

ENVIRONMENT



“Great work. Keep it up. Educate more people about the ease of bicycling and provide more education for businesses and residents about how biking really works well to make stronger people and communities.”



Bicycling in Seattle is evolving, and this plan is part of that process. In 2007 the City Council adopted a BMP that provided the framework for investments that have occurred since that time to improve conditions for bicyclists in the city. The plan was a focused ten-year horizon (covering the timeframe between 2007 and 2017), and significant progress has been made on building the envisioned bicycling network and elevating the profile of bicycling as a viable part of Seattle’s multimodal transportation system.

The following chapter provides a snapshot of the state of bicycling in Seattle today, so that we can identify the needs for the future. For more detail, see the State of Seattle Bicycling Environment Report in Appendix 1B.

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An on-street bicycle corral in front of a local business in the Wallingford neighborhood.



Seattle's newest bicycle infrastructure is a two way cycle track on Broadway. This is a way for bicyclists to travel with less conflict alongside cars or pedestrians.

EXISTING BICYCLE NETWORK

As of 2013, the bicycle network in Seattle is over 300 miles, including 78 miles of bicycle and climbing lanes, 92 miles of shared lane pavement markings, 6 miles of neighborhood greenways, 47 miles of multi-use trails, 128 miles of signed routes, and over 2 miles of other on- and off-street bicycle facilities.

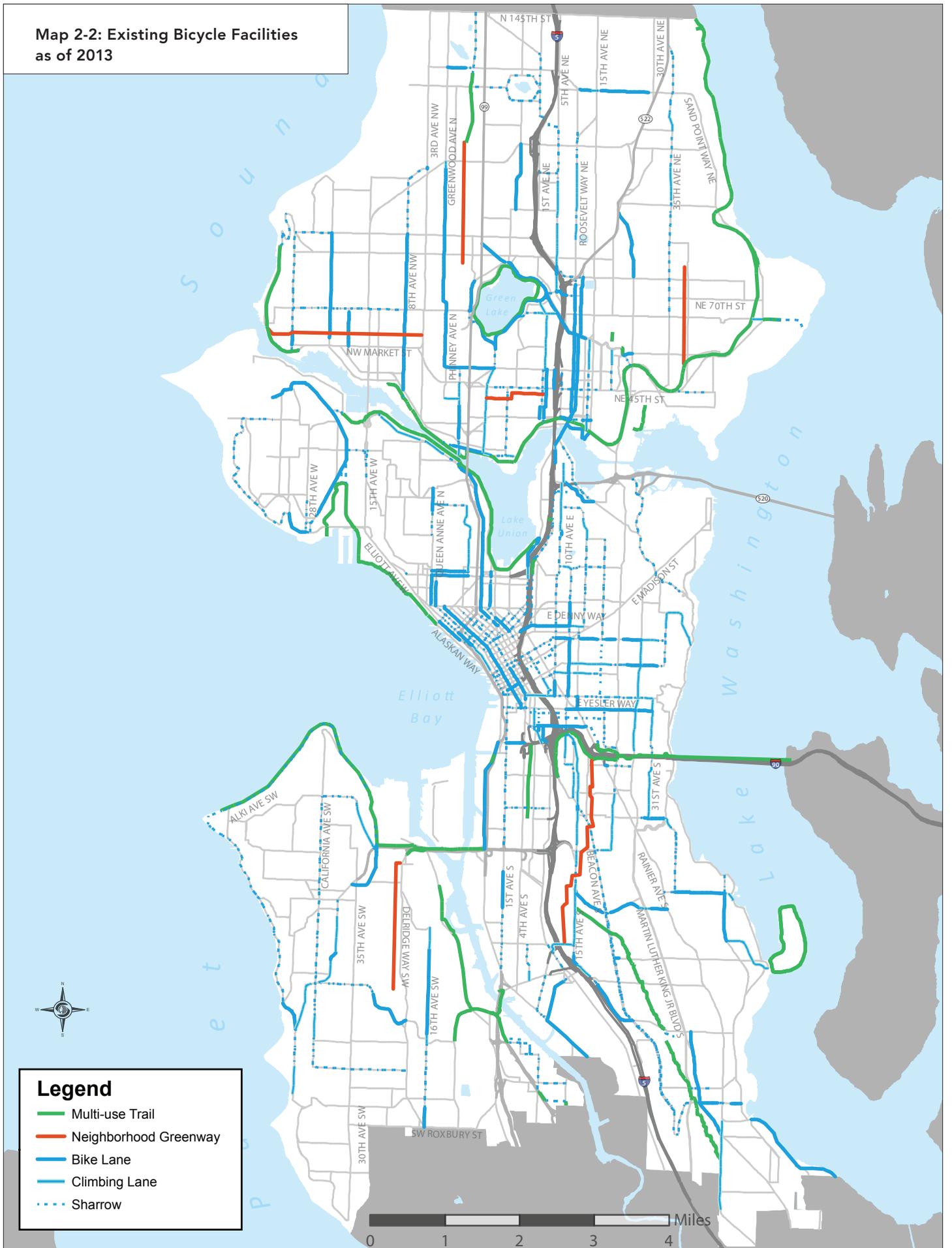
Maps 2-1 and 2-2 on the following pages show the evolution of Seattle's bicycle network over time.

