

5. Transportation Improvement Concepts

The CTIP reviewed the existing and future condition of the Northgate Area's transportation system (see Chapters 3 and 4) in relation to a series of performance measures that describe acceptable thresholds for roadway, pedestrian, bicycle, and transit facilities (see **Appendix 5-1**). This section of the CTIP report describes key transportation issues and associated candidate transportation improvement concepts identified during this stage of the planning process. The following groups provided input during development of the improvement concepts:

- SDOT and other City staff
- Northgate Stakeholder Group
- King County
- Sound Transit
- WSDOT
- Seattle Planning Commission
- Seattle Pedestrian and Bicycle Advisory Board

The proposed concepts are grouped as shown below. (Note: Project numbers reflect the geographic and/or programmatic improvement categories listed in **Appendix 5-2**.)

- Areawide residential/non-arterial streets
- Areawide transit services, transportation demand management and parking programs
- Transit Center/light rail station area
- NE 130th/125th Street corridor
- NE 92nd Street corridor
- NE Northgate Way corridor
- West of I-5
- 15th Avenue NE corridor
- Roosevelt Way corridor
- 5th Avenue NE corridor

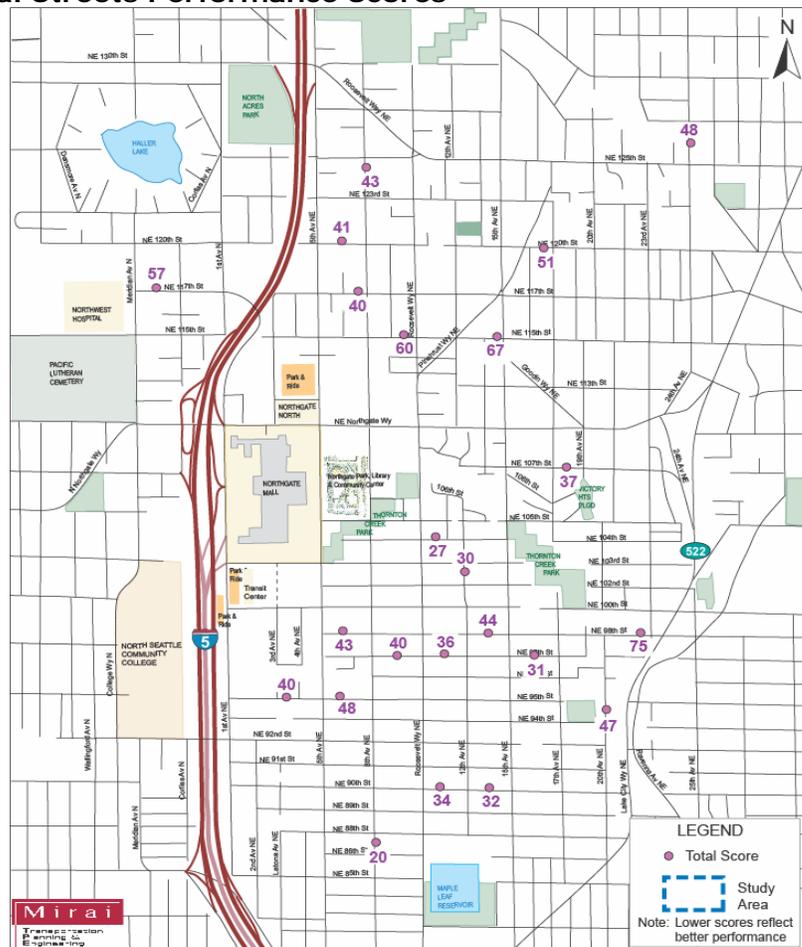
Residential/Non Arterial Streets

The CTIP study developed specific performance measures for non-arterials, which are intended to carry less traffic than arterials and at lower speeds. They frequently serve as pedestrian and bicycle routes. The performance measures considered the following indicators:

- vehicle volumes
- vehicle speed
- presence of pedestrian facility (sidewalks and/or walkways)
- crash history
- school walkway routes
- pedestrian routes as described in the Northgate Open Space and Pedestrian Plan
- bicycle routes
- street features, including sharp curves, barriers to pedestrian travel, and roadway width

Figure 5-1 shows the performance “scores” of the local streets selected for CTIP analysis based on local knowledge of traffic conditions in the study area and community input. Streets most in need of attention, ranked by the highest scores, include NE 98th Street west of Lake City Way NE, NE 117th Street east of Meridian Avenue N, and NE 115th Street east of Pinehurst Way NE.

Figure 5-1. Local Streets Performance Scores



Key Transportation Issues

Using the performance measures as a guide, the study identified the following transportation issues associated with local streets in the study area:

- NE 98th Street between 15th Avenue NE and Lake City Way NE received the poorest performance score among the local streets in the study area.
- NE 115th Street between Pinehurst Way NE and Lake City Way NE and NE 117th Street between Meridian Avenue N and 1st Avenue N received the second and third poorest scores.
- Pedestrians, particularly senior citizens residing on the west side of 8th Avenue NE, north of NE Northgate Way, experience difficulties in crossing to the post office and retail businesses on the east side of 8th Avenue NE.
- The Open Space and Pedestrian Plan found a need for clear and safe pedestrian connections to neighborhood-serving businesses such as the post office, Northgate Plaza and QFC, and pedestrian pathways off the major streets to create a more fine-grained pedestrian network (e.g. 8th Avenue NE, north of NE Northgate Way).

Transportation Improvement Concepts

The study identified the following improvement concepts for the residential streets (project designations, e.g. B-1, B-2, are for internal identification purposes throughout this report):

B-1. Provide a raised walkway on one side of NE 115th Street from 5th Avenue NE to Lake City Way NE. Restrict on-street parking to one side. Consider phased implementation of this project. The location of this improvement concept is shown in **Figure 5-2**.

B-2. Analyze pedestrian crossing conditions on 8th Avenue NE between NE Northgate Way and NE 115th Street. If consistent with SDOT guidelines and practices, install pedestrian crossing improvements such as curb bulbs and related signs and markings. Crossing improvements at this location would enhance the connection between the senior housing developments on the west side of 8th Avenue NE with a post office on the east side. The pictures in **Figure 5-3** shows the possible pedestrian crossing locations on 8th Avenue NE.

Figure 5-2. Raised Walkway on NE 115th: 5th Avenue NE to Lake City Way NE (B-1)



Figure 5-3. Possible Pedestrian Crossing Locations on 8th Avenue NE (B-2)



8th Avenue NE in the vicinity of the proposed mid-block pedestrian crossing

B-3. Provide a raised walkway on one side of 8th Avenue NE from NE Northgate Way to NE 92nd Street. Install appropriate traffic calming devices to discourage excessive traffic speeds. Consider phased implementation of this project. The location of this project is shown in **Figure 5-4**.

Figure 5-4. Raised Walkway on 8th Avenue NE: NE Northgate Way to NE 92nd Street (B-3)



B-4. Provide a raised walkway on one side of NE 98th Street from 15th Avenue NE to Lake City Way NE. Allow on-street parking. Integrate traffic control devices with the sidewalk improvements. Consider phased implementation of this project. The location of this project and pictures are shown in **Figure 5-5**.

B-5. Add a raised walkway on the north side of N 117th Street from 1st Avenue N to Meridian Ave N and install speed “cushion” for traffic calming. Consider phased implementation of this project. The location of this project is shown in **Figure 5-6**.

Figure 5-5. Raised Walkway on NE 98th Street: 15th Avenue NE to Lake City Way NE, and Existing Traffic Calming Facilities (B-4)



Figure 5-6. Raised Walkway on N 117th Street: 1st Avenue N to Meridian Avenue N (B-5)



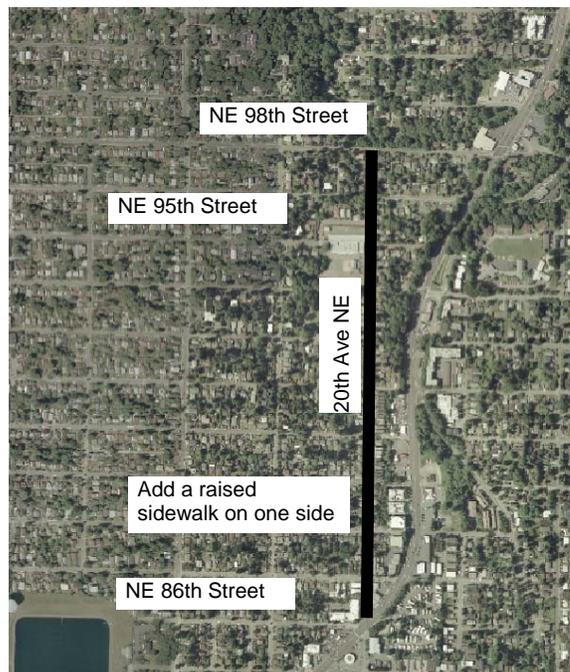
B-6. Add a raised walkway on one side of NE 95th Street from 12th Avenue NE to 17th Avenue NE; on 17th Avenue NE from NE 95th Street to NE 96th Street, and on NE 96th Street from 17th Avenue NE to 19th Avenue NE. The location of this project and pictures are shown in **Figure 5-7**.

