

3. Existing Conditions

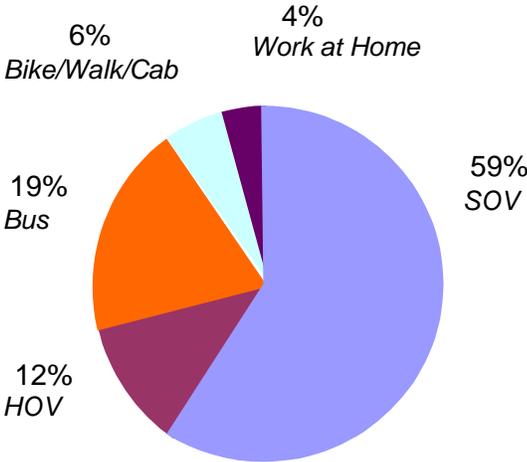
Travel Mode Choices

Traffic in the CTIP study area benefits from the relatively high proportion of both residents and workers who travel by means other than driving alone. The Seattle Comprehensive Plan establishes rigorous goals for reducing single-occupant vehicle travel in all Urban Centers, including Northgate. The Seattle Comprehensive Plan goals for Northgate are to increase transit and carpool trips to 30% by 2010 and to 40% by 2020. For Northgate residents, the combined carpool and transit trip goals are 55% by 2010 and 60% by 2020.

Northgate Residents' Mode Choice

According to the 2000 census, over 42% of Northgate residents travel to work by means other than driving alone (see **Figure 3-1**). Nearly 20% take the bus, 12% carpool, 6% walk, bike or take a cab, and 4% work at home.

Figure 3-1. Northgate Residents' Means of Transportation to Work

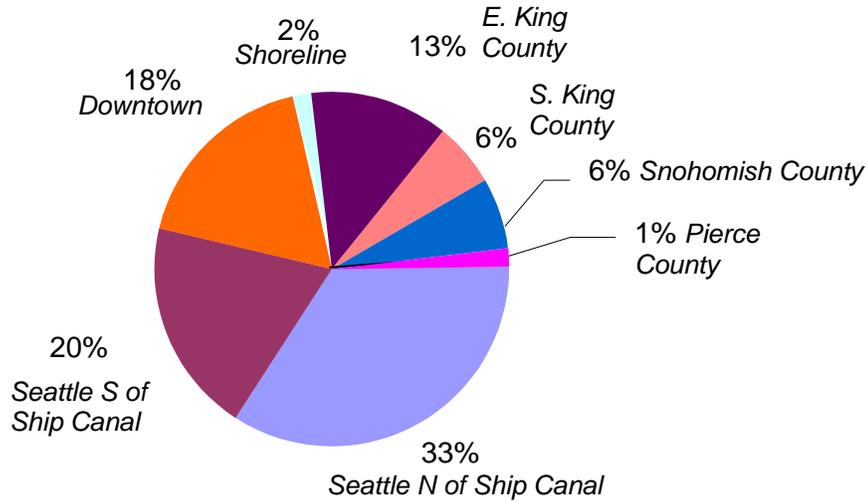


Source: 2000 Census

SOV - single occupant vehicle
HOV - high occupancy vehicles (carpools/ vanpools)

Among the various destinations, most Northgate area residents (71%) work in the City of Seattle, with just over half working in downtown Seattle or north of the ship canal (see **Figure 3-2**). Just over 13% work in East King County. Six percent of Northgate area residents work in South King County and another 6% percent work in Snohomish County.

Figure 3-2. Northgate Residents' Work Trip by Destination



Source: 2000 Census

Table 3-1 further defines Northgate residents' travel mode choice for each destination. Highlights include the following:

- Nearly half of those working in downtown Seattle take transit, while only 6% of those working in Shoreline do.
- Over 10% of Northgate commuters destined for Seattle north of the ship canal or Shoreline bike or walk to work.
- More Northgate residents carpool than take transit to Shoreline and South King County.

Table 3-1. Northgate Residents' Work Trip by Destination

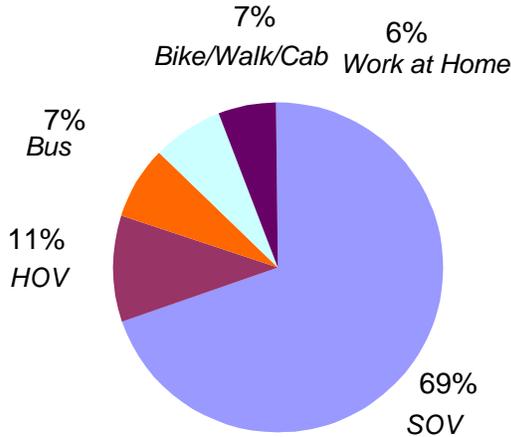
Destination	Transit	HOV	SOV	Bike/Walk
Seattle north of ship canal	14%	9%	51%	13%
Seattle south of ship canal	16%	14%	68%	2%
Downtown Seattle	47%	14%	38%	1%
Shoreline	6%	21%	61%	12%
East King County	11%	10%	77%	2%
South King County	14%	17%	67%	2%

Source: 2000 Census

Northgate Workers' Mode Choice

Figure 3-3 shows that almost 70% of those working in the Northgate area drive alone. Of the remainder, 11% carpool; 7% bus; another 7% walk, bike, or take a cab; and 6% work at home.

Figure 3-3. Means of Transportation to Work in the Northgate Area

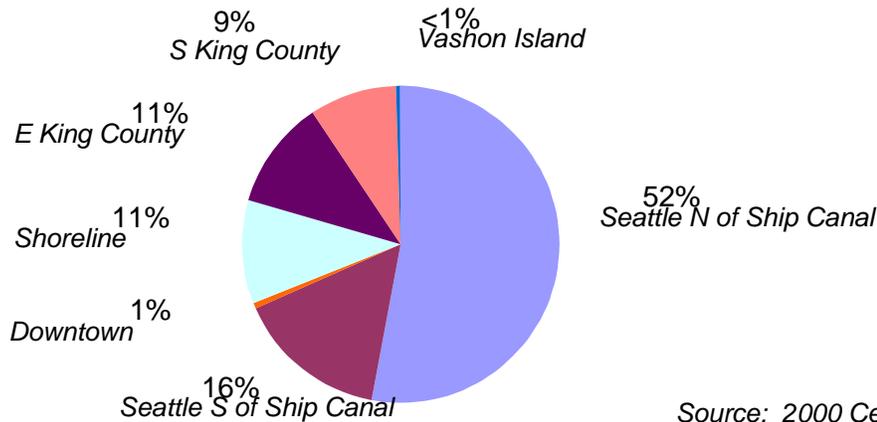


Source: 2000 Census

SOV - single occupant vehicle
 HOV - high occupancy vehicles (carpools/ vanpools)

As shown in Figure 3-4 below, most (52%) of the 7,300 Northgate area workers come from Seattle north of the ship canal. The next largest group (16%) comes from Seattle south of the ship canal, with similar shares (9 -11%) coming from South King County, East King County and the City of Shoreline.

Figure 3-4. Northgate Workers' Work Trip by Origin



Source: 2000 Census

Table 3-2 below summarizes travel mode choices by place of origin for Northgate workers. Key findings include the following:

- Over 40% of workers from Seattle north of the ship canal bike, walk, take transit, carpool, or work at home.
- Carpooling or vanpooling has much higher usage than transit for workers coming from East or South King County.
- Bicycling and walking to work has a notable share (11%) among Northgate workers coming from Seattle north of the ship canal, with other areas reporting much lower numbers. (Note: the 25% bike/walk share of Northgate workers who live in downtown represents only 10 people; fewer than 1% of Northgate workers live in downtown Seattle.)

Table 3-2. Northgate Workers’ Travel Mode Choice by Point of Origin

Northgate Workers’ Travel Mode Choice by Point of Origin	Transit	HOV	SOV	Bike/Walk	Work at Home
Seattle north of ship canal	9%	10%	59%	11%	10%
Seattle south of ship canal	6%	8%	83%	3%	0%
Downtown Seattle	0%	0%	75%	25%	0%
Shoreline	9%	7%	83%	1%	0%
East King County	1%	12%	85%	2%	0%
South King County	5%	19%	76%	0%	0%

Source: 2000 Census

Pedestrian System

This section reports on the existing pedestrian system within the CTIP study area. Key performance indicators were identified for four categories of pedestrian facilities: 1) arterial crossings; 2) connections between neighborhoods and the Northgate Urban Center; 3) connections within the Urban Center; and 4) connections within neighborhoods to local schools, parks, the library, community center, the transit center, and neighborhood commercial districts. **Appendix 3-1** contains detailed data from field visits to each intersection; **Appendix 3-2** contains detailed data on arterial sidewalks and school walk routes.

Arterial Crossings

The Seattle Planning Commission’s 2005 Open Space and Pedestrian Connections plan, public comments at Northgate Community Forums, and Northgate Stakeholders’ input all helped identify arterial intersections and mid-block crossings for project review. Existing conditions at these locations are described below.

Pedestrian and Bicycle Crashes

Figure 3-5 shows the number of reported crashes from 1999 to 2003 involving vehicles and either pedestrians or bicyclists. A number of pedestrian and bicycle crashes are concentrated on Northgate Way between Meridian Avenue N and 15th Avenue NE.



*NE Northgate Way & 3rd Avenue NE
(looking east)*

Two intersections had the highest number of pedestrian crashes (three within five years): Northgate Way at the southbound I-5 off-ramp/Corliss Avenue N, and Northgate Way at 5th Avenue NE. The mid-block crossing at Northgate Way N between Meridian Avenue N and the southbound I-5 off ramp/Corliss Avenue N shows the highest number of reported pedestrian crashes. Many people commented during the study about pedestrians crossing illegally on Northgate Way between 3rd Avenue N and 5th Avenue N

(between Northgate North and Northgate Mall), but only one pedestrian crash has been reported within the last five years.

NE Northgate Way Pedestrian Crossings

Within the study area, NE Northgate Way has ten signalized intersections, two of which are pedestrian-activated signals:

- Meridian Avenue N
- Corliss Avenue N/I-5 Southbound Ramps
- 1st Avenue NE/Northbound on-ramps
- 3rd Avenue NE
- 5th Avenue NE
- 8th Avenue NE (pedestrian activated)
- Roosevelt Way NE
- 15th Avenue NE
- 19th Avenue NE (pedestrian activated)
- 24th Avenue NE

All signalized intersections provide pedestrian crosswalks. However, for pedestrian safety and traffic operation, not all legs of each signalized intersection provide a pedestrian crossing. For example, at the Corliss Avenue southbound I-5 off-ramp, the east leg of the intersection with Northgate Way N does not provide a crosswalk. Similarly, the west leg of the 1st Avenue N/Northgate Way intersection does not provide a crosswalk.

The 3rd Avenue NE intersection serves pedestrians crossing between Northgate North and the Northgate Mall. However, the crossing does not serve either location particularly well. This intersection involves three driveways in close proximity: the entry and exit into Northgate Mall, and 3rd Avenue NE itself. Pedestrians in this vicinity seeking to cross from north to south must walk eastbound across 3rd Avenue NE to the crosswalk. Once at the south side of NE Northgate Way, the Mall entryway landscaping and bus layover zone present barricades around which pedestrians must travel to enter the Mall.

Pedestrians crossing NE Northgate Way elsewhere face a substantial number of turning vehicles, with the highest volumes at 5th Avenue NE, Roosevelt Way and the I-5 ramps. Medians at the I-5/Corliss Avenue N southbound ramps, at 3rd Street NE and at 8th Street NE Northgate Way provide some pedestrian refuge. Only the east/west crossing at the 1st Avenue NE/Interstate-5 ramp has an audible crossing signal.

5th Avenue NE

The following intersections along 5th Avenue NE are signalized:

- NE 130th Street
- NE 112th Street (including behind Northgate North)
- NE Northgate Way
- NE 106th Street
- NE 103rd Street
- NE 100th Street
- NE 95th Street (pedestrian activated)
- NE 92nd Street

None of the intersections provide audible pedestrian crossing signals or refuge space. Conflicting turning volumes are particularly high at NE Northgate Way. This intersection also

serves a relatively high volume of pedestrians and is in close proximity to several senior housing complexes. Curb and ADA ramps are in poor condition at the intersections of 5th Avenue NE and NE 103rd Street and NE 100th Street. NE 105th Street presents pedestrian challenges as it approaches the unsignalized intersection with 5th Avenue NE from the east. The road has a very steep grade and lacks sidewalks or a pedestrian pathway. In 2006, the 5th Avenue NE Streetscape Project will construct a sidewalk on the north side of NE 105th adjacent to the Civic Center, and it will also provide a new intersection at 106th



*5th Avenue NE & NE 112th Street
(looking southwest)*

Street on 5th Avenue NE, which will be aligned with the Northgate Mall entrance. Pedestrians on 5th Avenue NE from NE 105th Street will be able to safely use this crossing location.

8th Avenue NE

In addition to other traffic controls, the intersection of 8th Avenue NE and NE Northgate Way provides a pedestrian signal that stops traffic on NE Northgate Way. This also allows north-to-east



NE Northgate Way & 8th Avenue NE (looking northeast)

turning traffic from 8th Avenue NE to proceed at the same time, which can present pedestrian/vehicle conflicts.

Midblock on 8th Avenue NE just north of NE Northgate Way, pedestrians often cross to access the U.S. Post Office. The street is 40 feet wide at this location with heavily used on-street parking on both sides. Parking is restricted for approximately 47 feet south of the U.S. Post Office driveway, but visibility for drivers exiting business and retail establishments on 8th Avenue NE is reduced. Northbound traffic on 8th Avenue NE has limited sight distance due to the grade at this location.

Roosevelt Way NE

The following intersections along Roosevelt Way NE within the study area are signalized:

- NE 112th Street
- NE Northgate Way
- NE 95th Street (pedestrian activated)



Roosevelt Way NE north of NE Northgate Way (looking west)

None of the intersections provide audible pedestrian crossing signals or refuge space. Many pedestrians bypass the signal at NE 112th Street and cut across the TJ Maxx Plaza to QFC and the adjacent bus stop from nearby residential areas. There is a channelized left turn lane at this location with an island. Many pedestrians also choose to cross just north of NE 112th Street near the intersection of Roosevelt Way NE and Pinehurst Way NE. Vehicle speeds and restricted driver sight distance present an increased risk for pedestrians crossing at these unmarked crossings.

