



PLANNING COMMISSION REGULAR MEETING
AND PUBLIC HEARING
THURSDAY, NOVEMBER 10, 2016
6:30 – 9:00 PM
COUNCIL CHAMBER
280 MADISON AVE N
BAINBRIDGE ISLAND, WA 98110

AGENDA

- 6:30 PM** **CALL TO ORDER**
Call to Order, Agenda Review, Conflict Disclosure
- 6:35 PM** **PUBLIC COMMENT**
Accept public comment on off agenda items
- 6:40 PM** **ORDINANCE 2016-28 LOW IMPACT DEVELOPMENT
REGULATIONS**
Public Hearing & Recommendation
- 8:00 PM** **ISLAND-WIDE TRANSPORTATION PLAN**
Discussion & Recommendation
- 8:55 PM** **NEW/OLD BUSINESS**
- 9:00 PM** **ADJOURN**

****TIMES ARE ESTIMATES****

Public comment time at meeting may be limited to allow time for Commissioners to deliberate. To provide additional comment to the City outside of this meeting, e-mail us at pcd@bainbridgewa.gov or write us at Planning and Community Development, 280 Madison Avenue, Bainbridge Island, WA 98110

**For special accommodations, please contact Jane Rasely, Planning & Community
Development 206-780-3758 or at jrasely@bainbridgewa.gov**

ORDINANCE NO. 2016-28

AN ORDINANCE of the City of Bainbridge Island, Washington, amending Bainbridge Island Municipal Code Titles 1, 2, 12, 13, 15 and 18 to adopt the state-required LID regulations that will require all development to meet the updated Department of Ecology (DOE) Stormwater Management Manual.

WHEREAS, the City must adopt state-required LID regulations that will require all development to meet the updated DOE Stormwater Management Manual by December 31, 2016; and

WHEREAS, the City contracted with a consulting firm, Herrera, to assist the City in identifying which sections of the municipal code would need to be updated to meet DOE requirements; and

WHEREAS, the City Council amended the purpose of the Ad Hoc Tree Committee to include review of Low Impact Development regulations; and

WHEREAS, the Planning Commission discussed Ordinance No October 27, 2016. 2016-28 at a study session on October 27, 2016 and held a public hearing on November 10, 2016XXXX, 2016; and

WHEREAS, the City Council discussed Ordinance No. 2016-28 at a study session on November 7, 2016XXXX and held a public hearing on November 22, 2016XXXX, 2016; and

WHEREAS, notice was given on October 31, 2016 XXXX, 2016 to the Office of Community Development at the Washington State Department of Commerce in conformance with RCW 36.70A.106;

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF BAINBRIDGE ISLAND, WASHINGTON, DOES ORDAIN, AS FOLLOWS:

Section 1. Section 1.28.010 of the Bainbridge Island Municipal Code is amended to read as follows:

1.28.010 Miscellaneous fees charged.

A. The city shall charge an appropriate fee in the amount established by the city by resolution for the following services provided or permits issued by the city:

1. Boundary line adjustment review;
2. Bulkheads and seawalls – repairs and new bulkheads;
3. Forest practices review;
4. Grading permits;

5. Clearing permits;
6. Open space review;
7. Preapplication conferences (this fee is not refundable);
8. Public dance permits;
9. Visa/citizen/immigration document processing;
10. Escheat transaction processing;
11. Notary services;
12. Concealed weapons permit duplicates;
13. House moving permits;
14. Written reports to escrow companies;
15. Reports to insurance companies;
16. Fingerprint card processing;
17. Administrative code interpretation;
18. Buffer reduction or averaging review;
19. Land use consultation;
20. Vegetation management plan review;
21. Planned unit development applications; ~~and~~
22. Extensions of planned unit development applications;-
23. Stormwater site plan review fees;
24. Construction inspection fees; and
25. Post construction stormwater facility inspection fees.

Section 2. Section 2.16.020.Q.4.b of the Bainbridge Island Municipal Code is amended to read as follows:

- b. Innovative Site Development. Evaluation will review:
 - i. Water Quality and Conservation. Projects use methods to decrease water usage and improve stormwater runoff quality through an integrated approach to stormwater management such as greywater use, stormwater collection in cisterns, ~~green-vegetated~~ roofs and covered parking. All HDDP projects will follow the Department of Ecology’s 2012 Stormwater Management Manual for Western Washington, as amended in December 2014.

Section 3. Table 2.16.020.Q-3 of the Bainbridge Island Municipal Code is amended to read as shown in Exhibit A.

Section 4. Section 2.16.040.D of the Bainbridge Island Municipal Code is amended to read as follows:

D. Design Process.

1. Site Analysis.
 - a. An applicant shall first conduct a site analysis identifying existing watercourses/wetlands, significant trees and vegetation, critical areas and other

natural features, and open space in accordance with the design process, and development standards of BIMC 15.20 and BIMC 18.12.020 if applicable.

b. An applicant for a site plan and design review proposal shall prepare maps, site plan(s) and studies (as specified in the submittal requirements) to show how the proposal promotes the purpose and meets the standards of the zoning district and chapter.

Section 5. Section 2.16.040.E of the Bainbridge Island Municipal Code is amended to read as follows:

E. Decision Criteria. The director and planning commission shall base their respective recommendations or decisions on site plan and design review applications on the following criteria:

1. The site plan and design is in conformance with applicable code provisions and development standards of the applicable zoning district, unless a standard has been modified as a housing design demonstration project pursuant to BIMC 2.16.020.Q;
2. The locations of the buildings and structures, open spaces, landscaping, pedestrian, bicycle and vehicular circulation systems are adequate, safe, efficient and in conformance with the nonmotorized transportation plan;
3. The Kitsap County health district has determined that the site plan and design meets the following decision criteria:
 - a. The proposal conforms to current standards regarding domestic water supply and sewage disposal; or if the proposal is not to be served by public sewers, then the lot has sufficient area and soil, topographic and drainage characteristics to permit an on-site sewage disposal system.
 - b. If the health district recommends approval of the application with respect to those items in subsection E.3.a of this section, the health district shall so advise the director.
 - c. If the health district recommends disapproval of the application, it shall provide a written explanation to the director.
4. The city engineer has determined that the site plan and design meets the following decision criteria:
 - a. The site plan and design conforms to regulations concerning drainage in Chapters 15.20 and 15.21 BIMC; and
 - b. The site plan and design will not cause an undue burden on the drainage basin or water quality and will not unreasonably interfere with the use and enjoyment of properties downstream; and

- c. The streets and pedestrian ways as proposed align with and are otherwise coordinated with streets serving adjacent properties; and
- d. The streets and pedestrian ways as proposed are adequate to accommodate anticipated traffic; and
- e. If the site will rely on public water or sewer services, there is capacity in the water or sewer system (as applicable) to serve the site, and the applicable service(s) can be made available at the site; and
- f. The site plan and design conforms to the “City of Bainbridge Island ~~Engineering-Design and Development-Construction Standards Manual~~,” unless the city engineer has approved a variation to the road standards in that document based on his or her determination that the variation meets the purposes of BIMC Title 18.

5. The site plan and design is consistent with all applicable design guidelines in BIMC Title 18, unless strict adherence to a guideline has been modified as a housing design demonstration project pursuant to BIMC 2.16.020.Q;

6. No harmful or unhealthful conditions are likely to result from the proposed site plan;

7. The site plan and design is in conformance with the comprehensive plan and other applicable adopted community plans;

8. Any property subject to site plan and design review that contains a critical area or buffer, as defined in Chapter 16.20 BIMC, conforms to all requirements of that chapter;

9. Any property subject to site plan and design review that is within shoreline jurisdiction, as defined in Chapter 16.12 BIMC, conforms to all requirements of that chapter;

10. If the applicant is providing privately owned open space and is requesting credit against dedications for park and recreation facilities required by BIMC 17.20.020.C, the requirements of BIMC 17.20.020.D have been met;

11. The site plan and design has been prepared consistent with the purpose of the site design review process and open space goals;

~~12. For applications in the B/I zoning district, the site plan and development proposal include means to integrate and re-use on-site storm water as site amenities.~~

Section 6. Chapter 12.38 of the Bainbridge Island Municipal Code is amended to read as follows:

12.38.010 Definitions.

A. “Right(s)-of-way (ROW)” means the public property limits, whether in fee simple or easement, identified for public use and/or facilities.

B. "Roadway" means the road wearing surface, including shoulders, and any drainage system conveyance system, and stormwater treatment and/or flow control facilities (in accordance with BIMC 15.20) constructed to protect the adjoining properties and the road base.

C. "Road" means the wearing surface only.

D. "Minimum maintenance" means the grading of unpaved roads, to be performed a maximum of twice a year, within budgetary constraints. (Ord. 2003-22 § 15, 2003; Ord. 94-11 §§ 1, 10, 1994)

12.38.020 Existing public right-of-way.

Maintenance of existing public ROW shall be as follows:

A. Paved Roads and Permeable Pavement Roads. The city will maintain all paved and permeable pavement roads in accordance with city procedures and within budgetary constraints.

B. Unpaved Roads. The city will perform minimum maintenance on unpaved roads in accordance with city procedures and within budgetary constraints. (Ord. 2001-29 § 1, 2001; Ord. 94-11 § 2, 1994)

C. Refer to BIMC 15.20 for pavement maintenance exemptions to determine if stormwater requirements will be triggered.

12.38.030 Upgrading unpaved roads.

Upgrading of unpaved roads in public right-of-way, at the request of the adjoining adjoining property owners, shall be done through the local improvement district (~~LID~~) process, property owner funding, or with other sources of funds. Refer to BIMC 15.20 for the pavement maintenance exemptions to determine if stormwater requirements will be triggered. Permeable pavement is preferred where feasible for upgraded surfaces. Upon completion of the upgrade project to city standards, the city will accept the road for perpetual maintenance in accordance with BIMC 12.38.020.A. (Ord. 2001-29 § 2, 2001; Ord. 94-11 § 3, 1994)

Section 7. Title 13 of the Bainbridge Island Municipal Code is amended to read as shown in Exhibit B.

Section 8. Title 15 of the Bainbridge Island Municipal Code is amended to read as shown in Exhibit C.

Section 9. Section 18.06.060 of the Bainbridge Island Municipal Code is amended to read as follows:

C. Natural Resource Protection Standards. The following provisions are intended to supplement those natural resource protection standards and requirements contained in BIMC Titles 16 (Environment) and 17 (Subdivisions), and specifically to supplement those provisions in Chapters 16.12 (Shoreline Master Program) and 16.20 BIMC (Critical

Areas), which remain the primary source of regulation in those areas. In the event of a conflict between the provisions of this section and the provisions of BIMC Title 15 (Buildings and Construction) or Chapter 16.12 or 16.20 BIMC, the provisions of BIMC Title 15 or 16 shall apply.

1. Drainage. Surface and storm water shall be managed in accordance with ~~the management standards in Chapter BIMC 15.20 BIMC. Storm water runoff shall be detained and disposed of on site or disposed of in a system designed for such runoff and that does not flood or damage adjacent properties. Systems designed for runoff detention and control shall comply with specifications provided by the city and shall be subject to its review and approval, and shall, moreover, comply with Chapter 15.20 BIMC, pertaining to community facilities.~~

Section 10. Section 18.06.070 of the Bainbridge Island Municipal Code is amended to read as follows:

B. Performance Standards. All uses allowed in the WD-I district shall conform to the performance standards listed in BIMC 18.06.050 as well as the following:

1. Pollution. Pollution prevention and water quality protection shall be required of all development and operations of facilities that are located within the shoreline jurisdiction by employing current best management practices and best available facilities practices and procedures for marine facilities ~~provided by the Washington State Department of Ecology~~ in accordance with BIMC 15.20 and 15.22.

2. Noise. See BIMC 18.06.030.B.1.

3. Lighting. Lighting standards set forth in BIMC 18.15.040 shall apply to the WD-I district. (Ord. 2011-02 § 2 (Exh. A), 2011)

Section 10. Section 18.09.030.J of the Bainbridge Island Municipal Code is amended to read as follows:

7. Temporary Seasonal Sales.

a. Temporary outdoor sales are permitted in any zone district subject to compliance with this section.

b. A temporary use permit for temporary outdoor sales shall not exceed a term of 30 consecutive days, and only two permits within a calendar year may be granted for each principal permitted or approved conditional use.

c. All temporary outdoor sales activity shall comply with the following requirements:

i. The location of the temporary sales activity shall allow customers to drive into an existing off-street parking area. No temporary outdoor sales may

interrupt the flow of traffic on public streets or access ways into a shopping area.

ii. The applicant shall demonstrate there will be adequate parking for the existing use as well as the temporary outdoor sales. The director may modify this requirement if the applicant can otherwise demonstrate that adequate parking for the existing and proposed uses will be provided.

iii. The fire department shall approve all proposals for temporary outdoor sales from a tent.

iv. The area occupied by the temporary sales activity, plus any adjacent clear area required by the fire code, shall occupy no more than 20 percent of any required off-street parking spaces or area.

v. In the MUTC, HSR, NSC, and B/I districts, all trucks or tents and associated parking shall be located on asphalt, concrete, permeable pavement, or an equivalent surface unless the applicant demonstrates no adverse effect on drainage, access, or the intent of this code, as determined by the director.

Section 11. Table 18.12.040 of the Bainbridge Island Municipal Code is amended to read as follows:

Table 18.12.040: Permitted Setback/Height Modifications

Type of Encroachment	Encroachment Permitted	Conditions
Permitted Setback Modifications		
Fence or combined fence and berm up to 6 feet high	In any required setback subject to applicable regulations in BIMC Title 15	Except as provided in BIMC 18.12.030.F.2, BIMC 18.12.040.B, and Chapter 16.12 BIMC
Nonscreening fences or combined nonscreening fence and berm up to 8 feet high	In any required setback subject to applicable regulations in BIMC Title 15	Except as provided in Chapter 16.12 BIMC
Chimneys, flues, awnings, bay windows, and greenhouse windows	Up to 18 inches into any required setback	
Covered porches, bay windows and eaves within the Ericksen Avenue overlay district	Up to five feet into the front yard	Bay windows must be cantilevered outward from the wall, and may not result in any portion of the building floor area extending into the setback
Any structures, including but not limited to uncovered steps, porches, and decks less than or equal to 30 inches in height	Up to 2 feet into front and side setbacks. Up to 5 feet into required rear setbacks.	
Eaves	May extend up to 24 inches in any required setback except shoreline structure setback	
At or near grade structures such as uncovered patios, sidewalks, and driveways	In any required setback	May not exceed 4 inches in height
Signs	In any required setback	Must conform to Chapter 15.08 BIMC
Utilities accessory to a single-family residence	In any required setback	
Composting bins	In side or rear setback areas	

Type of Encroachment	Encroachment Permitted	Conditions
Rain garden/swales Bioretention/ rain gardens	In side or rear In any required setbacks	In accordance with BIMC 15.20.
Rainwater harvesting barrels Rain barrels/ cisterns	In side or rear setbacks In any required setbacks	In accordance with BIMC 15.20.
Wall-mounted on-demand hot water heaters	Up to 18 inches into side or rear setbacks	Permitted if buffered or enclosed to prevent noise impacts to neighboring properties
Below-ground geothermal equipment	In any required setback	Permitted if any excavated areas are promptly re-landscaped after installation is complete
Rockeries and retaining walls less than 4 feet in height	In any required setback	Qualified geotechnical engineer determination, and city concurrence, that it is necessary for slope stabilization
Permitted Height Modifications		
Small wind energy generators	Up to 18 in. above the maximum building height in the district	
Solar panels	Up to 18 in. above the maximum building height in the district	
Noncommercial, nonparabolic antennas affixed to noncommercial communication towers	Up to 50 feet in height above grade	
One flagpole per parcel	Up to 45 feet in height above grade	
Distribution utility poles	Up to 55 feet in height above grade	Replacement poles over 55 feet in height, see BIMC 18.09.030.F.2.b. For new distribution utility facilities or corridors, see Table 18.09.020. Poles shall not be moved more than 20 feet from the original location unless permitted under BIMC 18.09.030.F.2.b.
Transmission utility poles	Up to a 25 percent increase above existing pole height above grade with a maximum height of 100 feet	Replacement poles over the 25 percent increase or 100 feet in height, see BIMC 18.09.030.F.2.b. For new transmission utility facilities or corridors, see Table 18.09.020. Poles shall not be moved more than 20 feet from the original location unless permitted under BIMC 18.09.030.F.2.b.
Utility structures existing on the effective date of the ordinance codified in this subsection	Existing height	May also be replaced or modified; provided, that the structure is not larger or taller than the original structure and is not moved more than 20 feet from its original location

Section 12. Section 18.12.050 of the Bainbridge Island Municipal Code is amended to read as follows:

K. Lot Coverage. “Lot coverage” means that portion of the total lot area covered by buildings, excluding up to 24 inches of eaves on each side of the building, any building or portion of building located below predevelopment and finished grade. Any portion of a slatted or solid deck located more than five feet above grade shall be counted towards lot coverage. Also excluded are ground-mounted accessory small wind energy generators,

solar panels, composting bins, rainwater harvesting barrels/cisterns, and covers designed to shade ground-mounted heat pumps and air conditioners to increase their efficiency.

Section 13. Section 18.15.010.A of the Bainbridge Island Municipal Code is amended to read as follows:

18.15.010 Landscaping, screening, and tree retention, protection and replacement. All development shall comply with the following regulations addressing landscaping and screening unless other applicable regulations require additional or different forms of landscaping or screening, in which case the more specific standard or criteria shall govern.

A. Purpose.

1. General. The purpose of this section is to preserve the landscape character of the community, link the Island's natural amenities with landscape greenbelts along scenic roads, improve the aesthetic quality of the built environment, promote retention and protection of existing vegetation, reduce the impacts of development on wetlands, streams and the natural environment, enhance the value of current and future development and increase privacy for residential zones, and encourage preservation of significant and heritage trees by:

- a. Retaining existing vegetation, tree stands and significant trees by incorporating them into the site design.
- b. Incorporating native vegetation and drought resistant plant material into new landscape developments.
- c. Providing vegetated screening between different intensities of residential uses, and between development and roads.
- d. Providing visual relief of parking areas in the neighborhood service centers, the Winslow Mixed Use Town Center, and the light manufacturing, (water-dependent) industrial, High School Road and urban multifamily districts.
- e. Providing vegetated screening between residential and nonresidential areas.

f. Preserve, protect, and enhance critical areas.

g. Protect the natural forested areas.

2. Specific Zone Districts. In addition to the regulations listed in 18.15.010.A.1,

- a. Development involving For single-family residential short plats and subdivisions in residential districts, shall the additional specific intent is to preserve, protect and enhance critical areas, protect the natural forested areas and preserve the greenbelts along designated scenic roadway corridors.

- b. Development in the R-8 and R-14 multifamily residential districts ~~shall, the additional specific intent is to~~ screen urban multifamily projects from adjacent lower density residential properties and to soften the appearance of surface parking areas.
- c. Development involving ~~For~~ nonresidential uses outside the Winslow Mixed Use Town Center, High School Road I and II, NSC, B/I, and WD-I districts ~~shall, the additional specific intent is to~~ retain the natural landscape qualities of the Island by retaining existing vegetated buffers to screen views of structures and parking areas and to buffer between areas of high and low intensity uses.
- d. Development in the Winslow Mixed Use Town Center central core and ferry terminal overlay districts ~~shall, the additional specific intent is to~~ provide an urban character by incorporating landscape standards; and to provide landscape development to screen uses from single-family residential properties and to soften the appearance of surface parking areas.
- e. Development in the Winslow Mixed Use Town Center, Ericksen Avenue and Madison overlay districts ~~shall, the additional specific intent is to~~ retain the character of landscape front yards; and to provide landscape development to screen uses from single-family residential properties; and to soften the appearance of surface parking areas.
- f. Development in the Winslow Mixed Use Town Center gateway overlay district ~~shall, the additional specific intent is to~~ retain the greenbelt located adjacent to SR 305 consistent with the greenways plan and to provide landscape development to screen uses from single-family residential properties.
- g. Development in the High School Road I and II districts ~~shall, the additional specific intent is to~~ provide landscape development to screen uses from adjacent single-family residential properties and to soften the appearance of surface parking areas.
- h. Development in the NSC district ~~shall, the additional specific intent is to~~ incorporate landscape standards that support pedestrian scale neighborhood uses compatible with the intensity of the surrounding residential neighborhood; to minimize the impact of lighting, noise and views of surface parking areas; and to provide a buffer between higher and lower intensity uses.
- i. Development in the B/I district ~~shall, the additional specific intent is to~~ provide a year-round vegetated screen and a noise and site lighting buffer of industrial development from adjacent nonindustrial properties and roadways.
- j. Development in the WD-I district ~~shall, the additional specific intent is to~~ provide landscape development that screens parking lots and large structures, but allows visual access to the shoreline and small scale active industrial facilities.

Section 14. Section 18.15.010.C of the Bainbridge Island Municipal Code is amended to read as follows:

4. Protection During Construction and Development.

a. Intent. The intent of these regulations is to provide the best protection for existing vegetation, trees and tree stands, including protection for trees on adjacent properties, protect LID BMPs during construction and development activities, and to preserve the ecological function of the landscaping area by protecting existing soil.

b. Requirements.

i. No cutting of trees shall be allowed on a site until the tree retention and planting plans have been approved by the director and a clearing, grading or building permit issued.

ii. In order to preserve future ecological function, the applicant shall identify areas of prohibited disturbance, generally corresponding to the dripline or critical root zone (as identified by a consulting arborist) of the existing vegetation, trees and/or tree canopy of tree stands to be retained, buffers, areas of existing vegetation to be maintained, future rain gardens, and future planting areas larger than 400 square feet (i.e., landscape islands in parking lots). The prohibited disturbance areas shall be reviewed and approved by the director as part of the land use permit review process.

iii. A temporary five-foot-high chain link fence with tubular steel poles or “T” posts shall delineate the area of prohibited disturbance defined in subsection C.4.b.ii of this section, unless the director has approved the use of a four-foot-high plastic net fence as an alternative. The fence shall be erected and inspected by city staff before clearing, grading and/or construction permits are issued and shall remain in place until construction has been completed, and shall at all times have affixed to it a sign indicating the protected area.

iv. No impervious surfaces, fill, excavation, vehicle operations, compaction, removal of native soil or storage of construction materials shall be permitted within the area defined by the required construction fencing. If avoiding construction and compaction in future planting areas is unavoidable, the landscape plan for the project shall include methods for aerating and/or augmenting compacted soil to prepare for new planting, pursuant to subsection H.2 of this section.

v. A rock well shall be constructed if the grade level around the tree is to be raised more than one foot. The inside diameter of the well shall be equal to the diameter of the dripline or critical root zone (as identified by a consulting arborist) of the tree or tree canopy of tree stands.

vi. The grade level shall not be lowered within the larger of (A) the dripline or critical root zone (as identified by a consulting arborist) of the tree, or the tree canopy of tree stands, or (B) the area recommended by a consulting arborist.

vii. Alternative protection methods may be used if recommended by a consulting arborist and determined by the director to provide equal or greater tree protection.

viii. Wherever this subsection C.4 allows or requires the involvement of a consulting arborist, that individual shall be selected from the city's list of current arborists certified by the American Society of Consulting Arborists and his or her services shall be paid for by the applicant.

ix. LID BMPs shall be protected during construction and development activities in accordance with BIMC 15.20.

Section 15. Section 18.15.010.H of the Bainbridge Island Municipal Code is amended to read as follows:

H. Planting Requirements.

1. Intent. The intent of this section is to encourage the use of native species and recommend planting conditions adaptive to Bainbridge Island.
2. Requirements. Landscape designs shall conform to the following provisions:
 - a. Areas not devoted to landscape required by this chapter, parking, structures and other site improvements are encouraged to be planted or remain in existing vegetation.
 - b. New plant materials shall include native species or nonnative species that have adapted to the climatic conditions of the coastal region of the Puget Sound region.
 - c. New plant materials shall consist of drought resistant species, except where site conditions within the required landscape areas assure adequate moisture for growth.
 - d. New tree plantings shall be a minimum of two inches in caliper if deciduous or six feet in height if evergreen. New shrubs planted in roadside or perimeter buffers shall be of a variety that achieves a minimum six feet height at maturity. Soil planting types and depth shall be sufficient for tree planting.
 - e. When the width of any landscape strip is 20 feet or greater, the required trees shall be staggered in two or more rows.
 - f. Existing vegetation may be used to augment new plantings to meet the standards of this chapter.
 - g. Grass may be used as a ground cover where existing or amended soil conditions assure adequate moisture for growth.

h. Ground cover areas shall contain at least two inches of composted organic mulch at finish grade to minimize evaporation. Mulch shall consist of materials such as composted yard waste, composted sawdust, and/or manure that are fully composted.

i. Existing and/or compacted soils ~~may need to be augmented with fully composted organic material or aerated.~~ shall be amended in accordance with BIMC 15.20.

j. Specific submittal requirements for landscaping plans (tree protection, retention and planting plans) are included in the city's administrative manual.

Section 16. Section 18.15.010.J of the Bainbridge Island Municipal Code is amended to read as follows:

J. Maintenance.

1. Intent. All new landscape plantings and significant trees and tree stands to be retained shall be maintained to preserve the Island's forested character.

2. Requirements.

a. All landscaping, significant trees and tree stands shall be maintained ~~for the life of the project.~~

~~b. All landscaped areas required by this chapter, significant trees and tree stands, except within critical areas or their protective buffers (defined in Chapter 16.20 BIMC), should be maintained~~ in a healthy growing condition.

~~b.~~ Landscape areas shall be kept free of trash.

~~c.~~ All plant material shall be managed by pruning so that plant growth does not conflict with public utilities, restrict pedestrian or vehicular access, or create a traffic hazard.

Section 17. Section 18.15.020.B of the Bainbridge Island Municipal Code is amended to read as follows:

B. General Requirements.

1. Driveways, parking, and walkways shall accommodate pedestrians, motor vehicles and bicycles used by occupants or visitors of a structure or use. Location is subject to review of the planning and engineering departments.

2. No building permit shall be issued until the applicant has submitted satisfactory plans demonstrating that required parking facilities will be provided and maintained.

3. Unless authorized by a conditional use permit or this title, the use of property in a residential zone for commercial parking is prohibited.

4. All driveways and other parking areas except those serving single-family residences, shall be surfaced with permanent materials ~~such as asphalt, concrete, unit pavers, or pervious materials~~ acceptable to the public works department, and shall be designed to manage stormwater runoff in accordance with ~~dispose of surface water, and pollutants from motor vehicles as provided in the~~ BIMC 15.20.

5. ~~Parking lots may be gravel if (a) the parking lot contains less than 10,000 square feet, or (b) the parking lot has less than a five percent slope.~~ Residential parcels are encouraged to have two-track driveways (also known as Hollywood or wheel strip driveways).

6. Unless approved by the director, only a single access to public right-of-way is allowed for an individual lot. More than one access may be allowed by the director if the director determines, based on drawings or other information submitted by the applicant, that (a) the proposed site access includes measures that mitigate any identified negative impacts or effects that would result from the additional access point(s); and (b) the additional access point(s) will improve on-site or off-site traffic flow or is necessary for, or will help facilitate, compliance with other requirements of this chapter.

7. Joint use of required access ways with adjacent properties is encouraged. The director may approve joint access if the applicant demonstrates to the satisfaction of the director that the joint access (a) will promote the orderly development of the surrounding area; or (b) will help reduce or avoid cumulative adverse impacts that would result from each property accessing the right-of-way separately; and (c) will not create a safety hazard.

8. With the exception of single-family and duplex buildings on individual lots, access and parking spaces shall be designed so that no backing movement by a vehicle, except emergency and service and delivery vehicles, shall be allowed onto a public right-of-way; provided, that the director may waive this requirement where no reasonable design alternative exists.

9. No parking space may block access to other parking spaces unless tandem parking has been approved for a single residence or individual dwelling units of a multifamily structure.

10. On-street parking created or designated in conjunction with and adjacent to a project may be included in the parking space calculation upon approval of the director.

11. When a new commercial or mixed use development is required to provide parking for more than 25 cars, at least one parking space near the entrance must be reserved and signed for use by a shared-car program or electric vehicle charging station.

12. For all development except for single-family residential, the required parking for two or more complementary uses may be reduced up to 50 percent when provided by a common parking lot, but may not be reduced below the highest parking

requirement. The reduction shall be authorized by the issuance of a conditional use permit.

Section 18. Section 18.15.020.G of the Bainbridge Island Municipal Code is amended to read as follows:

G. Commercial Parking or Commercial Parking Businesses, Other than Ferry Commuter Parking and Noncommuter Ferry Parking. Commercial parking may be developed for general public use at no fee, or as a commercial parking business. Commercial parking businesses must comply with provisions of Chapter 5.10 BIMC.

1. Surface Parking Lots. Surface parking lots for commercial parking only, developed by public or private concerns, or developed by a public or cooperative commercial effort shall be treated as special cases under Table 18.15.020-2 and are permitted in the core, gateway, and ferry terminal districts, providing:

a. Parking lots shall be sited on parcels within 200 feet of Winslow Way or lower Madison (south of Wyatt).

b. Parking lots shall not be sited adjacent to a parcel containing a parking lot or structure in which parking is the primary use.

c. Parking lots shall not exceed 30 spaces.

d. As a condition of development application approval, the property owner shall include a plan for designating parking for only noncommuter use and shall demonstrate how restriction of spaces for noncommuter parking will be enforced. Failure to enforce shall subject the owner to the provisions of Chapter 1.26 BIMC.

[e. Surface parking lots shall integrate LID BMPs in accordance with BIMC 15.20.](#)

Section 19. Section 18.15.020.J of the Bainbridge Island Municipal Code is amended to read as follows:

J. Design Standards.

1. Parking Space and Aisle Dimensions. Except as provided in subsection J.1.e of this section, parking lots shall be designed according to Table 18.15.020-3. Space depth shall be measured exclusive of access drives, aisles and other physical obstructions. Small car spaces may total no more than 30 percent of the required number.

a. Parking lots shall have direct access to a street or road easement and shall provide unobstructed access driveways exclusive of the required parking areas.

- b. Multifamily and nonresidential developments shall use access standards as shown in Table 18.15.020-3.
- c. Where possible, single-family residences shall share access drives.
- d. Access drive widths for single-family residences shall be determined by the city engineer or fire marshal.
- e. For parking located in structures, columns or other structural elements may encroach into the parking space a maximum of six inches on a side; provided, that no wall, post, guardrail, or other element shall obstruct car door opening or the exitway of persons from a parked vehicle.

Table 18.15.020-3: Parking Space and Lot Design and Dimensions [1]

A Parking Angle	B Stall Width (ft.)	C [2] Stall Depth (ft.)	D Aisle Width (paved surface ft.)	Direction of Travel
45°	7.5	16 15	11	1-way
	8.5	19 18	13	1-way
	7.5	16 15	18	2-way
	8.5	19 18	20	2-way
60°	7.5	16 15	14	1-way
	8.5	20.5 19.5	14.5	1-way
	7.5	16 15	20	2-way
	8.5	20.5 19.5	20	2-way
75°	7.5	16 15	17.5	1-way
	8.5	21 20	18.5	1-way
	7.5	16 15	20	2-way
	8.5	21 20	20	2-way
90°	7.5	16 15	20	2-way
	8.5	20 19	24	2-way
Parallel	<u>20</u>	<u>8.5</u>	<u>12</u>	<u>1-way</u>
	<u>20</u>	<u>8.5</u>	<u>12</u>	<u>2-way</u>

[1] The first line of each category (e.g., 45 degrees, one-way travel) indicates the dimensions for compact cars.

[2] Where wheel stops are required, they shall be placed 18 inches from the end of stall. Landscaping may be located between the wheel stop and the end of the stall. Landscaping so located shall be in addition to, and not part of, any landscaping required by this title.

2. Grades. Where parking spaces are designated, grades shall not exceed six percent. Driveways and driving lanes between separate groups of parking shall not exceed 14 percent. Parking areas on sloping lots shall be laid out so that parked cars lie perpendicular to the slope. Where existing grades on property proposed for a parking lot exceed 10 percent, the city may require a topographic survey to show existing and proposed grades.

3. Landscaping.

a. Parking lots shall be landscaped in accordance with BIMC 18.15.010.F.

b. ~~Permeable paving materials are permitted and encouraged~~Permeable pavement is preferred in both accessory and primary parking lots. The following permeable paving material~~types of permeable pavement~~ have been found to perform well in the Puget Sound climate when properly designed: ~~porous-pervious~~ concrete, porous asphalt, plastic grid systems, and interlocking permeable pavers.

Section 20. Section 18.15.030 of the Bainbridge Island Municipal Code is amended to read as follows:

18.15.030 Mobility and access.

The intent of this section is to improve mobility and access for pedestrians, bicyclists, and transit users in Bainbridge Island. All development shall comply with the development standards of RCW 58.17.110(1) and all long, short, and large lot subdivisions shall comply with the road and pedestrian access standards in BIMC 17.12.040.E.

A. Circulation and Walkways. The following standards shall apply to multifamily and nonresidential development.

1. Parking lots and driveways shall provide well-defined, safe and efficient circulation for motor vehicles, bicycles and pedestrians.

2. Landscaped islands with raised curbs shall be used to define entrances from public rights-of-way, define pedestrian walkways from the public rights-of-way to all buildings, define ends of parking aisles and indicate the pattern of circulation. Curb cuts or grates can be incorporated to allow water to enter stormwater facilities and LID BMPs.

3. Pedestrian walkways shall be provided around buildings to the extent necessary to assure safe access to the building from parking areas and the public right-of-way. Where appropriate, as determined by the approving body, pedestrian walkways may be required to assure safe access to adjacent properties.

4. Internal walkways shall be surfaced with nonskid hard surfaces, such as permeable pavement, meet accessibility requirements and be designed to provide a minimum of five feet of unobstructed width. Where walkways cross vehicular driving lanes, the walkways shall be constructed of contrasting materials or with maintained painted

markings. Walkways shall be curbed and raised six inches above adjacent vehicular surface grade, except where the walkway crosses vehicular driving lanes or is required to meet accessibility standards and at inlets to stormwater facilities and LID BMPs.

5. To provide connectivity between adjacent trails/walkways, pedestrian walkways may be required.

Section 21. Chapter 18.18 of the Bainbridge Island Municipal Code is amended to read as follows:

18.18.020 ~~Encouraging sustainability~~Promoting sustainable development.

The site designs of all new developments and redevelopments ~~should be encouraged to~~ accommodate energy-conserving and water-conserving technology and design principles proving for solar or other renewable energy production where possible. ~~panels, small wind energy generators, and rain garden/swales~~ Low impact development principles require such measures as minimizing the extent of land disturbing activities and hard surfaces; preserving native vegetation, topography, and natural drainage patterns; and using LID BMPs such as cisterns, bioretention/rain gardens, and permeable pavement where ~~feasible/practical.~~ (Ord. 2011-02 § 2 (Exh. A), 2011)

18.18.030 Specific design regulations and guidelines.¹

All development shall comply with the design regulations and guidelines applicable to that type of development as set forth in this section and the reference documents, which are adopted as part of this title by reference. In the event of a conflict between two or more design standards or regulations, the more specific shall apply.

A. Detached Single-Family Residential Developed Using the R-8SF Urban Single-Family Overlay District. Detached single-family residential developed in accordance with the R-8SF urban single-family overlay district transfer of development rights program shall comply with those regulations contained in “Design Guidelines for R-8SF Urban Single-Family Overlay District” if they want to develop at overlay zone densities.

B. Multifamily Residential. Multifamily development in the R-8 and R-14 zones shall comply with those regulations contained in “Design Guidelines for Multifamily”; provided, that applications submitted prior to December 8, 1999, shall not be subject to the requirements of this section.

C. Commercial and Mixed Use – General. Development, redevelopment, and exterior renovation in commercial and mixed use projects in all zoning districts except the B/I district shall comply with the general guidelines in “Guidelines for Commercial and Mixed Use Projects – Including Guidelines for Lynwood Center, Island Center, and Rolling Bay,” as well as any specific guidelines applicable to that type of development in the subsections below.

D. Nonresidential Uses in Residential Zones. Educational, cultural, governmental, religious or health care facilities in residential zones shall comply with the general

guidelines in “Design Guidelines for Commercial and Mixed Use Projects – Including Guidelines for Lynwood Center, Island Center, and Rolling Bay.”

E. Mixed Use Town Center and High School Road Districts. Development, redevelopment, or exterior renovation in the Mixed Use Town Center overlay districts and the High School Road districts shall comply with regulations contained in “Design Guidelines for Mixed Use Town Center and High School Road Zoning Districts.”

F. Lynwood Center NSC Design Guidelines. Development, redevelopment, and exterior renovation in the Lynwood Center NSC zone district shall comply with those regulations contained in the Lynwood Center NSC-specific portion of “Guidelines for Commercial and Mixed Use Projects – Including Guidelines for Lynwood Center, Island Center, and Rolling Bay.”

1. Street trees shall be provided in an amount equivalent to at least one every 30 feet in planting pots or beds covered by a tree grate, pavers or planted area. Structural grid systems with a minimum soil volume ratio of 1 cubic foot of soil per 1 square foot of tree canopy area are encouraged. Trees may be grouped and are encouraged to have a varied meandering effect. Tree size, location and species shall be approved by the city. See street tree diagram in Central Core Overlay District Design Guidelines (subsection E of this section).

G. Island Center NSC Design Guidelines. Development, redevelopment, and exterior renovation in the Island Center NSC zone district shall comply with those regulations contained in the Island Center NSC-specific portion of “Guidelines for Commercial and Mixed Use Projects – Including Guidelines for Lynwood Center, Island Center, and Rolling Bay.”