B-7. Add a raised walkway on one side of 20th Avenue NE from NE 86th Street to NE 98th Street. The location of this project is shown in **Figure 5-8**.

Figure 5-7. Raised Walkway on NE 95th Street to Scajawa Elementary School (B-6)



Figure 5-8. Raised Walkway on 20th Avenue NE: NE 86th Street to NE 98th Street (B-7)



B-8. Add an at-grade walkway on one side of 25th Avenue NE from NE 125th Street to NE 127th Street. The location of this project is shown in **Figure 5-9**.

B-9. Monitor traffic volumes and vehicle speeds on NE 120th Street between 17th Avenue NE and 25th Avenue NE. Work with residents to implement traffic calming measures, including community education, if the need occurs. The location of this project is shown in **Figure 5-10**.

Figure 5-9. At-grade Walkway on 25th Avenue NE: NE 125th Street to NE 127th Street (B-8)



Figure 5-10. NE 120th Street Traffic Monitoring: 17th Avenue NE to 25th Avenue NE (B-9)



Transit Service, Transportation Demand Management, and Parking Program Improvement Concepts

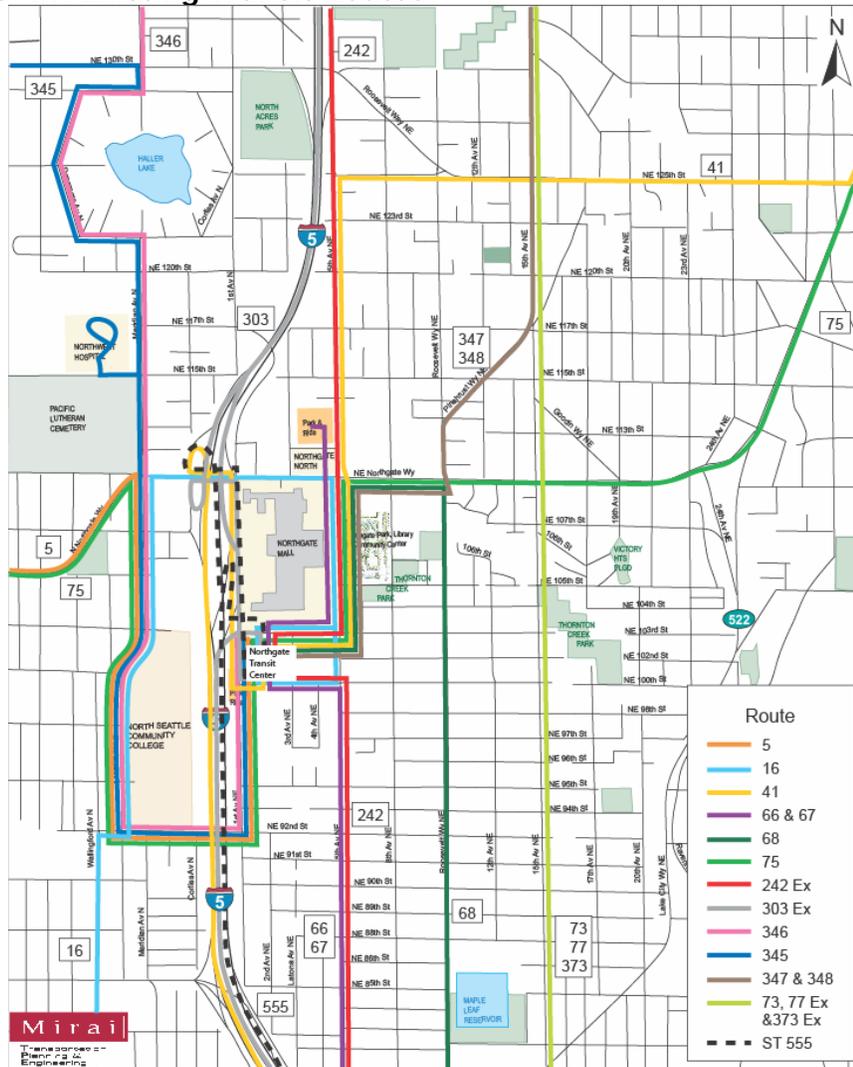
Key Transportation Issues

When the North Link Light Rail is extended to Northgate from downtown Seattle, transit service from Northgate to the University of Washington and downtown Seattle will greatly improve, with added capacity and shorter travel time. Many of the current bus riders will switch to rail, and the current express bus system will need to be restructured.

Existing transit service from Northgate to the University of Washington and downtown Seattle is well used. The 2000 census data shows that ridership for morning trips that originate in the Northgate area (the residents working in locations outside Northgate) is very high. But ridership for workers traveling to the Northgate area is not meeting the CTIP's mode split goal (which is the same as that described in the Transportation Element of the Seattle Comprehensive Plan). Transit service to other urban villages such as Bitter Lake and Aurora–Licton Springs should also be improved to meet the CTIP's transit performance benchmarks, especially for midday service. During the midday period, transit service to the University District should have increased frequencies to meet the CTIP benchmarks. **Figure 5-11** shows existing transit routes.

Finally, as Northgate continues to grow, new development will continue to need some parking, but the cost of creating new parking structures will increase along with land values. Property owners and developers may want to meet their parking needs by selling or leasing parking spaces from each other. While such arrangements may currently be in place between some property owners, a "parking brokerage" that acts as a central clearinghouse for parking, enforcement and other transportation services could create efficiencies and added value. These functions could be managed by a new or existing association of employers and property owners, a Chamber of Commerce, or a Transportation Management Association (TMA). (See **Appendix 5-3** for examples of TMAs.)

Figure 5-11. Existing Transit Routes



Transportation Improvement Concepts

J-1. Following the extension of light rail to Northgate, provide transit feeder services from nearby neighborhoods to the transit center.

J-2. Provide improved transit service with average of 15 minutes frequencies during off-peak hours from Northgate to the University District. This service improvement recommendation should be consistent with the Seattle Transit Plan's Urban Village Transit Network, prepared in collaboration with Metro. (Cost estimate: not prepared).

J-3. Improve transit service with average of 15 minutes frequencies during peak periods and 30 minutes frequencies during off-peak period to other urban villages, such as Bitter Lake and Aurora–Licton Springs.

J-4. Facilitate development of a “parking brokerage” function to efficiently allocate parking needs through shared use of parking spaces. This function could be managed by a new or existing association of employers and property owners, a Chamber of Commerce, or a Transportation Management Association (TMA). These organizations may also be able to provide other services related to improving public transportation and promoting alternatives to drive-alone commutes.

J-6. Amend SMC 23.71.016 to allow shared parking between retail stores and other uses. The Northgate Overlay District is the only zone in the city where retail is prohibited from sharing parking with other uses. Shared parking between uses increases the efficiency with which parking supply is used. Parking impacts of a project can be addressed through SEPA mitigation.

J-7. Amend SMC 23.71.016(C) to allow for reductions to minimum parking requirements for commercial uses, and consider expanding 23.71.016 to allow for these reductions to apply to residential uses as well as commercial uses. 23.54.020(F) applies in other commercial zones in the City, and allows for parking reductions for proximity to transit and provision of alternative transportation strategies, such as vanpools and bicycle racks. This reduction should apply in the Northgate Overlay District as well.

J-8. Amend SMC 23.71.018 to make the Northgate Overlay District mode split goals consistent with the goals for Northgate in the Seattle Comprehensive Plan. The Seattle Comprehensive Plan has mode split goals for each urban center. Mode split goals are an indicator of how many people are driving alone as opposed to using alternative means of transportation.

J-9. Allow residential uses to meet their parking requirements off-site. Under current Code, commercial uses may meet their parking requirements off-site. Allowing off-site residential parking can encourage adjacent property owners to more efficiently meet their respective parking needs.

J-10. Continue researching appropriate parking requirements to achieve Seattle Comprehensive Plan goals LU50 (parking maximums) and NGP12 (discourage SOV use, improve short-term parking accessibility). Through the process, acknowledge stakeholder concerns, including the following comments:

- Retail parking maximums may be appropriate to review with respect to current lending practices.
- Reduced parking requirements should be considered by the City contingent on increased transit service.
- Benefits to developers from reduced parking requirements should be matched by their commitment to alternative travel as demonstrated by provision of transit passes, bicycle facilities, and car-share vehicles.

