

# CHAPTER 9. Project Evaluations

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# Chapter 9. Project Evaluation

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This chapter summarizes the results of the project evaluation conducted by the study team. The Project Advisory Committee reviewed the study team's work. The chapter explains the criteria established as the basis to evaluate potential improvements and strategies, provides a summary of each evaluation, and a brief description of the benefits and/or shortcomings associated with each project and/or strategy. Unless otherwise noted, all transportation improvement projects and strategies included in Chapter 8 are evaluated.

## EVALUATION CRITERIA

### Adopted Evaluation Criteria

Based on policy direction from the City project manager and staff, input from the Project Advisory Committee and from the public, the study adopted the 17 evaluation criteria listed below:

#### **1. Enhance Mobility**

- 1-A. Improve pedestrian and bicycle facilities
- 1-B. Improve access to activity centers
- 1-C. Improve connectivity
- 1-D. Improve transit/HOV speed and/or reliability
- 1-E. Pedestrian/bicycle/transit volumes served

#### **2. Improve Safety**

- 2-A. Reduce pedestrian/bicycle/vehicle conflicts
- 2-B. High accident area reported
- 2-C. Improve safety for transit riders

#### **3. Reduce Traffic Congestion**

- 3-A. Improve corridor level of service (motor vehicles)
- 3-B. Improve traffic flow for motor vehicles

#### **4. Mitigate Environmental Impacts**

- 4-A. Maintain air quality and noise levels
- 4-B. Impact of wetland and streams
- 4-C. Displacements

#### **5. Implementation Feasibility**

- 5-A. Physical limitations
- 5-B. Fiscal limitations

#### **6. Community Support**

- 6-A. Consistent with neighborhood plans
- 6-B. Feedback from communities

### **Categories of Criteria**

The study team created an extensive evaluation matrix that cross-referenced each of the proposed transportation improvement projects on one row against the 17 criteria. This matrix is available in the Appendix. For ease of discussion, the project team agreed to group the 17 criteria into the following six categories.

**Enhance Mobility** - Does an improvement concept enhance access to transportation modes other than single occupant driving, and make pedestrian, bicycle, transit and carpool trips more convenient?

**Improve Safety** - Does an improvement concept reduce or eliminate conflicts and unsafe conditions between vehicles, between vehicles and pedestrians, and/or between bicyclists and vehicles?

**Reduce Congestion** - Does an improvement concept help reduce traffic congestion by reducing delay and meeting the roadway performance benchmarks?

**Environmental Impacts** - Can an improvement concept meet the Federal, State and local environmental laws and regulations?

**Implementation Feasibility** - Does an improvement concept have physical or financial limitations that would prevent its implementation?

**Preliminary Community Support** - Is the improvement concept a high priority for the community?

## **Evaluation Criteria Category Ratings**

Each transportation improvement concept was rated against each major category of criteria. The ratings are shown with five symbols, which are defined as follows:

- ✓++ Concept *strongly supports* the evaluation category and provides positive benefits.
- ✓+ Concept *supports* the evaluation category and provides marginal benefits.
- ✓ Concept is *neutral or not applicable* to evaluate under the category.
- ✓- Concept *does not support* the evaluation category and may have negative impacts.
- ✓-- Concept *strongly does not support* the evaluation category and may have worse negative impacts than the above category.

## PROJECT RATINGS

Tables 9-1 through 9-7 summarize the results of the evaluation using the category ratings described above. The projects are listed by the same subareas and/or topic as used in Chapters 6 and 8.

**Table 9-1. Project Evaluations for Eastlake Avenue E/Campus Parkway/NE 40th Street Corridors**

Projects/Strategies	Enhance Mobility	Improve Safety	Reduce Congestion	Environmental Impacts	Implementation Feasibility	Preliminary Community Support	Planning Level Cost Estimate (in \$000)
<b>1. Eastlake Avenue/Campus Parkway/NE 40<sup>th</sup> Street Corridors</b>							
1-a Transit Hub/Center on Campus Parkway	✓+	✓	✓	✓	✓--	✓--	\$5,000-\$10,000
1-b Intersection improvements at Eastlake Ave E and Campus Pkwy	✓++	✓+	✓	✓	✓-	✓+	\$1,200
1-c Bike lanes on north and south-bound travel lanes on the north end of the University Bridge	✓++	✓++	✓	✓	✓+	✓++	\$10
1-d Area-wide transportation facility improvements in the Northlake Way area	✓+	✓+	✓	✓	✓-	✓	\$2,400
1-e Ramp for bicyclists to access pedestrian push button at Eastlake Avenue E/Harvard Avenue E crosswalk	✓+	✓++	✓	✓	✓++	✓+	not estimated
1-f Pedestrian actuated signal on 11th Ave NE at NE 41st Street	✓++	✓++	✓--	✓	✓++	✓+	\$150
1-g Bicycle connection from Lower 40th Street to Eastlake Avenue E	✓+	✓	✓	✓	✓--	✓+	\$100
1-h Parking management in the Northlake Way area	✓+	✓+	✓	✓	✓+	✓	Staff time