Vehicles traveling Roosevelt Way NE between NE Northgate Way and NE 80th Street do not encounter any signalized intersections. There is a pedestrian signal at NE 95th Street, but no signalized crossings serving the restaurants and businesses between NE 92nd Street to NE 88th Street. An unlit overhead crosswalk sign hangs across Roosevelt Way NE at NE 90th Street, but pedestrians must be very vigilant to cross the often steady stream of traffic along this busy roadway.

15th Avenue NE

Crossings at the following locations on 15th Avenue NE were identified for review:

- NE 117th Street to NE 125th Street
- NE 94th Street to NE Northgate Way
- Access to Sacajawea School via NE 94th, 95th and 96th streets
- The NW Puppet Center



*15th Avenue NE & NE Pinehurst Way
(looking south)*

The roadway between NE 117th and NE 125th serves several small businesses and a grocery store, as well as a number of apartment and condominium buildings. A pedestrian crosswalk is provided across 15th Avenue NE at NE 120th Street. Moving farther to the south on 15th Avenue NE, there is a marked pedestrian crossing at NE 95th Street. The Northwest Puppet Center at the corner of 15th Avenue NE and NE 92nd generates pedestrian traffic.

3rd Avenue NE: NE 100th to NE 103rd Street

King County is currently designing a new, pedestrian-oriented three-lane minor arterial to connect NE 103rd Street to NE 100th Street. It will bisect the South Lot superblock that now stretches from 1st Avenue NE to 5th Avenue NE. When the 3rd Avenue NE extension is constructed, a signal at NE 103rd Street will provide pedestrian crossings, connecting the business and medical complexes south of NE 100th Street and Northgate Mall, east of the 3rd Avenue NE exit.

Today an undeveloped parking lot, the South Lot provides great opportunity for transit-oriented development, with its proximity to Metro's Northgate Transit Center and the future Sound Transit link light rail. A proposed mixed-use development will be built east of 3rd Avenue NE to provide housing, commercial development, open

spaces, and pedestrian connections to the Transit Center and surrounding neighborhoods. It will coincide with construction of 3rd Avenue NE. West of 3rd Avenue NE, King County also plans a future transit-oriented-development that will provide additional synergy for a walkable community with great transit access and pedestrian amenities.

The Thornton Creek Water Quality Channel Project, under design by Seattle Public Utilities at the time of this report, will be located east of the new 3rd Avenue NE roadway, abutting the Northgate Commons and ERA Care Community development projects. The Channel Project will provide an extensive network of pedestrian walkways, including a connection between the new 3rd Avenue NE roadway and 5th Avenue NE.

Meridian Avenue N/College Way N

NE 115th Avenue. The four-way stop intersection at NE 115th Street provides access from NE Northgate Way to residential neighborhoods, Northwest Hospital and adjacent medical offices on NE 115th Street.

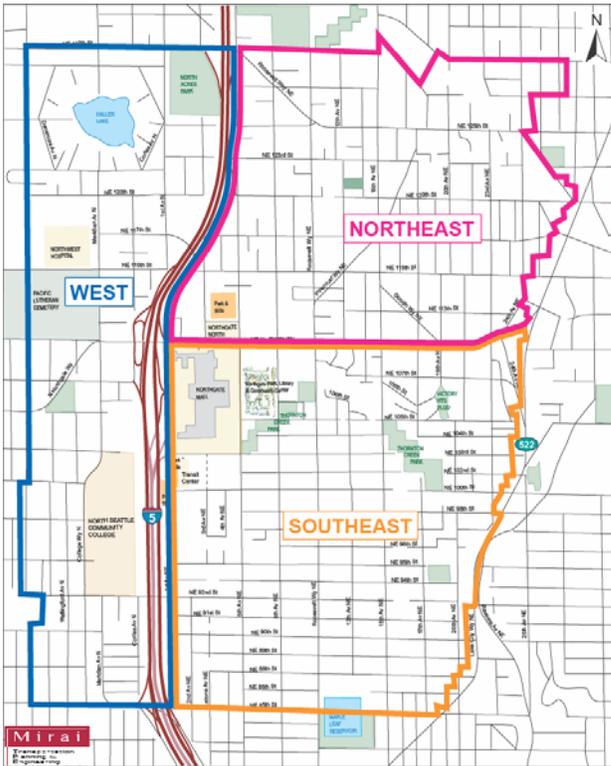
N 103rd and N 105th streets. South of Northgate Way, pedestrians from the neighborhood and office buildings have two marked crossings: a pedestrian signal and crosswalk at N 105th Street, and a marked crosswalk at N 103rd Street. Meridian Avenue N is a three-lane arterial at this location (two lanes with a center two-way turn-lane).

College Way N. South of N 103rd, Meridian Avenue N becomes College Way N and expands to a four-lane roadway with separate turn-pockets at major intersections. The only marked crosswalk is a signalized intersection at N 95th Street. Pedestrian improvements across College Way N have been requested near North Seattle Community College, at N 97th Street and N 100th Street.

Pedestrian Facilities: Neighborhoods to Urban Center, and Within Neighborhoods

To identify pedestrian connections between neighborhoods and the Urban Center, the CTIP study area was divided into three sectors: west, north, and south (see **Figure 3-6**). The west sector falls between North 130th and NE 85th streets to the north and south, and Ashworth Avenue N and 1st Avenue NE to the west and east. First Avenue NE north of Northgate Way is included in the west sector. The north sector runs from NE 130th/NE 125th Street to NE Northgate Way, and I-5 to Lake City Way. The south sector is bounded by NE Northgate Way, NE 85th Street, I-5, and Lake City Way.

Figure 3-6. Urban Center Sector Boundaries



The CTIP study looked at connectivity and quality when evaluating pedestrian linkages from neighborhoods (as defined by sector) to the Urban Center. The benchmark for “connectivity” calls for the total length of sidewalks on arterials to equal 90% of the total arterial linear distance times two. The “quality” of the facilities included assessment of streetlights, and thresholds for sidewalk width and condition, as defined in **Table 3-3**.

Note: Performance measures for non-arterial streets also captured elements of the pedestrian system (see **Table 3-11** on page 3-43), since these roadways are frequently used as pedestrian routes.

Table 3-3. Pedestrian Connections Performance Thresholds

Sidewalks	At least five feet wide; length equal to 90% of total arterial linear distance times two (to represent both sides of the street)
Condition	No tree grate displacement, broken concrete, obstruction or other maintenance issues
Lighting	Excellent = More than one lamppost on every block. Very Good = Unobstructed lighting every block. Fair = Lampposts up to three blocks apart or obstructed lighting Poor = Lampposts three or more blocks apart.

Table 3-4 summarizes the analysis results, with detailed data contained in **Appendix 3-2**. Key areawide findings include the following:

- 81% of the sidewalk miles in the study area meet the benchmark for coverage (90% of arterial length times two).
- 49% of the sidewalk miles in the study area meet the benchmark for coverage, if only 5-foot-wide sidewalks are counted.
- The south sector has the highest percentage (70%) of sidewalks meeting the width benchmark.
- The north sector has the highest percentage (90%) of sidewalks meeting the coverage benchmark.

Table 3-4. Neighborhood to Urban Center Pedestrian Connections

Sector	Total Arterial Miles	Total Sidewalk Miles	Benchmark Miles (90% of sidewalk)	Total Sidewalk/ Path	≥ 5-Foot Sidewalk	≤ 4-Foot Sidewalk	Paved Paths*
West	5.50	11.00	9.90	7.89 mi 72%	3.67 mi 33%	3.73 mi 34%	0.49 mi 4%
North	4.74	9.48	8.53	8.54 mi 90%	3.67 mi 39%	4.56 mi 48%	0.31 mi 3%
South	6.76	13.52	12.17	11.20 mi 83%	9.44 mi 70%	1.76 mi 13%	0.00 mi 0%
TOTAL	17.01	34.02	30.62	27.63 mi 81%	16.78 mi 49%	10.05 mi 30%	0.80 mi 2%

*Paved paths include asphalt paths and sidewalks without curbs

West Sector

This sector has the lowest percentage of sidewalks or paved paths on both sides of arterials. Out of a possible 11 sidewalk miles in this sector (two times the arterial miles in the sector, representing the potential for sidewalks on both sides of the arterial), 3.67 miles (33%) are 5 feet wide or greater. However, if all sidewalks and paved paths are included, regardless of width, the sector has 7.89 miles (72%) of pedestrian facilities.

Meridian Avenue N has a pathway on the east side from NE 115th to Haller Lake, but lacks concrete curb, gutter, and sidewalks from NE 115th to NE 130th Street. However, it should be noted that NE 128th Street, NE 125th Street, NE 122nd Street, Corliss Avenue N, and Densmore Avenue N all have sidewalks on one side of the street, facilitating pedestrian movement. Pedestrian facilities on 1st Avenue NE change from the west to the east side of the street at NE 117th Street, forcing pedestrians to cross the street.

North Sector

The north sector meets the CTIP benchmark for sidewalk distance, if all sidewalks and paved paths are counted regardless of width. That figure drops to 39% for those meeting the 5-foot width threshold. Fifth Avenue NE from NE 130th Street to NE 125th Street, and 15th Avenue NE From Pinehurst Way NE to NE Northgate Way, are missing sidewalks on the west side of the street.



*1st Avenue NE at NE 94th Street
(looking north)*

South Sector

Seventy percent of arterials in the south sector have 5-foot-wide sidewalks. If all sidewalks and paths are considered, regardless of width, the sector has sidewalks covering 83% of the target distance. First Avenue NE between NE 92nd and NE 100th has a partial sidewalk on the east side, some of which is in disrepair, and no sidewalk on the west side. Roosevelt Way NE from NE 95th Street to NE 85th Street has 10-foot sidewalks, unobstructed lampposts on every block, and on-street parking. There are many local businesses and restaurants located in this area.



*NE 100th Street looking west to 1st
Avenue NE*

Pedestrian Facilities: Within the Urban Center

The Northgate Open Space and Pedestrian Connections Plan (2004) identified a series of connectivity targets within the Urban Center. The CTIP connectivity benchmark is the presence of sidewalks on arterials within the Urban Center. Connectivity is acceptable when the total length sidewalks on arterials equal 90% of the total arterial linear distance times two. The quality of the facilities includes assessment of streetlights, sidewalk width, and condition.

Thirty percent of the arterials (4.78 roadway miles, or 9.56 total sidewalk miles) in the study area are within the Urban Center. **Table 3-5** shows that the Urban Center has sidewalks totaling 8.15 miles, putting this sector at 95% of the distance benchmark. If only those sidewalks that are 5 feet or wider are counted, the Urban Center is at 65% of the benchmark.

All arterials within the Urban Center have sidewalks on both sides, except 1st Avenue NE and NE 100th Street, which have sidewalks on only one side. Most of the area has unobstructed lampposts on every block.

Table 3-5. Urban Center Pedestrian Facilities

Sector	Total Arterial Miles	Total Sidewalk Miles	Benchmark Miles (90% of sidewalk)	Total Sidewalk/ Path	≥ 5-Foot Sidewalk	≤ 4-Foot Sidewalk	Paved Paths*
Total	4.78	9.56	8.60	8.15 mi 85%	6.18 mi 65%	1.97 mi 21%	0.00 mi 0%

*Paved paths include asphalt paths and sidewalks without curbs

The following section reviews the existing conditions of specific pedestrian linkages within the Urban Center.

Between North Seattle Community College and Northgate Transit Center

Currently I-5 divides North Seattle Community College and the Northgate Transit Center. Although served by a bus route, the existing freeway crossing at NE 92nd provides a circuitous walking route and a longer walking distance than is typical for bus riders. This situation discourages those students and faculty from North Seattle Community College who might otherwise use the transit center.

Between the new Civic Center and Northgate Transit Center

The new Civic Center (park, library and community center) will have good connectivity to the Transit Center. The area is well lit and has sidewalks that will be improved in the first project of the 5th Avenue NE Streetscape Design Plan. Additional developments and City sidewalk projects, including Northgate Commons and the 3rd Avenue NE Extension, will complete the connections to the Transit Center.

Between Northgate Mall and Northgate Transit Center



103rd Street NE & Northgate Transit Center (looking west)

Pedestrians use a marked crosswalk to cross NE 103rd Street at 3rd Avenue NE. The 3rd Avenue NE Extension will provide a signalized crossing at 3rd Avenue NE.

Between Northgate Mall and new Civic Center

This linkage was analyzed in the previous “arterial crossings” section. The City will relocate the entry to the Mall on 5th Avenue and NE 106th to link to the new Civic Center. Signalized crossings are located at NE 106th Street and NE 103rd Street.

Between Northgate Mall and Northgate North Center

This linkage was also analyzed in the previous “arterial crossings” section. The proximity of three driveways in the vicinity of 3rd Avenue NE, a circuitous crossing route, and the south side barrier of landscaping and the bus layover zone discourage easy pedestrian access.

Between Northwest Hospital and Northgate Mall

Pedestrians who walk between Northgate Mall and Northwest Hospital have two routes to cross I-5. One route uses the N 117th overpass; the other includes NE Northgate Way. Traffic on the N 117th route is much lighter than on NE Northgate Way, but N 117th does not have a sidewalk between Meridian Avenue N and 1st Avenue N. A trail connects this overpass from the east side of I-5 to 3rd Avenue NE at NE 116th Street. Pedestrians can walk on 3rd Avenue NE to get to the Mall.

The NE Northgate Way route provides sidewalks on Meridian Avenue N and NE Northgate Way. Between Meridian Avenue N and the Mall, NE Northgate Way has many driveways, and pedestrians also must cross freeway on- and off-ramps. The I-5 undercrossing is dark with narrow sidewalks adjacent to the heaviest concentration of traffic in the study area.

Between NE 100th Street Offices and Northgate Mall



Looking south across NE 100th Street from Northgate south lot

Although well lit, NE 100th Street currently lacks sidewalks on the north side, and pedestrians must either cross a very large empty parking lot or walk a significant distance around it. The new 3rd Avenue NE roadway under design will connect NE 103rd Street to NE 100th Street. Private development, the City, and King County will construct a continuous sidewalk from 1st Avenue NE to 5th Avenue NE. (Please see the “3rd Avenue NE” analysis in the previous arterial crossings section.)

Pedestrian Access to QFC at Roosevelt Way and NE 112th Street

Some pedestrians choose to walk across the TJ Maxx Plaza to QFC instead of crossing at either NE 112th Street or NE Northgate Way. This location is too close to the NE Northgate Way intersection for a safe mid-block crossing.