BICYCLE SYSTEM GAPS

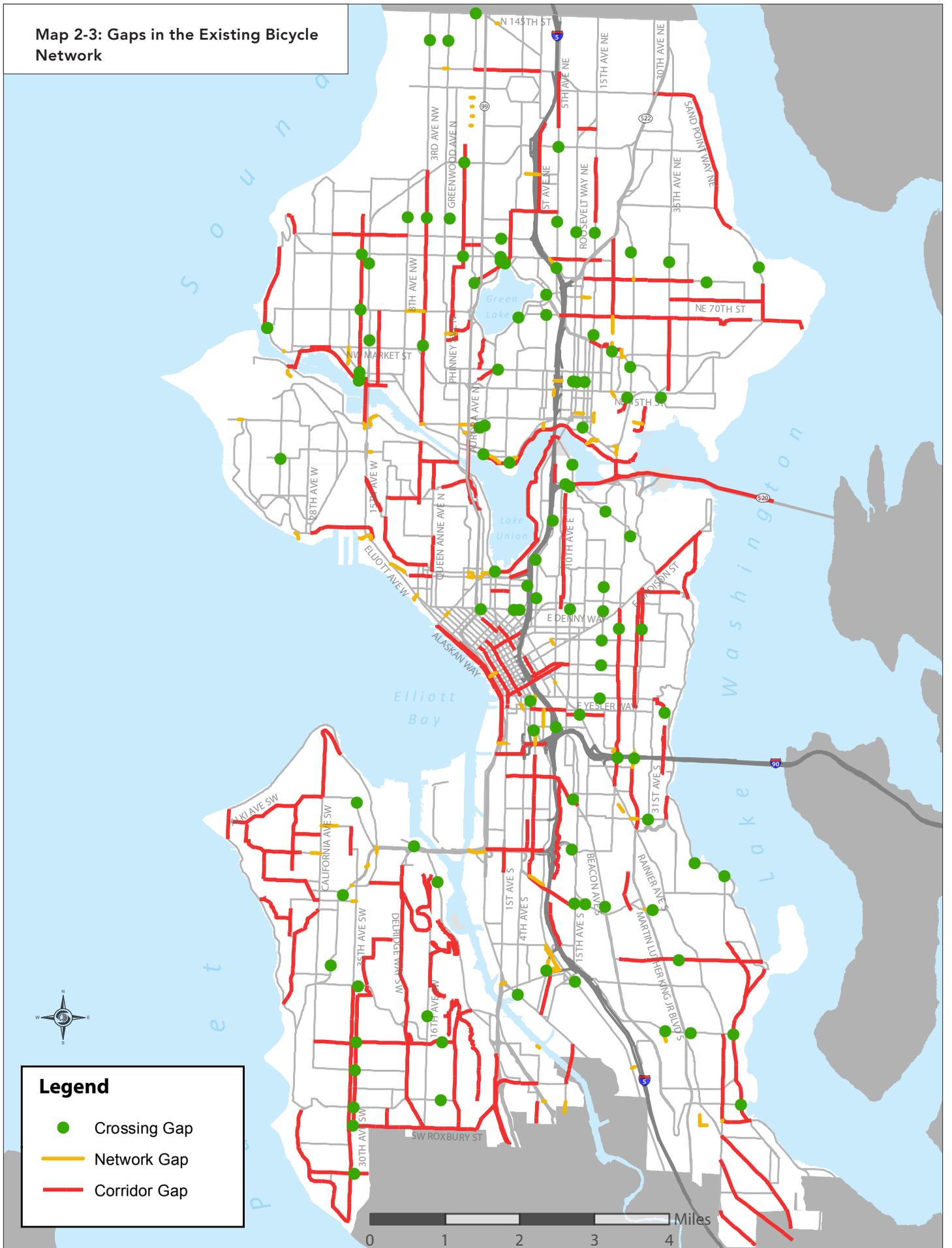
Despite implementation progress made between 2007 and 2013, there are still major gaps in the city's planned bicycle network. These gaps exist in various forms, ranging from short "missing links" on a street or trail to large geographic areas lacking connected bicycle facilities. Map 2-3 shows gaps in the existing bicycle network.