1. Street trees shall be provided in an amount equivalent to at least one every 30 feet in planting pots or beds covered by a tree grate, pavers or planted area. Structural grid systems with a minimum soil volume ratio of 1 cubic foot of soil per 1 square foot of tree canopy area are encouraged. Trees may be grouped and are encouraged to have a varied meandering effect. Tree size, location and species shall be approved by the city. See street tree diagram in Central Core Overlay District Design Guidelines (subsection E of this section).

H. Rolling Bay NSC Design Guidelines. Development, redevelopment, and exterior renovation in the Rolling Bay NSC zone district shall comply with those regulations contained in the Rolling Bay NSC-specific portion of “Guidelines for Commercial and Mixed Use Projects – Including Guidelines for Lynwood Center, Island Center, and Rolling Bay.”

1. Street trees shall be provided in an amount equivalent to at least one every 30 feet in planting pots or beds covered by a tree grate, pavers or planted area. Structural grid systems with a minimum soil volume ratio of 1 cubic foot of soil per 1 square foot of tree canopy area are encouraged. Trees may be grouped and are encouraged to have a varied meandering effect. Tree size, location and species shall be approved by

the city. See street tree diagram in Central Core Overlay District Design Guidelines (subsection E of this section).

Section 22. Section 18.36.030 of the Bainbridge Island Municipal Code is amended to read as follows:

18.36.030 Definitions.

~~37.~~ “Bioretention” means engineered facilities that store and treat stormwater by passing it through a specified soil profile, and either retain or detain the treated stormwater for flow attenuation.

~~75.~~ “Dripline” means the outermost circumference of a tree canopy where water drips from and onto the ground.

~~875.~~ “Established vegetation” means mature trees ~~and~~, shrubs, or groundcovers.

~~1542.~~ “Mature trees and shrubs” means “significant trees” as defined in this chapter and/or native shrubs, ferns and forbs established at a density that provides a predominantly continuous cover vegetation with well-established root systems that provide a predominantly continuous cover.

~~1553.~~ “Mature vegetation on ridgelines” means all existing vegetation that is well-established and exists along the line formed by the highest points of a ridge and “significant trees” as defined in this chapter located on those dominant natural topographic features that are prominently visible from off-site public rights-of-way and lands.

~~1642.~~ “Native forest” means mature trees and shrubs, and groundcovers consisting of native species, but dominated by native trees and providing at least 50 percent tree canopy and plants.

~~1664.~~ “Native vegetation” means plant species which are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been expected to naturally occur on the site. Invasive/exotic species shall not be considered native species-tree, shrub, or ground cover species that are indigenous to the Central Puget Sound lowland region.

~~2075.~~ “Rain garden” means a non-engineered shallow, landscaped depression, with compost-amended native soils and adapted plants. The depression is designed to pond and temporarily store stormwater runoff from adjacent areas, and to allow stormwater to pass through the amended soil profile.“Rain garden/swale” means a ground-level sited design feature designed to detain rainwater for infiltration and reuse consistent with water rights laws.

~~2086.~~ “Rainwater harvesting barrels” means a barrelcistern designed for the on-site harvest and storage of rainwater for nonpotable uses such as irrigation, toilet flushing, and laundry used to offset the potable water needs for a building and/or landscape.

2286. Site. When used in connection with historic preservation, “site” means a place where a significant event or pattern of events occurred. It may be a location of prehistoric or historic occupation or activities that may be marked by physical remains or it may be the symbolic focus of a significant event or pattern of events, although not actively occupied. A site may be the location of a ruined or now nonexistent building or structure if the location itself possesses historic, cultural or archaeological significance. When used in connection with new development or redevelopment, “site” means the area defined by the legal boundaries of a parcel or parcels of land that is (are) subject to new development or redevelopment.

2520. “Tree canopy” means the total area of the tree or trees where the leaves and outermost branches extend, ~~also known as the “dripline.”~~

Section 23: The Bainbridge Island Municipal Code is amended to change the term “storm water” to “stormwater” throughout the municipal code.

Section 24. This ordinance shall take effect and be in force five (5) days from its passage, approval, and publication as required by law.

PASSED BY THE CITY COUNCIL this ____ day of XXX, 2016.

APPROVED BY THE MAYOR ____ XX day of XXX, 2016.

Val Tollefson, Mayor

ATTEST/AUTHENTICATE:

Rosalind D. Lassoff, CMC, City Clerk

FILED WITH THE CITY CLERK: XXX, 2016

PASSED BY THE CITY COUNCIL:

PUBLISHED:

EFFECTIVE DATE:

ORDINANCE NUMBER: 2016-28

Table 2.16.020.Q-3 Innovative Site Development Scoring Method

TIER	Minimum Site Development Point Requirement	WATER QUALITY & CONSERVATION		LANDSCAPING & OPEN SPACE			TRANSPORTATION		
		Projects use methods to decrease water usage and improve stormwater runoff quality through an integrated approach to stormwater management such as greywater use, stormwater collection in cisterns, <u>green-vegetated</u> roofs and covered parking. All HDDP projects will follow the <u>WA State DOE 2012 Stormwater Management Manual for Western Washington, as amended in December 2014</u> stormwater manual adopted in BIMC 15.20.		Project provides well-designed common open space, with at least 5 percent of the gross land area, set aside as open space and designed as an integrated part of the project rather than an isolated element. The common open space must be outside of critical areas and their buffers and required roadside buffers. Appropriate community amenities such as playgrounds, composting and neighborhood gardens promoting the production of locally grown food are encouraged. Resident neighborhood community gardens can be in common open space areas, and shall be appropriately located for solar exposure, and include water availability, soil amenities, and storage for garden tools. Required growing space for neighborhood gardens is 60 square feet per dwelling unit, not including any existing orchard area. Open space dedicated to the public pursuant to the standards of BIMC Sections 17.12.030. A1, A2, A3, A6 & A7 is encouraged.			Project design provides enhanced sensitivity to pedestrian and bicycle travel to promote the people getting around without a car, a reduced carbon footprint, improved health of humans, and lower pollution levels. Project internally preserves existing informal internal connection to external non-motorized facilities, furthering the Island-wide Transportation Plan (IWTP) and using such solutions as woonerfs, green streets, and natural trails and paths. Project reduces reliance on automobiles and trip counts, and promotes alternative transportation, such as integrating parking and charging facilities for electric cars, or bus shelters.		
4	30	REQUIREMENT		VALUE					
		Number of dwelling units that integrate greywater reuse components into building design:				% OF OPEN SPACE		VALUE	VALUE IF PUBLIC
3	25		10%	1	5-10%	2	4	TRANSPORTATION COMPONENTS	
			11-20%	2	11-15%	4	6	Project preserves, creates or integrates internal and external non-motorized connections.	
			21-30%	3	16-20%	6	8	Provides public walkways, separated paths, or bike lanes. No points for facilities required by IWTP.	
2	25		Over 31%	4	21-25%	8	10	On-site car sharing program	
		Percentage of total roof area qualifying as “ <u>green-vegetated</u> roofs”:		2	Greater than 25%		10	12	Electric vehicle charging stations for 3% of vehicle parking capacity.
1	14	15-30%		4	Incorporates neighborhood garden		2	Covered, consolidated bike parking for subdivisions	
		Over 31%		2	Preserves tree that qualifies as a “Heritage tree” under City Program. The tree is not otherwise required to be preserved.		2 per tree		Bus Shelter
		Project integrates cisterns: % of total roof area directed to cisterns:		2	All Private yard areas ≤ 20% turf		4		
			15-30%	2	Project landscaping integrates at least 60% native or drought tolerant plants		4		
			Over 31%	4					
		Percentage of total parking spaces that are covered (i.e. parking garage, carport):							
			5-20%	1					
			21-40%	2					
			41-60%	3					
			61-80%	4					
			Over 81%	5					

Chapter 13.04

DEFINITIONS

13.04.060 Compatible pollutant.

“Compatible pollutant” [for wastewater discharges](#) means biochemical oxygen demand, suspended solids, pH, and fecal coliform bacteria, plus additional pollutants identified in ~~an NPDES~~ [a National Pollutant Discharge Eliminating system \(NPDES\) wastewater discharge](#) permit if the publicly owned treatment works is designed to treat such pollutants, and in fact does remove such pollutants to a substantial degree. The term “substantial degree” is not subject to precise definition, but generally means contemplated removals in the order of 80 percent or greater. Examples of the additional pollutants which may be considered compatible include:

- A. Chemical oxygen demand;
- B. Total organic carbon;
- C. Phosphorus and phosphorus compounds;
- D. Nitrogen and nitrogen compounds;
- E. Fats, oils and greases of animal or vegetable origin, except as prohibited where these materials would interfere with the operation of the publicly owned treatment works. (Ord. 82-20 § A(30), 1982)

13.04.110 Incompatible pollutant.

“Incompatible pollutant” [for wastewater discharges](#) means any pollutant which is not a compatible pollutant as defined in “compatible pollutant.” (Ord. 82-20 § A(31), 1982)

Chapter 13.24

STORM AND SURFACE WATER UTILITY

Sections:

- 13.24.010 Purpose.
- 13.24.020 Utility established.
- 13.24.030 Jurisdiction.
- 13.24.040 Transfer of property.
- 13.24.050 Definitions.
- 13.24.060 Storm and surface water utility fund.
- 13.24.070 Utility rate policy.
- 13.24.080 Powers and authority.
- 13.24.090 Fee imposed.
- 13.24.110 Utility service charge calculation.
- 13.24.120 Undeveloped real property.
- 13.24.130 Service charges.
- 13.24.131 Rate reductions.
- 13.24.132 Property exempt from service charges.
- 13.24.140 Billing and payment.
- 13.24.150 Service charge adjustments and appeals.
- 13.24.170 Lien for service – Interest.
- 13.24.180 Inspections – Right of entry – Emergency.

13.24.050 Definitions.

The following words when used in this chapter shall have the following meanings, unless the context clearly indicates otherwise:

A. “Agricultural land” means land primarily devoted to agricultural operations.

B. “Agricultural operation” means any facility or activity for the production or intent of production for commercial or family use purposes of dairy, apiary, livestock, camelids, ratites, vegetable or animal products, and crop products including, but not limited to, ornamental crops. Incidental vegetable gardening, landscaping and keeping common pets by single-family residential properties are not defined as agriculture.

C. “Commercial use” means the providing of goods or services for compensation.

D. “Developed” shall mean that condition of real property altered from its natural state by the creation or addition to or construction on such property of impervious ground cover – hard surfaces; expansion of a building footprint, addition or replacement of a building or other structures; structural development including construction, installation or expansion of a building or other structure; replacement of hard surface that is not part of a routine maintenance activity; and land disturbing activities or other manmade physical improvements (such as clearing or grading) ~~such that the hydrology of the property or portion thereof is affected.~~

E. “Hard surface” shall mean an impervious surface, a permeable pavement or a vegetated roof.

~~FE. “Impervious ground cover” shall mean those hard surfaces which either prevent or impede the entry of water into the soil in the manner that such water entered the soil under natural conditions preexistent to development, or which cause water to run off the surface in greater quantities or at an increased rate of flow than that present under natural conditions preexistent to development, including, without limitation, such surfaces as rooftops, greenhouses, asphalt or concrete sidewalks, paving, unnamed ways of travel, driveways and parking lots, walkways, artificial turf playing fields, patio areas, storage areas, and gravel, oiled macadam or other surfaces which similarly affect the natural infiltration or runoff patterns that existed prior to development.~~

“Impervious Surface” shall mean a non-vegetated surface area which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development. A non-vegetated surface area which causes

water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater.

Lawns, pastures, agricultural land, native vegetation, and landscaped areas, including playgrounds with soft ground cover ~~meeting the definition of pervious surface in BIMC 15.20~~, are not impervious ~~surfaces~~ground cover. Permeable pavement ~~areas that have been designed to completely infiltrate water applied to the surface, as documented in a drainage report submitted and approved for the developed property, are is not~~ considered to be an impervious ~~surface~~ground cover.

G.F. “Impervious surface unit (ISU)” shall mean the average estimated amount of impervious ground cover on a single-family residential parcel. For the purposes of calculating the service charges in BIMC 13.24.130, an ISU shall be defined as 3,000 square feet of impervious ground cover and is the unit of measurement used by the utility in assessing service charges.

G.H. “Landscaped areas” shall mean those areas of any property type that are planted with trees, shrubs, or other vegetation, including the soil or bedding material areas associated with the plantings.

H.I. “Low intensity development” shall mean any development, excluding single family, which creates or utilizes less than 15 percent impervious ground cover on a parcel.

I.J. “Multifamily” shall mean any residential structure designed for occupancy by multiple-family households in rented or leased apartments.

K. “On-site stormwater management facility” means low impact development best management practices as defined in BIMC 15.20.

L.J. “Other developed property” shall mean all property developed for other than single-family residential uses. Such other developed properties include apartments, municipal, commercial, retail, industrial, manufacturing, maintenance, utility, recreation, agriculture, park, school, marina, religious, convalescent center, and any other private or public purposes, including properties with commercial operations that may also contain one or more residences.

M.K. “Service charge” shall mean the fee levied by the utility.

N.L. “Single-family residential” shall mean individual single-family homes, mobile homes, condominiums and duplex homes.

O.M. “Structure” means any manmade assemblage of materials extending above or below the surface of the earth and affixed or attached thereto.

P.N. “Undeveloped” shall mean that condition of real property unaltered by construction on, or addition to, such property of impervious ground cover or physical manmade improvements of any kind in excess of 100 square feet that change the hydrology of the property from its natural state.

Q.O. “Utility” means the storm and surface water utility established by Ordinance No. 86-27, passed on July 16, 1986.

R.P. “Way-of-travel” means a roadway of whatever sort, including, but not limited to, avenues, boulevards, circles, courts, roads, drives, lanes, loops, places, tracts and ways, which is capable of carrying vehicular traffic. (Ord. 2015-20 § 2, 2015)

13.24.131 Rate reductions.

For parcels, excluding single-family residential properties:

A. The service charge charged to a parcel for impervious ground cover areas consisting of compacted gravel surfaces used by vehicles as a way-of-travel or parking shall be 75 percent of the rate for impervious ground cover areas set forth in BIMC 13.24.130;

B. For any property other than a single-family residence (including mobile homes, condominiums and duplexes), if the property owner (1) has been required by either the city or Kitsap County since January 1, 1985, to construct an on-site storm water mitigation facility as a condition of the property's development or (2) has constructed voluntarily since January 1, 1985, an on-site ~~storm water mitigation~~ [stormwater management](#) facility serving the property and exceeding city standards at the time of construction, the city may at its sole discretion reduce by up to 50 percent of the storm and surface water service fee charged for the property pursuant to BIMC 13.24.130. For parcels that construct qualifying green infrastructure (low impact development) as on-site ~~storm water mitigation~~ [stormwater management](#) in accordance with Chapter 15.20 BIMC, the city may, at its sole discretion, reduce the utility service fee charged by up to 50 percent for the property pursuant to BIMC 13.24.130.

C. Any low intensity parcel that creates or utilizes less than 15 percent impervious ground cover will be eligible for a rate reduction of 50 percent, in the city's sole discretion.

D. In order to obtain a rate reduction pursuant to subsections B and C of this section, the parcel owner must submit the required forms that demonstrate the qualification for a rate reduction by November 15th of a given year. If approved, the rate reduction will become effective in the calendar year following the request.

E. The rate reduction authorized by this section shall not reduce the total storm and surface water utility service fee to less than 50 percent of the fee required pursuant to BIMC 13.24.130, and shall not be used in conjunction with any other rate reduction authorized by this title. The minimum ISU charge per developed property shall be one ISU.

F. Low income senior and disabled citizens who meet the requirements set forth in Chapter 13.16 BIMC shall be entitled to a reduction in service charges as established by city resolution. (Ord. 2015-20 § 2, 2015)

Chapter 15.20

SURFACE ~~WATER~~ AND ~~STORM WATER~~STORMWATER MANAGEMENT¹

Sections:

- 15.20.010 Purpose.
- 15.20.020 Definitions.
- 15.20.030 General provisions.
- 15.20.040 Regulated activities and allowed activities.
- 15.20.050 General requirements.
- 15.20.060 Approval standards.
- 15.20.070 Administration.
- 15.20.080 Enforcement.
- 15.20.090 Repealed.
- 15.20.100 Repealed.

15.20.010 Purpose.

The provisions of this chapter are intended to establish regulation for all new development, redevelopment or construction activities within the city that will or may impact surface ~~water~~ or ~~storm waters~~stormwater. The provisions of this chapter establish the minimum requirements that must be met to permit a property to be developed, redeveloped or proceed with construction activities within the city. The purpose of this chapter is to:

- A. Preserve and enhance the suitability of waters for contact recreation, fishing, and other beneficial uses;
- B. Minimize water quality degradation and sedimentation in streams, ponds, lakes, wetlands and other water bodies;
- C. Minimize the impact of increased runoff, erosion and sedimentation caused by land development and poor maintenance practices;
- D. Maintain and protect ground water resources;
- E. Minimize adverse impacts from projects on ground and surface water quantities, locations and flow patterns;
- F. Decrease potential landslide, flood and erosion damage to public and private property;
- G. ~~Establish~~Promote site planning and construction practices that are consistent with natural topographical, vegetational and hydrological conditions and that limit the extent of land disturbing activities;
- H. Maintain and protect the city ~~storm water~~stormwater management infrastructure and downstream systems and properties. (Ord. 2009-13 § 1, 2009: Ord. 98-31 § 1, 1999)

15.20.020 Definitions.

1. "Approval" means the proposed work or completed work conforms to this chapter in the opinion of the director.

~~2. "As graded" means the extent of surface conditions on completion of grading.~~

~~3. "Basin plan" means a plan and all implementing regulations and procedures including but not limited to land use management adopted by ordinance for managing surface and storm water management facilities and features within individual sub-basins.~~

~~4. "Bedrock" means the more or less solid rock in place either on or beneath the surface of the earth. It may be soft, medium, or hard and have a smooth or irregular surface.~~

~~5. "Bench" means a relatively level step excavated into earth material on which fill is to be placed.~~

~~26. “Best management practice (BMP)” means physical, structural, and/or managerial practices that, when used singly or in combination, prevent and/or reduce the release of pollutants and other adverse impacts to waters of Washington State pollution of water. BMPs are listed and described in the manual.~~

~~7. “Certified erosion and sediment control lead (CESCL)” means an individual who has current certification through an approved erosion and sediment control training program that meets the minimum training standards established by the Department of Ecology (see BMP C160 in the manual). A CESCL is knowledgeable in the principles and practices of erosion and sediment control. The CESCL must have the skills to assess site conditions and construction activities that could impact the quality of storm water and the effectiveness of erosion and sediment control measures used to control the quality of storm water discharges. Certification is obtained through an Ecology-approved erosion and sediment control course. Course listings are provided online at Ecology’s web site.~~

~~38. “City” shall mean the city of Bainbridge Island.~~

~~9. “Civil engineer” means a professional engineer licensed in the state of Washington in civil engineering who is experienced and knowledgeable in the practice.~~

~~10. “Civil engineering” means the application of the knowledge of the forces of nature, principles of mechanics and the properties of materials and to the evaluation, design and construction of civil works.~~

~~44. “Clearing” means the destruction and removal of vegetation by manual, mechanical, or chemical methods.~~

~~12. “Commercial agriculture” means those activities conducted on lands defined in RCW 84.34.020(2), and activities involved in the production of crops or livestock for wholesale trade. An activity ceases to be considered commercial agriculture when the area on which it is conducted is proposed for conversion to a nonagricultural use or has been idle for more than five years, unless the idle land is registered in a federal or state soils conservation program, or unless the activity is maintenance of irrigation ditches, laterals, canals, or drainage ditches related to an existing and ongoing agricultural activity.~~

~~543. “Compaction” means densification, settlement, or packing of soil in such a way that permeability of the soil is reduced a fill by mechanical means.~~

~~14. “Critical areas” means, at a minimum, areas which include wetlands, areas with a critical recharging effect on aquifers used for potable water, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas, including unstable slopes, and associated areas and ecosystems. Reference Chapter 16.20 BIMC.~~

~~15. “Design storm” means a prescribed hyetograph and total precipitation amount (for a specific duration recurrence frequency) used to estimate runoff for a hypothetical storm for the purposes of analyzing existing drainage, designing new drainage facilities or assessing other impacts of a proposed project on the flow of surface water. (A hyetograph is a graph of percentages of total precipitation for a series of time steps representing the total time during which the precipitation occurs.)~~

~~646. “Detention” means the release of storm water stormwater runoff from a specific site at a slower rate than it is collected by the storm water stormwater facility system, the difference being held in temporary storage.~~

~~747. “Detention facility” means an above or below ground facility, such as a pond or tank, that temporarily stores storm water stormwater runoff and subsequently releases it at a slower rate than it is collected by the drainage facility system. There is little or no infiltration of stored storm water stormwater.~~

~~8. Development means new development, redevelopment, or both.~~

~~18. “Drainage basin” means a geographic and hydrologic subunit of a watershed. Further clarification is located in the drainage reconnaissance study or basin assessment.~~

~~949. “Earth material” means any rock, natural soil or fill and/or any combination thereof.~~

~~20. “Engineering geologist” means a geologist experienced and knowledgeable in engineering geology.~~

~~21. “Engineering geology” means the application of geologic knowledge and principles in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil works.~~

1022. “Erosion” means the wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep, or the detachment and movement of soil or rock fragments by water, wind, ice, or gravity.

1123. “Excavation” means the mechanical removal of earth material.

~~24. “Experimental BMP” means a BMP that has not been tested, evaluated and approved for general use by the Department of Ecology in collaboration with local governments and technical experts. These include BMPs known as emerging technologies.~~

1225. “Fill” means a deposit of earth material placed by artificial means.

1326. “Forest practice” means any activity conducted on or directly pertaining to forest land and relating to growing, harvesting, or processing timber, as defined by RCW 76.09.050.

~~27. “Frequently flooded areas” means the 100-year floodplain designations of the Federal Emergency Management Agency and the National Flood Insurance Program. Reference Chapter 15.16 BIMC.~~

1428. “Geologically hazardous areas” means areas susceptible to significant erosion, sliding, earthquakes, or other geological events. They pose a threat to the public health and safety of citizens when used as sites for incompatible commercial, residential or industrial development. Geologically hazardous areas include erosion hazard areas, landslide hazard areas, and seismic hazard areas. Reference to Chapter 16.20 BIMC.

~~29. “Grade” means the slope of a road, channel, or natural ground, the finished surface of a canal bed, roadbed, top of embankment, or bottom of excavation or any surface prepared for the support of construction such as paving or the laying of a conduit.~~

~~a. “Existing grade” means the grade prior to grading.~~

~~b. “Rough grade” means the stage at which the grade approximately conforms to the approved plan.~~

~~c. “Finish grade” means the final grade of the site which conforms to the approved plan.~~

~~30. “Grade, to” (“to grade”) means to finish the surface of a canal bed, roadbed, top of embankment or bottom of excavation.~~

~~31. “Gradient terrace” means an earth embankment or a ridge and channel constructed with suitable spacing and an acceptable grade to reduce erosion damage by intercepting surface runoff and conducting it to a stable outlet at a stable nonerosive velocity.~~

1532. “Ground water” means water in a saturated zone or stratum beneath the surface of land or a surface water body.

~~33. “Hydroperiod” means the seasonal occurrence of flooding and/or soil saturation; it encompasses depth, frequency, duration, and seasonal pattern of inundation.~~

16. “Hard surface” means an impervious surface, a permeable pavement, or a vegetated roof.

1734. “~~Illicit~~ Illegal discharge” and “illegal connections” are as defined in BIMC 15.22.020.

1835. “Impervious surface” means a hard non-vegetated surface area which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development and/or a hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials,

and oiled macadam or other surfaces which similarly impede the natural infiltration of ~~storm water~~stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces for purposes of determining whether the thresholds for application of minimum requirements are exceeded. Open, uncovered retention/detention facilities shall be considered impervious surfaces for purposes of runoff modeling.

~~1936~~. “Interflow” means that portion of rainfall that infiltrates into the soil and moves laterally through the upper soil horizons until intercepted by a stream channel or until it returns to the surface; for example, in a wetland, spring or seep.

~~2037~~. “Land disturbing activity” means any activity that results in ~~movement of earth, or~~ a change in the existing soil cover (both vegetative and nonvegetative) and/or the existing soil topography. Land disturbing activities include, but are not limited to, clearing, grading, filling and excavation. Compaction that is associated with stabilization of structures and road construction shall also be considered a land disturbing activity. Vegetation maintenance practices are not considered land disturbing activity. Stormwater facility maintenance is not considered land disturbing activity if conducted according to established standards and procedures.

~~21~~. “List #1” means on-site stormwater management BMPs for lawn and landscaped areas, roofs, and other hard surfaces included in the stormwater manual adopted in BIMC 15.20.050 for projects triggering Minimum Requirements #1 through #5.

~~22~~. “List #2” means on-site stormwater management BMPs for lawn and landscaped areas, roofs, and other hard surfaces included in the stormwater manual adopted in BIMC 15.20.050 for projects triggering Minimum Requirements #1 through #9.

~~23~~. “Low impact development (LID)” means a stormwater and land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design.

~~24~~. “Low impact development best management practices (LID BMPs)” mean distributed stormwater management practices, integrated into a project design, that emphasize pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration. LID BMPs include, but are not limited to: bioretention, rain gardens, permeable pavements, roof downspout controls, dispersion, soil quality and depth, minimal excavation foundations, vegetated roofs, and water re-use.

~~25~~. “LID performance standard” means matching developed discharge durations to pre-developed durations for the range of pre-developed discharge rates from 8% of the 2-year peak flow to 50% of the 2-year peak flow.

~~26~~. “LID principles” are land use management strategies that emphasize conservation, use of on-site natural features, and site planning to minimize impervious surfaces, native vegetation loss, and stormwater runoff.

~~27~~. “Minimum Requirement” means one of nine minimum requirements for stormwater management that are applicable to new development and redevelopment projects as defined in the stormwater manual adopted in BIMC 15.20.050.

~~2838~~. “Mitigation” means, in the following order of preference:

- a. Avoiding the impact altogether by not taking a certain action or part of an action;
- b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
- c. Rectifying the impact by repairing, rehabilitating or restoring the affected environment;
- d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

~~39. “Natural location” means the location of those channels, swales, and other nonmanmade conveyance systems as defined by the first documented topographic contours existing for the subject property, either from maps or photographs, or such other means as appropriate.~~

~~29. “Native vegetation” means plant species that are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been expected to naturally occur on the site. Invasive species and noxious weeds shall not be considered native species.~~

~~3040. “New development” means land disturbing activities, including Class IV – general forest practices that are conversions from timber land to other uses; structural development, including construction or installation of a building or other structure; creation of impervious hard surfaces; and subdivision, short subdivision and binding site plans, as defined and applied in Chapter 58.17 RCW. Projects meeting the definition of redevelopment shall not be considered new development.~~

~~31. “Pervious surface” means any surface material that allows stormwater to infiltrate into the ground. Examples include lawn, landscape, pasture, native vegetation areas, and permeable pavement.~~

~~3241. “Pollution” shall be construed to mean such contamination or other alteration of the physical, chemical, or biological properties of waters of the state, including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquids, gaseous, solid, radioactive or other substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life; as defined in RCW 90.48.020 as now existing or hereafter amended.~~

~~33. “Pollution-generating hard surface (PGHS)” means hard surfaces considered to be a significant source of pollutants in stormwater runoff. See the listing of surfaces under pollution-generating impervious surface.~~

~~34. “Pollution-generating impervious surface (PGIS)” means impervious surfaces considered to be a significant source of pollutants in stormwater runoff. Such surfaces include those which are subject to: vehicular use; industrial activities (as further defined in the glossary of the stormwater manual adopted in BIMC 15.20.050); storage of erodible or leachable materials, wastes, or chemicals, and which receive direct rainfall or the run-on or blow-in of rainfall; metal roofs unless they are coated with an inert, non-leachable material (e.g., baked-on enamel coating); or roofs that are subject to venting significant amounts of dusts, mists, or fumes from manufacturing, commercial, or other indoor activities.~~

~~35. “Pollution-generating pervious surfaces (PGPS)” means any non-impervious surface subject to vehicular use, industrial activities (as further defined in the glossary of the stormwater manual adopted in BIMC 15.20.050); or storage of erodible or leachable materials, wastes, or chemicals, and that receive direct rainfall or run-on or blow-in of rainfall, use of pesticides and fertilizers, or loss of soil. Typical PGPS include permeable pavement subject to vehicular use, lawns, and landscaped areas including: golf courses, parks, cemeteries, and sports fields (natural and artificial turf).~~

~~3642. “Redevelopment” means, on a site that is already substantially developed (i.e., has 35 percent or more of existing impervious surface coverage), the creation or addition of impervious surfaces; the expansion of a building footprint or addition or replacement of a structure; structural development including construction, installation or expansion of a building or other structure; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities.~~

~~43. “Regional retention/detention system” means a storm water quantity control structure designed to correct existing excess surface water runoff problems of a basin or sub-basin for two or more properties. The area downstream has been previously identified as having existing or predicted significant and regional flooding and/or erosion problems. This term is also used when a detention facility is used to detain storm water runoff from a number of different businesses, developments or areas within a catchment.~~

~~44. “Retention/detention facility (R/D)” means a type of drainage facility designed either to hold water for a considerable length of time and then release it by evaporation, plant transpiration, and/or infiltration into the ground;~~

~~or to hold surface and storm water runoff for a short period of time and then release it to the surface and storm water management system.~~

~~37. “Replaced hard surface” means, for structures, the removal and replacement of hard surfaces down to the foundation. For other hard surfaces, the removal down to bare soil or base course and replacement.~~

~~38. “Replaced impervious surface” means, for structures, the removal and replacement of impervious surfaces down to the foundation. For other impervious surfaces, the removal down to bare soil or base course and replacement.~~

~~3945. “Site” means the area defined by the legal boundaries of a parcel or parcels of land that is (are) subject to new development or redevelopment. For road projects, the length of the project site and the right-of-way boundaries define the site.~~

~~46. “Slope” means the degree of deviation of a surface from the horizontal, measured as a numerical ratio, percent, or in degrees. Expressed as a ratio, the first number is the horizontal distance (run) and the second is the vertical distance (rise), as 2:1. A 2:1 slope is a 50 percent slope. Expressed in degrees, the slope is the angle from the horizontal plane, with a 90 degree slope being vertical (maximum) and 45 degrees being a 1:1 or 100 percent slope.~~

~~47. “Soil” means the unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.~~

~~48. “Source control BMP” means a structure or operation that is intended to prevent pollutants from coming into contact with storm water through physical separation of areas or careful management of activities that are sources of pollutants. The manual separates source control BMPs into two types. Structural source control BMPs are physical, structural, or mechanical devices, or facilities that are intended to prevent pollutants from entering storm water. Operational BMPs are nonstructural practices that prevent or reduce pollutants from entering storm water. See Volume IV of the manual for details.~~

~~4049. “Storm waterStormwater” means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland, interflow, channels or pipes into a defined surface water channel, or a constructed infiltration facility.~~

~~4150. “Storm waterStormwater drainage system” means constructed and natural features which function together as a system to collect, convey, channel, hold, inhibit, retain, detain, infiltrate, divert, treat or filter storm waterstormwater.~~

~~4251. “Storm waterStormwater facility” means a constructed component of a storm waterstormwater drainage system, designed or constructed to perform a particular function, or multiple functions, including but not limited to pipes, swales, ditches, culverts, street gutters, detention basins, retention basins, constructed wetlands, infiltration devices, catch basins, oil/water separators, sediment basins and modular pavement.~~

~~4352. “Storm waterStormwater management manual” or “manual” means the Stormwater Management Manual for Western Washington adopted by reference in BIMC 15.20.050 and prepared by Washington State Department of Ecology, dated February 2005, Publication Numbers 05-10-029 through 05-10-033 including subsequent publications which contains BMPs to prevent or reduce pollution.~~

~~53. “Toe of slope” means a point or line of slope in an excavation or cut where the lower surface changes to horizontal or meets the exiting ground slope.~~

~~54. “Top of slope” means a point or line on the upper surface of a slope where it changes to horizontal or meets the original surface.~~

~~55. “Unstable slopes” means those sloping areas of land which have exhibited past and present history of mass movement of earth.~~

~~4456. “Vegetation” means all organic any plant life growing on the Island’s surfaces of the earth, including ponds, wetlands, and marshes. Reference Chapter 16.22 BIMC.~~

~~57. "Watershed" means a geographic region within which water drains into a particular river, stream, or body of water as identified and numbered by the State of Washington Water Resource Inventory Areas (WRIAs) as defined in Chapter 173-500 WAC.~~

45. "Waters of the State" includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the state" as defined in chapter 90.48 RCW which includes lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and water courses within the jurisdiction of the State of Washington.

~~4658.~~ "Wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support (and under normal circumstances do support) a prevalence of vegetation typically adapted for life in saturated soil conditions, such as swamps, marshes, bogs, and other similar areas. This definition includes wetlands created, restored or enhanced as part of a mitigation procedure; it does not include constructed wetlands or the following surface waters of the state intentionally constructed from sites that are not wetlands: irrigation and drainage ditches, grass-lined swales, canals, agricultural detention facilities, farm ponds, and landscape amenities. Reference to Chapter 16.20 BIMC.

(Ord. 2009-13 § 2, 2009; Ord. 2005-10 § 1, 2005; Ord. 2003-22 § 22, 2003; Ord. 2001-49 § 1, 2001; Ord. 98-31 § 1, 1999)

15.20.030 General provisions.

A. Procedures. The department of public works/engineering department is authorized to adopt written procedures for the purpose of carrying out the provisions of this chapter. Prior to fulfilling the requirements of this chapter, the administrator or assigns shall not grant any approval or permission to conduct a regulated activity, including but not limited to the following:

1. Building permits, commercial or residential;
2. Comprehensive plan amendments;
3. Conditional use permits;
4. Final plats (short/long/large lot);
5. Forest practices;
6. Grading or clearing permits;
7. Planned unit developments;
8. Plats;
 - a. Subdivide, preliminary and final (short/long/large lot);
9. Preliminary plats (short, long, large lot);
10. Reasonable use exceptions;
11. Right-of-way permits;
12. Shoreline substantial development permits;
13. Shoreline variance/shoreline conditional use permits;
14. Site plan reviews;
15. Variances;
16. Zone reclassification (rezones); or

17. Any subsequently adopted permit or required approval not expressly exempted by this chapter.

B. The following agencies may also require a drainage review to assess ~~a site's~~ the impact of development on a site. Any requirements imposed by these agencies are separate from the city mandates. It is the applicant's sole responsibility to resolve any conflicting issues that may arise from submittal reviews.

1. U.S. Army Corps of Engineers;
2. Washington State Department of Natural Resources;
3. Bremerton-Kitsap County Health District;
4. Washington State Department of Ecology: general permit is required for development sites that disturbs one acre or more;
5. Washington State Department of Fish and Wildlife;
6. Washington State Department of Transportation. (Ord. 2005-10 § 2, 2005: Ord. 98-31 § 1, 1999)

15.20.040 Regulated activities and allowed activities.

A. Regulated Activities. Consistent with the minimum requirements contained in the stormwater manual, the administrator shall approve or disapprove the following activities and may require the following permits:

1. New Development may require a Site Assessment and Development Permit, Building Permit, Land Use Permit, and/or Zoning Permit for the following:
 - a. Land disturbing activities;
 - b. Structural development, including construction, installation or expansion of an existing building or other structure;
 - c. Creation of 800 square feet or more of new impervious-hard surfaces ~~greater than 800 square feet~~;
 - d. Class IV general forest practices that are conversions from timber land to other uses; and
 - e. Subdivision, short subdivision and binding site plans, as defined in RCW 58.17.020.
2. Redevelopment may require a Site Assessment and Development Permit, Building Permit, Land Use Permit, and/or Zoning Permit. On an already developed site, the creation or addition 800 square feet or more of impervious-hard surfaces ~~greater than 800 square feet~~; structural development including construction, installation or expansion of a building or other structure; any land disturbing activity, and/or replacement of impervious-hard surface (that is not part of a routine maintenance activity); and land disturbing activities associated with structural or impervious-hard surface redevelopment. (Ord. 2009-13 § 3, 2009: Ord. 2005-10 § 3, 2005: Ord. 98-31 § 1, 1999)

15.20.050 General requirements.

A. Stormwater Management Manual Adopted. The ~~February 2005 Edition of~~ Washington State Department of Ecology's 2012 Stormwater Management Manual for Western Washington, as amended in 2014, is hereby adopted by reference and is hereinafter referred to as the stormwater manual; provided, that certain provisions of the stormwater manual are amended as stated in BIMC 15.20.060.

B. ~~Illicit~~ Illegal discharges and ~~illegal-illicit~~ connections to the ~~storm water~~ stormwater drainage system are prohibited by Chapter BIMC 15.22-BIMC.