8th Avenue NE between NE Northgate Way and NE 92nd Street

Neighborhood residents use 8th Avenue NE as an alternate north-south pedestrian route to 5th Avenue NE. However, 8th Avenue NE does not have a sidewalk, and some sections of the roadway are narrow. This street connects several key activity areas, such as Olympic View Elementary School, Thornton Creek Park, and retail businesses along NE Northgate Way. Vehicles parked on the shoulders of 8th Avenue NE south of NE Northgate Way force pedestrians to walk on the roadway.

School Walk Route Connectivity

Five public elementary schools have school walk routes within the Northgate CTIP area. The Seattle School District has designated many of the local streets in the area as school walk routes.

- Alternative School #1 at Pinehurst Way NE and NE 115th Street
- Northgate Elementary School at 1st Avenue NE and NE 117th Street
- Olympic Hills Elementary School at 20th Avenue NE and 130th Street

- Olympic View Elementary School at 5th Avenue NE and NE 95th Street
- Sacajawea Elementary School at 20th Avenue NE and NE 95th Street

For this performance indicator, acceptable connectivity is defined as sidewalks on at least one side of 90% of all streets designated as school walk routes.

Table 3-6 summarizes the analysis results. Just less than 50 miles of roadway within the study area have been designated as school walk routes. Of these, 49% have some type of paved path or sidewalk on one side; only 27% of them have sidewalks meeting the 5-foot width benchmark. However, the majority of the roads without sidewalks have shoulders exceeding 10 feet in width and very low traffic volumes. These factors help to minimize safety risks for children traveling to and from school. **Appendix 3-2** provides details by school area.

Table 3-6. School Walk Route Existing Conditions (in alphabetical order)

School	Total School Walk Route Miles	Total Sidewalk Miles	Benchmark Miles (90% of sidewalk)	Total Sidewalk /Path	≥ 5-Foot Sidewalk	≤ 4-Foot Sidewalk	Paved Paths*
Alternative School #1	12.29	12.29	11.06	5.90 mi 48%	3.07 mi 25%	2.46 mi 20%	0.37 mi 3%
Northgate Elementary	11.10	11.10	9.99	4.50 mi 41%	2.00 mi 18%	1.78 mi 16%	2.17 mi 20%
Olympic Hills Elementary	5.89	5.89	5.30	2.85 mi 48%	1.71 mi 29%	0.64 mi 11%	0.50 mi 8%
Olympic View Elementary	10.84	10.84	9.76	6.50 mi 57%	3.94 mi 36%	1.95 mi 18%	0.61 mi 6%
Sacajawea Elementary	8.28	8.28	7.45	4.42 mi 53%	2.42 mi 29%	1.61 mi 19%	0.39 mi 5%
TOTAL	48.45	48.45	43.61	24.17 mi 49%	13.14 mi 27%	8.44 mi 18%	4.04 mi 8%

*Paved paths include asphalt paths and sidewalks without curbs

Bicycle System

This study evaluated the bicycle system using a bicycle performance index (BPI) based upon bicycle level of service expert Bruce Landis' methodology for assessing bicycle "rideability." This index relates significant bicycling factors into an equation that factors in traffic conditions, roadway design, and surface conditions.

The resulting score equates to a bicycle performance index (BPI) that ranges from an "A" through "F." The target BPI along arterials in the study area was set at a "C" and residential routes was set at "B." In addition, routes that are within ½ mile of a recreational facility or school were assigned a target BPI of "B."

Figure 3-7 identifies commonly used and suggested bicycle routes that were evaluated.

Designated Bicycle Routes

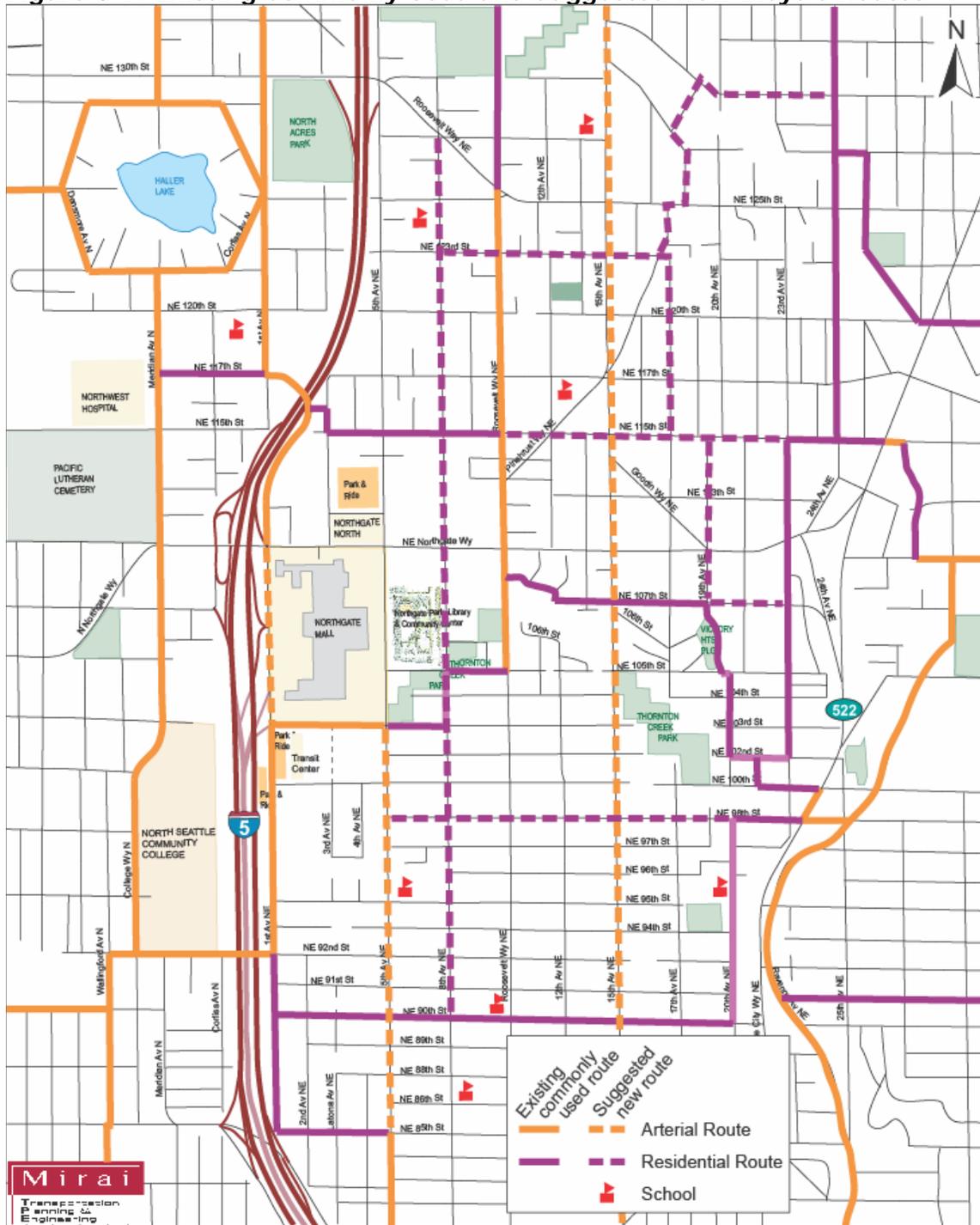
The City of Seattle's Bicycling Guide Map identifies "bicycle facilities" and "commonly used bike routes." "Bicycle facilities" include separate trails and on-street lanes. "Commonly used bike routes" are classified as arterials or residential streets. In the Northgate study area, there are no off-street bicycle facilities. The closest trail in the vicinity is the Burke-Gilman Trail, roughly one mile to the east. On-street bike lanes are located to the south and east of the area, around Green Lake and Ravenna Boulevard. Most of the "commonly used bike routes" run north-south. A few routes, primarily on residential streets, run east-west, and these include some steep hills.



*N 92nd Street near Meridian Avenue N
(looking west)*

Roadway space for bicyclists varies from a shoulder or parking lane to a soft shoulder or sidewalk. Space for cyclists on residential streets is undefined, typically without curbs, gutters or sidewalks. Vehicles often park on the edge of the pavement or on the grass.

Figure 3-7. Existing Commonly Used and Suggested New Bicycle Routes



Bicycle Usage

Within the Northgate study area, residents can bike to many destinations, including Northgate Mall, North Seattle Community College, Northwest Hospital, the post office, park-and-ride lots, local businesses and shops, offices, and schools. In addition to playgrounds and parks in the Northgate area, cyclists can bike to Green Lake to the south or the Burke-Gilman Trail to the east, which connects to the regional trail system. Residents can ride around their own neighborhood or do long-distance riding to areas outside of the study area such as downtown Seattle or the University District.

Bicycle System Performance

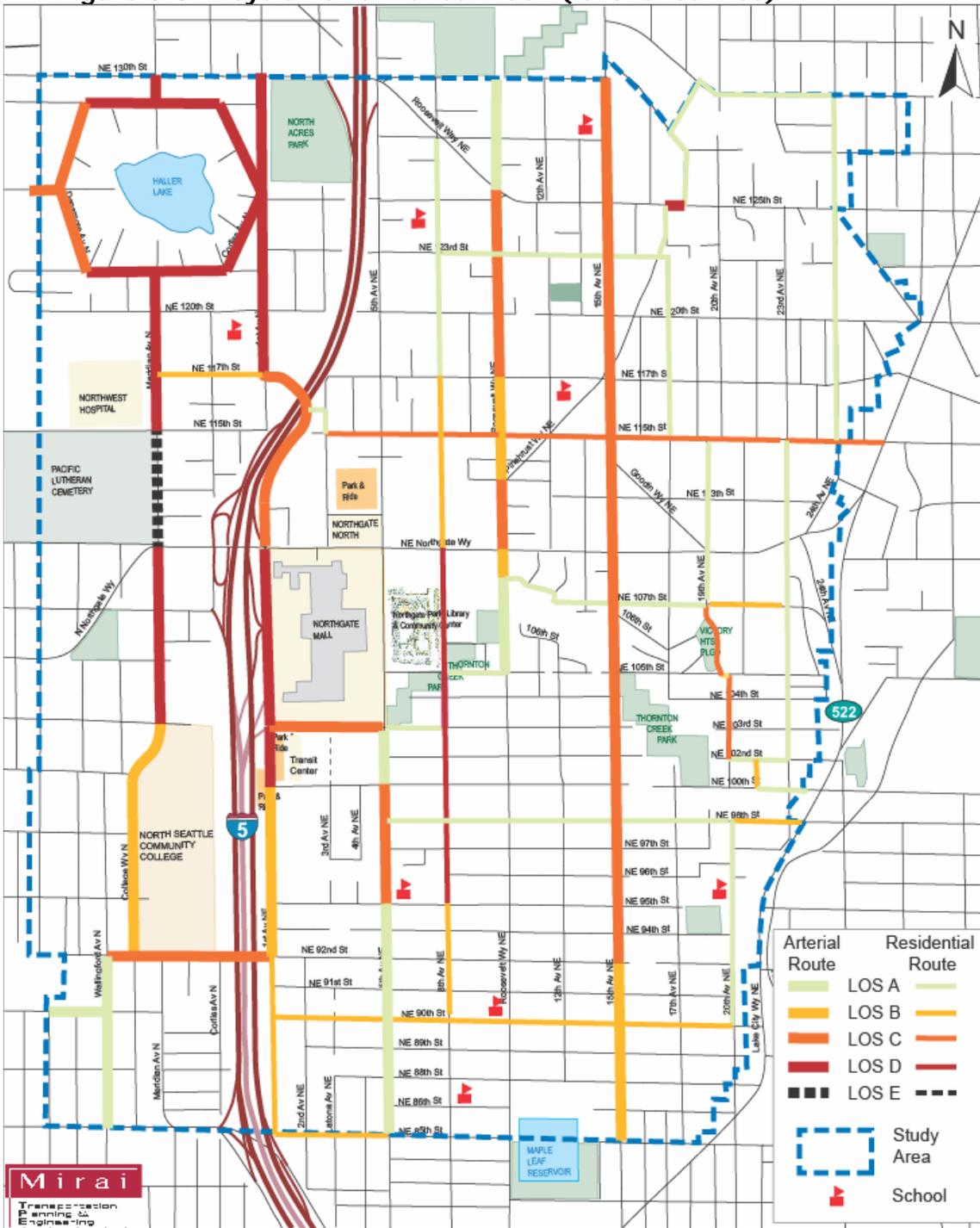
Figure 3-8 shows the rating of commonly used bicycle routes in the study area. Most residential bike routes in the study area have a BPI of "B" or higher, with only a few segments receiving a "C" or "D." Considering both City-designated and proposed residential routes, nearly 50% of the segments received an "A." Only 28% of the residential routes received a "C" or "D," primarily along NE 115th Street. The only "D" segment was noted at NE 125th Street near 19th Avenue NE. The remaining 12% of the routes had a BPI of "B."



*Meridian Avenue NE near NE 107th Street
(looking south)*

For all arterial routes, the BPI was lower overall; "C" and "D" were more common, with 29% of the routes receiving a "D" and 31% receiving a "C." Fewer than 3% of the routes received a BPI of "E." Areas not meeting the BPI target included Meridian Avenue N north of North Seattle Community College and 1st Avenue NE adjacent to the Northgate Mall and north of NE 117th Street.

Figure 3-8. Bicycle Performance Index (level of service)



Transit

The CTIP study defined transit performance measures for local as well as regional service, and specifically identified separate measures for senior households to recognize what is often a more limited ability to walk long distances. These are summarized in **Table 3-7** below. This section also reports on existing conditions relative to the quality-of-service measures established in the Seattle Transit Plan.