- **Crossing gaps** are bicycle-related intersection improvements recommended in the 2007 BMP.
- **Network gaps** are missing links in the network recommended in the 2007 BMP that are less than ¼ mile in length and were recommended as either bicycle lanes, climbing lanes, shared lane markings, neighborhood greenways (known as bicycle boulevards in the 2007 BMP), or multi-use trails.
- **Corridor gaps** are larger voids in the network (greater than one-quarter mile in length). These gaps are most often corridors needed to connect neighborhoods to destinations, giving people who ride bicycles a variety of travel route options.

Map 2-2: Existing Bicycle Facilities as of 2013



Map 2-3: Gaps in the Existing Bicycle Network



EQUITY ANALYSIS

This plan develops a connected bicycle network that serves all areas of Seattle, including areas that have a high density of historically underserved populations and relatively low levels of bicycle facilities. An equity analysis examined the existing distribution of bicycle facilities compared to the distribution of these populations.

For purposes of analysis, the following socio-economic indicators define underserved populations, as shown on Maps 2-4 to 2-8:

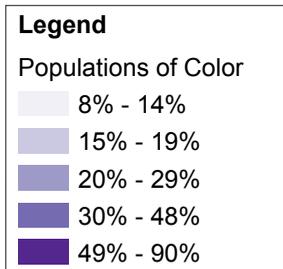
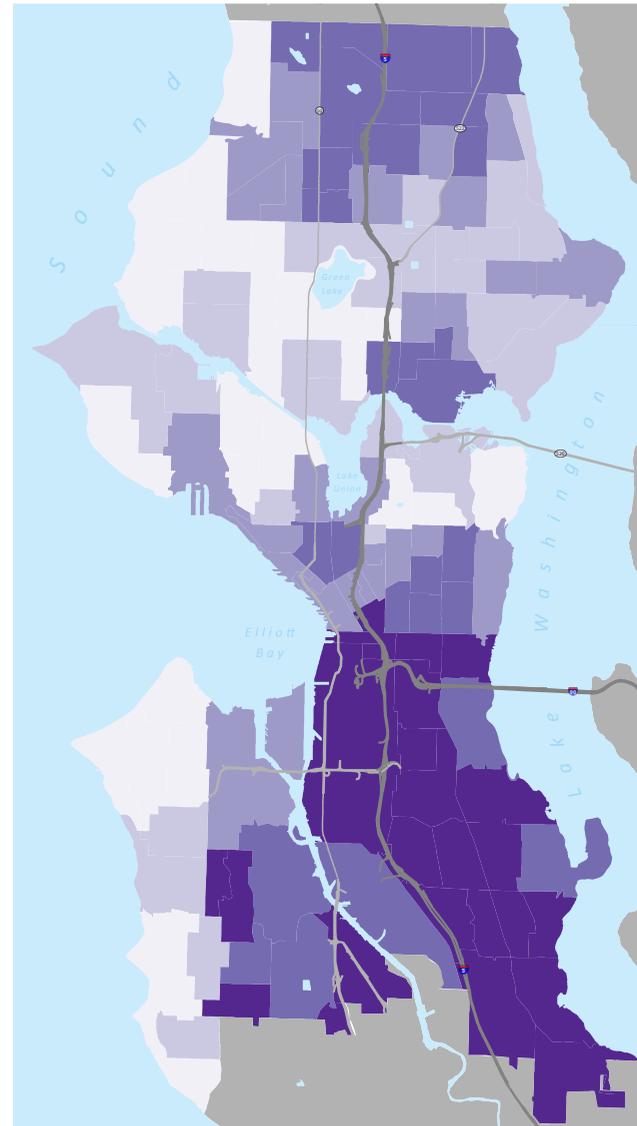
- Percentage of population that are people of color
- Percentage of households below 200% of poverty level (defined by the U.S. Census Bureau)
- Percentage of households within the census tract with no automobile available for daily use
- Population of people under 18 years of age
- Population of people over 64 years of age

The analysis used a threshold for each of the above indicators, so that those census tracts that had a greater value than the mean value for any given indicator was given a score of one (1). For example, if a census tract had an above average number of people of color and an above average number of people 65 years of age or older, the census tract was given a score of two (2). The high equity score has a maximum possible score of five and a low equity score has a minimum possible score of zero.

The distribution of bicycle facilities or “level of bicycle service” was calculated by dividing the total mileage of bicycle facilities in a census tract by the number of square miles in the census tract (bicycle facility miles/square miles). Census tracts in the lowest quartile (lowest 25 percent) were considered to be “low service areas.” The red outlines on Map 2-9 show census blocks with low bicycle service.