J-11. Manage on-street parking supply within the commercial core of the Northgate Urban Center to give priority to short-term customer use.

J-12. Conduct a neighborhood parking management assessment for Northgate to ensure that the neighborhood's limited supply of on-street parking adequately serves surrounding land uses, in the mid-term (2008–2010).

J-13. Work with Sound Transit and stakeholders to study and implement proactive parking management techniques around the station to prevent use of neighborhood streets for park-and-ride purposes, prior to the opening of the light rail station.

J-14. Add 10 bus shelters within the study area at locations with 40 or more daily boardings. King County Metro should provide seven of the shelters to meet their standard of providing shelters at locations with 50 or more daily boardings; the City should provide funds for the additional 3 shelters through the Northgate Mitigation Program.

Transit Center/North Link Light Rail Station Area

King County Metro's Northgate Transit Center is a focal point of transportation activities south of the Northgate Mall between NE 103rd Street and NE 100th Street. Sound Transit plans to extend the North Link Light Rail line from the University of Washington to Northgate. The aerial rail station at Northgate will be constructed along the east side of 1st Avenue over NE 103rd Street.

The new light rail station and bus facility will be structurally integrated to help maximize transit use. Mixed-use developments adjacent to the station, and high-quality pedestrian facilities, will generate and support significant pedestrian activity in the area.

Buses, passenger cars, and pedestrians share the transportation facilities in this area. It is therefore important for the City to

provide adequate transportation facilities that support King County Metro's speed and reliability goals for bus operations.

Key Transportation Issues

The CTIP study identified the following transportation issues for the transit station area:

- The efficient and safe operation of key intersections in the vicinity of the transit center, such as 5th Avenue NE and NE 103rd Street, are vital to the maintenance of efficient and reliable transit service.
- Some arterials, including the north side of NE 100th Street, do not have sidewalks, and sidewalks on other arterials, such as 1st Avenue NE between NE 92nd Street and the Transit Center, are in poor condition. Note: Sidewalks are currently programmed for NE 100th as part of public and private redevelopment of the South lot.
- Interstate 5 divides the Northgate urban center. North Seattle Community College and the medical offices on the west side of I-5 generate significant transit ridership, yet because of I-5, transit riders arriving at the Transit Center cannot walk directly to the college or to the medical offices north of the College.

Transportation Improvement Concepts

The following transportation improvement concepts address the issues identified above:

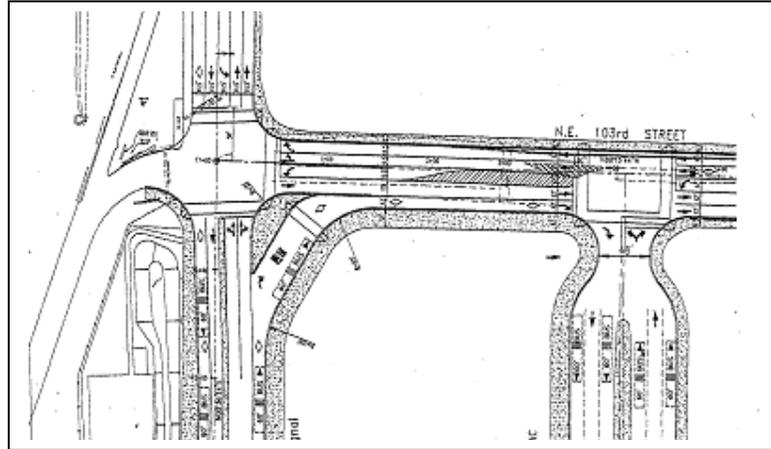
F-1. Add a westbound right turn lane and implement the intersection improvement concept, including marked crosswalks on all legs, prepared by King County Metro and SDOT at the NE 103rd Street/1st Avenue NE intersection as shown in **Figure 5-12**.

F-2. Install a traffic signal at the NE 103rd Street /3rd Avenue NE intersection. Provide urban design treatments for accommodating pedestrians.

F-3. Allow eastbound left turns from the existing curb lane at the NE 103rd Street/5th Avenue NE intersection.

F-4. Construct a three-lane roadway on 3rd Avenue NE from NE 100th Street to NE 103rd Street. This project and the related signal project at 3rd Avenue NE and NE 103rd Street (F-2) are currently under design. These projects are scheduled to be completed in 2007.

Figure 5-12. Proposed Improvement at NE 103rd Street/1st Avenue NE (F-1)



F-5. When warranted, add four-way stop control and, ultimately, install a traffic signal at the NE 100th Street /3rd Avenue NE intersection. Provide marked crosswalks and urban design treatments to accommodate pedestrians. Note: Upon opening, the 3rd Avenue NE extension will have two-way stop controls on the 3rd Avenue NE approaches.

Figure 5-13 shows the locations of concepts F-1, F-2, F-3, F-4, and F-5.

Figure 5-13. Transportation Improvement Concepts in the Vicinity of King County Metro’s Northgate Transit Center (F-1 through F-5)



F-6. Provide sidewalks on the north side of NE 100th Street from 1st Avenue NE to 5th Avenue NE. Note: This project is fully funded. Over time, the City, King County and private development (ERA Care) will construct a continuous sidewalk from 1st Avenue NE to 5th Avenue NE.

F-7. Reconstruct the existing sidewalk on the east side of 1st Avenue NE from NE 92nd Street to NE 97th Street and provide a bicycle lane on the west side of 1st Avenue (by extending the shoulder by 4 feet) between NE 103rd Street and NE 92nd Street. The sidewalk improvement on NE 100th Street and the sidewalk and bicycle improvement projects on 1st Avenue NE are shown in **Figure 5-14.**

Figure 5-14. Sidewalk Projects on NE 100th Street and Sidewalk and Bicycle Projects on 1st Avenue NE (F-6 and F-7)



Cross-Freeway Connection. Construct a pedestrian and bicycle bridge over I-5 to connect the community west of I-5 (and particularly North Seattle Community College) with the Metro Transit Center and future light rail station. The bridge should be located between NE 100th Street and NE 103rd Street. A sketch of the pedestrian overpass is shown in the Planning Commission's Open Space and Pedestrian Plan, which is copied as **Figure 5-15.**

This project poses considerable design, construction, and funding challenges. Meeting drainage requirements and accommodating elevation differences are two of the critical issues that would need to be addressed. In addition, implementing the project would require a long-term partnership involving the City, Washington State DOT, North Seattle Community College, King County/Metro,

Sound Transit, and the neighborhood residents and businesses adjacent to this new bridge.

Figure 5-15. Pedestrian and Bicycle Bridge Over I-5



Source: *Northgate Open Space & Pedestrian Connections*, 2004

NE 130th/125th Street Corridor

This east-west principal arterial provides I-5 access to and from the south and connects with Aurora Avenue N on the west and Lake City Way NE on the east. Located at the northern boundaries of the CTIP study area, it is one of only three east-west arterial corridors that cross I-5; the others are NE Northgate Way and NE 92nd Street.

Key Transportation Issues

Reviewing the existing and future traffic data and comments received from the public, the CTIP study identified the following transportation issues within this corridor:

- Since this is one of the three arterial corridors that provide east-west arterial services for vehicles to cross I-5, adequate road capacity over I-5 is needed. The intersections of the I-5 on-ramp and NE 130th Street, and NE 130th Street and 5th Avenue NE, do not have left turn pockets that would allow continuous two-lane operation for the east-west traffic movements in this corridor.
- The intersection of N 130th Street and Meridian Avenue N has a high traffic crash rate: an average of 10 collisions per year and 1.23 crashes per million entering vehicles annually.
- The mid-block traffic collision rate on NE 125th Street between 8th Avenue NE and Roosevelt Way NE is high: an average of 2.35 per million annual vehicles.

- The unsignalized intersection of the I-5 northbound off-ramp and 5th Avenue NE operates at a low level of service. The I-5 off-ramp movement was LOS F in 2004, which will worsen in future years. During the PM peak hour, vehicles getting off I-5 are blocked from making right turns at the 5th Avenue NE and Roosevelt Way (NE 130th Street) intersection by long vehicle queues on 5th Avenue NE.
- King County Metro Route 41 travels on NE 125th Street between 5th Avenue NE and Roosevelt Way NE, including the unsignalized intersection at NE 125th/Roosevelt Way NE and the signalized intersection at Roosevelt Way NE/10th Avenue NE. The narrow roadway and absence of sidewalks on NE 125th Street and the unusual intersection geometry makes this a difficult corridor for pedestrians as well as transit operators and other drivers.