C. Low Impact Development Manual Adopted. The ~~2012~~ 2009 ~~Edition of the~~ Low Impact Development (LID) Technical Guidance Manual for Puget Sound—A Practical Guide to LID Implementation in Kitsap County is hereby adopted by reference and is hereinafter referred to as the LID manual for use in meeting the relevant sections of the manual. (Ord. 2009-13 § 4, 2009: Ord. 2005-10 § 4, 2005: Ord. 98-31 § 1, 1999)

15.20.060 Approval standards.

A. City-specific Standards. The City amends the standards adopted as part of the stormwater manual (summarized in 15.20.060.B) as follows:

1. Instead of following the Better Site Design BMP (BMP T5.41) in Volume V, Section 5.3.2 of the stormwater manual, the applicant shall conduct a site assessment following the guidance in the LID Manual adopted in BIMC 15.20.050. The applicant shall comply with the City of Bainbridge Island Design and Construction Standards for streets and roadways unless an exception is granted in writing by the administrator.

2. The hard surface threshold for triggering Minimum Requirements No. 1 through No. 5 for new development and redevelopment is 800 square feet or greater of new plus replaced hard surface area.

3. Optional Guidance No. 1: Financial Liability, is not adopted.

4. Optional Guidance No. 2: Off Site Analysis and Mitigation, and Volume I, Section 3.1.3, Perform an Offsite Analysis, is required for new development and redevelopment projects creating 5,000 square feet or more of hard surface area.

5. In Volume I, Section 2.7 of the stormwater manual, Adjustments, is not adopted.

6. In Volume I, Section 2.3 of the manual, Definitions Related to Minimum Requirements, the definition of “The use of threshold discharge areas, as defined by the stormwater manual” is not adopted.

~~B. In Volume I, Section 2.5.6 of the manual, Minimum Requirement No. 6 Runoff Treatment, and Section 2.5.7, Minimum Requirement No. 7 Flow Control, and Section 4.2, BMP and Facility Selection Process, references to “threshold discharge area” are deleted.~~

7. In Volume III, Section 3.2 of the stormwater manual, Figure 3.2.4, Example of Permanent Surface Water Control Pond Sign, is amended to include the following language:

Developers shall provide the required signage for constructed ponds as a part of the project. Developers shall contact the City to determine the pond name, pond number, and telephone number to include on the sign.

8. In Volume V, Section 4.3.1, Setbacks, is amended to delete the current text and replace with the following language:

All stormwater facilities and infiltration systems constructed within 200 feet of a geologically hazardous area shall have the concurrence of a Geotechnical Engineer.

9. The 2013 Rain Garden Handbook for Western Washington shall be used to supplement the Rain Garden (BMP T5.14A) design guidelines in the stormwater manual for projects triggering Minimum Requirements #1-5. Applicants shall use the “Good (80%)” performance level for Rainfall Region 3 in the Rain Garden Sizing Chart in the Rain Garden Handbook for Western Washington at a minimum. “Better (95%)” performance level is preferred.

B. Stormwater Manual Standards. The stormwater manual adopted in BIMC 15.20.050 includes the following nine Minimum Requirements:

1. Minimum Requirement #1 – Preparation of Stormwater Site Plans
2. Minimum Requirement #2 – Construction Stormwater Pollution Prevention
3. Minimum Requirement #3 – Source Control of Pollution
4. Minimum Requirement #4 – Preservation of Natural Drainage Systems and Outfalls
5. Minimum Requirement #5 – On-site Stormwater Management
6. Minimum Requirement #6 – Runoff Treatment
7. Minimum Requirement #7 – Flow Control
8. Minimum Requirement #8 – Wetlands Protection
9. Minimum Requirement #9 – Operations and Maintenance

The following is a summary of the general thresholds included in the stormwater manual with modifications based on the City-specific standards provided in 15.20.060.A. Specific thresholds are also summarized for Minimum Requirements #5, #6, and #7. The stormwater manual should be referred to for comprehensive guidance regarding implementation of these thresholds.

1. Overall project thresholds include the following:

<u>Applicable Requirements</u>	<u>New Development</u>	<u>Redevelopment</u>
<u>Minimum Requirement #2 (Construction Stormwater Pollution Prevention)</u>	<u>All projects</u>	<u>All projects</u>
<u>Minimum Requirements #1-5</u>	<u>≥ 800 sf new plus replaced hard surface area¹, or</u> <u>≥ 7,000 sf land disturbing activity</u>	<u>≥ 800 sf new plus replaced hard surface area¹, or</u> <u>≥ 7,000 sf land disturbing activity</u>
<u>Minimum Requirements #1-9</u>	<u>≥ 5,000 sf new plus replaced hard surface area, or</u> <u>≥ ¾ acre of vegetation converted to lawn or landscaped areas, or</u> <u>≥ 2.5 acres of native vegetation converted to pasture</u>	<u>≥ 5,000 sf new hard surface area, or</u> <u>≥ ¾ acre of vegetation converted to lawn or landscaped areas, or</u> <u>≥ 2.5 acres of native vegetation converted to pasture</u> <u>AND</u> <u>New hard surface is ≥ 50% of the existing hard surface within the project limits (road-related projects), or</u> <u>Proposed improvements are > 50% of the assessed value of the existing site improvements</u>
<u>Optional Guidance No. 2: Off Site Analysis and Mitigation</u>	<u>≥ 5,000 square feet of hard surface area²</u>	<u>≥ 5,000 square feet of hard surface area²</u>

1 – City-specific threshold for new development and redevelopment

2 – City-specific threshold for Off Site Analysis and Mitigation

2. Thresholds related to Minimum Requirement #5 (Volume I, Section 2.5.5 of the stormwater manual) include the following:

<u>Applicable Requirements</u>	<u>New Development and Redevelopment</u>
<u>List #1</u>	<u>Thresholds for Minimum Requirements #1-5 summarized in 15.20.060.B.1</u>
<u>List #2</u>	<u>Thresholds for Minimum Requirements #1-9 summarized in 15.20.060.B.1</u>
<u>LID Performance Standard</u>	<u>Optional, but can be used instead of List #1 or List #2 as specified above</u>
<u>BMP T5.13 (Post Construction Soil Quality and Depth)</u>	<u>Required for disturbed pervious areas</u>

<u>Direct Discharge to Puget Sound</u>	<p><u>Projects discharging to Puget Sound are not required to evaluate bioretention, rain gardens, permeable pavement, and full dispersion if using List #1 or List #2. However, those projects must implement the following, if feasible:</u></p> <ul style="list-style-type: none"> • <u>BMP T.510A, B, or C (Downspout Full Infiltration, Downspout Dispersion Systems, or Perforated Stub-out Connections)</u> • <u>BMP T5.11 (Concentrated Flow Dispersion)</u> • <u>BMP T5.12 (Sheet Flow Dispersion)</u> • <u>BMP T5.13 (Post Construction Soil Quality and Depth)</u>
--	---

3. Thresholds related to Minimum Requirement #6 (Volume I, Section 2.5.6 of the stormwater manual) include the following:

<u>Applicable Requirements</u>	<u>New Development and Redevelopment</u>
<u>Stormwater Treatment Facility</u>	<u>≥ 5,000 sf pollution-generating hard surfaces (PGHS), or</u> <u>> ¾ acre of pollution-generating pervious surfaces (PGPS)</u>
<u>Oil Control</u>	<u>High-use sites</u>
<u>Phosphorus Treatment</u>	<u>Not applicable at this time</u>
<u>Enhanced Treatment</u>	<p><u>Industrial project sites, commercial project sites, multi-family project sites, and high AADT roads¹ that:</u></p> <p><u>1) Discharge directly to fresh waters or conveyance systems tributary to fresh waters designated for aquatic life use or that have an existing aquatic life use; or</u></p> <p><u>2) Use infiltration strictly for flow control – not treatment – and the discharge is within ¼ mile of a fresh water designated for aquatic life use or that has an existing aquatic life use.</u></p>
<u>Basic Treatment</u>	<u>All sites meeting the stormwater treatment facility thresholds listed above for PGHS or PGPS.</u>

1 – High AADT roads are designated as ≥ 15,000 (fully controlled and partially controlled limited access highways) and ≥ 7,500 (all other roads).

4. Thresholds related to Minimum Requirement #7 (Volume I, Section 2.5.7 of the stormwater manual) include the following:

<u>Applicable Requirements</u>	<u>New Development and Redevelopment</u>
<u>Flow Control Facility</u>	<p><u>> 10,000 sf effective impervious surface, or</u></p> <p><u>> ¾ acre of vegetation converted to lawn or landscaped areas, or</u></p> <p><u>> 2.5 acres of native vegetation converted to pasture, or</u></p> <p><u>> 0.15 cfs increase in the 100-year flow frequency (using a 15-minute time step)</u></p>
<u>Direct Discharge Exemption</u>	<u>Flow control facilities are not required for direct discharges to Puget Sound.</u>

C. In Volume I, Section 2.4.1 of the manual, New Development is amended to read ~~as follows:~~

~~All new development that shall be required to comply with Minimum Requirement No. 2. In addition, new development that exceeds certain thresholds shall be required to comply with additional Minimum Requirements as follows. The following new development shall comply with Minimum Requirements No. 1 through No. 5:~~

- ~~1. Creates or adds 800 square feet, or greater, of new, replaced, or new plus replaced impervious surface area, or~~
- ~~2. Has land disturbing activity of 7,000 square feet or greater.~~

~~The following new development shall comply with Minimum Requirements Nos. 1 through 10:~~

- ~~1. Creates or adds 5,000 square feet, or more, of new impervious surface area, or~~
- ~~2. Converts 3/4 acres, or more, of native vegetation to lawn or landscaped areas, or~~
- ~~3. Converts 2.5 acres, or more, of native vegetation to pasture.~~

D. In Volume I, Section 2.4.2 of the manual, Redevelopment, is amended to read as follows:

~~All redevelopment shall be required to comply with Minimum Requirement No. 2. In addition, all redevelopment that exceeds certain thresholds shall be required to comply with additional Minimum Requirements as follows:~~

~~The following redevelopment shall comply with Minimum Requirements No. 1 through No. 5 for the new and replaced impervious surfaces and the land disturbed:~~

- ~~1. The new, replaced, or total of new plus replaced impervious surfaces is 800 square feet or more, or~~
- ~~2. 7,000 square feet or more of land disturbing activities.~~

~~The following redevelopment shall comply with Minimum Requirements Nos. 1 through 10 for the new impervious surfaces and converted pervious areas:~~

- ~~1. Adds 5,000 square feet or more of new impervious surfaces, or~~
- ~~2. Converts 3/4 acres, or more, of native vegetation to lawn or landscaped areas, or~~
- ~~3. Converts 2.5 acres, or more, of native vegetation to pasture.~~

~~If the runoff from the new impervious surfaces and converted pervious surfaces is not separated from runoff from other surfaces on the project site, the stormwater treatment facilities must be sized for the entire flow that is directed to them.~~

~~The administrator may allow the Minimum Requirements to be met for an equivalent (flow and pollution characteristics) area within the same site. For public roads projects, the equivalent area does not have to be within the project limits, but must drain to the same receiving water.~~

~~Additional Requirements for the Project Site~~

~~For road related projects, runoff from the replaced and new impervious surfaces (including pavement, shoulders, curbs, and sidewalks) shall meet all the Minimum Requirements if the~~

~~new impervious surfaces total 5,000 square feet or more and total 50% or more of the existing impervious surfaces within the project limits. The project limits shall be defined by the length of the project and the width of the right-of-way.~~

~~Other types of redevelopment projects shall comply with all the Minimum Requirements for the new and replaced impervious surfaces if the total of new plus replaced impervious surfaces is 5,000 square feet or more, and the valuation of proposed improvements—including interior improvements—exceeds 50% of the assessed value of the existing site improvements.~~

~~E. In Volume I, Section 2.5.10 of the manual, Minimum Requirement No. 10: Operation and Maintenance, is amended to read as follows:~~

~~An operation and maintenance manual that is consistent with BIMC 15.21 and the provisions in Volume V of this manual shall be provided for all proposed private stormwater facilities and BMPs, and the party (or parties) responsible for maintenance and operation shall be identified. For private facilities, a copy of the manual shall be provided to the city prior to occupancy and a copy retained onsite or within reasonable access to the site, and shall be transferred with the property to subsequent owners. The copy of the manual shall be retained in the Public Works Department. A log of maintenance activity that indicates what actions were taken shall be kept and be available for inspection by the Administrator.~~

~~F. In Volume I, Section 2.6.1 of the manual, Financial Liability/Bonding, is not adopted.~~

~~G. In Volume I, Section 2.6.2 of the manual, Optional Guidance No. 2: Off Site Analysis and Mitigation, and Volume I, Section 3.1.3, Perform an Offsite Analysis, are adopted by reference and established for projects creating 5,000 square feet or more of impervious area.~~

~~H. In Volume I, Section 2.6.2 of the manual, Optional Guidance No. 2: Off Site Analysis and Mitigation Development, is amended to read as follows:~~

~~Development projects that discharge stormwater off site shall submit an off site analysis report that assesses the potential off site water quality, erosion, slope stability, and drainage impacts associated with the project and that proposes appropriate mitigation of those impacts. An initial qualitative analysis shall extend downstream for the entire flow path from the project site to the receiving water or up to one mile, whichever is less.~~

~~If a receiving water is within one quarter mile, the analysis shall extend within the receiving water to one quarter mile from the project site. The analysis shall extend one quarter mile beyond any improvements proposed as mitigation. The analysis must extend upstream to a point where any backwater effects created by the project cease. Upon review of the qualitative analysis, the local administrator may require that a quantitative analysis be performed.~~

~~The existing or potential impacts to be evaluated and mitigated shall include:~~

- ~~1. Conveyance system capacity problems;~~
- ~~2. Localized flooding;~~
- ~~3. Upland erosion impacts, including landslide hazards;~~
- ~~4. Stream channel erosion at the outfall location;~~
- ~~5. Violations of surface water quality standards as identified in a Basin Plan or a TMDL (Water Clean up Plan); or violations of ground water standards in a wellhead protection area.~~

~~Projects shall be required to initially submit, with the permit application, a qualitative analysis of each downstream system leaving a site. The analysis should accomplish four tasks:~~

~~Task 1—Define and map the study area.~~

~~Submission of a site map showing property lines; a topographic map (at a minimum a USGS-1:24000 Quadrangle Topographic map) showing site boundaries, study area boundaries, downstream flowpath, and potential/existing problems.~~

~~Task 2—Review all available information on the study area.~~

~~This should include all available basin plans, ground water management area plans, drainage studies, floodplain/floodway FEMA maps, wetlands inventory maps, Critical Areas maps, stream habitat reports, salmon distribution reports, etc.~~

~~Task 3—Field inspect the study area.~~

~~The design engineer should physically inspect the existing on- and off-site drainage systems of the study area for each discharge location for existing or potential problems and drainage features. An initial inspection and investigation should include:~~

- ~~1. Investigate problems reported or observed during the resource review;~~
- ~~2. Locate existing/potential constrictions or capacity deficiencies in the drainage system;~~
- ~~3. Identify existing/potential flooding problems;~~
- ~~4. Identify existing/potential overtopping, scouring, bank sloughing, or sedimentation;~~
- ~~5. Identify significant destruction of aquatic habitat (e.g., siltation, stream incision);~~
- ~~6. Collect qualitative data on features such as land use, impervious surface, topography, soils, presence of streams, wetlands;~~
- ~~7. Collect information on pipe sizes, channel characteristics, drainage structures;~~
- ~~8. Verify tributary drainage areas identified in Task 1;~~
- ~~9. Contact the local government office with drainage review authority, neighboring property owners, and residents about drainage problems; and~~
- ~~10. Note date and weather at time of inspection.~~

~~Task 4—Describe the drainage system, and its existing and predicted problems.~~

~~For each drainage system component (e.g., pipe, culvert, bridges, outfalls, ponds, vaults) the following should be covered in the analysis: location, physical description, problems, and field observations. All existing or potential problems (e.g., ponding water, erosion) identified in tasks 2 and 3 above should be described. The descriptions should be used to determine whether adequate mitigation can be identified, or whether more detailed quantitative analysis is necessary. The following information should be provided for each existing or potential problem:~~

- ~~1. Magnitude of or damage caused by the problem;~~
- ~~2. General frequency and duration;~~
- ~~3. Return frequency of storm or flow when the problem occurs (may require quantitative analysis);~~
- ~~4. Water elevation when the problem occurs;~~

~~5. Names and concerns of parties involved;~~

~~6. Current mitigation of the problem;~~

~~7. Possible cause of the problem; and~~

~~8. Whether the project is likely to aggravate the problem or create a new one.~~

~~Upon review of this analysis, the administrator may require mitigation measures deemed adequate for the problems, or a quantitative analysis, depending upon the presence of existing or predicted flooding, erosion, or water quality problems, and on the proposed design of the onsite drainage facilities. The analysis should repeat Tasks 3 and 4 above, using quantitative field data including profiles and cross sections.~~

~~The quantitative analysis should provide information on the severity and frequency of an existing problem or the likelihood of creating a new problem. It should evaluate proposed mitigation intended to avoid aggravation of the existing problem and to avoid creation of a new problem.~~

~~I. In Volume I, Section 2.7 of the manual, Adjustments, is not adopted.~~

~~J. In Volume III, Section 3.1.2 of the manual, Downspout Dispersion Systems, is modified for use with additional standard details as prescribed by the city.~~

~~K. In Volume III, Section 3.1.3 of the manual, Perforated Stub Out Connections, is modified for use with additional standard details as prescribed by the city.~~

~~L. In Volume III, Section 3.2 of the manual, Figure 3.12, Pond Signage, is amended to include the following language:~~

~~Developers shall provide the required signage for constructed ponds as a part of the project.~~

~~M. In Volume V, Section 4.3, Setbacks, Slopes and Embankments, is amended to include the following language:~~

~~All stormwater facilities and infiltration systems constructed within 200 feet of a geologically hazardous area shall have the concurrence of a Geotechnical Engineer.~~

~~N. In Volume V, Section 5.3.1 of the manual, BMP T 5.10 Downspout Dispersion, is modified for use with additional standard details as prescribed by the city.~~

~~O. In Volume V, Section 5.3.2 of the manual, BMP T 5.21 Better Site Design: Build Narrower Streets, is amended to include the following language:~~

~~Streets and roadways must, however, comply with city of Bainbridge Island Design and Construction Standards and Specifications unless an exception is granted in writing by the administrator.~~

~~P. In Volume V, Section 5.3.3 of the manual, BMP T 5.30 Full Dispersion, is modified for use with additional standard details as prescribed by the city.~~

~~Q. In Volume V of the manual, Chapter 12, Emerging Technologies, is not adopted.~~

~~R. In Volume I, Section 2.5.2 of the manual, Minimum Requirement No. 2: Construction Storm Water Pollution Prevention (SWPP), the following language replaces or amends the language found in Section 2.5.2 of the manual:~~

~~All new development and redevelopment projects are responsible for preventing erosion and discharge of sediment and other pollutants into receiving waters.~~

~~Sediment and erosion control BMPs shall be consistent with the BMPs contained in Chapters 3 and 4 of Volume II of the manual.~~

~~The SWPPP shall include a narrative and drawings. All BMP's shall be clearly referenced in the narrative and marked on the drawings. The SWPPP narrative shall include documentation to explain and justify the pollution prevention decisions made for the project.~~

~~1. Volume I, Section 2.5.2 of the manual, Minimum Requirement No. 2: Construction Storm Water Pollution Prevention Plan (SWPPP) Elements. The following language replaces or amends the language found in the Elements Section 2.5.2 of the manual:~~

~~Element 2.c. Wheel wash or tire baths shall be located on site, if the stabilized construction entrance is not effective in preventing sediment from being tracked onto public roads.~~

~~Element 6.c. Temporary pipe slope drains shall handle the expected peak 10 minute flow velocity from a type 1A, 10 year, 24 hour frequency storm for the developed condition.~~

~~The hydrologic analysis shall use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis shall use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the Western Washington Hydrology model to predict flows, bare soil areas should be modeled as "landscaped area."~~

~~Element 7. Protect Drain Inlets~~

~~All sediment and street wash water shall not be allowed to enter storm drains without prior and adequate treatment unless treatment is provided before the storm drain discharges to waters of the State.~~

~~Element 9. Control Pollutants~~

~~Permittees shall require construction site operators obtain written approval from the Department prior to using chemical treatment other than CO₂ or dry ice to adjust pH.~~

~~S. Volume I, Section 2.5.6 of the manual, Minimum Requirement No. 6 Runoff Treatment. The following language replaces the language found in Section 2.5.6 of the manual:~~

~~Project Thresholds~~

~~The following require construction of stormwater treatment facilities (see Table below):~~

- ~~• Projects in which the total of effective, pollution-generating impervious surface (PGIS) is 5,000 square feet or more in a threshold discharge area of the project, or~~
- ~~• Projects in which the total of pollution-generating pervious surfaces (PGPS) is three-quarters (3/4) of an acre or more in a threshold discharge area, and from which there is a surface discharge in a natural or man-made conveyance system from the site.~~

~~Treatment Type Thresholds~~

~~1. Oil Control:~~

~~Treatment to achieve Oil Control applies to projects that have "high use sites." High use sites are those that typically generate high concentrations of oil due to high traffic turnover or the frequent transfer of oil. High use sites include:~~

~~new/redevelopment for the receiving water(s) of the stormwater drainage. The local government can use the following sources of information for pursuing plans and implementing ordinances and/or regulations:~~

~~a. Those waterbodies reported under section 305(b) of the Clean Water Act, and designated as not supporting beneficial uses due to phosphorus;~~

~~b. Those listed in Washington State's Nonpoint Source Assessment required under section 319(a) of the Clean Water Act due to nutrients.~~

~~3. Enhanced Treatment:~~

~~Enhanced treatment for reduction in dissolved metals is required for the following project sites that discharge to fish bearing streams, lakes, or to waters or conveyance systems tributary to fish bearing streams or lakes:~~

~~Industrial project sites,~~

~~Commercial project sites,~~

~~Multi-family project sites, and~~

~~High AADT roads as follows:~~

~~Within Urban Growth Management Areas:~~

~~• Fully controlled and partially controlled limited access highways with Annual Average Daily Traffic (AADT) counts of 15,000 or more~~

~~• All other roads with an AADT of 7,500 or greater~~

~~Outside of Urban Growth Management Areas:~~

~~• Roads with an AADT of 15,000 or greater unless discharging to a 4th Strahler order stream or larger;~~

~~• Roads with an AADT of 30,000 or greater if discharging to a 4th Strahler order stream or larger (as determined using 1:24,000 scale maps to delineate stream order).~~

~~However, such sites listed above that discharge directly (or, indirectly through a municipal storm sewer system) to Basic Treatment Receiving Waters (Appendix I C of the manual), and areas of the above listed project sites that are identified as subject to Basic Treatment requirements, are also not subject to Enhanced Treatment requirements. For developments with a mix of land use types, the Enhanced Treatment requirement shall apply when the runoff from the areas subject to the Enhanced Treatment requirement comprise 50% or more of the total runoff within a threshold discharge area.~~

~~4. Basic Treatment:~~

~~Basic Treatment generally applies to:~~

~~• Project sites that discharge to the ground, UNLESS:~~

~~1) The soil suitability criteria for infiltration treatment are met; (see Chapter 3 of Volume III of the manual for soil suitability criteria) or~~

~~2) The project uses infiltration strictly for flow control—not treatment—and the discharge is within 1/4 mile of a phosphorus sensitive lake (use a Phosphorus Treatment facility), or within 1/4 mile of a fish-bearing stream, or a lake (use an Enhanced Treatment facility).~~

~~• Residential projects not otherwise needing phosphorus control as designated by USEPA, the Department of Ecology, or by the Permittee; and~~

~~• Project sites discharging directly to salt waters, river segments, and lakes listed in Appendix I C of the manual; and~~

~~• Project sites that drain to streams that are not fish-bearing, or to waters not tributary to fish-bearing streams;~~

~~• Landscaped areas of industrial, commercial, and multi-family project sites, and parking lots of industrial and commercial project sites that do not involve pollution-generating sources (e.g., industrial activities, customer parking, storage of erodible or leachable material, wastes or chemicals) other than parking of employees' private vehicles. For developments with a mix of land-use types, the Basic Treatment requirement shall apply when the runoff from the areas subject to the Basic Treatment requirement comprise 50% or more of the total runoff within a threshold discharge area.~~

~~Treatment Facility Sizing~~

~~Water Quality Design Storm Volume: The volume of runoff predicted from a 24-hour storm with a 6-month return frequency (a.k.a., 6-month, 24-hour storm). Wetpool facilities are sized based upon the volume of runoff predicted through use of the Natural Resource Conservation Service curve number equations in Chapter 2 of Volume III of the manual, for the 6-month, 24-hour storm. Alternatively, the 91st percentile, 24-hour runoff volume indicated by an approved continuous runoff model may be used.~~

~~Water Quality Design Flow Rate~~

~~1. Preceding Detention Facilities or when Detention Facilities are not required:~~

~~The flow rate at or below which 91% of the runoff volume, as estimated by an approved continuous runoff model, will be treated. Design criteria for treatment facilities are assigned to achieve the applicable performance goal at the water quality design flow rate (e.g., 80% TSS removal).~~

~~2. Downstream of Detention Facilities:~~

~~The water quality design flow rate must be the full 2-year release rate from the detention facility. Alternative methods may be used if they identify volumes and flow rates that are at least equivalent. That portion of any development project in which the above PGIS or PGPS thresholds are not exceeded in a threshold discharge area shall apply On-site Storm Water Management BMPs in accordance with Minimum Requirement #5.~~

~~Treatment Facility Selection, Design, and Maintenance~~

~~Stormwater treatment facilities shall be:~~

~~• Selected in accordance with the process identified in Chapter 4 of Volume I of the manual;~~

~~• Designed in accordance with the design criteria in Volume V of the manual, and~~

~~• Maintained in accordance with the maintenance schedule in Volume V of the manual.~~

Additional Requirements

~~The discharge of untreated stormwater from pollution-generating impervious surfaces to ground water is not authorized, except for the discharge achieved by infiltration or dispersion of runoff from residential sites through use of On-site Stormwater Management BMPs.~~

(Ord. 2009-13 § 5, 2009; Ord. 2005-10 § 5, 2005; Ord. 2001-49 § 2, 2001; Ord. 98-31 § 1, 1999)

15.20.070 Administration.

A. Administrator. The public works director or a designee shall administer this chapter and shall be referred to as the administrator. The administrator shall have the authority to develop and implement administrative procedures to administer and enforce this chapter.

B. Review and Approval. The administrator may approve, conditionally approve or deny an application for activities regulated by this chapter.

C. Enforcement Authority. The administrator shall enforce this chapter.

D. Inspection. All activities regulated by this chapter shall be inspected by the administrator. The administrator shall inspect projects at various stages of the work requiring approval to determine that adequate control is being exercised. Stages of work requiring inspection include, but are not limited to,

1. Prior to clearing and construction (preconstruction) to ensure that clearing limits, sensitive areas and their buffers, and trees that are to be preserved have been clearly marked;

2. During construction to verify proper installation and maintenance of erosion and sediment control BMPs, maintenance of clearing limits, and protection of trees that are to be preserved;

3. Every 6 months during construction for new residential development until 90% of the lots are constructed (or when construction has stopped and the site is fully stabilized) to identify maintenance needs for permanent stormwater facilities;

4. Upon completion of construction and prior to final approval or occupancy to ensure proper installation of, land-disturbing activities, installation of utilities, permanent stormwater control facilities, landscaping, retaining walls and completion of project; and

5. Ongoing annual inspections of permanent stormwater facilities designed to meet Minimum Requirement #6 (Runoff Treatment) and/or Minimum Requirement #7 (Flow Control) per BIMC 15.21.

When required by the administrator, a special inspection and/or testing shall be performed. (Ord. 2009-13 § 6, 2009; Ord. 2005-10 § 6, 2005; Ord. 98-31 § 1, 1999)

15.20.080 Enforcement.

A. Failure to Comply. It is unlawful for any person to violate any provision or fail to comply with any of the requirements of this chapter.

B. Emergency Access and Reparation. In the event the violation constitutes an immediate danger to public health or safety, the administrator is authorized to enter upon the subject private property, without giving prior notice, to take any and all measures necessary to abate the violation and/or restore the property. Any expense related to such remediation undertaken by the city shall be fully reimbursed by the property owner and/or responsible party. Any relief obtained under this section shall not prevent the city from seeking further relief or applying other penalties as provided in this chapter.

C. Civil Infraction. Except as provided in subsection D of this section, conduct made unlawful by this chapter shall constitute a civil infraction and is subject to enforcement and fines as provided in BIMC 1.26.035. A civil infraction under this section shall be processed in the manner set forth in Chapter 1.26 BIMC.

D. Misdemeanor. Any person who again violates this chapter within 12 months after having been found by the Bainbridge Island municipal court to be in violation of this chapter, commits a misdemeanor and any person who is convicted thereof shall be punished as provided in BIMC 1.24.010.A.

E. Civil Penalty. In addition to any civil infraction fine, criminal penalty, and/or other available sanction or remedial procedure, any person engaging in conduct made unlawful by this chapter shall be subject to a cumulative civil penalty in the amount of \$1,000 per day for each violation from the date set for compliance until the date of compliance. Any such civil penalty shall be collected in accordance with BIMC 1.26.090.

F. Additional Remedies.

1. In addition to any other remedy provided by this chapter or under the Bainbridge Island Municipal Code, the city may initiate injunction or abatement proceedings or any other appropriate action in courts against any person who violates or fails to comply with any provision of this chapter to prevent, enjoin, abate, and/or terminate violations of this chapter and/or to restore a condition which existed prior to the violation. In any such proceeding, the person violating and/or failing to comply with any provisions of this chapter shall be liable for the costs and reasonable attorneys' fees incurred by the city in bringing, maintaining and/or prosecuting such action.

2. Any person who violates any provision of this chapter may also be in violation of the Federal Clean Water Act, NPDES Phase II permit, and/or Chapter 90.48 RCW and may be subject to sanctions including civil and criminal penalties. Any enforcement action authorized under this chapter shall also include written notice to the violator of such potential liability. (Ord. 2009-13 § 7, 2009: Ord. 2005-10 § 7, 2005: Ord. 98-31 § 1, 1999)

15.20.090 Exceptions and appeals.

Repealed by Ord. 2009-13. (Ord. 2005-10 § 8, 2005: Ord. 2003-25 § 6, 2003; Ord. 98-31 § 1, 1999)

15.20.100 Severability.

Repealed by Ord. 2003-24. (Ord. 98-31 § 1, 1999)

Chapter 15.21

~~STORM WATER~~STORMWATER FACILITIES MAINTENANCE PROGRAM

Sections:

- 15.21.010 Purpose.
- 15.21.020 Definitions.
- 15.21.030 General provisions.
- 15.21.040 General requirements.
- 15.21.050 Administration.
- 15.21.060 Inspection program.
- 15.21.070 Enforcement.
- 15.21.080 Repealed.

15.21.010 Purpose.

The purpose of this chapter is to ensure maintenance of all ~~storm water~~stormwater facilities within the city and to set minimum standards for the inspection and maintenance of ~~storm water~~stormwater facilities. The provisions of this chapter are intended to:

- A. Provide for inspection and maintenance of ~~storm water~~stormwater facilities in the city to provide for effective and functional ~~storm water~~stormwater drainage systems.
- B. Authorize the city, through the public works department, to require that ~~storm water~~stormwater facilities be operated, maintained and repaired in conformance with this chapter.
- C. Establish the minimum level of compliance.
- D. Guide and advise all who conduct inspection and maintenance of ~~storm water~~stormwater facilities. (Ord. 98-42 § 1, 1999)

15.21.020 Definitions.

For the purposes of this chapter, the following definitions shall apply:

A. "Best management practice (BMP)," means physical, structural, and/or managerial practices that, when used ~~in-~~the singular~~singly~~ or in combination, prevent ~~and/or~~ reduce ~~pollution of water, and have been approved by the-~~Washington State Department of Ecology. BMPs are listed and described in the storm water management manual~~the~~ release of pollutants and other adverse impacts to waters of Washington State.

B. *Repealed by Ord. 2003-22.*

C. "Minimum Requirement" means one of nine minimum requirements for stormwater management that are applicable to new development and redevelopment projects as defined in the stormwater manual adopted in BIMC 15.20.050.

D. "Property owner" means any person having title to and/or responsibility for, a building or property, including a lessee, guardian, receiver or trustee, and the owner's duly authorized agent.

E. "Storm waterStormwater" means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland, interflow, channels or pipes into a defined surface water channel, or a constructed infiltration facility.

F. "Storm waterStormwater drainage system" means constructed and natural features which function together as a system to collect, convey, channel, hold, inhibit, retain, detain, infiltrate, divert, treat or filter ~~storm-~~waterstormwater.

~~GE.~~ “Stormwater facility” means a constructed component of a ~~storm water~~ drainage system, designed or constructed to perform a particular function, or multiple functions, including but not limited to, pipes, swales, ditches, culverts, street gutters, detention basins, retention basins, constructed wetlands, infiltration devices, catchbasins, oil/water separators, sediment basins and modular pavement.

~~HF.~~ “Stormwater management manual (stormwater manual)” means the manual adopted in BIMC 15.20 by reference and prepared by the Washington State Department of Ecology which contains BMPs to prevent or reduce pollution.

I. “Waters of the State” includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the state" as defined in chapter 90.48 RCW which includes lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and water courses within the jurisdiction of the State of Washington.

(Ord. 2003-22 § 23, 2003; Ord. 98-42 § 1, 1999)

15.21.040 General requirements.

A. Maintenance Required. All ~~storm water~~ facilities shall be maintained in accordance with this chapter and the ~~storm water~~ management manual. Systematic, routine preventive maintenance is preferred.

B. Minimum Standards. The following are the minimum standards for the inspection and maintenance of ~~storm-water~~ facilities:

1. Stormwater facilities designed to meet Minimum Requirements #6 and/or #7 in the stormwater manual shall be inspected annually by a qualified third party contractor and cleared of debris, sediment and vegetation when they effect the functioning and/or design capacity of the facility.

2. Property owners shall be responsible for clearing debris, sediment and vegetation from their stormwater facility when they affect the functioning and/or design capacity.

3. Grassy Biofiltration swales and other biofilters shall be inspected monthly and mowed or replanted as necessary. Clippings are to be removed and properly disposed of. Additional maintenance criteria are included in the stormwater manual.

4. Bioretention/rain garden routine maintenance shall include weeding, removal of noxious weeds, clearing vegetation within 1 foot of inlets/outlets, replenishment of mulch, and irrigation during the summer months and as needed during prolonged dry periods. Additional maintenance criteria are included in the stormwater manual.

5. Permeable pavement routine maintenance shall include cleaning surface debris at a minimum of once or twice per year. Additional maintenance criteria are included in the stormwater manual.

6. Where lack of maintenance is causing or contributing to a water quality problem, immediate action shall be taken to correct the problem. Within one month, after initial recognition of problem, the city inspector or designee shall revisit the facility to assure that the problem has been rectified.

C. Disposal of Waste from Maintenance Activities. Disposal of waste from maintenance activities shall be conducted in accordance with the minimum Functional Standards for Solid Waste Handling, Chapter 173-304 WAC, guidelines for disposal of waste materials from ~~storm water~~ maintenance activities, and where appropriate, the Dangerous Waste Regulations, Chapter 173-303 WAC.

D. Compliance. Property owners are responsible for the inspection, maintenance, operation and repair of ~~storm-water~~ drainage systems and BMPs located on their property. Property owners shall inspect, maintain, operate and repair these facilities in compliance with the requirements of this chapter and the ~~storm water-management~~ stormwater manual. Property owners shall hire, at the owner's expense, a qualified third party contractor to conduct inspections and submit annual inspection reports to the City for any stormwater facilities designed to meet Minimum Requirements #6 and/or #7. (Ord. 98-42 § 1, 1999)

15.21.050 Administration.

A. Director. The public works director, and/or designee, shall administer this chapter and shall be referred to as the director. The director shall have the authority to develop and implement administrative procedures to administer and enforce this chapter.

B. Inspection Authority. The director is directed and authorized to develop an inspection program for ~~storm-water~~stormwater facilities in the city.

C. Enforcement Authority. The director shall enforce this chapter. (Ord. 98-42 § 1, 1999)

15.21.060 Inspection program.

A. Inspection. Whenever implementing the provisions of the inspection program, or whenever there is cause to believe that a violation of this chapter has been or is being committed, the inspector is authorized to inspect all ~~storm-water~~stormwater drainage systems within the city in accordance with Chapter 1.16 BIMC.

B. Procedures. The method of entry onto property to perform duties imposed by this chapter shall be in accordance with Chapter 1.16 BIMC.

C. Inspection Schedule. The director shall establish a master inspection and maintenance schedule to inspect appropriate ~~storm-water~~stormwater facilities that are not owned or operated by the city. Inspections shall be annual. Critical ~~storm-water~~stormwater facilities may require a more frequent inspection schedule.

D. Inspection and Maintenance Records. As existing ~~storm-water~~stormwater facilities are encountered, they shall be added to the master inspection and maintenance schedule. Records of new ~~storm-water~~stormwater facilities shall include the following:

1. As-built plans and locations;
2. Findings of fact from any exemption granted by the local government;
3. Operation and maintenance requirements and records of inspection maintenance actions and frequencies;
4. Declaration of covenant associated with maintenance and operation of storm drainage facilities. See “Exhibit A” following this chapter; and
5. Engineering reports, as appropriate.

E. Reporting Requirements. The inspector shall report annually to the director of public works about the status of the ~~storm-water~~stormwater facilities inspections. The annual report may include, but not be limited to, the proportion of the components found in and out of compliance, the need to upgrade components, enforcement actions taken, compliance with the inspection schedule, the resources needed to comply with the schedule, and comparisons with previous years. (Ord. 2003-28 § 3, 2003; Ord. 98-42 § 1, 1999)

15.21.070 Enforcement.

A. General. Enforcement action, as provided by Chapter 1.26 BIMC, shall be taken whenever a person has violated any provision of this chapter.