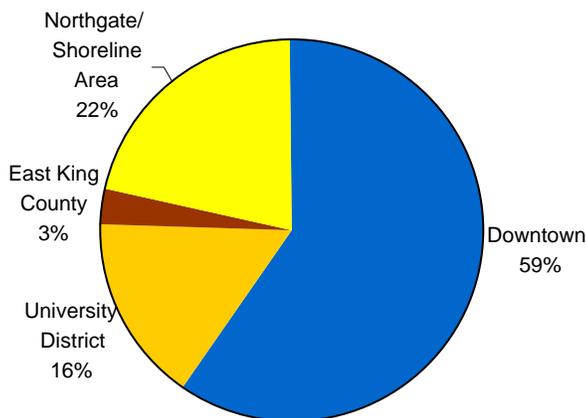
Table 3-7. Transit Performance Benchmarks

Indicator	Senior Households	All Other Households
Coverage	90% within 1/8 mile of a route	60% within 1/4 mile of a route with 15-minute headways 70% within 1/4 mile of a route with 30-minute headways
Frequency	15-minute headways to downtown and U-District 30-minute headways to other Urban Centers/nearby urban villages 30-minute headways to all local destinations	15-minute headways to downtown and U-District 15-minute headways to other Urban Centers/nearby urban villages

Transit Coverage and Frequency

King County Metro Transit provides most of the transit service in the Northgate area. **Figure 3-9** shows that transit in the CTIP study area primarily serves urban villages and Urban Centers within Seattle. Routes cover most arterial streets within the study area. Disabled riders who cannot take accessible fixed-route service can take Metro’s paratransit van service. Metro also owns, operates, and coordinates several park-and-ride lots.

Figure 3-9. Transit Destinations



Sound Transit operates one route connecting Northgate with Issaquah, providing express service to the University District, downtown Bellevue, Eastgate, and Issaquah.

The North Link light-rail project's northern terminus will be next to the Northgate Transit Center on the west side of the Northgate Mall.

Figure 3-10. Transit Operation

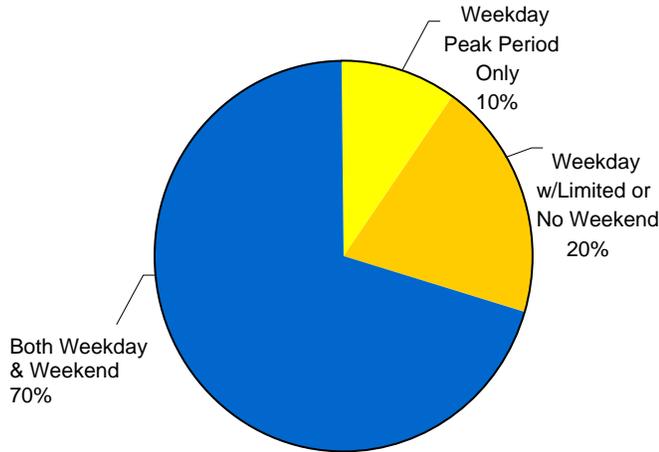


Figure 3-10 shows that as of the autumn 2004 schedule, 70% of all transit routes operate seven days a week. Ten percent of Northgate's transit service operates only during the peak period. The remainder operates weekdays with limited or no weekend service. All peak-period-only routes offer regional connections. Outside of peak periods, most bus service operates on 30-minute headways.

Northgate Area Senior Housing

- Aegis at Northgate
11039 17th Ave NE
- Cedarvale House/Village
11050 8th Ave NE
- Foundation House at Northgate
11301 3rd Ave NE
- Jackson Park House/Village
14396 30th Ave NE
- Lake City House
12546 33rd Ave NE
- Merrill Gardens at Northgate
11501 15th Ave NE
- Northaven
11045 8th NE
- Northgate Plaza
11030 5th Ave NE
- Pinehurst Court
12702 15th Ave NE
- Pinehurst Park Terrace
2818 NE 145th Street
- Remington Place Retirement Inn
3027 NE 137th

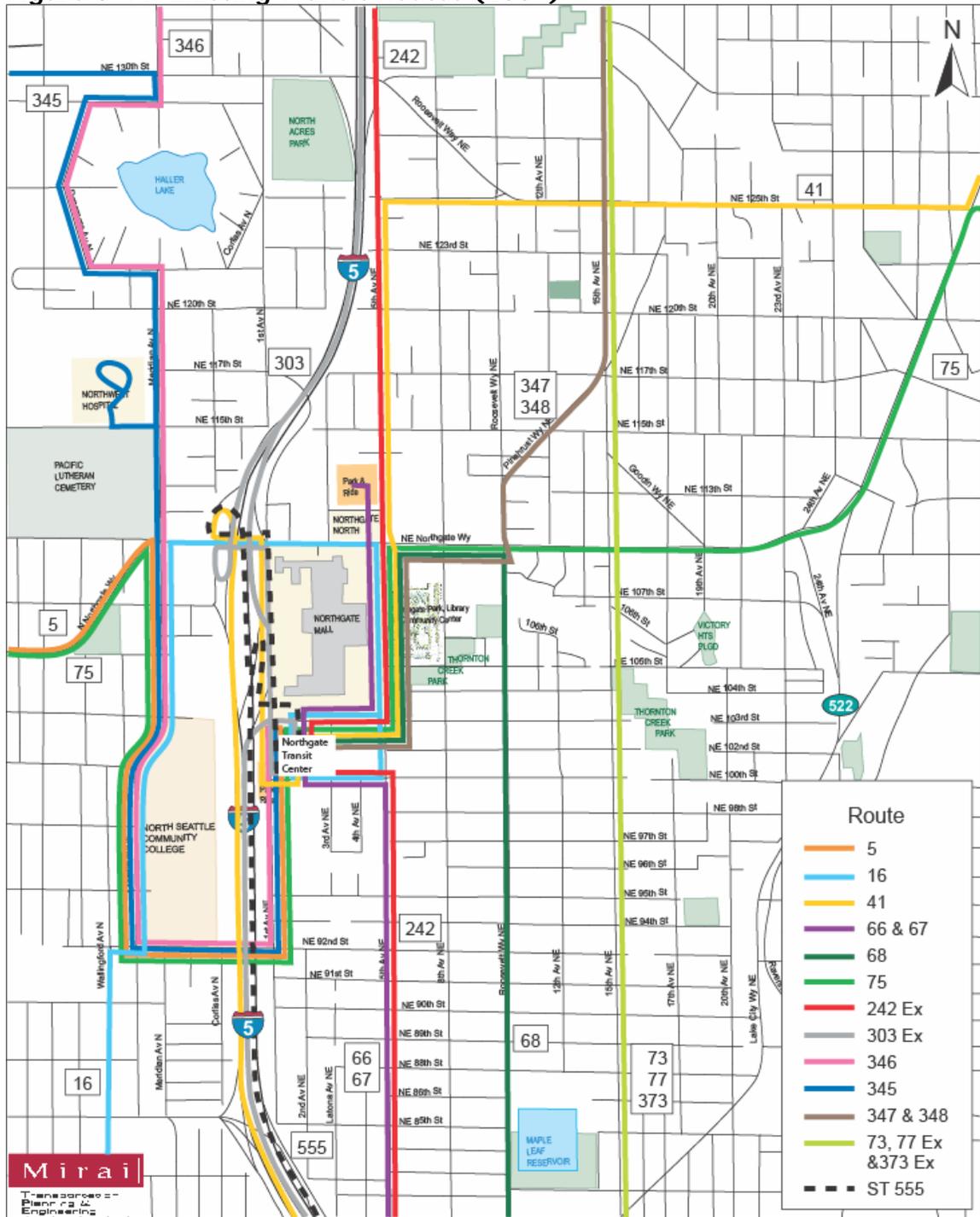
During evenings and Sundays, most routes operate at 60-minute headways. For peak period service, headways range from 15 to 20 minutes. Route 41 operates at a higher frequency throughout the week: 5-minute headways during peak periods and 15 minutes during the daytime, except on Sundays. **Figure 3-11** maps the transit routes in the CTIP study area.

Transit Serving Senior Housing

Currently, all senior housing facilities are located within 1/8 mile of a transit stop. However, depending upon the location of the senior housing facility and transit routes, frequencies to certain destinations do not meet the CTIP benchmark.

King County Metro route 41 provides adequate headways during the peak and midday periods to downtown Seattle, but two senior housing facilities are over 1/8 mile away from the route. These same two facilities are located next to routes that provide connections to downtown with 30-minute headways during the midday and 15-minute headways during peak periods only in the peak direction.

Figure 3-11. Existing Transit Routes (2004)



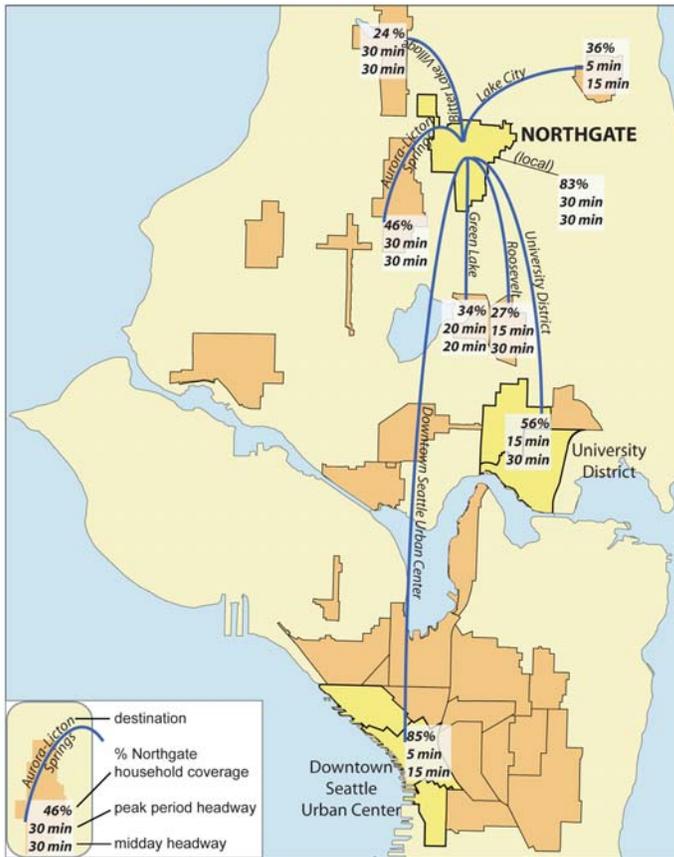
Note: all routes except 73, 77 Ex and 373 Ex serve the Northgate Transit Center

Service coverage to the University District and areas to the northwest is not uniform for all senior housing facilities. Serving four out of the seven senior facilities in the area, the combination of route 67 and 68 provides adequate headways for both the peak hour and midday periods. For the other three senior facilities, route 73 and 373 provide enough service during the peak hour in the peak direction, but not during the midday period or in the off-peak direction.

All other services to other Urban Centers and nearby urban villages are operating at adequate levels with headways at 30 minutes. However, not all senior housing facilities have the same access. Discounting transfer connections, current accessible destinations include Aurora-Licton Springs, Green Lake, Lake City, Ravenna, and Roosevelt. Please see **Figure 3-13** (next page) for transit coverage in the service area.

Transit Serving All Other (Non-Senior) Households

Figure 3-12. Transit Frequency by Destination

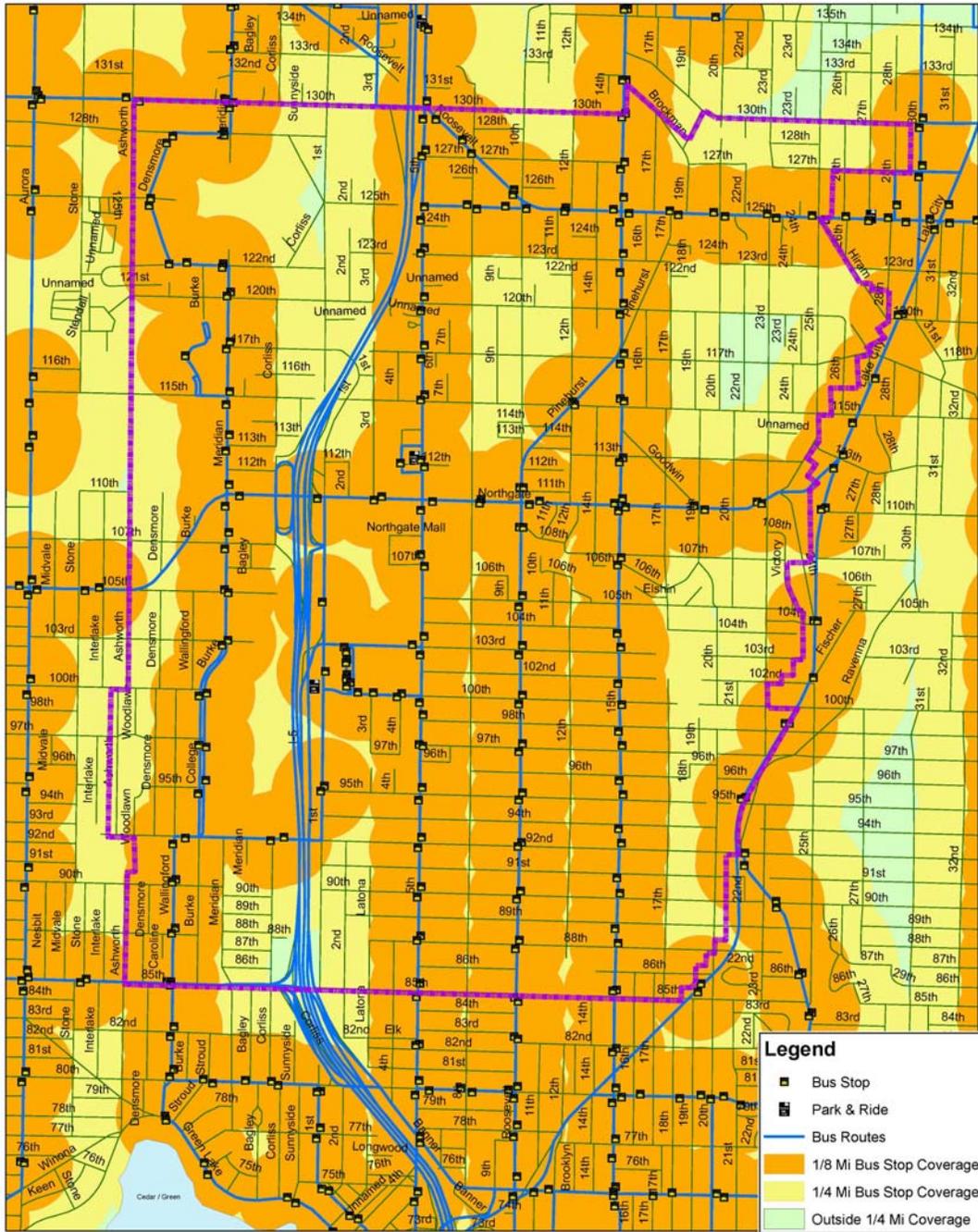


As of the 2000 U.S. Census, there are roughly 13,200 households within the Northgate study area. Over 98% of these households are within ¼ mile of a transit stop. However, not all households receive transit services to all Urban Centers or nearby urban village destinations at the same frequencies, as shown in **Figure 3-12**.