Transportation Improvement Concepts

The following transportation improvement concepts address the transportation issues identified above:

A-1. Add left turn pockets on all approaches at the N 130th Street/Meridian Avenue N intersection (see **Figure 5-16**).

Figure 5-16. Intersection of N 130th Street and Meridian Avenue N (A-1)



A-2. Add a westbound left turn pocket at the I-5 southbound on-ramp and NE 130th Street intersection.

A-3. Add an eastbound left turn pocket at the 5th Avenue NE and NE 130th Street intersection.

A-4. Signalize the I-5 northbound off-ramp and 5th Avenue NE intersection, coordinate this signal with the 5th Avenue NE/NE 130th Street intersection signal, and connect/coordinate all signals

along NE 130th Street/NE 125th Street corridor. The A-2, A-3, and A-4 projects are in the same vicinity. These projects would require collaboration with WSDOT and widening of the overpass over I-5.

Figure 5-17 shows the locations of the three intersection improvement concepts.

Figure 5-17. N 130th Street/I-5 Vicinity (A-2, A-3, A-4)



A-5. Upgrade the intersection of NE 125th Street/Roosevelt Way NE/10th Avenue NE and include the stop-controlled NE 125th Street intersection as part of one signal-controlled intersection (see **Figure 5-18**).

A-6. Provide curbs, gutters, and sidewalks on both sides of NE 125th Street from 5th Avenue NE to Roosevelt Way NE. The location of this improvement concept is shown in **Figure 5-19**.

A-7. Upgrade the existing traffic signal at the NE 125th Street /15th Avenue NE intersection to include poles/mast arms and vehicle detection.

Figure 5-18. Intersection of NE 125th Street and Roosevelt Way (A-5)

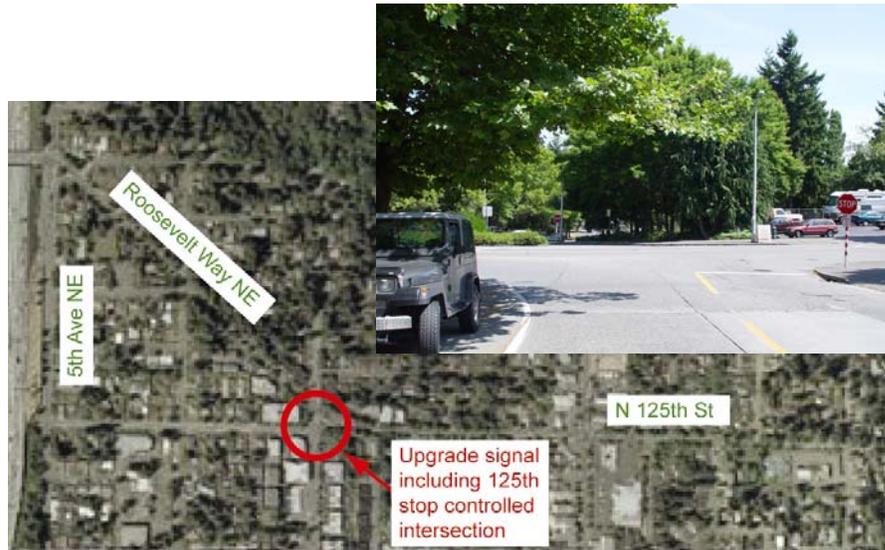


Figure 5-19. Sidewalk on NE 125th Street: 5th Avenue NE to Roosevelt Way (A-6)



NE 92nd Street Corridor (West of 5th Avenue NE)

NE 92nd Street west of 5th Avenue NE is one of the three arterials in the study area that cross I-5. It connects North Seattle Community College with the communities east of I-5 and the Transit Center.

Key Transportation Issues

The CTIP study identified the following transportation issues in this corridor:

- While NE 92nd Street between 1st Avenue N and 5th Avenue NE is a collector arterial, it carries relatively high volumes of traffic: 5,900 vehicles per day. This section of NE 92nd Street abuts single-family houses.
- The intersection of N 92nd Street and 1st Avenue NE, which is unsignalized, will operate at LOS F before 2010.

Transportation Improvement Concepts

The CTIP study identified the following improvement concepts for this corridor, shown in **Figure 5-20**:

D-1. Provide curbs, gutters, and sidewalks on both sides of NE 92nd Street from 1st Avenue NE to 5th Avenue NE. Provide curb bulbs as appropriate to assist pedestrian crossings.

D-2. Install a traffic signal after adopted warrants have been met at the NE 92nd Street and 1st Avenue NE intersection. When traffic signal is installed, replace existing speed humps with humps that are consistent with the most current SDOT design and construction standards.

Figure 5-20. NE 92nd Street: Sidewalks and Signal Locations (D-1, D-2)



N/NE Northgate Way Corridor (East of I-5)

N/NE Northgate Way is a principal east-west arterial. (Northgate Way becomes "N Northgate Way at 1st Avenue NE and westward; it is NE Northgate Way east of 1st Avenue NE). This five-lane street carries high volumes of traffic in the vicinity of I-5 and the Northgate commercial areas between Meridian Avenue N and Roosevelt Way NE. The Seattle Land Use Code (SMC 23.71.004) designates the section of NE Northgate Way from 3rd Avenue NE to 11th Avenue NE a "Major Pedestrian Street," requiring future development to provide ground-level streetfront uses geared toward pedestrians.

However, high traffic volumes and the I-5 interchange ramps make pedestrian crossings difficult along this corridor. The NACP recommended a sky bridge across NE Northgate Way somewhere between 3rd Avenue NE and 5th Avenue NE. The CTIP does not recommend a sky bridge because it would depress pedestrian activity at the street level. Many pedestrians are reluctant to use sky bridges because of the extended walking distance and concerns about personal safety. A sky bridge is very costly to construct and may be difficult to build in a tight urban space. The CTIP's recommendations will ease street-level pedestrian crossings and encourage safe crossings at the intersections.

Transportation Issues

The CTIP study identified the following transportation issues in this corridor:

NE Northgate Way carries high traffic volumes, shown in **Figure 5-21**: the highest section is under I-5 at 40,900 vehicles per day. The sections of N/NE Northgate Way between Meridian Avenue N and Roosevelt Way carry 30,000 to 35,000 vehicles per day.

Several mid-block sections of NE Northgate Way have a high incidence of traffic crashes over the past 5 years, ranging from 9.6 to 26.4 crashes per year (1999–2003). **Figure 5-22** highlights the mid-block crashes on N/NE Northgate Way.

Increasing through traffic and redevelopment within the study area will increase future traffic volumes on N/NE Northgate Way. As shown on **Figure 5-23** two intersections on N/NE Northgate Way, one at Meridian Avenue N and the other at 5th Avenue NE, will operate at LOS F in 2010, which represents long vehicle delay.

Figure 5-21. 2004 N/NE Northgate Way Daily Traffic Volumes (Average Weekday Traffic)

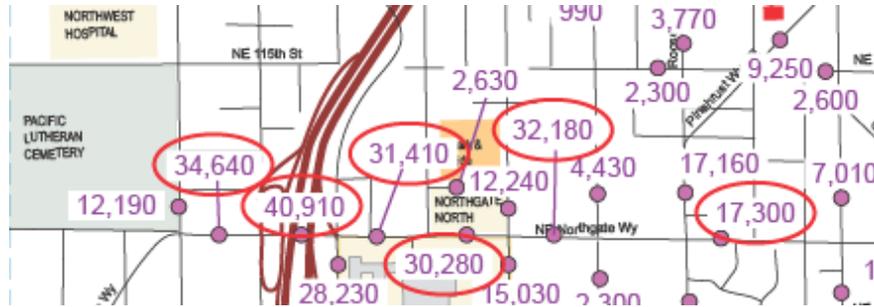


Figure 5-22. N/NE Northgate Way Mid-Block Crashes (Annual Average Collisions, 1999–2003)

