CITY OF MERCER ISLAND
PEDESTRIAN AND BICYCLE FACILITIES PLAN

MacLeod Reckord

June 21, 2010

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Produced for the City of Mercer Island
by
MacLeod Reckord

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Acknowledgements

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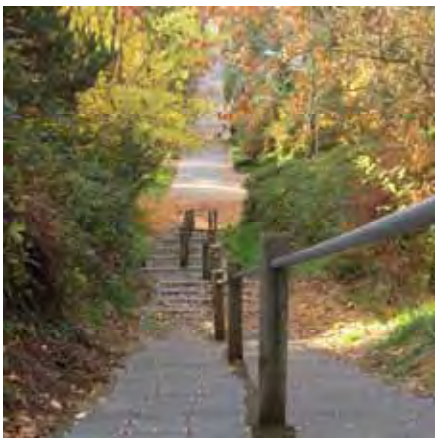

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EXECUTIVE SUMMARY

Introduction

Development of the City of Mercer Island's pedestrian and bicycle facilities has been guided by the Pedestrian and Bicycle Facilities (PBF) Plan adopted in 1996. In 2007, the Mercer Island City Council directed that the PBF Plan be updated, identifying the following objectives:

- identify and resolve key policy issues relating to pedestrian and bicycle facilities and use;
- review and modify, if necessary, the existing Plan's goals, policies, project selection criteria and other recommendations;
- evaluate and update facility design criteria;
- evaluate demand (assess traffic generators) and identify facility improvement opportunities;
- update the Plan's project list, cost estimates and priorities;
- prepare an implementation strategy and procedures;
- identify ways the Plan can help achieve sustainability goals;
- coordinate Plan implementation with the annual Transportation Improvement Program (TIP) update process.

This Update of the Plan provides clarity in the vision for the Plan, and updated goals and policies. It reviews existing conditions of the non-motorized system throughout the Island and summarizes the work from the 1996 plan that has been implemented. It identifies new destinations and their service areas, and from this seeks to identify projects or networks that are incomplete. Facility design guidelines are reviewed and updated to current standards, with new design concepts introduced, such as 'routine accommodation' and 'designed shared streets' that serve to expand flexibility of the non-motorized system for all users. A final project list is included, with criteria to determine prioritization, and cost estimates to assist with decisions on phasing.

The following paragraphs summarize the content of each section of the Plan.

Vision, Goals and Policies (Section 2)

To ensure plan goals and policies are aligned with current thinking, a vision statement for the future pedestrian and bicycle facility system was generated, and provides the foundation of the Plan:

> *Mercer Island will build upon existing facilities to create and maintain a network of pedestrian and bicycle facilities that makes walking and bicycling attractive alternatives for meeting the mobility needs of persons of varying ages and abilities.*

The vision includes guiding principles. Goals and policies further articulate the vision by providing more specific direction and guidance for actions implementing the vision. The goals and policies have been modified extensively from the previous plan, and reflect a number of shifts in community emphasis on non-motorized facilities.

Existing Conditions (Section 3)

Inventory and analysis of existing conditions and data was gathered in a variety of ways. Base mapping was assembled from the City's GIS mapping system. Field reconnaissance was performed across the Island to map current non-motorized facilities, general conditions, and destinations, or 'traffic generators'. Public input was extensive and invaluable, gathered from on-line comments and discussion during public open houses.

In addition, review and assessment of the 1996 Plan projects was critical to directing the analysis for the updated plan. Overall, the Plan has been largely implemented over the last decade with 81% of the projects at least partially completed and 70% considered fully completed. This represents a solid level of accomplishment during the first 12 years (60%) of the 20-year planning period. Of the projects considered "partially completed", several were built in ways that differed from the way the projects were originally planned. This was a result of (1) physical constraints within existing rights-of-way, (2) limitations in available budget restricting the application of standards, (3) challenges or opportunities discovered during detailed design and construction, and (4) additional public comment during final design or construction.

Public support of non-motorized facilities has increased, for not only recreation but transportation (commuter) purposes. There has been increased awareness of the benefits of a more active lifestyle and a desire to increase children's non-motorized accessibility to their schools and community centers. With increased non-motorized activity, there has been an increase in bicycle/ pedestrian/vehicular conflicts, and a demand for physical improvements that will reduce these conflicts.

These changes, in the actual built environment and in the public's focus on non-motorized facilities, have led to a plan of greater breadth, with more specificity than the earlier planning effort.

Facilities Plan (Section 4)

This section provides:

- A generalized overview of how the Mercer Island non-motorized facilities network will look and function following full implementation of the programs and improvements established by this Plan, including illustration of the Primary Bicycle Corridors on the Island (Figure 4, Future Non-Motorized Network), and

- A more detailed schematic illustrating the specific types and locations of improvements that will be needed to achieve this future pedestrian and bicycle facilities network (Figure 5, Facilities Improvement Plan).

The Facilities Plan builds on the projects and corridors from the 1996 Plan that have been completed, partially completed or identified as in need of further enhancements. It has been guided by:

- The updated vision, goals and policies established during the Plan Update process;
- Level-of-service measures and system performance criteria that have remained consistent with those established by the 1996 Plan;
- Concerns, issues and ideas generated by citizens and policy-makers during the Plan Update process.

Off-road path on West Mercer Way at West Mercer Elementary School

There are a number of corridors that represent the 'backbone' of the system. These carry, or have the potential to carry, the highest volume of non-motorized users between the highest priority destinations. While their identification as key corridors does not necessarily target them as priority projects, consistency in the implemented design standard in these corridors is critical to success of the larger network. In providing greater connectivity throughout Mercer Island, the Plan has placed particular emphasis on identifying projects that would improve the safety of routes used to and from the Island's elementary schools.

Design Guidelines (Section 5)

The design guidelines are intended to direct the construction of pedestrian and bicycle facilities presented in the Plan, while still allowing for some flexibility in implementation. The design guidelines are based on recognized state and national standards and/or guidelines and include dimensional recommendations for widths, cross-slopes, grades, surface treatments, separation of elements, signage and other elements generally making up new or retrofitted facilities.

One of the challenges to implementing the 1996 Plan was in applying standards consistently. In order to provide some measure of flexibility in applying these standards, the Plan provides a range of options that may be considered at any project location. While a range of options allows for the desired flexibility, the goal for consistency should remain. Many of the concerns voiced from the users of these facilities have to do with unexpected changes in physical conditions or 'lane' availability as they traverse from block to block on the Island.

The concept of 'routine accommodation' has emerged in recent years and gained standing with regard to the design of transportation facilities that adequately incorporate pedestrian and bicycle modes along with motorized vehicles. This policy, recently adopted by the U.S. Department of Transportation, recommends

that pedestrian and bicycle needs be factored into all transportation projects, both new construction and reconstruction.

Several cross sections, and photographic images provide detailed description of what the final Facilities Plan might look like on any given corridor. The range of options include Signed Shared Roadway, Sharrow, Paved Shoulder, Bike Lane, Off-Road Path or Sidewalk, Shared Use Path, and Designed Shared Street.

Prioritization and Cost Estimates (Section 6)

The Plan provides a list of all the new projects to complete the plan for bicycle and pedestrian facilities. The projects are grouped as follows:

- Island-wide Corridors (West, East, and North Mercer Ways, and Island Crest Way)
- Intersections
- North
- Central
- South

The project list provides a brief description of each project, cost estimates and a general indication regarding how each project addresses the "Performance Measures" established by Section 4. This information will assist the City in selecting projects for implementation through the annual Transportation Improvement Program (TIP) and biennial adoption of the City's Capital Improvement Program (CIP) budget.

Public Information and Outreach (Section 7)

Information is provided on the process of public outreach for this Plan and future efforts for continued public involvement.

Section 2
VISION, GOALS AND POLICIES

Introduction

This section of the plan sets a vision for the future pedestrian and bicycle facility system and its character. The vision includes guiding principles to assist in achieving the vision. The pedestrian and bicycle facility goals and policies further articulate the vision by providing more specific direction and guidance for actions implementing the vision. The goals and policies of the Transportation Element of the Comprehensive Plan shall be considered in the application and implementation of these goals and policies to ensure consistency between this plan and that element.

Vision and Guiding Principles for Pedestrian and Bicycle Facilities

The following Vision and Guiding Principles provides the foundation of the plan.

Vision for the Future

Mercer Island will build upon existing facilities to create and maintain a network of pedestrian and bicycle facilities that makes walking and bicycling attractive alternatives for meeting the mobility needs of persons of varying ages and abilities.

- Pedestrian and bicycle facilities will provide safe and convenient connections among neighborhoods and key destinations, including public transportation, shopping areas, schools, religious, recreational and other community facilities.
- A variety of pedestrian and bicycle facility types will be provided, tailored to their primary functions and users, and compatible with their environmental setting and community values.
- Pedestrian and bicycle facilities will provide recreational opportunities and integrate exercise into commute, shopping, school and other trips, contributing to a healthy lifestyle.

Transit stop at the Park & Ride on North Mercer Way

Guiding Principles

In order to achieve this vision over time, the Pedestrian and Bicycle Facilities Plan will be guided by the following principles:

- Connectivity. The plan will provide a network of continuous links connecting employment, retail centers, schools, parks and other primary destinations with the Island's neighborhoods.
- Sustainability. The plan will increase the opportunity for sustainable transportation choices by Island residents by

facilitating pedestrian and bicycle movement as an alternative to the automobile.

- Safety. Facilities provided by the plan shall be designed to reduce conflicts between autos, bicyclists and pedestrians, and provide a safe system of facilities for all user groups, especially for children on routes between neighborhoods and schools.
- Routine Accommodation. Street improvements will be designed by identifying the full range of mobility needs to be met by the facility, and then balancing or adjusting these needs with space, financial and other considerations to achieve the best result.
- Arterial corridors are shared-use assets. Automobile, bicycle and pedestrian use must be integrated. These needs should be considered in planning street projects.
- Incremental solutions are preferred. Consideration should be given to the minimal facility or improvement that can balance competing priorities.
- Appropriate facilities balance community values, expected uses, and site. Preserving Mercer Island's woodsy, rural character and neighborhood scale is important.
- The Mercer Ways are a unique and valuable community asset. Trade-offs here are especially complex.
- Maintenance practices, parking and speed control policies (and their enforcement) affect use of these facilities. These issues must be addressed to assure full value is obtained from investments.

Vision of the System Network

Ultimately, the City's pedestrian and bicycle facilities will be a connected network of facilities that link key destinations with the Island's neighborhoods. This network will be integrated with transit services and the I-90 trail to link to off-Island destinations. The most significant destinations include:

- North Mercer Park and Ride/I-90 Trail
- Town Center
- North Mercer Campus (Mercer Island High School)
- South Mercer Island Shopping Center
- All Island schools

In linking these key destinations, the network would also serve the Island's parks, transit stops and other community facilities. Working with Mercer Island School District to provide safe routes to schools will be a priority.

The network would consist of a hierarchy of facility types consistent with both the character of their location and the nature and level of travel demand generated by destinations they serve. Facilities which are intended to carry higher volumes that run along major automobile traffic corridors or through more intensively developed areas would be designed to accommodate such activity

safely along with the automobile traffic by appropriate signage, markings and separation of activities. In residential neighborhoods served by low-volume local streets, pedestrian and bicycle activity would share space with automobiles, consistent with the residential character of the area and safety considerations. Facilities will be designed in a manner that is consistent with the character and values of the community and pose the least amount of disruption necessary to achieve the function desired.

This network of facilities will be built gradually over time, using existing routes and facilities as much as possible and by taking advantage of any transportation project to incorporate pedestrian and bicycle needs. Wherever appropriate and possible the pedestrian bicycle network would incorporate trails in public rights- of-way and through or adjacent to city parks; in such cases the design of the facilities will be consistent with the character of the park.

Goals and Policies

A set of Goals and Policies guided the development and implementation of the 1996 plan. These goals and policies have been extensively reviewed and updated.

Goals
Goals are numbered. Each goal is shown in bold face and boxed to indicate that together they are key foundations for the policies and implementation strategies of the Plan.

Policies
Policies are numbered and supplement the goals by providing direction for planning, developing and maintaining a trail system.

Discussion
Discussion statements are shown in italics and are not numbered. They clarify and expand upon the goals or policies.

GOAL 1.	**Expand and enhance the opportunities for bicycle and pedestrian circulation on and across Mercer Island.**

Discussion:
The Facility Plan serves multiple users. It is used by commuters who can walk or bicycle to work or transit, for errands like walking or riding to school or the market, and for recreational purposes by those who wish to exercise or socialize. The Facility Plan enhances and completes the Transportation Element of the Comprehensive Plan focus on non- motorized system use by commuters. It is difficult to totally separate users, since most trails will be used for multiple purposes. Recent studies show that more than a quarter of all travel trips are one mile or less, 40 percent are two miles or less, almost half are three miles or less and two-thirds are five miles or less. Moreover, 53 percent of all people nationwide live

less than two miles from the closest public transportation route, making a multi-modal bicycle or walk-transit trip a viable and attractive possibility.

Policy 1.1
Provide bicycle and pedestrian facilities that consider the needs of utility and recreation cyclists, dog walkers, individuals with strollers, skaters and pedestrians of all ages and abilities.

Policy 1.2
Maintain an inventory of existing non-motorized transportation facilities as a basis for planning and implementing new bicycle and transportation facilities.

Policy 1.3
Periodically review and update, if appropriate, the Bicycle & Pedestrian Facilities Plan to respond to changing needs and opportunities.

Policy 1.4
Consider incentive programs to encourage the private sector to develop non-motorized facilities beyond those which may be required as dedicated improvements.

Policy 1.5
Consider the impact of new development on pedestrian and bicycle facilities and needs when evaluating development projects under policy 6.6 of the Transportation Element of the Comprehensive Plan and consider requiring mitigation as may be appropriate.

Sharing the road on West Mercer Way

GOAL 2. Incorporate pedestrian and bicycle facilities as an integral part of the City's transportation system to provide sustainable mobility for all residents.

Policy 2.1
Treat pedestrian and bicycle facilities as a significant part of the City's transportation network.

Policy 2.2
Routinely accommodate, as may be appropriate and feasible, pedestrian and bicycle facilities whenever transportation facilities are designed, improved or upgraded.

Policy 2.3
Coordinate pedestrian and bicycle needs with the provision and development of transit services.

Policy 2.4
Consider in the design, installation, and management of traffic control devices, accommodation of pedestrian and bicycle users.

Policy 2.5
Integrate and promote safe pedestrian and bicycle use onto residential neighborhood streets by applying innovative design concepts (such as designed shared streets) that are compatible with the character of the neighborhood, and as appropriate and feasible.

GOAL 3. Enhance and improve pedestrian and bicycle circulation within the Town Center and its connectivity with neighborhoods.

Policy 3.1
Support the Comprehensive Plan's vision for the Town Center as a vibrant mixed-use area with pedestrian friendly amenities and facilities.

Policy 3.2
Continue to plan and provide pedestrian and bicycle linkages between the Town Center and neighborhoods.

Policy 3.3
Promote the development of pedestrian linkages between public and private development, and transit in the Town Center.

Policy 3.4
Implement City code requirements in the Town Center to:

- Encourage building designs to be pedestrian oriented and development to enhance the Town Center as a vibrant, healthy, mixed-use center.
- Encourage new development to increase the attractions and pedestrian amenities that bring residents to the Town Center.
- Encourage new development to enhance and support a range of transportation choices and be designed to maximize opportunities for alternative modes of transportation and maintain individual mobility.
- Encourage each development or redevelopment project to favor the pedestrian over the automobile in terms of site design, building placement and parking locations.

Policy 3.5
Identify, improve and protect east-west midblock corridors for pedestrians in the Town Center.

Policy 3.6
Seek to incorporate appropriate bicycle storage facilities in the Town Center as opportunities arise.

Policy 3.7
Develop consistent signage (MI 'branding') throughout Town Center for pedestrian and bicycle wayfinding.

Policy 3.8
Reduce conflicts between pedestrian and bicycle activity at the North Mercer Transit Center.

GOAL 4. Increase the visibility and accessibility of the bicycle and pedestrian circulation system.

Policy 4.1
Utilize a unified signage and street marking system for identifying routes and access points in the non-motorized system, and for informational signing as appropriate (i.e., at decision points, nodes, etc.).

Policy 4.2
Provide non-motorized facilities which are barrier-free and accessible to disabled persons (and individuals with strollers), that are consistent with the requirements of the Americans with Disabilities Act, the Washington State Building Code chapters 31 and 33 and the other Goals of the Plan.

Policy 4.3
Pursue street and walkway design alternatives that increase visibility, safety and circulation that include street prints, surface textures, and unique patterns and colors to denote changes in use or function.

Policy 4.4
Consider illuminating pedestrian and bicycle facilities that might be appropriate for night-time use; consistent with the compatibility of such lighting with adjacent uses and within funding limitations.

GOAL 5. Provide for trails within publicly-owned parks, rights of way and open space which link to other designated facilities and are appropriate to the physical setting.

Policy 5.1
Coordinate the development of a non-motorized system in Mercer Island with the existing and planned off-road recreation trail system.

Policy 5.2
Plan improvements to the off-road recreational trail system which are consistent with the Plan elements, appropriate to the physical setting and anticipated use, and are consistent with the other goals of this Plan.

GOAL 6. Strengthen the connectivity of pedestrian and bicycle facilities by creating a continuous integrated pedestrian and bicycle system with linkages between neighborhoods and places of employment, transit connections, schools, community facilities, parks, waterfront and other destinations.

Policy 6.1
Provide bicycle and pedestrian facilities that interconnect logically among local and regional destinations.

Policy 6.2
Provide bicycle and pedestrian facilities that make intermodal connections (i.e., to existing and proposed transit facilities, park-and-ride lots, etc.). Encourage bicycle and pedestrian enhancements at those connections (i.e., bicycle parking/storage, weather protection).

Policy 6.3
Support private and public institutions in providing safe pedestrian and bicycle facilities that serve to expand the system.

Policy 6.4
Provide facility signing and marking that is uniform and consistent within the regional context and expand to an Island-wide standard for wayfinding signage for off-road facilities, using the MUTCD standard signage for on-road facilities if appropriate and consistent with other policies of this Plan.

Policy 6.5
In collaboration with the Mercer Island School District support continued development of the safe routes to schools program and coordinate the implementation of the program with the implementation of this Plan.

Policy 6.6
Provide bicycle amenities (such as new or improved bike racks and storage facilities) at more destinations whenever opportunities for such amenities arise.


Shared Use Path past Feroglia Fields

GOAL 7. Promote efficient use of rights-of-way by providing for safe shared use by both motorized and non-motorized uses.

Policy 7.1
Provide corridor improvements such as greater widths, intersection modifications, signal actuators and signage to enhance/ encourage safe non- motorized use.

Policy 7.2
Remove hazards to safe use in all transportation corridors where bicycle and/or pedestrian use is permitted.

Policy 7.3
Apply, in concert with affected property owners, designed shared street concepts on local, neighborhood streets consistent with the character of residential neighborhoods and the multi-use function of the local streets (that do not have any significant through vehicle traffic), as appropriate and feasible.

Policy 7.4
Consider the needs of users with limited or alternative mobility, such as individuals with strollers, skaters, dog walkers, joggers, seniors and people with disabilities, in designing and managing shared-use facilities to minimize potential conflicts with higher speed users.

Policy 7.5
Establish clear signage regarding parking availability/restrictions on streets designated for non-motorized improvements.

Policy 7.6
Promote, in concert with affected property owners, innovative design of shared use corridors (termed designed shared streets in the Plan) on low volume, low speed residential streets that encourage the safe use of the street by all modes of movement in the same space. All such innovative designs shall be approved by the city.

GOAL 8. Improve the existing non-motorized circulation system by upgrading and replacing substandard facilities in a timely manner.

Policy 8.1
Establish new facility design standards and implement a program to bring the existing facilities to those standards.

Policy 8.2
Identify and incorporate upgrade projects into the prioritization and budgeting processes per this Plan.

GOAL 9. Provide or acquire adequate annual funds to implement and incrementally construct and maintain the facilities as planned.

Policy 9.1
Routinely incorporate pedestrian and bicycle projects into the process of developing the City's six year transportation improvement program (TIP) and related budget actions.

Policy 9.2
Routinely accommodate and incorporate proposed bicycle and/or pedestrian facilities into planned transportation/public works projects (both new and rehabilitation projects) and develop the non-motorized elements concurrent with the road/utility upgrade projects.

Policy 9.3
Within the fiscal capacity of the City, increase maintenance of roadways, bollards, and shoulders including sweeping, asphalt/ edge repair, and vegetation removal where needed.

Policy 9.4
The City should continue the "adopt a trail" program, allowing service organizations to accept maintenance responsibility for sections of trails and facilities, thus reducing in-house maintenance demands.

Policy 9.5
Encourage neighborhoods to participate in the financing of pedestrian bicycle facilities, especially the development of designed shared streets facilities, by such means of local improvement districts.

GOAL 10. Plan a non-motorized trail system which is appropriate to the physical setting and which supports and enhances neighborhood character.

Policy 10.1
Provide facilities which reflect both anticipated use and the physical setting in an appropriate way.

Policy 10.2
Adopt maintenance practices to preserve non-motorized facilities in good condition.

GOAL 11. Encourage and support bicycle/pedestrian education, and safety and enforcement programs.

Discussion:
Mercer Island should consider developing a comprehensive and integrated public information/education program highlighting issues and available programs, and describing the potential of non-motorized transportation. The program could be developed in conjunction with government agencies, including the Mercer Island School District, and consider integration with public transit and other motorized transportation.

Policy 11.1
Continue a public information process that allows City Council and staff to communicate clearly with residents at key points in the decision process including input at the planning, budgeting and/or early design stages.

Policy 11.2
Provide more information about trail and shared use facility 'etiquette' or 'rules of the road' to reduce conflicts.

Policy 11.3
Enforce vehicular and bicycle speed limits, crosswalk violations, and proper bicycle use on multi-use trails.

Policy 11.4
Advocate the development of bicycle and pedestrian safety education programs to improve skills and observance of traffic laws and to promote overall safety for bicyclists and pedestrians of all ages.

Policy 11.5
Monitor and analyze bicycle/pedestrian accident data over time in order to formulate ways to continue to improve safety.

Policy 11.6
Encourage active citizen participation in the planning for and design of non-motorized facilities.

Policy 11.7
Develop and enforce ordinances to reduce unsafe practices on high use, multiple use facilities.

Policy 11.8
Support the Mercer Island School District in integrating pedestrian/bicycle safety education into the safe routes to school program.

Policy 11.9
Identify and develop ways to promote bicycle safety programs and education for all users (including drivers) and ages.

Policy 11.10
Enforce traffic safety laws for all users including pedestrians, bicyclists and motorists.

Policy 11.11
Continue to expand use of the City website to disseminate information about events, programs and activities related to the implementation of this Plan.

GOAL 12. Complete and expand the pedestrian and bicycle system by acquiring rights-of-way as necessary and appropriate for trails and other facilities.

Policy 12.1
Pursue reasonable opportunities to acquire property to be used as rights-of-way, easements for facilities proposed in this plan.

Policy 12.2
Retain existing, undeveloped rights-of-way having potential for future non-motorized transportation development.

Section 3
EXISTING CONDITIONS

Introduction

This section identifies the content and process of gathering data as part of the early analysis for the Plan, and how that information was used to analyze and generate recommendations for the Plan.

Inventory

Inventory and analysis of existing conditions is a prerequisite to developing the updated Plan. Much of the base mapping information was assembled from the City's GIS mapping system and staff-generated data in other forms. A map of existing Pedestrian and Bicycle Facilities, as generated from the City's GIS data, is shown in Figure 1, with streets named and the school and park properties highlighted. While actual conditions are continually changing with upgrades and improvements to the street and trail systems, the conditions shown in the base maps and recorded in other forms represent the system in place at the time of the analysis.

Field reconnaissance on numerous occasions throughout 2008 by staff and consultant provided verification of existing conditions, and provided clarity on how and whether certain segments functioned as anticipated or reported. This data was mapped and recorded informally, and is not included as a separate exhibit in this report.

Public input gathered from on-line comments, and discussion during public open houses provided a high level of detailed information on specific corridors and areas of concern. Public comment from the two open houses is provided in the Appendix, but on-line comments and marked-up maps are not included as a separate exhibit in this report.

Traffic Generators and Elementary School Walk Zones

Introduction

This section identifies key pedestrian and bicycle destinations and elementary school walk zones. Since adoption of the 1996 Pedestrian and Bicycle Facilities (PBF) Plan, and through information gathered through the public process and field verification, additional destinations or traffic generators have been identified and mapped. In addition, the Mercer Island School District has mapped zones around each school that are considered to be a reasonable range for students to walk to school and, within which, improvements may be identified to accommodate, and improve safety for, students.

Boulevard planting in the Town Center provides traffic calming

Traffic Generators

Identification of the places people want to go is an important step to determining which routes should be targeted for pedestrian and bicycle improvements. The determination of important destinations, or traffic generators, as well as assessment of neighborhood conditions and character, topography, natural features, and existing travel patterns and recreational routes are all part of this analysis. The Destinations Map is presented in Figure 2.