University District or Downtown Seattle

For all-day service, roughly 55% of households are within ¼ mile of University District service, and 85% of households are within ¼ mile of downtown Seattle service. Only route 41, covering 36% of all households in the area, provides 15-minute headways for both peak and midday.

Figure 3-13. Bus Service Coverage



However, route frequencies to downtown Seattle and the University District from the Northgate Transit Center are under 15 minutes, especially during peak periods. See **Appendix 3-6** for details.

Other Urban Centers and Urban Villages

For other Urban Centers and urban villages, service coverage falls short of 50% of households for any one destination. These include the following destinations: Aurora-Licton Springs, Bitter Lake Village, Green Lake, Lake City, Ravenna, Roosevelt, Metro, and First Hill (peak period, peak direction). Only service to Lake City via route 41 and to downtown and/or the University District via routes 66/67 (taken together) meets the desired frequency of service.

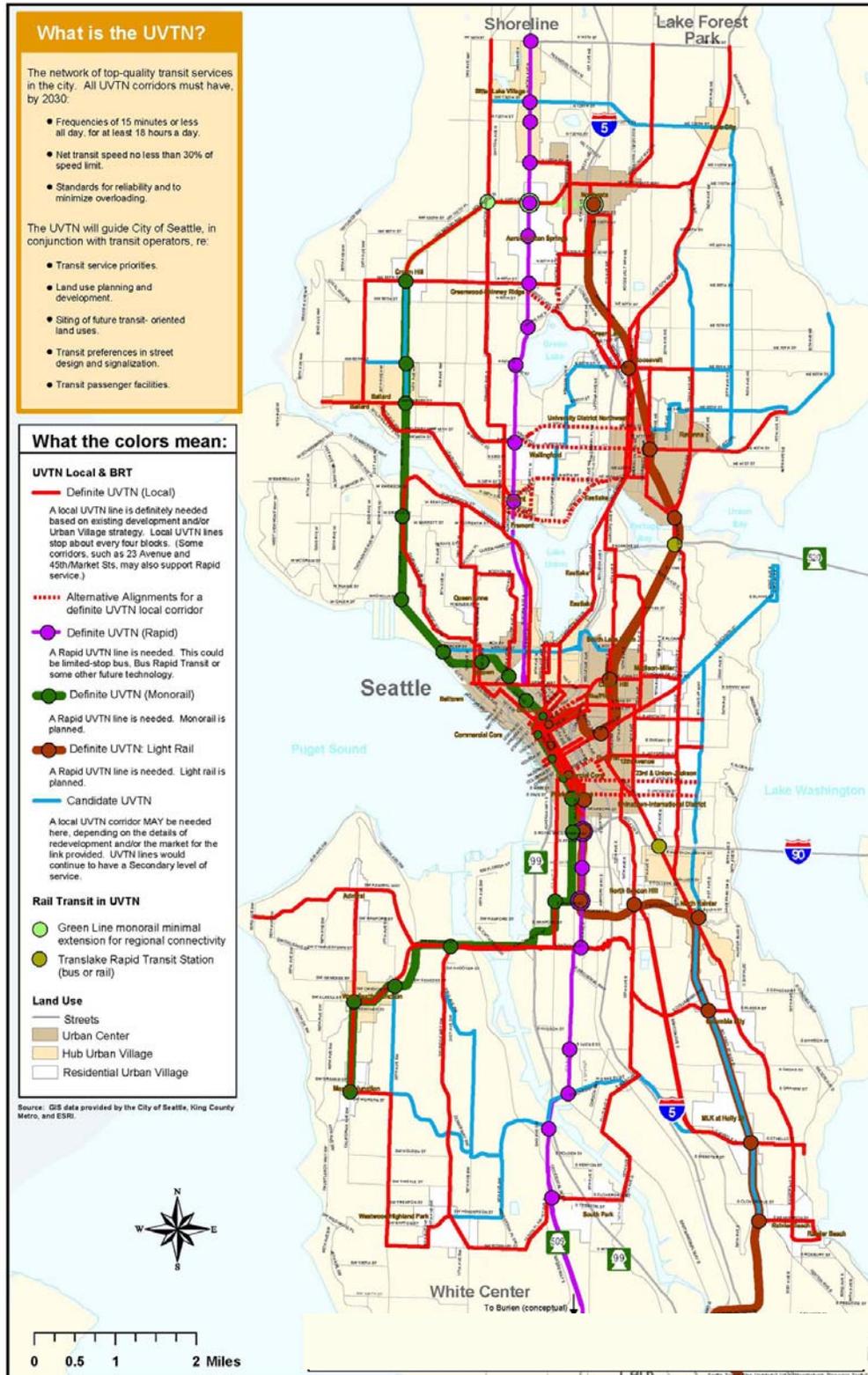
Local Service

For local service within the Northgate study area, over 83% of all households are within 1/8 mile of a bus stop. All routes have headways with 30 minutes or less for peak and midway periods. This does not include any express or peak-hour-only bus service. A more complete breakdown of transit service is provided in **Appendix 3-3**.

Seattle Transit Plan: Urban Village Transit Network

The City of Seattle has identified a hierarchy of transit service and infrastructure needs that corresponds to current and desired future land uses. The Urban Village Transit Network (UVTN) will become the backbone of the City's transit system with a supportive Secondary Transit Network (STN). Service on the UVTN will be fast and reliable, and will operate over 18 hours a day, 7 days a week with high frequency. The STN will provide basic coverage to all neighborhoods not covered by the UVTN. The UVTN will connect to designated Urban Centers; while the STN will make connections to other Urban Centers and villages (see **Figure 3-14** below). The designated rapid transit within the Northgate planning area is the planned North Link Light Rail. The UVTN and STN will operate on a transit street classification system, which identifies types of transit corridors (see **Figure 3-15**). Policies related to land use and transportation priorities are to be shaped by these transit street classifications. Each classification is associated with a specific land use and allowed density. The only principal transit streets are I-5 and streets connecting to the Northgate Transit Center via 5th Avenue NE.

Figure 3-14. Urban Village Transit Network (UVTN)



Source: City of Seattle

The following streets in the study area are designated as principal, major, and minor transit streets:

Principal

- Interstate 5
- 5th Avenue NE: NE Northgate Way to NE 100th Street
- NE 103rd Street: 1st Avenue NE to 5th Avenue NE
- NE 100th Street: 1st Avenue NE to 5th Avenue NE

Major

- Roosevelt Way/NE 125th Street: I-5 to Lake City Way
- NE Northgate Way: Meridian Avenue N to 15th Avenue NE
- NE 85th Street: Ashworth Avenue N to I-5
- 1st Avenue NE: NE 85th Street to NE 92nd Street; NE 100th Street to NE Northgate Way
- 5th Avenue NE: NE 85th Street to NE 100th Street; NE Northgate Way to NE 125th Street
- 15th Avenue NE: NE 85th Street to NE 130th Street
- NE Lake City Way: NE 85th Street to NE 130th Street

Minor

- NE 130th Street: Ashworth Avenue N to I-5
- NE 125th Street: 1st Avenue NE to Roosevelt Way NE
- NE Northgate Way: Ashworth Avenue N to Meridian Avenue N; 15th Avenue NE to NE Lake City Way
- Pinehurst Avenue NE: Roosevelt Way NE to 15th Avenue NE
- Wallingford Avenue N: NE 85th Street to NE 92nd Street
- College Way N/Meridian Avenue N: NE 92nd Street to NE 130th Street (by way of Denmore Avenue N around Haller Lake)
- 1st Avenue N: NE 92nd Street to NE 103rd Street; I-5 to NE 130th Street
- 5th Avenue NE: NE 125th Street to NE 130th Street
- Roosevelt Way NE: NE 85th Street to NE 125th Street

Urban Village Transit Network Quality-of-Service Measures within the CTIP Study Area

The UVTN establishes quality of service measures for frequency, hours of service, reliability, passenger loading, and bus travel speed. Ideally, service headways should be below 7 minutes with 20 to 24 hours of service. Vehicles would have a capacity of 55–70%. In addition, a very high proportion of transit vehicles would run at speeds that would make it attractive compared to driving.

Currently, most segments of the UVTN that cross the Northgate planning area satisfy the span of service criterion. Frequency on all segments almost meets the frequency criterion.

However, frequency and span on all segments need improvement during evenings and on weekends. The Seattle Transit Plan reports that existing travel speeds along the UVTN during the base period are generally over 40% of the speed limit (the UVTN standard is 30%). Only short stretches of the UVTN within the study area fall below 35%, including these:

- Roosevelt Way NE/ Pinehurst Way NE between 15th Avenue NE and NE Northgate Way
- 5th Avenue NE south of NE 100th Street
- Meridian Avenue N between N Northgate Way and N 115th Street

The UVTN segment along Meridian Avenue N had observed travel speeds between 25.1% and 30%. These slower speeds can be attributed to many factors, including high volumes of vehicles, signal timing, turning movements, and/or a high number of transit riders boarding and exiting at bus stops.

Transit Center Operations

The Northgate Transit Center, located south of Northgate Mall, is a major transfer point. It has six bus bays, with monitors displaying real-time bus information for corresponding bus routes. On a typical weekday, over 700 buses stop at the transit center. The current schedule routes 10 lines through the transit center. The surrounding park-and-ride lots have a capacity for 931 vehicles; 75 lot spaces are reserved for carpools.

Park-and-Ride Lots

The Northgate neighborhood area has park-and-ride lots in two main areas. The “Northgate Transit Center” lots are east of 1st Avenue NE between NE 103rd Street and NE 100th Street. One of the four Transit Center lots is exclusively for carpools. The largest lot has a capacity of 417 vehicles, while the smallest can hold 75 vehicles. The ownership of these lots falls under WSDOT and/or King County Metro.

The second area of concentration has two park-and-ride lots. The “Northgate Park and Ride” lot is west of 5th Avenue NE just north of NE Northgate Way, with a capacity of 418 vehicles. Two bus bays are located in the center of this park-and-ride lot. The City of Seattle has committed to purchase this lot for a park when King County Metro can accommodate the stalls at the Transit Center. The other park-and-ride lot is located within the parking garage for Northgate North. Sixty-three spots within the parking garage are reserved for park-and-ride use during the weekdays from 6 AM to 6 PM. These spots are located on the bottom levels of the garage. King County Metro has jurisdiction over both of these lots.

Just outside of the Northgate study area, King County Metro leases a parking lot for park-and-ride use. Located at 12509 27th Avenue NE, Our Savior Lutheran Church provides 21 spaces during the weekday. **Appendix 3-4** summarizes the characteristics of the Northgate area park-and-ride lots.

In the spring of 2002, King County Metro performed a license plate survey for the users of the Northgate Transit Center Park-and-Ride. The results revealed that 80% of the users lived in Northgate or areas to the immediate north, such as Shoreline and Lake Forest Park. This suggests that most users are making trips to points south, which includes the University District and downtown Seattle. A plot of the car registration locations is provided in **Appendix 3-5**.

The 4th quarter 2004 park-and-ride utilization rates indicate that most of the Northgate lots are heavily used and in some cases are at or over capacity. Lots surrounding the transit center are at capacity. The Northgate Park-and-Ride lot at NE 112th Street and 5th Avenue NE is at 75% capacity. See **Figure 3-16** for more details on rates and locations.

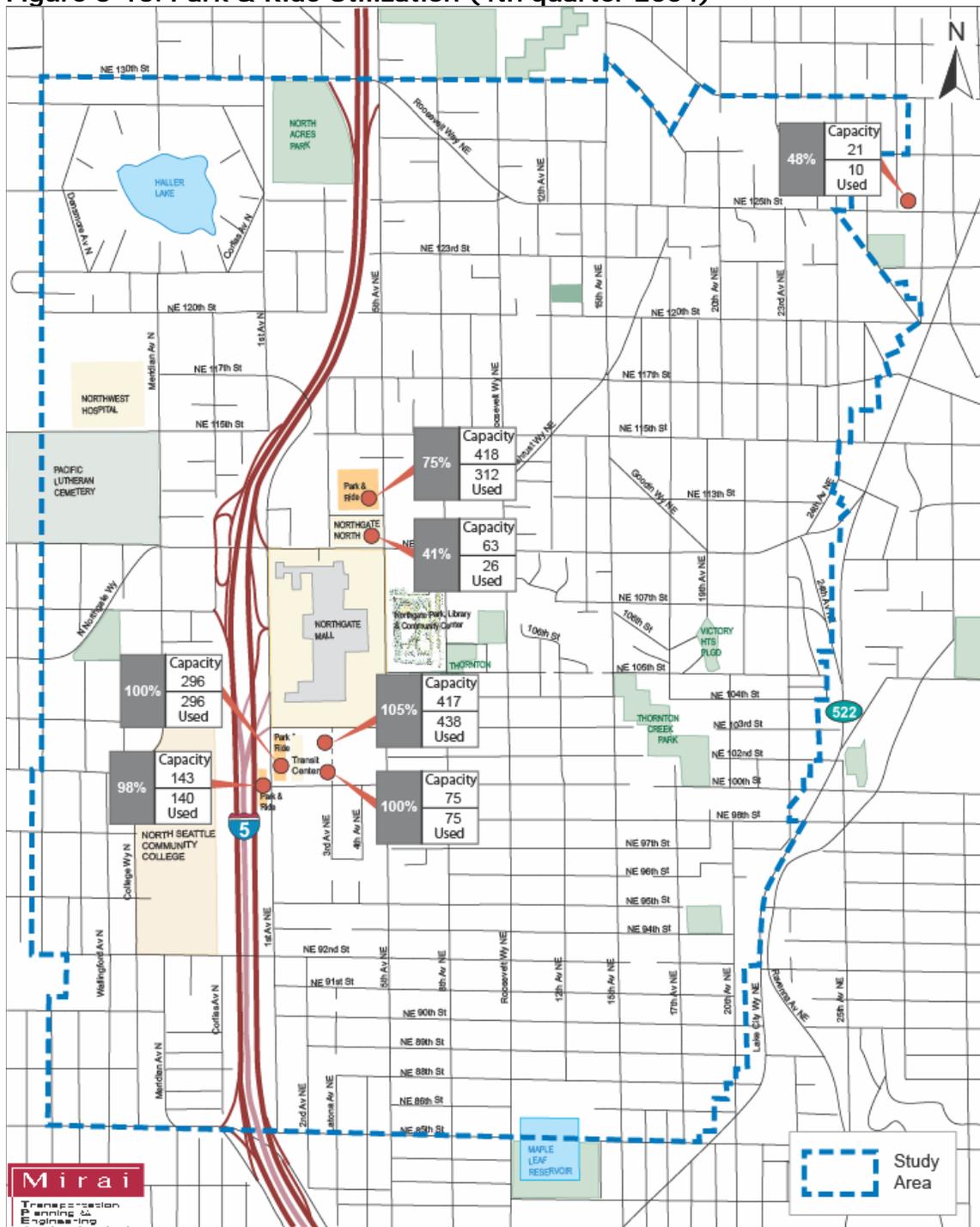
Bus Layover Space

Because of the high number of routes that originate and/or terminate at the Northgate Transit Center, bus layover space is an important aspect of on-street parking management for the Northgate area. A bus layover is a location at which buses wait between trips. Within the study area, there are two areas that King County Metro and Sound Transit buses use for layovers. Off-street layovers are limited to the bus bays within the Northgate Transit Center and the Northgate Park-and-Ride lot at NE 112th Street and 5th Avenue NE.