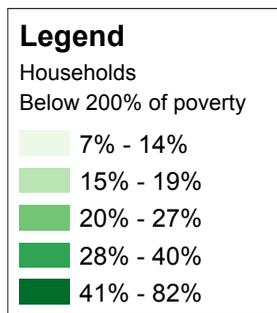
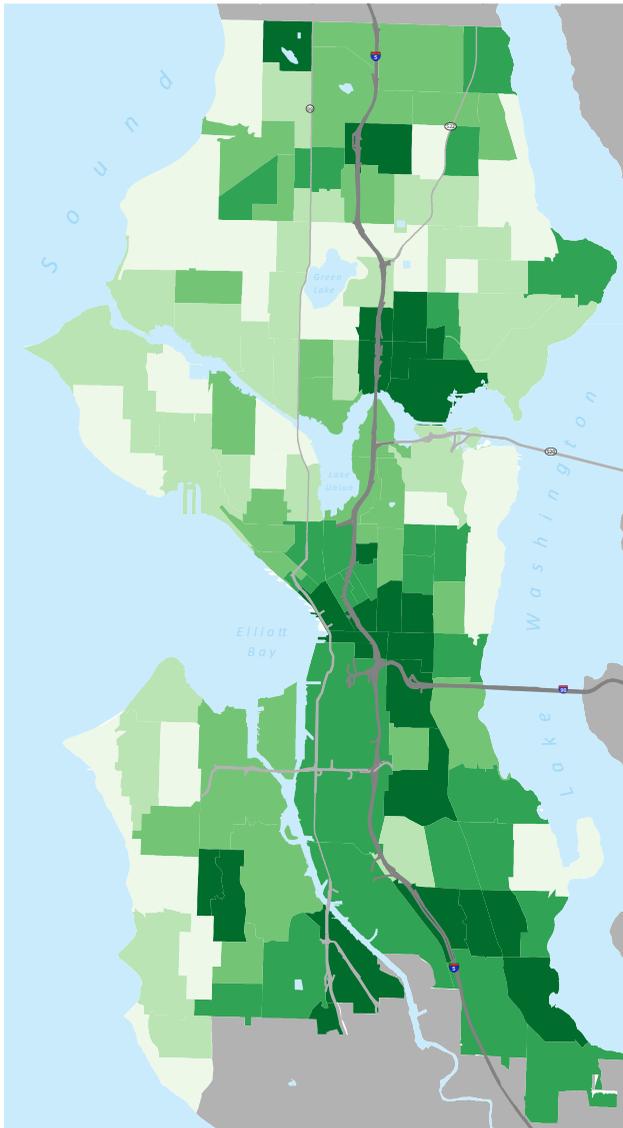
The results of the demographic analysis combined with the assessment of existing facilities highlight several areas of Seattle where improvements to the bicycle system would benefit underserved populations. As new segments of the system are completed, the gap analyses can be easily updated, providing the opportunity to understand which areas of the city merit additional focus and investment.

Map 2-4: Percent of Population that are People of Color

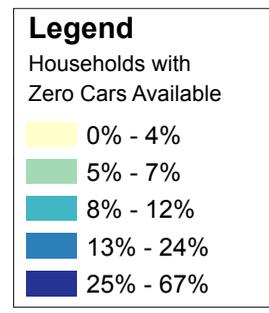
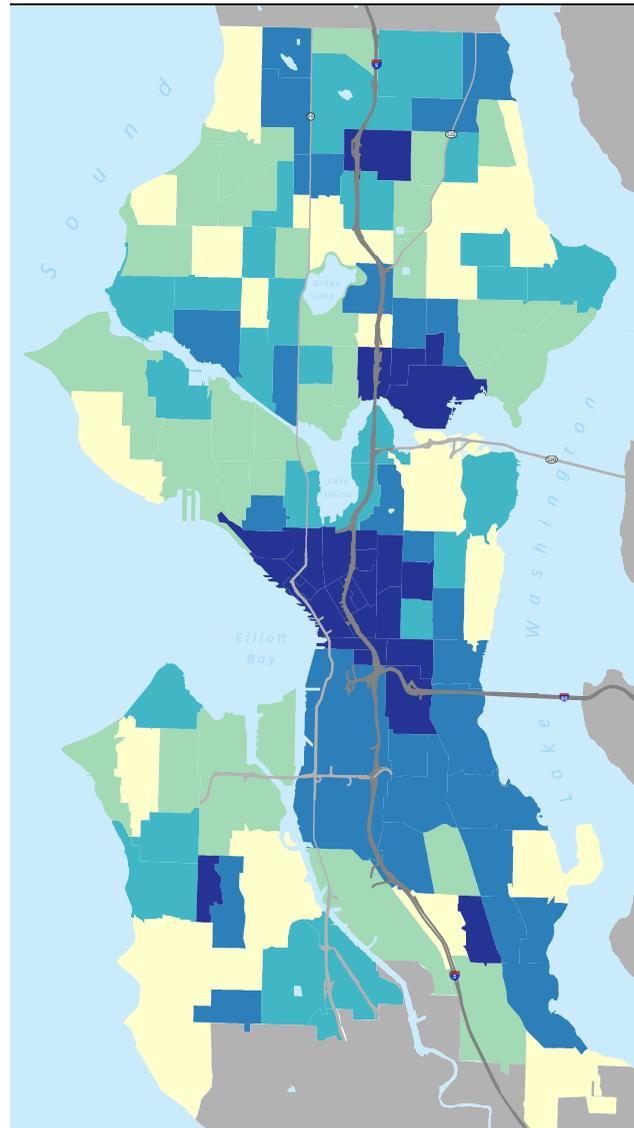