The points mapped represent several categories of destinations:

- Active Use Parks
- Passive Use Parks
- Public Pool
- Public Schools
- Retail/Commercial Areas
- Civic/Community Services
- Interstate 90 Corridor
- Park and Ride Lots
- Transit Stops

Upon review of destinations with City staff, City Council, and the public at large, destinations do not seem to merit 'weighting' or establishment of a priority ranking. Rather, there is broad support for making all destinations more accessible to the non-motorized public. As reflected in the Vision, Goals, and Policies segment of this report, the most significant destinations identified include:

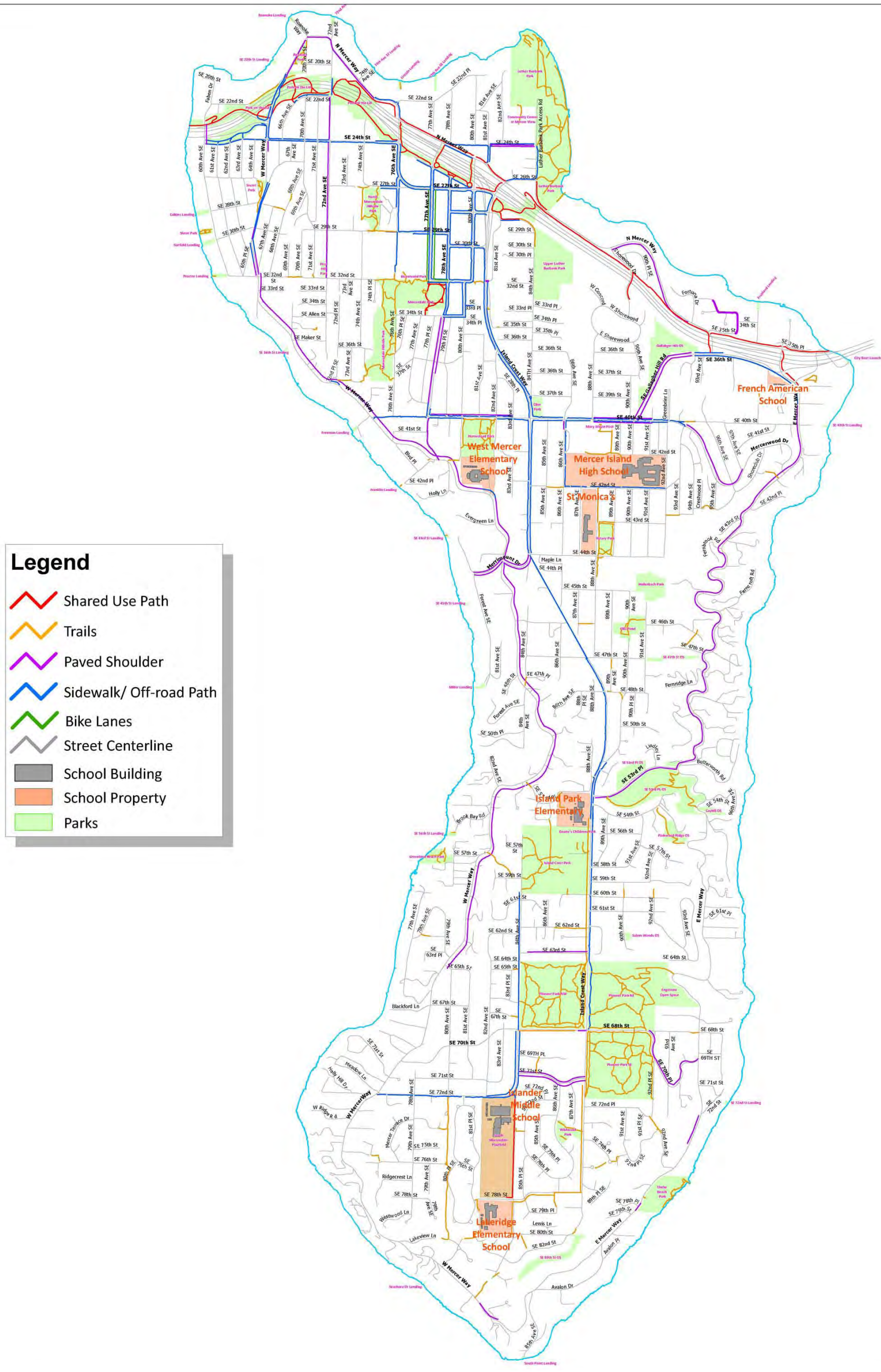
- North Mercer Way Park and Ride/I-90 Trail
- Town Center
- North Mercer Campus (Mercer Island High School)
- South Mercer Island Shopping Center
- Island public schools

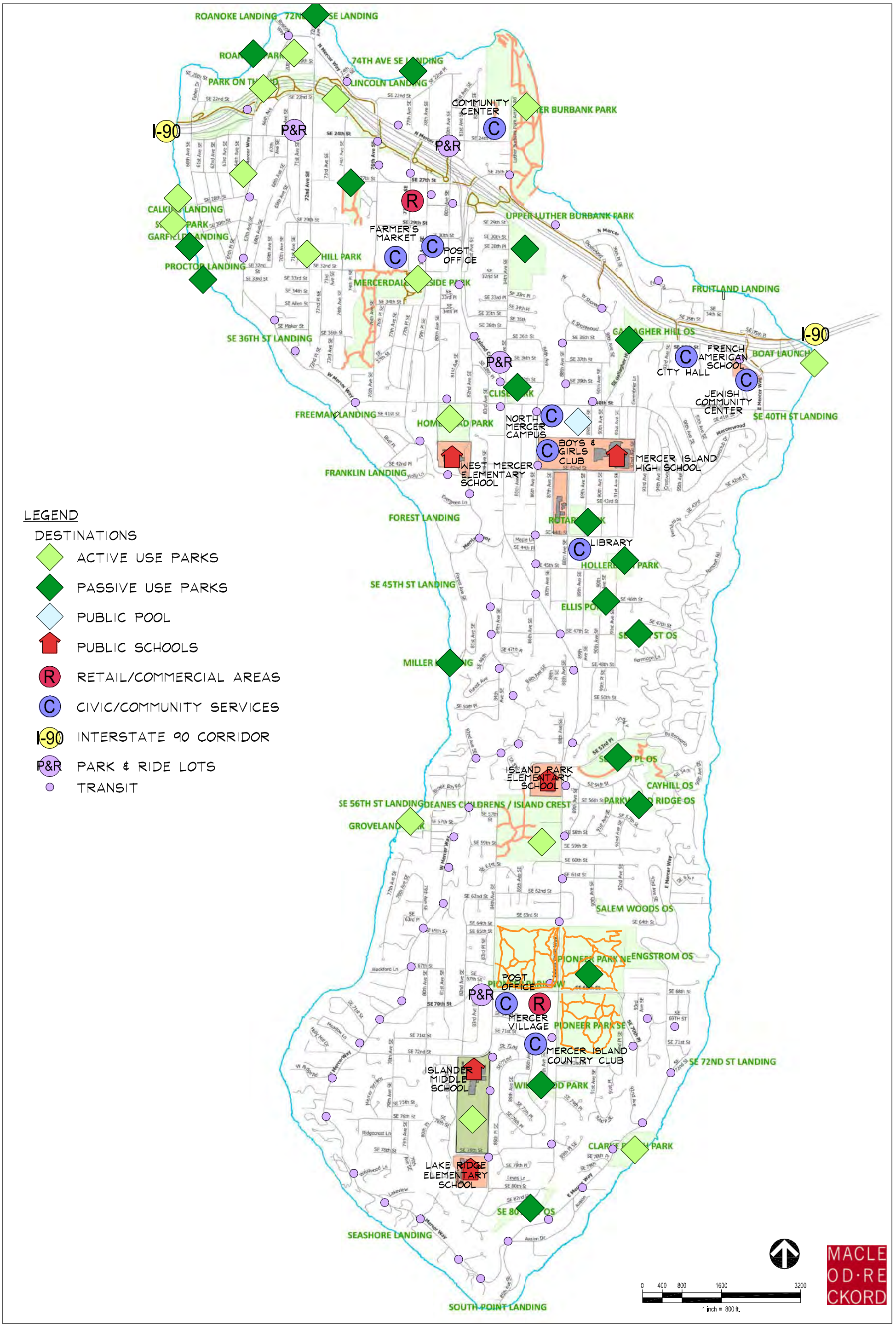
Elementary School Walk Zones

Mercer Island School District has mapped zones around each of the three elementary schools on the Island to identify areas which may be appropriate for walking and biking to and from each school, and as such, provide guidance in planning appropriate non-motorized improvements to facilitate walking and biking to school. The Facilities Improvement Plan does not purport to show all the specific improvements needed within these areas, as some improvements are of a scale that cannot be well defined in a planning level document. Projects within these zones are considered to be a high priority in addressing the ongoing need for improving safe routes to school. The Elementary School Walk Zone Map is shown in Figure 3.

Enrollment boundaries for the three public elementary schools have been shown on Figure 3. These represent the service areas for each school and are also meaningful for safe route to school planning. The schools include:

- Island Park Elementary School


Legend
Shared Use Path
Trails
Paved Shoulder
Sidewalk/ Off-road Path
Bike Lanes
Street Centerline
School Building
School Property
Parks
West Mercer Elementary School
Mercer Island High School
French American School
St. Monica
Island Park Elementary
Islander Middle School
Lakeridge Elementary School
N Mercer Way
W Mercer Way
E Mercer Way
SE 24th St
SE 27th St
SE 29th St
SE 36th St
SE 40th St
SE 68th St
72nd Ave SE
76th Ave SE
77th Ave SE
78th Ave SE
Island Crest Way
SE Gallagher Hill Rd
Mercerwood Dr
Fernbrook Rd
Ferncroft Rd
Fernridge Ln
Butterworth Rd
Brook Bay Rd
Blackford Ln
Holly Ln
Evergreen Ln
Maple Ln
Meadow Ln
Holly Hill Dr
Ridgecrest Ln
Westwood Ln
Lakeview Ln
Lewis Ln
Avalon Dr
Avalon Pl
Merrimount Dr
Forest Ave SE
Mercer Terrace Dr
Shorecliff Dr
Fortuna Dr
Roanoke Way
Faben Dr
Island Crest Park
Pioneer Park NW
Pioneer Park NE
Pioneer Park SE
Luther Burbank Park
Luther Burbank Park Access Rd
Upper Luther Burbank Park
Mercerdale Park
Homestead Park
Rotary Park
Hollerbach Park
Engstrom Open Space
Wildwood Park
Parkwood Ridge OS
Salem Woods OS
Gallagher Hill OS
Clarke Beach Park
Groveland Beach Park
Freeman Landing
Franklin Landing
Miller Landing
Gallions Landing
Garfield Landing
Proctor Landing
Seahorse Dr Landing
South Point Landing
SE 41st Landing
SE 43rd St Landing
SE 45th St Landing
SE 56th St Landing
SE 72nd St Landing
City Boat Launch
FIGURE 1
CITY OF MERCER ISLAND PEDESTRIAN & BICYCLE FACILITIES
Information & Geographic Services
SafeSchoolROuteNoCalloutsDecember2008.mxd
NORTH
Map Created: 12/16/2008



LEGEND

DESTINATIONS

- ACTIVE USE PARKS
- PASSIVE USE PARKS
- PUBLIC POOL
- PUBLIC SCHOOLS
- R — RETAIL/COMMERCIAL AREAS
- C — CIVIC/COMMUNITY SERVICES
- I-90 — INTERSTATE 90 CORRIDOR
- P&R — PARK & RIDE LOTS
- TRANSIT

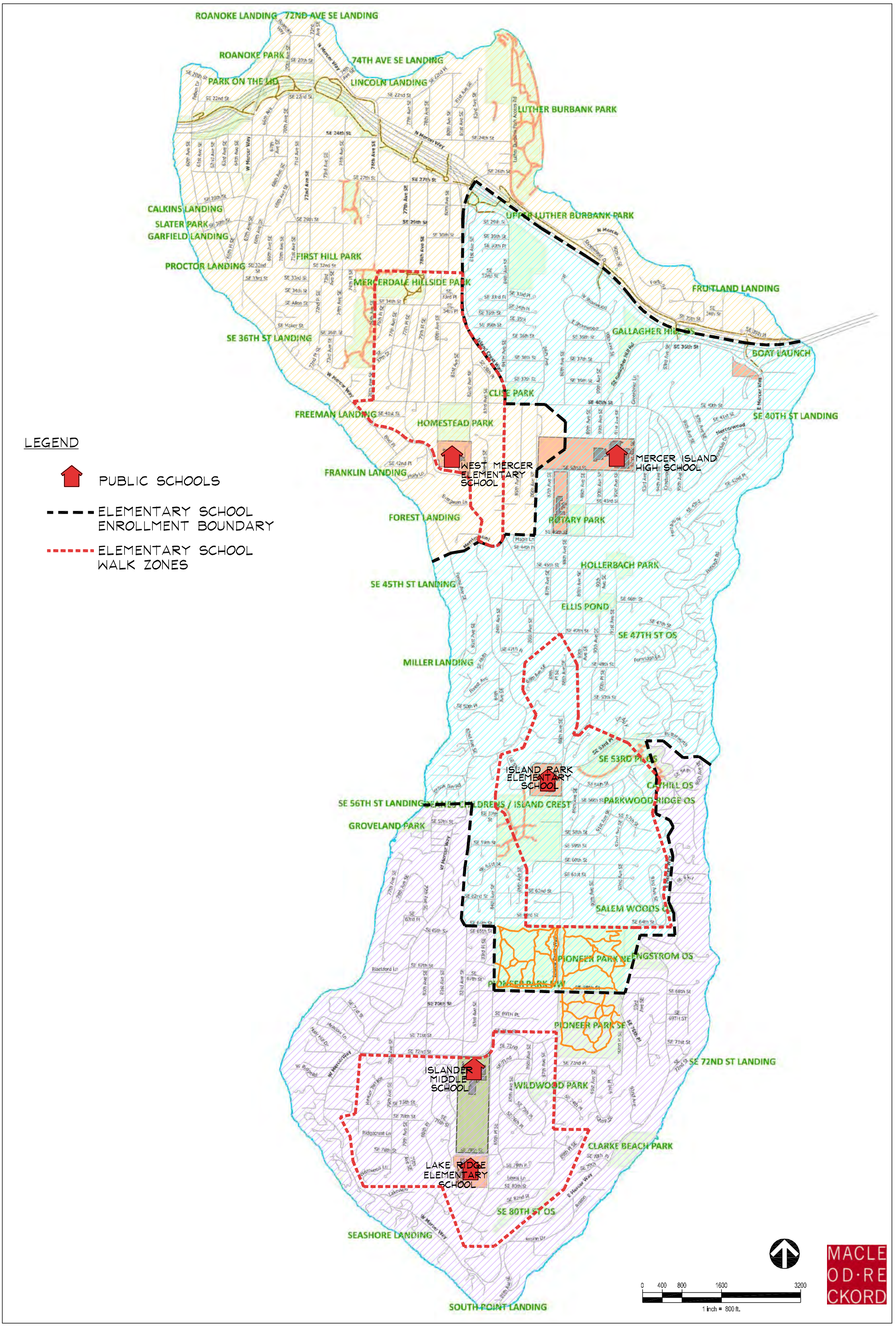
MACLEOD·RECKORD

MERCER ISLAND PEDESTRIAN AND BICYCLE FACILITIES PLAN UPDATE

FIGURE 2

DESTINATIONS MAP

JUNE 2010



MERCER ISLAND PEDESTRIAN AND BICYCLE FACILITIES PLAN UPDATE

FIGURE 3

MISD ELEMENTARY SCHOOL WALK ZONES

JUNE 2010

- Lakeridge Elementary School
- West Mercer Elementary School

Other public schools shown which serve the Island-wide population include:

- Mercer Island High School
- Islander Middle School

The school enrollment boundaries define areas and, to some degree, directional orientation for potential improvements. Most notable is that all boundaries cross major arterials, pointing to the need to ensure there are adequate opportunities for safe crossings of the busiest arterials - Island Crest Way, East Mercer Way, and West Mercer Way in particular. In addition, the enrollment boundaries for both West Mercer Elementary School and Island Park Elementary School extend primarily to the north of the school, indicating a need to verify there are sufficient north/south non-motorized corridors serving each of these schools.

Analysis

In order to advance the analysis for updating the current pedestrian and bicycle plan, composites of this data have been studied in some detail to determine where improvements have or have not been made, and where there may be a greater or lesser need for facilities based on current development. These informal studies have not been included as exhibits in this report.

What is not immediately discernable from this mapping effort is whether each of the existing improvements fully provide the facility that is needed for, or desired by, the user. For instance, some roadside shoulders are wide enough to accommodate pedestrian and bicycle traffic, others are not, but there is no distinction on the data provided. Some sidewalk segments are presumed to support both pedestrians and slow or inexperienced bicycle traffic (where the adjacent roadway is too narrow or busy for school-age children) so the facility may support these users, but not the higher speed commuter or more experienced cyclists. Making these distinctions, through field verification and public input has helped to inform the planning effort.

Status of 1996 Plan Projects

Introduction

Review of the 1996 Plan projects informs and directs the analysis for the updated Plan. This section assesses the status of projects planned in the 1996 PBF Plan, not only whether the projects were completed, but also whether they were constructed as planned.

Projects

The 1996 PBF Plan identifies 47 projects for implementation. The Plan describes each of these projects by location, length, type of facility, and estimated construction cost. These projects range in

scope from improved signage to constructing separate paths. Prioritization of projects was established based on eight elements that were considered critical to determining the level of service each project will provide to the community. These elements include:

1. Solves safety problem or eliminates an existing hazard.
2. Closes gap in existing system, removes detour or indirect travel route.
3. When completed, anticipate high project use by one or more user group (schoolchildren, commuters, recreational walkers).
4. Connects to bus stops, park and rides, regional trail or links two or more important destinations (schools, parks, shopping).
5. Identified as a deficient element in the School Safe Walk Route Plan.
6. Upgrades/replaces deficient element of existing system.
7. Project can be built concurrent with roadway/arterial upgrade.
8. Estimated cost categories for project construction.

While the 1996 Plan did not schedule the entire list in priority, it did recommend that the City implement 18 of the 47 projects during the first six years of the plan (1996-2002). The plan intended this six-year list of projects to be a “screen” of projects that were felt to be important for increasing the viability of the bicycle and pedestrian facilities on Mercer Island. It is worth noting that priorities for implementing the 1996 Plan projects have shifted over time.

Project Status

Table 1 presents the status of all 47 projects that were identified in the 1996 PBF Plan. Overall, the plan has been largely implemented over the last decade with 38 (81%) of the 47 projects at least partially completed (or are planned to be constructed in the 6-year Transportation Improvement Program); 33 projects (70%) are considered fully completed. This represents a solid level of accomplishment during the first 12 years (60%) of the 20-year planning period.

North Mercer Way transitioning between paved shoulder and shared use path

While the progress in plan implementation has been substantial, many of the projects were either only partially completed or significantly changed. Only 13 of the 33 projects listed as completed were built as anticipated—60 percent of the completed projects required some modification.

While in almost all cases the modifications reduced the scope of the project, there were cases where the original project was expanded, such as along the Mercer Ways where the original scope anticipated gravel shoulders on both sides the project was built with paved shoulders on one side.

There are several reasons that the City has changed the scope of a project during implementation. First, physical constraints with existing rights-of-way or limitations in available budget sometimes restrict the application of the recommended design guidelines. Second, in some cases challenges or opportunities discovered during detailed design led to a more inclusive design guideline (such as replacing a proposed gravel surface with a paved surface). The City has also experienced situations where consultation with the public during final design or even during construction has resulted in changes to projects.

With changes to the design guidelines in some segments, there may be conceptual changes to the planning of corridors Islandwide. As an example, the paved shoulders along the Mercer Ways, while as yet incomplete, are establishing a different standard than previously planned. Another example of a new guideline that has already been implemented in re-channelization of existing roadways is along SE 71st Street that links the schools to the country club where paved shoulders are striped for joint pedestrian and bicycle use. Yet another example of a new guideline is SE 63rd west of Island Crest Way, where traffic calming measures have provided for an overlap of pedestrian, bicycle, and parking uses. Implementation of the 1996 Plan projects in ways other than originally planned will elicit discussion on how these solutions function and whether they should be considered as permanent, viable solutions**.**

S.E. 71st Street joint-use of paved shoulder

Conclusion

Since one of the primary purposes of the plan is to identify and guide the construction of new pedestrian and bicycle facilities, the implementation of 81% of the identified projects demonstrates success in achieving that basic purpose. Since most of the identified projects have been "completed," or have been at least partially implemented, it is time to update the project list with a new set of projects.

Since the time of the 1996 Plan, there has been a discernable shift in focus on the part of the public and political leaders for greater support of non-motorized facilities for not only recreation, but transportation (commuter) purposes. There has also been an increased awareness of the benefits of a more active lifestyle and a desire to increase children's non-motorized accessibility to their schools and community centers. All these factors will impact the focus of projects and priorities in the updating of this plan.

S.E. 63rd Street traffic calming

While the Plan has successfully implemented its basic purpose overall, the need to adjust many of the projects in the implementation indicates a need to reexamine the design guidelines to ensure that they can effectively accommodate the Island's unique roadway conditions within the City's constrained fiscal environment.

TABLE 1

Summary of Projects Completed in 1996 Pedestrian and Bicycle Facilities Plan				
Project	Location	Proposed Improvements	Project Completed ? (Y/N)	Description if Actual Scope Differs
N1	60th Ave SE/Faben	shared lane, route directional signs	N	
N3	N Mercer/SE 22nd St/78th/SE 24th 84th Ave/N Mercer	shared lane, route directional signs	Y	Paved shoulder constructed on south side of NMW in segments. The shoulders when combined with existing sidewalks and I-90 trail provides a continuous route for bikes and peds.
N5	70th Ave SE/72"nd Ave SE	shared lane, route directional signs	N	
N8	84th Ave SE	shared lane, route directional signs	partial	trail constructed on SE 28th and 84th Ave. SE (SE 28th-30th) only. Original scope goes south to SE 39th.
C4	SE 43rd St/Shoreclub Drive	shared lane, route directional signs	Y	
C5	92" Ave SE	shared lane, route directional signs	N	
C7	88th Ave SE	shared lane, route directional signs	partial	separated path SE 42nd to SE 44th. Some gravel shoulder beyond that.
C11	90th ave SE	shared lane, route directional signs	N	
S3	SE 61st St/93rd Ave SE	shared lane, route directional signs + ROW	N	
S9	SE 76th St	shared lane, route directional signs	N	
S14	84th Ave SE	shared lane, route directional signs	partial	Paved separated path along 84th (SE 72nd-78th)
N11	SE 40th St	separate path	Y	
N12	Gallagher Hill Rd/SE 36th St	separated unpaved path + steep route	Y	Combination of paved shoulder and concrete sidewalk
N13	Mercerwood Drive	wide outside lane	partial	Paved shoulder from SE 40th to 97th Ave. SE
C1	78th Ave SE	wide outside lanes both sides	Y	Paved asphalt shoulder/sidewalk
C12B west	SE 53rd P1	separate path paved	Y	Paved asphalt shoulder/sidewalk (SE 53rd, ICW-EMW)
S5	Island Crest Way Crossings	assuming signage's striping (as written in PBF)	Y	Some crosswalk locations slightly different
S6	SE 68th St/SE 70th Pl	striping outside lane uphill only & signage	Y	
S7	SE 72nd St	complete sidewalk south side	Y	
S10	84th Ave SE	separate path paved	Y	
S11	Island Crest Way	wide shoulders unpaved	Y	Gravelled separated path under construction in 2008
N6A	Lid Park Access	stair & path	Y	Lid park access provided near SE 28th St./82nd Ave. SE
N6B	LID Park Luther Burb. Access	stair & path	Y	
N6C	Orchard Trail	same	Y	
N7A upper	32nd St SE	separate path	Y	
N7B lower	32nd St SE	separate path	Y	
N10	78th Ave SE	separate path paved	Y	Concrete sidewalk SE 32nd-34th and asphalt 34th to 40th.
C2	Holly Lane	separate path narrow paved	Y	
C6	SE 45th St	separate path narrow unpaved	Y	Project was not buildable. Paved shoulder constructed on Merrimount (Forest Ave. to WMW) instead.
C10	SE 47th St	separate path narrow unpaved	N	
C12A	SE 53rd Pl	stripe and signage	Y	Paved asphalt shoulder/sidewalk (SE 53rd, ICW-EMW)
C13	5601 W. Mercer Way	separate path	Y	
C14	80th Ave SE	separate path	Y	
C15	Island Crest Way	separate unpaved 8' trail w. side of road	Y	Paved separated path on east side, unpaved on west side
S2	SE 62nd St	wide non-paved path	Y	Gravel trail ICW to 86th Ave. SE
S15	SE 61st St	stair/path and ROW	N	
S4	SE 68th St	upgrade existing unpaved path	Y	Separated gravel trails on both sides
S13	SE 80th St	shared lane, route directional signs	Y	Gravel trail only constructed to link end of ICW with 80th Ave. SE
N4	W. Mercer Way	wide outside paved lanes	Y	Combination of paved shoulders and asphalt paths.
N9	W. Mercer Way	unpaved shoulders	Y	Paved shoulder on east side on WMW.
N14	E. Mercer Way	wide outside paved lanes both sides	Y	Paved shoulder on west side of EMW
C8	E. Mercer Way	unpaved shoulders narrow both sides	Y	Paved shoulder on west side of EMW
C9	W. Mercer Way	unpaved shoulders both sides wide	Y	Paved shoulder on east side on WMW.
C16	E. Mercer Way	unpaved narrow shoulders both sides	partial	Some short segments of gravel shoulder. Paved shoulder included in adopted TIP for 2009, one side.
S1	W. Mercer Way	wide outside paved lane both sides	Y	Paved shoulder on east side on WMW (SE 53rd-SE 65th).
S8	W. Mercer Way	wide outside paved lane both sides	Y	Some short segments of gravel shoulder and paved shoulder but not continuous.
S12	E. Mercer Way	unpaved shoulders narrow both sides	N	Paved shoulder included in adopted TIP for 2010, one side.

Section 4
FACILITIES PLAN

Introduction

This Section provides an overall guide for the design and implementation of future pedestrian and bicycle facility improvements. It does so by first presenting a generalized overview of how the Mercer Island pedestrian and bicycle facilities network will look and function following full implementation of the programs and projects established by this Plan (see Figure 4, Future Non-Motorized Network). Figure 4 shows how the existing non-motorized network, enhanced through implementation of new planned improvements will achieve community connectivity, sustainability and mobility objectives. Figure 4 also illustrates the Primary Bicycle Corridors planned within the network to provide complete cross-Island connections.

Figure 5, the Facilities Improvement Plan, illustrates the types and locations of pedestrian and bicycle improvements necessary to achieve the desired future network. These illustrations will be consulted in concert with the design guidelines established by Section 5 and the priorities and cost estimates provided by Section 6, in future decisions regarding the funding, design and construction of pedestrian and bicycle facilities.

The Facilities Plan builds upon the projects and corridors from the 1996 Plan that have been completed, partially completed or identified as in need of further enhancements. It has been guided by:

- The updated vision, goals and policies established during the Plan update process;
- Level-of-service measures and system performance criteria that have remained consistent with those established by the 1996 Plan;
- Concerns, issues and ideas generated by citizens and policy-makers during the Plan update process, including:
  - Provide more safe routes to school to encourage kids to walk and bike to school.
  - Provide continuity in the most-used routes: eliminate 'disappearing shoulders' and reduce unnecessary crossings back and forth.
  - Complete/expand connectivity of pedestrian and bicycle facilities.
  - Provide more paths/trails (for the exclusive use of pedestrians) or sidewalks to, and between, destinations.
  - Reduce conflicts between pedestrians/bicycles and bicycles/vehicles – along streets, trails, and at intersections.

One of many unsurfaced off-road paths that connect neighborhoods

Performance Criteria

Performance Measures

The Plan establishes a "service-based" approach to measuring the level of service provided by the pedestrian and bicycle facilities. The concept of “level of service” is often applied in capital facilities planning to measure the need for facilities and to gauge the performance of the facilities. These levels of service are common in transportation planning as a means of measuring congestion, with roads ways being graded A to F based on the amount of delay that is involved in traveling though the road way or intersection. It is also common in parks and recreation planning where the adequacy of various facilities is measured by the amount of the facility relative to population such as the number of acres in community parks per thousand population.

There are many ways to measure levels of service for pedestrian and bicycle facilities. For the 1996 Plan, and for this update, it was determined that the level of service should be based on how well the system serves the users instead of a straight comparison of miles of trail versus population. By using a service based measure, the upgrade of the system is not bound or restricted to a population increase. The service based measure can be measured qualitatively and quantitatively by utilizing specific performance criteria.

The Plan seeks to gauge how well the facility performs in providing the service intended by the facility as a means of determining its “level of service” (e.g. is the facility safe, does it take you somewhere, is it direct, is it easy to use etc.). The specific criteria used to gauge performance are:

1. **Safety** *Is the route safe to use, can your children use it?* All elements of the facility are safe for the use intended, hazards are removed and substandard elements are upgraded as per recommended design guidelines.
2. **Continuity** *Are there gaps where there is no trail, path, shoulder or lane?* Completeness of the pedestrian and/or bicycle facilities between desired destinations. Continuity is a quantitative measure, how much of the system is in place. It also carries assumptions that a poor sidewalk is better than none.
3. **Connectivity** Clear linkage between two or more desired destinations, or between desired destinations and neighborhoods.
4. **Condition** *Is the path muddy or dry, rutted or smooth, paved or not?* A qualitative measure of how well each facility functions. Measures include appropriateness of the facility given physical and right-of-way constraints and general physical condition of the facility.
5. **Directness** *How straight or easy is it to move from place to place?* The smooth logical flow of pedestrians and bicyclists through the system can encourage increased use.