Adjacent to the Northgate Transit Center, buses use the unrestricted north side of NE 100th Street between the park-and-ride driveway and 5th Avenue NE as layover space.

Designated bus layover space is currently limited to a block-and-a-half section of 5th Avenue NE. During the weekday between the hours of 5 AM and 9 AM, the west side of 5th Avenue NE between NE 123rd and just north of NE 125th Street is reserved for Metro buses.

Figure 3-16. Park & Ride Utilization (4th quarter 2004)



In 2005, the City agreed to work with King County to jointly evaluate options for bus layover spaces in the Northgate area for near- and long-term needs. The City plans to implement the following actions:

- Allow the two bus layover spaces currently located on the north side of NE 100th Street between 2nd Avenue NE and 3rd Avenue NE.
- Permit four new bus layover spaces and one bus zone on NE 100th Street between 3rd Avenue NE and 5th Avenue NE.
- Annually review the permitted layover spaces, and renegotiate an agreement with the County if any spaces need to be relocated.

Ridership

The 2000 U.S. Census reported that roughly 20% of Northgate residents traveled to work by transit while only 7% of Northgate workers arrived by transit. Since the last Census, ridership has steadily increased due to improvements in bus service, new housing and commercial developments and an improving economy. Ridership within the study area is highest on King County Metro routes 16, 41, and 75. The Shoreline bus routes that were initiated in 2003 show a slow but steady growth in ridership. See **Appendix 3-6** for the ridership breakdown for all routes serving Northgate.

Transit Shelters

King County Metro's current standards call for the agency to provide transit shelters at bus stops that have 50 boardings per day. Table **3-8** shows the bus stops without a shelter within the study that have 30 or more daily weekday boardings.

Table 3-8. Study Area Bus Stops without a Shelter with 30 or More Daily Weekday Boardings

Zone #	On Street (Direction)	Cross Street	Daily Weekday Boardings
35820	NE Northgate Way (S)	3 rd Avenue NE	122
17000	5 th Avenue NE (S)	Entrance to Northgate Mall	90
39110	Roosevelt Way NE (N)	NE 108 th Street	74
5610	15 th Avenue NE (S)	NE 89 th Street	64
25160	Meridian Avenue N (S)	N 107 th Street	64
36950	NE Northgate Way (W)	8 th Avenue NE (far side)	58
16990	5 th Avenue NE (S)	NE 103 rd Street	54
36930	NE Northgate Way (W)	8 th Avenue NE (near side)	44
38980	Roosevelt Way NE (S)	NE 111 th Street	43
16913	5 th Avenue NE (W)	NE 85 th Street	40
18070	College Way N (S)	N 100 th Street	35
16800	5 th Avenue NE (S)	NE 117 th Street	34
18110	College Way N (E)	N 95 th Street	34
16570	5 th Avenue NE (N)	NE 120 th Street	34
28335	NE 125 th Street (E)	26 th Avenue NE	31

Source: King County Metro

Roadway Network

The CTIP study established four categories of performance measures for the roadway network: arterial corridor level of service, arterial signalized intersection level of service, non-arterial/residential streets, and traffic safety. The City of Seattle's streets are classified based on the definitions in **Table 3-9**. **Figure 3-17** illustrates the classified streets and traffic signal locations within the study area.

Arterials

The Northgate study area's arterials are primarily oriented toward north/south streets, but east/west through-street access is limited to two principal arterials: NE 125th/130th Street and Northgate Way. These two principal arterials, together with NE 92nd, a minor arterial, are the only roadways providing an east/west crossing of Interstate 5 within the study area. At NE 85th Street, westbound vehicles can cross Interstate-5 from Banner Way NE to N 85th Street, but eastbound vehicles crossing Interstate 5 are routed to NE 80th Street by way of Corliss Way N. Meridian Avenue N, 1st Avenue N, 5th Avenue NE, Roosevelt Avenue NE, 15th Avenue NE, and Lake City Way NE all provide north/south arterial linkages.

Table 3-9. City of Seattle Street Classification Definitions

Classification	Definition
Interstate Freeways	Limited-access roadways that provide the highest capacity and least impeded traffic flow for longer vehicle trips (5 miles or more).
Principal Arterials	Streets that are intended to serve as the principal route for the movement of traffic through the city. They connect Urban Centers and urban villages to one another, or to the regional transportation network.
Minor Arterials	Streets that distribute traffic from principal arterials to collector arterials and commercial and residential access streets.
Collector Arterials	Streets that collect and distribute traffic from principal and minor arterials to local access streets or provide direct access to destinations.
Commercial Access Streets (Non-Arterial)	Streets that provide access to commercial and industrial land uses and provide localized traffic circulation.
Residential Access Streets (Non-Arterial)	Streets that provide access to neighborhood land uses and access to higher-level traffic streets.
Alleys	Travel ways that provide access to the rear of residences and businesses and are not intended for the movement of through trips. Where a continuous alley network exists, it is the preferred corridor for utility facilities.

State Facilities and Access

Interstate 5 runs north/south through the study area, with general-purpose north and south on-ramps at Northgate Way. The northbound on-ramp to Interstate 5 draws traffic from 1st Avenue at Northeast 107th and 1st Avenue at Northgate Way. Improvements at both locations have been completed as recommended in the 1993 NACP. N 107th provides access to southbound Interstate 5 from Corliss Avenue, just east of Meridian Avenue N. Northbound general-purpose traffic on Interstate 5 exits to 1st Avenue at NE 107th Street, and southbound general purpose traffic exits to NE Northgate Way at Corliss Avenue. Southbound general-purpose traffic can also exit Interstate 5 to westbound N 85th Street, but not to eastbound NE 85th Street. Carpools and transit may enter and exit the reversible lanes on Interstate 5 from the intersection of 1st Avenue NE and NE 103rd Street.

Major Truck Streets

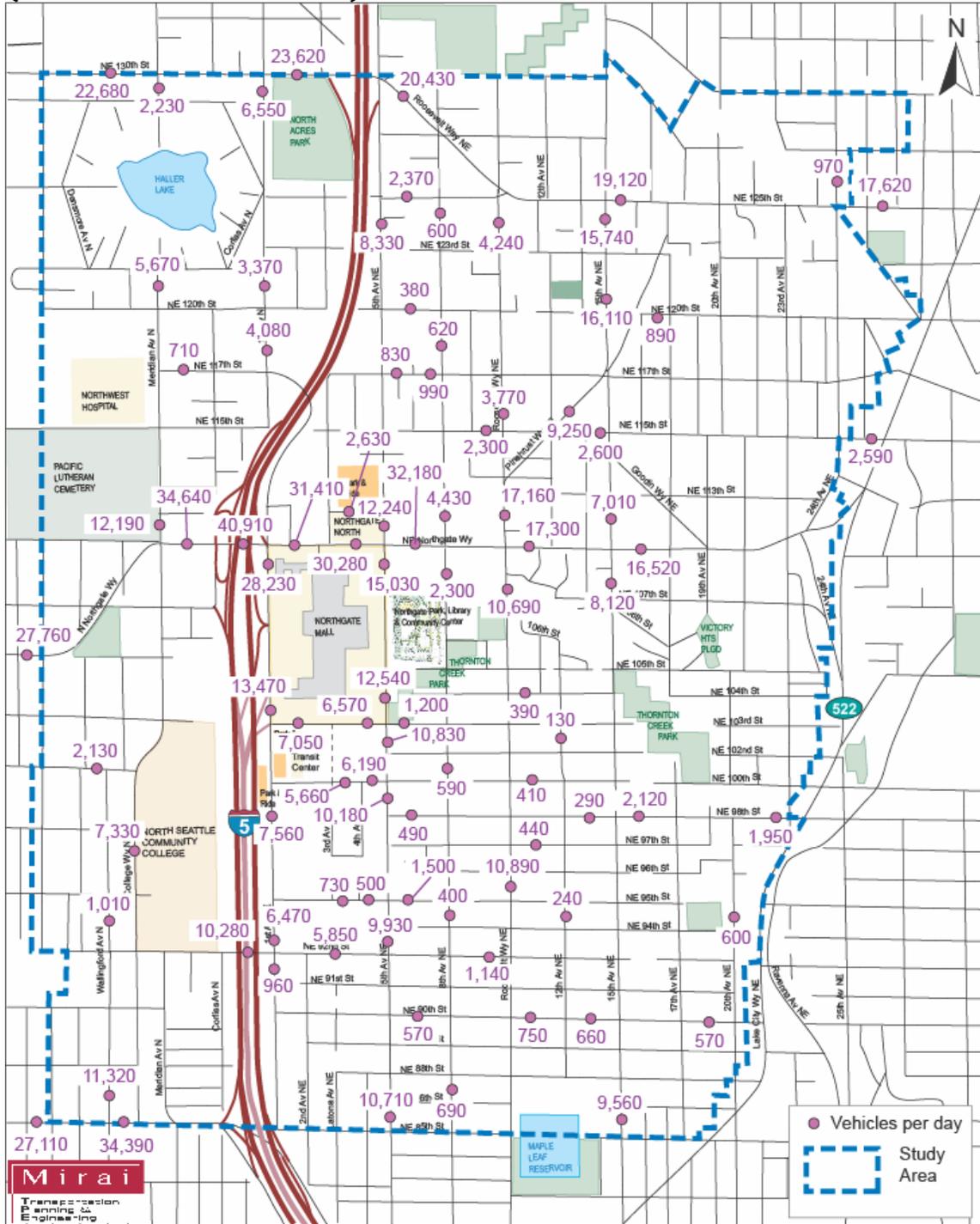
The Seattle Comprehensive Plan defines “major truck streets” as arterial streets that accommodate significant freight movement through the city and to and from major freight traffic generators. These streets are regularly evaluated as part of the City’s Freight Mobility Strategic Action Plan, the third edition of which was issued in June 2005. Major Truck Streets generally carry heavier loads and higher truck volumes than other arterials. Within the CTIP study area, I-5, Lake City Way, and N/NE Northgate Way west of I-5 are designated as major truck streets.

The 1993 Northgate Comprehensive Plan required that “substantial development in the core area” provide internal circulation to reduce the use of the arterial street system to access various parts of the site. In addition, that plan identified a set of specific turning restrictions and intersection improvements to manage vehicular access to core area arterials.

Traffic Volumes

Figure 3-18 displays 2003–2004 average weekday traffic volumes at select locations within the study area. **Appendix 3-7** illustrates traffic volumes for each PM peak hour turning movement of selected intersections within the study area.

Figure 3-18. Existing Average Weekday Traffic Volumes (2003/2004 Traffic Counts)



Arterials in Excess of 20,000 Vehicles per Day

The major east/west corridors in the study area, NE 130th/NE 125th streets, NE Northgate Way, and NE 85th Street west of I-5, experience the highest average weekday traffic volumes among the arterials in the study area, with NE Northgate Way carrying over 31,000 vehicles between Meridian Avenue N and 8th Avenue NE. The volume at I-5 on NE Northgate Way is almost 41,000 vehicles per day. NE 85th Street near Wallingford Avenue N carries over 34,000 vehicles and NE 130th Street near Interstate 5 carries over 20,000 vehicles. First Avenue N just south of NE Northgate Way carries over 28,000 vehicles, but that volume drops significantly south of the mall to over 13,000 vehicles, and then drops again south of the park-and-ride lot to 7,500 vehicles.

Arterials Carrying between 10,000 and 20,000 Vehicles per Day

Most of the arterials within the study area that carry between 10,000 and 20,000 vehicles are in the vicinity of or south of NE Northgate Way. The exceptions are 15th Avenue NE north of NE 120th Street and NE 125th Street just east of 25th Avenue NE (just outside the study area boundaries). Roosevelt Way NE south of Pinehurst carries 17,000 vehicles, but that volume drops substantially to about 11,000 vehicles south of NE Northgate Way. Fifth Avenue NE carries 11,000–12,000 vehicles from just north of NE Northgate Way to NE 85th Street, with the exception of a higher volume (15,000) just south of NE Northgate Way. Northeast 92nd Street at Interstate 5 carries over 10,000 vehicles, but that figure drops to 6,000 east of 1st Avenue N.

Arterial Corridor Levels of Service

An arterial corridor's level of service (LOS) is a measure of the average travel speed for through vehicles along an urban street. The travel speed along a segment is influenced by the average travel speed between signalized intersections and the amount of delay incurred at the signalized intersections. **Table 3-10** shows urban arterial corridor LOS definitions for the arterials in the study area. **Figure 3-19** illustrates the existing conditions for arterial corridor PM peak hour levels of service. Within the study area, the lowest average speeds are observed along Northgate Way in both directions, NE 125th Street in the westbound direction and 1st Avenue NE in the northbound direction.

Arterial corridors in the study area appear to perform reasonably well in terms of vehicle travel time and average intersection delay. Fifth Avenue NE, Roosevelt Way NE, and 15th Avenue NE all

Table 3-10. Arterial Corridor Level of Service Definitions

LOS	Average Travel Speed (mph)
A	> 30
B	> 24–30
C	> 18–24
D	> 14–18
E	> 10–14
F	< 10

Source: Highway Capacity Manual 2000

achieve LOS C both northbound and southbound during the PM peak hour. Eastbound NE Northgate Way performs somewhat worse at LOS D, and westbound NE Northgate Way is one of the most congested corridors in the study area, showing LOS E during the PM peak hour. The NE 130th/NE 125th Street corridor performs at LOS D traveling eastbound and at LOS E traveling westbound. Southbound Meridian Avenue North also performs at LOS

D, due to congestion at the Meridian Avenue N/NE Northgate Way intersection. First Avenue NE between NE 92nd Street and NE Northgate Way performs at LOS D both north- and southbound, in large part due to congestion at the Interstate 5 express lanes off-ramp at NE 103rd Street.