B. Orders. The director or designee shall have the authority to issue to an owner or person in control of a ~~storm-water~~stormwater facility deemed to be in violation of this chapter, an order to maintain or repair a component of a ~~storm-water~~stormwater facility or BMP to bring it in compliance with this chapter, the ~~storm-water~~stormwater ~~management~~ manual and/or city regulations. The order shall include:

1. A description of the specific nature, extent and time of the violation and the damage or potential damage that reasonably might occur;
2. A notice that the violation or potential violation cease and desist and, in appropriate cases, the specific corrective actions to be taken;

3. A reasonable time to comply, depending on the circumstances.

C. Civil Penalty. A person who fails to comply with the requirements of this chapter or who fails to conform to the terms of an approval or order issued shall be subject to civil penalties as provided for in the BIMC 1.26.090. (Ord. 98-42 § 1, 1999)

15.21.080 Severability.

Repealed by Ord. 2003-24. (Ord. 98-42 § 1, 1999)

EXHIBIT A

DECLARATION OF COVENANT ASSOCIATED WITH MAINTENANCE
AND OPERATION OF STORM DRAINAGE FACILITIES

Grantor: _____ Additional Grantor: _____

Grantee: _____ Additional Grantee: _____

Legal Description __ 1/4 __ 1/4sec __ T __ R __ W.M. Additional Legal:

Assessor's Tax Parcel #: _____ Additional #: _____

Reference Auditor File #: _____ Additional #: _____

Whereas the city of Bainbridge Island, a political subdivision of the State of Washington, has rights under city ordinances, codes, and Washington State statutes to regulate ~~storm-~~
~~water~~stormwater drainage, and The City of Bainbridge Island, Department of Public Works has issued a permit number _____ for the development known as _____ which contains on-site stormwater facilities.

The Grantors, hereinafter known as the owner(s) of the real property situated in the City of Bainbridge Island, State of Washington, and legally described as follows:

The owner(s), their heirs, successors or assigns, hereby covenant and agree that:

1. The City of Bainbridge Island, or its designee, shall have the right to ingress and egress over the above described property for the purpose of inspecting, sampling and monitoring stormwater facility components and discharges.
2. If, at any time, the City of Bainbridge Island reasonably determines that maintenance or repair work is required to be done to the existing and accepted stormwater facilities installed on the property described above (which will mean repair or clean out existing facilities only to the same standards as originally installed and accepted), the COBI City Engineer or his/her designee shall give the Owner(s) seven (7) days' notice that the City intends to perform such maintenance or repair work, or to have them performed by others. If the owner(s) have not completed or are not diligently pursuing the maintenance or repair work to the facilities and it becomes necessary for the City to perform the work, the Owner(s) will assume responsibility for the cost of such maintenance or repair work and will reimburse the City within thirty (30) working days of receipt of the invoice for any such work performed. Overdue payments will require payment of interest at the current legal rate for liquidated judgments, and any costs or fees incurred by the City, should any legal action be required to collect such payments, will be borne by the parties responsible for said reimbursements.
3. If, at any time, the City reasonably determines that the existing and accepted stormwater facilities installed on the property described above poses a hazard to life and limb, or endangers property, or adversely affects the safety and operations of public way, due to failure, damage or non-maintenance, and that the situation is so adverse as to preclude written

notice to the Owner(s), the City Engineer may take the measures necessary to eliminate the hazardous situation (which will mean repair or clean out of the existing facilities only to the same standards as originally installed and accepted), provided the Director, or his/her designee, has first made a reasonable effort to locate said Owner(s) before acting. The Owner(s) will assume responsibility for the cost of such maintenance or repair work and will reimburse the City within thirty (30) days of receipt of the invoice for any such work performed. Overdue payments will require payment of interest at the current legal rate for liquidated judgments, and any costs or fees incurred by the City, should any legal action be required to collect such payments, will be borne by the parties responsible for said reimbursements.

4. The Owner(s) will keep the City informed at all times as to the name, address and telephone number of the contact person responsible for the performance of maintenance or repair work to the storm drainage facilities.

5. The Owner(s) agree to hold harmless and indemnify the City or its designee from any and all claims arising from any activity the City undertakes on the property described above if it becomes necessary for the City to conduct maintenance or repair work.

These covenants are intended to protect the value and desirability of the real property described above, and to benefit all the citizens of the City of Bainbridge Island. They shall run with the land and be binding on all parties having or acquiring from the Owner(s), their heirs, successors or assigns, any right, title or interest in the property or any part thereof. They shall inure to the benefit of each present or future successor in interest of said property or any part thereof, or interest therein, and to the benefit of all the citizens of the City of Bainbridge Island.

Owner Date

Owner Date



CITY OF BAINBRIDGE ISLAND

ISLAND-WIDE TRANSPORTATION PLAN

*Draft Report
August, 2016*



Adopted by Resolution: _____

Date: _____



ISLAND WIDE TRANSPORTATION PLAN

TABLE OF CONTENTS

CHAPTER 1 INTRODUCTION

Plan Purpose.....	1-1
Planning History	1-3
Relationship to Comprehensive Plan	1-3
Plan Update	1-4
Plan Organization	1-4

CHAPTER 2 SUSTAINABILITY & QUALITY OF LIFE

Community Character	2-2
Relationship to Transportation	2-2
Community Character Transportation Features	2-3
Desired Features of Community Character.....	2-3
Livability and Health.....	2-4
Relationship to Transportation	2-4
Neighborhoods.....	2-4
Relationship to Transportation	2-4
Neighborhood Transportation Features	2-5
Desired features for Neighborhoods	2-5
Environment.....	2-6
Relationship to Transportation	2-6
Environmental Transportation Features.....	2-6
Desired Features of Environment	2-6
Storm water Management and Green Infrastructure	2-7
Balancing Community Needs	2-8

CHAPTER 3 OPERATIONS AND MOBILITY

Existing Roadway System	3-1
Travel Corridors.....	3-2
Roadway Inventory	3-2
Roadway Classifications	3-2
Road Standards	3-3
Level of Service.....	3-3
LOS Defined	3-5
Roadway LOS Measurement	3-5
Intersection LOS Measurement	3-7
City LOS Standard	3-7
Non-Motorized LOS Standard	3-8
SR305 LOS Standard	3-8
Existing Traffic Coniditons.....	3-10

Transportation Model	3-10
Peak Hour Traffic Volumes	3-11
WSDOT Ferry Travel Survey	3-11
Existing LOS	3-14
Future Traffic Conditions.....	3-16
Land Use Forecast	3-16
Determinations of Base Year Land Use.....	3-16
Land Use Forecasts (2021-2035).....	3-17
Future Traffic Operations	3-18
2021 Traffic Forecast.....	3-18
2021 LOS.....	3-18
Roadway LOS.....	3-18
Intersection LOS	3-18
2016-2021 Mitigation.....	3-21
2035 Traffic Forecast.....	3-22
2021-2035 Model Forecast Improvements.....	3-22
2035 LOS.....	3-22
2021-2035 Mitigation.....	3-25
Other Mobility Issues	3-26
Connectivity.....	3-26
Access Management	3-27

CHAPTER 4 SR 305

Summary of SR305 Issues.....	4-1
SR305 LOS Impacts	4-1
What Makes SR305 Different?	4-4
SR305 Special Study	4-4
Special Study Alternatives	4-4
Special Study Results and Recommendations for Further Study.....	4-5
Other SR 305 Issues.....	4-6
SR305 Recommendations	4-6
Interim Improvements	4-10
Long Term Recommendations	4-10

CHAPTER 5 SAFETY AND MAINTENANCE

Safety	5-1
Accident History	5-3
City Intersections.....	5-3
SR305 Intersections.....	5-4
Accidents involving pedestrian and cyclists	5-4
Addressing Safety Problems.....	5-5
How Study Addresses Safety.....	5-6
Safety Programs	5-6
Maintenance	5-6

Maintenance Issues.....	5-6
Maintenance Programs.....	5-7
How Study Addresses Maintenance	5-8

CHAPTER 6 NON-MOTORIZED SYSTEMS

Background-History.....	6-1
System Overview, Inventory, and Attractions	6-3
Barriers to Use and Connectivity Improvements.....	6-5
Envisioned Non-Motorized Travel Routes and Network	6-11
Facility Types	6-15
Levels of Service	6-15
Frontage Improvements.....	6-16
Implementation, Prioritization, and Funding.....	6-19
Non-Motorized Improvement Plan	6-20
Design Considerations.....	6-22
Standards.....	6-24
Preservation and Maintenance	6-25
Education, Encouragement and Enforcement	6-26

CHAPTER 7 OTHER TRANSPORTATION SYSTEMS

Washington State Ferry Operations.....	7-1
Ferry LOS	7-2
Kitsap Transit Passenger Only Ferry Proposals	7-3
Ferry System Issues	7-3
Recommendations for Ferry Services	7-4
Kitsap Transit Bus and Other Services.....	7-4
Existing Routes	7-5
Park and Ride Lots.....	7-8
Transit System Issues	7-9
Recommendations for Transit Systems.....	7-10
Non-Motorized System Connectivity to Transit.....	7-10
Multimodal - Transportation Demand Management	7-10
TDM Programs on Bainbridge Island.....	7-11
Agency-Based Programs.....	7-11
Employer-Based Programs	7-12
Regional Coordination.....	7-12
WSDOT Plans	7-13
Consistency with IWTP	7-13
Kitsap County Plans	7-13
Kitsap Transit Plans	7-13
Consistency with IWTP	7-13

CHAPTER 8 FINANCING

Funding Capabilities 8-1

Types of Funding Sources..... 8-2

- General Funds 8-2
- Grants 8-2
- General Obligation Bonds 8-3
- Developer Contributions 8-3
- Concurrency 8-3
- Impact Fees 8-3
- Transportation Benefit District Fees 8-3
- Local Improvement Districts 8-4
- User Fees 8-4

Proposed Projects and Funding Needs 8-4

Proposed Sources of Funding..... 8-5

Reassessment Strategy..... 8-5

LIST OF FIGURES

Figure 1-1 Planning..... 1-2

Figure 3-1 Road Classifications..... 3-4

Figure 3-2 Recommended Level of Service Standards..... 3-9

Figure 3-3 Ferry Terminal Person Trips..... 3-13

Figure 3-4 2015 Level of Service..... 3-15

Figure 3-5 2021 Level of Service..... 3-20

Figure 3-6 2035 Level of Service..... 3-24

Figure 3-7 Road Connectivity Improvements..... 3-30

Figure 3-8 Guide to Potential Connectivity Improvements 3-31

Figure 4-1 SR305 Level of Service Existing Conditions 4-2

Figure 4-2 Level of Service 2035 No Action..... 4-3

Figure 4-3 SR305 Level of Service 2035 Alternative A 4-7

Figure 4-4 SR305 Level of Service 2035 Alternative B..... 4-8

Figure 4-5 SR305 Levels of Service 2035 Alternative C 4-9

Figure - Non-Motorized System Plan Map A (Existing) 6-4

Figure – Non-Motorized System Plan Map B (Existing) 6-5

Figure - Core 40 Program Priority Map 6-14

Figure - Non-Motorized System Plan Map C (Minimum Standards) 6-18

Figure – Non-Motorized System Plan Map D (Minimum Standards) 6-19

Figure - NMTAC Recommended Capital Improvements Map E..... 6-21

Figure – NMTAC Recommended Capital Improvements Map F 6-22

Figure 7-1 Kitsap Transit Routes..... 7-2

Figure 7-2 Kitsap Transit Routes..... 7-6

LIST OF TABLES

Table 1-1 GMA Requirements for Transportation Planning 1-5
Table 2-1 Competing Community Needs 2-9
Table 3-1 Functional Classifications 3-2
Table 3-3 Level of Service Descriptions..... 3-5
Table 3-4 Roadway Level of Service and Volume/Capacity Ratio..... 3-6
Table 3-5 Existing Roadway Capacity Policy..... 3-6
Table 3-6 Intersection LOS and Delay 3-7
Table 3-7 Intersections PM Peak Hour LOS Deficiencies – 2014 Baseline 3-16
Table 3-8 2014 Land Use 3-17
Table 3-9 2021 and 2035 Forecasts 3-18
Table 3-10a Intersection PM Peak Hour LOS Deficiencies (2021 Forecast)..... 3-21
Table 3-10b Street Segment PM Peak Hour LOS Deficiencies (2021 Forecast) 3-22
Table 3-11a Intersection PM Peak Hour LOS Analysis (2035 Forecast) 3-25
Table 3-11b Street Segment PM Peak Hour LOS Analysis (2035 Forecast) 3-25
Table 5-1 Bainbridge Island Accident Location 5-3
Table 5-2 SR305 Accident Locations 5-4
Table 6-1 Lists Identified Barriers on SR305 and on City Roadways 6-6
Table 6-2 Trail Connection Zones..... 6-7
Table 6-3 Winslow Area Sidewalk Gaps and Deficiencies..... 6-10
Table 6-4 Non-Motorized Level of Service for Urban Locations 6-15
Table 6-5 Non-Motorized Level of Service for Suburban Locations 6-16
Table 6-6 Standards Recommendations 6-24
Table 7-1 WSF Schedules and Headways 7-2
Table 7-2 Ferry Operation LOS 7-3
Table 7-4 Park and Ride Facilities..... 7-8
Table 7-5 Park and Ride Utilization 7-9
Table 8-1 Historical Transportation Funding Sources 8-2
Table 8-2 Recommended Improvements to Meet LOS Standards 8-6
Table 8-3 Six-Year Transportation Funding Needs..... 8-7

APPENDIX

A Glossary of Terms
B References
C Roadway Classifications Map
D Roadway Inventory
E Traffic Data
F Land Use Forecast Information
G Time Accident Data
H Non-Motorized Existing Facilities Maps
I Non-Motorized Planned Facilities Maps
J Non-Motorized Capital Improvements Projects Maps & Lists

CHAPTER 1 INTRODUCTION



The City of Bainbridge Island is a unique community with a unique set of transportation needs. The City, which encompasses the entire island, is primarily residential and includes a variety of land uses and intensities of development from the urban Winslow area to farmlands and suburban communities. Each of these land uses has different transportation needs that ideally would be addressed separately; however, the entire roadway system operates as a system.

The backbone of the transportation system is the SR305 corridor that runs from the Bainbridge Island ferry terminal north to the Agate Pass Bridge. This State facility not only provides regional travel to and from the Island, but also is an important connection for local traffic needs. The Island's transportation system is truly multimodal, with commute, school, recreation, and shopping trips being commonly taken by, foot, bicycle, bus, auto, and ferry. While Winslow and other more urban areas have sidewalks, bicycle lanes, and widened shoulders, which facilitate non-motorized movement, there are many areas of the City where pedestrians and bicyclists must share the vehicle travel lanes or walk on narrow, unimproved shoulders. Non-motorized issues have been discussed as part of the City of Bainbridge Island's Non-Motorized Transportation Plan, which is part of this Plan.

Traffic has increasingly become an issue for the community. Traffic from growth has resulted in increased roadway volumes, often coupled with high vehicle speeds and congestion at intersections. This traffic increases conflicts with non-motorized users. In addition, the release of the ferry and other commuter traffic creates surges of vehicles onto the highway and the entire roadway system. During peak commute hours and tourist season, the highway can be overwhelmed, resulting in congestion and delays.

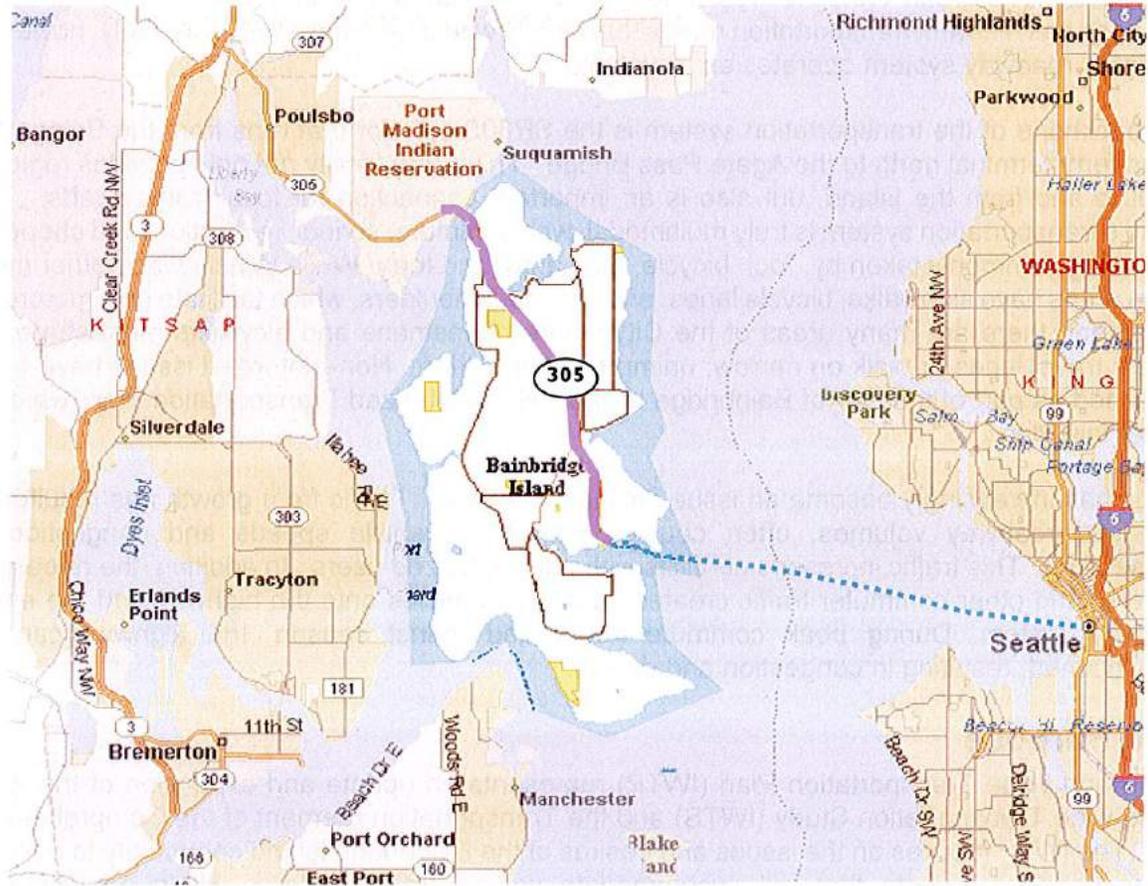
Plan Purpose

The Island Wide Transportation Plan (IWTP) represents an update and expansion of the 2004 Island-wide Transportation Study (IWTS) and the Transportation Element of the Comprehensive Plan. The IWTP focuses on the issues and desires of the Bainbridge Island community to develop a transportation system that will accommodate vehicle traffic patterns within a multimodal environment. Figure 1-1 shows the study area and primary transportation features in relationship to the surrounding region.

The purpose of this Plan is to provide an in-depth analysis of the existing and future traffic patterns to determine future transportation needs and solutions. The effort will include the development of a transportation model based on recent traffic counts, land use data, and roadway information that has allowed the analysis of existing and future travel needs. The emphasis in the model is to identify congested areas and the improvements needed to accommodate existing future vehicle traffic considering the needs of all the Island's transportation modes of travel.



Figure I-1
Island Transportation Context



Credit: Microsoft Expedia

Island Wide Transportation Study
City of Bainbridge Island





The IWTP incorporates information from other transportation planning efforts to provide a consistent approach to transportation issues. The IWTP uses information from the Winslow Master Plan and Comprehensive Plan to provide a document that directs transportation planning efforts throughout the community.

Planning History

In 1994, the City's Transportation Plan provided discussion and analysis of the transportation needs of the Island, except for the Winslow subarea that was studied separately. The final study was adopted and incorporated in the Transportation Element of the City's 1994 Comprehensive Plan. Since that time, several Comprehensive Plan updates have occurred to clarify, modify, or revise various sections of the study, including those in the Transportation Element.



In 1995, the Winslow Master Plan, as a sub-element of the Comprehensive Plan, provided focus of the transportation needs in the Winslow and ferry terminal areas. In 2002, a Non-Motorized Transportation Plan was adopted to propose a transportation system to meet the needs of pedestrians, bicyclists, and other non-motorized transportation users.

The City's Non-Motorized Transportation Advisory Committee (NMTAC) and Staff have worked together to evolve the City's level of thinking for non-motorized planning. This work has been reflected in Comprehensive Plan updates.

The NMTAC and Staff recognize the huge effort that was involved with creating the original Island-wide Transportation Study. This study is comprehensive and is still largely relevant today. Those involved also recognize that to repeat an endeavor of that scale will take considerable volunteer and staff time as well as financial resources. At this time, the City has been very successful in procuring grant funding to provide for the delivery of several significant capital improvements including the Sound to Olympics (STO) Trail, the Wing Point Way Reconstruction, and the Wyatt Way Reconstruction projects. The priority for resources now is best spent in implementation as these improvements include grant funds with local match components.

Each of these efforts was developed with extensive effort and time by members of the community through steering committees, public participation, workshops, and surveys. Their influence is part of this plan and represents the values and thoughts of the community.

Relationship to Comprehensive Plan

The Transportation Element of the Comprehensive Plan provides transportation policy. This includes identification of transportation issues, establishing a comprehensive vision for transportation, and setting overarching goals. Elements of the IWTP were used to develop the Transportation Element. The IWTP provides the technical data and analysis to facilitate transportation planning and provides for implementation of the vision, and goals, and policies established in the Transportation Element, as well as a detailed analysis of a variety of transportation issues affecting the community. It is intended that the IWTP be adopted by Council as a reference document to the Transportation Element in the Comprehensive Plan.



The City of Bainbridge Island has developed its Comprehensive Plan under the requirements of the Growth Management Act (GMA). The GMA requires that jurisdictions identify existing transportation system characteristics, establish level of service ratings, identify existing and future deficiencies, develop improvement projects and strategies to mitigate deficiencies, and analyze projected revenues to ensure that necessary improvements will be constructed concurrent with demand.

The City is currently undergoing an update to its Comprehensive Plan, to be completed in early 2017. The Island-wide Transportation Study (now IWTP) was last updated in 2004, and is being updated concurrently with the Comprehensive Plan.

Plan Update Process

Public involvement of the Plan was limited to comments taken at regular NMTAC meetings during the development of the update and at the time the draft plan is presented to the Planning Commission for comment.

This update was accomplished by Staff working with the NMTAC to review and comment on a chapter by chapter basis. The City has engaged the services of Transportation Solutions Incorporated (TSI) to support the City Council in considering implementation of Transportation Impact Fees. This effort involves extensive traffic counts and the creation of a transportation model. TSI's scope of services includes updating information and exhibits in the update.

Plan Organization

The Island Wide Transportation Plan is organized in chapters. Each chapter addresses one or more of the Plan goals and discusses how the policies are to be implemented by the City. The chapters are as follows:

- Chapter 1: Introduction
- Chapter 2: Sustainability and Quality of Life
- Chapter 3: Operations and Mobility
- Chapter 4: SR305
- Chapter 5: Safety and Maintenance
- Chapter 6: Non-motorized Transportation
- Chapter 7: Other Transportation Systems
- Chapter 8: Financing



A matrix is provided below showing where in the IWTP the information is contained to address Growth Management Act requirements for transportation planning in accordance with RCW 36.70A.070(6).

Land use assumptions used in estimating travel. (i)	Refer to Chapter 3.
Estimated traffic impacts to State owned transportation facilities. (ii)	Refer to Chapter 4.
Inventory of transportation facilities and services. (iii-A)	Refer to Figure 3-1, Roadway Classifications, Figure 7-1, Ferry Routes and Figure 7-5 Kitsap Transit Routes.
Level of service standards for locally owned arterials and transit routes. (iii-B)	Refer to Chapter 3 and Chapter 7.
Level of service standard for state highways. (iii-C)	Refer to Chapter 3.
Actions to correct current level of service deficiencies. (iii-D)	Refer to Chapters 3 and 4.
Traffic forecasts. (iii-E)	Refer to Chapters 3 and 4.
Identification of needs to meet future local and state system demands. (iii-F)	Refer to Chapters 3 and 4.
Probable funding capacity (iv-A)	Refer to Chapter 8.
Multi-year financing plan to meet road and transit level of service standards over the next 6 years. (iv-B)	Refer to Chapter 8.
Probable funding shortfalls and strategies to address funding needed to meet or reassess level of service standards. (iv-C)	Refer to Chapter 8.
Assessment of impacts of plan on neighboring jurisdictions. (v)	Refer to Chapters 3, 4, and 7.
Demand Management Strategies. (vi)	Refer to Chapter 7.
Non-Motorized element planned improvements. (vii)	Refer to Chapter 6 and 8.

CHAPTER 2

SUSTAINABILITY AND QUALITY OF LIFE



Of great concern to the Bainbridge Island community is the relationship between the transportation system elements and the character of the community, livability, public health, and the environment. This chapter discusses each of these elements of the transportation system, identifies how this Plan responds to these issues, and provides examples of transportation system features that illustrate these concepts. This chapter provides additional context to support the transportation issues, policies, and goals in the Transportation Element of the Comprehensive Plan.

Transportation plays a large role in the quality of life of Bainbridge Island residents. The ferry terminal to Seattle and the Agate Pass Bridge are the only two options for traveling off the island. Bainbridge is largely a bedroom community of Seattle and Kitsap County and many Islanders commute off-island by ferry or by bridge. Lengthy commute times by ferry or being stuck in traffic on SR305 mean spending hours away from family, friends, and activities. Speeding and cut-through traffic makes neighborhood streets feel unsafe. Reliable and efficient transportation on and off island is important to balance jobs and housing and maintain the quality of life for Island residents.

Poor quality or non-existent bicycle and pedestrian facilities can be a deterrent to residents walking or bicycling for transportation, connecting to transit, traveling to schools and parks, as well as for recreational purposes. Non-motorized facility networks provide options for active modes of transportation allowing residents to make healthy lifestyle choices. Walkability and bikeability are desirable characteristics of neighborhoods. An increasing number of Island residents are choosing to walk and bike to work and to obtain goods and services in the more densely developed areas of the Island.

How people choose to travel is a key element of both environmental sustainability and quality of life. Transportation is a significant contributor to climate change, as it accounts for a high percentage of greenhouse gas emissions. Emissions from transportation, especially diesel particulates, are a significant health hazard. The City's Comprehensive Plan focuses growth in areas such as Winslow and the Neighborhood Centers. With good planning and implementation of mixed use and higher densities within these areas, development can lead to a more sustainable growth pattern and preserve community character. Investments in infrastructure for active transportation modes and access to transit allow for reduced dependence on the automobile and present opportunities for the Island to develop more sustainably, and improving the quality of life for Island residents.

Active transportation facilities improve accessibility for people of all ages and abilities. For example, barriers to travel by wheelchair or walker (such as curbs lacking curb cuts) and lack of resting places for people with limited stamina, greatly reduce people's ability to participate in community life. Many youth and seniors do not drive.

Infrastructure for active transportation also reduces the need for parking, which in turn improves walkability and bikeability, and access to transit by encouraging more compact development. Costs of owning cars are a major expense for families, and good non-motorized infrastructure



with compact development can make living on Bainbridge more affordable, allowing a more economically diverse community.

Transportation infrastructure and associated drainage have direct impacts on the environment. Stormwater run-off from roads can contribute to water pollution, flooding, and water temperature elevation in riparian stream habitat corridors and Puget Sound. The road network right-of-way presents many opportunities to incorporate sustainable practices providing positive contributions to environmental sustainability.

Community Character

Community character is a term used to identify the elements that define Bainbridge Island. The City of Bainbridge Island's Comprehensive Plan discusses the Island's character as "...forested areas, meadows, farms, marine views and access, and scenic and winding roads supporting all forms of transportation. [Comprehensive Plan]

Relationship to Transportation

In the transportation elements related to community character include the highway, major streets, neighborhood roadways, and pedestrian and bicycle facilities. Community character includes natural and manmade features within the roadway right-of-way, such as trees with native understory and landscaping, drainage ditches, and street lighting. Each of these elements define the existing character of the City of Bainbridge Island. Some of these elements may be highly desired such as trees and plantings.

Much of the character of the transportation system stems from the roadway development. Roadways throughout the Island were originally constructed as logging, mill, or farm-to-market roads, connecting the rural areas of the Island with areas of urban development such as Winslow and to transportation connections such as "mosquito fleet" foot ferry docks. As the Island became more developed, major transportation features were added, including the Agate Pass Bridge, SR 305, and the Washington State Ferry's Bainbridge Island terminal. Island roadways were also improved over time -- pavement was added, roadways were widened, drainage was improved, and traffic controls were added to improve vehicle mobility and safety. Designated centers, mainly Winslow, saw a higher level of development including sidewalks and pedestrian paths, on-street parking spaces, street trees and landscaping, and street lighting. Recent improvements to the Winslow area include bicycle lanes and sidewalks, pedestrian crosswalks and refuge areas, bicycle and pedestrian paths, vehicle turn lanes, roundabouts, and other transportation features. New property developments are required to include transportation improvements along the property's frontage in accordance with the City's roadway design standards.

The City has followed the community's desires by defining and implementing an appropriate look and feel for its roadway and off-roadway transportation systems. Emphasis throughout the City's planning activities has responded to the community's concerns about preserving the elements that define the character of the community.

- The adopted Winslow Master Plan emphasizes the use of traffic calming to slow traffic speeds and promotes the development of pedestrian and sidewalk facilities within Winslow.
- The City roadway standards use 10-foot wide travel lanes instead of the standard 12 feet, creating a narrower feel and less paved width. This helps to slow traffic and reduce stormwater impacts of roads.



- The City developed a Non-Motorized Transportation Plan and created a Non-Motorized Transportation Advisory Committee to provide better facilities for pedestrians and bicyclists throughout the Island.
- The City continues to explore and implement innovative traffic control options such as the roundabout at Madison Avenue and High School Road as alternatives to the installation of traffic signals.
- The City continues to evolve its transportation vision to include complete streets, shoulder networks for cyclists, sidewalk improvements for better accommodation of a wide range of users, and trails including regional, intra-island, and local connecting pathways.
- The City with Kitsap County has developed the concept of the Sound to Olympics Trail (STO) – a regional trail crossing Kitsap between both Winslow and Kingston to the Hood Canal Bridge – which will link the Burke-Gilman Trail in Seattle and the Olympic Discovery Trail.

Community character transportation features

The IWTP is focused on identifying the infrastructure needed to improve mobility and safety of the transportation system. The Plan's alternatives and recommendations meet the Plan's goals for maintaining community character including:

- ***Road development guidelines*** – Providing consistency with the adopted roadway standards that promote the retention of appropriate roadside vegetation and trees and follow the natural topography.
- ***Street design guidelines*** – Providing for and protecting the development of more urban features, such as parking, sidewalks, and bicycle facilities within designated centers, widened shoulders and separated paths in less urban areas. Providing context appropriate street designs that promote the use of all modes of transportation for all ages and abilities of people.
- ***Street lighting guidelines*** – Concentrating street lighting within Winslow and Neighborhood Centers and areas identified by safety or community planning needs.
- ***Scenic resource and habitat protection*** – Focusing the development of the transportation system within existing and carefully chosen new travel corridors, while retaining trees with understory and standing or fallen deadwood.
- ***SR305 Scenic Byway*** – Retaining the scenic character of SR305 by discouraging new access points, and maintaining or enhancing vegetative buffers. SR305 is a WSDOT designated Scenic Byway, and the community wishes to preserve, enhance, and restore healthy forested habitat along the corridor. Trees, understory, standing and fallen deadwood all contribute to the desired view-shed and wildlife corridor. Vegetative buffer screening adjacent development is important, both within WSDOT right-of-way, and within adjacent land bordering the highway. Development of the Sound to Olympics Trail in and along the SR305 right-of-way is planned to reduce the need for more motor vehicle lanes, enhance vegetative buffers, and improve connections with transit. Reversible bus rapid transit lanes are being studied to move people more efficiently, and with minimum impervious surface.



Desired features of Community Character

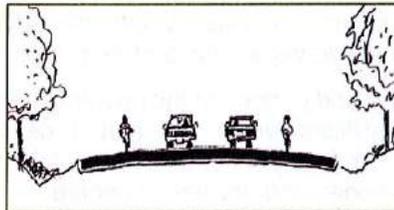
The photographs and sketches identify some of the key features that define the transportation character of Bainbridge Island.



Following natural topography, roadside trees and vegetation, with minimized paved surfaces are desired in conservation areas



Crosswalks, parking, street lighting, and non-motorized facilities are desired features in urban areas



Integration of bicycles, pedestrians, and non-motorized facilities are important features for the community

Livability and Health

The public is becoming more conscious of the environment in which they live and an increasing percentage of the population desires to live in places that are walkable and bikeable. The federal Centers for Disease Control (CDC) and the Kitsap Public Health District strongly encourage developing active transportation facilities to support moderate exercise for basic public health. Today prospective home buyers are presented with statistics such as walkability scores. A growing number of residents' desire active transportation alternatives for daily trips including access to goods and services. More and more commuters choose active modes of transportation to commute to work. On Bainbridge Island, many residents commute by walking and bicycling to the Seattle ferry. Other commuters use Kitsap Transit or carpool and often walk to stops within their neighborhood.

Relationship to Transportation

In order to achieve livability and promote public health, frequent updating of standards and incremental investments in transportation infrastructure, including non-motorized elements, are essential.

- **Roadway Standards** – Pedestrian and bicycle facilities provide for active modes of transportation and recreation. Street lighting is to be appropriate for routes where residents are walking or cycling to school, work, or transit in the dark during fall and winter months. This is particularly important for people with low vision, including seniors. Recognizing that investments take time, provide interim measures for additional non-motorized safety through means such as reducing speed limits, providing wider shoulders, and installation of signage.



- **Complete Streets** – Investments over time in pedestrian and bicycle facilities within both designated center areas will provide for greater connectivity. Many streets lack sufficient sidewalks and bike lanes. Many secondary arterial roadways lack shoulders and separated facilities.
- **Multi-use pathways** – Investments in separated pathways with regional, intra-island and local connectivity.
- **ADA Transition Plan** – The City is continuing a process of identifying ADA-accessible routes for people with reduced mobility, many using assistive devices such as wheelchairs (motorized and manual) and walkers.

Neighborhoods

Bainbridge Island is a residential community and the protection of neighborhood areas and promotion of neighborhood transportation facilities is an important concern for Island residents. Designated centers such as Winslow need a high level of development with pedestrian and bicycle facilities, transit access, and a development of residential street character. In conservation areas, residents are concerned about the impacts of traffic flow, the development of non-motorized facilities and improving future connections and circulation.

Relationship to Transportation

Provide a safe roadway system in residential areas for adults and children walking, bicycling, and driving. The City of Bainbridge Island has a limited transportation network and vehicle movements often depend on a single street. Because of this, as traffic levels increase on the arterial street system, adjacent and parallel streets will begin to experience factors such as “cut-through” traffic, inappropriate vehicle speeds, and intersection congestion.

- **Neighborhood traffic calming**– The City's Public Works Department, in conjunction with the Police Department, reviews complaints about inappropriate speeding or cut-through traffic on neighborhood streets.
- **Traffic enforcement** – The City of Bainbridge Island Police Department responds to neighborhood concerns about high traffic speeds through residential areas.
- **Roadway standards** – The City of Bainbridge Island has developed its roadway design standards to act as traffic calming features using narrow travel lanes and non-motorized facilities.

Neighborhood Transportation Features

The IWTP is focused on identifying the improvements needed for the mobility and safety of people using the transportation system. The alternatives and recommendations meet the Plan's goals for maintaining the neighborhoods including:

- **Reducing neighborhood cut-through traffic** – Focus the development of transportation system within primary travel corridors.
- **Neighborhood circulation** – Develop the transportation network to provide secondary roadway access, improve emergency access, increase neighborhood circulation, and improve pedestrian and bicycle mobility. Pedestrian and bicycle path short-cut connections through neighborhoods offer important connectivity to link neighborhoods and discourage unnecessary vehicle trips. Provide non-motorized connectivity between neighborhoods through City review of new development projects
- **Winslow street visualization plan** – Promoting the design and unique character of each street within the Winslow area.



Desired features for Neighborhoods

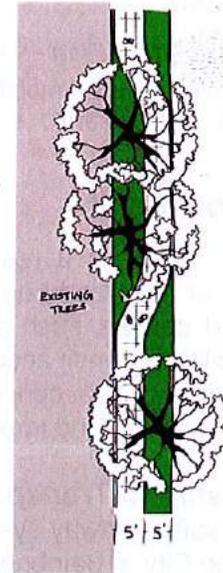
The photographs and sketches identify some of the key features that define the neighborhood goals for transportation.



Neighborhoods are enhanced by providing appropriate street width, sidewalks, and other facilities

The character and needs of Winslow streets are part of a visual street plan

Streets reflect the special needs of pedestrians, bicyclists and traffic flow



Environment

Maintaining a natural environment is very important to the Bainbridge Island community. Protection of the environment is a key consideration for all development projects, with the city, state, federal government agencies, and Tribes all playing roles.

Bainbridge Island residents voted to fund a \$10 million bond to purchase open space, and that money was heavily leveraged through the City's Open Space Commission to vastly increase open space on the Island. Bainbridge voters approved a Levy Lid Lift for the Bainbridge Island Metropolitan Parks and Recreation District to purchase land to strategically increase open space for recreational usage. The City completed an Open Space Study, which provides guidance for land use planning regarding environmentally sensitive areas.