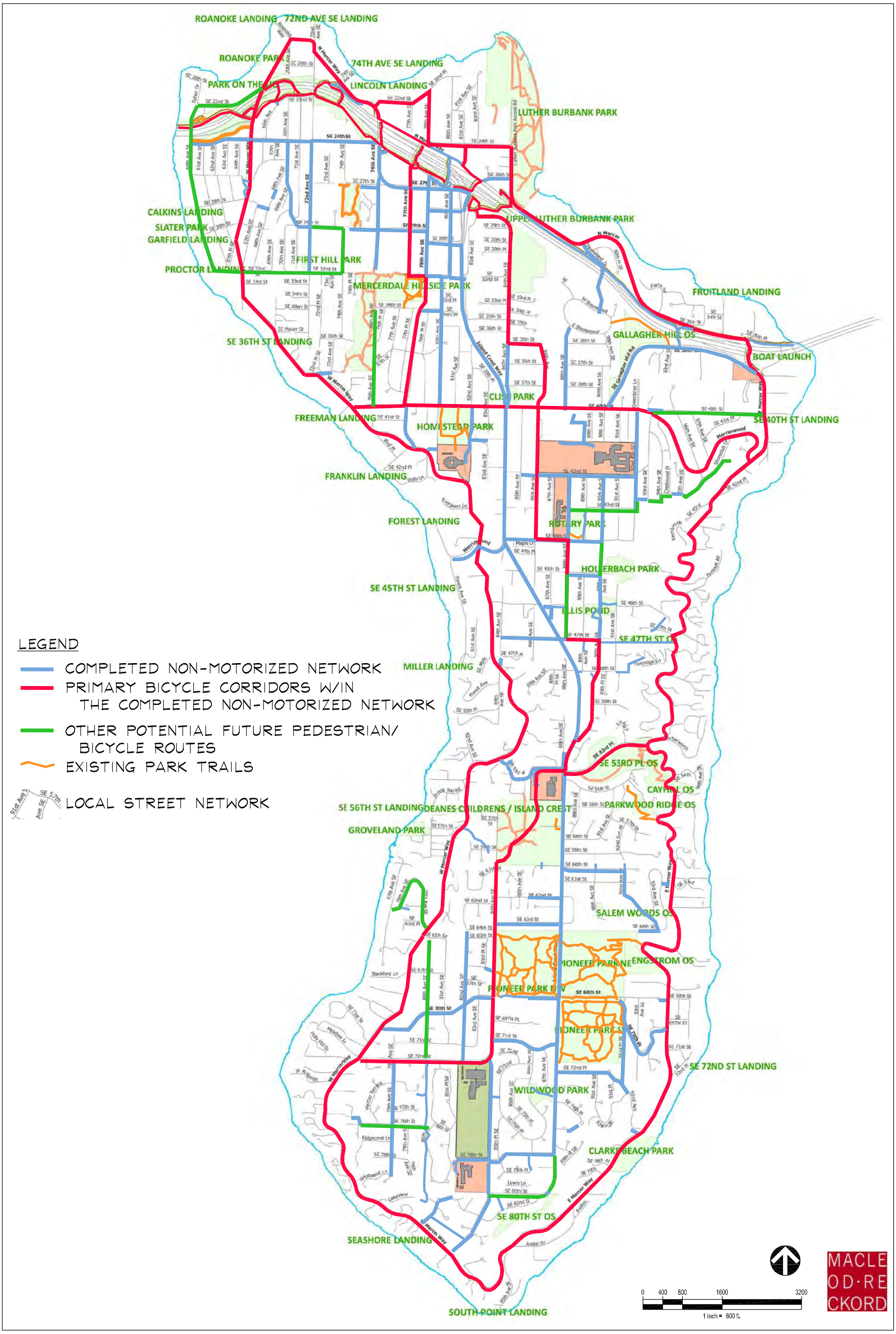


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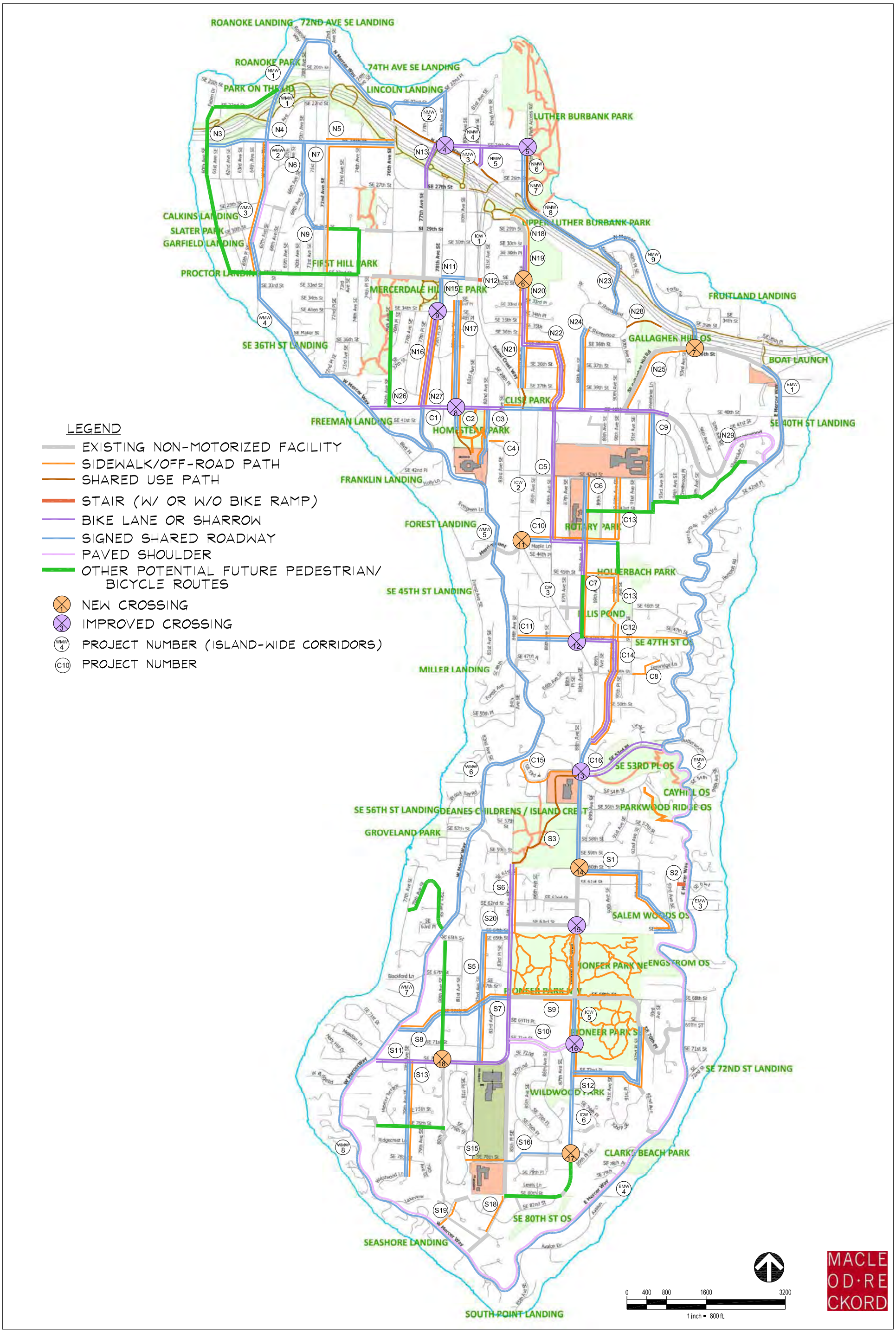
FIGURE 4

EXISTING AND FUTURE NON-MOTORIZED NETWORK

JUNE 2010



MERCER ISLAND PEDESTRIAN AND BICYCLE FACILITIES PLAN UPDATE

FIGURE 5

FACILITIES IMPROVEMENT PLAN

JUNE 2010

Routes should be as straight as possible between desired destinations, placing a premium on limiting stops along the traveled route, avoiding hazardous street crossings and other user delays.

6. **Destination** *Does it go where you want to go?* Development of a system that links the most desired destinations together. (Most important destination ranking should be determined as a part of the public input process.) Some elements to be considered include: schools, shopping, transit stops, park and rides, playgrounds, parks, ball fields, post offices, street ends (water access), regional trail connections, and other neighborhoods.
7. **Distance** *How far you have to go (114 miles, 1 mile, 3 miles)?* Is the route chosen short enough to encourage use by pedestrians? by bicyclists? Maximum distance for comfortable use can be developed from data presented in publications and recent articles on trip length. "More than 27 percent of travel trips (nationwide) are one mile or less, and 49 percent are three miles or less. All of these trips are within reasonable bicycling distance, if not within walking distance." *The National Bicycling and Walking Study.*
8. **Route attractiveness** *How does it feel to use the route, how are the views?* This is a qualitative measure. How nice is the route the user will follow? What constitutes a nice route? Views, proximity to parks, woods, water, perceived safety of the users? Level of physical exertion should also be included in light of the intended user. (These are all items that can be explored in the input for the project).
9. **Accessibility** *Is it easy to find and use the route?* How easy is it for users to enter the system, and how easy is it for the users to know where they are and how they will get to the desired destination? This is a qualitative (how easy) and quantitative (how far from the system are they?) measure.

Evaluation of Performance Measures

Role of the Measures in the Plan and Implementation

Applying these level of service measures requires value judgments. One of the first judgments would be the relative importance of these various measures to each other. To evaluate this question, the planning process sought input on the relative importance of these measures from City staff and the Parks & Recreation Council Subcommittee. In addition, input from the first public open house and from on-line public comments was reviewed to determine which criterion ranked highest. The public rated safety and continuity high, along with condition as elements for top consideration.

These performance measures were used to guide the development of more specific planning proposals. Using updated statement of project goals, and input from staff, committee, and the public, the consultant evaluated the network of facilities and asked the following questions: What portions of the system are in place?

What is the current condition of those parts? Are they appropriate to provide for the desired movement between points of the system?

Combining the levels of performance and the categories of facilities made it apparent that there are areas around the island that require different facilities to accommodate the different types of use. In some rights-of-way there may be a sidewalk and a bicycle lane, while other areas may have shared lanes and only an unpaved shoulder or pathway along a single side of the roadway. Each of these examples may be appropriate for the level of service needed, but making those determinations requires a clear understanding about the values placed on the performance criteria by the public.

In considering these performance measures, similar concerns were expressed during the public open houses conducted during preparation of the draft updated Plan.

- Parental perspectives regarding safety is a key consideration in allowing one's children to ride a bike or walk to school.
- Many routes are discontinuous, sidewalks and shoulders disappear, creating a difficult and sometimes confusing condition for traveling to desired destinations.
- More clarity on hierarchy, enforcement of existing ordinances, or separation of users is in order to address conflicts among vehicles and cyclists and pedestrians.
- Additional and basic maintenance, or minimal retrofits could improve travel in many corridors – sweeping paved shoulders, repairing raised/buckled sidewalks damaged by roots, and replacing travel lane edge 'buttons' with striping were specific examples suggested by individuals.

The consultants developed a draft plan that identified corridors that lacked connectivity between destinations, expanded existing non-motorized improvements to network with other completed or planned corridors, and identified new corridors to enhance circulation in the vicinity of schools. The linkages were further evaluated to determine if each provided the needed facility that would accommodate the intended use (e.g. sidewalks or separated paths and bike lanes in heavily used corridors; paved shoulder and shared lanes in lower volume corridors). This was a critical part of the updated plan because so many non-motorized improvements have been made, but not all provide for the full range of users that are demanding a higher density of non-motorized facilities.

After a draft plan was generated, reviewed by City staff, Parks and Recreation Subcommittee, and the public, the alignment and recommendations for specific facility improvements was finalized.

Planned Projects and New Opportunities

Introduction
Based on review of existing facilities and destinations, the level of completion of earlier projects, changes in development and circulation patterns, City staff and public input, it was possible to identify a network of different types of projects that would be the starting point for the facilities planning effort. Projects generally fall in one of four categories:

- Completed Projects – No new work.
- Partially Completed Projects – Additional study or more input from committees and public needed.
- Remaining Projects – To be included in the update.
- New Opportunities – Candidate sites/corridors to complete or enhance the existing system.

Completed Projects
As identified by the City, these are noted as completed projects from the 1996 plan. While these have been completed, some corridors may be candidates for changes or improvements if the level of service is insufficient. Some completed corridors have been eliminated from the final plan, others have been identified for enhancements.

Partially Completed Projects
Several of the projects from the 1996 Plan that fall under the 'completed' or 'partially completed' category include implemented solutions that differ from those proposed in the 1996 Plan, or solutions only partially completed because of space limitations, fiscal limitations, or neighborhood desires. These are projects that required further study to confirm they are needed, or to verify the implemented solution is the best one, and/or to be included in the updated plan because they are not yet complete.


East Mercer Way without a paved shoulder

Remaining Projects
These are the projects from the 1996 Plan that have not been completed. Some are clearly still important routes in the non-motorized system, others less so. Some require re-evaluation of alignment or cross section because of changed conditions on connecting routes, physical constraints or other opportunity projects.

New Opportunities
These are new projects that will complement the existing system, provide new connections, or may be better alternatives to routes previously selected but as yet undeveloped. Many of these new opportunities are identified in proximity to schools and parks, increasing options for safe routes to school. Others are connections between new, or enhanced, destinations. Some are logical extensions of existing routes, noting that expansion of the non-motorized system is a goal stated by the City Council and the community at large.

Facilities Plan

Trends/Directives
From evaluation of 1996 Plan implementation challenges, updated goals and policies, inventory, input from staff and the general public, these concerns and issues have guided final planning decisions:

Higher Priorities

- Provide more safe routes to school to encourage children to walk and bike to school.
- Provide continuity in the most-used routes: Eliminate 'disappearing shoulders' and reduce unnecessary crossings back and forth.
- Complete/expand connectivity of pedestrian and bicycle facilities.
- Provide more paths/trails for the exclusive use of pedestrians or sidewalks to and between destinations.
- Reduce conflicts between pedestrians/bicycles and bicycles/vehicles – along streets, trails, and at intersections.


Narrowing sidewalk on Island Crest Way

Medium Priorities

- Provide more maintenance of roadways and shoulders for bicycles and pedestrian use.
- Enforce vehicular speed limit and enforce proper bicycle behavior on multi-use trails.
- Provide more education of rules of the road and how to share the space available.
- Promote sustainability by maximizing use of the facilities that currently exist.
- Provide continuity in non-motorized facilities through Town Center.

Lower Priorities

- Provide bicycle amenities at more destinations.
- Improve wayfinding signage.

Plan Objectives and Specific Examples
Based on evaluation and input noted above, the updated Plan establishes the following high priority objectives in planning future projects:

Provide more safe routes to school to encourage children to walk and bike. These routes occur in close proximity to schools and/or provide connection from higher density residential areas or between destinations. Specific improvements are varied, depending on the traffic volume/ speed of the route and available right-of-way width. Improvements include the addition of a path, trail, or sidewalk for the exclusive use of pedestrians, bike lanes on higher speed/higher volume arterials, and shared lanes and

shared spaces on lower speed/lower volume roadways. Routes specifically addressing improvements to safe routes to school include:

- 84th Avenue SE corridor (south end) is recommended for improved facilities over its full length between schools/parks.
- SE 53rd Place, with greater accommodation for separation of bikes and pedestrians.
- 78th and 80th Avenues SE, north of West Mercer Elementary School and 92nd Avenue SE east of Mercer Island High School with better accommodation for pedestrians.

Provide continuity in the most-used routes: eliminate 'disappearing shoulders' and reduce unnecessary crossings back and forth. Some non-motorized improvements stop at critical intersections, either due to budget limitations, project phasing, or physical constraints. The improved segment of the corridor is typically heavily used, and the lack of continuity is more notable as use increases. Also, some crosswalks do not provide crossing of all four streets, or through-bike lanes or accessible ramps are not provided, further compounding the problem of continuity. Specific areas of concern include:

- Perimeter Mercer Ways are recommended for a consistent and minimum width shoulder (to the extent feasible consistent with physical constraints and reasonable costs) along the full perimeter length.
- SE 40th Street is recommended for consistent bike corridor treatment and pedestrian walkway where feasible.

84th Ave. S.E. is an important non-motorized route that parallels Island Crest Way

Complete/expand connectivity of pedestrian and bicycle facilities. Routing decisions are based on (1) connections between destinations, (2) higher use corridors identified by the staff and public, and (3) uncompleted projects that are still valid from 1996 Plan. Some examples include:

- Mercerwood Drive is recommended for paved shoulders extending between 97th Avenue SE and East Mercer Way.
- A route parallel with, and adjacent to, Island Crest Way should be designated in order to accommodate and direct bicyclists away from the main arterial.

Provide more paths/trails for the exclusive use of pedestrians, or sidewalks to and between destinations. Many residents expressed the desire for delineated walkways for the exclusive use of pedestrians as a way to improve mobility. Some examples include:

- Island Crest Way where there are gaps in the sidewalk.
- SE 53rd Place and 84th Avenue SE where there is a

high volume of pedestrian activity.

- Portions of the I-90 regional trail along North Mercer Way, where there is conflict with commuter cyclists.

Reduce conflicts between pedestrians/bicycles and bicycles/vehicles – along streets, trails, and at intersections. The conflicts stem from increased and combined use of facilities that are not designed to accommodate the varied skill range (and speed) of cyclists and the varied modes of pedestrians (children walking to school, people with dogs and/or strollers, those walking for exercise, skaters, etc.). Mixed use of facilities after dark, in areas without street lights, create conflicts between bikes and pedestrians. Bicycle riding on the sidewalk is permitted outside of business districts or other designated areas by the Washington State Model Traffic Ordinance (bicyclists are required to yield to pedestrians). However, these final Plan recommendations encourage, through design and signage, separation of pedestrians from (typically higher speed) cyclists:

- 78th Avenue SE where paved shoulders are intended to accommodate both cyclists and pedestrians. Re-channelization could accommodate a path/trail or sidewalk, bike lane, or sharrow in the existing paved width.
- The area fronting the Mercer Island Park and Ride facility along North Mercer Way is intended to accommodate pedestrians, transit users and bicyclists. At times this becomes quite congested, resulting in elevated levels of conflict among the various types of users. As part of the I-90 trail system, this is a popular route for some cross-island bicycle commuters and recreational riders. This Plan recommends improvements to alternative routes that would encourage bicyclists to avoid this congested area. The alternative route should be publicized through signs, pavement markings, route maps or other means. Other possible measures to reduce conflict would include the following treatments for consideration on the sidewalk fronting the Park and Ride facility:
  - Prohibiting riding, and requiring bicyclist to dismount;
  - Adding pavement markings or changes in pavement style or color to distinguish this as a pedestrian only zone.
  - Reconfiguring site furnishings to reduce the 'through-route' effect along the curbline.
- Several intersection improvements are proposed, primarily in response to the improvements proposed on the approach. Improvements may include bike lane channelization through the intersection, curb ramps, additional striping on another leg of the intersection, and/or bicycle-actuated sensors.

Key Corridors

As the development of non-motorized facilities has evolved, and this updated Plan is implemented, there are a number of corridors that represent the 'backbone' of the system. These are ones that carry, or have the potential to carry, the highest volume of non-motorized users between the highest priority destinations. While their identification as Key Corridors does not necessarily target them as priority projects, consistency and adherence to the recognized design guideline (refer to Section 5 of this Plan) over the majority length of the corridor is recommended. Establishing a reliable non-motorized framework that is in reasonably close proximity to most residents will expand the availability of the system for the greatest number of people. These corridors are:

- North Mercer Way
- West Mercer Way
- East Mercer Way
- Island Crest Way
- 78th Avenue SE
- SE Gallagher Hill Road
- SE 40th Street
- 88th Avenue SE
- SE 53rd Place
- 84th Avenue SE
- SE 72nd Street

Primary Bicycle Corridors

There are corridors that have been identified as the most appropriate for bicyclists to use in traveling longer distances across or around the Island, and are highlighted on Figure 4. These are not intended to be the only routes for bicycle use but rather preferred routes that provide the most direct access, connectivity to other bicycle corridors, and/or a scenic recreational route.

The Island Park Elementary/Island Crest Park/84th Avenue SE corridor has been identified as an alternate route (from Island Crest Way) for bicyclists south of SE 53rd Place. The route extends diagonally from 84th Avenue SE at the southwest corner of Island Crest Park to the northeast corner of the park, then passes along the west side of Island Park Elementary (off school grounds) to SE 53rd Place. Portions of this area are mapped as steep slope and landslide areas. Streams also cross this property. This project would provide one of two south segments of an alternative route to Island Crest Way between (approx) SE 60th Street and SE 53rd Place.

The south end of this trail connects to 84th Avenue SE. There is sufficient width along this street for alternate treatment that would highlight this as bike corridor. In addition, a separated path or sidewalk could be added along one side without adversely impacting traffic movement or parking. Pioneer Park abuts the street south of SE 64th Street and could be utilized for the separated

Challenges and Solutions

- *In the effort to address the competing demands of providing more non-motorized improvements, while maintaining the rural 'woodsy' character of the Island, the City has provided facilities that may not accommodate all users with the wide range of abilities/skills.*

- *Popularity of bicycle use and pedestrian activity has increased, creating more conflicts on multi-use facilities.*
- *More safe routes to school are demanded for pedestrians and for kids on bikes. This does not always mean providing bike lanes if the corridor is lower speed, lower volume vehicular traffic. On higher speed/higher volume corridors, sidewalks and trails will continue to be used by lesser-skilled cyclists, and if these same cyclists operate closer to the speed of pedestrians, and function as pedestrians at crossings, conflicts are minimized. The greatest conflicts between vehicles/bicycles and bicycles/ pedestrians occur when cyclists use sidewalks and trails as commuter routes.*
- *Consistent signage on shared roadways as 'bike routes' on vehicular corridors will help to identify for motorists, where cyclists are to be expected and for cyclists, what the preferred route is – this should be consistently implemented.*

- *A new guideline for shared lane signage is the "Sharrow" chevron painted on the pavement. This, too, will alert vehicles to the likely (and accepted) presence of bicycles.*

path if necessary. This provides the other south segment of the alternative route to Island Crest Way between approximately SE 60th Street and SE 68th Street.

North of SE 53rd Place several streets have been identified for specific improvements in the Plan. There are a series of streets that parallel Island Crest Way along its east side that would be suitable for designation as a bike corridor. These streets include (from south to north) 90th Ave SE, SE 47th Street, 88th Avenue SE, SE 44th Street, 86th Avenue SE, SE 36th Street, and 84th Avenue SE. This would provide the north segment of the alternative route to Island Crest Way.

One important segment is that portion where Island Crest Way must be utilized and crossed, between SE 53rd Place and 90th Avenue SE. More detailed examination of this segment is required to design an alignment and crossing that provides cyclists and other users with a safe and convenient passage in this busy area of the Island Crest Way corridor.

Other Considerations

While not identified as highest priorities, there are a number of other policy considerations included in the Plan (Section 2). These considerations address important comments and concerns from staff, committee, and the public. These considerations include the following:

Education

- *Develop a public information process that allows City Council and staff to communicate clearly with residents about decisions. (Policy 11.1)*

  The City routinely involves the public in all aspects of its processes, and the policies of this plan reflect the importance of early public input at the planning, budgeting and early design stages rather than at the final design and construction stages. The City will continue to expand use of the City website, and other means of communication with residents. (Policy 11.11)

- *Provide more information about trail and shared use facility 'etiquette' or 'rules of the road' to reduce conflicts. (Policy 11.2)*

  In addition to providing posted signage informing users of rules and regulations, trail 'etiquette' or recommended practices could be posted at key location to increase awareness. Obvious locations for informational posters or brochures would be trail intersection points or kiosks, major trailheads or parks. Other locations that might prove valuable in educating a broader audience include the transit center, library, community center, schools, commercial centers, in community or special interest newsletters or newspapers, and on

the City website.

Organizing and advertising scheduled events that promote non-motorized use can also inform the public on proper use of facilities. Weekend bicycle tours, with or without partial road closure; Town Center events that require partial block closure or limited parking restriction to accommodate foot traffic; and school events/field trips that get children walking or cycling through the community are some strategies that can increase exposure and elevate the acceptance level of walking and cycling on the Island.

- *Enforce vehicular and bicycle speed limits, crosswalk violations, and proper bicycle use on multi-use trails. (Policy 11.3)*

  Enforcement continues to be a significant issue, often constrained by competing demands for law enforcement resources. While increased enforcement of violations, especially in known conflict areas is recommended, education is a critical component that may be a more cost effective way of getting compliance.

Maintenance

- *Increase maintenance of roadways, bollards, and shoulders including sweeping, asphalt/edge repair, and vegetation removal. (Policy 9.3)*

  Regular maintenance of roadways and shoulders will allow these corridors to be used safely and more consistently throughout the year. Of particular note to cyclists and pedestrians is the importance of sweeping, fully off the paved shoulder, with increased frequency in the autumn and after storms. Regular inspection and repair of the asphalt edge to maintain a consistent paved width, and removal of vegetation that encroaches into the paved area or obscures line of sight at intersections and driveways are other important measures. Since the visual appearance of the streetscape is closely associated with the character of neighborhoods, vegetation removal in some areas may be controversial, and should be addressed in each particular neighborhood. However, with the goal to improve and expand non-motorized facilities throughout the Island, safety along these corridors will have to be addressed. It may be important to identify and target specific corridors where vegetation consistently limits sight distance and increases potential conflicts. Vegetation management responsibilities of adjacent private property owners should be clearly identified, and perhaps codified.

  Maintenance cost requirements for the expanded system should be reviewed and increased on a regular basis, proportionate to the quantity of system improvements.

Parking on S.E. 71st Street on a paved shoulder that is striped for joint pedestrian and bicycle use

Parking

- *Establish clear direction (signage) regarding parking availability on streets designated for non-motorized improvements. (Policy 7.5)*

  In many areas, parking on the shoulders is a significant problem that hinders the utility of the shoulders for pedestrian and bicycle use, and creates many of the noted problems in continuity of corridor. While this problem has been particularly noted along the Mercer Ways, it is also a potential issue in many other neighborhood areas. The concern is most significant when the right-of-way is used extensively by both vehicles and non-motorized movement. However, in many cases there are few alternatives for homeowners and their guests, especially along the Mercer Ways during inclement weather. In most cases the parking is not in violation of current City ordinances.

  The plan for the East and West Mercer Ways include extension of a paved shoulder the full perimeter on the landward side. Currently some areas are used for parking, which interrupts the continuity of travel for bicycles and pedestrians and creates sight distance problems at some street and driveway intersections. Sight distance problems also occur at some of the sharper right hand curves, particularly for bicyclists traveling clockwise on East and West Mercer. Figure 6 identifies several locations where sight distance is particularly limited. In order to improve conditions for non-motorized travel, the City may want to consider restricting parking in such locations completely or partially. Some examples of partial restrictions include:

  - No parking during daylight hours, when the majority of non-motorized use occurs.
  - Parking allowed only when side streets are icy or impassable due to construction or major maintenance.
  - Parking allowed only in areas that can accommodate full width parking on the inside edge of the paved shoulder, thereby not restricting movement in the shoulder.

  These same measures may be considered in other areas in the City where there may be significant conflicts between parking, pedestrians, and bicyclists.