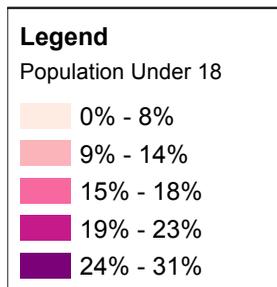
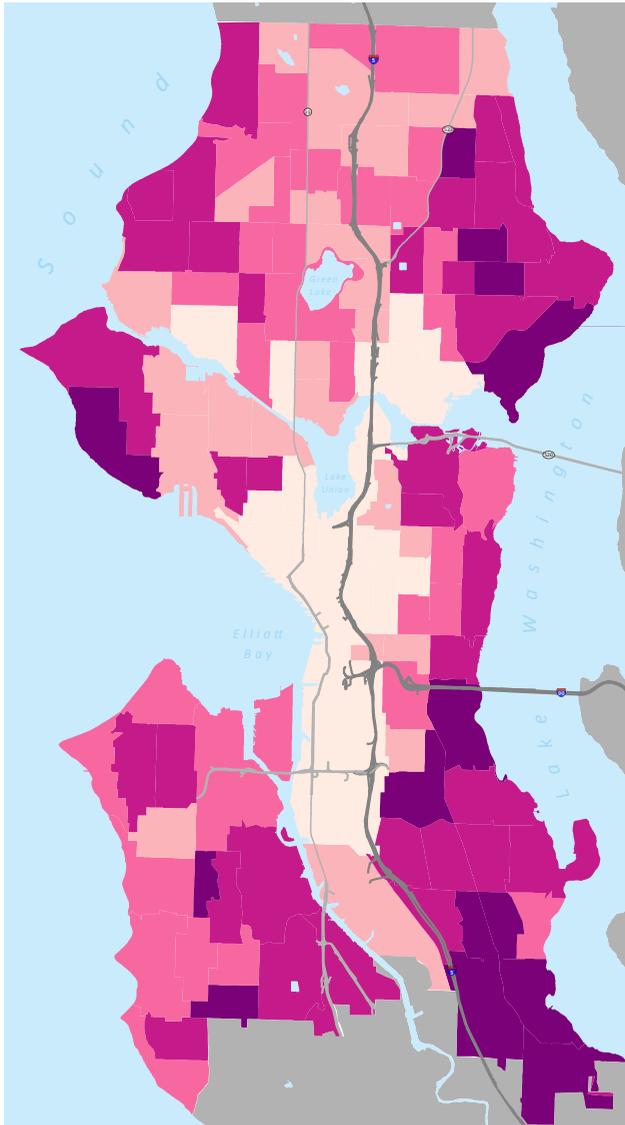
Map 2-5: Percent of Population Under 200% of Poverty Level



