

Chapter 1. Introduction

Bicycling is a popular activity in Seattle. Every day, approximately 6,000 people in Seattle's workforce use a bicycle as their primary mode of transportation¹. Thousands more bicycle to school, to access transit, to visit friends, to go shopping, and to improve their health². The membership of the Cascade Bicycle Club provides clear evidence of the popularity of bicycling throughout the Puget Sound Region - the club's 7,200 members make it one of the largest regional bicycle clubs in the nation. In addition, Seattle is home to the Bicycle Alliance of Washington, one of the most effective statewide advocacy groups in the U.S.

Between 1992 and 2000, the total number of bicyclists entering and leaving Downtown Seattle during the morning peak period (6:30 a.m. to 9:00 a.m.) increased by 57%³.

The City of Seattle has been a national leader in the development of urban trail systems, improving bicycle access across key barriers (most notably bridges) and in improving bicycle access to transit. SDOT was one of the first city transportation departments in the country to establish a bicycle program, which has been going strong for over 35 years.

These successes have led to a great deal of support for bicycling among Seattle's residents and elected leaders. Seattle residents passed the "Bridging the Gap" initiative in November 2006 to provide \$365 million over nine years for street repaving, seismic repairs for bridges, pedestrian and bicycle improvements, and transit projects. Of this funding, approximately \$3 million per year will be directly available for bicycle lanes, multi-use trails, and other safety improvements, beginning in 2007. The guiding principle of the city's Complete Streets policy, adopted in April 2007, is "To design, operate and maintain Seattle's streets to promote safe and convenient access and travel for all users-- pedestrians, bicyclists, transit riders, and people of all abilities, as well as freight and motor vehicle drivers."

The Burke-Gilman Trail is one of the most popular trails in the U.S. Approximately 1,800 bicyclists use the trail on a typical weekday, and 2,200 bicyclists use the trail on a typical Saturday.⁴



However, there are many challenges to bicycling in Seattle. Although Seattle has made great progress by building a trail network that is a model for cities throughout the world, Seattle lacks a connected system of bicycle facilities. Bicyclists face barriers, such as freeways, roadway crossings, and topography in many parts of the city. Many people would choose to bicycle if they had a connected network of comfortable, safe bicycle facilities throughout the city.

¹ U.S. Census 2000.

² Approximately 11 percent of bicycle trips are for the purposes of earning a living or going to school; 89 percent of bicycle trips are for other purposes. Source: US DOT, National Household Travel Survey, 2001.

³ City of Seattle downtown bicycle counts, 1992, 1995, and 2000.

⁴ Moritz, B. and Cascades Bicycle Club. Burke-Gilman/Sammamish River Trail Survey, 2005. Counts taken from 7 a.m. to 7 p.m.

⁵ As estimated by the League of American Bicyclists.

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Bicycling is an important part of Seattle's transportation system for many reasons:

- Bicycling is an affordable mode of transportation, requiring only a fraction of the cost that it takes to own and operate a motor vehicle. The American Automobile Association estimates that the average American spends nearly \$8,000 per year to own and operate an automobile, while bicyclists typically spend less than \$200 per year.⁵
- Bicycling instead of driving a car can help to improve the environment by reducing greenhouse gases that contribute to global warming, and reducing the amount of pollution in our air and water.
- As a vehicle, the bicycle is very efficient in its use of public space. For example, there is space for approximately 10 to 12 bicycle parking spaces in one automobile parking space.⁶
- Unsafe behaviors from both motorists and bicyclists increase the chances of injuries on roadways. Because bicyclists' needs have historically been underserved, the current transportation system does not function well for bicyclists and precipitates conflicts between motorists and bicyclists. In cities that have effectively accommodated bicyclists, these conflicts tend to dissipate. Bicycling provides an opportunity for routine physical activity - which is increasingly important given the sedentary lifestyles of many Seattle residents. Recent health studies have shown up to a 50% reduction in Type 2 diabetes among people who engage in moderate physical activity - such as bicycling to work - on a regular basis.⁷



This Plan envisions a comprehensive network of on-and off-street bicycle facilities that connects all parts of Seattle, providing residents and visitors with convenient access to transit stations, workplaces, parks, commercial areas and many other destinations throughout the city. Within the next three years, the Plan recommends the implementation of 133 miles of new bicycle facilities. Within the next ten years, the Plan will create a 450-mile network of bicycle facilities, ultimately putting nearly all of Seattle's residents within one-quarter mile of a bicycle facility. The Plan also recommends a wide variety of partnerships to develop and maintain bicycle facilities, further support bicycle safety education, and encourage more people to bicycle for utilitarian and recreation purposes.