**Table 9-2. Project Evaluations for Montlake Boulevard NE/Pacific Street Corridor**

Projects/Strategies	Enhance Mobility	Improve Safety	Reduce Congestion	Environmental Impacts	Implementation Feasibility	Preliminary Community Support	Planning Level Cost Estimate (in \$000)	
<b>2. Montlake Boulevard NE/ Pacific Street Corridors</b>								
2-a	HOV, UW Hospital access and through traffic improvements in the area of Montlake Blvd NE/Pacific Street/Pacific Place	✓+	✓	✓++	✓--	✓++	✓--	\$4,400
2-b	Pedestrian overpass/underpass at Montlake Blvd NE/NE Pacific Street	✓+	✓+	✓	✓	✓--	✓	\$1,600
2-c	Traffic island modification at Montlake Blvd NE/NE Shelby Street	✓++	✓++	✓	✓	✓++	✓++	\$30
2-d	Landscape trimming on Montlake Blvd NE from SR 520 to Pacific Place NE	✓+	✓+	✓	✓	✓++	✓	Staff time
2-e	Improve visibility of NE Pacific Place crossing at Rainer Vista	✓+	✓+	✓	✓	✓--	✓	\$50
2-f	HOV lane extension on southbound Montlake Blvd NE	✓+	✓	✓	✓	✓--	✓	\$4,500
2-g	HOV lane extension on eastbound Pacific Street	✓++	✓	✓	✓	✓+	✓	\$1,100
2-h	Bicycle/pedestrian underpass under Montlake Blvd NE at NE Pacific Place.	✓+	✓++	✓	✓	✓--	✓+	\$2,000
2-i	Provide navigation strategies for bicyclists between the University District, the Burke-Gilman Trail, and the area south of SR 520	✓+	✓+	✓	✓	✓++	✓+	\$25
2-j	Eastbound transit-only loop on-ramp addition to the existing SR 520 HOV ramp	✓	✓	✓	✓	✓	✓	\$550
2-k	Installation of a variable message sign on Montlake Blvd NE near NE 45 <sup>th</sup> Street for southbound traffic to indicate traffic back-up locations	✓	✓	✓+	✓	✓--	✓+	\$500
2-l	Reduce width of driveway entrance at Husky Stadium south lot entrance on Montlake Blvd NE	✓+	✓+	✓	✓	✓	✓+	\$10
2-m	Improve bicycle/pedestrian underpass at SR 520 freeway station	✓+	✓+	✓	✓	✓+	✓+	\$10

**Table 9-3. Project Evaluations for Major East-West Corridors, Major North-South Corridors and I-5 Crossing Improvements**

Projects/Strategies	Enhance Mobility	Improve Safety	Reduce Congestion	Environmental Impacts	Implementation Feasibility	Preliminary Community Support	Planning Level Cost Estimate (in \$000)
<b>3. Major East-West Corridors</b>							
3-a Left turn lane at major arterial intersections on NE 65th Street.	✓	✓++	✓+	✓	✓++	✓--	Part of CIP project cost
3-b Short signal cycles at the NE 45th Street/I-5 ramp intersections	✓++	✓	✓+	✓	✓+	✓++	Staff time
3-c Implementation study of east-west transit improvement project to better connect Ballard to the University District	✓++	✓	✓+	✓	✓++	✓++	\$250 - \$500
3-d Two-way operation on Lower 40th Street between 7th Ave NE and Brooklyn Ave NE	✓--	✓--	✓--	✓	✓--	✓	\$300
<b>4. Major North-South Corridors</b>							
4-a Bike way on 20th Ave NE from NE 65th Street to NE 45th Street	✓++	✓+	✓	✓	✓++	✓++	\$40
4-b Bike way on Brooklyn Ave NE from NE 65th Street to Pacific Street	✓+	✓+	✓	✓	✓++	✓++	\$30
<b>5. I-5 Crossing Improvements</b>							
5-a Queue bypass lane on northbound 7th Avenue NE south of NE 45th	✓+	✓	✓	✓	✓+	✓	\$1,000
5-b Pedestrian/bike-only overpass at NE 47th Street over I-5	✓++	✓++	✓	✓	✓--	✓++	\$4,300
5-c Reconstruction of NE 45th and NE 50th overpasses over I-5	✓+	✓	✓++	✓--	✓--	✓	\$25,000