Relationship to Transportation

Bainbridge Island has a variety of environmental characteristics that affect the development of the transportation system. As an island, traffic is concentrated near the ferry terminal in Winslow, and at the two-lane Agate Pass Bridge at the north end of the Island. The Island's topography, soils and steep slopes have limited the development of roadways in many areas. The Island has many sensitive resources such as ravines, parklands, open spaces, and shoreline and wetland areas that require creative and environmentally sensitive approaches to roadway and non-motorized facility development.

Possible impacts to the environment are a key consideration in the development of transportation projects. These include full consideration of impacts on the environment in the planning and design of a project.



Environmental Transportation Features

The following environmental aspects should be considered in addition to improving mobility and safety for all modes of transportation:

- ***Environmental sensitivity*** – Minimizing road construction within environmentally sensitive areas and encouraging the planting of low-maintenance, native groundcover and trees along roadways. The Plan focuses the development of the transportation system within existing travel corridors.
- ***Utilities*** – Promoting the undergrounding of overhead utilities to reduce the need for removal and maintenance of roadside vegetation.
- ***Stormwater management***. – Providing for environmentally-sensitive design of stormwater collection and detention facilities. Combining traffic calming and stormwater management goals through green infrastructure provisions within traffic calming features such as curb bulbs.
- ***Air quality*** – Developing transportation plans and programs that improve traffic flow, encourage non-motorized and transit transportation alternatives to driving, thus lessening the impact on regional air quality.
- ***Wildlife corridors and networks*** – Recognizing and promoting the maintenance of wildlife corridors and networks.

Desired features of Environment

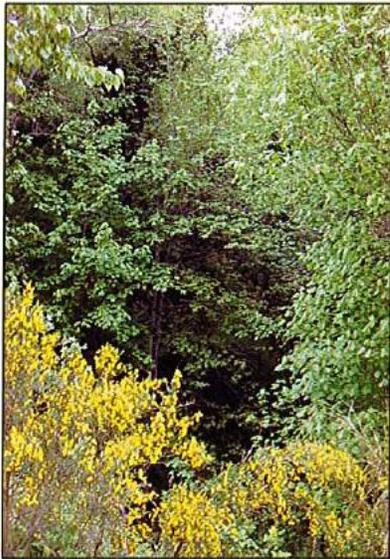
Bainbridge Island has a variety of environmental characteristics that affect the development of the transportation system.

The photographs and sketches below identify some of the key features that define the environmental goals.





Stormwater Management and Green Infrastructure



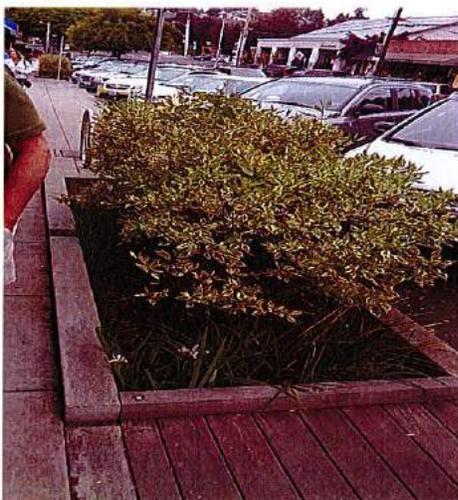
Protection of environmental resources such as the Ravine



Special stormwater containment features can control water runoff roadway surfaces



Rain gardens to control stormwater run-off and improve water quality



Stormwater planters to control run off and improve water quality





Developed landscapes including roadways are covered with impervious surfaces which can increase pollutant levels and increase stream flows, degrading water quality. The Washington State Department of Ecology (DOE) establishes the stormwater flow control and water quality requirements for roadway projects. As a municipality, the City of Bainbridge is required to meet the National Pollutant Discharge Elimination System (NPDES) permit obligations to discharge stormwater to waters of the State of Washington and meet the NPDES permit requirements. With the implementation of the 2012 NPDES Permit, the City is implementing Low Impact Development (LID) requirements for both public and private development.

LID is an innovative stormwater management approach that attempts to mimic the natural stormwater hydrology of pre-development conditions. LID uses techniques that infiltrate, filter, detain, evaporate, and attenuate stormwater run-off close to the source. Examples of “green” natural processes include swales, bio-retention, filter media, permeable pavement, and street trees. Streets that implement natural processes are commonly referred to as green streets. Green streets can serve multiple community goals by combining stormwater infrastructure within traffic calming features such as curb, bulbs or by adding planting strip rain gardens that provide additional buffer between the street and the sidewalk.

Balancing Community Needs

With thoughtful planning, new transportation infrastructure can often protect environmental functions, as when LID facilities replace more traditional stormwater piping, or when pedestrian, bicycle, and/or transit facilities reduce the need for impervious and expensive parking facilities.

One of the more challenging aspects of improving a transportation system is finding the right balance between competing community needs and desires. For example, it may be best to construct a sidewalk or separated pathway on one side of the roadway rather than on both sides in order to reduce impacts to vegetation. Balancing needs of non-motorized users and goals of vegetation protection will require analysis and public engagement to design improvements that best meet competing interests.

Creating designs that improve transportation systems and evaluating the trade-offs where they exist (weighing the importance between community goals and design guidelines) is an important function of the City of Bainbridge Island Public Works Department. Table 2-1 illustrates the issues that can arise for a variety of transportation improvements.



Table 2-1: Competing Community Needs

Project Type	Community Character concerns	Environmental concerns	Neighborhood concerns
Widen roadway to include bicycle lanes	Increased paved width of roadways changing the road's look and feel	Promotes use of non-motorized, but also can increase water runoff	May slightly increase vehicle travel speeds on widened road corridor
Installation of roundabout at an intersection	Roundabouts highly desired over traffic signals	May result in removal of trees near intersection	May reduce cut-through traffic in residential areas
Rebuilding roadway impacted by shoreline erosion	May result in a more structured and modern roadway facility	May impact shoreline areas, loss of trees and foliage	Needed improvement for access to property
Installing pedestrian path or sidewalk	May affect the feel of a traditional neighborhood	Promotes use of non-motorized vehicles	Provides safe access for pedestrians

As illustrated in the table above, each of these examples could have competing concerns. In other words, a highly desired project for one sector of the community may be opposed by another. In the end, these checks-and-balances can improve the planning and design of roadway projects by reflecting the needs and desires of the larger community.

Public Works uses the community values in the Comprehensive Plan when developing project objectives. The City of Bainbridge is committed to the principals of context-sensitive solutions. Public Works staff strives to facilitate public engagement when developing capital projects to evolve and refine the community's values as they relate to each project.

CHAPTER 3 OPERATIONS AND MOBILITY



This chapter describes the traffic operations and current and future vehicle mobility for the City's roadway system. Mobility is the measure of how well vehicles can get around on the roadway system – the opposite of congestion. Island residents expect a high level of mobility that maintain the character of their community. The high levels of congestion experienced during peak periods, especially on and around SR305, area common source of frustration for drivers.

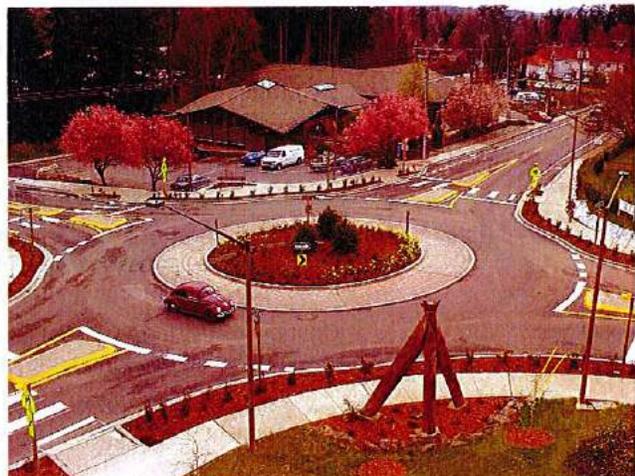
While the focus of this chapter is on motorized level of service, it is recognized that providing for level of service for all modes is important for a viable transportation system. In some locations where constraints limit options, some modes may be favored over other modes. Transportation networks should provide for all modes of transportation as a system. For vehicular traffic transportation demand strategies, may be an optimal approach.

Level of service standards are used to provide a basis for the mobility analysis. This Plan used planning and operational models developed by Transportation Solutions, Inc. in TransCAD and Synchro software, respectively, to analyze current conditions (based on traffic counts and existing roadway network information) and to forecast future levels of service (based on traffic generated by forecasted land use and roadway network changes). The structure of the roadway network was analyzed by reviewing the roadway classification system, connectivity, access, and road standards.

Existing Roadway System

The section on existing conditions provides an analysis of the current operating conditions and provides a baseline for future comparisons. The City of Bainbridge Island's transportation system is made up of a network of roadways, pedestrian facilities, bikeways, the ferry terminal, and formal and informal trails. Each of these elements is important to the mobility or movement of people and goods within and to destinations beyond the Island. This chapter focuses on the roadway system only; the non-motorized, bus transit, and ferry systems are described in Chapters 6 & 7.

The roadway system is designed for the movement of people and goods throughout the community. Major regional transportation features of the Island include the Washington State Ferry Terminal, which connects Bainbridge Island to downtown Seattle; and State Route 305, which connects the Island to the Kitsap and Olympic Peninsula. State Route 305 is the Island's principal transportation corridor, providing an important north-south connection.



The State system is supported by a City roadway system that connects residential areas to the highway and retail and employment areas. The City's arterial, collector, and residential street system provides roadway connections and access to properties within the City.



Travel Corridors

The following important commuter, shopping, business, school, and freight/commercial corridors are identified for the Island:

- *Commuter Corridors* – SR305, Winslow Way, Wyatt Way, Ferncliff Avenue, High School Road, Day Road, Blakely Avenue, Eagle Harbor Drive, Baker Hill Road, Miller Road, and North Madison Avenue.
- *Retail Corridors* – SR305, Winslow Way, High School Road, Madison Avenue, Hildebrand, Miller Road, Wyatt Way, Lynwood Center Road, and Valley Road.
- *School Corridors* – High School Road, New Brooklyn Road, Sportsman’s Club Road, Madison Avenue, Day Road, North Madison Avenue, and Blakely Avenue
- *Freight Corridors* – SR305, Day Road, Miller Road, Fletcher Bay Road, Sportsman’s Club Road, High School Road, Madison Avenue, and Winslow Way.

Roadway Inventory

The City’s roadway system consists of approximately 140 miles of paved roads, and another 20 miles of unpaved roads. The City maintains a Geographic Information System (GIS) that includes the roadway system. The GIS database includes characteristics for each roadway segment, including length, pavement width, functional classification, posted speed, sidewalks, and transit and bicycle facilities. A spreadsheet is maintained that includes sign inventory information. The City periodically conducts an island-wide traffic count and develops volume and traffic speed information for its major roadways. This Plan was updated in 2014 with TSI traffic counts.

Roadway Classifications

Roadway functional classification is defined as the process by which streets and highways are grouped into classes, or systems, according to the character of traffic service that they are intended to provide. The City divides Island roadways into four functional classifications: principal arterial, secondary arterial, collector, and local access roads. These classifications are described in Table 3-1.

Table 3-1. Functional Classifications

Classification	Definition
Principal Arterial	Carry the highest levels of traffic in the system at the greatest speed for the longest uninterrupted distance, often with some degree of access control. Used for through trips, and provide connections within the system.
Secondary Arterial	Carry high level of traffic at a moderate speed, sometimes for through trips. Often serve as access to high-intensity land uses such as major employers or larger commercial centers; provide connections within the system.
Collector	Connect traffic from residential roads to arterials at a lower speed, carrying lower levels of traffic than arterials. Serve neighborhood centers.
Local Access	Carry low levels of traffic at low speeds. Serve as access to residential and commercial areas and are not used for through trips.

Streets and highways are assigned one of these classes, depending on the character of the traffic (i.e., local or long distance) and the degree of land access that they allow. Typically, a trip will use a combination of different road classes, with each classification having a specific function with



regard to access and travel speed. Arterials provide a high degree of mobility and less access, while local access roads provide a high level of access and less mobility. Collectors provide a balance between access and mobility and connect the system.

Road Standards

The City of Bainbridge Island has established its roadway street and design standards as part of its *Engineering Design and Construction Standards and Specifications*. These standards set the minimum requirements for constructing roadways and are applicable to all new roadway construction and modifications to existing roadways within the City of Bainbridge Island. The road and street design standards follow the functional classification system described above and establish separate standards for designated centers and the conservation area of the Island.

The City has both urban and suburban standards. Urban standards are intended to apply within the designated center of Winslow, the neighborhood centers including Lynwood, Island Center, and Rolling Bay, and the Day Road Industrial Center. Urban standards apply in all locations with R2.9 and greater zoning and/or effective density. The City may require urban standards to be applied in other areas in close proximity for system continuity.

Level of Service

This section describes the Level of Service (LOS) standards used in this document. LOS provides a method for measuring the performance of the transportation system. The City uses a standard for LOS that determines if adequate mobility is being provided on the roadway system. LOS standards and method of measurement have been coordinated with Washington State Department of Transportation, Washington State Ferries, Kitsap County, and Kitsap Transit to ensure that standards used in this document are consistent, with these other entities.

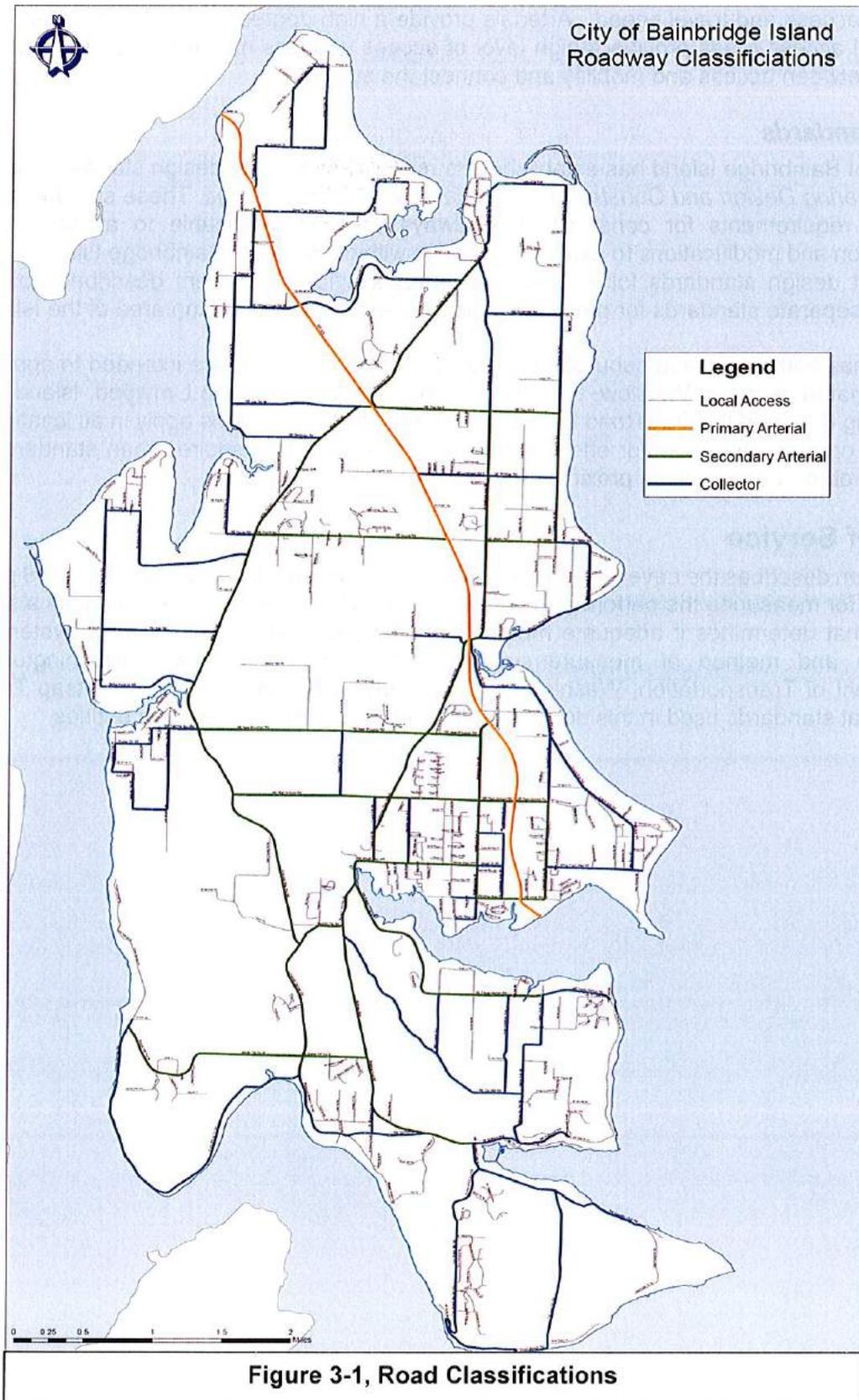


Figure 3-1, Road Classifications



LOS Defined

LOS is a measurement used in transportation planning to assess the operating performance of the transportation system. For roadways, LOS measures the degree of traffic congestion along a roadway varying from LOS A (free-flow traffic with minimal delays) to LOS F (highly-constrained traffic with long delays).

The Highway Capacity Manual (HCM) (Transportation Research Board, Special Report 209) establishes quantitative methodologies for determining level of service for differing types of facilities. The methodologies vary for intersections, roadways, freeway, and highway, but all follow the LOS A - F classification and provide a consistent method of measuring the performance of the transportation system. Table 3-2 describes the operation of the transportation system at each LOS ranking.

Table 3-2: Level of Service Descriptions

Level of Service	Description
LOS A	Free flow traffic conditions with very low delay at intersections.
LOS B	Reasonably unimpeded traffic operations with only short traffic delays at intersections.
LOS C	Stable operating conditions with average traffic delays at intersections
LOS D	Operating conditions result in lower travel speeds and higher delays at intersections.
LOS E	Travel speeds are substantially restricted with problems likely to occur at intersections.
LOS F	Roadway operations are over capacity with extreme delays likely at intersections.

LOS is measured differently for roadways and intersections. For roadways, LOS is measured as a function of traffic volume and roadway capacity. For intersections, LOS is measured as a function of vehicle delay in clearing the intersection.

Roadway LOS Measurement

Roadway LOS is measured by the relationship between traffic volume (V) and capacity (C) of the roadway. As the volume of traffic using the roadway approaches, the capacity of the roadway (V/C approaching 1.0), the level of service deteriorates. Table 3-3 relates volume/capacity to LOS measurements for roadways.



Table 3-3. Roadway Level of Service and Volume/Capacity Ratio

<i>LOS</i>	<i>Volume/Capacity (V/C) Ratio</i>
<i>A</i>	<i>Less than 0.6</i>
<i>B</i>	<i>0.60 to less than 0.70</i>
<i>C</i>	<i>0.70 to less than 0.80</i>
<i>D</i>	<i>0.80 to less than 0.90</i>
<i>E</i>	<i>0.90 to less than 1.00</i>
<i>F</i>	<i>More than 1.00</i>

Traffic volumes can be counted or they can be calculated using the traffic model by analyzing land uses that are served by the roadway. Bainbridge Island’s roadway capacity policy is defined in the City Design and Construction Standards; see Table 3-4. No policy is currently defined for arterial roadway capacity. There is some inconsistency between the City’s current capacity policy and an engineering-based approach to roadway capacity calculation which would typically consider the physical structure of the roadway, including the number of lanes, type of intersection controls, widths of lanes and shoulders, and design speed. The City’s capacity standards will be reviewed and updated during the roadway design standard update process.

The roadway levels of service described in this Plan are based upon current capacity policy. In lieu of an arterial capacity policy, this Plan calculated arterial segment LOS based on an approach which is currently used by other small cities and which is consistent with the state of engineering practice.

Table 3-4. Existing Roadway Capacity Policy

<i>Functional Classification</i>	<i>Area Type</i>	<i>Capacity *</i>
<i>Secondary Arterial</i>	<i>Urban</i>	<i>> 3,000</i>
<i>Secondary Arterial</i>	<i>Suburban</i>	<i>>2,000</i>
<i>Collector</i>	<i>Urban</i>	<i>2,000 to 3,000</i>
<i>Collector</i>	<i>Suburban</i>	<i>1,000 to 2,000</i>
<i>Residential</i>	<i>Urban</i>	<i>< 2,000</i>
<i>Residential</i>	<i>Suburban</i>	<i>< 1,000</i>

* Capacity is measured using the Average Daily Traffic (ADT)

To improve the LOS for a roadway, either the capacity must be increased or the volume of traffic using the road must be decreased. To increase the capacity, the City can look at several options such as roadway improvements ranging from adding signals or separated turn lanes to an intersection to roadway widening. To reduce traffic volumes, the City can explore options such as changing allowable land uses or modifying individual travel behavior. This section focuses on capacity improvements. Chapter 7 discusses other travel modes and methods of transportation demand management.



Intersection LOS measurement

Intersection LOS is measured by the amount of delay experienced by a vehicle waiting to clear an intersection. Delay at a signalized intersection can be caused by waiting for the signal or waiting for the queue ahead to clear the signal. Delay at un-signalized intersections is caused by waiting for a break in traffic or waiting for a queue to clear the intersection. Table 3-6 shows the amount of delay used to determine LOS for signalized and un-signalized intersections. Roundabout-controlled intersections use the same LOS thresholds as signalized intersections.

Table 3-6. Intersection LOS and Delay

LOS	Signalized Delay per Vehicle (sec/veh)	Unsignalized Delay per Vehicle (sec/veh)
A	0-10	0-10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

*Generally, speaking...
Roadways that are LOS E or F fail the standard.
LOS D is okay for certain arterials and collectors in urban areas
LOS A, B or C are within the standard for all arterials and collectors*

Different delay standards are used for signalized (stop light controlled) and un-signalized (stop sign controlled) intersections. For signalized and all-way stop controlled intersections, the LOS is the amount of delay per vehicle caused by control and is reported for the intersection. For un-signalized intersections, where there are controls only on the minor approaches, the LOS is estimated by the average delay per vehicle and is reported for only minor approaches to the intersection.

City LOS Standard

The City of Bainbridge Island's LOS standard designates the minimum operational performance of the roadway system that must be maintained. If traffic volumes cause a roadway to fall below the minimum LOS standard, improvements or other mitigation must be made to bring the facility back to the designated LOS standard. Level of service standards are normally prescribed for the afternoon or p.m.

peak hour (most congested hour) of the traffic system, which typically occurs between 4:45 and 5:45 in the evening on Bainbridge Island.

The recommended minimum LOS standard uses the City's roadway classification system, and four zones that reflect the differences in the Island's character: designated centers including Winslow and Neighborhood Centers, Conservation Area, and the SR305 Corridor. Within each of these categories, individual minimum LOS standards were established for secondary arterials, collectors, and residential roadways. These are shown in Figure 3-2 and described below.

Winslow – (applies to roadways and intersections in the greater Winslow area)

- Secondary Arterial – LOS D
- Collector – LOS D



- Local Access – LOS C

Neighborhood Centers – (applies to roadways and intersections within the City-defined centers of Rolling Bay, Island Center, and Lynwood Center)

- Secondary Arterial – LOS D
- Collector – LOS C
- Local Access – LOS C

Conservation Area – (applies to roadways and intersections in areas outside of the Winslow core and the Designated Centers – the remainder of the Island)

- Secondary Arterial – LOS C
- Collector – LOS C
- Local Access – LOS B

SR305 Corridor – (applies to state highways and is established by the State)

- All Roadways– LOS D

SR-305 LOS Standard

The LOS standard for state facilities is set by the Washington State Department of Transportation as a Highway of Statewide Significance (HSS) under RCW 47.06.140. The HSS designation requires that SR305 be evaluated using a LOS Standard designated by WSDOT. While WSDOT internally evaluates roadways using its own methodology, WSDOT has assigned a level of service standard for SR305 as LOS D-mitigate for City planning purposes. This standard requires that congestion be mitigated when the peak period operation of the state facility falls below LOS D.

Non-Motorized LOS Standard

The facility types and associated level of service for non-motorized transportation elements for secondary arterial and high volume collector (ADT 1500 or greater) roadways are established in Chapter 6, "Non-Motorized Systems" of this plan. The minimum Bicycle Level of Service (BLOS) and Pedestrian Level of Service (PLOS) for development is level of service C. PLOS and BLOS is calculated using the methodology in the latest edition of the Highway Capacity Manual. The 2010 Highway Capacity Manual (HCM 2010) provides a detailed methodology for calculating level of service for pedestrians and cyclists. The level of service is based on quality of facilities as well as traffic volume and speeds. LOS measures are graded A through F based on a numerical score with the letter A representing the highest-grade facility.

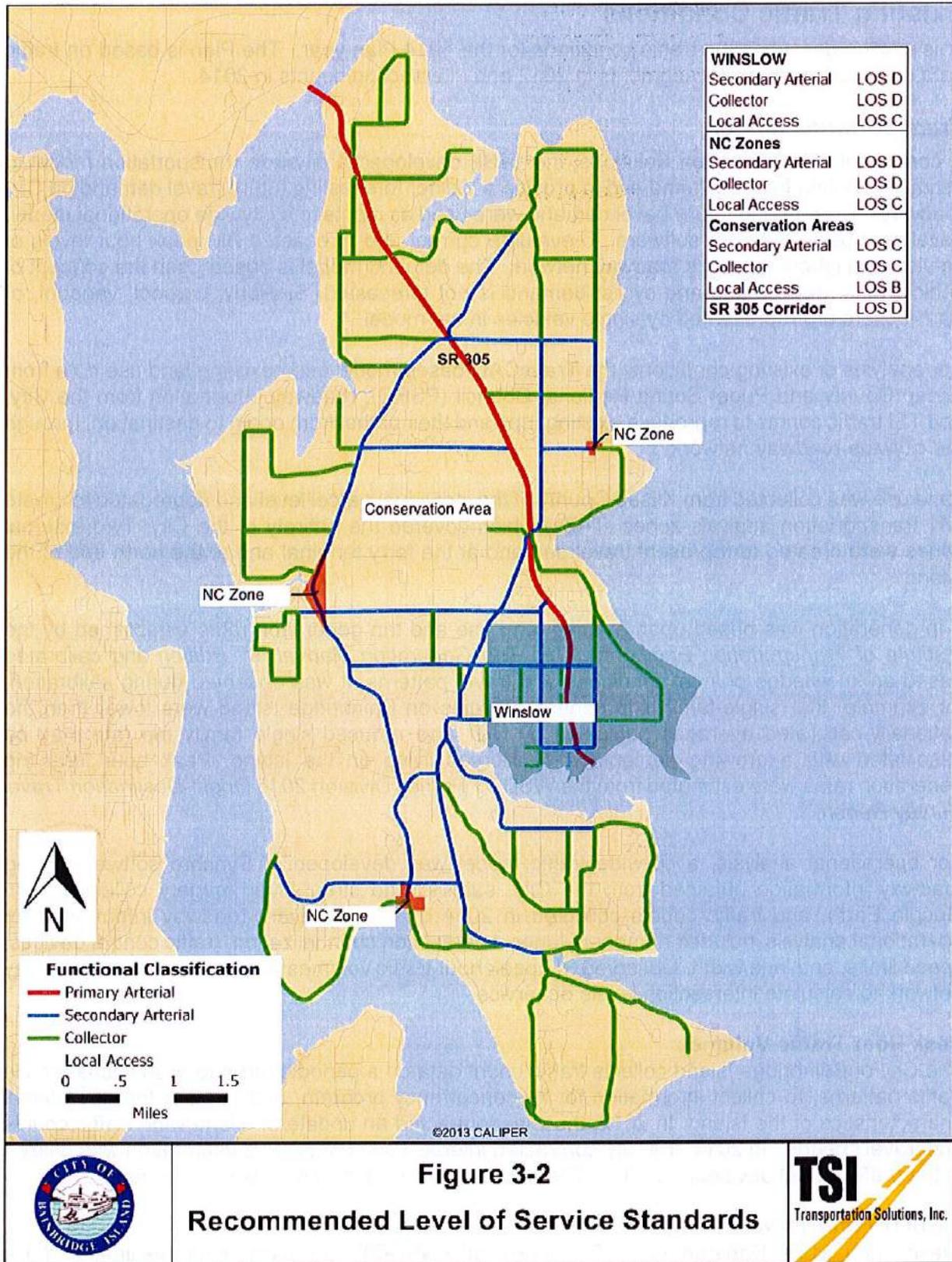


Figure 3-2
Recommended Level of Service Standards





Existing Traffic Conditions

This section describes the traffic conditions for the 2014 Plan year. The Plan is based on traffic data collected for roadway segments in 2012 and intersection counts in 2014.

Transportation Model

A consultant, Transportation Solutions, Inc. (TSI) developed a citywide transportation model to estimate existing travel demand and to provide a tool for forecasting future travel demand on City roadways. Current and future travel demand were used as inputs to a citywide operational model, developed using Synchro software, to evaluate current and forecasted PM peak hour levels of service throughout the city's roadway network. The demand model is based upon the concept of vehicle trips; pedestrians and cyclist demand is not forecasted. Similarly, carpool, vanpool, or transit users are represented by single vehicles in the model.

For analysis of existing conditions, the TransCAD-based model used existing land use data from Kitsap County and Puget Sound Regional Council (PSRC), roadway information from the City, and TSI traffic counts to reproduce existing trips and their paths, from origin to destination, through the citywide roadway network.

Land use was collected from Kitsap County at the individual parcel level and aggregated to create 241 transportation analysis zones (TAZs) which covered the entirety of the City. Two external zones were created to represent travel demand at the ferry terminal and at the north end of the Island.

Trip generation was based upon existing land use and trip generation rates established by the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition* and calibrated based on knowledge of local conditions and travel patterns. It was observed during calibration, for example, that single-family trip generation rates on Bainbridge Island were lower than the nationally-calibrated averages published by ITE. This reduced single family trip rate may be associated with a growing percentage of retirees living on the Island. Peak hour ferry trip generation rates were estimated from the WSDOT Ferries Division *2013 Origin-Destination Travel Survey Report*.

For operational analysis, a citywide traffic model was developed in Synchro software, using roadway information obtained from the City, satellite and street-level imagery collected from Google Earth, and traffic counts collected in 2014 by TSI. Relevant roadway information for operational analysis included number of lanes, intersection channelization, traffic control devices, speed limits, and lane width. Observed PM peak hour traffic volumes were applied to the roadway network to calculate intersection levels of service.

Peak Hour Traffic Volumes

The City of Bainbridge Island collects traffic count data on a periodic basis to assess changes in traffic patterns, to collect information for its concurrency program, and to track the operational characteristics of the Island. In 2012, the City contracted an update of Island-wide traffic counts and travel speeds. In 2014, the City contracted intersection counts. This information was utilized in the traffic model developed by TSI. The data are included in Appendix E of this report.

WSDOT Ferry Travel Survey

Washington State Department of Transportation (WSDOT) conducts origin-destination (OD) surveys every six to seven years as a way to accurately capture and measure the travel patterns



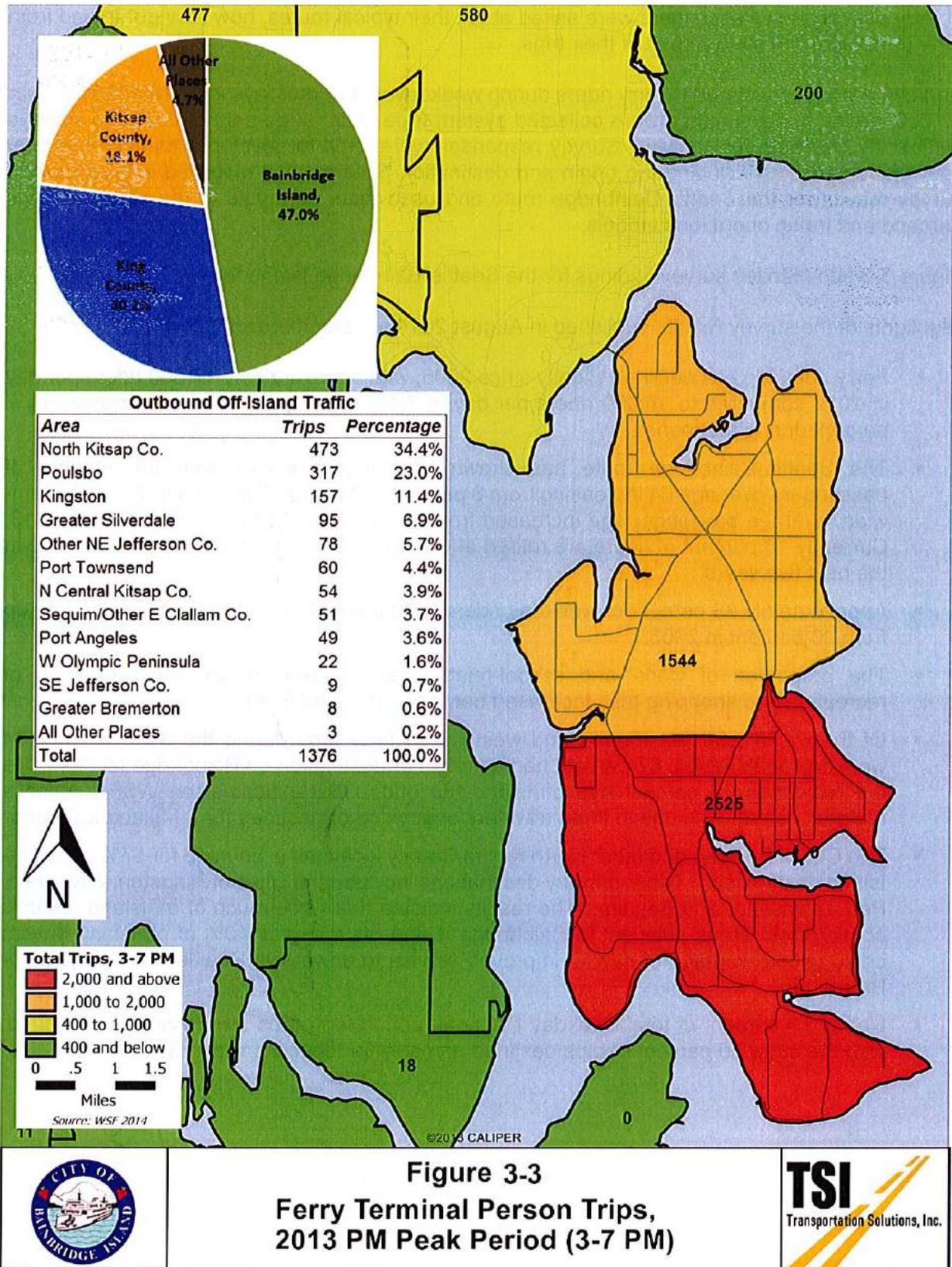
of ferry passengers. Passengers were asked about their typical routes, how they get to and from ferry terminals, and the purpose of their trips.

Surveys were administered to ferry riders during weekdays and Saturdays in October 2013. Over 17,000 survey questionnaires were collected system-wide, with 92 percent of collected surveys sufficiently complete for analysis. Survey responses were used to develop a database of ferry user characteristics, including trip origin and destination patterns. TSI reviewed and processed survey results for the Seattle-Bainbridge route and used them as inputs to the citywide travel demand and traffic operations models.

Figure 3-3 summarizes survey findings for the Seattle-Bainbridge Island ferry.

Highlights of the survey results published in August 2014 are summarized below:

- Ferry ridership has declined slightly since 2006, with approximately 17,000 riders per day in 2013 compared to 18,000 riders per day in 2006. Vehicle boarding's decreased by 7 percent during that period.
- The Seattle-Bainbridge route has shown an aging ridership, with the number of passengers over age 64 increasing from 8 percent in 2006 to 17 percent in 2013. System-wide, average passenger age increased from 42 in 1993 to 48 in 2006 and 49 in 2013. Currently 18 percent of riders are retired and another 14 percent are planning to retire in the next five years.
- Approximately 25 percent of weekday riders telecommute at least one day per week, up from 20 percent in 2006.
- The proportion of work- and school-related trips decreased and the proportion of recreation and shopping trips increased between 2006 and 2013.
- Of the 6,070 total (eastbound and westbound) ferry trips during the 3:00 to 7:00 PM weekday peak period, 67 percent had an origin or destination on Bainbridge Island, while the remaining 33 percent had off-Island trip ends. This indicates the WSF terminal's regional nature, with one in three travelers originating or destined for off-Island locations.
- The City of Poulsbo and other North Kitsap County locations accounted for 57% of the off-Island destinations. Other primary destinations included the cities of Kingston, Silverdale, Port Townsend, and Sequim. The results indicate that while much of off-Island traffic is coming from areas adjacent to Bainbridge Island, as many as 40% of off-Island drivers could take advantage of new or improved service to downtown Seattle from Kingston or Bremerton.
- Nearly 70 percent of total weekday PM peak period ferry trips are destined westbound, with the other 30 percent of trips destined primarily for locations within Seattle.





Existing LOS

The travel demand model was calibrated using a process that compares the counted roadway volumes to modeled flows which are based on land use and roadway network data. The calibrated TransCAD model and Synchro intersection analysis software were used to determine the 2014 LOS for the intersections in the study area.

Figures 3-3 shows the 2014 LOS for the Island as a whole and for the Winslow area. The LOS for each intersection is shown by approach in Table 3-6. All intersections modeled on SR305 north of High School Road currently do not meet minimum LOS standards except for the signal at Day Road. Day Road however is close to exceeding the standard. In urban areas, the Madison/Wyatt intersection currently fails the minimum LOS standard but will be improved to LOS A upon completion of a planned roundabout.