Bicycling serves a wide variety of community goals that fall under the jurisdiction and missions of many city departments and projects. Bicycling supports:

- Public health
- Quality of life/livability
- Environmental health
- Transportation choice
- Accessibility
- Recreation

--City of Seattle Bicycle Advisory Board, 2002

⁶ Pedestrian and Bicycle Information Center, "Bicycle Parking: Costs," Available online: www.bicyclinginfo.org/de/park_costs.cfm.

⁷ Journal of the American Medical Association, October 1999, based on a study by the Harvard School of Public Health.

This Plan comes at an important time in Seattle's history. On November 7th, 2006, Seattle voters passed a comprehensive transportation levy that will provide a significant source of funding for transportation maintenance and improvements over the next nine years. This funding will help to accelerate the implementation of this Plan, including the development of capital projects that support bicycle mobility.



More than 450 people attended the first Bicycle Master Plan public meeting.

Citizens have shown significant interest in this Plan and have provided considerable feedback during the planning process. Attendance at public meetings exceeded 750 people over the course of three public meetings held between August and December 2006. In addition, more than 1,600 city residents submitted comments during the six-month planning process. Input from these citizens, recommendations from other key planning efforts, and a thorough inventory and analysis of the city's existing transportation system combine to form the basis of this Bicycle Master Plan. A list of public comments on the Draft Plan and the city responses to these comments is included in the Public Comments and Responses Spreadsheet, which is part of the Compendium of Supporting Materials for this Plan.

Implementing this Plan over the next 10 years will provide:

- Bicycle facilities on 62 percent (295 miles) of Seattle's arterial streets
- A 230-mile system of signed bicycle routes, connecting all parts of Seattle
- 50 percent more (19 miles of new) multi-purpose trails
- Partnerships to improve bicyclist safety and increase bicycling throughout Seattle

The level of investment that will be required in order to implement this Plan is relatively modest in comparison to other transportation facilities. The estimated cost to implement this Plan over 10 years is approximately \$240 million (based on 2007 dollars). The Plan cost includes approximately \$35.7 million for on-road bicycle facilities, \$7.0 million for roadway crossing improvements, \$63.7 million for multi-use trail facilities (includes the Burke-Gilman Trail missing link), \$80.6 million for major capital projects (e.g., pedestrian and bicycle bridges), \$46.5 million for bicycle facility maintenance, and \$5.9 million for other projects (e.g., bicycle parking, bicycle maps, bicycle education, etc.).

Plan Background

Seattle's network of bicycle facilities has developed over time. The city adopted its first Bicycle Master Plan in 1972. The oil shortages of 1973 and 1979 boosted interest in bicycling. Railroad downsizing starting in the 1970s provided an opportunity for the city to develop multi-purpose trails along abandoned railroad corridors. In the late 1970s through the 1990s, the city focused on securing rights-of-way and constructing this system of trails, which became extremely popular among residents and visitors to the city. Significant portions of the Burke-Gilman, Alki, I-90, and Duwamish Trails were constructed during this period. New trails offered opportunities for people to become more comfortable riding a bicycle for utilitarian and recreation trips, however it soon became clear that improvements would also be needed to the roadway system in order to connect bicyclists directly to their destinations. The city's first



The city's first Bicycle Master Plan was adopted in 1972.

Bicycling Guide Map and the Spot Improvement Program were established during this period.

More recently, the city has focused more of its attention on developing an on-road network of bicycle facilities to complement the multi-purpose trail network. This Plan is a direct result of the need to improve bicycle access on Seattle’s roadway system. Seattle currently has approximately 40 miles of multi-purpose trails, and 25 miles of on-road bicycle lanes. The city’s current network of trails and bike lanes is complemented by a number of other facilities, including bicycle route signs, bicycle parking, and bicycle racks on buses. There are also several miles of other on-road bicycle facilities, including wide outside lanes, rush hour bikeways, bus/bike lanes, and paved shoulders (see Table 1: Existing Bicycle Facilities).

