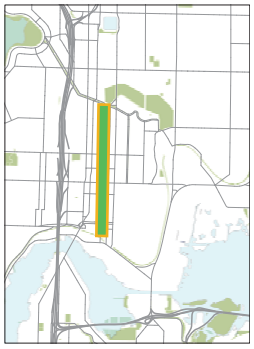
Cost Estimate: N/A

Problems and Issues

- This intersection was converted to a 4-way stop several years ago.
- The intersection is currently operating at an acceptable level of service.
- Due to forecasted increases in traffic volumes on 15th Ave NE, future delays during the PM peak hour may require the installation of a signal.

Recommended Actions

- Monitor traffic periodically and evaluate the need for a signal at the 4-way stop intersection.



University Area Transportation Action Strategy

Brooklyn Ave NE from Ravenna Blvd to the Burke Gilman Trail

Bicycle Mobility & Safety

Project # H

Install bicycle sharrows and signage to improve mobility and safety.

Low Capital Cost, Early Implementation Project

Cost Estimate: $39,000

Problems and Issues

- Brooklyn Avenue is a designated Neighborhood Green Street and has long been considered a preferred north-south bicycle route.
- The need to improve north-south bicycle facilities in the University District has been recognized by the University District Neighborhood Plan, UW Campus Master Plan, 2005 Parks Plan, Bicycle Master Plan, and consistently by community members in UATAS outreach.

Recommended Actions

- Provide shared lane markings (bicycle sharrows) along Brooklyn Avenue from the Burke-Gilman Trail (NE Pacific Street) to Ravenna Blvd.
- Designate Brooklyn Ave as a bike route and provide wayfinding from adjacent trails and bicycle facilities.

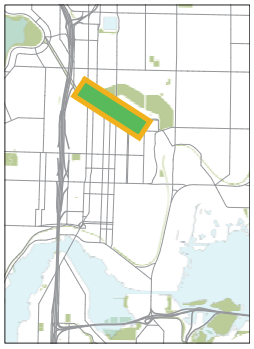
The recently completed Seattle Bicycle Master Plan, while suggesting that Brooklyn Ave could see improvements in the future, fell short of fully designating Brooklyn Ave in the bicycle facilities network. Active neighborhood support, however, and Brooklyn Ave's low traffic volumes and strong connections to other parks and trails make installation of sharrows or other bicycle improvements a priority for the area.

University Area Transportation Action Strategy

Ravenna Boulevard

Bicycle Safety

Project # I



Prioritize funding the repaving of Ravenna Blvd from NE 65th St to Ravenna Ave NE to improve safety.

Low Capital Cost, Early Implementation Project
Cost Estimate: $2.5 million*
*not including drainage

Problems and Issues

Ravenna Blvd at 8th Ave NE

- Ravenna Blvd is a critical link in Seattle's Urban Trails and Bikeways System, both systemwide and for the Green Lake, Roosevelt, Ravenna, and University District neighborhoods. It is also a prominent Olmstead legacy park facility.
- The existing pavement on Ravenna Blvd is rough and hazardous for cyclists. SDOT Street Maintenance has identified Ravenna Blvd as needing major maintenance, although it has not been prioritized or scheduled for improvement.
- While the pavement on Ravenna Blvd is in need of repair, the street carries less vehicle traffic volume than other Seattle streets that have also been identified for resurfacing.

Recommended Actions

- As new information becomes available to SDOT concerning recently enacted drainage regulations and their cost impacts, consider prioritizing Ravenna Boulevard from NE 65th St to Ravenna Ave NE.
- Work with SDOT's Bicycle Program, Seattle Public Utilities, and Seattle Parks and Recreation Department to identify grant and other partnership opportunities to help fund this project.

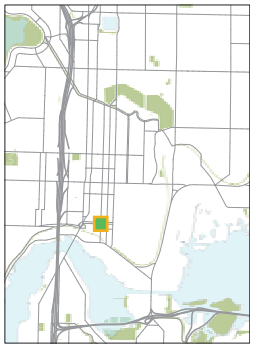
Draft 9-Year Paving Plan (left):
- Recently completed paving projects
- 15th Ave NE scheduled for 2013
- Needs maintenance (potential Bridging the Gap 20-year project)

University Area Transportation Action Strategy

15th Ave NE and NE Campus Parkway

Pedestrian & Vehicle Safety

Project # J



Add protected left-turn phase to signal timing to improve safety.

Low Capital Cost, Early Implementation Project

Cost Estimate: $245,000

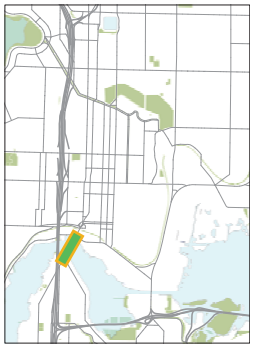
Problems and Issues

- 3 pedestrian-vehicle collisions have occurred at this intersection in the last three years.
- 1 Because of the wide median on Campus Parkway, it takes a long time for pedestrians to cross the street.
- Northbound vehicles on 15th Avenue NE can turn left at any time during the green phase; this turning movement presents a hazard to pedestrians crossing Campus Parkway.

Recommended Actions

- Modify signal operation to provide protected northbound left-turn phase. Pedestrians would not be permitted to cross the street when vehicles are turning left across the crosswalk.

University Area Transportation Action Strategy



University Bridge

Pedestrian & Bicycle Safety; Urban Design

Project # K

Install pedestrian lighting fixtures to existing poles along the University Bridge to improve safety.

Low Capital Cost, Early Implementation Project

Cost Estimate: $ 125,000

Problems and Issues

- The University Bridge is a critical link in the Urban Trails and Bikeways System, is part of the South Lake Union Loop Trail, and is a highly visible facility from many neighborhoods and waterways.
- While architectural flood lighting exists on the draw-bridge structure, the roadway lights on the remaining bridge span are sparse and do not provide sufficient pedestrian or bicycle safety and comfort.
- KC Metro has evenly-spaced trolley-wire poles that should be able to accommodate pedestrian lighting fixtures over the sidewalks and bike lanes.

Recommended Actions

- Install pedestrian luminaires (type Lumec Z-40 dark green) to the existing KC Metro and roadway lighting poles.
- The improved lighting should help increase the visibility of pedestrians and bicyclists along the bridge and reduce potential vehicle conflicts at the NE Fuhrman and NE 40th intersections.
- SDOT must seek approval from KC Metro to utilize the trolley poles.

Z40

Because of the even-spacing of the existing transit poles, new pedestrian fixtures will provide a distinctive and "rhythmic" quality to the bridge in addition to increasing safety.