There are currently no roadway level of service failures.

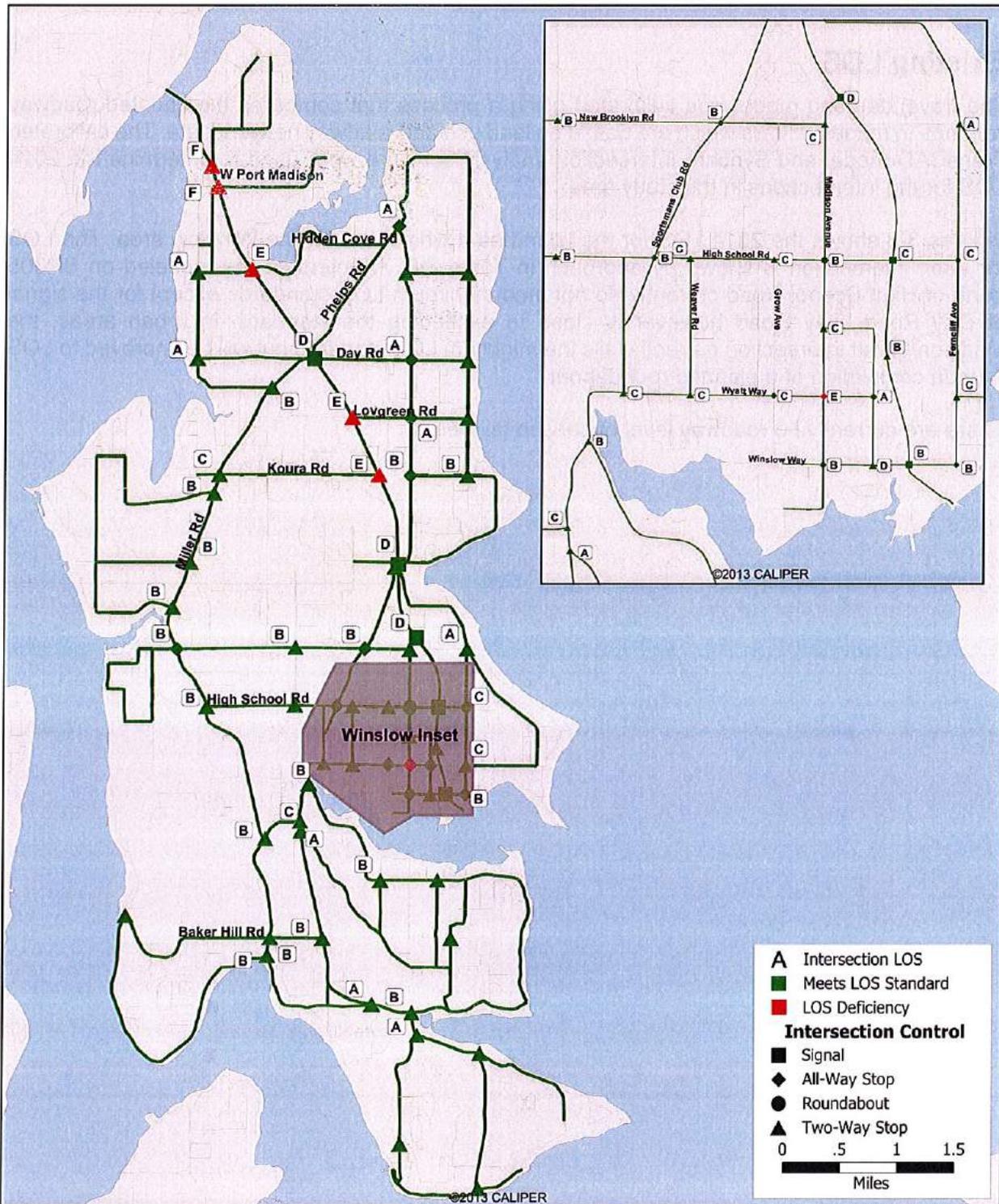


Figure 3-4
2015 Level of Service





Table 3-6. Intersections PM Peak Hour LOS Deficiencies – 2014 Baseline

Intersection	Control Type ¹	Delay ² (s/veh)	LOS
Madison Ave N / Wyatt	AWSC	38.5	E
SR 305 / Koura Rd	TWSC	37.3	E
SR 305 / Lovgreen Rd	TWSC	38.9	E
SR 305 / NE Hidden Cove Rd	TWSC	48.3	E
SR 305 / Port Madison	TWSC	>180	F
SR 305 / Agatewood Rd	TWSC	>180	F

¹TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; RAB = Roundabout; Signal = Signalized

²Average control delay for all movements. For TWSC, delay is reported for the movement with the highest delay.

Future Traffic Conditions

This section identifies the land use forecast methodology and results used to identify the future needs and deficiencies of the transportation system. Two time periods were studied: 2021, representing the six-year short-term planning period, and 2035, representing the 20-year long-term planning period. 2035 matches the long-term planning horizon of Puget Sound Regional Council (PSRC), the region's major planning entity.

Land Use Forecast

The transportation model used PSRC and Kitsap County land use forecasts to determine future PM peak hour trip growth by transportation analysis zone (TAZ). Trip growth forecasts were distributed and assigned to the future roadway network to generate expected future traffic growth citywide.

Determination of Base Year Land Use

Base year land use was provided by Kitsap County in the form of GIS-based tax parcel data. These data were refined based on recent satellite and street-level photography, then categorized according to the following modeled land use types:

- Single-Family Housing
- Multi-Family Housing
- Senior/Assisted/Retirement Housing
- Retail
- General Office
- Industrial and Manufacturing
- Warehouse/Utility/Storage
- Hotel
- Hospital/Nursing Home
- Park and Ride
- School
- Recreation/Entertainment
- Church

Land use data were subsequently aggregated to create 241 transportation analysis zones (TAZs), with each TAZ representing a distinct geographical trip generating unit in the travel demand



model. Table 3-7 describes the modeled 2014 land use quantities. The base year travel demand model was calibrated using 2014 traffic counts to establish a tool that reflects vehicle traffic and travel patterns for each of the TAZs.

Table 3-7. 2014 Land Use

Land Use Category	Quantity	Units
Single-Family Housing	8,517	Dwelling Units
Multi-Family Housing	1,311	Dwelling Units
Senior/Assisted/Retirement Housing	212	Dwelling Units
Retail	589	KSF*
General Office	316	KSF
Industrial and Manufacturing	163	KSF
Warehouse/Utility/Storage	226	KSF
Hotel	96	Rooms
Hospital/Nursing Home	69	KSF
Park and Ride	841	Stalls
School	3,355	Students
Recreation/Entertainment	207	KSF
Church	121	KSF

* KSF equals one thousand square feet.

Land Use Forecasts (2021 and 2035)

The next step in the transportation modeling process was to incorporate land use forecasts to the calibrated base year travel demand model in order to establish 2021 and 2035 traffic forecasts.

In order to convert regional 2035 land use forecasts to the level of detail required by the citywide transportation model, housing and employment growth forecasts were geographically distributed to the TAZ level according to zoning and estimated land capacity. Employment growth forecasts were converted to gross floor area or equivalent modeled units using relationships established by the Institute of Transportation Engineers, U.S. Department of Energy, and San Diego Association of Governments.

Table 3-8 shows the citywide residential and employment forecasts used in this Plan.

Table 3-8. 2021 and 2035 Forecasts

	Households	% Change from Base	Employees	% Change from Base
2014 Base Year	10,152	--	8,600	--
2021 Forecast	11,346	12%	9,321	8%
2035 Forecast	13,248	30%	10,587	23%



Growth in households is assumed to occur at an annual rate of approximately 1.3 percent per year during the planning period. Employment growth is expected at 1.7 percent per year. The 2035 forecasts assigned a moderate rate of growth throughout the Island with the greatest commercial growth in the designated Neighborhood Centers, industrial growth focused in areas currently zoned business/industrial, and residential housing growth occurring in areas with the greatest potential for new housing under existing zoning. The 2021 forecasts were based on a straight-line interpolation of growth for each TAZ, with the assumption that the distribution of employment and housing would be proportionate to the 2035 scenario.

Future Traffic Operations

This section describes the future traffic conditions on the City's roadway system for 2021 and 2035. Future traffic conditions were estimated for 2021 and 2035 using the results of the land use and employment forecasts, roadway network information, and the calibrated travel demand model (including calibrated trip generation, distribution, and traffic assignment sub models).

2021 Traffic Forecast

The 2021 traffic forecast was developed by applying a linear interpolation of forecasted 2035 land use growth to the calibrated base year planning model. Forecasted traffic growth was then applied to the Synchro traffic operations model to analyze 2021 levels of service. Where LOS was shown to fall below the minimum LOS threshold by 2021, mitigating improvements were added to the road network. This section describes the results of the 2021 analysis.

2021 LOS

The traffic model produces a forecast of 2021 traffic conditions, which are shown in Figure 3-5. Results of the 2021 forecast show continued heavy congestion and poor level of service along SR305. At locations other than SR305, there are only a few minor LOS deficiencies.

Roadway LOS

Roadway Segment LOS at sections of Eagle Harbor Drive and Miller Road are expected to decline. Shoulder widening project are included in the City's short term (6 year) capital improvement plan for these locations.

Along the SR305 corridor, north of Sportsman's Club Rd., roadway capacity, in addition to poor intersection operation, is predicted to become an impediment to traffic flow and contribute to congestion.

Intersection LOS

The traffic model was used to identify locations where intersections may be the cause of poor operations. Table 3-9 shows the results of the 2021 Plan year intersection LOS analysis. Without mitigation, one intersection at Madison Avenue N / Wyatt Way NE fails to meet the minimum LOS standards. The intersection of Winslow Way/ Ericksen Ave. is forecasted to decline to LOS D.

On SR 305, the intersections at Agatewood Road, Seabold Road, Hidden Cove Road, Lovegreen Road, and Koura Road all fail to meet the minimum standard. By the 2021 forecast year, SR 305 corridor congestion continues to deteriorate with the intersection at Hidden Cove Rd falling from LOS E to LOS F. The intersection at Day Road is anticipated fail. The poor operation of the highway intersections, if not addressed, will increasingly be a barrier to cross-Island traffic, impacting operations of the City's roadway system as a whole.

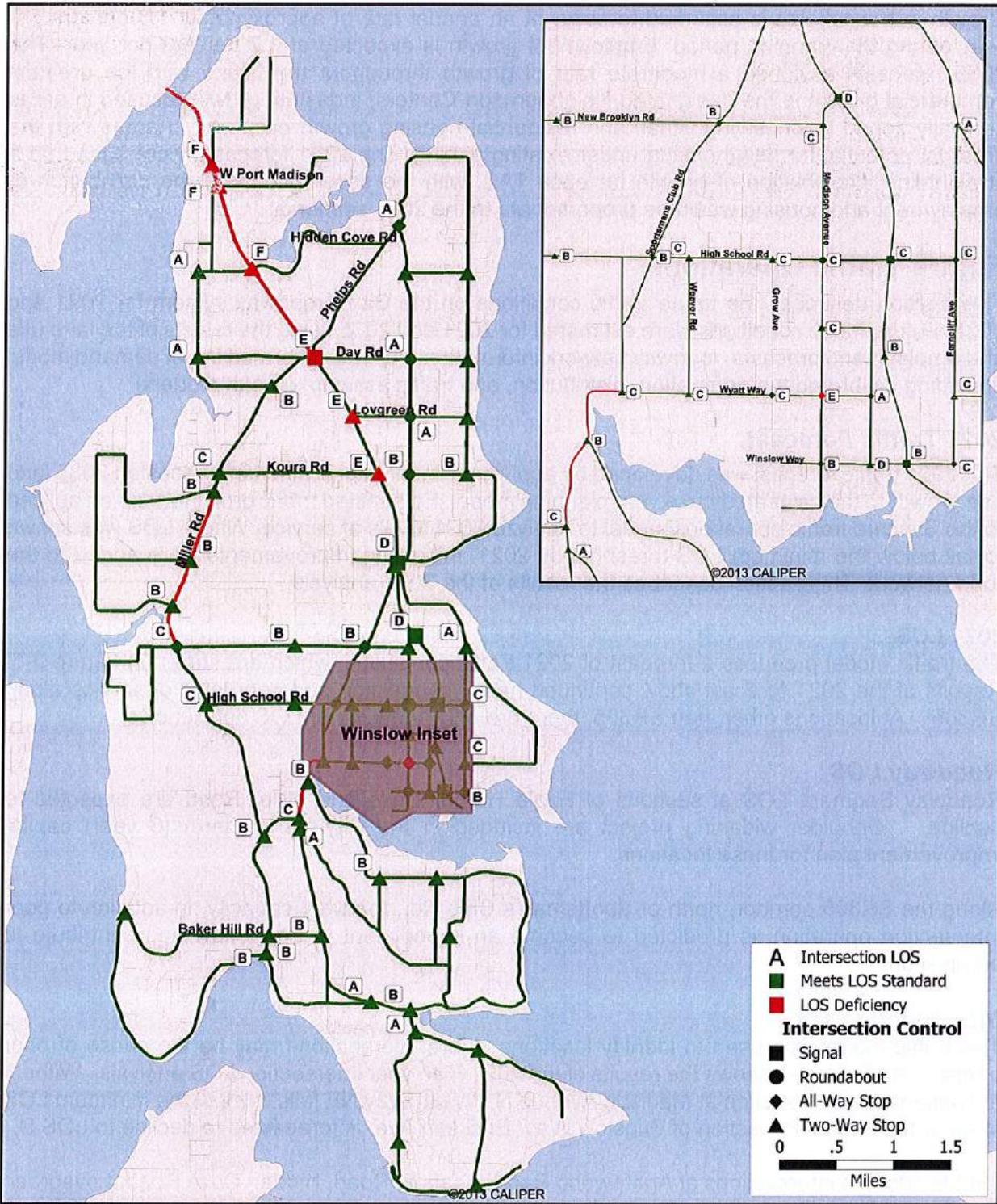


Figure 3-5
2021 Level of Service





2016-2021 Mitigation

Each intersection and roadway segment identified as below the minimum LOS standard in 2021 was studied to see if mitigation actions could improve the intersection LOS to the minimum standard. Targeted roadway improvements can correct an intersection or roadway that fails to meet the minimum LOS standard.

City Mitigation

For intersections in the City’s roadway system where the expected LOS is below the minimum standard, the following mitigation is proposed:

- *Madison Avenue/ Wyatt Way* – An intersection control improvement such as a signal or a roundabout would improve the intersection to LOS B. The intersection will be studied to determine what specific improvement should be constructed. A round-about may be one alternative. An improvement project is currently programed in the City’s CIP for Wyatt Way, including the intersection.
- *Eagle Harbor Drive from Wyatt to Blakely* - Shoulder improvements for non-motorized users are recommended. An improvement project is currently programed in the City’s CIP.
- *Miller Road from New Brooklyn to Arrow Point* – Shoulder improvements for non-motorized users are recommended. An improvement project is currently programed in the City’s CIP for this segment.

WSDOT Mitigation

Six SR 305 intersections and roadway segments north of Day Road currently fail to meet LOS and will continue to deteriorate. Refer to chapter 4 of this Plan for recommendations.

Table 3-9 Intersections PM Peak Hour LOS Deficiencies – 2021 Forecast

Intersection	Control Type ¹	2021 Delay ² (s/veh)	2021 LOS	Possible Mitigation
Madison Ave N / Wyatt	AWSC	44.2	E	Roundabout or signal
SR 305 / Koura Rd	TWSC	43.5	E	SR 305 Corridor Improvements
SR 305 / Lovgreen Rd	TWSC	39.4	E	
SR 305 / Day Rd	Signal	60.1	E	
SR 305 / Hidden Cove Rd	TWSC	>180	F	
SR 305 / Port Madison	TWSC	>180	F	
SR 305 / Agatewood Rd	TWSC	>180	F	

¹TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; RAB = Roundabout; Signal = Signalized
²Average control delay for all movements. For TWSC, delay is reported for the movement with the highest delay.



Table 3-10. Street Segment PM Peak Hour LOS Deficiencies – 2021 Forecast

Segment	From	To	V/C	LOS
SR305	Day Rd	Hidden Cove Rd	0.94	E
SR305	Hidden Cove Rd	Seabold Church Rd	0.96	E
SR305	Seabold Church Rd	Seabold/W Port Madison	0.93	E
SR305	Seabold/W Port Madison	Agatewood Rd	0.99	E
SR305	Agatewood Rd	Reitan Rd	0.98	E
Bucklin Hill Rd	Blakely Ave	Eagle Harbor Dr	0.84	D
Miller Rd	New Brooklyn Rd	Battle Point Dr	0.99	E
Miller Rd	Battle Point Dr	Tolo Rd	0.84	D
Miller Rd	Tolo Rd	Arrow Point Dr	0.85	D
Eagle Harbor Dr	Bucklin Hill Rd	Finch Rd	0.84	D

2035 Traffic Forecast

The analysis of 2035 traffic conditions provides a long-range view of how the roadway system will operate on the Island. The 2035 traffic forecast considers housing and employment growth forecasted by PSRC and by Kitsap County, as well as any roadway network changes that would impact traffic operations. This section describes the results of the 2035 analysis.

2021-2035 Model Forecast Improvements

Few projects have been programmed into the traffic model to be constructed between 2021 and 2035. The City's traffic plan has not been updated since 2004 and was not formally adopted. The State has recently begun longer term planning for the SR305 and other corridors.

2035 LOS

The traffic model produces a forecast of 2035 traffic conditions, which are shown in Figure 3-6. Results of the 2035 forecast show continued heavy congestion and poor level of service along SR305 and some minor intersection problems in the Winslow area.

Roadway LOS

Analysis of the expected traffic in 2035 shows that most of the City's roadway system would continue to meet the minimum LOS standards with the roadway system in Winslow, including SR 305 intersections, generally operating acceptably. Based on the City's existing capacity policy, some roadway LOS failures would still exist on Eagle Harbor Drive and Miller Road.

For the 2035 forecast year, LOS on SR305 from Day Road to the north end of the Island is expected to continue to decline, if roadway segment capacity improvements, in addition to intersection operation improvements, are not addressed.

Intersection LOS

The intersection analysis results from the 2035 Plan year are shown in Tables 3-11 and 3-12. Assuming the identified short term planning horizon improvements are provided in the Winslow



Area, further intersection improvements are needed or anticipated. At the intersection of Winslow Way and Erickson restricted turning movements are advised to maintain LOS.

By 2035, the increase in traffic on SR 305 is expected to result in continued deterioration of intersection operations. Excessive delay would occur at nearly all of the intersections north of Day Road. The intersections at SR 305 and Koura Road would further deteriorate from LOS E to LOS F.

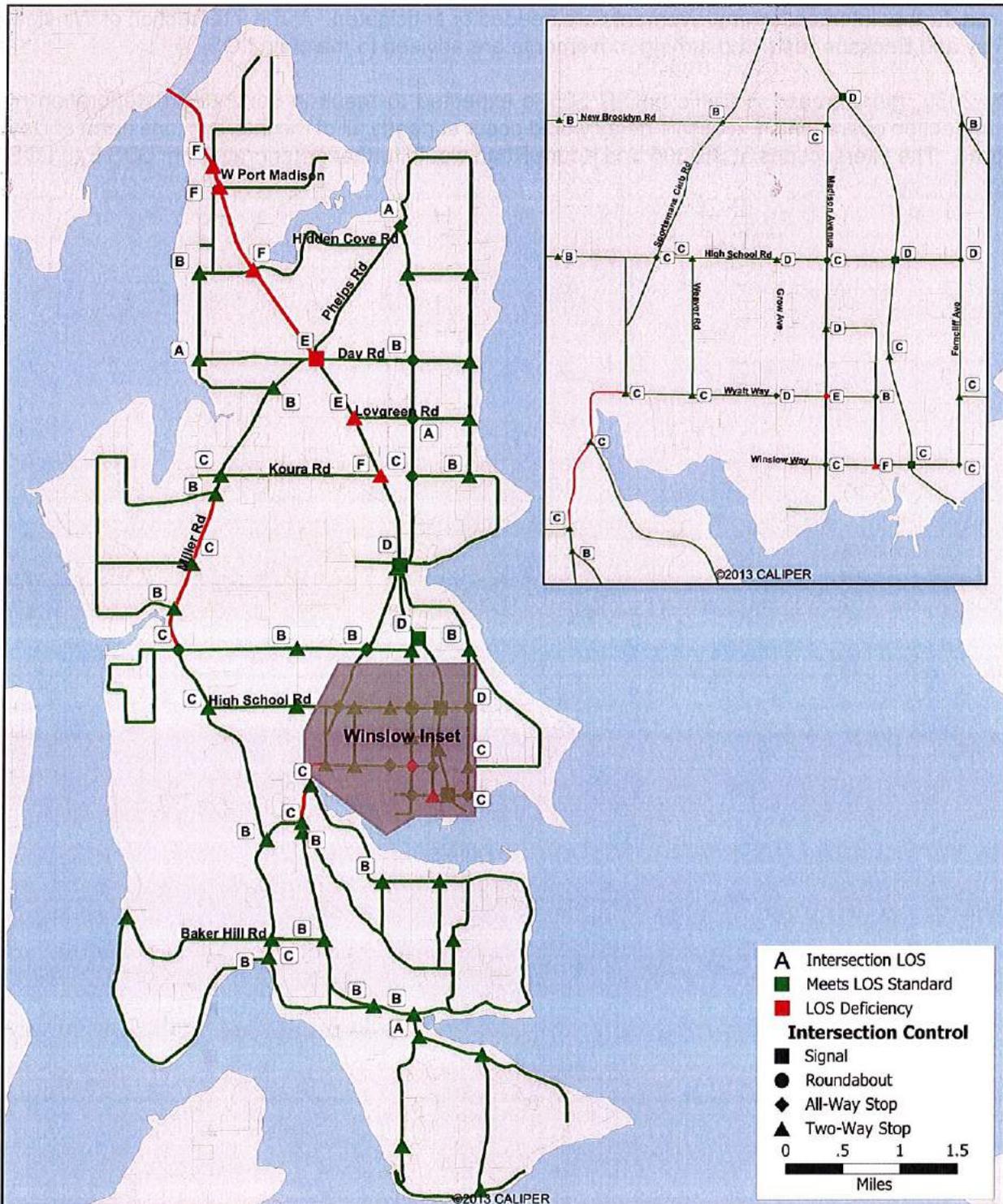


Figure 3-6
2035 Level of Service





Table 3-11. Intersections PM Peak Hour LOS Analysis – 2035 Forecast

Intersection	Control Type ¹	2035 Delay ² (s/veh)	2035 LOS	Possible Mitigation
Madison Ave N / Wyatt	AWSC	42.9	E	Roundabout or signal
Winslow Way / Erickson Ave	TWSC	64.4	F	Access restrictions / RIRO
SR 305 / Koura Rd*	TWSC	51.2	F	SR 305 Corridor Improvements ³
SR 305 / Lovgreen Rd ⁴	TWSC	45.1	E	
SR 305 / Day Rd	Signal	78.7	E	
SR 305 / Hidden Cove Rd ⁴	TWSC	>180	F	
SR 305 / Port Madison	TWSC	>180	F	
SR 305 / Agatewood Rd	TWSC	>180	F	

¹TWSC = Two-Way Stop Control; AWSC = All-Way Stop Control; RAB = Roundabout; Signal = Signalized

²Average control delay for all movements. For TWSC, delay is reported for the movement with the highest delay.

³Specific corridor improvements identified below

⁴Alternative access to SR 305 is provided for locations w/ right-in and right-out (RIRO) access during PM peak hour:

- Koura Rd access via Miller Rd
- Lovgreen Rd access via N Madison Ave or Miller Rd
- Hidden Cove access via Phelps Rd, Seabold Rd or Day Rd

Table 3-12. Street Segment PM Peak Hour LOS Analysis – 2035 Forecast

Segment	From	To	V/C	LOS
SR305	Day Rd	Hidden Cove Rd	0.95	E
SR305	Hidden Cove Rd	Seabold Church Rd	1.03	F
SR305	Seabold Church Rd	Seabold/W Port Madison	1.01	F
SR305	Seabold/W Port Madison	Agatewood Rd	1.05	F
SR305	Agatewood Rd	Reitan Rd	1.04	F
Bucklin Hill Rd	Blakely Ave	Eagle Harbor Dr	0.86	D
Miller Rd	New Brooklyn Rd	Battle Point Dr	0.97	E
Miller Rd	Battle Point Dr	Tolo Rd	0.81	D
Miller Rd	Tolo Rd	Arrow Point Dr	0.82	D
Eagle Harbor Dr	Bucklin Hill Rd	Finch Rd	0.85	D

2021-2035 Mitigation

Mitigating the LOS for the City intersections would require minor improvements which can be programmed into the City’s future transportation improvements program. The increased traffic volume expected to use SR 305 in 2035 would overwhelm the existing facility, resulting in a situation that cannot easily be mitigated.



City Mitigation

Improvement to intersection channelization and/or intersection control can mitigate the substandard LOS at all of the City intersections. The below project is proposed to improve LOS at the identified substandard intersection:

- *Ericksen Avenue at Winslow Way* – An intersection control improvement such as prohibiting left turns during peak traffic hours is recommended.

WSDOT Mitigation

Roadway segments along the seven-mile SR 305 corridor within the study area will operate at LOS F. This problem is based on lack of roadway capacity that affects the intersection operation as well, making it extremely difficult to mitigate individual locations. Any mitigation that is proposed would need to be examined on a corridor basis, and would need to be consistent with WSDOT operational objectives, as well as City's goals and objectives with regard to traffic operations, environmental and community character concerns. An individual solution for each problem location would not provide an adequate assessment of the corridor-wide issues that are present on the highway.

There are a number of possible solutions that could be proposed to mitigate the corridor. In order to adequately explore possible solutions, a special study was performed for this corridor. The results of the study are explained in Chapter 4.

Other Mobility Issues

There are other issues that affect the mobility of traffic on the roadway network. These issues include factors that influence how traffic operates and connects to the City's roadway system. The three areas discussed in this section include the connectivity of the roadway system, access management, and special study areas identified by the Steering Committee.

Connectivity

Connectivity is defined as the level of connections between roadways in a transportation system. In concept, connectivity describes the efficiency of travel between any two points on the roadway system. A high level of connectivity is characterized by a well-developed street network, available alternative routes, quick response times for emergency vehicles, good mobility for pedestrians and bicyclists, and an efficient use of the roadway system. A low level of connectivity is characterized by numerous dead-end streets, cul-de-sacs, and roadways that do not connect, resulting in poor response times for emergency vehicles, circuitous routing of pedestrian and bicycle travel, and inefficiencies in traffic flow. Low connectivity can also result in interrupted access to areas in the event of a road closure such as a traffic accident or landslide, and can cause a high level of congestion and bypass traffic on the available streets.

On Bainbridge Island, an example of an area with relatively high connectivity is the Winslow area, where the street network is more developed and few streets end in dead-ends or cul-de-sacs. However; there are areas in Winslow where there are "super blocks" which inhibit connectivity. Many parts of the conservation area have low connectivity.



Connectivity improvements are usually undertaken to solve potential safety problems or to improve traffic flow. New connections can be constructed to provide alternative access in areas where there is only one roadway serving many homes or businesses, where the existing road is unstable due to steep slopes or erosion, or where an alternative route is needed to provide relief to an overly congested route.

Seventeen connectivity projects have been identified across the Island to be developed as traffic and other needs dictate. These are shown in Figure 3-10 (general area of connection shown with star) and described in Figure 3-11. The potential connections shown are recommended for development by the Steering Committee. The recommendations were developed by looking at the needs of schools, fire and emergency medical response, and other public facilities, as well as access to landlocked properties. Each potential connection will be considered separately as traffic patterns and emergency response times warrant, will be studied to identify potential impacts, and will include discussions with affected property owners. Connections will be included with other nearby projects if possible. Connectivity improvements are not included in this Plan's 2035 traffic model.

Access Management

Access management is the control of the number and location of access points along a roadway, in order to provide access to property, maximize safety for all roadway users, and optimize roadway operations. Access management is especially important on arterial roadways and highways.

Access management is generally implemented on roadways for three reasons: to improve roadway operations, to improve safety, and to improve access to properties. Roadways operate best when all vehicles travel in a straight line. Conflict points occur when the path of one vehicle crosses the path of another. These can be at intersections, driveways, or at other locations where vehicles turn. Vehicles that slow to make turning movements, accommodate merging traffic, or allow crossing traffic flows all contribute to the reduction in the number of cars that can travel through a corridor. Reducing conflict points increases capacity and traffic speeds.

Multiple conflict points not only slow traffic and reduce roadway capacity, but also increase the potential for crashes. Rear-end and turning vehicle collisions can be minimized through the use of access management strategies that reduce conflict points. Too many conflict points can also interfere with access to properties by making it difficult for vehicles to turn across traffic, or by restricting turning movements. Access management can also improve access to individual properties by organizing driveways at locations where turning movements are safer and easier.

On Bainbridge Island, access is a major issue along the SR305 Corridor, particularly north of Hidden Cove Road. Along this stretch of highway, there are multiple driveways and streets where the only access to properties is via SR305.

Techniques that can be applied to increase the mobility and safety of a travel corridor vary from development of shared access points to the installation of medians or other turning restrictions.

Control techniques fall into two categories: driveway access and roadway operation. Driveway access controls prescribe the number and location of driveways for properties along a roadway segment. Roadway operation controls provide for access to properties and cross streets. The following list identifies the techniques included in each category:



Driveway Access Controls / internal circulation between parcels

- shared driveways
- limits on number, spacing, and size of driveways
- consolidation of access for adjacent parcels
- use of one-way driveways
- right-in/right-out (RIRO) access
- development of access driveways on minor streets

Roadway Operation Controls:

- refuge lanes or two-way continuous left turn lanes
- turning movement limitations through signage and channelization
- construction of deceleration lanes
- raised medians that limit left turns
- traffic signals at high volume locations
- provisions for U-turns

The State of Washington supports the use of access management strategies to protect its key roadways and travel corridors. RCW 47.50.010 requires that access be managed along all state facilities:

“Regulation of access to the state highway system is necessary in order to protect the public health, safety, and welfare, to preserve the functional integrity of the state highway system, and to promote the safe and efficient movement of people and goods within the state.”

While access management may not solve the corridor’s congestion problems, adoption of access management strategies and practices will increase the efficiency and safety of the corridor.

The City of Bainbridge Island does not currently have a formal access management program. Some aspects of access management, such as number and location of driveways and internal parcel circulation, are monitored by the Public Works Department during the site plan review process.

WSDOT manages access on state highways, including SR 305 as it crosses the Island. This highway is classified as *Partial Access Control*, which has the following definition: “Access approaches are permitted for selected public streets, roads, some crossings, and existing private driveways. No commercial approaches are permitted and no direct access if Public Street or road access is available.”

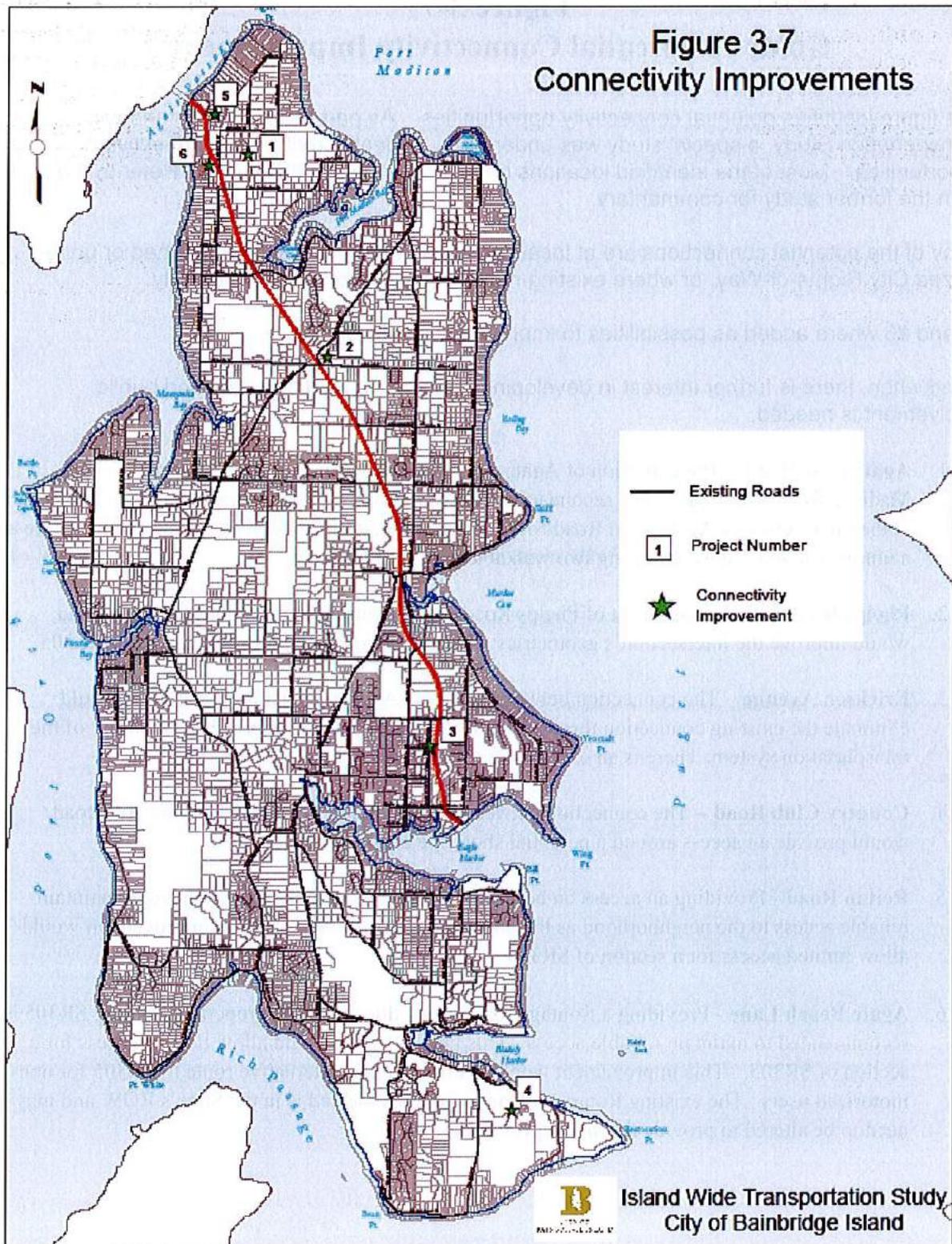




Figure 3-7 Guide to Potential Connectivity Improvements

This figure identifies potential connectivity opportunities. As part of the 2004 Island-wide Transportation Study, a special study was undertaken to identify motorized connectivity opportunities. Most of the identified locations have their origins in this study. Refer to the write up in the former study for commentary.

Many of the potential connections are at locations where there is existing unopened or under-utilized City Rights-of-Way, or where existing rights-of-ways are in close proximity.

#5 and #6 were added as possibilities to improve access to SR305.

If and when, there is further interest in developing connectivity, further study and public involvement is needed.

1. **Agate Pass Road** – The extension of Agate Pass Road between Dolphin Road and W. Port Madison Road would provide a secondary access to the area and lessen traffic impacts and delay at the intersection of Agatewood Road/SR 305. This location could also be improved to serve as a non-motorized route connecting two walkable areas of the Island.
2. **Phelps Road** – The realignment of Phelps Road, east of current intersection with Day Road would improve the intersection's geometrics and intersection spacing from Day Road/SR 305.
3. **Erickson Avenue** – The connection between Erickson Avenue and Hildebrand Lane would eliminate the existing connection through the bank parking lot and improve the mobility of the transportation system. There is an existing non-motorized route at this location.
4. **Country Club Road** – The connection between Country Club Road and Toe Jam Hill Road would provide an access around a potential shoreline erosion area.
5. **Reitan Road** - Providing an access on both sides of the highway is recommended to maintain reliable access to the neighborhood as the only access is from SR305. This improvement would allow limited access for a section of SR305.
6. **Agate Beach Lane** - Providing a frontage road to link this and other properties fronting SR305 is recommended to maintain reliable access. This improvement would allow limited access for a section of SR305. This improvement would also provide an alternative route to SR305 for non-motorized users. The existing Rotary welcoming park is located in the State's ROW and may need to be altered to provide for this improvement.

CHAPTER 4 SR 305



State Route 305 is the State Highway System's primary connection via the Washington State Ferry (WSF) between Seattle and the Kitsap Peninsula. Traffic during the morning and evening peak travel hours is congested, resulting in long delays. This chapter reviews the issues associated with SR 305 and its impact to the City's roadway system. The chapter also describes a special study that was performed, and recommendations for future actions.

Summary of SR 305 Issues

SR 305 is significant to the City's roadway system as the major north-south travel corridor on the Island, not only for through traffic traveling to and from the ferry dock, but also for Island residents and employees. The Comprehensive Plan goals and policies address the LOS standard, access to the Island via the Agate Pass Bridge, improvements to the highway, impacts to the highway from the City's Comprehensive Plan elements, and off-Island improvements that affect on-Island traffic.

As a state highway, WSDOT is the agency responsible for the operation and maintenance of SR 305. This means that WSDOT sets the minimum LOS standard and is responsible for the funding and implementation of any improvements to the highway. According to WSDOT policy, control of the highway within a City's corporate limits can be transferred to the City if its population is greater than 22,500. Bainbridge Island exceeded this population threshold in 2010 with a population of 23,025, according to US Census data. As a result, some of the responsibility for highway improvements could shift to the City, however because SR 305 is a regional facility and is listed as a Highway of Statewide Significance, some responsibility could also remain with the WSDOT.