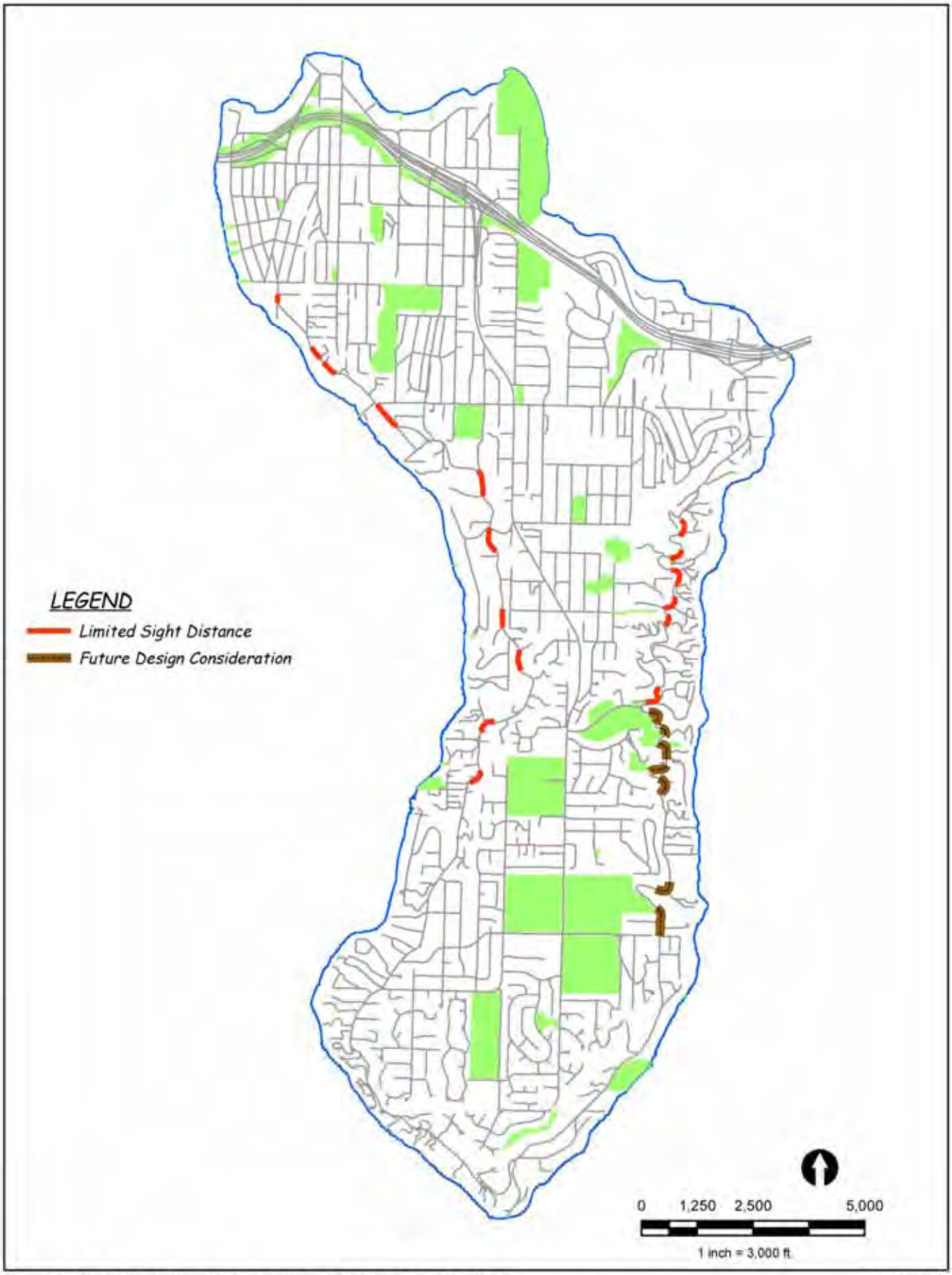
  Plan implementation measures for streets designated as Shared Streets should include in their design accommodation for parking, and make it clear where that should occur.

Signage/Amenities

- *Provide bicycle amenities at more destinations. (Policy 6.6)*

  Specific recommendations and requests from the public included new or improved bike racks at the Mercer Village QFC, City Hall, the transit center, and Island Crest Park. Other locations, as identified primarily by users, would benefit the overall system functionality.

Fleury stairs provide multiple connections, and opportunity for views and seating.



MERCER ISLAND PEDESTRIAN AND BICYCLE FACILITIES PLAN UPDATE

FIGURE 6

POTENTIAL PARKING CONCERNS ON THE MERCER WAYS

- *Improve wayfinding signage. (Policy 6.4)*

  While the City has provided good signage on most of the off-road soft surface trail connections located within the public rights-of-way, many of the shared lane corridors and connections at stairs are lacking critical wayfinding information. The City may want to consider expanding an Island-wide standard for wayfinding signage for off-road facilities, but should consider using the MUTCD standard signage for on-road facilities.

  One exception could be when the improvements to the East/West Mercer Ways loop is completed, a custom sign design could be developed for this unique route, providing information on how best to circumnavigate the island, rules of the road, destination information at intersections, and the like.

  There is significant opportunity for interpretive signage to be incorporated with wayfinding signage along the many separated trails and stairways, where views open to the water and beyond, or to destinations internal to the Island. These could be located at key resting spots, or intersections, with benches, picnic tables, or other amenities.

- *Improve signage to promote better sharing of the road by all users.*

  Wherever advisable the city should provide appropriate signage to encourage bicyclists and motorists to be aware of and accommodate each other and pedestrians. In providing such signage, the city should take care to avoid excessive signage that would create visual pollution. These signs should be placed at key points where the interaction between users may conflict, and encourage courtesy and emphasize appropriate rules of the road. These signs should be concise and informative. Potential locations for such improved signage include the Mercers, the Transit Center, and the I-90 Trail/LID Park.

Opportunity Projects

- *Routinely accommodate and incorporate proposed bicycle and/or pedestrian facilities into planned transportation/public works projects (both new and rehabilitation projects) and develop the non-motorized elements concurrent with the road/ utility upgrade projects. (Policy 9.2)*

  The City should remain open and flexible to implementation of projects that are not necessarily high on the priority list, if there is an opportunity to make improvements in conjunction with other, similar work within particular corridors. These may be ‘Opportunity Projects’, which include lesser facilities which may be low in priority but which nonetheless should be constructed (to complete the entire system) if and when a special opportunity arises. Special opportunities

could include widening, reconstruction, resurfacing, or overlay of the adjacent roadway; widening or replacement of an existing bridge or culvert along the alignment; availability of a special or unanticipated funding source; etc.

Section 5
DESIGN GUIDELINES

Introduction

Design Guidelines in the Plan
The design guidelines described in this section of the Plan are intended to guide the construction of pedestrian and bicycle facilities while providing flexibility for site-specific conditions.

The design guidelines in the Plan are based on recognized state and national guidelines. The Washington Department of Transportation has accepted guidelines articulated in the *Guide for the Development of Bicycle Facilities (AASHTO, 1999),* and in the *Guide for the Planning, Design, and Operation of Pedestrian Facilities (AASHTO, 2004).* These guidelines include dimensional recommendations for widths, cross-slopes, grades, surface treatments, separation of elements, signage and other elements generally making up new or retrofitted facilities. The guidelines seek to define the minimum dimensional criteria for development of safe facilities functioning under normal conditions. Since grants that can fund bicycle and pedestrian facilities usually require the state and federal guidelines, constructing facilities to these guidelines provide the opportunity for state and federal assistance for these facilities.

The guidelines address the following classifications of facilities:

Bicycle Facilities

- *Signed Shared Roadways:* Use of existing 'standard' width lane on an existing road where traffic volumes, geometry, and design speeds allow safe bicycle use. Signage is provided that identifies these corridors as bike routes. Certain adjustments in the route are made where feasible, to accommodate cyclists, such as: providing bicycle detectors at traffic control devices, reducing or eliminating parking in areas to improve sight distance or provide sufficient width, increase maintenance to clear road debris.
- '*Sharrows':* This shared lane marking is gaining in popularity as an added measure to identify that roadways are facilities to be shared by automobiles and bicycles. While the current AASHTO Guide does not recognize this emerging guideline, the next updated Guide will incorporate discussion and possible guidelines for its use. Currently the Sharrow marking is used on all width of roadways, and a wide range of roadway classifications.
- *Paved Shoulders:* Expansion of the paved roadway surface, outside of the edge stripe that designates the edge of the travel lane, provides additional space for bicyclists to operate. While the Guide identifies a minimum 4' width as acceptable to accommodate bicycle travel, any additional

shoulder width is deemed better than none. Directional travel for cyclists should match that of automobiles, with no bicycle travel against traffic recommended. Recommended minimum width of the paved shoulder is variable depending on volume of bicycle traffic, volume and speed of the road, and percentage of truck traffic. Recommendations may be found in AASHTO's A Policy on Geometric Design of Highways and Streets.

- *Bike Lanes:* Immediately adjacent to the travel lanes, bike lanes are one-way facilities designated by striping, marking, and/or signage for exclusive or preferential use by bicycles. As with Paved Shoulders, width requirements vary depending on adjacent conditions – whether vertical curb is adjacent, and the presence of parking and how frequent its turn-over. Bike lane alignment and continuity is sometimes indirect, in order to accommodate right-turn lanes and intersections with competing road striping requirements. Dedicated bike lanes shall occur only when there is a dedicated and associated pedestrian facility.
- *Shared Use Paths*: These facilities are on exclusive rights-of-way with minimal crossing of vehicular traffic, often referred to as trails, and accommodate multiple users including bicyclists, skaters, walkers, wheeled strollers, people walking dogs, runners, and sometimes equestrians. Most are intended as two-way facilities unless otherwise signed or marked. Shared use paths should not be used to preclude on-road bicycle facilities, rather supplement them, in order that users of all ability and skill levels can use the facility that best suits their purpose.

Per AASHTO Guide for the Development of Bicycle Facilities, recommended minimum width for a Shared Use Path is 10'. In rare instances an 8' width can be adequate, such as where these conditions prevail: (1) bicycle traffic is low, even on peak days or hours, (2) pedestrian use of the facility is not expected to be more than occasional, (3) there is good horizontal and vertical alignment allowing for frequent passing opportunities, (4) normal maintenance procedures would not include vehicle loading conditions that would cause pavement edge damage. If there is substantial use by bicycles and pedestrians, and/or steep grades, desirable width may be 12' to 14'.

Pedestrian Facilities

- *Sidewalks:* Sidewalks provide an alternate exclusive pedestrian facility. Where one side of the street is undeveloped, sidewalks may be provided only on the developed side of the street. Sidewalks provide a high degree of comfort and safety for pedestrians. The Uniform Vehicle Code defines a sidewalk as that portion of a street between the curb lines, or the lateral lines of a roadway, and the adjacent property lines, intended for use by pedestrians. Sidewalks may also, in some cases, be built on easements. Sidewalks usually have a hard surface, but can also be

constructed of compacted aggregate. To comply with ADA guidelines, newly constructed, reconstructed, or altered sidewalks must be accessible to persons with disabilities.

- *Off-Road Paths:* An off-road path, paved or unpaved, can be an appropriate facility in areas where sufficient right-of-way is available. Paths are generally set back from the road and separated by a vegetated area, ditch, swale, or trees. Paths can be flexible in that they can deviate from the exact route of a road in order to provide more direct access for key destinations. Paths that generally follow the roadway alignment are sometimes known as "side paths". The City of Mercer Island has determined that separated, off-road paths for the exclusive use of pedestrians are the preferred pedestrian facility and should be provided where space in the right-of-way is available.
- *Shared Use Paths:* Where off-road paths are developed for use by both pedestrians and bicyclists, they are referred to as shared use paths. The design of shared use paths is addressed in the AASHTO Guide for the Development of Bicycle Facilities (see description under Bicycle Facilities above). Design guidance for shared-use paths is also provided by trail design criteria in the U.S. Access Board draft Guidelines for Outdoor Developed Areas.

According to AASHTO Guide for Planning, Design, and Operation of Pedestrian Facilities, Paved Shoulders are not deemed appropriate as pedestrian facilities, which is why they do not appear in this list. Even acknowledging that some communities prefer to retain a 'rural' atmosphere through elimination of standard curb, gutter, sidewalk section for pedestrians, the AASHTO guideline cites that in areas where population exceeds 1,000 persons per square mile (Mercer Island is 3,000 to 4,000 psm) , consideration should be given to using the same design criteria as for urban areas.

Shared Streets

Many local neighborhood streets on Mercer Island are currently shared by automobiles, service vehicles, pedestrians and bicycles without physical separation among various users. Some of these streets are low volume, low speed facilities serving a handful of homes with no, or minimal, through traffic. Due to the low intensity of use, such naturally occurring 'shared streets' serve a variety of users without the need for separated sidewalks, paths or even widened shoulders.

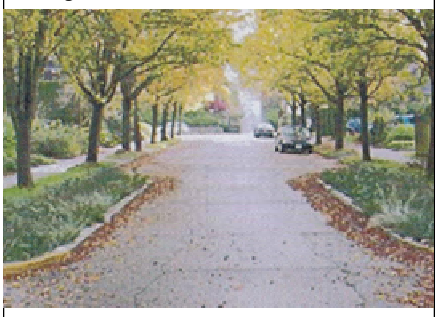
Other local neighborhood streets, while currently without physical separation among various users, experience higher volume or higher speeds. These streets would benefit from either separation of facilities for various users (as noted above under Bicycle Facilities or Pedestrian Facilities) or addition of features that would bring speeds down and create a more pedestrian-friendly environment, like the naturally occurring 'shared street' described above. Such a 'designed

Shared Streets

The 'natural shared street' occurs throughout the Island, and may not need additional improvements to make it a pedestrian-friendly space.

Narrow low-volume streets invite mixed use

Below, and shown in Figure 14 are examples of measures to incorporate in a neighborhood to create a Designed Shared Street.



Narrow entrances or 'Gateways"

Changes in surfacing

Corridors selected for conversion to a Designed Shared Street should be an integral part of the non-motorized network, getting people to the places they want to go, and making connections to other non-motorized facilities.

shared street' could incorporate selected measures like those identified in Figure 14 as 'Designed Shared Streets.'

Implementation of measures described under 'Designed Shared Street' would be a decision involving the city and the neighborhood. In the broader context, these corridors should provide connectivity to the larger non-motorized system to provide the most effectiveness for the greatest number of citizens. The underlying goal should be to develop a web of non-motorized facilities that connect and provide access to desirable destinations.

Guidelines for developing these kinds of facilities can be found in the Pedestrian Facility User Guide – Providing Safety and Mobility (Federal Highway Administration). Examples include implementing these guidelines on streets that currently have vehicular speeds below 10 mph, and serve only local residents. A candidate street would have to be evaluated for its suitability for such treatment, and the neighborhood would have to support specific changes, possibly contributing to maintenance of planted areas and cost for implementation. The Designed Shared Street concept is flexible, and would vary to suit each corridor as circumstances warrant. It may involve only minor changes to the streetscape, measures to calm traffic, or more extensive improvements to make streets more pedestrian friendly.

Standards vs. Flexibility

The design guidelines offer a variety of tools for facilitating the safe movement of pedestrian and bicycles throughout the Island. However, the physical limitations of the Island and the existing right-of-ways constrain how some of these tools might be used. In addition, each of the tools should be used in a manner which optimizes the effectiveness of the overall system. Two of these tools, bike lanes and sharrows, can be applied as parts of an overall strategy of designating and identifying bicycle routes consistent with the physical limitations of the Island's right-of-ways.

I-90 regional trail intersection at West Mercer Way accommodates multiple modes

Sharrows, when used sparingly in conjunction with appropriate signage, are particularly useful for identifying and directing bicyclists to the most desirable and safe route for traversing the Island. In particular sharrows should be applied to provide connectivity between different route segments and where it is desirable to direct riders to appropriate routes (such as around the transit center or to alternate routes away from Island Crest Way) away from routes that may be less appropriate. If sharrows are applied too extensively, their value in identifying the best routes may be diluted and made less effective in communicating with the riders.

Physical limitations of the existing right-of-ways most severely limit where bicycle lanes may be appropriately applied. Where adequate pavement width is not present, and it is still desirable to

identify the route as a bicycle route, sharrows may be applied to designate the route. Whenever a street with sharrows is reconstructed for widening and/or providing sidewalks, consideration should be given to replacing the sharrows with bike lanes if space allows.

Sharrow symbol

The implementation of projects based on the 1996 Plan and input from staff and the public on the functionality of the current system illustrates the following recurring challenges:

The 1996 Plan did not make a consistent distinction between providing facilities for bicycle and for pedestrian, or both. Upon implementation, the expectation was that even the most minimal facility improvement could provide for the maximum range of users. The built facility has worked well in some areas, and not as well in others. Increases in the popularity of walking and biking have created conflict in those high use areas where no distinction is made between pedestrian space and bicycle space, and/or inadequate room is available for all users.

There has been a tension between a desire to develop pedestrian and bicycle facilities that are based on established guidelines for such facilities, and the constraints that are imposed by the character of City rights-of-way and paths that often prevent or hinder the application of those guidelines. This is especially notable in segments where a facility improvement changes its cross section (width, separation, changing from one side of the road to another) from one block to the next. There has not been physical space, adequate budget, and/or public support to impose a consistent guideline over a significant length of corridor.

Public attitudes both (1) tend to discourage the alteration of Island natural features that would need to occur in order to apply literally the guidelines, and (2) demand safe, extensive, and continuous facilities so people of all ages can walk and bicycle safely to far-ranging destinations.

The Plan recognizes that the safety of users of any bicycle and pedestrian system can be enhanced by building facilities to a consistent standard and maintaining all facilities adequately. This consistency increases safety because such consistency reduces the chances of encountering the unexpected.

In addition to the design considerations associated with the movement of different user groups, many residents have expressed concerns about visual impacts, change in community character, and unbuildable conditions as reasons for their reluctance to support the strict application of the recognized state and national guidelines to facilities on the Island. Choosing to develop most facilities to a modified guideline does not preclude the City's ability to construct other portions of the system to the AASHTO and WSDOT guidelines. Since funding of bicycle and pedestrian facilities is often provided by grants (requiring construction to the state

and federal guidelines) the City may have to choose to fund construction of new projects without matching state or federal dollars.

Options within the Design Guideline

In order to provide greater flexibility in applying these guidelines, the Plan provides a range of options that may be considered at any project location. While a range of options allows for the desired flexibility, the goal for consistency should remain. Many of the concerns voiced from the users of these facilities have to do with unexpected changes in physical conditions or 'lane' availability as they traverse from block to block on the Island.

Figures 7 through 16 in the Plan illustrate with cross section and photographic examples, the design, dimensional requirements and, in some cases, the recommended signage for installation of the proposed facilities. Some guidelines have potential for greater flexibility in design options than others, while still meeting the recognized minimum requirements stated in the AASHTO Guide. Greater variation from these guidelines may be desirable, even necessary in some conditions, but may limit non-motorized functionality and possibly funding opportunities.

Capturing More Space

Example of a paved shoulder for pedestrians outside the bike lane

With most of the Island at full build-out, and much of the public right-of-way width already dedicated for established transportation and utility needs, there is limited area available for new non-motorized improvements. In addition, the ability to make significant changes to the existing cross section may be restricted by fiscal constraints or public controversy. Some options to consider, that still provide improvement of the non-motorized system, include the following:

- Leave Off-Road Paths as is, but add signage for Signed Shared Roadways/Sharrows to the travel lane. This provides a clear route for faster or more skilled cyclists, reducing conflict with pedestrians and slower or less skilled cyclists on the path.
- Move Sidewalks and Off-Road Paths into adjacent park land or school property to make room for Bike Lanes.
- Expand Paved Shoulder to provide more space for non-motorized use and/or more separation from vehicles in travel lane.
- Provide an edge stripe on roadways, where there is available space, to define an outside limit for the travel lane, to create at least a minimal amount of shoulder for non-motorized use.
- Provide 3' more asphalt outside Bike Lanes, add exterior edge stripe, creating a Paved Shoulder to the outside of the Bike Lane for pedestrians.
- If there is room only for one additional bike lane, put Bike Lane uphill, and Signed Shared Roadway or Sharrow downhill. Use caution at crest of hills, as shift in centerline may create potential conflict for vehicular traffic.

- Reduce width of vehicular travel lanes. This measure also provides for traffic calming by reducing speeds.
- Fill roadside ditches (as City's stormwater management policies allow), construct mechanically stabilized embankments (green walls).
- Re-channelize roadway to remove shoulder on undeveloped side (maintaining Signed Shared Roadway or Sharrow for bicycles), and provide Sidewalk or Off-Road Path on opposite, developed side.
- Eliminate or reduce parking (even seasonally or temporally); request residents place garbage cans and recycle bins outside of shoulder.
- Conversion of standard low-volume, low-speed residential road to a Shared Street. This has the added benefit of providing traffic calming, improving the aesthetics of the street and potentially reducing impervious pavement.

Clarity and Consistency

Some of the difficulty in traversing the Island by bike and on foot has been due, not only to inadequate physical space but, to conflict and confusion about which user has priority use or where there is a continuous route of travel. The best examples of this conflict are in the following corridors:

North Mercer Way/Lid Trail/Luther Burbank Park Access Road

This route has multiple options for bike travel, on Shared Roadway, in Paved Shoulder, and on Shared Use Path. Generally pedestrian travel is limited to the Shared Use Path. Conflicts arise from the high speed movement of bicycles on and off these corridors, and at intersections. Because this is such a high use corridor, clarity in expected use is recommended. This could be accomplished through some or all of these measures

- Striping on the Shared Use Path that differentiates between wheels and feet.
- Expansion or resurfacing of the Sidewalk or Shared Use Path that is for pedestrians only.
- Signage restricting speeds on the Sidewalk and Shared Use Path to 10mph, noting the adjacent Shared Roadway where speeds can be higher.
- Enforcement of speed limitations on the Shared Use Path.

Intersection of multiple modes in proximity of the Park and Ride is a challenge and requires separation of users. As previously noted, this Plan recommends moving cyclists to Bike Lanes or Sharrows along SE 24th Street, allowing pedestrians and strollers exclusive use of the sidewalk along the frontage.

At Feroglia Fields adjacent to the Lid Trail, spectator use of the ballfield sidelines spills over onto the trail in a location at the bottom of a steep hill on a blind curve, creating conflicts between users. Separation of uses, either through pavement striping and/or widening, installation of 'alert bars' to warn and

Change in surfacing and addition of symbols define areas for different uses

slow cyclists, and removal of vegetation that reduces visibility may be some effective solutions and should be considered at the appropriate time and as resources allow.

Many streets previously identified in the 1996 Plan for Shared Roadways

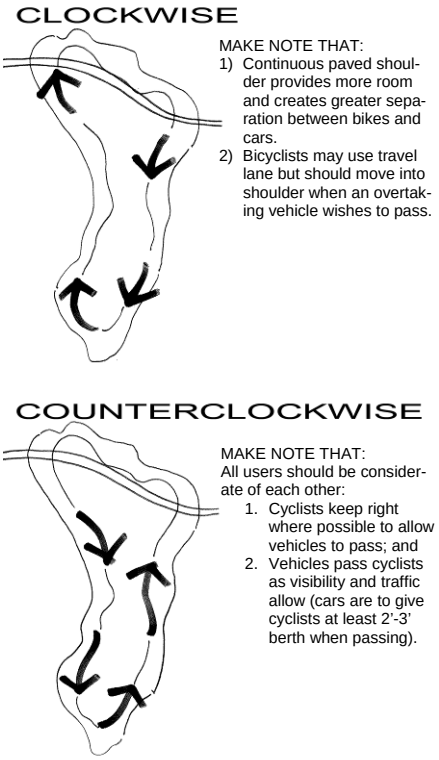
Many routes have been identified on paper, but not consistently signed on the ground as shared facilities. Neither cyclists nor drivers are aware of these corridors as Bike Routes as the Plan called for, but signage has not been installed. With consistent signage, these corridors will be more visible, and become more usable, and hopefully will elicit better behavior on the part of all users as they recognize the need to share limited resources.

East and West Mercer Ways

Improvements along these corridors since the 1996 Plan have been significant, although incomplete. The majority of the 'inside' lane has been expanded to include a Paved Shoulder which provides space for all users, including bicyclists, pedestrians, and temporary parking. The 'outside' lane has expanded in limited areas to either a Paved or Unpaved Shoulder. Conflicts arise from these multiple, and at times, unexpected uses, as well as at intersections and through some of the extremely tight turns that limit sight distance. The majority of cyclists in this corridor are accomplished riders, traveling at higher speeds, and are most comfortable in the travel lane where fewer conflicts arise. However, drivers find that cyclists in the travel lane restrict the speed of their travel, and force them into the other lane to pass, creating another layer of conflict.

Strategies to reduce this conflict may include:

- To provide more consistency in the shoulder width, increase maintenance of the shoulder (pavement as well as vegetation management), consider regulating parking in areas with poor visibility by applying the measures described under 'Parking' on page 42, and provide more information (signage and distributed material) on how this corridor should be shared. Signage for the clockwise traveler might state that cyclists are asked to move right (into the Paved Shoulder) to allow vehicles to pass. This provides information to the driver that cyclists are permitted in the travel lane. Signage for the counterclockwise traveler where no, or limited, shoulder is provided may inform drivers this is a shared corridor. Distributed material (web, brochures, information in newsletters) can provide more detailed information on how to share this corridor.
- To improve the ability of vehicles to pass pelotons of bicyclists by discouraging pelotons of more than ten riders, providing signage to promote better sharing of roadways and enforcing state laws that limit bicyclists to riding no more than two abreast, and requiring riders to move as far to the right as is safe, in single file, when travelling slower than traffic.



Courtesy signage

- To enforce existing traffic laws which require bicyclists to move off to the side of the roadway when slowing five or more vehicles.

Pedestrian travel in this corridor remains a challenge, and while pedestrians will continue to use both the Paved and Unpaved Shoulders on both sides, this corridor is not one that should be promoted for pedestrian travel. Providing increased opportunity for crossing at critical intersections, and enhancing the pedestrian environment in other parts of the Island may shift some of the pedestrian traffic off this busy corridor.

Potential Changes to Existing Implementation Standards

Construction of pedestrian and bicycle improvements over the years has resulted in a mix of design configurations addressing differing conditions. Some of these have created new conflicts, or reduced the efficiency and ease-of-use of non-motorized facilities, and should be re-assessed for potential modification:

Buttons or 'turtles' on edge stripe

While these buttons provide an effective 'rumble strip' delineator between the travel lane and a paved shoulder, and provide reflector capability against on-coming traffic, they may create an obstacle for cyclists choosing or needing to move in and out of the paved shoulder area. Cyclists may cross this line frequently to allow pedestrians priority use, to allow vehicles to pass, or to maneuver around parked or stopped vehicles. While buttons or 'turtles' provide a more positive separation between bicycles/pedestrians and vehicles, their use should be evaluated based on uses in the corridor. The City should use a solid white stripe without buttons where such buttons would inhibit the movement of bicycles on to the shoulder out of the travel lane.

Surprise curb at intersection

Rolled curb or thickened edge

Some corridors have been installed with a rolled asphalt edge that elevates the paved shoulder above the travel lane. This has been done in an effort to create an elevated distinction between the walking/cycling surface and the driving surface, without the use of a vertical concrete curb. While the intent is to permit cyclists to move easily between the travel lane and paved shoulder as well as providing a designated place for pedestrians, it is an atypical feature that can be an obstacle to cyclists, difficult to see in low light conditions, and does not provide a positive separation between cars and pedestrians. Consider eliminating the rolled curb and developing separate facilities for bikes and pedestrians using any combination of the guidelines noted above.

Surprise curb at intersections

In a variety of conditions, a concrete curb and elevated sidewalk or path, often with accessible ramp, has been created at intersections to define the pedestrian environment and location

for crossing. In corridors where only paved shoulders lead to these intersections, this creates a surprise 'edge' condition for cyclists traveling on the paved shoulder. While the crossing improvements are necessary and desirable, extended striping or extension of the curb, and/or signage should be provided warning cyclists of the change in surface.

Bike Lane striping through right turns and across intersections
Where bike lane striping has been provided, it would improve visibility and clarification for motorists and cyclists if the striping continued through right turn lanes, and through intersections, either as a short dashed white line, or a solid block of color. This provides more clarity for all users.