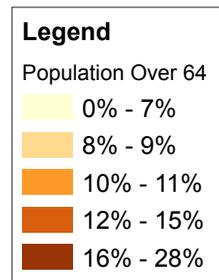
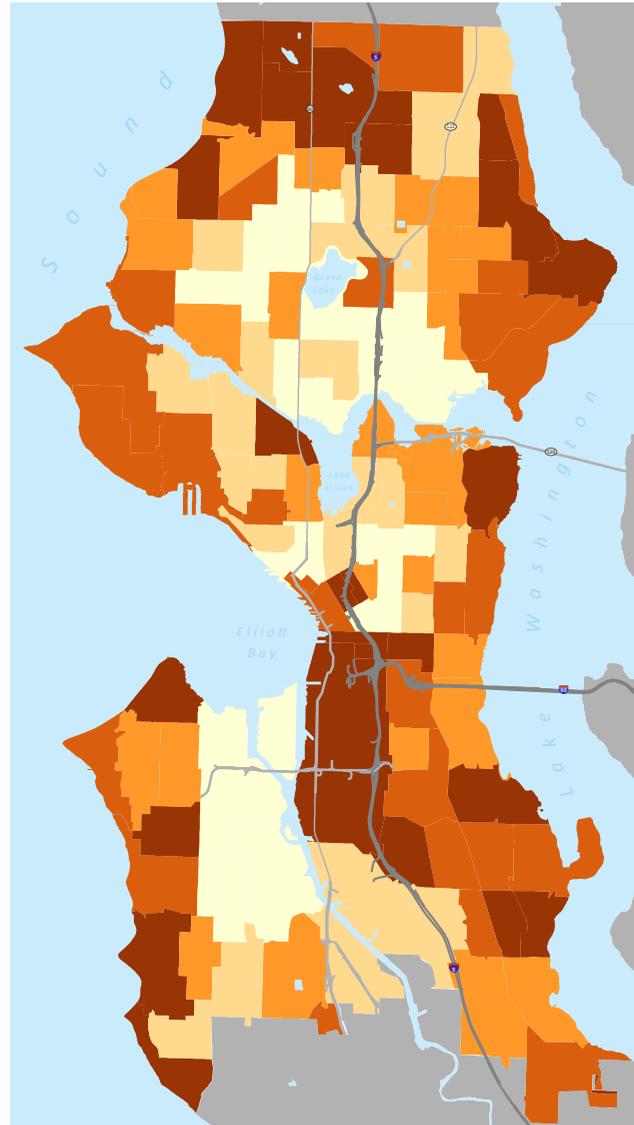
Map 2-6: Percent of Households Without Access to a Car