SR 305 LOS Impacts

The traffic analysis (described in Chapter 3) shows that current conditions on SR 305 do not meet the WSDOT minimum LOS standards, and future traffic will be even worse. Currently, along the SR305 Corridor all collector street intersections fail and one secondary arterial intersection (Koura Rd.) does not meet level of service standards. The PM peak hour average speed along the seven-mile corridor is currently 16 miles per hour, with several roadway segments operating below the average speed. The problem is most severe at the north end of the Island, where there are large back-ups beginning at the Suquamish Way intersection and Agate Pass Bridge. By 2021, all of these locations will have failed LOS. Additionally, by 2035 the Day Road intersection will be LOS D and approaching falling below standard. The corridor is forecasted to operate with an average speed of 14 mph by 2035, which is less than one-third the posted 45 mph speed limit at the north end of the Island. The expected level of service for the highway without improvement, described as the No Action alternative as shown for the 2015 and 2035 years in Figures 4-1 and 4-2.



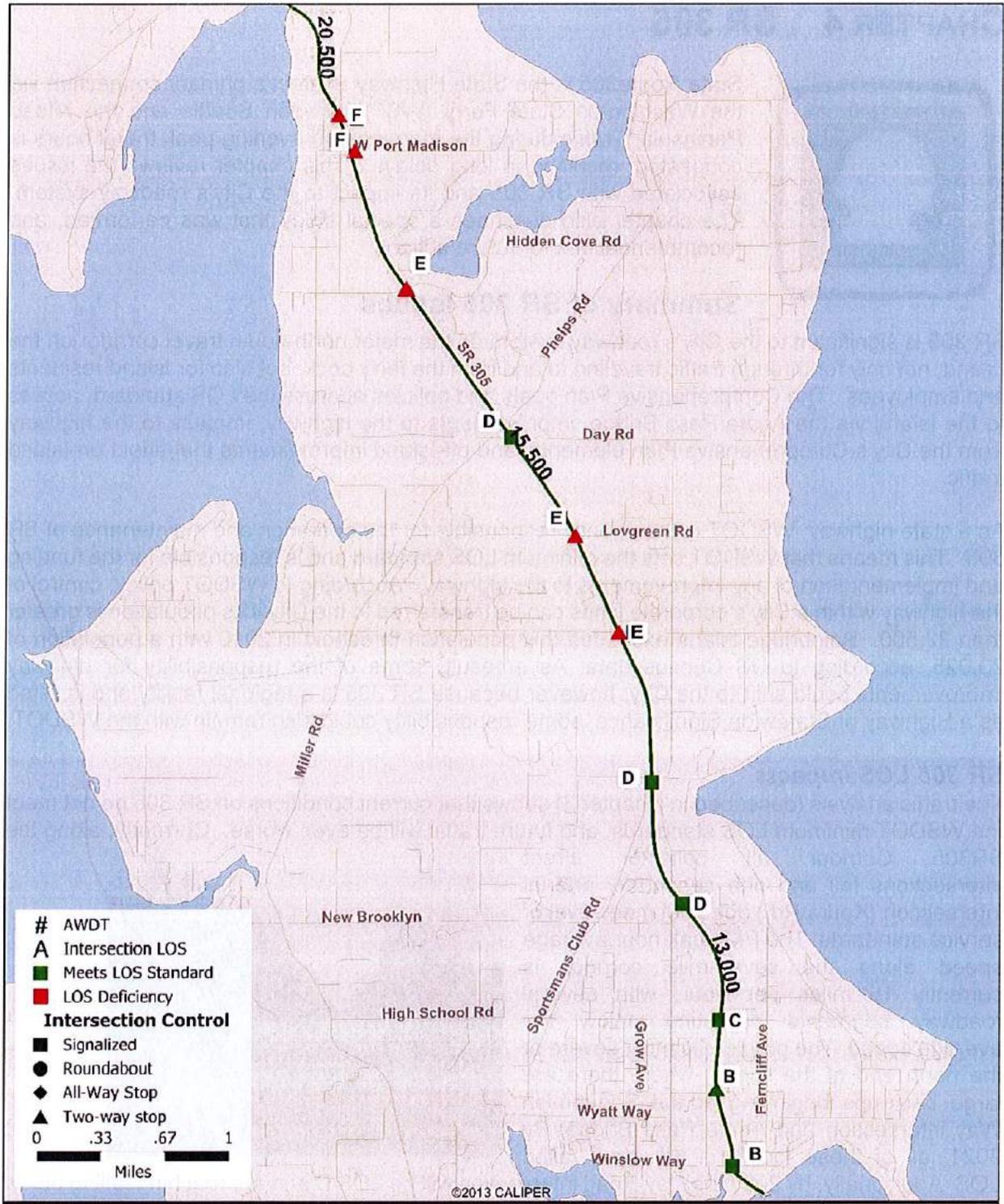


Figure 4-1
SR 305 Level of Service
Existing Conditions



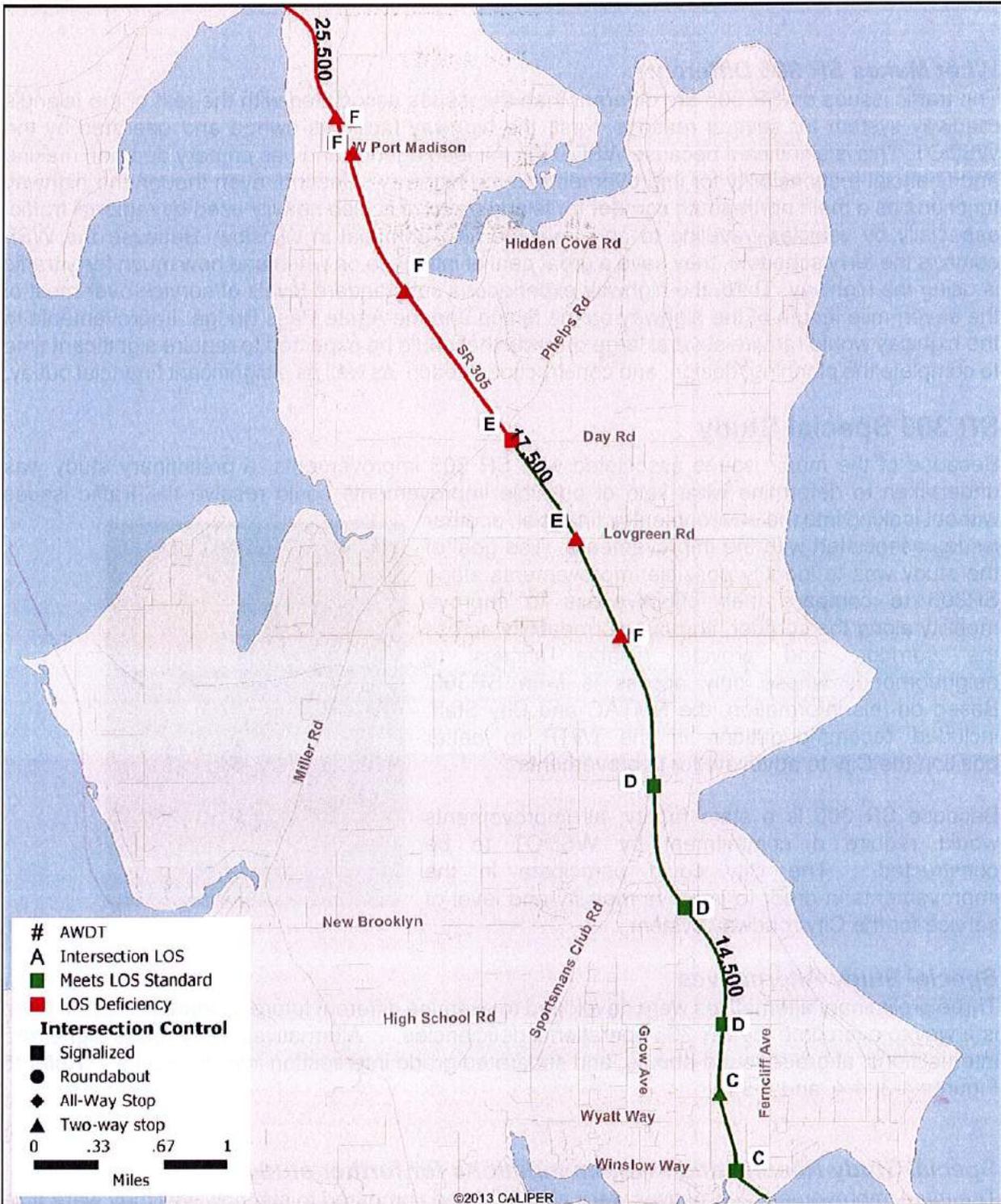


Figure 4-2
SR 305 Level of Service
2035 No Action





What Makes SR 305 Different?

The traffic issues on SR 305 are different than the issues associated with the rest of the Island's roadway system for several reasons. First, the highway facility is owned and operated by the WSDOT. This is significant because WSDOT is the lead agency and has primary decision making and financial responsibility for improvements to the highway. Second, even though the highway functions as a main north-south corridor for Island travel, it is also heavily used by regional traffic, especially by vehicles traveling to and from the ferry terminal in Winslow. Because the WSF controls the ferry schedule, they have a great deal of influence on when and how much ferry traffic is using the highway. Third, the highway experiences substandard levels of service over most of the seven-mile length of the highway on the Island and the Agate Pass Bridge. Improvements to the highway would require several large projects that could be expected to require significant time to complete the planning, design, and construction of each, as well as a significant financial outlay.

SR 305 Special Study

Because of the major issues associated with SR 305 improvements, a preliminary study was undertaken to determine what kind of possible improvements could resolve the traffic issues without looking into the environmental, financial, or other issues associated with the improvements. The goal of the study was to identify possible improvements along SR305 to compare their effectiveness to improve mobility along the corridor, improve permeability across the corridor, and provide reliable access to neighborhoods whose only access is from SR305. Based on this information, the NMTAC and City Staff, included recommendations in the IWTP to better position the City to advocate for improvements.



Because SR 305 is a state facility, all improvements would require a commitment by WSDOT to be constructed. The City could participate in the improvements in order to improve mobility and level of service for the City roadway system.

Special Study Alternatives

Three preliminary alternatives were developed to examine different future scenarios to see if there is a way to overcome the SR 305 operational deficiencies. Alternatives for at grade signalized intersections, at grade roundabouts, and separated grade intersection improvements. Refer to Figures 4-3, 4-4, and 4-5.

Special Study Results and recommendations for further study

The three improvement alternatives were analyzed and compared to see how well they were able to meet LOS minimum standards. The special study compares at-grade and separated grade alternatives. Both at grade and separated grade alternatives maintain an acceptable LOS at intersections. However, in some locations alternative longer routes would need to be taken to access intersections meeting LOS standards. Additional intersection improvements could be evaluated in a more comprehensive plan. Roadway level of service failures are not mitigated in



either of the two alternatives but would require additional roadway capacity along the SR305 corridor (e.g. in the form of added travel lanes) or decreased volume.

Further study is needed to design alignments and develop reliable cost estimates to plan for maintaining adequate level of service both currently and in the next 20 years along SR 305. Grade separated alternatives would be significantly more costly to implement than at grade alternatives. Both alternatives achieve acceptable LOS. Therefore, it may be difficult to justify the additional cost of grade-separated alternatives, especially larger interchanges. Some combination of intersection improvements and limited access is needed to reduce congestion and provide for reliable access. It may be practical to incorporate less extensive grade separation options for both motorized and/or non-motorized modes to maintain permeability along the corridor.

The SR305 corridor as it exists today and with any future improvements has a significant impact on many aspects of transportation on Bainbridge Island. Further study should be inclusive of and comprehensive to address all aspects. The following issues have been identified for inclusion in further study of the corridor:

- Operations of adjoining roadway networks and connectivity – The study should consider the effectiveness of the adjacent roadway networks along the corridor. There may be opportunities to mitigate cut-through traffic and improve connectivity. There may be impacts to circulation and neighborhoods.
- Corridor permeability – Permeability for all modes remains a key consideration for any scenario.
- Maintaining reliable access for neighborhoods – For many neighborhoods, such as in the Agate Pass and West Port Madison areas, the only access is from roadways that connect to SR305. Maintaining reliable access is an important aspect of any scenario.
- Sound to Olympics Trail and intra-Island trails – The City envisions a network of regional and sub-regional separated pathways along and crossing the SR305 corridor. The existing and potentially wider highway presents a barrier to many users. Permeability for active modes of transportation is a key consideration for intersection and other improvements.
- Bus transit – Improving efficiency of and access to transit along the corridor is an important aspect that should be studied and integrated into all scenarios. Collaboration with Kitsap Transit is needed to explore possibilities.

Other SR 305 Issues

The deficient level of service is the most significant issue currently affecting the City's transportation system. The bridge, park and ride, and off-Island improvement issues will be addressed in future studies in conjunction with an overall plan for SR 305 improvements. The City should take a leadership role in initiating studies to develop improvement projects and not defer to WSDOT's timeline and priorities. The City should partner with Kitsap Transit and others to reduce vehicular demand on the Highway.

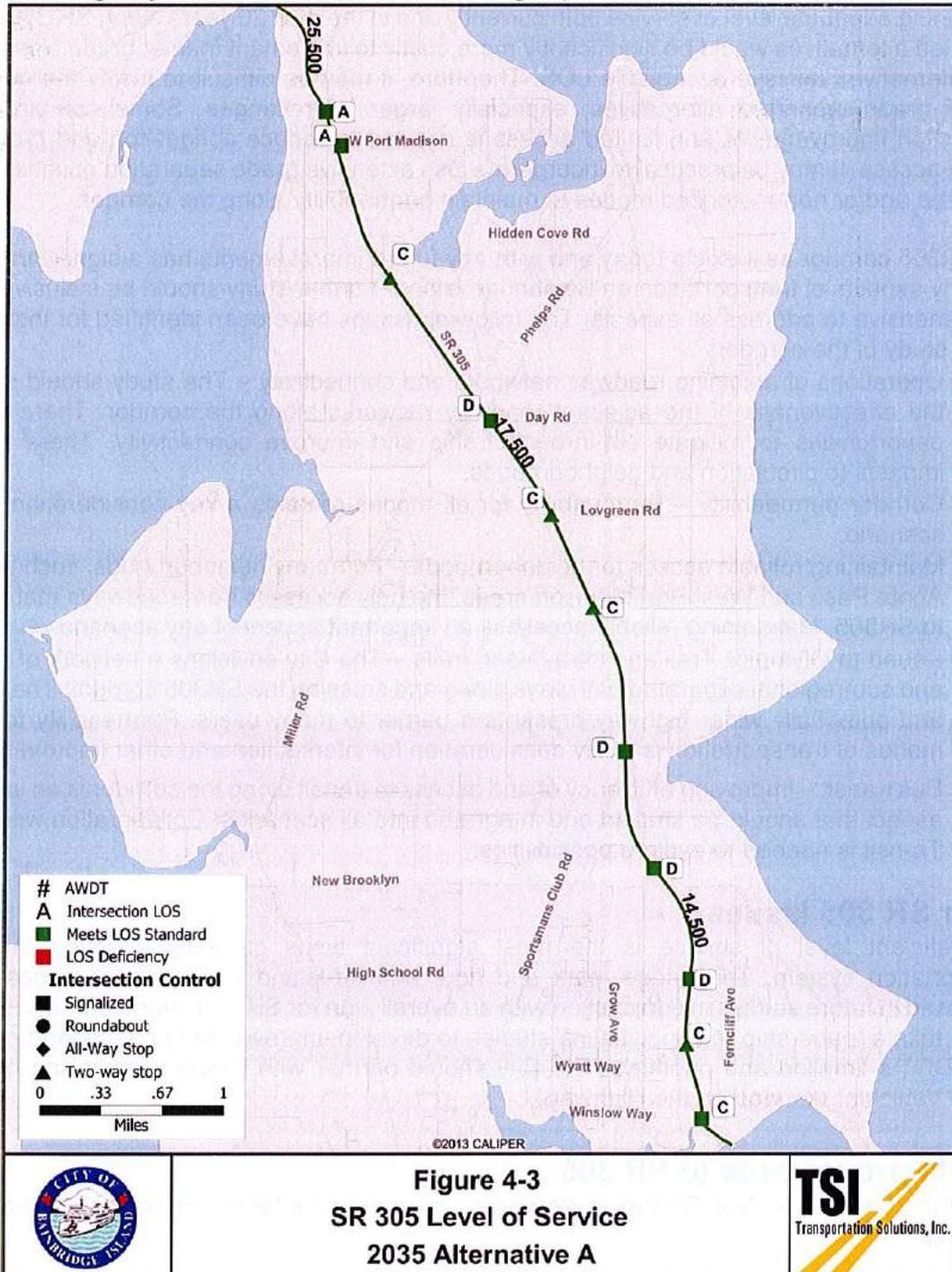
Past Improvements to SR 305

Since the 2004 IWTS, WSDOT has implemented a number of intersection projects including the following:

- Signal improvements at N. Madison.
- Signal timing optimization for peak hour ferry offloading at the Winslow Way intersection
- Signal timing optimization for the Day road intersection to improve access from Day and Miller.



- Bike through lane on right improvements to the north and south legs of the intersections at Madison, Sportsman’s Club/ N. Madison, and Day Roads.
- Right hand turn lane improvement to the south leg of the Suquamish Intersection, including bicycle lane, sidewalk, and crossing improvements.



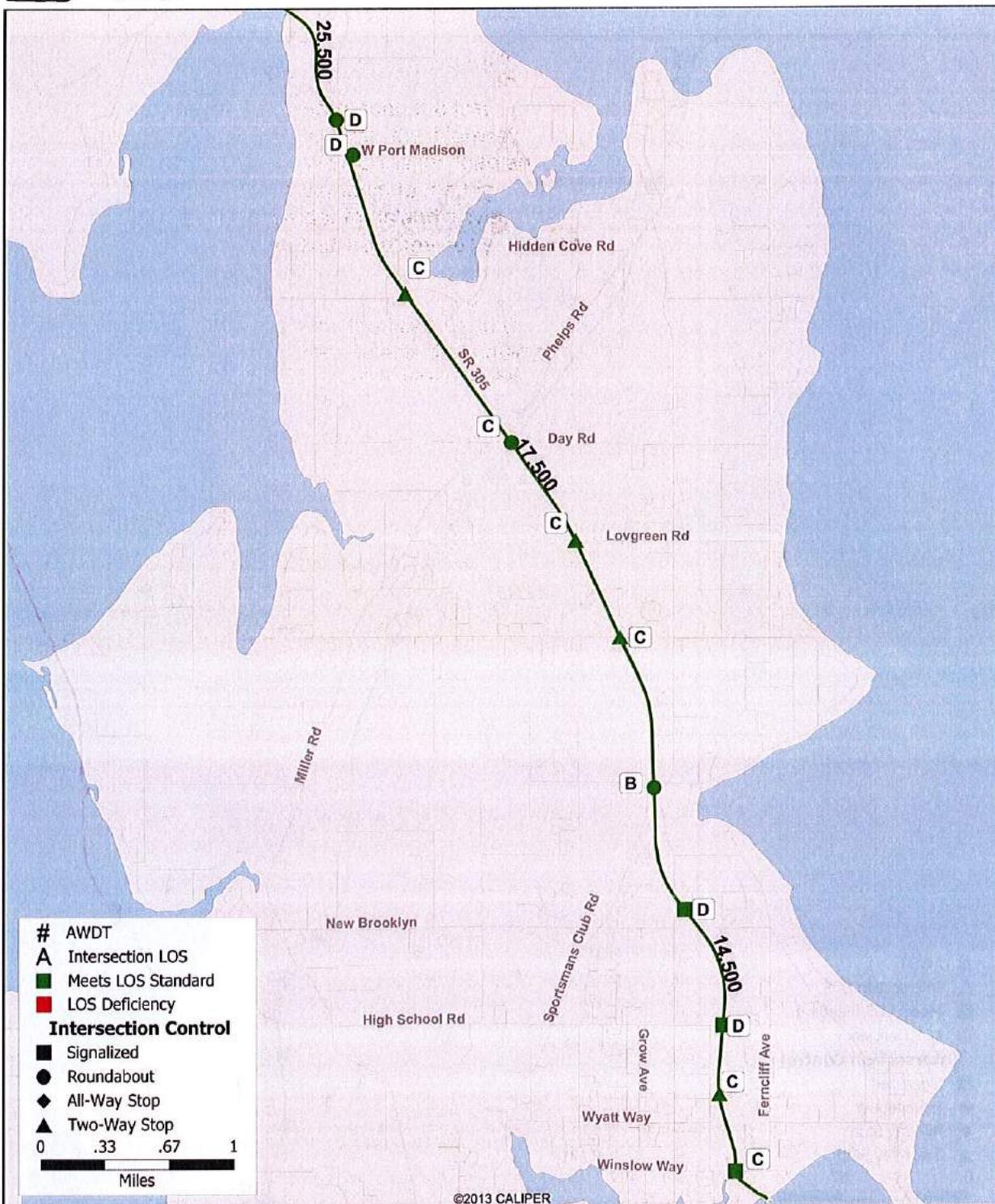


Figure 4-4
SR 305 Level of Service
2035 Alternative B



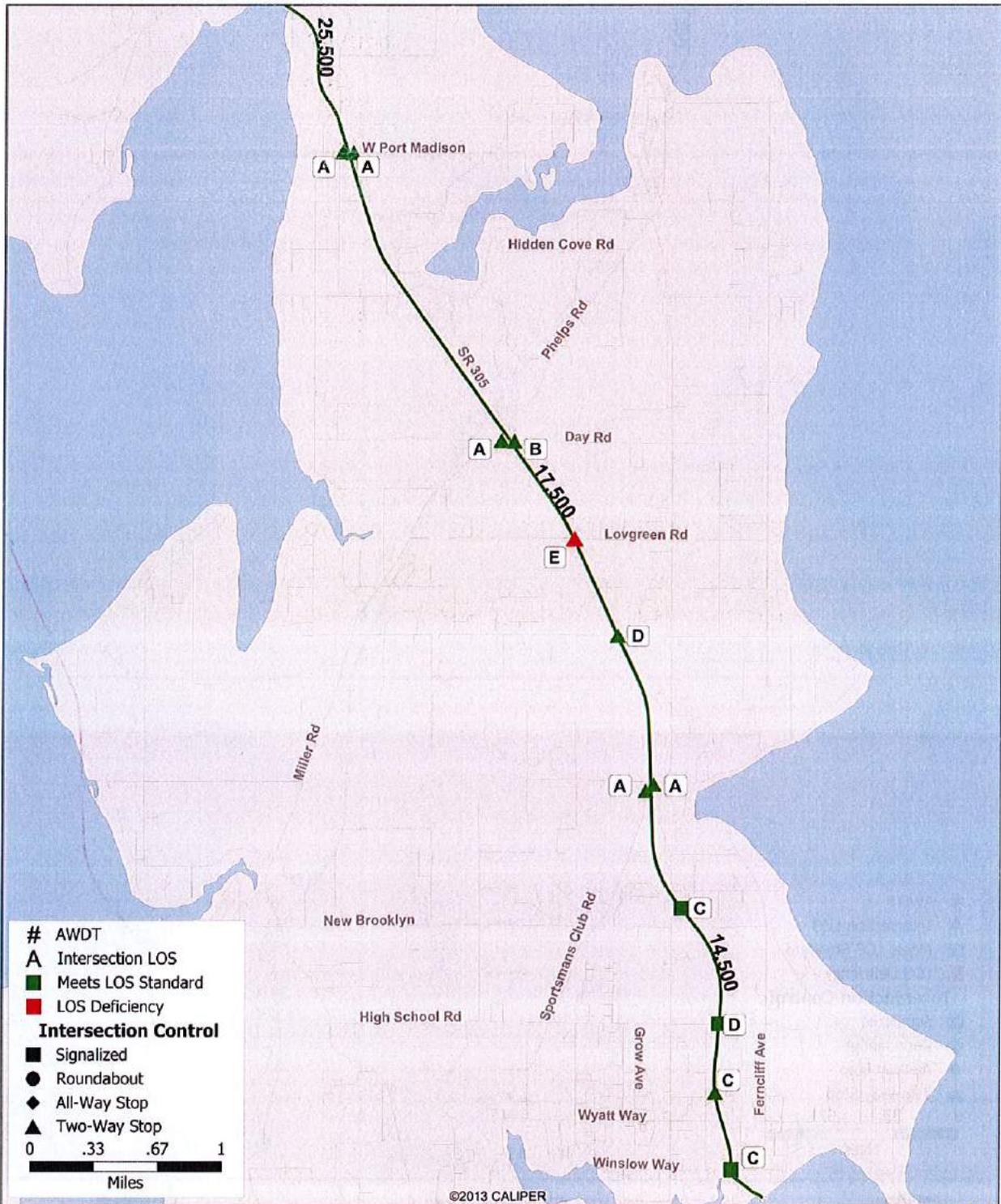


Figure 4-5
SR 305 Level of Service
2035 Alternative C





SR305 Recommendations:

A number of interim and long term recommendations are as follows based on the SR305 Special Study.

Interim Improvements:

The following interim improvements are recommended at the time of this Report for the next 6 years:

- Advocate for WSDOT to include “do not block” intersection signage at intersections north of Day Road, Hidden Cove, West Port Madison, and Agate Point in the above WSDOT project.
- Intersection improvements at West Port Madison eliminating access to Seabold and providing a receiving lane (similar to Agate Pass) for south bound traffic. The intent of this proposal is to reduce cut through traffic in the Seabold neighborhood and improve access to SR305 from West Port Madison Road.
- Advocate for consistent 8 foot or wider paved shoulders along the full length of the corridor to accommodate cyclists and pedestrians.
- Advocate for the Sound to Olympics Trail and its branch trails.
- Advocate for improved non-vehicular access to ferry and bus transit including park-and-ride and bike parking opportunities both on and off island.

Long Term Recommendations:

The following long term improvement projects are recommended:

- Advocate for continued improvements at the intersection to Suquamish to address north-south mobility/capacity.
- Advocate for capacity improvements to roadway segments north of the Miller Road intersection. Alternatives may include HOV lanes, a reversible HOV lane, or shoulder use by HOV's. Consider accommodation for bus rapid transit.
- Advocate for Agate Pass Bridge replacement.
- Advocate for a separated pathway for non-motorized users in conjunction with other improvements.
- Advocate for limited access improvements at Reitan in conjunction with the bridge replacement. This would include access for Reitan and possibly connection frontage roads from both sides of the highway in conjunction with the bridge replacement.
- Advocate for intersection improvements at Agate Point & West Port Madison to restore access to these “highway locked” areas. A joint signal may be the most economical solution, if spaced evenly with adjacent signals allowing for signal synchronization. This could interrupt the continuous traffic at peak hours should the WSDOT proposed round-about be constructed at Suquamish Way. Note that this signal could be programmed to flash yellow/ red during non-peak hours.
- Advocate for intersection improvements at Day Road. Improvements to accommodate additional (4 lanes) in the north-south direction at the signalized intersection would help with queuing for operational efficiency. The Phelps Road intersection with Day Road is in close proximity to SR305. If funding can be secured for a two-lane round-about it may be a preferred solution to address this complexity. With either a wider signalized intersection or two lane round-about, additional facility investments would also be needed to accommodate pedestrians and cyclists.



The above recommendations are based on information from the special study that was included in the update of this Plan. The special study was limited to the LOS data developed using the updated traffic data and traffic model. Further study and preliminary design and engaging the community in a process for decision making is recommended prior to developing and prioritizing specific improvement projects. The priorities for funding are based on reducing traffic congestion on SR305 and maintaining access at intersection locations with no alternative access.

At the time of the writing of this Plan a gas tax increase had been passed by the State Legislature. The City of Bainbridge Island, Kitsap County, the Suquamish Tribe, and the City of Poulsbo are organizing a multi-agency effort to plan improvements for the corridor. WSDOT is undertaking a State-wide effort for planning corridors including SR305, called "Corridor Sketches".

New State funding may provide for intersection improvement at Suquamish Way and as much as \$6 million of improvements on Bainbridge Island. The level of funding for Bainbridge could address intersection improvement and other related work at the Day Road intersection, the Agatewood/West Port Madison intersections, and possibly some limited access roadway improvements. At other intersections along SR305 where there are alternative routes to access SR305 access restrictions would be employed for peak hours until additional funding can be secured.

Chapter 5 Safety and Maintenance

Safety and the related issue of maintenance are primary community concerns to ensure the roadway system's safety and longevity. This chapter provides an overview of the safety and maintenance issues for the City of Bainbridge Island. The core of the safety section is a discussion about collision history and high collision locations. The maintenance section describes maintenance issues, activities, and programs that occur on the Island.



Many of the Island's two-lane roads were constructed before current safety guidelines were developed. As traffic levels increase, the potential for safety concerns rises. There is a combination of factors that can lead to collisions on roadways, including demographic changes to the Island's population, preferences for larger or more powerful vehicles, increased motor vehicle volumes, and greater use of roadways by pedestrians and bicyclists. Collisions on these roads can have more serious consequences because of narrower lanes and shoulders, hazardous roadsides, steeper grades, and sharper curves, which also impedes the ability for emergency vehicles to respond.

Speed and inattention are factors in the risks and severity of traffic collisions. Both the likelihood of collisions and the severity of injuries are greater with higher speeds. Communities are embracing initiatives for lowering speed limits such as the Vision Zero initiative that has been adopted by the City of Seattle and WSDOT's target zero initiative. Vision Zero initiatives make the goal of zero deaths and serious injuries the highest priority and emphasize government taking the lead to implement improvements to further that goal. An emphasis is placed on lowering speed limits, through engineering solutions such as narrowing traffic lanes, and employing traffic calming.

The City of Bainbridge embraces the principle of putting people first when it comes to safety over efficiency for vehicular traffic and bicycle traffic. The City's standard roadway lane width is 10 feet, providing narrow lanes for traffic calming. The following areas are emphasized for safe street design:

- Consider neighborhood context and existing and future non-motorized use when establishing speed limits.
- In developing capital projects, consider elements that manage speed, improve safety and traffic calming. Examples include non-motorized improvements, roundabouts, traffic islands, and curb bulb outs, and radar feedback signs.
- Include bicycle climbing lanes at locations where differential speeds are higher between cyclists and motorists.
- Provide pathways separated from the roadway for pedestrians, wheel chair users, and cyclists.
- Provide and maintain street lighting in areas used by pedestrians and cyclists in designated centers of the Island and near schools. Locations for lighting include intersections and mid-block crosswalks.
- Maintaining or providing vegetation close to the roadway for traffic calming.



The number of collisions provides an indication of the safety of an intersection. Types of safety concerns that may contribute to accident data include:

- *Road Surface Conditions* – Poor roadway surface conditions such as pavement edge drop-offs, potholes, worn lane striping, and reductions in surface friction due to age and wear affect vehicle stopping and maneuvering capabilities. Road conditions may present hazards to cyclists and pedestrians.
- *Intersection Configuration* – Collisions related to high turning volumes, lack of channelization, and improper phasing.
- *Non-Motorized Conditions* – High accident data between vehicles with pedestrians or bicycles may emphasize the need for the construction of non-motorized facilities.
- *Geometric Conditions* – Collisions related to undesirable physical characteristics of the roadway's design, such as sight distance, curve radii, paved width and shoulder, and roadway slope.
- *Enforcement Issues* – Collisions related to vehicle speeding, intersection traffic violations, driving under the influence of alcohol or illegal drugs.

Collision History

Collisions can indicate where safety issues exist within a transportation system. The number of accidents at a specific location is a function of a number of factors including the quality of reporting data, traffic volumes, roadway design and geometrics, vehicle speed, and speed limit. For the analysis, the total number of annual accidents at intersections over a ten-year period is used. Unsignalized intersections with an average annual number of collisions of 5 or more are considered to be a high collision location. For signalized intersections with 7 or more accidents are considered to be a high collision location.

City Intersections

Table 5-1 indicates intersection locations with 10 or more collisions over the ten-year period ending in 2014 per the City's accident data base at locations other than along the SR305 corridor. Current data are compared with data from the previous study which was reported over a 9.5-year period ending in 2000.





Table 5-1. Bainbridge Island Collision Locations

Intersection		Type	Accidents 2005- 2014	Average Annual Collisions	Accidents 1991 - 2000	Average Annual Collisions Accidents
High School Rd	@ Madison Ave.	RA	22	2.2	45	4.7
High School Rd	@Hildebrand Ln.	SC1	20	2.0	19	1.9
Winslow Way	@ Ericksen Ave.	SC2	14	1.4	18	1.8
Wyatt Way	@ Madison Ave.	SC4	13	1.3	23	2.4
Miller Rd.	@ Koura Rd.	SC2	12	1.2	---	---
High School Rd.	@ Grow Ave.	SC2	10	1.0	24	2.5
Eagle Harbor Dr.	@ Bucklin Hill Rd.	SC1	10	1.0	---	---

RA - Round About, SC – Stop Controlled

All of the top ten intersections fall below the high collision criteria threshold. The highest number of collisions are reported for the two intersections along High School Road west of and in closest proximity to SR305.

State Route 305 Intersections

Table 5-2 indicates the collision rates at primary intersections along the SR 305 corridor from data available from Washington State for the ten-year period ending in 2014.



Table 5-2. SR 305 Collision Locations*

Intersection	Signalized/ Unsignalized	Accidents 2005 - 2014	Average Annual Accidents	Accidents 1997 - 2000	Average Annual Accidents
SR 305 @ Madison Ave.	S	82	8.2	22	6.8
SR 305 @ Sportsman's Club	S	71	7.1	21	6.5
SR 305 @ Day Rd.	S	52	5.2	34	10.5
SR 305 @ High School Rd.	S	47	4.7	25	7.7
SR 305 @ Winslow Way	S	31	3.1	9	2.8

*Under 23 U.S. Code § 409, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential collision sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data

As indicated by the table, the intersections at SR 305/Madison and SR 305/Sportsman's Club exceed 7 collisions per year which is considered higher than what is normally expected for signalized intersections. There are no scheduled improvements identified by WSDOT for these intersections.

Collisions involving pedestrian and cyclists

The State accident report indicates there were 19 injury accidents involving pedestrians (6) and cyclists (13) along the SR305 corridor for the ten-year period. The highest concentration of accidents was near the ferry terminal. The vast majority of these collisions outside of the Winslow area involved cyclists. Non-motorized improvements on SR305/ Olympic Drive near the ferry terminal are in progress.

Apart from SR305, there were 121 injury accidents reported involving pedestrians (27) and cyclists (94) for the ten-year period. There was at least one fatality involving a pedestrian struck crossing New Brooklyn in December of 2010. The highest concentration of accidents occurred on Madison Avenue (17), Winslow Way (16), High School Road (14), and Wyatt Way (10). In 2012, Winslow Way was reconstructed including pedestrian and bike facility improvements. Non-motorized improvements are planned for Wyatt Way and Madison Avenue.

Addressing Safety Problems

Addressing safety problems requires a combination of approaches ranging from educating the driver, better enforcement, to improving the roadway. Roadway improvements fall into two major categories — improvements designed to prevent collisions from occurring, and improvements that minimize the severity of collisions that occur. Types of improvements include:



- *Clear Zones*—Areas of open space with gentle slopes adjacent to the road giving motorists room to safely regain control of their vehicles if they run off the road. These areas should include features such as signs and utility poles which break away on impact, barrier walls or guardrails that redirect vehicles away from hazards, and collision cushions that absorb energy and lessen the severity of collisions.
- *Guardrails* – The Island along its perimeter has many medium and high bluffs. In the interior, the island's topography is hilly in many areas. Guardrails are employed at many locations. Many of these guardrails are older and do not meet current design standards and some are in disrepair. There are some locations where new guardrails may be warranted due to roadway configuration, topography, travel speed, and traffic volumes.
- *Signing, Pavement Marking, and Delineation* — Traffic signs, pavement markings, rumble strips, and reflective devices improve driver perception of important roadway features and alert them to changes in roadway geometry or other conditions.
- *Pavement Improvements and Preventive Maintenance* — Greater smoothness and friction of the road surface are provided by pothole repair, resurfacing, rehabilitation, and reconstruction.
- *Intersection Controls* – Stop signs, roundabouts, and traffic signals can better control traffic flow and reduce intersection conflict points.
- *Adding or Widening Shoulders* – Shoulders provide drivers, pedestrians, and cyclists additional room to maneuver on narrow roads or to pull out of travel lanes.
- *Channelization* – Separate lanes for left or right-turning traffic avoid impediments to traffic flow and can reduce rear end collisions.
- *Pedestrian/Cyclist Facilities*—A variety of techniques can be used to separate pedestrians and cyclists from motor vehicle traffic to improve safety.



How study addresses safety

The IWTP proposes improvements that will improve the safety of the roadway system through targeted improvements at intersections and roadways. Safety-related elements of this study include:

- Reviewing roadway geometrics and promoting safety enhancements,
- Identifying and mitigating high collision locations,
- Identifying and mitigating intersections with poor LOS operations, and
- Including safety as a factor in the evaluation of the roadway system.

Safety Programs

Current Safety Programs provided by Public Works include:



- **Roadside Safety Program** – This program provides for the inventorying and inspection of roadside elements of the Island's secondary arterial streets and higher volume collector streets. The program also provides for contracting work that is beyond the capacity of Operations and Maintenance. Roadside elements include items such as guardrails, shoulders, and clear zones. This program provides for the prioritization of guardrail repairs, replacements, and installations.
- **Focused Traffic Studies Program** – This program provides for the study of traffic control measures implemented on the Island's roadways. As conditions change with factors such as population growth and development, it is necessary to evaluate the effectiveness of roadway signage and other traffic control devices. Many residents are concerned about vehicular speeds and this program provides for the evaluation of speed limits.