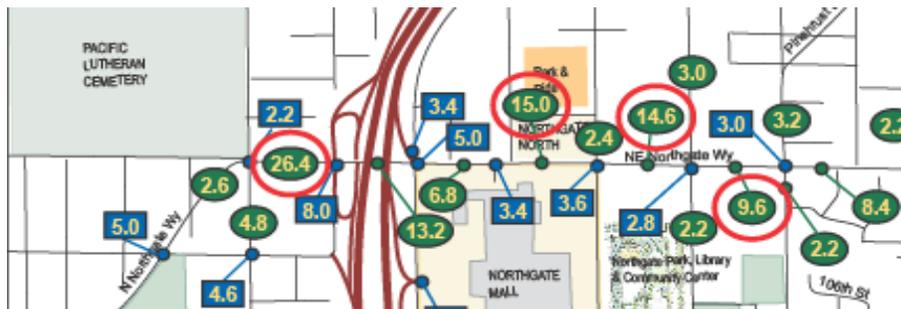
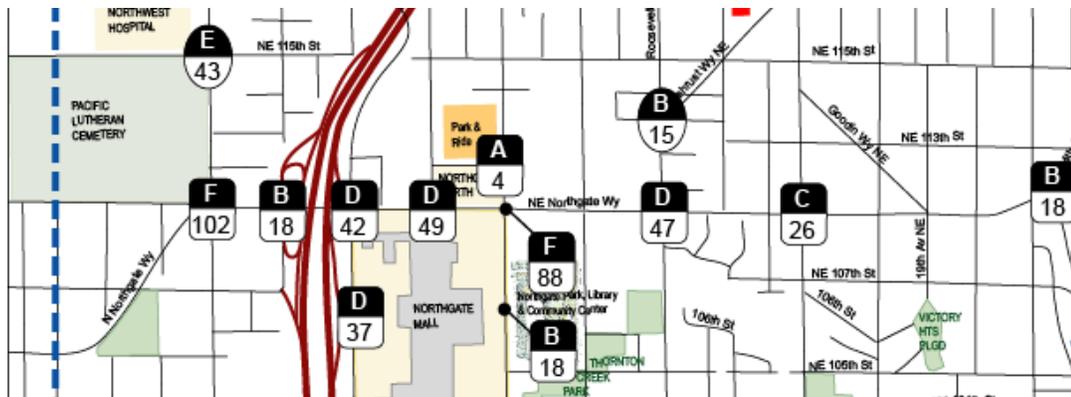


Figure 5-23. 2010 Intersection Levels of Service along N/NE Northgate Way



The Northgate Open Space and Pedestrian Connections Plan (2004) identified this location as needing improvement for pedestrian crossings. While it appears that the number is not large, some pedestrians are crossing illegally at busy mid-block locations between 3rd Avenue NE and 5th Avenue NE. Part of this may be attributed to the confusing and ill-defined pathways at this location. The existing intersection with 3rd Avenue NE, the semi-circular Northgate Mall driveways and placement of landscaping on the Northgate Mall side, and the unused bus shelter discourage pedestrians from using the crosswalks at this important location (see **Figure 5-24**).

Figure 5-24. Existing NE Northgate Way/3rd Avenue NE and Northgate Mall Driveways



Transportation Improvement Concepts

The proposed improvement concepts on N/NE Northgate Way between I-5 and Meridian Avenue N are discussed in the upcoming “West of I-5” section. This section identifies transportation improvement concepts for the sections of NE Northgate Way between I-5 and 15th Avenue NE:

E-1. Coordinate all signals and optimize signal operation for peak/non-peak weekdays and weekend days based on vehicle volumes on N/NE Northgate Way.

E-2. Modify the westbound approach at the NE Northgate Way/1st Avenue NE/I-5 on-ramp intersection to achieve the following configuration: Curb lane: right and I-5 on-ramp, 2nd lane: I-5 on-ramp and through, and 3rd lane: through only. Widen the I-5 northbound on-ramp to two lanes (see **Figure 5-25**).

E- 3. Monitor safety performance of westbound traffic on NE Northgate Way approaching 1st Avenue intersection to determine whether future channelization improvements are warranted.

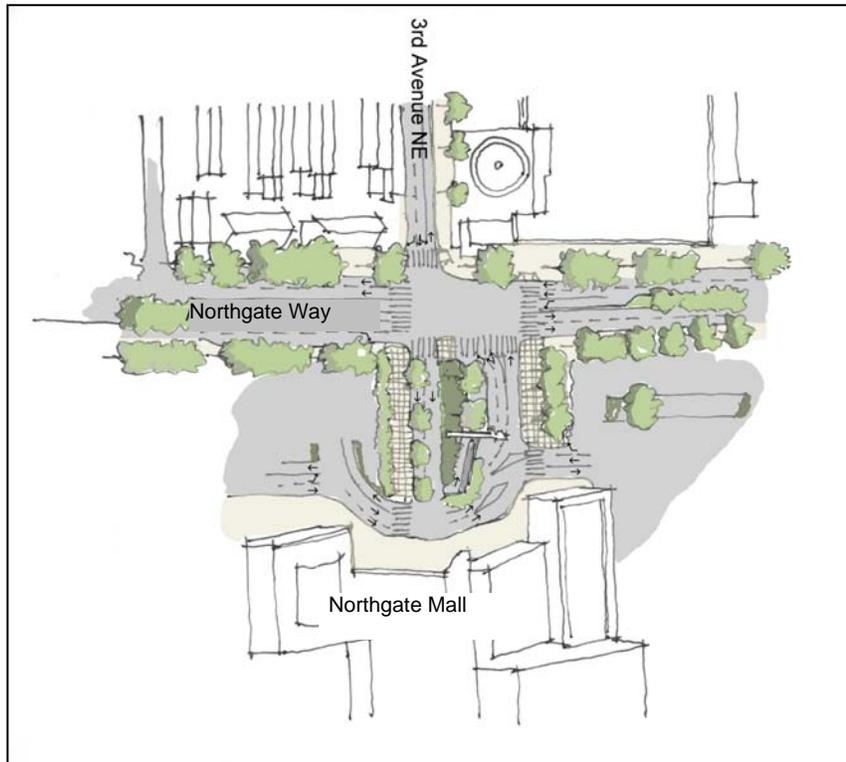
Figure 5-25. NE Northgate Way and 1st Avenue NE (E-2)



E-4 and E-5. Working with the Northgate Mall owner, add a new access driveway to the 3rd Avenue NE alignment at the NE Northgate Way/3rd Avenue NE intersection and eliminate the existing semi-circular, two-intersection Northgate Mall driveway. It may require widening of 3rd Avenue north of NE Northgate Way to align the approach lane with the Northgate Mall side. Provide crosswalks on all legs at the NE Northgate Way/3rd Avenue NE intersection. Place barriers at the edge of the north sidewalk or in the median (possibly landscaping) between 3rd Avenue NE and 5th Avenue NE to discourage mid-block street crossings by pedestrians.

Figure 5-26 illustrates the E-4 and E-5 concepts.

Figure 5-26. NE Northgate Way: 3rd Avenue NE to 5th Avenue NE (E-4, E-5)



E-6. Add a second westbound left turn lane on NE Northgate Way at 5th Avenue by widening the south side of NE Northgate Way from approximately 8th Avenue to 3rd Avenue. Assign southbound curb lane to right turns only. Realign the southbound through lane to eliminate the “offset” condition. Provide urban design treatments to enhance pedestrian crossings at the NE Northgate Way/5th Ave NE intersection. These improvement concepts are shown in **Figure 5-27**.

E-7. Work with the businesses along NE Northgate Way to develop an access management plan that includes construction of medians and limitation of mid-block left turns from 5th Avenue NE to Roosevelt Way NE. Consider where breaks in the medians may be allowed for access, or U-turns at intersections. These improvements are shown in **Figure 5-28**.

Figure 5-27. NE Northgate Way/5th Avenue NE Intersection with Urban Design Concept (E-6)