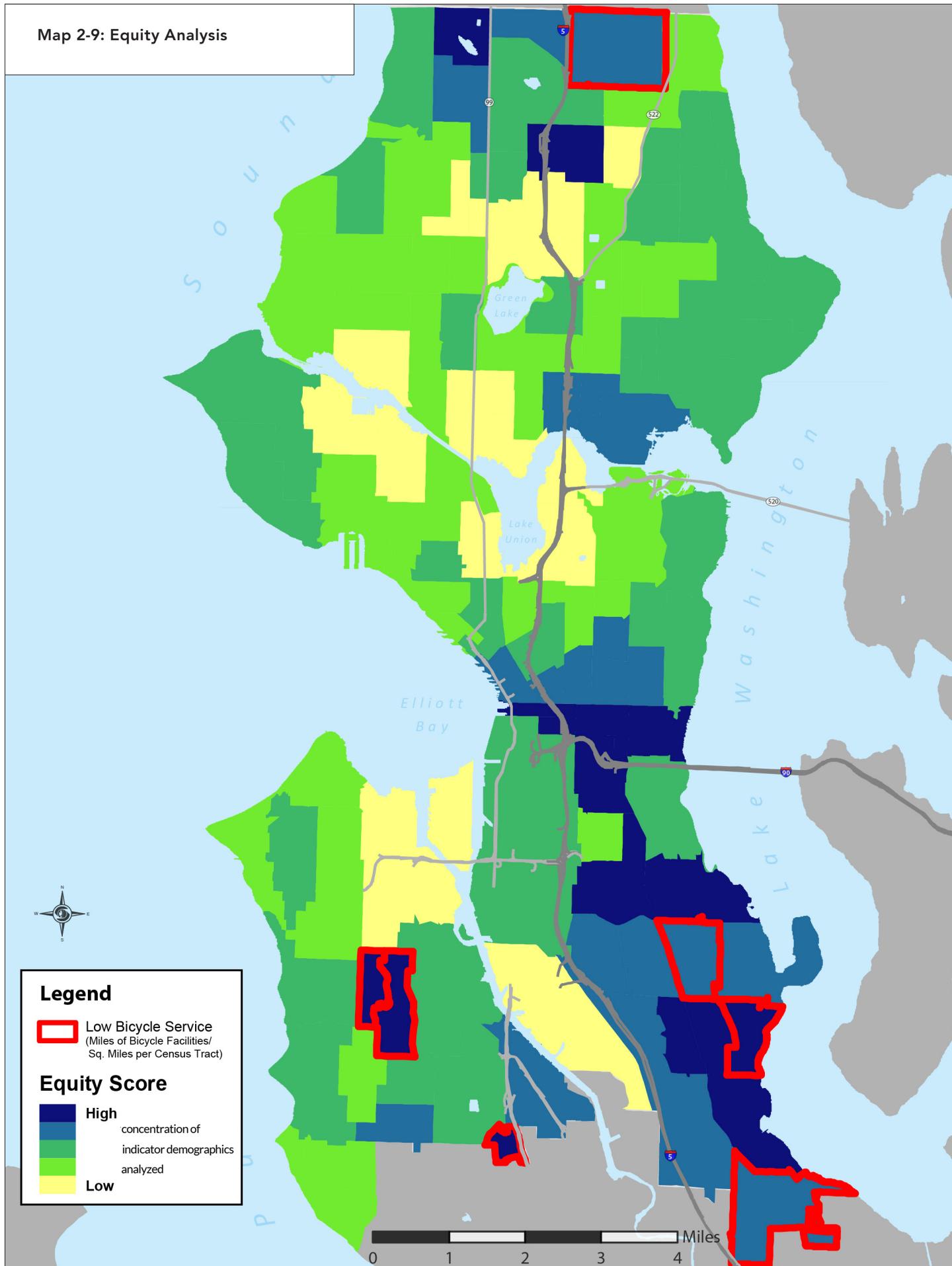
Map 2-7: Percent of Population Under 18



Map 2-8: Percent of Population Over 64



Map 2-9: Equity Analysis





This buffered bicycle lane on Dexter Ave N offers increased space and more comfortable separation from moving vehicles than a conventional bicycle lane.

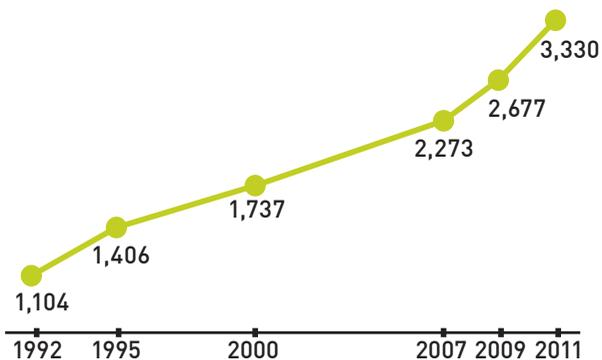
Who's Bicycling, Where, and When?

Bicycle counts from a variety of sources provide a snapshot of cycling activity in Seattle. SDOT has been counting bicycles at access points to Downtown since 1992. In 2008, SDOT began conducting counts at other locations around the city as well. These two count programs were replaced in 2011 by a quarterly count program at 50 locations using the methodology recommended by the National Bicycle and Pedestrian Documentation Project. The downtown count will be conducted once more in 2017 to gauge the 2007 BMP ten-year goal of tripling the number of bicycle riders.

Additional count data has been collected since 2009 at 25 Seattle locations in coordination with the annual Washington State Bicycle and Pedestrian Documentation Project. Periodic counts of bicycles on transit have been conducted by Sound Transit and include bicycles observed on Sound Transit trains and buses, as well as bicycles observed on King County Metro and Community Transit buses. As noted in Map 2-10, the number of riders based on counts taken to date varies throughout the city. The highest counts are located at crossings of the ship canal and in South Lake Union, Capitol Hill, and Downtown, while bicycling activity is lower south of I-90, on Beacon Hill, and in Rainier Valley.

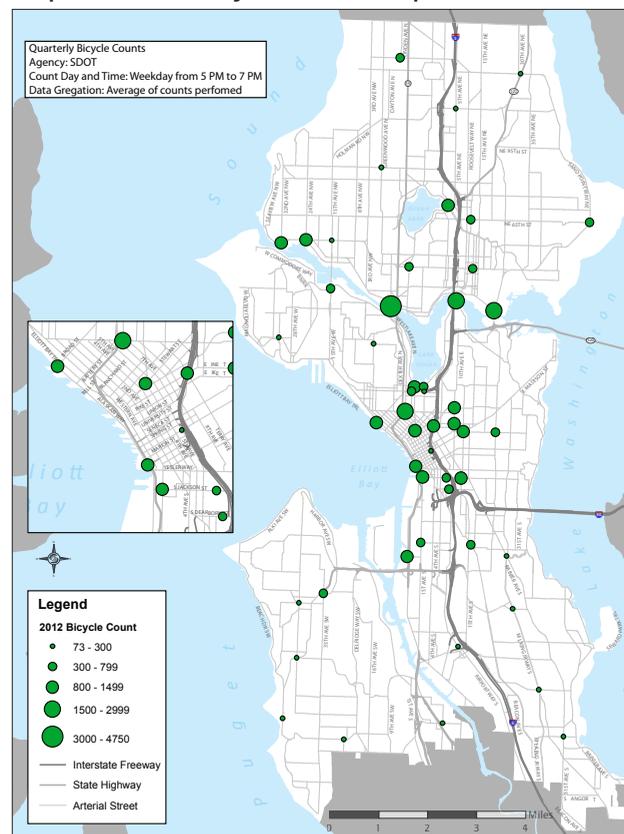
As shown in Figure 2-1, Seattle has seen an overall increase in bicycling since the city started its Downtown count program in 1992. However, bicycling activity varies throughout the city.