Signalized Intersection Levels of Service

The most recent Highway Capacity Manual 2000 defines urban area levels of service in terms of seconds of delay at an intersection. The scale ranges from A at the best performing level to F at the worst performing level (see **Table 3-11**).

Table 3-11. Intersection Level of Service Definitions

LOS	Average Signalized Intersection Delay Per Vehicle (seconds)	Descriptions of Level of Service Operations
A	< 10	Highest driver comfort. Little delay. Free flow.
B	< 10–20	High degree of driver comfort. Little delay.
C	< 20–35	Some delays. Acceptable level of driver comfort. Efficient traffic operation.
D	< 35–55	Long cycle length. Some driver frustration. Efficient traffic operation.
E	< 55–80	Approaching capacity. Notable delays. High level of driver frustration.
F	> 80	Flow breaks down. Excessive delays.

Source: Highway Capacity Manual 2000

As shown in **Figure 3-20** below, all of the signalized intersections in the study area operate at LOS D or better, with a significant majority performing at LOS C or better.

Signalized Intersections at LOS D

- NE 130th/1st Ave NE
- NE 125th/15th Ave NE
- NE Northgate Way/Meridian Ave N
- NE Northgate Way/5th Ave NE
- NE Northgate Way/Roosevelt Way NE
- NE 103rd/1st Ave NE

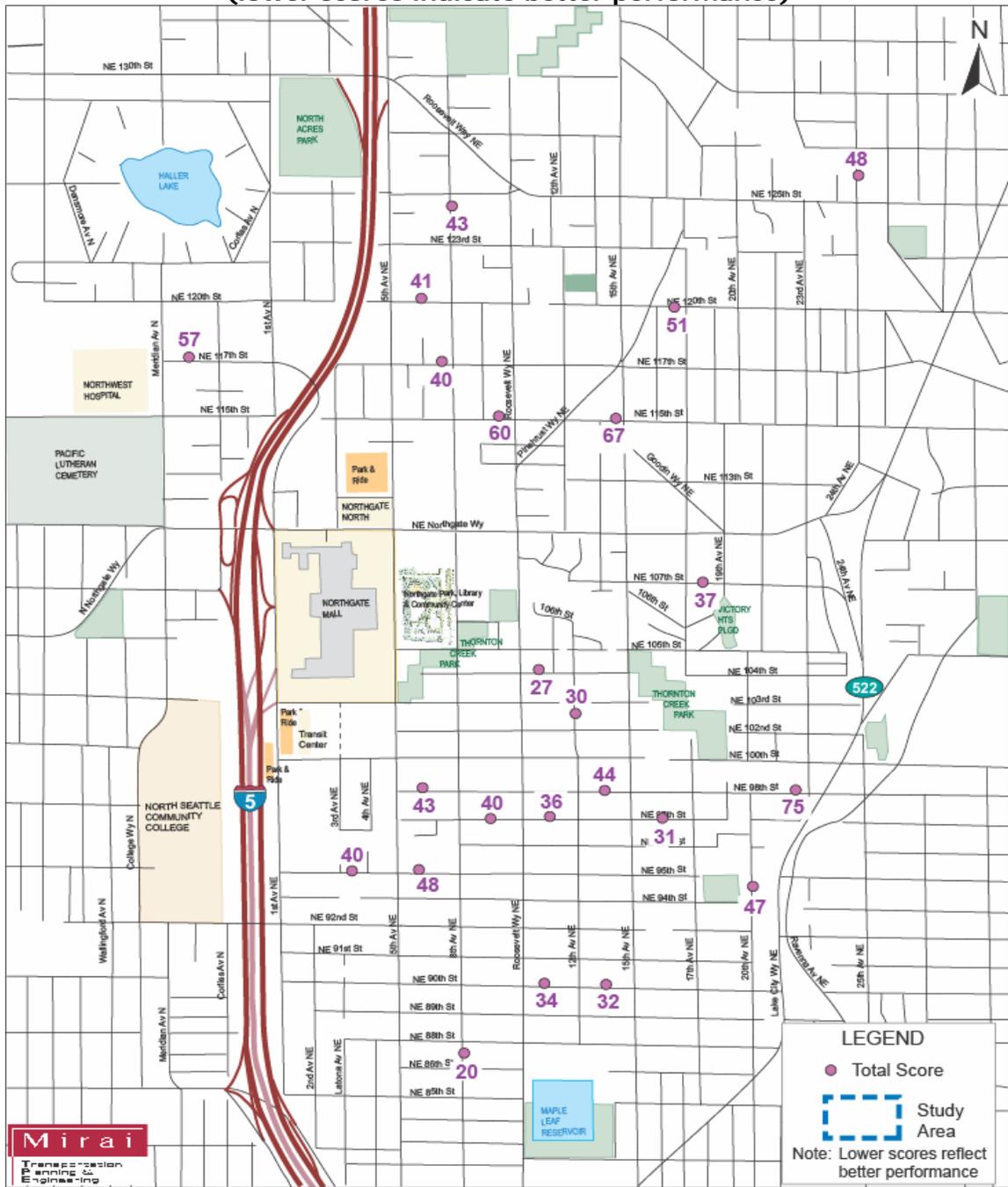
Non-Arterial/Residential Streets

The CTIP study developed criteria against which to evaluate residential streets, as shown in **Table 3-12**. Using this rating system, streets with higher scores are more in need of attention than those with lower scores. **Figure 3-21** maps the results. **Appendix 3-8** provides additional detail about the street scores. In addition, **Figure 3-22** shows the current location of traffic control devices throughout the study area.

Table 3-12. Residential Street Performance Criteria

Indicator	Points	Point Allocation
Vehicle Volume (Weekday, 24-hour)	0 to 30	1.5 points for every 100 vehicles per day
Speed (85th percentile)	0 to 30	1.5 points for every 1 mph over 20 mph
Pedestrian Facility (sidewalks or walkways)	0 to 13	13 points = no curb, gutter or sidewalk/walkway on either side 10 points = walkway on 1 side 7 points = curb, gutter, sidewalk on 1 side 3 points = curb, gutter, sidewalk on 1 side and walkway on other side 0 points = curb, gutter, sidewalk on both sides
Crashes	0 to 7	1.4 points for each reported collision over past 3 years
School Walkway Route	0 or 7	7 points for designated school route
Pedestrian Route	0 or 7	7 points for key pedestrian connector per Open Space & Pedestrian Plan (draft 2004)
Bicycle Route	0 or 3	3 points for designated bike route
Street Features	0 to 3	Up to 3 points for potential safety issues, e.g. poor sight distance, sharp curbs, wide street width

**Figure 3-21. Non-Arterial/Residential Street Scores
(lower scores indicate better performance)**



Crash History

The CTIP study used SDOT's intersection safety standard of ten crashes per year for signalized intersections and five crashes per year for mid-block locations as its performance measures. For unsignalized intersections, the CTIP study used five crashes per year as its standard. SDOT provided crash data from 1999 to 2003. **Figure 3-23** shows numbers of crashes from 1999 to 2003 within the study area.

Signalized Intersections

Only the signalized intersection of Meridian Avenue N and N 130th Street exceeds the safety standard of 10 crashes per year set by SDOT. Two intersections have crash frequencies approaching SDOT's safety standard: I-5 Corliss North Ramp/N Northgate Way (8 per year) and 15th Avenue NE/NE Northgate Way (7.2 per year).

Mid-Block Locations

Ten unsignalized intersections and/or mid-block locations currently exceed the CTIP benchmark and SDOT standard of 5 crashes per year, as listed in **3-13**.

Table 3-13. Unsignalized Intersections and Mid-Block Locations at or greater than the CTIP Crash Benchmark

Mid-Block Location	Between		5-Year Total (1999–2003)	Annual Average
N Northgate Way	Meridian Avenue N	I-5 Corliss NR RP	132	26.4
NE Northgate Way	3rd Avenue NE	5th Avenue NE	75	15
NE Northgate Way	5th Avenue NE	8th Avenue NE	73	14.6
N Northgate Way	I-5 Corliss NR RP	1st Avenue NE	66	13.2
NE Northgate Way	8th Avenue NE	Roosevelt Way NE	48	9.6
NE Northgate Way	Roosevelt Way NE	11th Avenue NE	42	8.4
NE Northgate Way	1st Avenue NE	NE Northgate Drive	34	6.8
15th Avenue NE	NE 123rd Street	NE 125th Street	29	5.8
NE 125th Street	14th Avenue NE	15th Avenue NE	28	5.6
N 85th Street	Corliss Way N	Banner Way NE	27	5.4

Highest Crash Rates

Among the locations evaluated in the study area, those with crash rates in the top 25% (crashes per million annual vehicles entering for intersections and crashes per million annual vehicles for mid-block sections) over the years 1999–2003 are shown in **Figure 3-24**. The top crash rates are concentrated on or near Northgate Way. In addition, the intersections of Meridian Avenue N and N 130th Street and Meridian Avenue N and N 107th Street have high rates. Wallingford Avenue just north of N 85th Street also has a high mid-block crash rate.

Parking

Off-Street Parking Requirements

Existing Parking Regulations

Off-street parking regulations are found in Seattle Municipal Code (SMC) Chapter 23.54 (the main parking chapter of the City's Land Use Code) and in SMC Chapter 23.71 (regulations specifically affecting the Northgate Overlay District.)

In general, parking requirements in Chapter 23.54 are expressed as a certain number of parking spaces per residential unit, or per square footage of commercial projects, or through other ratios that differ by land use. Commercial zoning provisions also set

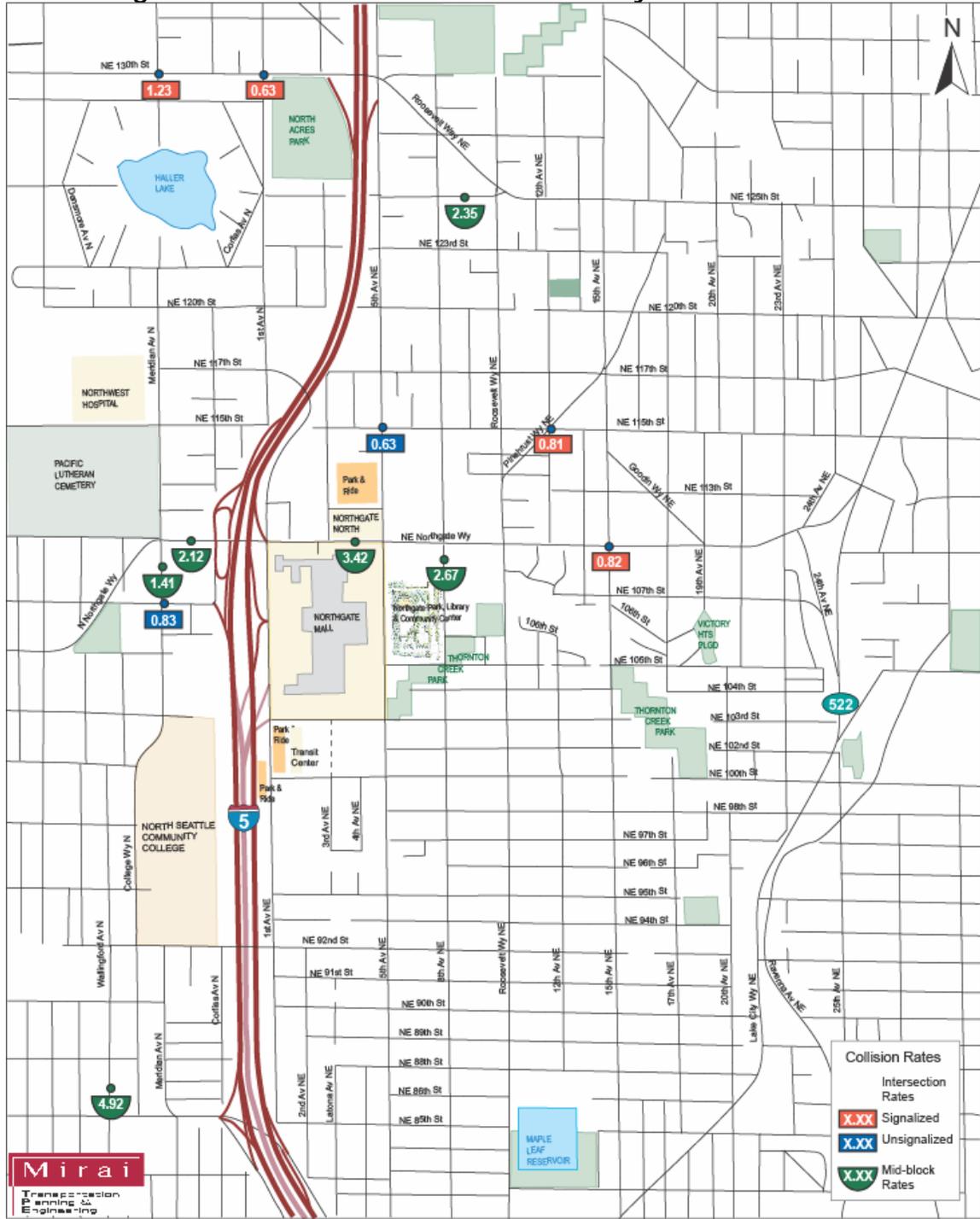
standards for parking location, access, screening, and landscaping requirements and parking space requirements.

The citywide parking requirements for general retail sales and services is a minimum of 1 space for every 350 square feet, or approximately 2.9 spaces per 1,000 square feet. By contrast, the Northgate Overlay District sets a lower minimum (0.93 spaces per 1,000 square feet) as well as a maximum parking requirement that is also lower (2.4 spaces per 1,000 square feet.)

Chapter 23.71, the Northgate Overlay District, has particular parking regulations that supersede any conflicting provisions of the underlying zone. These provisions include minimum and maximum parking requirements for certain commercial uses, shared parking restrictions, submittal of a Transportation Management Program with a permit application, parking location,

access, screening standards, and parking space standards. The Northgate Overlay District also has specific mode-split goals.