Intersection signal actuators (with recognizable marking)
At signalized intersections receiving any level of improvement, it would be desirable to install in-pavement bicycle detectors, placing a recognizable marking indicating where cyclists need to be to activate the signal. Another option may be retrofitting or installing new signals with video detection equipment.

Routine Accommodation

In recent years, concepts have emerged and gained standing in civil engineering regarding the design of transportation facilities to adequately incorporate pedestrian and bicycle modes along with motorized vehicles. Recently the U.S. Department of Transportation adopted the policy: "routine accommodation" which recommends that pedestrian and bicycle facilities be factored into all transportation projects, both new construction and reconstruction.

Traditionally roadway design frequently applied what can be called "centerline" planning, where roads are typically designed from the centerline out. When roadway designers design from the centerline out, they often simply ran out of space or money before bike lanes, paved shoulders, sidewalks and other "amenities" could be included. Under these traditional roadway design practices, facilities for bicyclists and pedestrians, environmental mitigation, accessibility, community preservation, and aesthetics were at best an afterthought, often simply overlooked, and, at worst, rejected as unnecessary, costly, and regressive. Consequently, motor vehicles were always accommodated, whereas bicycle lanes and sidewalks, receiving the lowest design priority, were often left out.

Under a "routine accommodation"[1] approach, street improvements are designed by first identifying the full range of mobility needs to be met by the facility, and then balancing or adjusting these needs with space, financial and other considerations to achieve the best result.

[1] The concept of "routine accommodation" is now used by the U.S. Department of Transportation in evaluating grant applications for street and traffic projects. The Federal Highway Administration recommends including up to 20 percent of the project cost to address non-motorized access improvements.

Applying routine accommodation design principles includes designing roadway projects to address existing challenges that impede pedestrian and bicycle movement on one hand and avoiding designing facilities that hinder movement on the other hand.

- Typical examples of existing challenges include: traffic signals that are unresponsive to bicycles; freeway on- and off-ramps; narrow curb lanes; choke points; lack of bicycle racks on buses; lack of secure bicycle parking; gaps in bicycle facilities; existing bicycle or pedestrian routes that require significant out-of-direction travel; infrequent opportunities for pedestrians to cross roadways; wide roadway crossings; long signal cycles, which require pedestrians to wait long periods of time; missing sidewalks where sidewalks are appropriate; sidewalk obstructions; lack of adequate sidewalk clear path of travel for current and projected pedestrian volumes; free right turns for vehicles (which can discourage drivers from observing pedestrian right-of-way); lack of pedestrian-level lighting; and non-ADA-compliant facilities.

- Typical examples of projects that could inadvertently worsen conditions for bicyclists and/or pedestrians include: removal of existing roadway shoulder; narrowing of existing curb lane; creating large corner radii; right turn slip lanes; multiple right or left turn lanes; roadway widening, which increases pedestrian crossing distance; increasing green time for one direction of traffic, which increases delay for pedestrians waiting to cross; crosswalk removal; redirecting bicyclists or pedestrians to routes that require significant out-of-direction travel; and elimination of an existing bicycle and/or pedestrian facility.[2]

Routine accommodation principles can be applied to private development as well as public construction. Just as private development is routinely expected to provide adequate driveways and parking to support motorized transportation, development could also be expected to provide pedestrian paths and bicycle racks where it can be shown the project creates demand for such facilities.

The City should consider the concept of “routine accommodation” in their long-term planning for road improvements and major maintenance.

[2] Adapted from material of the Metropolitan Transportation Commission, Oakland, California.

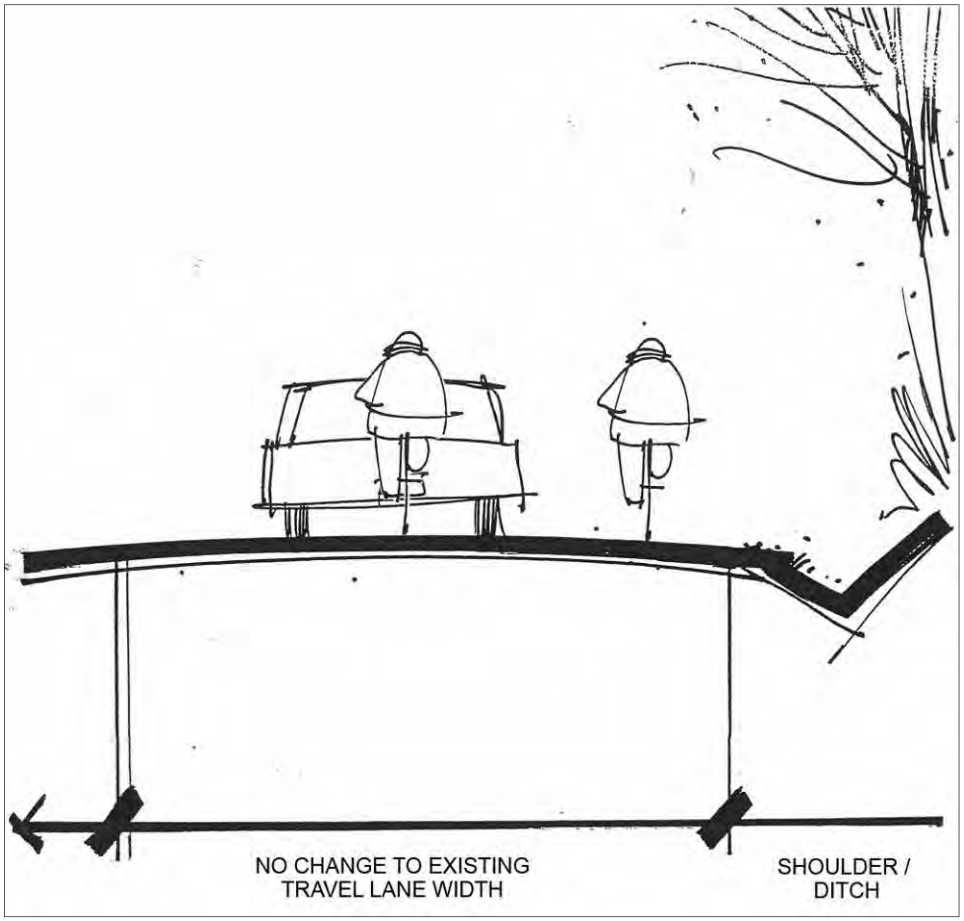
Standard Cross Sections

The following cross sections and images (Figures 7 through 16) provide more information about the range of options that may be applied to the Facilities Improvement Plan (Figure 5).

Shared roadway on E/W Mercer Way

MUTCD standard signage

Mercer Island signage



These are facilities that have been identified, through signage, as preferred bike routes. Existing travel lanes are utilized, but not necessarily widened. The route provides continuity to other bicycle facilities, an effort has been made to adjust traffic control devices (add sensors) to accommodate cyclists, street parking has been removed or restricted in areas of critical width to improve safety, and maintenance is sufficient to prevent accumulation of debris. Bike Route signs are provided, and may include destination information. Width of these shared roadways is variable.

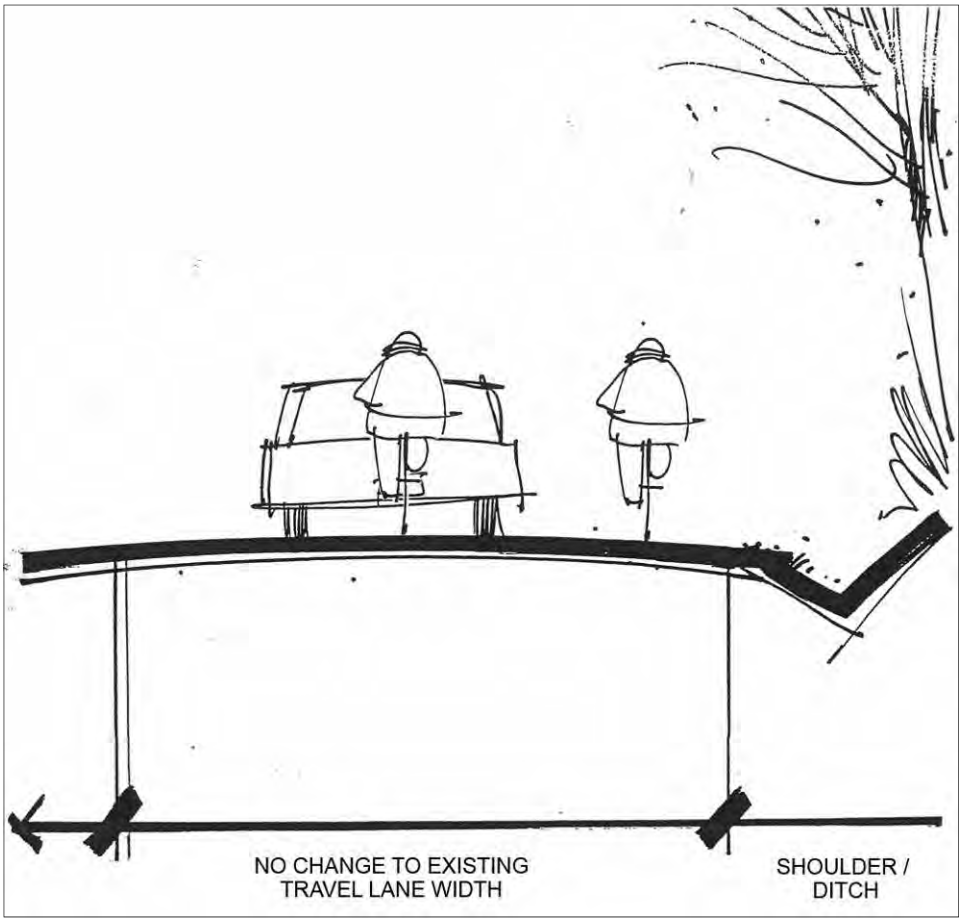
SIGNED SHARED ROADWAY

Figure 8

Sharrow transition to Bike Lane

Bike Lane uphill, Sharrow downhill

One example of Sharrow symbol



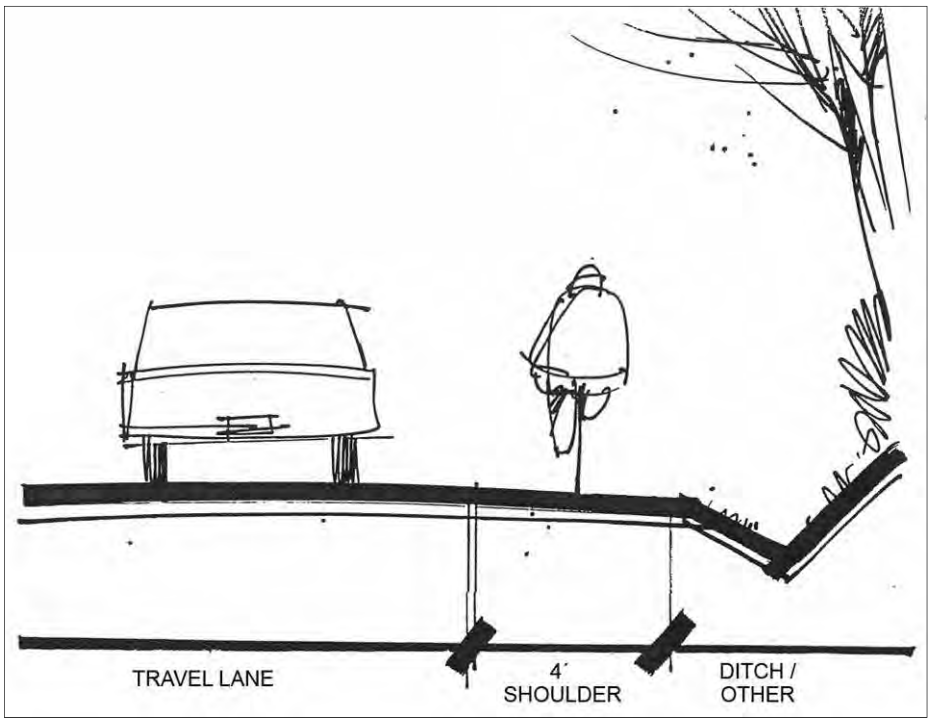
The Sharrow is a new facility, not yet recognized in the AASHTO Guide for Development of Bicycle Facilities. Its use is becoming widespread and accepted as a guideline similar to Signed Shared Roadway. Either in addition to, or in lieu of, the posted “Bike Route” signs on a Signed Shared Roadway, the Sharrow consists of chevron(s) and a bicycle symbol painted directly in the travel lane, or to one side of the travel lane. The intent is to provide additional recognition that the route is suitable and designated for bicycles. It is anticipated this will become a recognized guideline in future updated editions of AASHTO publications.

SHARROW

Single side Paved Shoulder

Bike Lane and Sidewalk transition to undesignated paved shoulder

White stripe preferred delineator



Buttons as potential obstacles

Per the AASHTO Guide for Development of Bicycle Facilities, 1999, Paved Shoulders to accommodate bicycle travel are a minimum of 4' wide. However, it is noted that any additional shoulder width is deemed better than none. Directional travel for cyclists should match that of automobiles. Recommended minimum width of the paved shoulder is variable depending on volume of bicycle traffic, volume and speed of vehicles, and percentage of truck traffic. Recommendations may be found in AASHTO's A Policy on Geometric Design of Highways and Streets. Raised pavement markers are not recommended where shoulders are used by cyclists.

According to the AASHTO Guide for Planning, Design, and Operation of Pedestrian Facilities, 2004, Paved Shoulders are not deemed appropriate as pedestrian facilities. Even acknowledging that some communities prefer to retain a 'rural' atmosphere, the recommendation is that in areas where population exceeds 1,000 persons per square mile, consideration should be given to using the same design criteria as for urban areas.

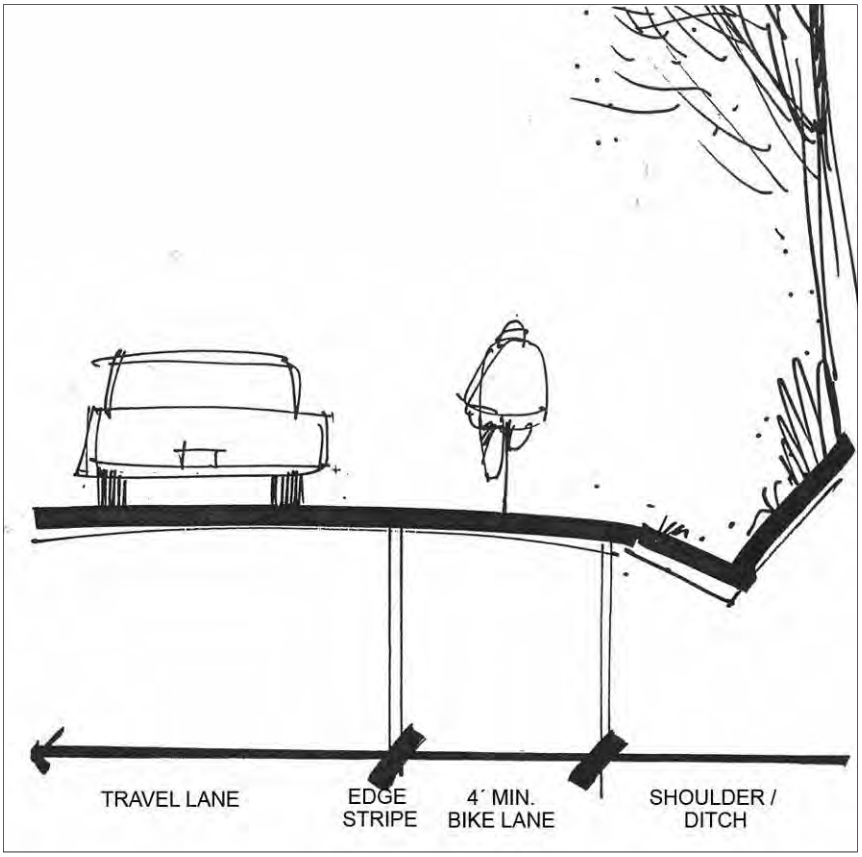
PAVED SHOULDER

Figure 10

Bike Lane and Sidewalk

MUTCD standard signage

Bike Lane with Paved Shoulder extension for pedestrians



Sharrow transition to Bike Lane

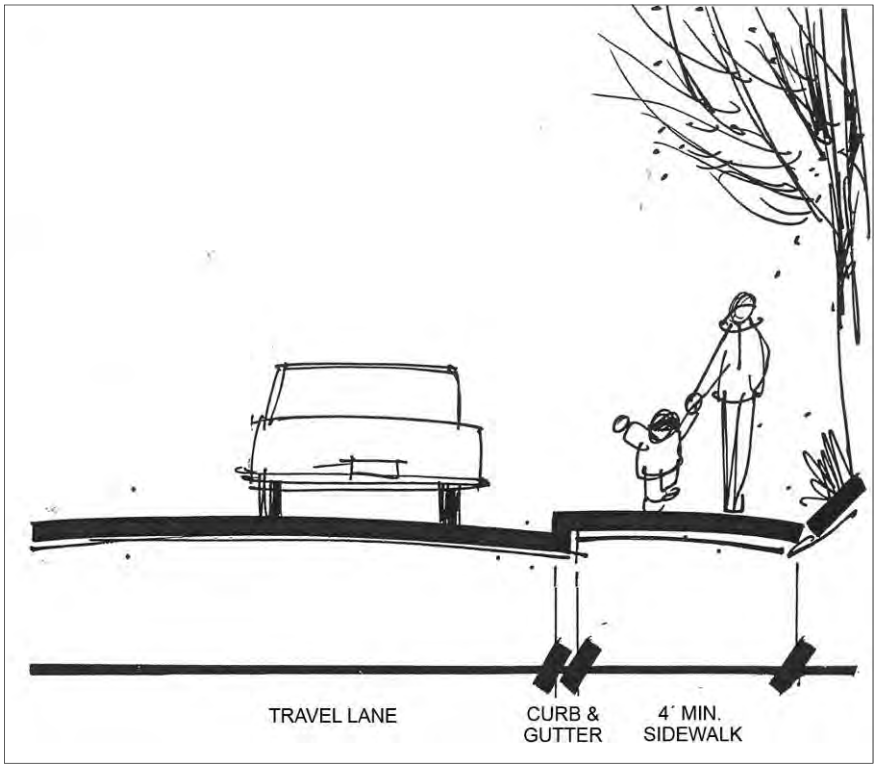
The AASHTO Guide for Development of Bicycle Facilities, 1999, recommends bike lanes as one-way facilities, adjacent to and separated from the travel lane with a 6” wide solid white stripe. Minimum width is 4’ in most locations, or 5’ if the bike lane is adjacent to vertical curb or guardrail, or where vehicle speeds exceed 50 mph, or substantial truck traffic is present. If the bike lane is adjacent to parking where volume is substantial or turnover is high, an additional 1’ to 2’ is recommended.

BIKE LANE

Town Center Sidewalk

Residential Sidewalk

Asphalt Sidewalk



Sidewalks, constructed either of concrete or asphalt, should be a minimum of 4’ wide. However where sidewalks are less than 5’ wide, passing spaces at least 5’ in width should be provided at reasonable intervals. This requirement for passing space is what has dictated the minimum 5’ width for most jurisdictions.

In some areas, such as along arterials, a 6’ to 8’ width with a planting strip is provided between the sidewalk and the curb or 8’ to 10’ where the sidewalk is flush against the curb. In central business districts or town centers the width may be 10’ or more, depending on desired level of service.

Providing a buffer between the sidewalk and travel lane enhances pedestrian safety as well as the experience, thus defining an Off-Road Path. This buffer is often utilized for curb ramps, street light poles, trash pick up, traffic signs, and other obstacles. Recommended width for landscape buffers on local or collector streets is 2’ to 4’ wide, and on arterials or major streets is 5’ to 6’ wide.

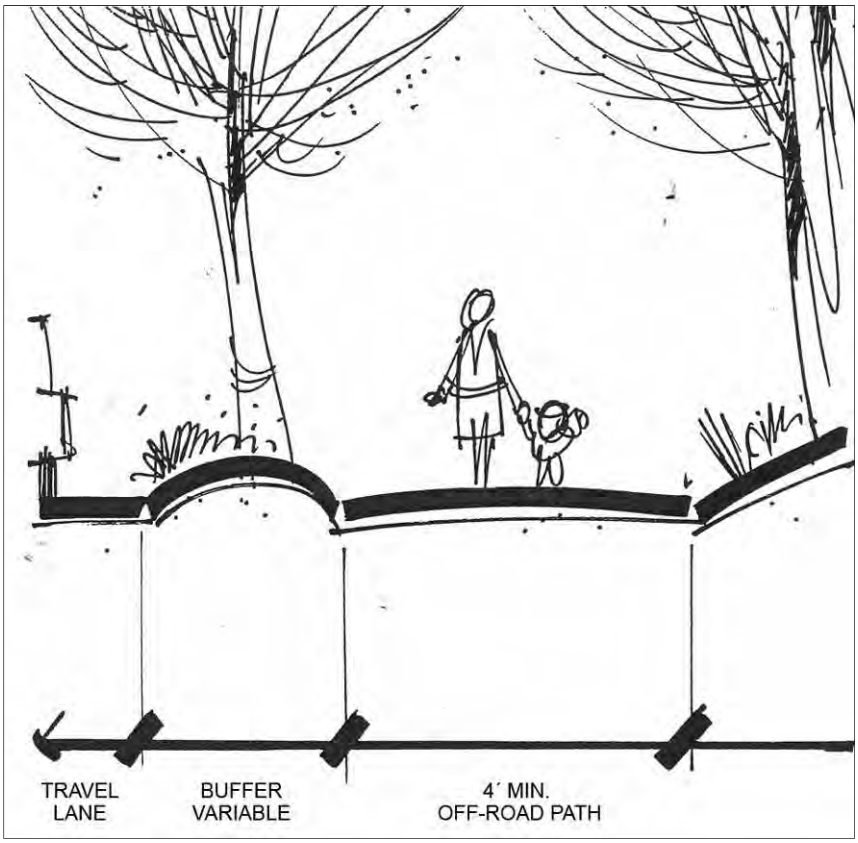
OFF-ROAD PATH OR SIDEWALK 1 OF 2

Figure 12

Off-Road Path transition to Sidewalk

Off-Road Path with wide buffer

Unsurfaced Path



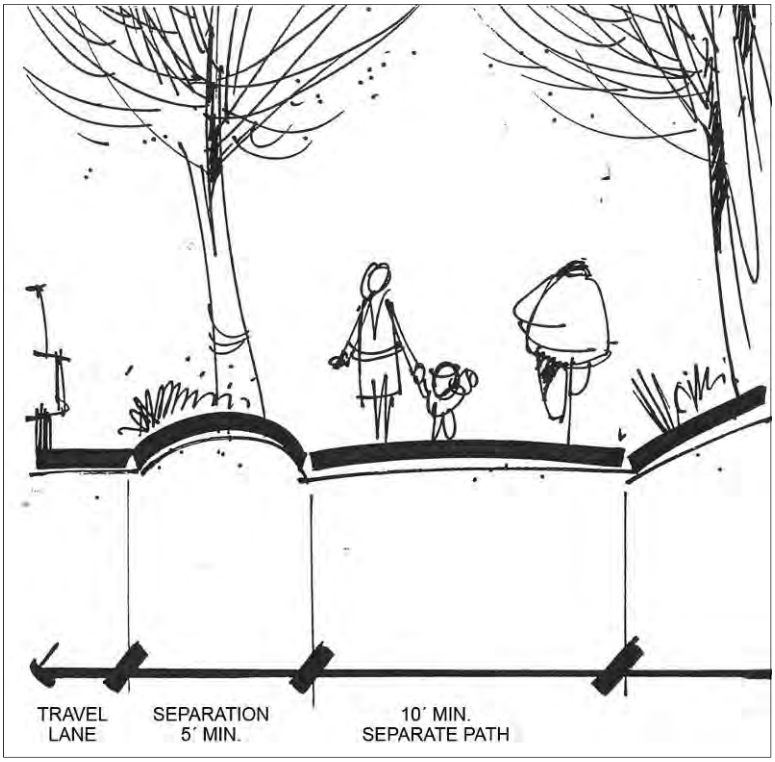
Sidewalks or Off-Road Paths on both sides of a roadway provide the greatest benefit to pedestrians, but may not always be possible. Topographic and right-of-way width constraints may dictate one-side construction. The need to accommodate parking or minimize conflict with multiple driveways may also dictate one-side construction. If sidewalks or Off-Road Paths are restricted to one side, consider continuity and connectivity to destinations in planning, and provide adequate opportunities for crossing.

OFF-ROAD PATH OR SIDEWALK 2 OF 2

Maximum buffer

Minimum buffer

Without buffer



Alert bar warning cyclists of congestion ahead combined with separation of bikes/peds

Shared Use Path with center-line stripe past Feroglia Fields

Per the AASHTO Guide for the Development of Bicycle Facilities, the recommended minimum width for a Shared Use Path is 10'. In rare instances an 8' width can be adequate, such as where the following conditions prevail: (1) bicycle traffic is low, even on peak days or hours, (2) pedestrian use of the facility is not expected to be more than occasional, (3) there is good horizontal and vertical alignment allowing for frequent passing opportunities, and (4) normal maintenance procedures would not include vehicle loading conditions that would cause pavement edge damage. If there is substantial use by bicycles and pedestrians, and/or steep grades, desirable width may be 12' to 14'.

Most Shared Use Paths are two-way facilities, and a minimum separation of 5' from adjacent travel lanes is recommended. With less than 5' of separation a physical barrier, a minimum of 42" high, should be provided but it should not impair sight distance at intersections, and should not pose a hazard to motorists.

In some cases where there is high volume mixed use of the Shared Use Path, it may be desirable to delineate users or direction of travel with striping, signage, or additional separation. Ensuring adequate sight distance through vegetation management and alerting bicycle traffic to slow in congested areas is recommended.

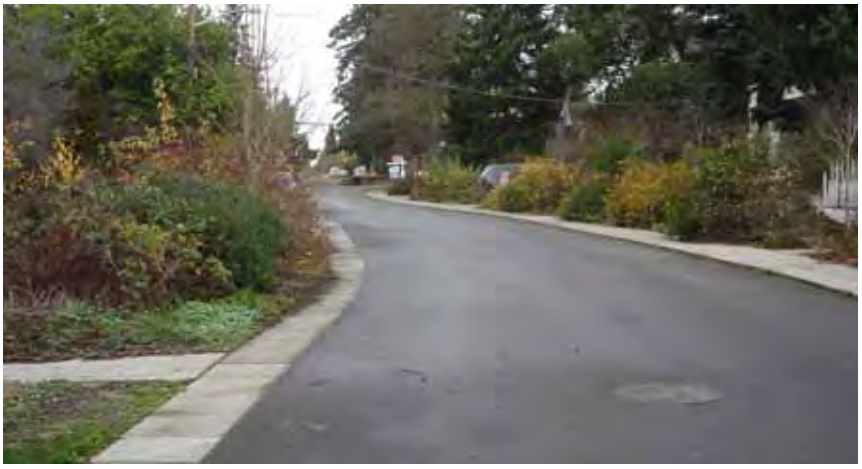
SHARED USE PATH

Figure 14

Mid-block island

Traffic calming circle

Change in surfacing



Narrowed travel lane; zero-rise curb; rain garden.

Change in surfacing

Parking on one side only

Planted median; curved street; dense planting.

Mixed use all areas

No adopted guidelines yet exist for these facilities, but there are certain features similar to many successful Designed Shared Streets in the United States and abroad. These are facilities shared by automobiles, pedestrians, and bicycles, without separate designation for uses. These are on low-volume, low-speed streets, typically located in either urban or residential conditions. Amenities include street furnishings, planting, raingardens (stormwater treatment facilities), defined parking areas, pedestrian-friendly surfacings and point-of-entry markers or gateways making it clear the corridor is primarily to service the non-motorized user. Most often neighborhoods or downtown districts are actively involved in the design and maintenance of a Designed Shared Street, improving their success and reducing their maintenance costs.