Figure 2-1: Downtown Bicycling Trends in the City



SOURCE: SDOT. 1992-2011 DOWNTOWN SEATTLE BICYCLE COUNTS.

Map 2-10: 2012 Bicycle Counts Map



SOURCE: SDOT. QUARTERLY BICYCLE COUNTS. 2012. AVERAGE OF WEEKDAY COUNTS FROM 5PM TO 7PM.

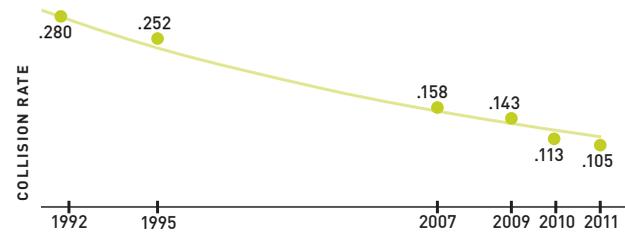


2007 BMP TRACKING AND PERFORMANCE MEASURES

The 2007 Seattle BMP provided the framework for investments that have occurred since that time to improve conditions for bicyclists in the city. The ten-year plan focused on making progress between 2007 and 2017 on building the envisioned bicycling network and elevating the profile of bicycling as a viable part of the multimodal transportation system in Seattle.

The 2007 Seattle BMP had two broad goals: increase bicycling ridership and increase the safety of bicycling in Seattle. The plan identified four objectives to achieve these goals that focused on improving bicycle infrastructure, securing funding for infrastructure improvements, and implementing programs for education, enforcement, and encouragement. Figure 2-2 shows the relationship of bicycling and collision rates in Seattle over the past 20 years.

Figure 2-2: Correlation of Increase in Bicycling Rate and Decrease in Collision Rate



SOURCE: SDOT. 1992-2011 DOWNTOWN SEATTLE BICYCLE COUNTS. 2011. 2011 RATE BASED ON PARTIAL COUNT.

ADDITIONAL BICYCLE FACILITY ACCOMPLISHMENTS:

- New signals installed specifically for bicycles
- Improved trail crossings
- Improved pavement along the Burke-Gilman Trail, the Duwamish Trail, and the Ship Canal Trail
- Completed innovative pilot projects including buffered bicycle lanes, green bicycle boxes and lanes, contraflow bicycle lanes, staircase runnels, and cycle tracks

Table 2-1: Scorecard of Current Bicycle Facilities

	Total Network Miles Recommended in 2007 BMP	Pre-2007 Network	Implemented 2007-2012	Current Miles in Network	% of BMP Network Complete
Bicycle lanes	143	26	53	78	55%
Sharrows	111	0	91	92	83%
Trails	58	39	8	47	81%
Other On-Street	46	2	0	2	5%
Other Off-Street	3	0	0	0.2	8%
Total Network	361	68	152	221	60%
Signed Routes*	234	0	128	128	55%

*Some signed routes (but not all) overlap with other bicycle facilities.

Eight performance measures were recommended to gauge Seattle’s progress in meeting goals and objectives in the 2007 BMP (see Figure 2-3). Between 2007 and 2012 there was notable progress on meeting the targets identified for the plan. Progress toward that plan’s network goals is described in Table 2-1. This table focuses on the network plan that was identified in the 2007 plan, and provides a good snapshot of status of the overall bicycle network as of 2013. Many of the facility-type recommendations along specific corridors, however, have been updated in this plan.



Bicycling near Seattle’s downtown waterfront.

Figure 2-3: Status of the 2007 Performance Measures

MORE BICYCLISTS	x
FEWER COLLISIONS	✓
NETWORK COMPLETION	✓
MORE BIKE RACKS	✓
DISTRIBUTE BIKE MAPS	✓
INCREASE GRANT FUNDING	✓
INCREASE STAFF TRAINING	?
MORE SPOT IMPROVEMENTS	?

Key: x = not on track; ✓ = on track; ? = unsure, have not tracked.



←  U District 3.7
Kenmore 7  →


Burke
Gilman
Trail




Lake
Washington
Loop