**Figure 3-24. High Crash Rates: Top 25% over 5 Years (1999–2003)
Among Crash Locations Within the CTIP Study Area**



The City also has regulatory authority over parking based on the State Environmental Protection Act (SEPA). SMC 25.05.675(M) provides specific SEPA authority to condition a project to mitigate a development's effects on parking in an area. SEPA mitigation can include transportation management programs, parking management and allocation plans, incentives for the use of alternatives to single-occupancy vehicles, increased parking ratios, and reduced development densities, except for multi-family developments.



In addition to existing parking regulations, changes have been proposed to the Commercial Code (the Executive's Neighborhood Business District Strategy) that affect off-street parking. These will be considered by the City Council in 2006, and include eliminating parking requirements for development on commercially zoned parcels. In the Northgate Overlay District, the minimum and maximum parking requirements for office, retail, and motion-picture uses would remain in effect, but single-purpose residential developments and residential portions of mixed-use structures on commercially zoned parcels would no longer have parking requirements. The Neighborhood Business District Strategy proposal also sets maximums on surface parking of one acre in commercial zones within Urban Centers.

Existing Off-Street Parking Supply

In May 2004, Northgate's off-street parking supply was inventoried using an aerial photograph of the study area, data from King County, and field data. According to this methodology, there are approximately 21,500 off-street parking spaces within the study area. These spaces are both public and private and serve residential, commercial and institutional uses, including North Seattle Community College (1,829 spaces), Northgate Mall (4,125 spaces), and the Northgate Park and Ride lots (1,400 spaces).

In 1999, the Seattle Comprehensive Neighborhood Parking Study analyzed on- and off-street parking demand within sample areas of 39 Seattle neighborhoods, including Northgate. The analysis area for Northgate included the blocks along NE Northgate Way between Roosevelt Way NE and 1st Ave NE. The survey included approximately 800 off-street spaces in primarily private, non-residential lots. The average utilization for the non-residential lots during the daytime study period was 57%. During the peak period, utilization of non-residential lots was 78%.

On-Street Parking Conditions

City Curb Space Policies

Priority

Given the challenge of managing parking to provide enough to meet mobility and economic needs while limiting supply to encourage transit and carpool modes of transportation, the City has established priorities for on-street parking spaces in commercial and in residential zones. In commercial districts, SDOT prioritizes curb space first for transit stops and layover; then for passenger and commercial vehicle loading; short-term customer parking (time limit signs and paid parking); parking for shared vehicles, such as Flexcar; and finally for general vehicles.

In residential districts, curb space is also prioritized, with transit stops and layovers receiving the highest priority, and, in descending order of priority, passenger and commercial vehicle loading, parking for local residents and for shared vehicles, and general vehicles.

Curb Space Regulation Implementation

SDOT typically responds to adjacent property-owner or business manager requests to install curb space regulations such as time-limit signs or loading zones. Changes to these regulations can be made through several procedures, including business manager request, petition signatures gathered from adjoining property owners, and City Traffic Engineer decisions.

Paid Parking Implementation

Under the City's existing parking management policies, paid on-street parking would be considered if and when the time limits were not effective at encouraging parking turnover. High utilization, a high percentage of vehicles overstaying the time limit, and low turnover are typical indications that time-limit signs should be converted to paid parking to achieve the desired turnover for short-term customers and visitors. Starting in 2004, SDOT began a three-year pay station installation program to replace the City's aging single-space parking meters. In each neighborhood, SDOT conducts a parking study and public outreach process, using information from these processes to make neighborhood-wide parking management improvements.

The City is also studying potential implementation of a new parking management strategy for neighborhoods that are residential and commercial. This strategy would expand paid parking throughout a neighborhood and use pricing instead of time limits to achieve desired occupancy and parking turnover.

This system would allow for some spaces to be used for all-day paid employee or visitor parking in areas with lower short-term parking demand. If implemented, this system will likely decrease SOV parking rates in neighborhoods that currently have a large reservoir of unrestricted parking.

Residential Parking Zone (RPZ) Implementation

Residential parking zones are established on blocks that have adjacent residential uses, such as houses, apartments, or condominiums, to discourage long-term parking by non-residents. An RPZ may be appropriate where parking congestion is caused by proximity to a business district with limited parking (e.g. Capitol Hill), or by parking generated by visitors or employees of a hospital, school, or factory.

Certain on-street parking conditions must be present for a neighborhood to qualify for an RPZ. These conditions include streets that are at least 75% full during the time period when the problem is occurring (day or night) by at least 25% non-residents. To create an RPZ, a neighborhood must undertake a petition process where 60% of all households on each participating block agree to have the signs installed that limit parking.

Light Rail Station Preparation

The City of Seattle and Sound Transit have created a plan to proactively manage on-street parking around the Central Link initial segment stations. The purpose is to prioritize on-street parking for customer or residential use before commuters attempt to use neighborhood streets for park-and-ride purposes. Prior to the station opening, Sound Transit will conduct an inventory of on-street parking spaces and work with the City to install time-limit signs, RPZs, or paid parking as necessary. A public outreach process will accompany the curb space regulation changes.

On-Street Parking Supply

A May 2005 inventory of on-street parking spaces used aerial photographs and field checks to estimate the on-street supply of parking on Northgate's arterials (see **Figure 3-25**).

Approximately 3,000 spaces were identified, including spaces classified by existing parking management designations, such as time-limit signs, transit layover, and an RPZ to the west of North Seattle Community College.

North Sector Parking

The north sector contains the on-street parking supply north of NE Northgate Way and east of I-5. The majority of the arterials, including 5th Avenue NE, NE 125th Street, and 15th Avenue NE, are restricted to four-hour time limits. Sections of Roosevelt Way NE (south of NE 125th Street) and 15th Avenue NE are unrestricted. All of NE 125th Street and Roosevelt Way NE (north of NE 125th Street), Pinehurst Way NE, and portions of 5th Avenue NW, Roosevelt Way NE, and 15th Avenue NE are designated no-parking zones.

The 1999 Comprehensive Neighborhood Parking Survey collected data for peak and average on-street utilization on 1st Avenue NE, 2nd Avenue NE, 3rd Avenue NE, and 8th Avenue NE between NE Northgate Way and NE 112th Street. This survey area included 109 on-street parking spaces. All were unrestricted at the time, and the majority of those spaces were on streets fronting the multi-family residential development between 1st Avenue NE and 3rd Avenue NE on the north side of NE Northgate Way. Utilization of all on-street spaces in the study area averaged 63%.

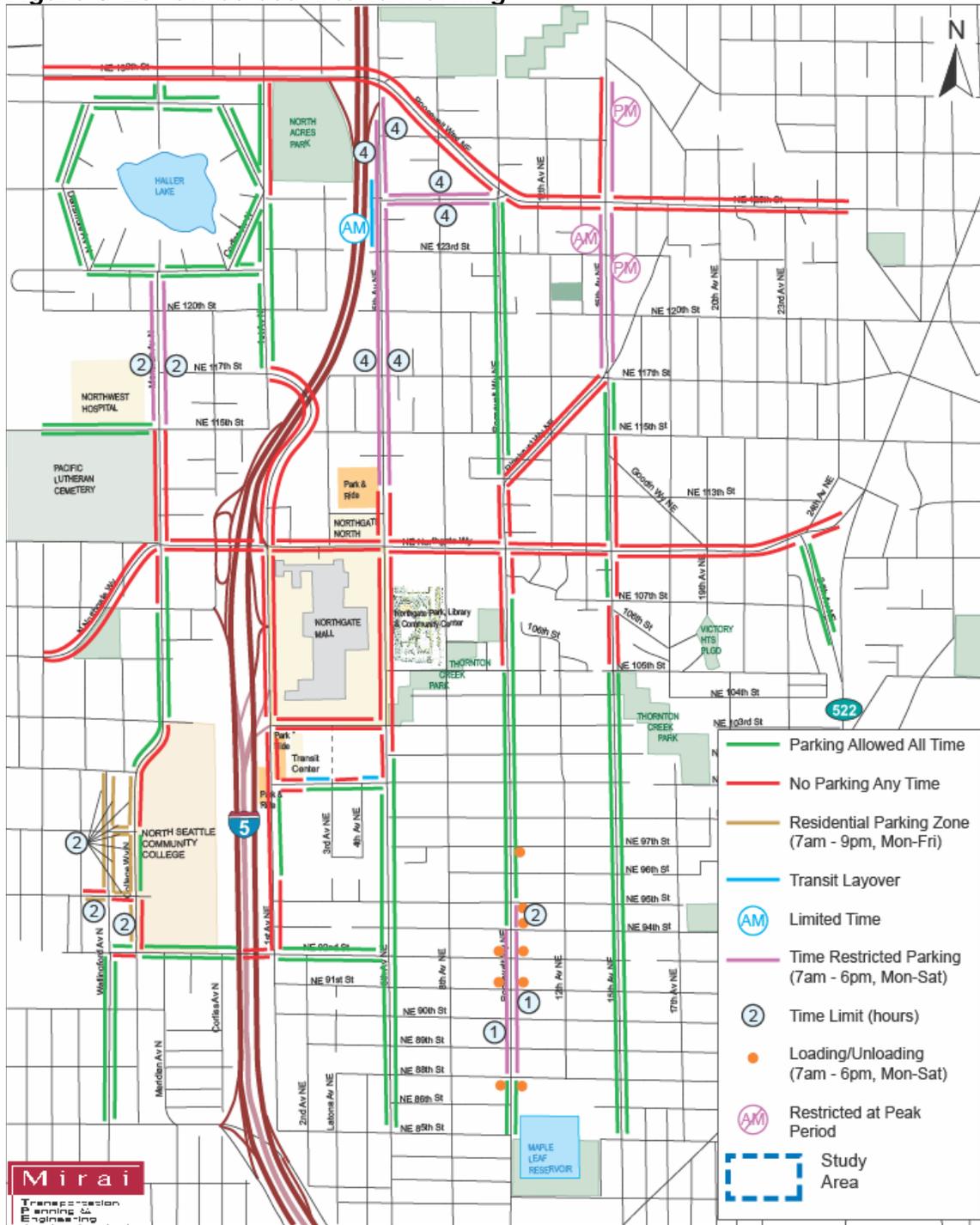
Major uses in this area include the Northgate North development and the park-and-ride at NE 112th Street. Outside of the concentration of business and high-density residential uses along NE Northgate Way and 5th Ave NE, Roosevelt Ave NE and 15th Ave NE, there is a large concentration of single-family residential neighborhoods.



South Sector Parking

The south sector includes the on-street parking supply south of NE Northgate Way, east of I-5, north of NE 85th Street, and west of Lake City Way NE. The arterials within the commercial core of the Urban Center typically do not permit on-street parking at any time. Parking is prohibited on all of the streets around Northgate Mall; around the Northgate Park and Ride lot and south lot (Northgate Commons site); along 5th Ave NE adjacent to the Northgate Park, Library, and Community Center; and on the majority of block faces of Roosevelt Way NE and 15th Avenue NE south of NE Northgate Way. The City plans to allow on-street parking on the new 3rd Avenue NE between NE 100th Street and NE 103rd Street, and limited, off-peak parking on the east side of 5th Avenue NE in front of the Civic Center. Where parking is allowed in this area, it is typically unrestricted. However, there are 11 block faces of Roosevelt Way NE in the small neighborhood business district located between NE 88th Street and NE 95th Street with one- and two-hour parking restrictions.

Figure 3-25. On-Street Arterial Parking



West Sector Parking

This sector includes the on-street parking supply west of I-5 and between NE 85th Street, Ashworth Avenue N, and NE 130th Street. Parking is prohibited around the intersection of NE Northgate Way and Meridian Ave N. With the exception of the portion of Meridian Ave N between NE 115th and NE 122nd Streets, which has two-hour time-limits, the remaining arterial parking is unrestricted. The two-hour signs on Meridian are part of a group of restrictions that extend into the single-family neighborhood located between Meridian Ave N and I-5. These signs were installed in 1998 to minimize the spillover impact from employees of Northwest Hospital.



An RPZ is designated west of North Seattle Community College. This zone was established as part of the College's Transportation Management Plan. On the participating blocks of College Way N and Wallingford Avenue N, the zone limits parking between 7 AM and 9 PM to two hours for vehicles not displaying a Zone 18 permit. Vehicles with a Zone 18 permit may park for up to 72 hours before they are required to move from their parking spaces.

Existing On-Street Demand

The City's standard for on-street occupancy is 85% parking utilization. Above the 85% standard, it becomes difficult to find a parking space. Based on the most recent utilization data for Northgate (1999 Comprehensive Neighborhood Parking Study), customers looking for an off-street or an on-street space had a high likelihood of finding one. On-street parking on the side streets around NE Northgate Way had a peak utilization of 83% and an average utilization of 63%. Given that non-residential off-street parking spaces had a peak utilization of 77%, most customers and visitors can easily find an off-street space closer to the door of their destination than on-street spaces. Unlike Downtown Seattle and some of the City's denser Urban Centers, most land uses in Northgate provide off-street parking. Therefore, in commercial areas, on-street parking spaces are most likely used by area employees, customers, and visitors choosing a convenient on-street space.

Existing Transportation Demand Management (TDM) Strategies

The City's TDM programs employ various planning tools that encourage reduction in SOV travel, including pricing and managing parking supply for new development through Transportation Management Plans (TMP). A TMP is often a requirement of a building permit or Master Use Permit.

Development within Northgate must meet the requirements of the Northgate Overlay District Transportation Management Program (SMC 23.71.018), which specifies mode-split goals for the area and different techniques developers may use to achieve those goals.

Another Northgate-specific TDM measure, the Northgate Employer Network, provides King County Metro staff assistance to help member businesses reduce parking demand by encouraging transit use, van- and carpooling, walking, and bicycling. In addition, Northgate currently has one of the City's "Flexcars" parked on the south side of NE 100th Street adjacent to the Northgate Executive Center at 155 NE 100th Street. This car is available to program participants for midday errands.

Finally, employers with over 100 employees at a single site are required by the state to meet Commute Trip Reduction Act goals. In the Northgate area, the following employers meet this criterion: Northwest Hospital, Qualis Health, North Seattle Community College, the University of Washington Northgate, and Washington Dental Service. As part of the Northgate Employer Network described above, King County Metro coordinates regular meetings of the Employee Transportation Coordinators (ETCs) of each of these organizations to share strategies to help each organization meet its Commute Trip Reduction Act goals.