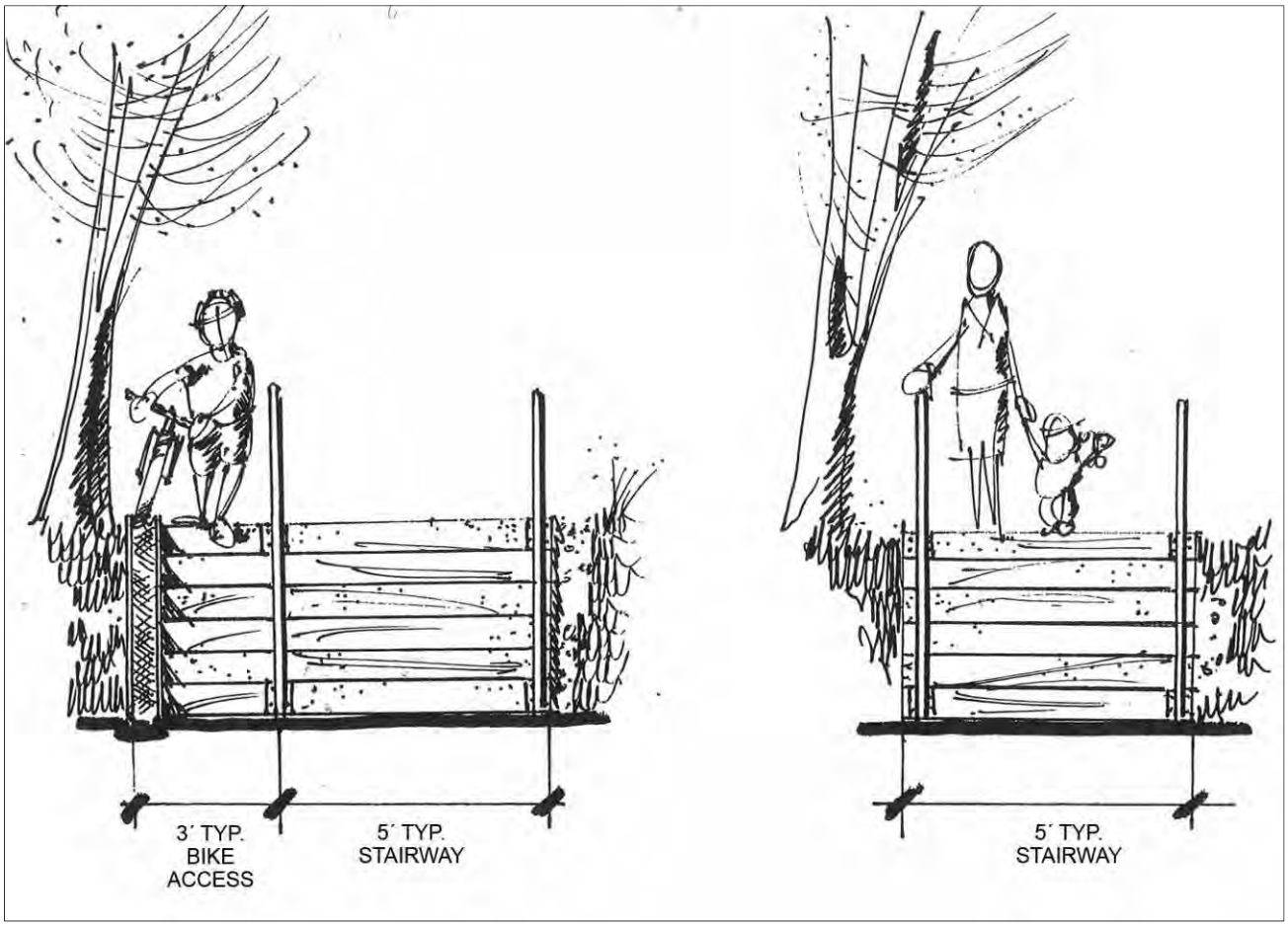
DESIGNED SHARED STREET

Figure 15

SE 32nd Street stairs could benefit from addition of bike ramp

Handrails would improve accessibility

Fleury stairs provide an important connection to school



Stairs are recommended to comply with ADA Accessibility Guidelines, providing maximum riser of 7” and minimum tread of 11” in the outdoor environment. Handrails are recommended on both sides. A trough or ramp may be provided adjacent to the stair to enhance use for cyclist walking bikes.

STAIR

Figure 16

In-pavement lighting is a controversial technology in some communities

Bike lane striping across an intersection

Signalized intersection at Island Crest Way and SE 40th St.

Crosswalk flag instructions

78th Ave SE & North Mercer Way

SE 30th St. and West Mercer Way

SE 36th St. at North Mercer Way

Crossing signage and striping should be consistent. Crossings on two, three, or four legs of the intersection should be as determined necessary through traffic analysis and to support connectivity indicated in the Plan. At signalized intersections video detection or in-pavement bicycle detectors, with recognizable markings on the pavement or as signage, allow bicycles to actuate signals when no vehicular traffic is present. Bike lane striping extensions thorough the intersection, either with dashed white lines or solid block of color, improve visibility and awareness of the cyclist. Crosswalk flags provide greater visibility for mid-block crossings. The addition or modification of signalized crossings, in-pavement lighting, or other available technologies that enhance non-motorized movement should be evaluated for each proposed or enhanced existing crossing.

IMPROVED CROSSING

Section 6
PRIORITIZATION AND COST ESTIMATES

Project List and Priorities

Table 2 lists all of the new projects to complete the twenty year plan for bicycle and pedestrian facilities based on a planning level analysis of needs. Project scope, cost and/or feasibility may change in the future when project specific analysis is performed. The projects are grouped as follows:

- Island-wide Corridors (West, East, and North Mercer Ways, and Island Crest Way)
- Intersections
- North
- Central
- South

The table does not present the projects in any ranked order of preference or complexity, it is generally defined from northwest to southeast.

The City Council annually sets priorities for funding pedestrian and bicycle facilities in the development and approval of the City's Six Year Transportation Improvement Program (TIP). In setting funding priorities in the TIP the Council should review the performance measures below and consider the following priorities for project funding (in order of priority):

- Projects that improve safety, especially for children
- Projects that improve connectivity
- Projects that increase recreational opportunities

The table identifies each project by location, current project number, beginning and end points, length, type of facility, commentary on the route and, where possible, estimated construction cost. Priorities for projects have not been established.

The following level of service standards that were discussed in Section 4 guided the development of the Plan, and may be used to guide project priorities:

- **Safety** *Does the route solve a safety problem or eliminate a known hazard?*
- **Continuity** *Does the project close a gap or complete a loop in the system?*
- **Connectivity** *Will the project provide clear linkage between two or more desired destinations, or between desired destinations and neighborhoods?*
- **Condition** *Does the project provide/upgrade a surface that meets the needs of the anticipated users?*

- **Directness** *Will the project provide for a more direct or comprehendible route between destinations?*
- **Destination** *Does the project go where you want to go?*
- **Distance** *Will the project improve a route that is an appropriate length to encourage the intended (pedestrian or bicycle) use?*
- **Route attractiveness** *Will the project enhance to showcase a particularly attractive route, improve aesthetics or perceived safety of an existing route, or provide new views in the community?*
- **Accessibility** *Does the route provide better or new accessibility to the overall system, and increase the number of users it is available to?*

In addition, the following factors may help to guide priorities now and in the future:

- **Safe Route to School** *Is the route coincident with a recognized Safe Route to School project?*
- **Efficiency** *Will the new route be used by more than one type of user, or can it be included in a larger transportation project with less cost than as a stand-alone project?*
- **Upgrade** *Does the project upgrade or correct a deficiency in the existing system?*
- **Affordability** *Does the project meet the fiscal limitations of the current budget, and is it cost effective?*

Finally, conditions and priorities in all communities change. As the Plan is implemented, new concerns and priorities may come to light. Emphasis on the elements used to evaluate priorities will also change over the years, as the demographics, population, and political leadership change. Therefore the entire project list should be re-evaluated every few years, as part of the process to update the Six-Year TIP. This review should be initiated by staff according to the policies and priorities of this Plan and reviewed through the TIP public hearing process to assure it reflects the needs and desires of the community at large. In this way the Plan offers continuous flexibility and responsiveness to the residents concerns and desires, and support to the City Council. They will know that the decisions they make are in line with the desires of the overall community.

Cost Estimates

Cost estimates are provided in 2009 dollars for planning and comparison purposes only. These estimates will be reviewed and updated as projects are considered for placement on the Six Year Transportation Improvement Program list.

Section 7
PUBLIC INFORMATION AND OUTREACH

Current Process

The Mercer Island community has shown a strong interest in providing input and helping to guide the direction of the PBF planning effort, both for the 1996 Plan and this update. Staff, Parks and Recreation Council Subcommittee, and the City Council acknowledged at the outset of this project that a critical element in measuring success of the plan would be a high level of public input and support for the plan. To that end, two public information open house meetings were held to present data and receive feedback at certain milestones in the process. The open houses were supplemented with articles, press releases, and an open invitation to submit comment on the City's website. The open houses were held in October 2008 and July 2009, the first to present base data and the strategy for updating the plan, and the second to present the draft Plan. At each meeting the presentation was followed by discussion and comments between staff/consultant and the public at workstations where maps, project lists, and supporting documents were available. This effort yielded valuable information and ideas from the people who are really using the system.

Specific comments and concerns were recorded at each public open house meeting and is provided in the Appendix. A summary of issues are noted below:

- Safety. Comments included a desire to have (1) more safe places to bike with children, and provide for safe biking and walking routes to school, (2) more pedestrian crossings of Island Crest Way, and (3) eliminate potential for conflict between pedestrians and bicyclists using the same route.
- Connectivity. A lot of citizens commented on specific areas where links in current routes are incomplete, noting they would make greater use of the non-motorized system to reach destinations such as Town Center, the library, shopping areas, community centers, and schools if connectivity was improved.
- Continuity. Some comments addressed lack of continuity, such as paved shoulders (especially without parking), sidewalks, and bike lanes. Some suggested that this Plan should be produced in conjunction with local public transportation systems.
- User Conflicts. In both the emailed comments and open house comments there was mention of specific conflicts, either between pedestrians and bicyclists, pedestrians and cars, or bicyclists and cars. Differing speeds between users, poor visibility at curves, and nighttime visibility were commonly mentioned themes.

- Law Enforcement. Several comments suggested that a greater emphasis on enforcement of existing ordinances would alleviate some of the conflicts. Vehicles speeding on the roadway, bicycles traveling too fast in mixed-use conditions on the shared use trails were problems cited consistently.

Future Efforts

The City should provide on-going public information about the implementation of this Plan, the opportunity for follow-up review and comment, and any significant changes that need to be made during implementation. The annual update of the City's Six-Year Transportation Improvement Program (TIP) will provide one such avenue for input. In addition, an on-going program providing information about how to use bicycle and pedestrian facilities will enhance the safety of the facilities for all users. This information may include facilities maps, new routes and upgraded facilities, upcoming facilities development, periodic publication of 'rules of the road' and notices of non-motorized events and workshops.

TABLE 2

List of Projects									Performance Measures								
Current Project Number	Street	From	To	Length (in LF)	Cost (in dollars)	Design Standard	Comment	Cost Estimate Comments	A	B	C	D	E	F	G	H	I
ISLAND-WIDE CORRIDORS																	
WMW1	West Mercer Way	North Mercer Way	SE 24th Street	1,375	4,400	signed shared roadway		Existing roadway width approx 24'-32', curb & gutter both sides, sidewalk on most of south side. Proposed improvements: signs	◇	◆	◇	◇	◇	◇	◇	◇	◇
WMW2	West Mercer Way	SE 24th Street	65th Place SE	2,050	82,500	s.bound-signed shared roadway n.bound-paved shoulder		Existing roadway width approx 22', gravel shoulders. Proposed improvements: east side paved shoulder, small walls, signs	◆	◆	◇	◇	◇	◇	◇	◇	◇
WMW3	West Mercer Way	SE 24th Street	SE 32nd Street	2,725	135,700	s.bound-sidewalk/trail	complete sidewalk connections	Existing roadway width approx 22', gravel shoulders. Proposed improvements: east side sidewalk	◆	◆	◇	◇	◇	◇	◇	◇	◇
WMW4	West Mercer Way	65th Place SE	W. Mercer Elem. School	7,250	31,200	signed shared roadway both sides		Existing roadway width approx 22', gravel shoulders. Proposed improvements: signs	◆	◆	◇	◇	◇	◆	◇	◇	◇
WMW5	West Mercer Way	W. Mercer Elem. School	82nd Ave SE	6,675	440,300	signed shared roadway both sides n.bound-paved shoulder	move sidewalk/trail into property; sign no drop-off on shoulder; map does not depict where paved shoulder is needed (intermittent)	Existing roadway width approx 22'-24', gravel/paved shoulders. Proposed improvements: sidewalk relocation, paved shoulder on east side approx 75% of length, drainage approx 50% of length, signs	◆	◆	◇	◇	◇	◆	◇	◇	◇
WMW6	West Mercer Way	82nd Ave SE	SE 65th Street	3,925	16,900	signed shared roadway both sides	remove buttons and paint edge stripe	Existing roadway width approx 22'-24',gravel/paved shoulders. Proposed improvements: signs	◆	◆	◇	◇	◇	◇	◇	◇	◇
WMW7	West Mercer Way	SE 65th Street	SE 72nd Street	2,935	undet.	signed shared roadway both sides n.bound-paved shoulder		Existing roadway approx 25', gravel/paved shoulders. Proposed improvements: northbound paved shoulder and drainage approx 60% of length, signs	◆	◆	◇	◆	◇	◇	◇	◇	◇
WMW8	West Mercer Way	SE 72nd Street	East Mercer Way	5,593	undet.	signed shared roadway both sides n.bound-paved shoulder	verify wayfinding to public stairs adequate.	Existing roadway approx 25', gravel/paved shoulders. Proposed improvements: northbound paved shoulder and drainage approx 60% of length, signs	◆	◆	◇	◆	◇	◇	◇	◇	◇
EMW1	East Mercer Way	SE 36th Street	SE 53rd Street	10,675	45,900	signed shared roadway both sides		Existing roadway width approx 20'-22', gravel/paved shoulders. Proposed improvements: signs	◆	◆	◇	◆	◇	◇	◇	◇	◇
EMW2	East Mercer Way	SE 53rd Street	5700 block	2,443	undet.	signed shared roadway both sides s.bound-paved shoulder	verify wayfinding to public stairs adequate.	Existing roadway width approx 20'-22', gravel/paved shoulders. Proposed improvements: southbound paved shoulder approx 70% of length, drainage approx 40% of length, signs	◆	◆	◇	◇	◇	◇	◇	◇	◇
EMW3	East Mercer Way	5700 block	SE 70th Place	5,485	undet.	signed shared roadway both sides s.bound-paved shoulder	verify wayfinding to public stairs adequate.	Existing roadway width approx 20'-22', gravel/paved shoulders. Proposed improvements: southbound paved shoulder approx 70% of length, drainage approx 40% of length, signs	◆	◆	◇	◇	◇	◇	◇	◇	◇
EMW4	East Mercer Way	SE 70th Place	West Mercer Way	6,902	undet.	signed shared roadway both sides s.bound-paved shoulder	verify wayfinding to public stairs adequate.	Existing roadway width approx 20'-22', gravel/paved shoulders. Proposed improvements: southbound paved shoulder approx 70% of length, drainage approx 40% of length, signs	◆	◆	◇	◇	◇	◇	◇	◇	◇
NMW1	North Mercer Way	West Mercer Way	76th Ave SE	3,300	14,200	signed shared roadway both sides	exist. paved shoulder e.bound requires signage; remove buttons and paint edge stripe to 72nd Ave SE; improve merge at trail intersection near 74th Ave SE; improve wayfinding signage to town center	Existing roadway width approx 22'-25', gravel/paved shoulders. Proposed improvements: signs	◇	◆	◇	◇	◇	◇	◇	◇	◇
NMW2	SE 22nd Street/78th Ave SE	North Mercer Way	SE 24th Street	2,400	7,800	signed shared roadway both sides		Existing roadway width approx 20', gravel/paved shoulders. Proposed improvements: signs	◇	◆	◇	◇	◇	◇	◇	◇	◇
NMW3	Transit Stop	78th Ave SE	81st Ave SE	500	undet.	sidewalk	existing shared use path may change to pedestrian only zone to minimize conflicts	Proposed improvements may include signing to dismount bikes through transit area, reconfiguring site furnishings, signing for alternate bike route	◆	◇	◇	◇	◇	◇	◇	◇	◇
NMW4	SE 24th Street	78th Ave SE	Luther Burbank Park Rd/84th Ave SE	1,625	undet.	bike lanes or sharrows both sides	existing sidewalk/trail to remain	Existing roadway width approx 20'-26', gravel/paved shoulders. Proposed improvements: bike lanes/sharrows approx 70% of length, signs and pavement markings	◆	◇	◆	◇	◆	◆	◇	◇	◇
NMW5	81st Ave SE	SE 24th Street	North Mercer Way	425	undet.	bike lanes or sharrows both sides	existing sidewalk/trail to remain	Existing roadway width approx 22', curb, gutter &/or sidewalk. Proposed improvement: bike lanes/sharrows on both sides	◆	◇	◆	◇	◇	◇	◇	◇	◇

TABLE 2

List of Projects																			
Current Project Number	Street	From	To	Length (in LF)	Cost (in dollars)	Design Standard	Comment	Cost Estimate Comments	Performance Measures										
									A	B	C	D	E	F	G	H	I		
NMW6	Luther Burbank Park Rd/84th Ave SE	SE 24th Street	North Mercer Way	1,400	4,500	signed shared roadway		Existing roadway width approx 18', curb and gutter both sides, off road path on east side. Proposed improvements: signs	◇	◆	◇	◇	◇	◇	◇	◇	◇		
NMW7	Separated Trail	SE 24th Street	North Mercer Way	1,350	37,000	shared use path	resurface and widen existing trail to clarify use zones for bikes/peds; improve trail crossing visibility and provide wider entry off roadway	Existing roadway width approx 18', curb and gutter both sides, off road path on east side. Proposed improvements: widen trail 5'; resurface trail	◆	◇	◇	◇	◇	◇	◇	◇	◇		
NMW8	North Mercer Way	trail crossing	Shorewood Drive	1,525	6,600	signed shared roadway both sides		Existing roadway approx 22', curb and gutter on southbound side, curb & gutter and gravel shoulders on northbound side. Proposed improvements: signs	◇	◆	◇	◇	◇	◇	◇	◇	◇		
NMW9	North Mercer Way	Shorewood Drive	SE 36th Street	3,325	31,200	signed shared roadway both sides	existing paved shoulder e.bound requires signage; improve merge at trail intersection near Fortuna Drive	Existing roadway approx 18'-22', curb & gutter both sides. Proposed improvements: signs; merge improvement - approx. 100' of sidewalk, curb and planter reconstruction	◆	◆	◇	◇	◇	◇	◇	◇	◇		
ICW1	Island Crest Way	I-90	SE 40th Street				consider improvement when roadway is due for resurfacing												
ICW2	Island Crest Way	SE 40th Street	SE 44th Street				consider improvement when roadway is due for resurfacing												
ICW3	Island Crest Way	SE 44th Street	SE 53rd Street				consider improvement when roadway is due for resurfacing												
ICW5	Island Crest Way	SE 68th Street	SE 71st Street	950	49,500	sidewalk/trail on west side & signed shared roadway both sides	existing trail on east side	Existing Roadway width approx 26'-36', gravel/paved shoulders, sidewalk/off road path on east side. Proposed improvements: sidewalk/off road path on west side, signs	◆	◆	◆	◇	◇	◆	◇	◇	◇		
ICW6	Island Crest Way	SE 71st Street	SE 78th Street	2,225	115,700	signed shared roadway both sides	existing trail on west side	Existing Roadway width approx 22', gravel/grass shoulders east side, sidewalk/off road path on west side. Proposed improvements: sidewalk/off road path on east side, signs	◇	◆	◇	◇	◇	◇	◇	◇	◇		
INTERSECTIONS																			
X4	North Mercer Way Separated Trail	at 78th Ave SE and SE 24th Street			60,000		improve crossing/merging of separated trail and new bike lanes/sharrows and improve connection on 77th Ave SE to town center		◆	◆	◆	◇	◇	◆	◇	◇	◆		
X5	Luther Burbank Park Access Road	at SE 24th Street and separated trail			40,000		improve crossing/merging of separated trail and new bike lanes/sharrows w/cross travel lane striping and wider curb cuts		◆	◇	◇	◇	◇	◇	◇	◇	◆		
X6	84th Ave SE	at SE 32nd Street			30,000		new, to address lack of sidewalk/trail on west side		◆	◇	◇	◇	◇	◇	◇	◇	◆		
X7	SE 36th Street	at N Mercer Way			25,000		improved connection to lid trails and south side destinations		◆	◇	◇	◇	◇	◇	◇	◇	◆		
X8	SE 40th Street	at 80th Ave SE			30,000		improve as safe route to school; coordinate location with MISD		◆	◇	◇	◇	◇	◇	◇	◇	◆		
X9	78th Ave SE	at SE 34th Street			100,000		improve N/S crossings; eliminate grade separated curbs that rise out of rolled curb asphalt		◆	◇	◇	◇	◇	◇	◇	◇	◆		
X11	Island Crest Way	at Merrimount/SE 44th Street					new crossing		◆	◇	◇	◇	◇	◇	◇	◇	◆		
X12	Island Crest Way	at SE 47th Street					improved crossing, as recommended in ICW corridor reconfiguration project		◆	◇	◇	◇	◇	◇	◇	◇	◆		
X13	Island Crest Way	at SE 53rd Place					improved crossing, as recommended in ICW corridor configuration project; align crossing in conjunction with SE 53rd Place projects east and west.		◆	◇	◇	◇	◇	◇	◇	◇	◆		
X14	Island Crest Way	at SE 60th Street					new crossing		◆	◇	◇	◇	◇	◇	◇	◇	◆		
X15	Island Crest Way	at SE 63rd Street					new crossing		◆	◇	◇	◇	◇	◇	◇	◇	◆		
X16	Island Crest Way	at SE 71st Street					improve as safe route to school		◆	◇	◇	◇	◇	◇	◇	◇	◆		

TABLE 2

List of Projects									Performance Measures								
Current Project Number	Street	From	To	Length (in LF)	Cost (in dollars)	Design Standard	Comment	Cost Estimate Comments	A	B	C	D	E	F	G	H	I
X17	Island Crest Way	at SE 78th Street			undet.		new, as safe route to school; possible combination with 'gateway' to future improvements south of intersection		◆	◇	◇	◇	◇	◇	◇	◇	◆
X18	SE 72nd Street	at 80th Ave SE			undet.		new crossing in conjunction with improvements on 80th Ave SE and connection to trails south		◆	◇	◇	◇	◇	◇	◇	◇	◆
NORTH																	
N3	SE 24th Street	60th Avenue SE	West Mercer Way	1,225	4,000	signed shared roadway both sides	may duplicate lid trail, but Is faster for bikes and provides alt connection to downtown	Existing pavement widths approx 22'-26', curb, gutter and sidewalk. Proposed improvements: signs	◇	◆	◇	◇	◇	◇	◇	◇	◇
N4	SE 24th Street	West Mercer Way	72nd Ave SE	1,225	4,000	signed shared roadway both sides	sidewalks exist, but no room for bike lanes; provides alt connection to downtown, although hilly	Existing pavement widths approx 22'-26', curb, gutter and sidewalk. Proposed improvements: signs	◇	◆	◆	◇	◇	◇	◇	◇	◇
N5	SE 24th Street	72nd Ave SE	76th Ave SE	1,350	undet.	sidewalk (as possible) and signed shared roadway both sides	complete/extend sidewalk connections to downtown and lid access. No room for bike lanes; provides alt connection to downtown	Existing pavement widths approx 24'-32', curb, gutter and some sidewalk. Proposed improvements: 750LF of sidewalk, signs	◆	◆	◆	◇	◇	◇	◇	◇	◇
N6	70th Ave SE	SE 24th Street	SE 29th Street	1,800	5,800	signed shared roadway both sides	this route may be better for bikes and 72nd better for peds	Existing pavement widths approx 18' - 20', gravel/grass shoulders. Proposed improvements: signs	◇	◆	◇	◇	◇	◇	◇	◇	◇
N7	72nd Ave SE	SE 24th Street	SE 32nd Street	2,725	undet.	sidewalk/off-road path (as possible) east side	speed tables in place to calm traffic; this route complements N6 for bikes	Existing roadway width approx 20', paved path west side, gravel grass shoulder on east side. Proposed improvements: sidewalk/off road path east side as space available, drainage 1 side	◆	◆	◇	◇	◇	◇	◇	◇	◇
N9	SE 29th Street	71st Ave SE	72nd Ave SE	200	650	signed shared roadway both sides		Existing pavement widths approx 16'-20', gravel/grass shoulders. Proposed improvements: signs	◇	◆	◇	◇	◇	◇	◇	◇	◇
N11	SE 32nd Street	78th Ave SE	80th Ave SE	325	11,100	signed shared roadway	sidewalks exist both sides; consider bike ramp on stair east of 80th	Proposed improvements: signs & bike ramp on stairs	◇	◆	◆	◇	◇	◇	◇	◇	◇
N12	SE 32nd Street	Island Crest Way	81st Ave SE	75	18,600	stairs	connections to neighborhoods north and south	Proposed improvements: stairs	◇	◆	◆	◇	◇	◇	◇	◇	◇
N13	77th Ave SE	North Mercer Way	SE 27th Street	950	undet.	bike lanes or sharrows both sides	continuous n/s through downtown and connects to park and ride	Proposed improvements: signs and pavement marking, possible re-striping	◆	◆	◆	◇	◆	◆	◇	◇	◇
N15	78th Ave SE	SE 32nd Street	SE 34th Street	670	3,100	signed shared roadway both sides		Existing pavement width approx 36', sidewalk both sides, 12' center median. Proposed improvements: signs.	◆	◆	◇	◇	◇	◇	◇	◇	◇
N16	78th Ave SE	SE 34th Street	SE 40th Street	1,950	undet.	sidewalk and bike lanes or sharrows both sides	rechannelization may be required. Frontage street may accommodate sidewalk	Existing roadway width approx 25', with shoulder and thickened edge and ACP path on west side, planter on east side. Proposed improvements: Sidewalk on east side of existing planter, restriping and signing.	◆	◆	◇	◇	◇	◇	◇	◇	◇
N17	80th Ave SE	SE 33rd Place	SE 40th Street	2,200	435,600	sidewalk/off-road path and signed shared roadway both sides (as possible)	connect to existing sidewalks at north end	Existing roadway width approx 25', gravel/grass shoulder on east side, sidewalk along half of west side, gravel/grass shoulder on the rest. Proposed improvements: sidewalks/off road path both sides, drainage 1 side	◆	◆	◆	◇	◇	◇	◇	◇	◇
N18	SE 28th Street	exist conc sidewalk	SE 30th Street	1,200	38,800	sidewalk/off-road path north and east side only	pave existing unpaved trail. Leave south and west side without sidewalk until/unless drainage is revised.	Proposed improvements: off road path on north/east side	◇	◆	◇	◆	◇	◇	◇	◇	◇
N19	84th Ave SE	SE 30th Street	SE 32nd Street	700	undet.	e.side sidewalk/off-road path; bike lanes or sharrows both sides	primary bicycle corridor	Existing roadway width approx 16', gravel/grass shoulders, mostly ditches on west side. Proposed improvements: sidewalk/off road path on east side, bike lanes/sharrows on both sides	◆	◆	◇	◇	◇	◇	◇	◇	◇
N20	84th Ave SE	SE 32nd Street	SE 37th Street	2,200	undet.	sidewalk/off-road path and bike lanes or sharrows both sides	primary bicycle corridor	Existing roadway width approx 20', gravel/grass shoulders, mostly ditches on west side. Proposed improvements: sidewalk/off road path and bike lanes/sharrows on both sides, drainage 1 side	◆	◆	◇	◇	◇	◇	◇	◇	◇
N21	84th Ave SE	SE 37th Street	SE 40th Street	450	81,200	signed shared roadway leading to shared use path	signs on street; shared use path through Clise Park or 2-way bike facility distinct from sep ped trail, but both connect at intersection of ICW and SE 40th	Existing roadway width approx 18', gravel/grass shoulders, mostly ditches on west side. Proposed improvements: drainage 1 side, signs, shared use path through Clise Park	◆	◆	◇	◆	◇	◇	◇	◇	◇
N22	SE 36th Street/86th Ave SE	84th Ave SE	SE 40th Street	2,000	undet.	sidewalk/off-road path and bike lanes or sharrows both sides	primary bicycle corridor	Existing roadway width approx 16', gravel/grass shoulders. Proposed improvements: sidewalk/off road path and bike lanes/sharrows on both sides, drainage 1 side	◆	◆	◇	◇	◇	◇	◇	◇	◇
N23	Shorewood Drive	North Mercer Way	W Shorewood	1,550	6,000	signed shared roadway	sidewalk exists east side; northwestern most lid planter creates sight-distance obstacle - propose to remove	Existing roadway width approx 26', sidewalk on one side, curb on both sides. Proposed improvements: signs	◇	◆	◇	◇	◇	◇	◇	◇	◇