Table 1. Existing Bicycle Facilities

Facility Type	Miles ¹
<i>Bicycle lanes/climbing lanes</i>	<i>25.5</i>
<i>Shared lane pavement markings</i>	<i>0.3</i>
<i>Bicycle boulevards</i>	<i>0.0</i>
<i>Other on-road bicycle facilities²</i>	<i>2.2</i>
<i>Multi-use trails</i>	<i>39.4</i>
<i>Other off-road bicycle facilities³</i>	<i>0.2</i>
TOTAL NETWORK	67.6
<i>¹ For on-road bicycle facilities, total miles represent roadway centerline miles with bicycle facilities (e.g. bicycle lanes on both sides of the roadway are not counted separately.)</i>	
<i>² Other on-road bicycle facilities include wide outside lanes, edgelines, paved shoulders and peak hour bus/bicycle only roadways. Key corridors for short-term study and corridors where an improvement is needed, but the facility is unknown are also counted in this category.</i>	
<i>³ Other off-road bicycle facilities include sidepaths, one-way bike-on-sidewalk pairs and pedestrian/bike-only bridges.</i>	



Bicycle racks and lockers, a BikeStation®, and bicycle racks on buses are all part of the existing system of facilities that support bicycling. Some have been provided by the city or other public agencies, while others have been provided by private entities. Over 2,300 sidewalk bicycle racks have been installed in business districts since September of 1993, and bicycle parking requirements are included in the Seattle Municipal Code (23.49.019). More detail about the existing bicycling conditions in Seattle is provided in Appendix A: Existing Conditions for Bicycling.

Plan Development

The Plan was developed by gathering and analyzing public input, meeting with the Bicycle Master Plan Citizens Advisory Board (CAB), coordinating with city staff, other local agencies, and reviewing previous plans for bicycle facilities. In addition, the planning process included extensive field analysis of Seattle’s existing transportation network to determine locations where bicycle facilities can be integrated into the existing street network. Over 600 miles of roadways were analyzed, including all of Seattle’s arterial roadways.



The project team analyzed over 600 miles of roadways in the field during summer 2006.

Public input during the planning process was a critical part of identifying bicycling needs throughout the city, and was gathered through several methods, including:

- Monthly meetings with a Citizens Advisory Board (CAB), which included representatives of the Seattle Bicycle Advisory Board, Cascade Bicycle Club, Bicycle Alliance of Washington, and neighborhood residents.
- Three public meetings (450 people attended a meeting at the University of Washington on August 29, 2006; 215 people attended a meeting in Ballard on December 5, 2006; 110 people attended a meeting in Columbia City on December 7, 2006).
- An online Bicycle Master Plan questionnaire (over 1,500 people provided responses between August and September 2006).
- Meetings with representatives of surrounding jurisdictions that were coordinated through the Puget Sound Regional Council (PSRC) (August 29, 2006 and December 6, 2006).
- Review by Seattle District Councils (December 2006 and January 2007).
- Additional comments submitted by citizens to SDOT (over 300 letters and e-mails during the planning process).
- Presentations, upon request, to the Freight Mobility Advisory Committee, Southeast Seattle Transportation Plan Core Community Team, North Seattle Industrial Association and Manufacturing Industrial Council.



The SDOT Bicycle and Pedestrian Program consulted with a variety of other SDOT divisions, city and transit agencies, and other groups throughout the planning process. Those meetings were also important for identifying the best strategies for integrating bicycle infrastructure improvements into the city's overall multi-modal transportation network (see Appendix B: List of Public Meetings Held During the Planning Process).

Plan Updates

This Plan is a living document and updates will be necessary in the future to assess progress, take advantage of emerging opportunities and re-evaluate priorities as needed. As new sections of the bicycle facility network are developed and new technologies are adopted, bicycling mode share will likely increase and travel patterns will change. Priorities will shift and new opportunities will become apparent. These changes will be reflected in yearly updates to the list of short-term projects. Updates to the full Bicycle Master Plan will occur every five years, as a part of the Transportation Strategic Plan Update.