**Table 9-4. Project Evaluations for University Village Area Access**

Projects/Strategies	Enhance Mobility	Improve Safety	Reduce Congestion	Environmental Impacts	Implementation Feasibility	Preliminary Community Support	Planning Level Cost Estimate (in \$000)
<b>6. University Village Area Access</b>							
6-a Pedestrian/bike trail connecting Burke-Gilman trail with U-Village at NE 47th Street	✓+	✓++	✓	✓	✓	✓	\$700
6-b Burke-Gilman Trail crossing improvement at 25th Ave NE	✓++	✓++	✓	✓	✓+	✓+	\$50
6-c Curb, gutter, sidewalk and other improvements in the vicinity of the Ravenna Blvd and NE 55 <sup>th</sup> St intersection	✓+	✓++	✓	✓	✓++	✓+	\$1,000
6-d Curbs, gutters, and sidewalks on NE Blakely Street/30th Ave NE/Union Bay Place from 25th Ave NE to NE 45th Street	✓+	✓+	✓	✓	✓++	✓++	\$3,200
6-e Safety improvements at the Burke-Gilman trail crossing at the intersection of 30th Ave NE/NE Blakely Street	✓++	✓++	✓+	✓	✓-	✓	\$600
6-f Pedestrian crossing improvements and protected left turns for vehicles at Pend Oreille Road/25th Ave NE	✓+	✓+	✓	✓	✓+	✓	\$150
6-g Sidewalk addition on the west side of 30th Ave NE from Union Bay Place NE to NE 55th Street	✓+	✓+	✓	✓	✓-	✓++	\$400 - \$800
6-h Sidewalk addition on the south side of NE 50th Street from 30th Ave NE to 35th Ave NE	✓+	✓+	✓	✓	✓--	✓++	\$300 - \$600
6-i Bicycle trail from the Ravenna bicycle lanes to Burke-Gilman Trail	✓++	✓++	✓	✓-	✓+	✓++	\$750

6-j	Unregulated parking restriction in city's right-of-way in the areas surrounding University Village	✓	✓	✓	✓	✓++	✓+	Staff time
6-k	Access consolidation at the Office Depot and U-Village driveways	✓	✓+	✓+	✓	✓-	✓+	Not estimated

**Table 9-5. Project Evaluations for Transit /HOV Access and Small Scale Improvements**

Projects/Strategies		Enhance Mobility	Improve Safety	Reduce Congestion	Environmental Impacts	Implementation Feasibility	Preliminary Community Support	Planning Level Cost Estimate (in \$000)
<b>7-A. Transit/HOV Access</b>								
7-a	Bus ramp connecting NE 40th Street with the I-5 express lanes	✓+	✓	✓	✓	✓--	✓	\$3,100
7-b	Southbound bus lane on 5th Avenue from NE 42nd Street to NE 40th Street	✓+	✓	✓	✓	✓--	✓-	\$1,100
7-c	Bus priority streets on Upper NE 40th Street and Lower NE 40th Street from I-5 to Eastlake Ave NE (Campus Parkway).	✓++	✓	✓	✓	✓--	✓	\$1,800
7-d	Grade-separated transit circulator in the UATS area	✓++	✓	✓+	✓	✓--	✓	Not estimated
7-i	HOV queue bypass lane on the I-5 southbound-off ramp at NE 45th Street.	✓+	✓--	✓--	✓	✓--	✓	Not estimated
7-k	HOV queue bypass lane on SR 520 WB off-ramp at Montlake Blvd NE	✓++	✓++	✓	✓	✓+	✓	\$1,400
<b>7-B. Small Scale Improvements</b>								
7-e	Two southbound through lanes and adequate NB left vehicle storage and green signal phase on 15th Ave NE south of NE 45th Street	✓+	✓++	✓+	✓-	✓+	✓-	\$40
7-f	Pedestrian and bicycles use of the unused ramp over SR 520	✓++	✓	✓	✓	✓+	✓++	\$700
7-g	Signal at the 15th Avenue NE and Ravenna Blvd intersection	✓	✓++	✓	✓	✓++	✓	\$200

7-h	Bicycle parking facilities	✓+	✓	✓	✓	✓+	✓+	\$10
7-j	Intersection improvements at 25th Ave NE and NE 55th Street	✓	✓++	✓+	✓	✓++	✓++	\$75
7-l	Curb extensions on NE 43 <sup>rd</sup> Street at 11 <sup>th</sup> Ave NE	✓+	✓+	✓	✓	✓+	✓+	\$50
7-m	Install traffic circles at selected locations	✓+	✓+	✓	✓	✓+	✓+	\$30