TABLE 2

List of Projects																			
Current Project Number	Street	From	To	Length (in LF)	Cost (in dollars)	Design Standard	Comment	Cost Estimate Comments	Performance Measures										
									A	B	C	D	E	F	G	H	I		
N24	88th Ave SE	E Shorewood	SE 40th Street	1,700	105,000	redeveloped sidewalk and signed shared roadway	sidewalk exists east side, but should be redeveloped	Existing roadway width approx 20', sidewalk on east side, gravel/grass shoulder on west side. Proposed improvements: redeveloped eastside sidewalk, signs	◆	◆	◇	◇	◇	◇	◇	◇	◇		
N25	SE Gallagher Hill Road	SE 40th Street	93rd Ave SE	1,850	106,200	sidewalk/off-road path e.side	west side paved shoulder to remain for uphill bikes, but remove buttons; sidewalk to connect to existing at either end	Existing roadway width approx 28', gravel shoulders, some steep drop offs on west side. Proposed improvements: sidewalk/off-road path on east side	◆	◆	◆	◇	◇	◇	◇	◇	◇		
N26	SE 40th Street	West Mercer Way	78th Ave SE	1,050	undet.	bike lanes or sharrows both sides	existing sidewalk s.side to remain; substitute bike lane for e.bound shared lane if space allows	Existing roadway width approx 20'-26', with curb, gutter, and sidewalk. Proposed improvements: bike lanes/sharrows on both sides, signs and pavement markings	◆	◆	◇	◇	◇	◇	◇	◇	◇		
N27	SE 40th Street	78th Ave SE	93rd Ave SE	5,050	undet.	bike lanes or sharrows both sides	transition to shared lane at intersection with ICW; maintain/enhance sidewalk/off-road path	Existing roadway width approx 26'- 29', gravel/grass shoulders. Proposed improvements: bike lanes/sharrows on both sides, signs and pavement markings	◆	◆	◆	◇	◆	◆	◇	◇	◇		
N28	Shorewood/ Gallagher Hill Connector	Shorewood Drive	NE Gallagher Hill Road	1,500	undet.	off-road path			◇	◇	◆	◇	◆	◆	◇	◇	◇		
N29	Mercerwood Drive	97th Ave SE	East Mercer Way	1,800	265,200	paved shoulder both sides	if room doesn't allow for more shoulder, consider sharrows both sides from SE 40th Street to EMW	Existing roadway width approx 21'- 26', with gravel/grass shoulders and 2 fire hydrants along section. Proposed improvements: 4' shoulder on both sides and drainage on one side	◆	◆	◇	◇	◇	◇	◇	◇	◇		
CENTRAL																			
C1	78th Ave SE	SE 40th Street	West Mercer Way	900	3,700	signed shared roadway both sides	remove buttons and paint edge stripe	Existing roadway width approx 21', gravel/grass shoulders. Proposed improvements: signs	◆	◆	◇	◇	◇	◇	◇	◇	◇		
C2	80th Ave SE	SE 40th Street	West Mercer Elementary School	425 & 600	147,900	sidewalk/off-road path one side and signed shared roadway over length of developed street, then shared use path through park.	safe route to school; if this is a priority route for bikes and peds, consider widening existing trail to accommodate both	Existing roadway width approx 25'-26'; eastside grass/gravel shoulder with a small portion of curb/gutter/sidewalk, westside curb/gutter/sidewalk with a small portion having planter. Proposed improvements: sidewalk/off road path one side, drainage one side, signs	◆	◆	◆	◇	◇	◆	◇	◇	◇		
C3	82nd Ave SE	SE 40th Street	West Mercer Elementary School	1,150	236,300	sidewalk/off-road path west side and signed shared roadway	improve school access at its main entry. Accommodate overflow parking/pickup in conjunction with park parking lot.	Existing roadway width approx 22', grass/gravel shoulders with some curb and gutter and small ditch on one side. Proposed improvements: sidewalks/off road path west side, drainage one side, signs	◆	◇	◆	◇	◇	◆	◇	◇	◇		
C4	SE 41st Street	82nd Ave SE	83rd Ave SE	450	25,000	sidewalk/off-road path	may require acquisition(?)	Existing roadway width approx 18'. Grass/gravel shoulders both sides. Proposed improvements: sidewalk/off road path one side.	◇	◇	◆	◇	◇	◇	◇	◇	◇		
C5	86th Ave SE	SE 40th Street	SE 44th Street	1,300/ 1,300	undet.	sidewalk/off-road path east side and bike lanes or sharrow both sides	primary bicycle corridor; 40th to 42nd east side sidewalk currently in place	Existing roadway width approx 25'-30', west side mostly gravel/paved shoulders, east side mostly grass/gravel shoulders with ditch. East side small portion of curb/gutter/sidewalk. Proposed improvements: bike lanes/sharrows; sidewalk/off road path and drainage east side, signs & symbols.	◆	◆	◇	◇	◇	◇	◇	◇	◇		
C6	88th Ave SE	SE 42nd Street	SE 45th Street	1,975	undet.	sidewalk/off-road path e. side and bike lanes or sharrows both sides	provide clear turning signage at 88th Ave SE and SE 44th St. intersection to direct N/S traffic on primary bicycle corridor	Existing roadway width approx 23'-28', gravel shoulders. Proposed improvements: bike lanes/sharrows; sidewalk/off-road path east side, drainage one side and sign.	◆	◆	◆	◇	◇	◆	◇	◇	◇		
C7	88th Ave SE	SE 45th Street	SE 47th Street	1,275	undet.	sidewalk/off-road path e. side and bike lanes or sharrows both sides		Existing roadway width approx 22', gravel shoulders. Proposed improvements: bike lanes/sharrows; sidewalk/off-road path east side, drainage one side and sign.	◆	◆	◇	◇	◇	◇	◇	◇	◇		
C8	Fernridge Connector	90th Ave SE	East Mercer Way	undet.	undet.	off-road path	Proposal by neighbors may require easement to allow public access		◇	◇	◆	◇	◆	◇	◇	◇	◇		
C9	92nd Ave SE	SE 40th Street	SE 43rd Street	2,000	289,000	sidewalk/off-road path west side and signed shared roadway		Existing roadway width approximately 22'-26', gravel/grass shoulders. Proposed improvements: sidewalk/off-road path west side, signs, drainage one side	◆	◇	◆	◇	◇	◆	◇	◇	◇		
C10	SE 44th Street	Island Crest Way	90th Ave SE	1,950	undet.	sidewalk/off-road path n. side; signed shared roadway; bike lanes or sharrows both sides between 86th and 88th	primary bicycle corridor between 86th and 88th. Complete E/W connection between residential, library, park, and Mercer Ways. May incorporate trails in park. Requires ICW crossing to be addressed.	Existing roadway width approx 21'; grass/gravel shoulders and ditch on both sides. Proposed improvements: bike lanes/sharrows between 86th and 88th; sidewalk/off road path north side, signs, drainage one side	◆	◆	◆	◇	◇	◆	◇	◇	◇		

TABLE 2

List of Projects																			
Current Project Number	Street	From	To	Length (in LF)	Cost (in dollars)	Design Standard	Comment	Cost Estimate Comments	Performance Measures										
									A	B	C	D	E	F	G	H	I		
C11	SE 47th Street	84th Ave SE	90th Ave SE	1,975	undet.	sidewalk/off-road path n. side, signed shared roadway; bike lanes or sharrows both sides between 88th and 90th	primary bicycle corridor between 88th and 90th. Requires ICW crossing to be addressed	Existing roadway width approx 20'-23', gravel/grass shoulders, some ditches. Proposed improvements: bike lanes/sharrows between 88th and 90th; sidewalk/off road path north side, drainage one side, signs	◆	◆	◇	◇	◇	◇	◇	◇	◇		
C12	SE 47th Street	90th Ave SE	East Mercer Way	1,600	undet.	sidewalk/off-road path north side	connect to open space trails and EMW.	Existing roadway width approx 23', gravel/grass shoulders, some ditches. Proposed improvements: sidewalk/off road path north side and extending through open space, drainage one side, signs	◇	◇	◆	◇	◇	◇	◇	◇	◇		
C13	90th Avenue SE	SE 42nd Street	SE 47th Street	2525/ 550/ 375	695,500	sidewalk/off-road path both sides	detour onto SE 45th between SE 44th and 45th where no ROW exists; further study may determine one side only for sidewalk/off-road path.	Existing roadway width approx 20', gravel/grass shoulders. Proposed improvements: sidewalk/offroad path both sides, drainage 1 side	◆	◆	◆	◇	◇	◆	◇	◇	◇		
C14	90th Avenue SE	SE 47th Street	Island Crest Way	2,325	undet.	sidewalk/off-road path and bike lanes or sharrows both sides	primary bicycle corridor. Further study may determine one side only for sidewalk/off-road path; consider connection to NW Yeshiva HS.	Existing roadway width approx 16'-24', gravel/grass shoulders with ditches. Proposed improvements: bike lanes/sharrows; sidewalk/offroad path both sides, drainage 1 side, signs	◆	◆	◇	◇	◇	◇	◇	◇	◇		
C15	SE 53rd Place	West Mercer Way	Island Crest Way	1,650	undet.	sidewalk/off-road path on s. side	may require acquisition or negotiation with school district; may upgrade portion to shared use path if used as primary bicycle corridor that extends further south	Existing roadway width 15'-30', gravel shoulders. Existing path may not connect to W Mercer Way. Proposed improvements: clearing & grading, sidewalk/off-road path or shared use path	◆	◆	◆	◇	◇	◆	◇	◇	◇		
C16	SE 53rd Place	Island Crest Way	East Mercer Way	1,875	undet.	bike lanes or sharrows both sides	north side paved shoulder to remain for uphill bikes, but remove buttons; sidewalk to connect to existing at either end	Existing roadway width approx 22', paved shoulder south side, gravel/grass shoulder north side. Proposed improvements: bike lanes/sharrows both sides; maintain existing off-road paths south side; drainage, re-striping, signing as required	◆	◆	◇	◇	◇	◇	◇	◇	◇		
SOUTH																			
S1	SE 60th Street/92nd Ave SE/SE 64th Street	Island Crest Way	SE 64th Street/New Hope International Church/Pioneer Park	3,275	485,000	sidewalk/off-road path south side and signed shared roadway	connect to Pioneer Park trails and possibly EMW if public land is available and/or stairs exist or can be built.	Existing roadway width approx 16'-23', gravel/grass shoulders. Proposed improvement: sidewalk/off-road path south side, drainage one side, signs	◆	◇	◆	◇	◇	◇	◇	◇	◇		
S2	SE 61st Street	94th Ave SE	East Mercer Way	175	86,600	stairs	link upper and lower neighborhoods if public ROW available	Does not appear that there is a dedicated ROW here. Proposed improvements: stairs and ROW purchase	◇	◇	◆	◇	◇	◇	◇	◇	◇		
S3	Island Crest Park Path	SE 53rd Place and ICW intersection	84th Ave SE at southwest corner of Island Crest Park	2,400	undet.	shared use path	primary bicycle corridor; make improvements to existing paths, add new paths to make continuous connection as alternate bike route to ICW		◆	◆	◆	◇	◇	◆	◇	◇	◇		
S5	82nd Ave SE	SE 64th Street	SE 72nd Street	2,650	392,000	sidewalk/off-road path east side and signed shared roadway		Existing roadway width approx 20'-30', gravel/grass shoulders. Proposed improvements: sidewalk/off-road path on east side, drainage on one side, signs	◆	◇	◆	◇	◇	◇	◇	◇	◇		
S6	84th Ave SE	Southwest corner of Island Crest Park	SE 68th Street	3,725	undet.	bike lanes or sharrows both sides and sidewalk/off-road path east side between parks	primary bicycle corridor; improve connections linking park, school, and residential neighborhoods	Existing roadway width approx 26'-32', gravel/grass shoulders. Proposed improvements: bike lanes/sharrows, sidewalk/off-road path on east side providing continuity in pedestrian corridor between 2 parks	◆	◆	◆	◇	◆	◆	◇	◇	◇		
S7	84th Ave SE	SE 68th Street	SE 72th Street	1,525	undet.	bike lanes or sharrows both sides	primary bicycle corridor; sidewalks in place, but no provision for bikes. Important connector between schools and commercial area/MICC. Consider more positive transition between sidewalk/ramp at SE 71st Street.	Existing roadway width approx 38', curb, gutter and sidewalks. Proposed improvements: re-striping and signs	◆	◆	◆	◇	◆	◆	◇	◇	◇		
S8	SE 70th Street/SE 68th Street	West Mercer Way	84th Ave SE	2,525	undet.	sidewalk/off-road path north side and signed shared roadway	continuous connection between WMW and ICW; companion project to 80/82/84th Ave SE projects	Existing roadway width approx 16'-24', gravel/grass shoulders. Proposed improvement: sidewalk/off-road path north side, drainage one side, signs	◆	◆	◆	◇	◇	◇	◇	◇	◇		
S9	SE 68th Street	approx. 86th Ave SE	Island Crest Way	575	16,500	sidewalk/off-road path south side	to maintain trail continuity	Existing roadway width approx 22'-25', off-road path on north side, existing sidewalk half of the south side. Proposed improvement: sidewalk/off-road path half of south side	◇	◆	◇	◇	◇	◇	◇	◇	◇		

TABLE 2

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Current Project Number	Street	From	To	Length (in LF)	Cost (in dollars)	Design Standard	Comment	Cost Estimate Comments	Performance Measures							
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S10	SE 71st Street	84th Ave SE	Island Crest Way	1,350	undet.	remove symbols designating shared bike/ped use of paved shoulder; maintain paved shoulder	joint ped/bike/parking use is not a recognized standard and may create conflict; remove symbols or rechannelize to provide separated ped facility	Existing roadway width approx 26' with 5' paved shoulders and rolled curb and gutter on both sides. Proposed improvements: elimination of symbols on paved shoulder both sides, new sidewalk/off-road path on one side and signs.	◆	◇	◇	◇	◇	◇	◇	◇	◇
S11	SE 72nd Street	West Mercer Way	84th Ave SE	2,400	undet.	bike lanes or sharrows both sides	primary bicycle corridor; sidewalk/off-road paths exist	Existing roadway width approx 22', curb & gutter both sides, sidewalk south side. Proposed improvements: bike lanes/sharrows, modify drainage, signs and pavement markings	◆	◆	◆	◇	◆	◆	◇	◇	◇
S12	SE 72nd Place/92nd Ave SE	Island Crest Way	Pioneer Park/SE 70th Street	2,575	381,500	sidewalk/off-road path south side and signed shared roadway	Pioneer Park trails along 92nd currently in place; enhance neighborhood connections to school and park	Existing roadway width approx 18'-25', gravel/grass shoulders. Proposed improvements: sidewalk/off-road path south side, drainage on one side, signs	◆	◇	◆	◇	◇	◇	◇	◇	◇
S13	78th Ave SE	SE 72nd Street	Westwood Lane	2,325	344,400	sidewalk/off-road path east side and signed shared roadway	ROW ends at SE 76th Street and easement will be required to south	Existing roadway width approx 18'-25', gravel/grass shoulders. Proposed improvements: sidewalk/off-road path east side, drainage on one side, signs	◆	◇	◆	◇	◇	◇	◇	◇	◇
S15	SE 78th Street	trail at 81st Place SE	84th Ave SE	775	111,800	sidewalk/off-road path north side		Existing roadway width approx 24', gravel/grass shoulders. Proposed improvements: sidewalk/off-road path on north side, drainage	◆	◇	◆	◇	◇	◆	◇	◇	◇
S16	SE 78th Street	84th Ave SE	Island Crest Way	1,400	undet.	signed shared roadway	2009 SRTS project constructed sidewalk on south side	Existing roadway width approx 28'-32', curb and gutter both sides. Proposed improvements: signs	◆	◇	◆	◇	◇	◇	◇	◇	◇
S18	84th Ave SE	SE 80th Street	Fleury Stairs	875	126,200	sidewalk/off-road path west side		Existing roadway width approx 28', gravel/grass shoulders. Proposed improvements: sidewalk/off-road path west side	◇	◇	◆	◇	◇	◇	◇	◇	◇
S19	Lakewood Drive	West Mercer Way	street end stairs	525	75,700	sidewalk/off-road path east side		Uncertain of existing condition. Proposed improvements: sidewalk/off-road path on east side, drainage on one side	◇	◇	◆	◇	◇	◇	◇	◇	◇
S20	SE 64th Street	82nd Ave SE	84th Ave SE	546	undet.	signed shared roadway both sides			◆	◇	◆	◇	◇	◇	◇	◇	◇

Performance Measures

A. Safety
B. Continuity
C. Connectivity
D. Condition
E. Directness
F. Destination
G. Distance
H. Route
I. Accessibility

APPENDICES

Appendix A Public Open House Comments
Appendix B Planning Context

Mercer Island Bike and Pedestrian Facilities Plan Update
Public Open House
October 28, 2008

General comments received include:

- How do we set goals for getting people out of their cars, and make it convenient to get around the Island without their cars?
- Integrate any bike/pedestrian plans with on-going continuous electric shuttle or bus service around the Island and consider pervious surface and storm water drain impacts.
- We should include the location of existing sidewalks on the maps we're using.
- Human Factor is the most important consideration.
- Some curb locations prevent bicyclists from accessing trails/sidewalks safely (e.g., turning north onto ICW from SE 53rd west portion).
- Wants more sidewalks ("everywhere").
- Does Mercer Island require frontage improvements be made when private property is being developed or substantially remodeled?
- Have to drive to a school or park to bike safely with kid.
- Appoint a full time City staff to be the point of contact for Non-Motorized users.
- Add existing trails in Mercer Island parks to the existing condition map.
- Engage neighborhoods in detailed planning at neighborhood level.
- Need to evaluate accident history.
- Create map with facility ratings system like King County.
- High speed of traffic and consideration for reducing posted speed.
- Develop a priority list based on established criteria.
- SE 53rd Street, east of ICW, is very nice.
- (note about trail stairs on SE 30th ROW between 68th and 71st).
- I-90 lid paths at West Mercer Way should be paved (currently gravel).
- I-90 lid trail north of Shorewood has dangerous bike crossing.
- Pedestrian trail connections exist between 92nd Place and SE 74th, and just east of 84th SE at the middle school.
- Transit should be part of discussion – need more continuous transit.
- The uphill path at Gallagher Hill Rd is good.
- All streets are good opportunities for bikes and pedestrians.

Intersections and Crosswalks

- Traffic lights are not timed for bicycles, so they have difficulty getting across intersections.
- Several bicyclists requested a signal with bike sensors at ICW and 40th.
- One bicyclist suggested a signal with bike sensors at 81st Ave SE and (SE 28th?) – connection to 84th Ave SE.
- Can actuated signal be set so a bicyclist triggers the light?
- Provide raised crosswalk at ICW and SE 63rd to slow traffic.
- ICW and SE 78th is a tricky intersection.
- Add crosswalk at West Mercer and 78th Ave SE.
- Provide (or improve?) crossings along SE 40th, at 78th, 80th, and 82nd.

- Provide crossing where 78th SE ends at West Mercer.
- Crossing at 78th SE and SE 34th needs to be better designated.

Shared Routes

- Pedestrians can be invisible to bicyclists after dark – safety problem where pedestrians and bikes share shoulder or other route.
- Neighborhood streets (area of SE 53rd) are dark – prefer separate path for pedestrians, for safety.
- At Greenlake, the trail around the lake has a visual "center line", one side for bikes, one side for pedestrians – we should consider doing the same thing.

Design Standards, Reactions

- Buttons separating travel lane from shoulder or bike lane are dangerous – a solid white line is just as effective and less of an obstacle.
- Clean up road shoulders so it is safer for bicyclist to ride.
- The "buttons" on roadways are horrible for delineating paths/roadways – very dangerous for bicycles.
- 'Lip' is unsafe when changing in/out of bike lane (on 78th Ave. SE).
- We need more sidewalks in neighborhoods (near the high school, PEAK project) for safety and connectivity.
- Rubberized material that covers the bike lane, at major streets (Dexter Ave. in Seattle) would be great and also helps delineate pedestrians from bikes.
- Use green materials (environmentally friendly) for the construction and maintenance of new facilities.

The Mercer Ways:

- Cycling on the shoulder, and even in the travel lane in some areas, is dangerous because of hidden driveways, curves, and vegetation.
- Shoulders should be for pedestrians, available only to bikes as needed to allow cars to pass. Provide signage to enforce this kind of flexible use of space.
- Basic, and consistent, maintenance (especially in the autumn) of the shoulder would allow more use by bikes – this note applied to more than the Mercer Ways, but on Island Crest Way, and routes to the library.
- Put bike lanes on uphill stretches of roads, sharrows or shared lanes on downhill stretches.
- City must decide if the shoulder is a parking lane or not – is it used for vehicle storage or transportation purposes.
- North Mercer Way – bikers ride tandem and side-by-side – this should not be allowed on trails since the trails are utilized by walkers, small children, elderly. Bikers ride the trail versus the street because it's less "hilly".
- Some bikers like to ride around the Island counter-clockwise (easier ride) – there should be a bike path all along East/West Mercer Way. Maybe bikes should have to travel counter-clockwise.
- Create continuous routes along the Mercers uninterrupted by "disappearing lanes."
- There are narrow stretches on Mercers where walking areas disappear—sometimes at sharp curves.
- Paint shared lane chevron all the around the Island on the Mercer Ways.
- West Mercer Way should have 5.6' width of shoulders with installed buttons.
- Complete East Mercer Way.

- Provide shoulders at south end of East Mercer Way.
- Add dual-use path at north end of East Mercer, by Jewish Community Center.
- East Mercer has good shared-use path.
- Lower speed limit to 25 mph the Mercer Ways around the south end of the island -- from SE 72nd on the west side to Avalon on the east side – because of lack of shoulder, open ditches, curved alignment.
- Desperately need a bike path along North Mercer (in area north of Shorewood) that bikes will use. Current path has a big hill, and commuter bicyclists don't use it.
- Complete dual-use path along East Mercer.
- East Mercer from SE 70th to 92nd Ave SE is high traffic area – needs a shoulder.
- Make East and West Mercer Ways a true bike path – no car parking on the path.
- West Mercer, from SE 65th north to past Merrimount, is good for bikes/pedestrians.

Island Crest Way:

- Cyclists can't ride safely on the sidewalks (especially south end), as drivers don't expect/can't see cyclists this far back from roadway intersection.
- ICW should be cycle-friendly. With a 2-lane configuration, this can be accommodated.
- 2-lane configuration on ICW does not create significantly slower conditions for vehicles, but allows for more room for cycling and safer sidewalks.
- Many more people would cycle to Town Center if ICW was safer.
- Consider curb cuts at road T's (Island Crest Way) – a curb cut at the "T" would enable bikers to go thru the intersection and up on the sidewalk, versus having to turn left or right onto a busy road-way.
- Island Crest Way, north of 40th – sidewalks are so narrow as to be almost worthless.
- Between 32nd and 40th, need an easier way to cross ICW.
- Provide continuous and consistent bike lanes on Island Crest.
- Implement road diet on Island Crest.
- Consider alternate route in north part of Island Crest with Bike lanes on 86th Avenue SE.
- There are several "tricky" intersections including: at SE 71st Street; at SE 78th Street; and at SE 63rd Street (A dangerous crosswalk nearby).
- Fill in sidewalk gap north of SE 71st Street (west side).
- Sidewalk along ICW switches sides (around SE 53rd) – awkward and inconvenient for traveling N-S.
- Family living near W. Mercer Elementary School bike on sidewalk along ICW.
- Bicycle traffic on ICW sidewalk is two-way.
- Provide shared-use path (or does it exist?) on east side of ICW, from 90th Ave SE south to SE 68th.
- Would like to see more bus service at south end of ICW.
- Provide additional crosswalk at ICW, near transit station between 32nd and 40th, allowing bus commuters to cross ICW.
- Great new trail along ICW, from SE 71st south to SE 78th.
- Trail along ICW, from SE 71st to SE 78th, needs to be packed gravel or paved for multi-use.
- ICW north of SE 40th needs wider sidewalk – not safe right now.
- Instead of providing a crosswalk at ICW and SE 71st, finish the trail on the west side of ICW from SE 71st to SE 68th. This is the only section of ICW – between 53rd and 78th – that doesn't have trail on both sides.

Destinations

- Add private schools and places of worship to Destinations Map.
- Church at SE corner of SE 40th and ICW.

- **Neighborhood of SE 53rd (west of ICW)**
- Street is much-used by pedestrians – connects W. Mercer Way with bus stop on ICW.
- Street is also pedestrian route to Jewish Synagogue on the Sabbath.
- Built street is narrow and vegetation encroaches – unsafe for pedestrians, especially after dark.
- Recent improvements (cutting back vegetation, installing markers for shoulders) very helpful.
- Pedestrians tend to cut through Island Park Elementary School property as safer route – conflicts with school safety concerns.
- Suggested that additional ROW may be used/acquired in area of school to create a separated trail, while also preserving existing trees.
- Bicyclists also use 53rd as connector between W. Mercer and ICW.
- Foot traffic to 53rd also comes from the south, along trails through Island Crest Park – connecting 84th Ave SE (~61st) to ICW and areas north.
- Connection through Island Crest Park mostly functional and good, but 53rd and neighborhood loop a weak/unsafe link.

84th Ave. SE, north of ICW

- Family with young kids finds 84th a nice street to bike on.
- North end of 84th, where street turns west, not safe for bikes.
- Presbyterian church and large pre-school facility in block south of SE 36th between 84th and ICW – draws a lot of families and a lot of foot traffic.
- High school kids walk up 86th/36th/84th/~28th to get to downtown after school.
- SE 36th is connector between ICW and 84th, routes to high school and pool.
- 84th Ave. is heavily traveled, needs a shared path, anything that would make it easier for people to use (provide connection to North Mercer Way).
- Area of 86th SE and 84th SE, north of SE 40th, needs sidewalks for kids' safety.
- Provide sidewalk or permeable path along 84th Ave SE, between SE 30th and SE 39th.