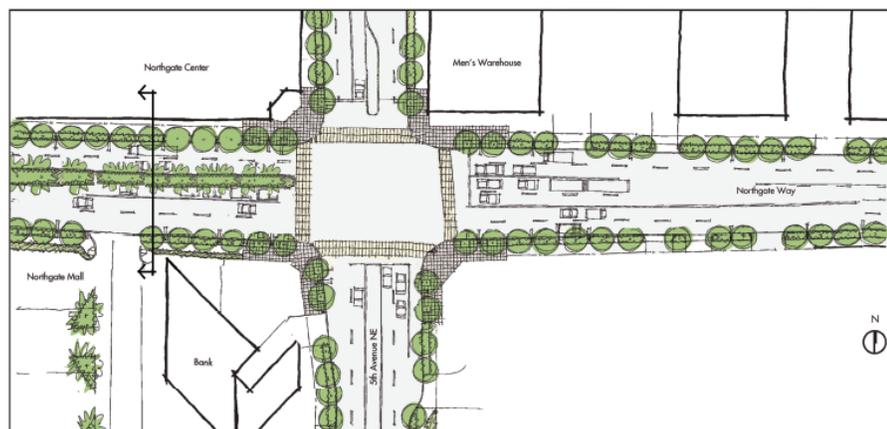
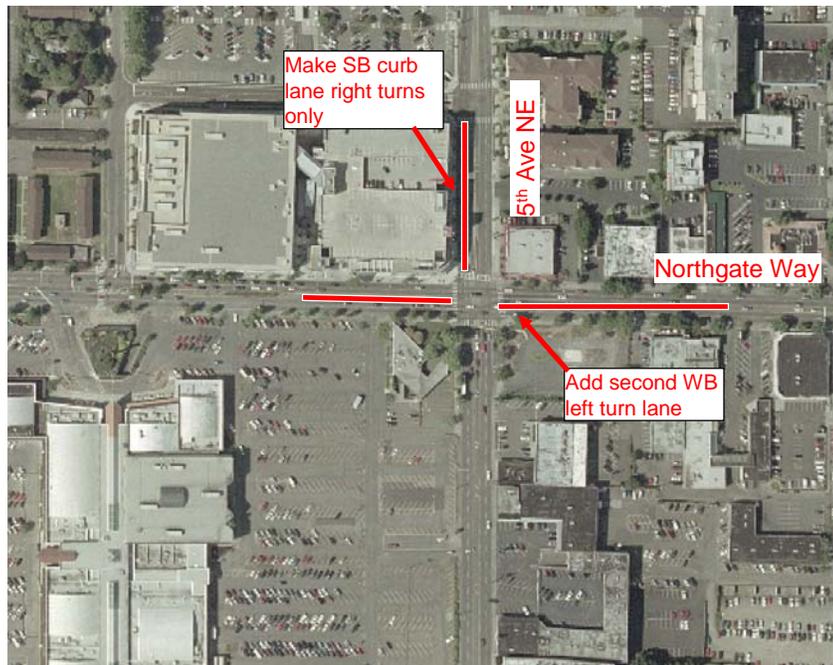


Figure 5-28. NE Northgate Way: 5th Ave NE -Roosevelt Way NE (E-7)



E-8. Replace the existing pedestrian signal with a traffic signal and allow left turns on all approaches at the NE Northgate Way/8th Ave NE intersection. **Figure 5-29** shows the location of this proposed signal.

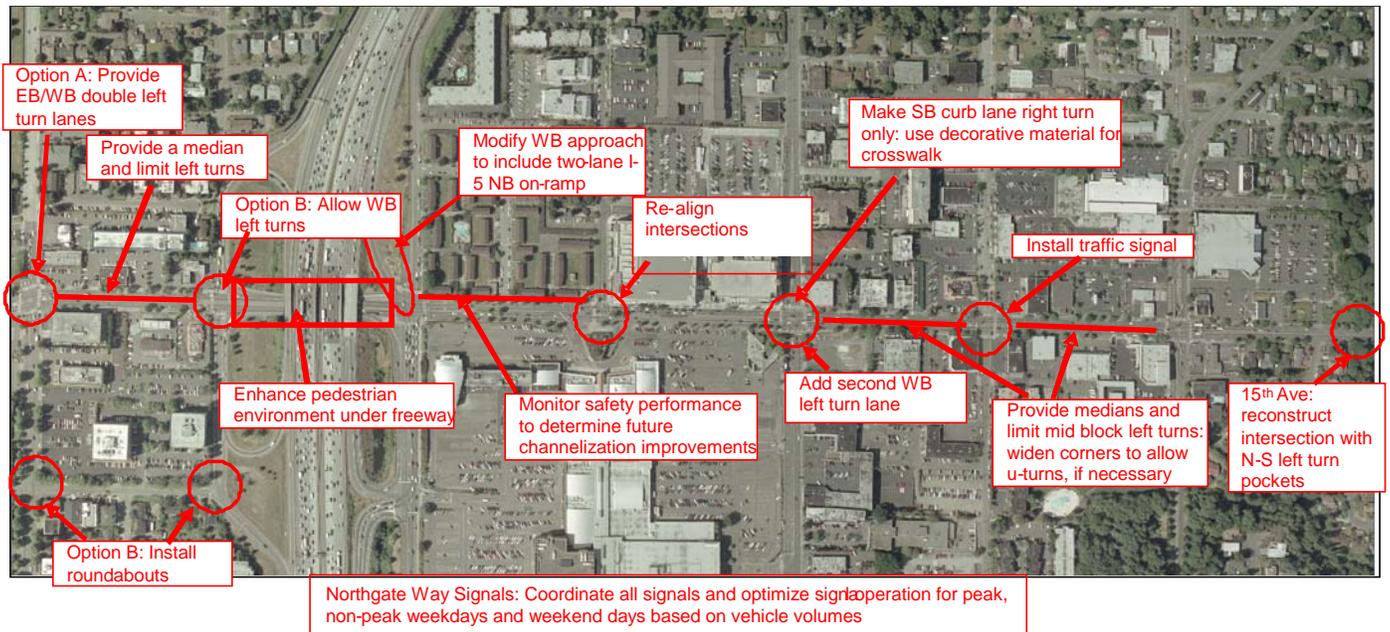
Figure 5-29. NE Northgate Way/8th Avenue NE (E-8)



Summary of N/NE Northgate Way Improvement Concepts

Figure 5-30 shows all improvement concepts proposed for the N/NE Northgate Way corridor within the CTIP study area. Improvements on NE Northgate Way east of I-5 are discussed in the previous section; those west of I-5 are in the following section.

Figure 5-30. N/NE Northgate Way Corridor Improvement Concepts



CTIP Study Area West of I-5

The study area west of I-5 includes major institutions such as Northwest Hospital, North Seattle Community College, and many medical offices along Meridian Avenue N. This area also includes N/NE Northgate Way between Meridian Avenue N and I-5.

Key Transportation Issues

The CTIP study identified the following transportation issues in this area:

- Limited bicycle riding space and high traffic speeds on Meridian Avenue N and 1st Avenue N west of I-5, resulting in low bicycle level of service.

- The highest number of mid-block traffic crashes between 1999 and 2003 was recorded on N/NE Northgate Way between Meridian Avenue N and the I-5 southbound off-ramp/Corliss Avenue N: an average of 26 crashes per year. The crash rate (accidents per million vehicles) on this road segment was also high during that same time period.
- High vehicle crash rates on Meridian Avenue N between N Northgate Way and N 107th Street, and at the intersection of Meridian Avenue N and N 107th Street (1999–2003).
- The signalized intersection of Meridian Avenue N and N Northgate Way will operate at LOS F by 2010.
- The unsignalized intersection of Meridian Avenue N and N 115th Street will operate at LOS E in 2010. Although the unsignalized intersection of College Way N and N 92nd Street is projected to operate at LOS F, it appears that this intersection will nevertheless function adequately because it is a three-legged intersection.

Transportation Improvement Concepts

The following transportation improvement concepts would address the issues listed above:

C-1. Add bicycle lanes or widen shoulders to accommodate bike traffic on 1st Avenue NE from N 117th Street to N 130th Street.

C-2. Add bike lanes and sidewalks on Meridian Avenue N from N 115th Street to N 122nd Street.

Figure 5-31 shows the locations of C-1 and C-2 on an aerial photo.

C-3. Install a traffic signal after adopted warrants have been met at the N 115th Street/Meridian Avenue N intersection.

C-4. Provide bicycle lanes on both sides of Meridian Avenue N from N 100th Street to N Northgate Way.

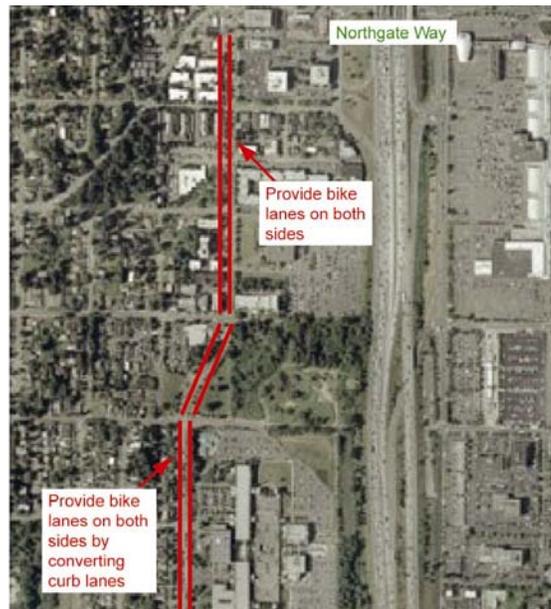
C-5. Provide bicycle lanes on both sides of College Way N from N 92nd Street to N 100th Street by converting the curb lanes to bicycle lanes. Work with Metro to ensure that transit service standards for speed and reliability of service are maintained.

Figure 5-32 shows the locations of the C-4 and C-5 bicycle lane improvement concepts.