**Table 9-6. Project Evaluations for Light Rail Station Area Improvements and Traffic Signal Modifications**

Projects/Strategies	Enhance Mobility	Improve Safety	Reduce Congestion	Environmental Impacts	Implementation Feasibility	Preliminary Community Support	Planning Level Cost Estimate (in \$000)
<b>8. Light Rail Station Area Improvements</b>							
8-a Sidewalk widening on 15th Avenue NE between NE 50th and NE Pacific Street	✓+	✓+	✓	✓	✓++	✓++	Not estimated
8-b Specialized at-grade crossing at the intersection of 15th Avenue NE and NE 43rd Street	✓+	✓+	✓	✓	✓++	✓++	Not estimated
8-c Specialized at-grade crossing of 15th Ave NE near north entrance of Pacific St. Station	✓+	✓+	✓	✓	✓++	✓++	Not estimated
8-d Street and sidewalk improvements between Roosevelt Way NE and light rail station on NE 43rd Street	✓+	✓+	✓	✓	✓++	✓++	Not estimated
8-e Street and sidewalk improvements between Roosevelt Way NE and 20th Ave NE on NE 45th Street	✓+	✓+	✓	✓	✓++	✓++	Not estimated
8-f Pedestrian access from transit stops to stations on University Way N.E.	✓+	✓+	✓	✓	✓++	✓++	Not estimated
8-g Walkway through parking lot from University Way NE to north Pacific Station entrance	✓+	✓+	✓	✓	✓++	✓++	Not estimated
8-h Sidewalks along south side of NE Pacific Street and east side of University Way	✓+	✓+	✓	✓	✓++	✓++	Not estimated
8-i Bicycle parking spaces and facilities at the two light rail stations	✓+	✓+	✓	✓	✓++	✓++	Not estimated
<b>9. Traffic Signal Modification</b>							
9-a Removal or modification of pedestrian push buttons at selected intersections	✓++	✓+	✓	✓	✓++	✓++	Staff time
9-b Scramble signals at NE 43rd and University Way	✓+	✓	✓--	✓	✓--	✓+	Staff time
9-c Evaluation of signal operation on University Way at NE 42nd Street and NE 43rd Street	✓++	✓	✓	✓	✓++	✓++	Staff time

**Table 9-7. Project Evaluations for Areawide Strategies and Freeway Ramp Storage Expansion**

Projects/Strategies	Enhance Mobility	Improve Safety	Reduce Congestion	Environmental Impacts	Implementation Feasibility	Preliminary Community Support	Planning Level Cost Estimate (in \$000)
<b>10. Areawide Strategies</b>							
10-a Transportation Management Plan Guidebook.	✓+	✓	✓+	✓	✓+	✓	\$10
10-b Expansion of Access Package to Area FlexPass	✓+	✓	✓+	✓	✓+	✓	Staff time
10-c Parking cash-out for buildings	✓+	✓	✓+	✓	✓+	✓	Staff time
10-d Create a Transportation Management Association in the University area	✓+	✓	✓+	✓	✓+	✓	Staff time
10-e Expansion of Access Package to carpool and vanpool programs	✓+	✓	✓+	✓	✓+	✓	Staff time
10-f Promote shared use parking with garages and lots on nights and weekends	✓+	✓	✓+	✓	✓+	✓	Staff time
10-g Adjustments to some of the RPZ permit programs	✓+	✓	✓+	✓	✓+	✓	Staff time
10-i Pedestrian and bicycle safety education, training, and public awareness programs	✓+	✓+	✓	✓	✓+	✓	Staff time
10-j Wayfinding study for pedestrians, bicyclists and transit riders	✓+	✓+	✓	✓	✓+	✓	\$75 - \$250
10-k Consider requiring posting of Transportation Management Program requirements in the buildings conditioned by the City	✓+	✓	✓	✓	✓-	✓+	Staff time
<b>11. Ramp Storage Expansion (I-5, SR 520)</b>							
11-a SR 520 eastbound on-ramp extension	✓	✓	✓++	✓--	✓--	✓	\$5,700
11-b I-5 dual northbound on-ramp at NE 45th Street	✓	✓	✓++	✓	✓-	✓	\$1,500
11-c I-5 southbound on-ramp extension at NE 45th Street	✓	✓	✓++	✓	✓-	✓	\$1,500
11-d Northbound U-turn lane extension at Hamlin St on Montlake Blvd	✓	✓	✓++	✓	✓+	✓	\$120
11-e I-5 southbound off-ramp on right side to enter eastbound SR 520	✓	✓	✓++	✓--	✓--	✓	Not estimated