High School Area

- Several activities/facilities in this area – PEAK program, youth theatre, pool, in addition to school.
- Provide (or already existing?) N-S connection from SE 42nd to SE 40th at 88th Ave SE.
- Provide safe connection from high school block to library (S of 44th).
- Establish safe connection between high school block and Homestead Park neighborhood.
- Provide bike lane on 86th Ave SE, from 40th south to 44th.
- Sidewalks needed in area of 85th SE and 86th SE, south of SE 40th.
- 86th Ave SE, from ICW north to SE 40th, should be bike route – use road diet.

West Mercer Elementary School Connections

- Neighborhood immediately east of school has no direct route/connection to school.
- Kids cut through private back yards to get to school.
- 82nd Ave SE connecting to school is unsafe for pedestrians – sidewalk needed.

- Provide footpath connecting West Mercer Elem School to SE 42nd Street.
- Provide continuous pedestrian access to West Mercer Elementary School.

76th Ave SE

- Sharrows would be helpful – whether or not bikes are "forced" to utilize the designated areas, at least automobiles would become more sensitive to the fact that there are bikers on the roadway. Drivers pay closer attention when they are sharrows on the roadway.

Downtown

- Do not remove bike lanes in the town center for parking.

Cultural/behavioral issues:

- Cyclists believe it is a common perception of drivers that cyclists are from 'off island', and that is the reason for less than courteous behavior on the road. All cyclists who attended and commented indicated they were residents who use the roads for commuting and recreation.
- A culture change is needed to make cycling more acceptable.
- Cyclists believe police target them for illegal behavior, citing them for speed and failure to stop violations.
- Bicycles speeding on a "shared facility" don't signal, wear headphones, which puts seniors and other walkers (strollers, dogs, etc.) at risk. If they travel on the roadway, they get stopped and ticketed for running stop signs, so they move to the trail and endanger others using the trails.
- People need to understand that bikes are legally allowed to ride on sidewalks and when on the sidewalks, are not subject to penalties as they would be on the roadways.
- City/Police have a history of hostility with bike riders and it's going to be difficult to overcome this negative perception of bikers (stems back to an incident years ago).
- City council members lack an appreciation of bicycle issues.
- Council members should spend time personally cycling around the Island.
- For real sustainability the city needs to be more pro-bicycle.

Education:

- Education is critical, to inform the public that cycling is contributing to a more sustainable/ responsible mode of transportation. Give direction to favor cyclists.
- Provide more information more often, in the MI Reporter or newsletters on (1) Rules of the Road, (2) Health benefits of cycling, (3) Sustainability benefits of cycling.
- We should publicize "rules of the road" for bikers.

Comments RE: schools and children:

- Education of children on benefits of cycling, and providing for a safe route is what will get them to get on their bikes.
- Provide more and consistent bike lanes, routes, separated paths to all schools, so cycling to school is a real option for our kids.

Amenities:

- The worst/most inconvenient bike racks are at the QFC (south) at Mercer Village and at City Hall. Make them more user friendly (easier access/closer to entry).
- Bike rack needed at Island Crest Park.
- Provide ample bike racks at destinations.

Comments written on/described on the map:

78th Avenue SE:

'Lip' is unsafe when changing in/out of bike lane.
Crossing at SE 34th Street/78th Avenue SE needs to be installed/better designated.

86th Avenue SE:

Good alternate route to ICW.

90th Avenue SE at ICW:

Lack of maintenance a problem – especially tree roots in the path.

ICW between Pioneer Park and 90th Ave SE is extremely dangerous – this is an alternate route identified:

East on SE 61st St
North on 92nd Ave
West/Northwest on SE 57th St
West on SE 54th St
North for a short distance on ICW
Then back off ICW onto 90th Ave SE

However, a fellow cyclist who heard all this said he would never go that far off course, and would brave ICW.

ICW between SE 68th St and SE 64th St:

Pave shoulder to allow bikes.

ICW between SE 71st St and SE 68th St:

Please complete trail between these streets.

Planning Context

Introduction

This section considers the planning context within which the PBF Plan operates, in order to assure that the plan is consistent with, and assists in carrying out, the objectives of plans that may impact or address bicycle and pedestrian systems. Planning requirements in the state's planning laws relevant to the Plan Update are also discussed.

The planning context occurs at three different levels, the state, regional and local.

State

The Growth Management Act

While there are several state planning enabling acts that authorize cities to perform various types of planning activities, the most important of these acts is the Washington State Growth Management Act (GMA). This act governs most comprehensive planning in the state and has generally eclipsed other statutes.

The GMA requires all cities and counties within specifically designated counties (such designation includes most counties in the state) to develop and adopt comprehensive plans. GMA requires that development of these comprehensive plans to be guided by 12 goals. Two of these goals address aspects of pedestrian and bicycle planning and needs:

> (3) Transportation. Encourage efficient multimodal transportation systems that are based on regional priorities and coordinated with county and city comprehensive plans.
>
> (9) Open space and recreation. Retain open space, enhance recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks and recreation facilities.

In addition, if bicycle and pedestrian and services facilities are considered in the comprehensive plan of a city to be "necessary for development,"[3] the plan and its implementation must be consistent with the following additional goal:

> (12) Public facilities and services. Ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards.

These plans are required to include two elements that are particularly relevant to pedestrian and bicycle planning; a transportation element and a parks and recreation element. GMA also requires cities to adopt a capital facility plan which plans the facilities that will be required to support development.

[3] The City of Mercer Island does not identify pedestrian and bicycle facilities to be "necessary for development." If such facilities were added as those necessary to support development these facilities should then have measurable levels of service and be incorporated into the city's concurrency programs.

Transportation Element: Pursuant to Goal 3 (above) the transportation element must address all modes of transportation, including pedestrian and bicycle. The element needs to include an inventory of such facilities and should include a needs assessment for these facilities. While not specifically required for bicycle and pedestrian facilities, the element could include forecasts of travel, and could set levels of service that would need to be met in new development. In specific, the GMA requires, as part of the city's transportation demand management strategy, that the transportation element include the following:

> (vii) Pedestrian and bicycle component to include collaborative efforts to identify and designate planned improvements for pedestrian and bicycle facilities and corridors that address and encourage enhanced community access and promote healthy lifestyles.

The GMA also requires that the element include for the identified transportation needs:

> a) An analysis of funding capability to judge needs against probable funding resources; b) A multiyear financing plan based on the needs identified in the comprehensive plan, the appropriate parts of which shall serve as the basis for the six-year street, road, or transit program.

Parks and Recreation Element: The GMA requires a city's comprehensive plan to include a parks and recreation element. The requirements related to this element are more generalized than for transportation, only requiring:

> (8) A park and recreation element that implements, and is consistent with, the capital facilities plan element as it relates to park and recreation facilities. The element shall include: (a) Estimates of park and recreation demand for at least a ten-year period; (b) an evaluation of facilities and service needs; and (c) an evaluation of intergovernmental coordination opportunities to provide regional approaches for meeting park and recreational demand.

This element should address bicycles and pedestrian activity to the extent that these activities are considered recreation.

All parts of the comprehensive plan and its elements must be internally consistent. Transportation plans (including pedestrian and bicycle systems) need to be consistent with the land use plans. Particularly important, any forecast in the need for transportation facilities must be based on the growth that is planned to occur in the land use element.

The Mercer Island planning documents meet these GMA requirements.

The Washington State Department of Transportation

The Washington State Department of Transportation (WSDOT) manages state transportation facilities. In the course of carrying out its responsibilities, WSDOT develops and implements a variety of plans ranging from statewide system plans to specific corridor plans. Any bike and pedestrian facility in the city that uses state right of ways needs to be planned consistent with those plans.

A particularly important role that this state planning plays is to insure adequate links between the city and other areas. In the case of Mercer Island this involves the development of pedestrian and bicycle facilities on the I-90 corridor that links the island to mainland areas, both to the east and west.[4] Since there are developed bicycle facilities on the I-90 bridges that offer outstanding visual experiences, the I-

[4] As noted below these are considered regional facilities by the Puget Sound Regional Council.

90 corridor is an important link (and traffic generator for the city's bicycle system) in the regional bicycle system.

Safe Routes to School Program

Not long ago, children routinely moved around their neighborhoods by foot or by bicycle, and that was often how they traveled to and from school. That is no longer the case. Nationally, about twenty percent to 25 percent of morning rush hour traffic is due to parents driving children to school.[5] The percentage of children walking and bicycling to school continues to decrease as parents become more convinced that walking to school is unsafe for their children. Traffic-related danger was the second most common reason (behind distance from school) cited by parents for not allowing their children to walk to and from school, according to a nationwide survey.[6] Parents may believe that the safest way to school is for them to drive their children, but may not be aware that by driving they contribute to the traffic congestion and traffic danger surrounding the school and actually increase hazards associated with pedestrian/bicycle and vehicle conflicts.

The decline in percentage of children walking or bicycling to school has lead to national, formalized programs directed at promoting safe routes to school and encouraging walking and bicycling.[7] One of the basic tenets of these programs is that to be effective, they must be comprehensive – involving engineering, education, enforcement and evaluation, including motivating students to walk and bicycle to school.

In Washington State, "Safe Routes to Schools" programs often are federally funded through the U.S Department of Transportation's Federal Highway Administration (FHWA), and is administered by Washington State's Department of Transportation (WSDOT).

The federal program, initiated in 2005, provides funds to substantially improve the ability of primary and middle school students to walk and bicycle to school safely. The program aims to: enable and encourage children of all abilities to walk and bike to school; to make bicycling and walking to school a safer and more appealing alternative, and; to assist in the development and implementation of projects that improve safety and reduce traffic. The program also cites specific side benefits that it aims for, including healthier and more active lifestyles for participating children, and reduced air pollution, particularly in the immediate vicinity of schools.

Washington's Safe Routes to Schools programs was one of the first in the country, pre-dating the FHWA program and becoming fully implemented in 1996. Under this earlier program, school districts provided recommended walking route maps to parents and students. The process for developing these maps included roadside audits of current conditions and documentation of existing safety concerns.

Regional

There are two agencies that have regional roles in transportation planning in general and pedestrian and bicycle planning in specific: the Puget Sound Regional Council (PSRC) and King County.

Puget Sound Regional Council

The Puget Sound Regional Council (PSRC) conducts regional transportation planning for King, Snohomish, Pierce and Kitsap counties. The plans developed by the PSRC play two particularly important

[5] National Highway Transportation Administration cited in Safe Routes to School: Pledging Safe Communities for our Children. 2003.

[6] U.S. Centers for Disease Control and Prevention. Barriers to Children Walking to or from School United States 2004, Morbidity and Mortality Weekly Report September 30, 2005.

[7] See the National Center for Safe Routes to School Resource Center, a centralized location of resources developed by the Center and the U.S. Department of Transportation, http://www.saferoutesinfo.org/.

roles. Under the GMA, the PSRC must certify city and county transportation elements as being "consistent" with regional transportation planning. PSRC planning guides the application of federal and state transportation funding for projects within the region.

PSRC planning documents include VISION 2040, the region's long-range growth management, economic and transportation strategy, and *Destination 2030*, the adopted Metropolitan Transportation Plan (*Destination 2030* is currently being updated, with adoption of *Destination 2040* scheduled for late 2009 or early 2010). These plans call for the development of a transportation system that creates more travel choices while preserving environmental quality and open space. Bicycle and pedestrian transportation plays a key role in achieving these goals.

Destination 2030, adopted in May 2001, is the transportation component of VISION 2040 and includes provisions that link land use and transportation planning. The regional non-motorized system detailed in this plan calls for a significantly increased investment in facilities and programs that support pedestrian and bicycle travel.

For regional planning, a definition was created to capture the bicycle and pedestrian facilities that are truly regional in nature. The regional non-motorized network is focused on facilities that:

- Fill gaps in the existing non-motorized network.
- Create connections to, and improve circulation within, urban centers.
- Link to regional transit stations, creating seamless intermodal connections.

Types of regional facilities include shared-use bicycle/pedestrian paths, bike lanes, and a number of pedestrian improvements, including sidewalks, walkways, crosswalks, and various traffic-calming measures.

The regional non-motorized investments outlined in *Destination 2030* include:

- More than 2,000 miles of new paths and bike lanes by 2030.
- 5 commuter bicycle stations.
- Pedestrian improvements in the zones of urban centers and transit stations.

Pursuant to *Destination 2030,* the PSRC executive committee approved on July 25, 2002 a Regional Bicycle Pedestrian Implementation Strategy. The Regional Bicycle Pedestrian Implementation Strategy outlines the specific actions our region should take to turn the non-motorized component of Destination 2030 into reality, and clearly outlines areas of responsibility for city, county, regional, and state agencies, as well as private and non-profit organizations. The Regional Bicycle/Pedestrian Advisory Committee guided the development of Regional Bicycle Pedestrian Implementation Strategy of *Destination 2030*.

While there are many types of bicycle and pedestrian facilities, and each plays an important role in the regional system, for the purpose of regional planning, only certain types of facilities were included in Regional Bicycle Pedestrian Implementation Strategy of *Destination 2030*, including shared use paths, bike lanes, and a number of pedestrian improvements, including sidewalks, walkways, crosswalks, and various traffic calming measures. Specifically, the regional system outlined in Regional Bicycle Pedestrian Implementation Strategy of *Destination 2030* includes:

- 1,231 miles of planned bike lanes (see Map 2 and 3);
- 784 miles of planned shared use paths (see Map 2 and 3);
- Six planned bicycle commuter stations; and
- Planned pedestrian improvements in the vicinity of urban centers.

Significant features of the plan accent the integration of land use patterns with the design of multimodal transportation systems. The plan includes "Physical Design Guidelines:"

1. Encourage a mix of complementary land uses, particularly uses that generate pedestrian activity and transit ridership.
2. Encourage compact growth by addressing planned density.
3. Link neighborhoods by connecting streets, sidewalks, and trails.
4. Integrate activity areas with surrounding neighborhoods.
5. Locate public and semipublic uses near high capacity transit stations in designated urban centers and activity areas.
6. Design for pedestrians and bicyclists.
7. Provide usable open spaces for the public.
8. Manage the supply of parking.
9. Promote the benefits of on-street parking.
10. Reduce and mitigate the effects of parking.

The plan includes facility plans for future facilities throughout the region that meet the definition of "regional" as set in Regional Bicycle Pedestrian Implementation Strategy of *Destination 2030*.

King County
King County has two potential roles in bicycle and pedestrian planning that could affect the City's planning of these facilities.

- In many cities, county facilities would provide a link between the city and other areas. However, in Mercer Island case these links are exclusively provided by WSDOT facilities. The county role is even minimal at the other end of the WSDOT links since the WSDOT facilities connect to the facilities of other cities at both ends of the I-90 bridges.

- King County also provides bus and transit service to the Island. In this case, the county's planning of bus routes and schedules are a crucial part of the city's multimodal transportation system. As such, access to bus services is an important part of the planning of pedestrian and bicycle rotes and facilities. In many ways, bus service serves as an extension of pedestrian and bicycle movement as transportation modes.

King County has two basic planning documents that guide the county's transit development system Comprehensive Plan for Public Transportation November 5, 2007 and King County Metro Strategic Plan for Public Transportation, 2007-2016. The focus of these plans tend to be on the development regional level systems and programs and neither specifically address either integration with pedestrian and bicycle systems or Mercer Island to a significant degree. The Comprehensive Plan for Public Transportation does include a policy regarding the integration of pedestrian and bicycle facilities.

> Policy 3.2.4: System Integration and Access
> Plan, design and implement a system of services and facilities that support integration of regional and local services, and that facilitate access to the system for pedestrians, bicycles, transit collection/ distribution services, and persons with disabilities, thereby providing a viable alternative to auto usage.

The Plan also designates I-90, Island Crest way and routes in the vicinity of city hall as "core routes."

The King County Metro Strategic Plan for Public Transportation, 2007-2016 does not identify any improvements or development programs on Mercer Island.

Local

Comprehensive Plan
The Comprehensive Plan in general and the Land Use Element in specific, defines Mercer Island's strategy for managing future growth and physical land development for the next 20 years.

In 1960, the newly created City of Mercer Island adopted the city's Comprehensive Plan. In 1996 the City adopted the current comprehensive plan to implement the Growth Management Act. This plan has been subsequently amended in 1997, 1998, 1999, 2000 and 2005.

The 1994 Comprehensive Plan (adopted in 1996) identified the essential issues facing the City while reinforcing community values in relationship to the region. The Plan focused on how to revitalize the City's Town Center, comply with regional requirements for clean water and transportation, while meeting local needs for affordable housing and maintaining reliability in public facilities and utilities. The 2004 Comprehensive Plan update (adopted in 2005) builds upon the previous planning efforts. While some change occurred with improvements to Town Center and the adoption of new design regulations which helped stimulate new mixed-use and commercial development in the Town Center, most of the key issues and the overall vision identified in the 1994 Comprehensive Plan continue to be relevant.

The Comprehensive Plan is organized into the elements mandated by the Growth Management Act. Each of the elements contains the following components:

- Information on existing conditions;
- Explanation of how the element integrates with other plans and programs including the requirements of the Growth Management Act;
- A statement of policy direction; and
- An action plan.

The challenge in this process will continue to be in translating the requirements of the Growth Management Act into a meaningful strategy for managing future growth and physical land development for the next 20 years.

The Comprehensive Plan implements a Vision Statement that details how the community's values will be manifested in future years. The City Council approved the following "Sustainability Statement" to be included in the Community Values section of the Vision Statement of the City's Comprehensive Plan:

> *<u>Sustainable Community</u>*
> *Mercer Island strives to be a sustainable community: Meeting the needs of the present while preserving the ability of future generations to meet their own needs. We consider the relationship between the decisions we make as a community and their long-term impacts before committing to them. We understand that our strength is dependent on an open decision-making process that takes into account the economic, environmental and social well-being of our community.*

The work program implementing this Sustainability Statement notes that the Council's adoption of the Pedestrian and Bicycle Plan allows the City to invest in new trails for both pedestrians and bikes to encourage non-motorized modes of transportation.[8]

[8] The work program also includes a proposal to "construct a separated bike trail around Mercer Island for non-motorized travel."

Transportation Element

The intent of the Transportation Element is to establish program, policies, and projects to guide the development of Mercer Island transportation system in support of the city's vision for the future. The policies are designed to guide the actions of the city, as well as private decisions related to individual developments.

The Transportation Element provides an inventory of Mercer Island's existing transportation system and includes all modes of travel — auto, truck, bicycle, bus, and pedestrian. In addition, a section focuses on the special transportation needs of the Town Center.

Based on this analysis, the City has created three main objectives within its Transportation Element:

- To develop multi-modal goals, policies, programs and projects which support implementation of the Land Use Element of the Comprehensive Plan,
- To define policies that encourage efficient and effective development of the transportation system, and
- To comply with legislative requirements for multi-modal transportation planning.

Local transportation projections used in this element are based on Mercer Island growth targets for housing and employment that are established through the process described in the Land Use Element, regional traffic forecasts by the Puget Sound Regional Council, and local traffic counts and specialized transportation modeling.

Among the goals and policies in the Transportation Element are several that specifically address pedestrian and bicycle facilities as parts of the city's transportation system. These goals and policies include:

> GOAL 4: To provide choices for travelers through the provision of a complete range of transportation facilities and services.
>
> > 4.2 The City of Mercer Island will work to provide for and encourage non-motorized travel modes consistent with the Comprehensive Park, Recreation, Open Space, Arts Plan and Pedestrian and Bicycle Facilities Plan.
>
> GOAL 6: To ensure coordination between transportation and land use decisions and development.
>
> > 6.1 The City of Mercer Island will strive to ensure compatibility between transportation facilities and services and adjacent land uses.
> >
> > 6.4 In the project development review process, the City of Mercer Island will evaluate transportation implications including:
> >
> > > …• facilities and needs for travel by non motorized travel modes; and • potential density bonuses in return for inclusion of transit supportive actions.
> >
> > 6.6 As part of a project's SEPA review, the City shall review the project's impact on transportation and may require mitigation of on-site and off-site transportation impacts. The City shall mitigate cumulative impacts of SEPA-exempt projects through implementation of the Transportation Improvement Program.
>
> GOAL 7: To provide a safe, convenient and reliable transportation system for Mercer Island.
>
> > 7.5 Where a need is demonstrated, consider the use of devices to improve safety of pedestrians crossing streets.

GOAL 12: Promote bicycle networks that safely access and link commercial areas, residential areas, schools, and parks within the City.

12.1 Maximize the safety and functionality of the bicycle system by enhancing road shoulders.

12.2 Implement the Pedestrian and Bicycle Facilities Plan, which provides for a safe, coordinated system of bikeways, walkways and trails, including through bicycle routes, to meet existing and anticipated needs for nonmotorized transportation. This Plan should be coordinated with other transportation planning efforts and periodically updated.

12.3 Emphasize non-motorized improvements that provide alternatives to single-occupancy vehicles and ensure that bike transportation remains an important component of community identity.

Page 20 describes the PBF Plan and how it is used by the City to guide the development of the City's pedestrian and bicycle system.

Parks and Recreation Plan

The current 2007-2012 Park and Recreation plan updates the Comprehensive Park, Recreation, Open Space, Arts, and Trails Plan that was adopted in 1991. The plan includes a new six year plan that will guide the City in future park, recreation, open space, arts and trails planning. The plan incorporates, by reference, existing City planning documents including the City's Comprehensive Plan, Pedestrian and Bicycle Facilities Plan, Capital Improvement and Transportation Improvement plans, park master plans, and forest and open space management plans. The plan is intended to reflect current attitudes, needs and demands related to parks, open spaces, recreation, trails and public art. Its goals, objectives and action plan are intended to guide future City actions relating to the elements discussed herein.

Emphasis in the future will be on maintaining current maintenance levels in the 476 acres of parks and open space areas, implementing park master and vegetation management plans, renewing commitment to Luther Burbank Park operations and maintenance funding needs, seeking alternative park financing strategies, instituting ballfield and gymnasium use improvements, investigating open space acquisition and additional developed recreation opportunities, developing new trail connections, and upgrading and maintaining quality parks and facilities. Over $11 million in park and open space investments have been identified in the Projected Six Year Parks Capital Improvement Program.

The plan recognizes that trails play an important role in open space. Trails also function as greenways – often the sole means of connecting parklands and open space. The over-50 miles of Mercer Island trails provide pedestrians, bicyclists, equestrians and other non-motorized users shorter and safer connections between various neighborhoods and open space.

The goals and policies of the plan address needs in both a general way and specifically. Several policies address recreation needs in general and would include such activities as bicycling, walking and running. Examples of such policies include, among others:

Goal 1: Provide recreation and leisure time programs and facilities that afford equal opportunities for all Mercer Island residents while considering the needs of non- Mercer Island residents.

a) Provide a variety of athletic opportunities, with emphasis on lifetime sports.

Goal 2: Provide a system of attractive, safe, and functional parks, and park facilities.

b) Provide park facilities to adequately meet community needs and demands and seek strategies to maximize existing park and recreation assets (i.e. conversion of natural grass ball fields to artificial turf and adding lights; improved scheduling practices; etc.).

More specific goals and policies include:

Goal 3: Preserve natural and developed open space environments and trails for the benefit of all existing and future generations.

e) Provide trails that are safe and attractive for pedestrians, bicycles and equestrians and

a. complete and expand the pedestrian, equestrian and bicycle circulation system by acquiring rights-of-way as necessary and appropriate for trails;
b. Increase the visibility and accessibility of the bicycle, pedestrian and equestrian circulation system;
c. Develop trail systems within existing open space properties to provide maintenance and recreational access;
d. enable continuous linkages between employment, transit, schools, parks, neighborhoods, churches/synagogues and community facilities;

Goal 5: Secure maintenance funding at a level necessary to sustain and enhance parks, trails and open space.

a) Develop and update long term plans for maintaining parks, trails and open space.

Goal 7: Pursue state and federal grant funding for parks and open space improvements.

a) Seek operations, maintenance and capital improvement grant funds to enhance parks, trails and open space areas.

The Parks and Recreation Plan incorporates three types of trail facilities as part of the "parks system:"

- NEIGHBORHOOD LINKS
  Neighborhood linkage trails are multi-use pedestrian scale hiking, biking and equestrian connections that link neighborhoods with each other and with other open space areas, parks, neighborhoods, schools, religious centers and businesses. They provide the functional network of the trail system and consist of right-of-way and facilities designed for use by a variety of non-motorized users. They consist of both soft-surface and hard-surface materials and vary in width.

- WATER TRAILS[9]
  Water trails are recreational water routes for non-motorized boats and watercraft.

- PARK TRAILS
  Numerous City parks include pathways, sidewalks and hiking trails, etc., that circle and connect within the boundaries of the park. They provide access to the park, allow circulation within the park and are considered a park amenity. Network trails that connect or pass through parks contribute to the park as an amenity.

[9] Water trails are not included in the PBF Plan.

Relationship of the PBF Plan Update to the Planning Context

Planning and Design Documents Referenced
The following planning programs and documents are utilized and relate to the development of pedestrian and bicycle facilities in the City:

- 1996 Pedestrian and Bicycle Facilities Plan, City of Mercer Island – City of Mercer Island.
- Park and Trail Maps, City of Mercer Island – City of Mercer Island.
- 2004 Mercer Island Comprehensive Plan, Transportation Element and Parks and Recreation Element – City of Mercer Island.
- 2004 Update of the National Bicycling and Walking Study—Federal Highway Administration.
- 2001 Vision 2040, Destination 2030 – Puget Sound Regional Council.
- 1999 Guide for the Development of Bicycle Facilities – AASHTO.
- 2004 Guide for the Planning, Design, and Operation of Pedestrian Facilities – AASHTO.
- 2001 Roadside Design Guide – AASHTO.
- 2008 WSDOT Local Agency Guidelines—WSDOT.
- 2003 Manual on Uniform Traffic Control Devices – Federal Highway Administration.

Relationship of the 1996 PBF Plan to Transportation Element of Comprehensive Plan
Because of the requirements of the GMA, many jurisdictions formally incorporate pedestrian and bicycle plans of this character into the transportation element in order to address pedestrian and bicycle needs as a part of the transportation system. Typically pedestrian and bicycle plans are either formally adopted as a "sub-element" of the transportation element, or the plan or certain parts are incorporated into the transportation element by reference.

The relationship of the 1996 PBF Plan to the City's Transportation Element was unclear. While the Transportation Element describes the PBF Plan and its adoption process, it does not specifically adopt the plan as a sub-element or incorporate parts of the plan by reference, although the transportation element seems to infer that the PBF Plan is an implementing program of the transportation element.

Relationship of the 1996 PBF Plan to Parks and Recreation Element of the Comprehensive Plan
The Parks and Recreation Plan describes the Pedestrian and Bicycle Facilities Plan, noting that the plan identifies specific projects that work together to improve walking and bicycling, and encourage them as an attractive alternative form of transportation. It also states that the Plan will be used over the next 20 years to guide decisions about pedestrian and bicycle facilities; further noting that it also is an essential part of the Transportation Element of the City's Comprehensive Plan.

Relationship of Updated PBF Plan to the Comprehensive Plan

As provided in policy 12.2 of the Transportation Element of the Comprehensive plan The Pedestrian Bicycle Plan sets forth a program of actions and measures that implement the Transportation Element's goal to **"Promote bicycle networks that safely access and link commercial areas, residential areas, schools, and parks within the City."**

In accord with the Capital Facilities Element of the Comprehensive Plan, projects included in this plan that may be funded within the next six years will be incorporated into the next update to the City's Capital Facility Program.

- Incorporating the projects identified in the PBF Plan into the City's capital facilities element and capital improvement program.
- Including in the PBF Plan appropriate language describing its function as an implementing plan of the transportation element.