Figure 5-31. Sidewalk & Bicycle Improvements on 1st Avenue N and Meridian Avenue N (C-1, C-2)



Figure 5-32. Meridian Avenue N/College Way N Bicycle Improvements (C-4, C-5)



C-6. Add double left turn lanes on westbound N Northgate Way at the intersection with Meridian Avenue N. (Note: This improvement conflicts with the location of an existing four-story building at the southeast corner of the intersection. To implement this project would require purchase of this building. This project received a low evaluation score due to high cost, particularly in relation to the greater safety benefit and the lower cost of the alternative approach {i.e. the Corliss Avenue N “bypass” concept described in C-9, C-10 and C-11}).

C-7. Allow westbound left turns from NE Northgate Way to southbound Corliss Avenue at the southbound I-5 off-ramp/Corliss Ave/NE Northgate Way intersection. Extend the westbound left turn lane on NE Northgate Way under the I-5 overpass by placing sidewalks behind the columns. This improvement is tied with C-9 and C-10 described below, which should be implemented together.

Figure 5-33 shows the locations of C-7, C-9, and C-10.

Figure 5-33. Meridian Avenue N, Corliss Avenue N Roundabouts and I-5/Corliss Avenue N Left-Turn Pocket (C-7, C-9, C-10)



C-8. Provide a median and limit mid-block left turns on N Northgate Way from Meridian Ave N to the Corliss Ave N/I-5 off-ramp. Consider where a break in the median may be allowed. Investigate feasibility of providing a business access street south of N Northgate Way. This access is illustrated in **Figure 5-34**.

Figure 5-34. N/NE Northgate Way Access Management West of I-5 (C-8)



C-9. Provide a roundabout at the southbound I-5 On Ramp/Corliss Avenue N/N 107th Street intersection. C-9, C-10, C-11 and J-5 work together to form an alternative westbound route to Meridian Avenue (see **Figure 5-33**).

What are Roundabouts?

Modern roundabouts can provide safe and cost-effective traffic control at some intersections. A roundabout separates through and turning traffic into designated lanes with “splitter islands” to minimize traffic weaving. Well-designed and appropriately placed roundabouts also provide safer pedestrian crossings and can accommodate large turning radii required by trucks and emergency vehicles.



Hilton Head, South Carolina, courtesy of Kansas State University Center for Transportation Research & Training

Today’s roundabouts do not function like the large, high-speed traffic circles found in Washington, D.C., (Dupont Circle) and Paris (Arc de Triomphe). These large traffic circles have high crash rates, largely due to high volumes, high speeds, and a considerable amount of weaving between entries and exits. Roundabouts are not the small circles used primarily for neighborhood speed control.

Studies of modern roundabouts show a reduction in serious crashes, as well as reduced delay and queue length compared to other forms of traffic control, such as four-way stops and traffic signals. However, engineering analysis will not always support a

roundabout over a traffic signal or other traffic control measure. Consideration must be given to traffic volumes, capacity requirements, available right of way, and cost.

C-10. Provide a roundabout at the Meridian Ave N/N 107th Street intersection (see **Figure 5-33**).

J-5. Re-classify Corliss Avenue from NE Northgate Way to N 107th Street and N 107th Street from Corliss Avenue N to Meridian Avenue N from a local street to a collector arterial.

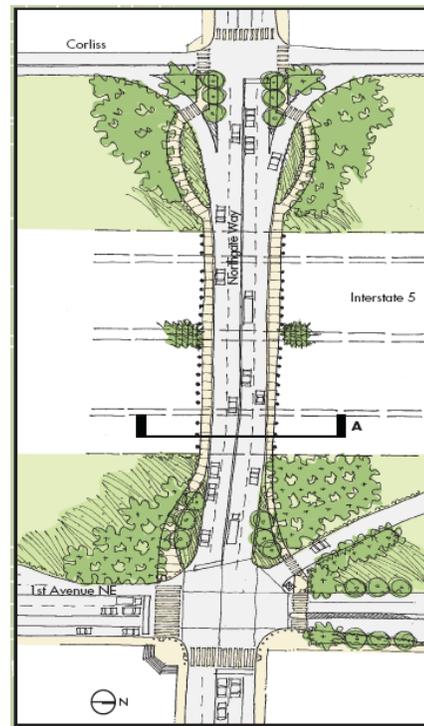
C-11. Provide curbs, gutters, and sidewalks on N 107th Street from Meridian Ave N to Corliss Ave N/SB I-5 on ramp.

C-12. Apply the DPD Open Space/Pedestrian Connections Plan for

design treatments that enhance the pedestrian connection on NE Northgate Way between Corliss Avenue N and 1st Avenue NE particularly under I-5. A key CTIP recommendation is to place the sidewalks behind the I-5 bridge columns. This project should be implemented together with C-7, C-9 and C-10 as a package. **Figure 5-35** shows the design concept for this improvement.

C-13. Upgrade N Northgate Way from Meridian Avenue N to Aurora Avenue N to meet the City's principal arterial roadway design standards. Key improvements needed within this corridor are adding sidewalks along the north edge of North Seattle Park, improving substandard sidewalks, adding urban design treatments, and expanding vehicular capacity at the N Northgate Way/Aurora Avenue intersection.

Figure 5-35. NE Northgate Way Pedestrian Walkway under I-5 (C-12)



Source: Open Space & Pedestrian Connections Plan, 2004

5th Avenue NE Corridor



Artists' Rendition of Library, 5th Avenue Streetscape Plan 2002

The 5th Avenue NE corridor is a north-south arterial, located in the center of the CTIP study area. This street is a two-lane roadway except for the section within the Urban Center between NE 100th Street and NE 112th Street, which is a four- and sometimes five-lane roadway. The Seattle Land Use Code (SMC 23.71.004) designates the section of 5th Avenue NE from NE 113th to NE 105th Street a "Major Pedestrian Street," requiring future development to provide ground-level streetfront uses geared toward pedestrians. Fifth Avenue NE carries about 10,000 vehicles per day on the sections

south of NE 100th Street. However, the section just south of NE Northgate Way carries about 15,000 vehicles per day.

As part of the 5th Avenue NE Streetscape Design Plan (2003), the City will improve 5th Avenue between NE 105th Street and NE Northgate Way with wider sidewalks and improved urban design treatments. A traffic signal will be installed at a new intersection between the driveway to Northgate Mall and the driveway to the new Northgate Civic Center.

Key Transportation Issues

The CTIP study identified the following issues associated with this corridor:

- Unrestricted street parking on 5th Avenue NE between NE 103rd Street and NE 106th Street may negatively impact transit speed and reliability on this key transit corridor. Note: The City plans to allow limited off-peak parking on the east side of 5th Avenue NE in front of the Civic Center.
- Fifth Avenue NE from NE 115th to NE 125th Street is a wide roadway that is currently striped for two lanes of traffic and on-street parking; it may provide sufficient width to accommodate bike lanes.
- There is heavy right turn traffic demand on northbound 5th Avenue NE approaching NE Northgate Way. The existing right turn pocket is not long enough to accommodate the demand.

Transportation Improvement Concepts

I-1. Extend the northbound right turn lane on 5th Ave NE south of NE Northgate Way. This concept is shown in **Figure 5-36**.

I-2. Stripe bicycle lanes on 5th Avenue NE from NE 115th Street to NE 125th Street. The location of this improvement concept is shown in **Figure 5-37**.

I-3. Improve the streetscape and pedestrian street crossings at major intersections on 5th Avenue NE from NE 100th Street to NE 112th Street consistent with the 5th Avenue NE Streetscape Design Plan Final Report (2002). The design concept is shown in **Figure 5-38**.

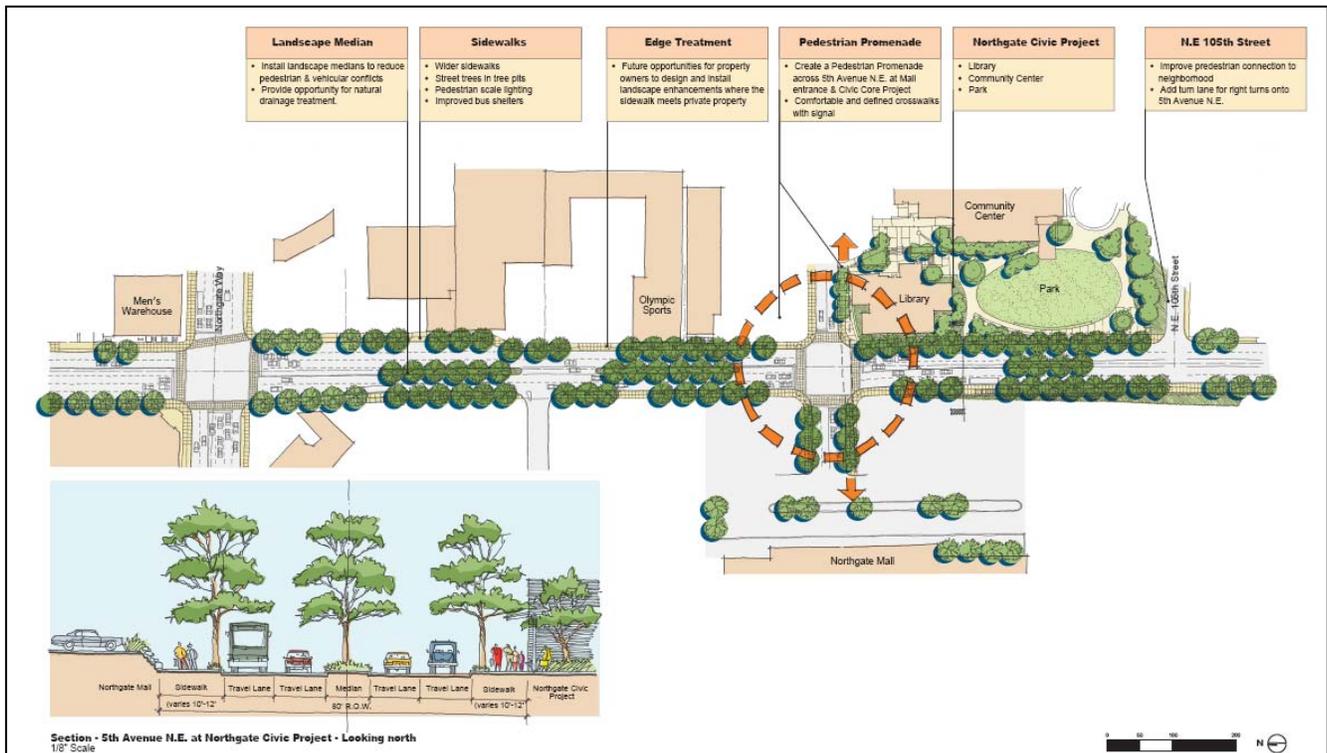
Figure 5-36. Extension of Northbound Right Turn Lane on 5th Avenue NE at NE Northgate Way (I-1)



Figure 5-37. Bicycle Lanes on 5th Avenue NE: NE 115th Street to NE 125th Street (I-2)



Figure 5-38. Fifth Avenue NE Improvement Concept, Phase 1 (I-3)



Roosevelt Way NE Corridor

Roosevelt Way NE is a north-south two-lane arterial, carrying 10,800 vehicles per day, which is slightly more than 15th Avenue NE. It travels through a neighborhood commercial district between NE 95th Street and NE 88th Street. A pedestrian-activated signal is provided at NE 95th Street. However, because no east-west arterial crosses Roosevelt Way NE between NE Northgate Way and NE 80th Street, no traffic signal is provided for this section of Roosevelt Way NE. Transit service on Roosevelt Way NE connects Northgate, Maple Leaf, University Village, and the University of Washington.

Key Transportation Issues

Given the relatively large traffic volumes on Roosevelt Way NE, the existing pedestrian-activated signal at NE 95th Street and Roosevelt Way NE may not be sufficient for pedestrian crossings in the vicinity of the neighborhood commercial district between NE 95th Street and NE 88th Street. Access to transit stops also requires pedestrians to cross Roosevelt Way NE. Pedestrians who want to cross Roosevelt Way have difficulty finding breaks in the traffic flow.

Transportation Improvement Concepts

H-1. Analyze pedestrian crossing conditions, including pedestrian demand and adjacent land uses, on Roosevelt Avenue NE between NE 90th Street and NE 94th Street through the neighborhood business district. If consistent with SDOT guidelines and practices, install pedestrian crossing improvements such as curb bulbs and crosswalk signs and markings. **Figure 5-39** shows the generalized location of potential new pedestrian crossings.

Figure 5-39. Roosevelt Way NE Pedestrian Crossings: NE 90th-NE 94th (H-1)



15th Avenue NE Corridor

The 15th Avenue NE corridor is a two-lane north-south arterial that carries a range of 8,200–9,600 vehicles per day. This is also a transit corridor connecting the Maple Leaf community with the Victory Heights and Roosevelt communities as well as the University District and Downtown Seattle.

Key Transportation Issues

The CTIP study identified the following transportation issues for this corridor:

- A high intersection collision rate (1999–2003) at the intersection of NE Northgate Way and 15th Avenue NE. It appears that the high collision rate is due to the intersection geometry of 15th Avenue NE. Through traffic uses left turn queue bypass lanes, but left-turning vehicles may not be able to see the oncoming through vehicles. This intersection needs to be upgraded to include traditional north-south left turn pockets.
- Low level of service for vehicles approaching the unsignalized NE 117th Street/ Pinehurst Way NE intersection. Three streets come together at this intersection: 15th Avenue NE, Pinehurst Way NE, and NE 117th Street. Vehicles on Pinehurst Way travel at relatively high speeds.
- Difficult pedestrian crossing in the vicinity of NE 120th Street and 122nd Street. (The proposed signal at NE 117th Street and 15th Avenue NE/ Pinehurst Way should help ease this problem.)
- Pedestrians on 15th Avenue NE between NE 92nd Street and NE 117th Street walk on unpaved gravel shoulders.
- A high crash rate at the intersection of Pinehurst Way NE and NE 115th Street.

Transportation Improvement Concepts

The CTIP study identified the following improvement concepts:

G-1. Add curbs, gutters, and sidewalks on both sides of 15th Avenue NE from NE 92nd Street to NE 117th Street. (This project may require phasing due to its high cost. Neighborhood-based funds have been allocated for a raised walkway for approximately four blocks {NE 92nd to NE 96th Street}. In 2006 and prior to the execution of this project, SDOT should work with the community to define the permanent design and construction technology to be utilized for the entire 15th Avenue NE pedestrian facility; and phasing and funding options to achieve maximum leverage.)

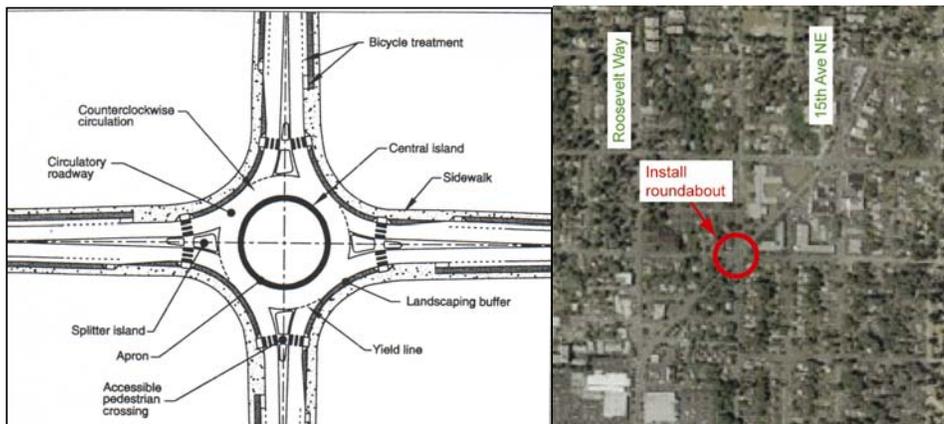
Figure 5-40 shows the location of the sidewalk improvement concept.

Figure 5-40. 15th Avenue NE Sidewalk Improvements (G-1)



G-2. Construct a roundabout at the Pinehurst Way NE/NE 115th Street /12th Avenue NE intersection. A typical two-lane roundabout layout is shown in **Figure 5-41**. Note that this roundabout would be designed with six street legs, instead of the four legs shown in the typical design layout.

Figure 5-41. Typical Roundabout Design and Recommended Pinehurst Way NE Improvements (G-2)



G-3. Install a traffic signal after adopted warrants have been met and modify the intersection geometry at the 15th Avenue NE/NE

117th Street/Pinehurst Way NE intersection. **Figure 5-42** shows the proposed concept.

Figure 5-42. Intersection Location at 15th Avenue NE/NE 117th/Pinehurst Way (G-3)



G-4. Install a pedestrian signal, consistent with SDOT signal warrant criteria at 15th Avenue NE and NE 120th Street. SDOT is currently evaluating the pedestrian need at this location and considering a pedestrian-actuated signal.

G-5. Reconstruct the NE Northgate Way/15th Ave NE intersection. The location of this improvement is shown in **Figure 5-43**.

Figure 5-43. NE Northgate Way/15th Avenue NE Intersection (G-5)