Maintenance

An important function of the City of Bainbridge Island is preservation and maintenance of the existing roadway system. Careful maintenance allows existing travel corridors to maintain their function, prevents damage from water and vehicle loads, and maximizes the use of City resources.

Maintenance Issues

The City of Bainbridge Island's Public Works Department is in charge of roadway maintenance activities for the Island.

Key maintenance issues for the City include:

- *Vegetation growth* – Overgrown vegetation requires the trimming of foliage to retain roadway safety and sight distance.
- *Pavement maintenance* – As roadways age, the pavement surface and underlayment can be damaged by traffic, heavy vehicles, weather, and water seepage if not properly maintained. Poor pavement condition can affect the safety of the road for drivers and bicyclists.
- *Gravel road grading* – The surface of gravel roadways can deteriorate fairly quickly, producing potholes in the roads. These roads need regular re-grading to maintain the surface.
- *Dirt and gravel on shoulders and roadways* – Regular sweeping of roadways is necessary to provide a clean, smooth surface for travel. Bicyclists are particularly concerned about gravel, dirt and debris accumulating on shoulder areas.
- *Stormwater* – Maintaining good roadway stormwater drainage is important to protect the roadway and to prevent flooding hazard.
- *Roadway erosion* – Roadway erosion on shoreline and steep slope areas is an issue for the City. Repair of these roadways often is expensive and may require special permits and consistency with shoreline management goals and objectives.



Maintenance Programs

The City's roadway system has a number of on-going programs to keep the current roadway system functioning, and to prevent major failures that would require extensive roadway reconstruction. The City Public Works Department's operation and maintenance program has the primary responsibility for these programs.

- *Street sweeping program* – Street sweepers collect debris and litter before they enter the stormwater collection systems or roadside ditches. This function is important to protect stormwater run-off from the roadways and to provide a safe surface for automobiles and bicyclists.
- *Brush cutting program* – Island-wide mowing of vegetation to maintain roadway clearance and sight lines.
- *Roadway ditches and shoulders* – These components of the roadway system are periodically maintained, cleaned, and reshaped to ensure they function as designed.
- *Roads preservation program* – The City of Bainbridge Island has an annual road program focused on preserving, maintaining, and repairing the existing roadway infrastructure. Each street is evaluated for 1) reconstruction, 2) overlay, 3) seal coat and/or 4) patching. Where the roadway does not require complete reconstruction, the City can repair damaged sections (patch with asphalt), apply chip seal layer (an oil emulsion and crushed rock layer), or overlay new asphalt over the existing pavement.
- *Gravel grading program* – The City fills and regrades the surface of the gravel roads annually.
- *Trail and Pathway Maintenance program* – The City cuts brush and restores trail surfaces to maintain its separated pathway and trail network.
- *Special Maintenance* – The City also performs maintenance activities not addressed in the above programs such as the removal of large trees that may present hazards to the traveling public.
- *Sign Inventory* – The City maintains a data base of signage and routinely maintains or replaces signs to meet reflectivity and other requirements.

CHAPTER 6 NON-MOTORIZED SYSTEMS



workers, and visitors.

Non-motorized users – people walking, cycling, horseback riding, and using wheelchairs – have an important place in Bainbridge Island's transportation system. Many peak hour commuting trips as well as other trips are made by walking or riding. Having non-motorized choices available is important to many Island residents. Facilities that accommodate non-motorized users provide for safety, mobility, support development density, encourage healthy lifestyles, reduce impact to the environment, and ultimately provide for improved quality of life for Island residents,

Background / History

Non-motorized modes of transportation have been and continue to be an integral part of Island life. From the late 1800's to the early 1900's, the main transportation to the Island was provided by a small fleet of steam ships referred to as the "mosquito fleet". Roads originated at or near the "mosquito fleet" docks. Early residents walked, rode horses, and biked before the proliferation of automotive transportation. Auto ferry service was brought to the Island in the 1920's at Agate Passage. The Agate Pass Bridge was constructed in 1950. Auto ferry service to Seattle followed in 1951. With the onset of the age of the automobile, reliance on non-motorized transportation declined in most places. However, walkability, biking, and horse-friendly neighborhoods remained an attractive part of the Bainbridge lifestyle. Walking and biking continued to be an important aspect of mobility within and near the Town of Winslow and other outlying Island centers. With reliable transportation to Seattle, a commuter culture developed and Bainbridge evolved to be more suburban. With an increasing population, bus transit linking residential areas to the ferry terminal became an important element of the transportation system. In more recent times, greater awareness of health and environment have made walking and biking more attractive modes of transportation.

The entire Island incorporated as the City of Bainbridge Island in 1991. Since incorporation, there has been a greater emphasis on non-motorized transportation planning. Following the development of the 2003 Island-Wide Transportation Plan, non-motorized transportation became a significant driver of the City's Capital Improvement Program. The City has invested heavily in non-motorized improvements over the past decade. The following is a summary of major milestones in the City's non-motorized planning and implementation:

- Inclusion of bicycle system planning and maps in the Transportation Element of the 1992 Comprehensive Plan.
- Development of a Trail System Master Plan in 1994.
- Recommendations for sidewalk and bicycle improvements in the 1995 Winslow Master Plan.
- Formation of a Non-Motorized Transportation Advisory Committee (NMTAC) to advise Council and support staff in December of 2002.
- Drafting of an island-wide Non-Motorized Transportation Plan in 2003. This plan included a comprehensive set of policies and goals that were later adopted in the City's



Comprehensive Plan. Extensive Island-wide non-motorized existing and planned facilities maps were developed. These maps were subsequently adopted in the City's Comprehensive Plan and have evolved through several comprehensive plan updates.

- Inclusion of extensive non-motorized planning in the transportation element of the City's 2006 Comprehensive Plan following the 2003 Non-Motorized Plan.
- Identification in 2007 of the Core 40 Program to provide a 40-mile integrated island-wide shoulder network for bicycles. The intent is to provide shoulder improvements on the Island's arterial roadways to achieve bicycle connectivity along 40 or more miles of roadways. Refer to Map G. The delivery of several Core 40 projects, including Bucklin Hill and North Madison.
- Delivery of capital improvement projects (mostly grant funded) in the Winslow area providing pedestrian and/or bicycle facilities including Bjune, Ericksen, Ferncliff, High School, Madison, and Winslow Way.

In the 2004 Island-Wide Transportation Study, the 2003 Non-Motorized Plan was included as a separate volume. In this update, the Island-Wide Transportation Plan includes the Non-Motorized Plan.



System Overview, Inventory, and Attractions

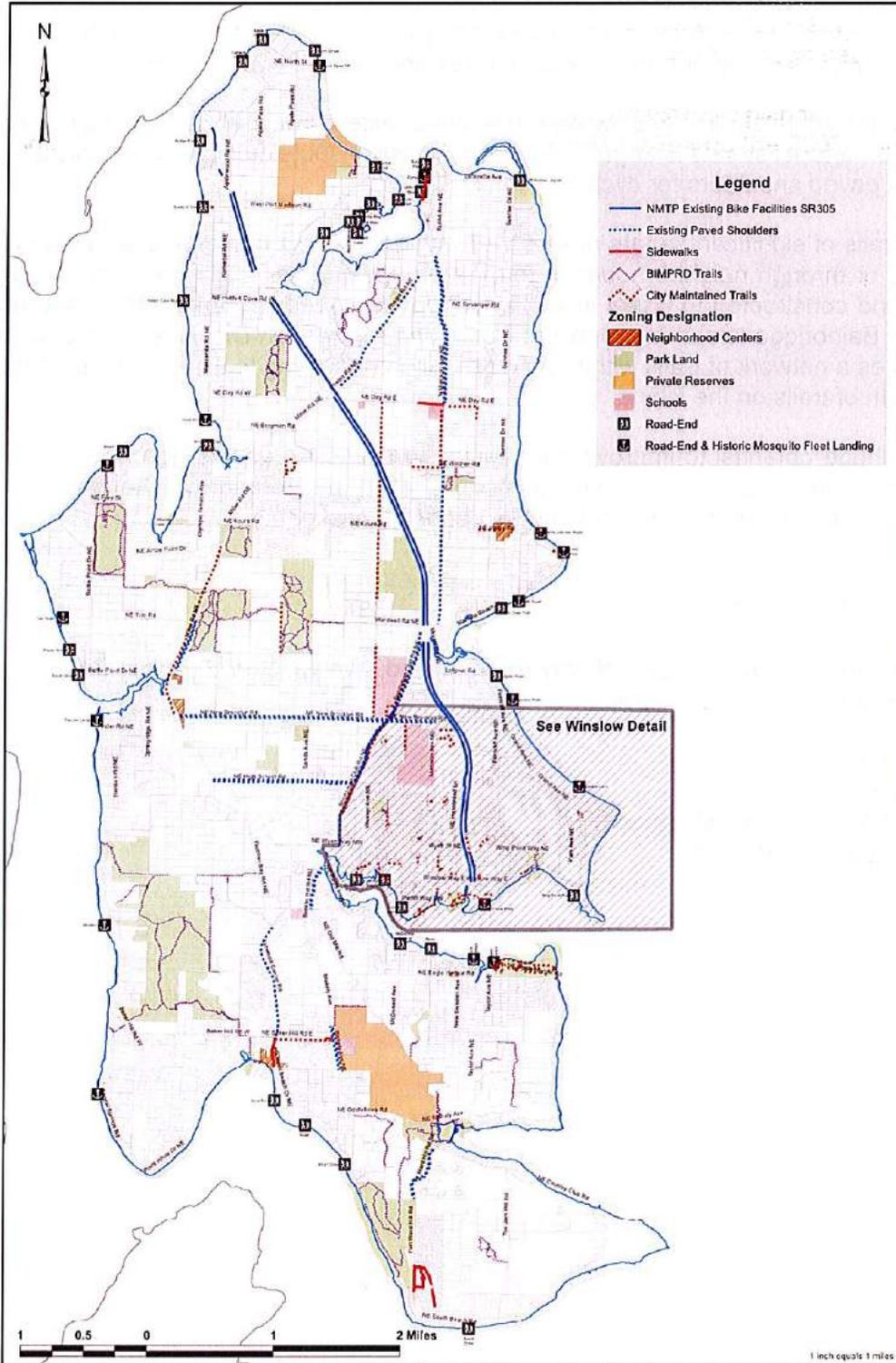
The City's existing non-motorized transportation system consists of sidewalks, bike lanes, and trails. The City's existing non-motorized facilities are shown in Maps A and B.

Sidewalks are prevalent in Winslow and to a lesser extent in Lynwood. The city's network of shoulders on arterial streets is largely built out in Winslow. Outside of Winslow only a few roadways have paved shoulders for cyclists.

Most city trails of significant length are located within the City's rights-of-way. Other city trails connect to or through neighborhoods in formalized easements. City trails are mostly gravel surfaced and constructed to 6 feet in width although many neighborhood trails are smaller in width. The Bainbridge Island Metropolitan Parks and Recreation District (Parks District) owns and operates a network of trails within, between, and connecting to Parks that comprises most of the length of trails on the island.

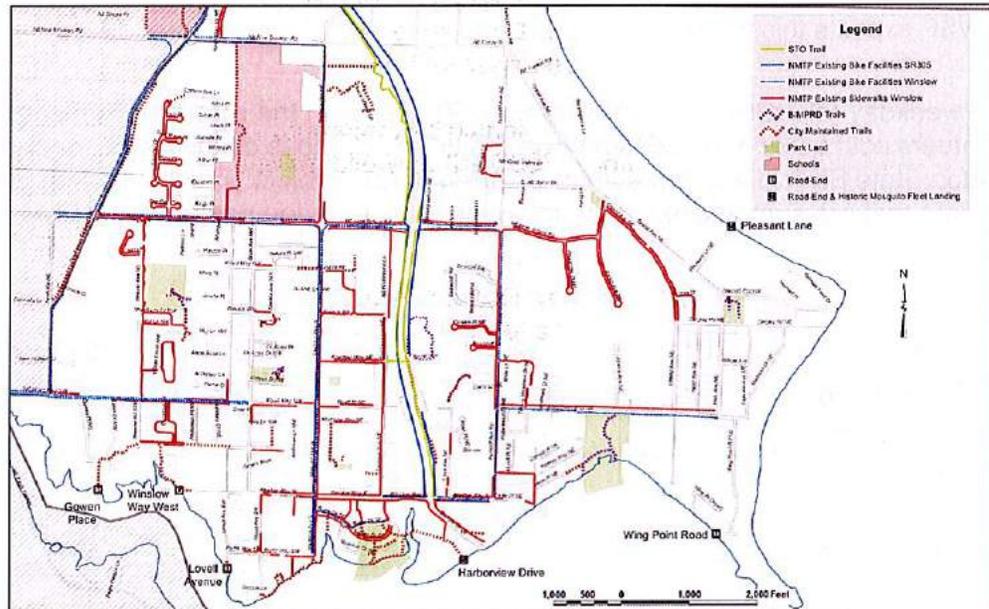
There is a huge potential to improve non-motorized access to transit, goods and services, to provide recreational opportunities on Bainbridge Island and to improve the quality of life for citizens. The following nodes are identified for consideration:

- Ferry Terminal
- Agate Pass Bridge
- Winslow
- Designated Town centers of Day Road, Island, Lynwood, and Rolling Bay
- Residential neighborhoods
- Schools
- Churches
- Parks
- Road ends and shorelines
- Equestrian facilities



Non-Motorized System Plan
 January 2003 Updated May 2016
 Map A: Existing Non-Motorized Facilities





Non-Motorized Transportation Plan
Map B: Existing Non-Motorized Facilities

Non-motorized Use

A large number of people use active modes of transportation on Bainbridge Island Washington State Ferries reports ridership statistics each year. For 2015 it was reported that 3,093,016



foot passengers including 382,207 cyclists rode the ferry. This number grows substantially each year and WSF expects this trend to continue.

Each year, on a weekday falling between Tuesday and Thursday in the month of September, community volunteers count bike and pedestrians at major intersections on the Island, supporting the Washington State Bicycle and Pedestrian Documentation Project. The State Ped Bike program keeps data that are summarized in the following tables, for the past 5 years.

Location/Year	2011	2012	2013	2014	2015
SR305/ Winslow Way	125	204	114	192	138
SR305/ High School	-	-	-	69	51
SR305/ Day	-	-	26	24	17
Madison/ Wyatt	-	39	-	37	-
Madison/ High School	-	-	-	38	53
Blakely/ Bucklin	-	-	-	44	36

Location/Year	2011	2012	2013	2014	2015
SR305/ Winslow Way	-	-	211	168	117
SR305/ High School	-	49	-	-	59
SR305/ Day	-	26	24	35	33
Madison/ Wyatt	-	45	9	-	-
Madison/ High School	89	-	68	67	68
Blakely/ Bucklin	-	28	-	45	47

Location/Year	2011	2012	2013	2014	2015
SR305/ Winslow Way	126	185	176	28	196
SR305/ High School	-	-	-	24	51
SR305/ Day	-	-	6	4	0
Madison/ Wyatt	-	39	-	48	-
Madison/ High School	-	-	-	76	127
Blakely/ Bucklin	-	-	-	2	3



Table 6-1d, Pedestrian Counts, 4-6 PM

Location/Year	2011	2012	2013	2014	2015
SR305/ Winslow Way	-	-	526	309	471
SR305/ High School	-	43-	-	-	68
SR305/ Day	-	1	-	3	1
Madison/ Wyatt	-	80	21	-	-
Madison/ High School	238	-	182	30	142
Blakely/ Bucklin	-	5	-	5	2

Barriers to use and Connectivity Improvements

Barriers are physical characteristics of a transportation system that limit or restrict mobility for non-motorized users. Some common barriers on the Island are as follows:

- Inadequate maintenance including lack of shoulder sweeping for cyclists, joints at settled sidewalk panels, and poor trail surfaces in need of re-grading and compaction;
- Deficiencies in design such as lack of ADA compliant ramps, facilities that are not of adequate width to be comfortable for many users, and facilities with materials that are not ADA compliant;
- Discontinuities in system networks such as gaps in sidewalks or roadway shoulders, or bike lanes;
- Inadequate facilities at roadway intersections;
- Lack of facilities when systems do not exist or do not extend far enough to meet needs;
- Physical barriers such as naturally occurring ravines or existing developed properties that do not provide for access.

To address barriers and other limitations on non-motorized connectivity across the Island, connectivity improvements are identified in a set of figures and tables which are intended to be living documents updated as new areas are identified and considered warranted by the Public Works Department / Director.

Table 6-2 Identified barriers on SR305 and on City roadways.



1	SR305 at Vineyard Lane	A separated grade crossing is needed to unite the two sides of Winslow that are divided by the SR305 superblock between Winslow Way and High School Road.
2	SR305 Signalized Crossings	Wide crossings can be a barrier to some users. As capacity improvements are made to SR305, medians, islands, and other pedestrian related improvements should be provided.
3	SR305 Shoulders	Shoulder widening is needed to address gaps between Hidden Cove Rd and the Agate Pass Bridge.
4	City Secondary arterial and collector roadways	Where pedestrian and cyclist facilities do not exist, shoulders and/or separated pathways are needed. Many of these areas are identified for improvements shown in Map E, F, and G.

Non-Motorized Travel Routes and Network

The vision and goals for non-motorized transportation are established in the Transportation Element of the City's Comprehensive Plan. To meet the vision and mobility and connectivity goals in the Transportation Element of the Comprehensive Plan, a comprehensive network is defined in this section.

Providing facilities for accommodation of non-motorized modes of transportation has consistently ranked high on past City surveys. The City Council appointed the NMTAC to work with staff to plan and assist with the implementation of non-motorized improvements and other work related to furthering non-motorized transportation.

This section describes the current needs as understood by the NMTAC and indicates what are the best opportunities given geography, existing development, and other constraints.

The over-arching goal embodied in the non-motorized vision and the first non-motorized goal is to provide a network of transportation facilities that provide non-motorized modes of travel for the greatest number and widest range of the traveling public.

The NMTAC considers the following mobility challenges to be high priorities:



- Accommodating a wide range of non-motorized users of all ages and abilities.
- Providing connectivity to the ferry terminal and Winslow.
- Providing safe routes to schools.
- Providing connectivity to designated centers and neighborhoods across the island for all modes.
- Improving safety for cyclists and walkers on the Island's secondary arterial roadways.
- Improving sidewalks in Winslow through universal design
- Removing barriers and closing gaps in networks addressing the above priorities. This includes but is not limited to SR305 and other higher volume streets.

Context sensitive solutions for non-motorized modes will depend upon site specific conditions such as existing and planned land uses, the location of origins and destinations such as schools and parks, motor vehicle speeds and volume, and the overall network connectivity.

The non-motorized transportation system seeks to create a network of facilities that makes it safe for all ages and abilities of people to get around their neighborhoods and the island without a car. This will require facilities that will be evaluated for the context but may include.

- A. Sidewalks and bicycle lanes along streets in the Island's designated centers.
- B. Road shoulders can provide connectivity for commuter and more experienced cyclists, as illustrated in the City's Core 40 Program. The Core 40 goal is to provide an integrated network of shoulders for cyclists that, when combined with multi-use trails and lower volume roadways, provides 40 miles of bicycle routes on the Island.
- C. Separated non-motorized facilities that provide a non-motorized transportation option for a wide range of people walking, riding bikes, riding horses, or using wheelchairs. This pathway network is envisioned to connect to the City's sidewalk and bike lane infrastructure and connect to main destinations like the ferry terminal, Agate Pass Bridge, Winslow, designated centers, schools, parks, shoreline road ends, equestrian facilities, and other amenities. These facilities will vary depending on purpose but include:
 1. The Sound to Olympics (STO) trail, which serves as a centralized spine for non-motorized users and a 12-foot wide separated multi-use path connecting the Bainbridge Island Ferry Terminal to the Agate Pass Bridge and linking to other regional locations,
 - a. Intra-island trails, which are 10-foot wide separated multi-use pathways to link designated centers, schools, and parks.



- b. Connecting pathways, which are 6-foot wide trails built to City standards that provide local connectivity and link to the regional and intra-island trails. Additionally, the system will integrate with Bainbridge Island Metropolitan Parks District trails that provide both intra-island and local connectivity.

D. On low-volume neighborhood streets, specific non-motorized infrastructure may not be necessary if vehicular speeds are low (20-25 mph).

This combination of facilities is designed to make up a functional network that provides connectivity to the attractions previously identified and mobility for the greatest number and widest range of users.

Sidewalks, Shoulders, Multi-use Trails, and Connecting Pathway planned facilities are identified and located in attached Maps C and D. These facilities are integrated to optimize connectivity for alternative modes of transportation for users of all ages and abilities. Refer to Maps C and D for trail connection zones. Trail connection zones are identified as opposed to specificity of routes to allow flexibility. The City’s past practice has been to acquire easements for trails from private property owners on a voluntary basis or when there is significant development.

Table 6-3 identifies potential connectivity for trails. The focus of this table is for regional and intra-island multi-use pathways and roadway shoulder improvements. These maps depict one set of possibilities for intra-island trails for the purposes of demonstrating connectivity that may be achieved by an integrated trail network. Some connectivity is identified for connecting pathways that are branches of regional and intra-island trails. Local connectivity is beyond the scope of what is listed.

1	Sound to Olympics Trail Separated Grade Crossing at Vineyard Lane	A non-motorized bridge to connect the center of Winslow which is divided by SR305, requiring easements for accommodating a non-motorized bridge and its approaches.
2	Sound to Olympics Trail at Hildebrand Retail Area	A 12-foot wide paved pathway to serve as a cross-connecting route at the north end of Winslow.
3	Sound to Olympics Trail_north of High School Rd	A 12-foot wide paved pathway to serve as a non-motorized transportation corridor connecting the Winslow Area north to the Agate Pass Bridge and Kitsap County. This route would connect to transit, schools, and parks facilities.



4	Waterfront Trail Connector at Harbor Drive	A 10-foot separated pathway to connect the Waterfront Trail to the ferry terminal. Permission is needed from WSF to use the area west of the roadway for a separated pathway.
5	Cave Avenue Trail Connector	A 6-foot wide connecting pathway to connect local neighborhoods to the STO trail and the center of Winslow. Easements may be needed near the ravine for access from the STO trail to Ferncliff Avenue near Wing Point Way.
6	Knechtel Trail Connectors	A network of 6-foot wide connecting pathways and low volume local access roadways to connect local neighborhoods to the center of Winslow and the STO trail. Easements are needed from private property owners to link local access to the roadway for east-west connection from STO trail to Weaver.
7	Schools Intra-Island Trail	A 10-foot wide paved pathway to serve as an east to west connecting route at the north end of Winslow. This route would connect to schools and parks facilities and serve as a transportation corridor. Formalized routes and easements are needed from the Parks District at the "Central Park" and the School District at the High School campus and the City's Suzuki property.
8	Wardwell Intra-Island Trail	A 10-foot wide paved pathway is envisioned to serve as a route connecting points north to the Winslow area school and parks facilities. Formalized route and easement are needed from the School District at the Middle School campus.
9.	Shepard Intra-Island Trail	A network of 10-foot wide paved pathways and low volume streets along this corridor to better accommodate non-motorized use. Easements will be needed from private property owners to link local access roadway for east – west connection from Weaver to Finch.
10.	Head of the Bay Shoulders and Trail	6-foot wide paved shoulders are needed along this corridor. Additional right-of-way may be needed



		from fronting property owners to widen the roadway and mitigate for wetland impacts.
11	Bucklin Hill Road	6-foot wide paved shoulders are needed along this corridor. Additional right-of-way is needed to widen the roadway and drainage for shoulder improvements.
12	Lost Valley Intra-Island Trail	A 10-foot wide paved pathway through the Lost Valley. The trail would provide a more direct route to the west from the Winslow area at lesser grades than surrounding road networks. Easements are needed at the east end of the proposed trail to connect through to Fletcher Bay Road.
13	Lynwood Center Intra-Island Trail	A 10-foot wide paved pathway separated from the roadway on the east side of Fletcher Bay Rd and Lynwood Center Rd. This pathway would provide non-motorized connectivity south to Lynwood Center. Easements are needed along the east side of Fletcher Bay Road.
14	North Island Expeditionary Intra-Island Trail	A continuous trail network connecting Wardwell road on the south end to Lovgreen Rd at the north along mostly unopened rights of way. This system would connect with Megs Farm Park Land trails.
15	Mandus Olson Corridor Intra-Island Trail	A continuous network of trails and low volume roadways to link to the Lost Valley at the south and the STO Expeditionary Trail / Lovgreen Rd at the north.

Table 6-4 identifies gaps and deficiencies in sidewalks in Winslow. This information is used to



facilitate the planning of the City’s sidewalk infill program and pedestrian elements for capital improvement projects.

Table 6-4, Winslow Area sidewalk gaps and deficiencies

1	Madison Avenue from Wyatt Way to High School Rd	The existing 4-foot plus wide sidewalk is not adequate to accommodate a range of users.
2	Madison Avenue from Winslow Way to Wyatt Way	Sidewalk ramps not to current standards
3	Madison Avenue from Winslow Way to Parfitt Way	Sidewalk ramps not to current standards
4	Wyatt Way from Ericksen to Madison Ave	Sidewalk needed both sides
5	Wyatt Way from Madison Ave to Lovell	Sidewalks and bike lanes needed
6	Wyatt Way from Lovell to Weaver	Sidewalk is needed on north side to fill in the current gap.
7	Winslow Way from Madison Ave to Grow Ave	Existing sidewalks are incomplete for roadway segment. Complete sidewalks are needed on both sides.
8	Grow Ave from Winslow Way to Wyatt Way	Sidewalk needed. Possible greenway (bike & ped prioritized roadway).
9	Grow Ave from Wyatt Way to High School Rd	Sidewalk needed. Possible greenway (bike & ped prioritized roadway)



10	Wood Ave from Grow Ave to Parfitt Way	Sidewalks are incomplete on both sides.
11.	Cave Avenue	Gap in sidewalk on east side.
12.	Waterfront Park Trail at Harbor Drive	The sidewalk is narrow along a steep street grade. A separated pathway on the ferry property to the east with switchbacks would improve accessibility for persons with disabilities and cyclists.
13.	Waterfront Park Bridge and approaches	The bridge needs to be widened to accommodate cyclists and resurfaced for all users.
14.	Trail from Parfitt Way to Finch Place	The existing gravel trail serves an area that is used by many senior citizens and is inconsistent in width and surfaced with gravel



Facility Types

The system maps identify facility types for roadway shoulders and trails. Refer to Recommended Capital Improvement Plan Maps for regional and intra-island trail designations.

Sidewalks are not depicted on system maps. Sidewalks are required per City Design and Construction standards in designated centers.

Shoulders are required at locations shown in system maps. Minimum shoulder widths are designated as 3-foot asphalt paved plus a one foot or greater gravel ballasted edge / curb offset distance (Type C) or 5-foot asphalt paved plus a one foot or greater gravel ballasted edge / curb offset distance (Type B).

Type B shoulders are intended to ballast the paved roadway, while not a non-motorized facility, they provide limited space for non-motorized users when vehicles are traveling in each direction. This facility type is best suited for roadways with low traffic volume when the frequency of conflict is low and where drivers can most often maneuver to provide additional room for non-motorized users.

Type C shoulders are intended to provide space that is adequate to accommodate cyclists riding with traffic and pedestrians walking facing traffic.

Trails: Regional trails, intra-island trails, and some connecting pathways are shown in system plan maps. Connecting pathways may be required in locations not depicted in the system plan maps to preserve existing connectivity or provide connectivity to facilities. The City's minimum trail width is 6-feet. Type A facilities (Regional trails, intra-island trails) require a 10-foot-minimum width plus 1 foot or greater ballasted shoulders. All trail facilities are to be hard surfaced. Trails along roadways should be separated from the vehicular traveled way.

Levels of Service



Bicycle Level of Service (BLOS) and Pedestrian Level of Service (PLOS) are established for each of the facility types for Secondary Arterial Streets and high Volume Collector Streets over 1500ADT with posted speeds up to 35mph..

LOS	Description
A	Separation from vehicular modes that is comfortable for the majority of users. Minimum 7 feet of separation or curb with 3 feet of separation..
B	Separation from vehicle modes that may not be comfortable for some users. Minimum curb or two feet of separation.
C	Space provided for non-motorized modes. Meets AASHTO minimums.
D	Space provided for non-motorized modes but may be sub-standard and not considered a non-motorized facility.

Facility Description	BLOS	PLOS
10-foot wide multi-use pathway separated 7 or more feet from the roadway or separated by physical barrier	A	A
6-foot wide trail separated 7 or more feet from the roadway	C	A
5-foot wide sidewalk or trail with curb and gutter and planter strip 3 or more feet wide	N/A	A
5-foot wide sidewalk	N/A	B
5-foot wide paved shoulder w/ 2 foot buffer	B	C
5-foot wide paved shoulder (6 foot total width)	C	C



Table 6-6b, Non-motorized Levels of Service for Conservation Area

Facility Description	BLOS	PLOS
10-foot wide multi-use pathway separated 7 or more feet from the roadway or separated by physical barrier	A	A
6-foot wide trail separated 7 for more feet from the roadway	C	A
5-foot wide paved shoulder w/ 2 foot buffer	B	C
5-foot wide paved shoulder (6 foot total width)	C	C
8-foot wide shoulder	N/A	B
6-foot wide shoulder	N/A	C
3-foot wide shoulder *	N/A	D

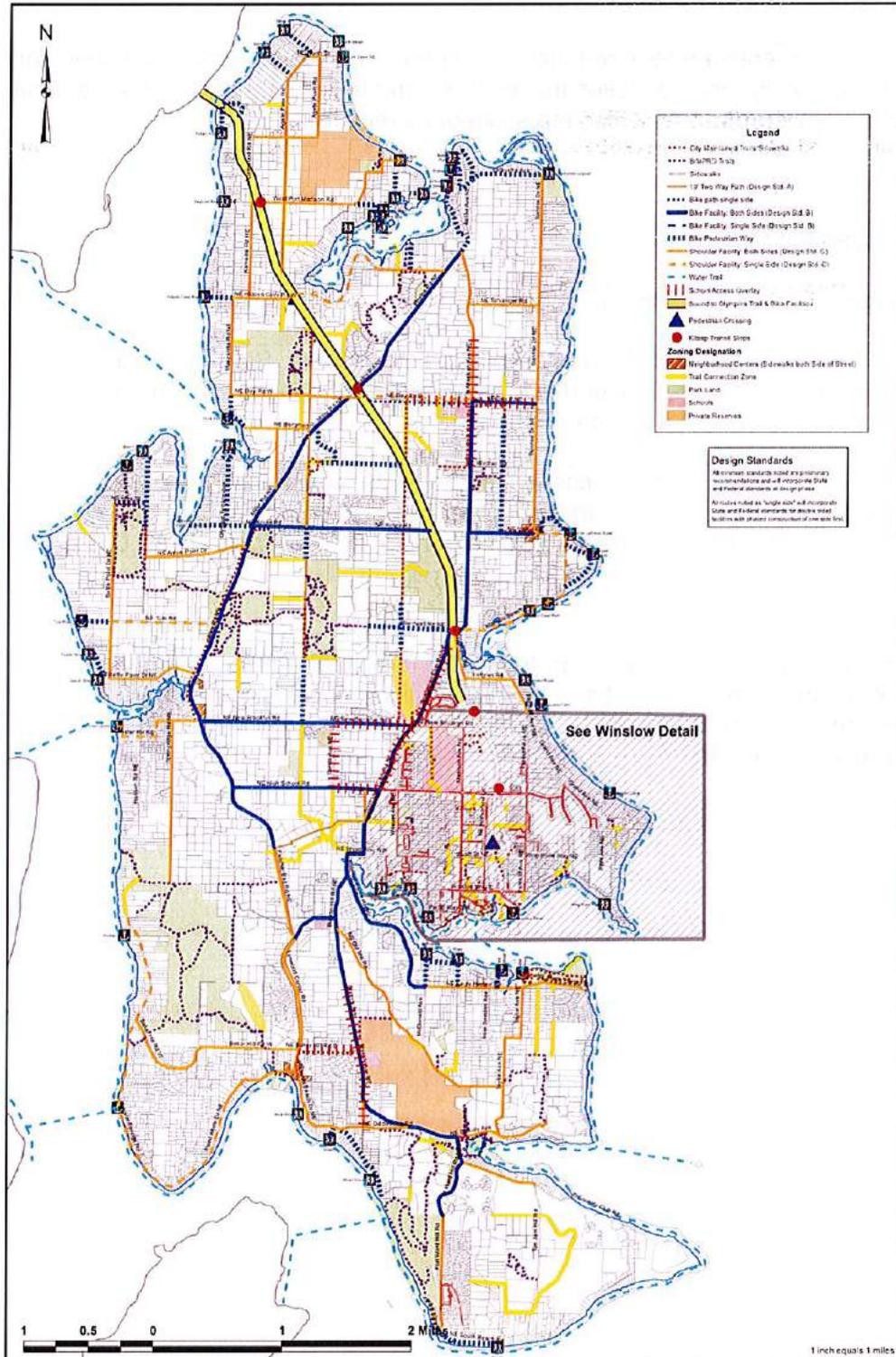
* 3 foot shoulders are not intended as a non-motorized facility but may provide space to avoid run out into a ditch or vegetation for non-motorized users, as well as recovery for vehicular traffic.



Frontage and Other Required Improvements

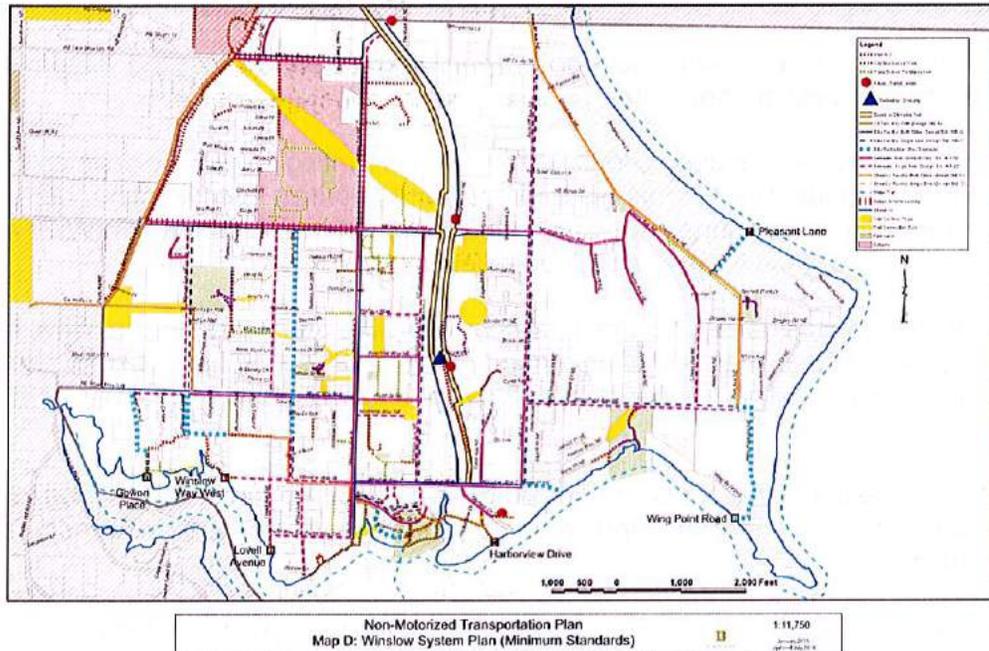
Non-motorized improvements are required along with other infrastructure improvements for all development. The following table identifies the level of improvements required that have been determined to be roughly proportional with the scale of development.

Development type	Required facilities
Development or re-development of a residential lot.	ROW dedication and easements. Sidewalk and shoulder/bike lane infill and reconstruction to meet current standards.
Short Plats 2 to 4 lots in size, multi-family development exceeding 4 units, and all other development / re-redevelopment.	In addition to the above, the construction of sidewalk and shoulder/bike lane extensions, and construction or reconstruction of trails up to 6 feet in width.
Long Plats of 5 or more lots and development of all other properties greater than 20,000 square feet gross building in aggregate.	In addition to above, the construction or reconstruction for all facilities including multi-use trails.



January 2003 Updated July 2016

Non-Motorized System Plan
 Map C: (Minimum Standards)



Implementation of non-motorized projects

This section elaborates on specific measures to further the non-motorized Implementation goals in the Transportation Element of the Comprehensive Plan. The list below is not prioritized.

- A. As opportunities are identified, develop proposals to update the Municipal Code to increase the ability to obtain non-motorized facilities in accordance with the IWTP and consistent with the goals for non-motorized projects in the Transportation Element of the Comprehensive Plan.
- B. Support community efforts to develop new regulations requiring the construction of non-motorized facilities by development.
- C. All commercial and residential projects that reach the design and review thresholds set in the Municipal Code shall be reviewed for compliance with the goals, policies, and standards in the Transportation Element of the Comprehensive Plan, the Islandwide Transportation Plan and other adopted Plans.
- D. Review development projects for concurrency and collection of impact fees to provide for non-motorized improvements. Consider including system non-motorized LOS studies in future updates to concurrency and impact fees.
- E. Facilitate the NMTAC review of development projects with potential for non-motorized elements and provide opportunity for early input in designs.



- F. As properties develop, secure right of way dedication for frontage improvements on City streets and easements for regional and intra-island multi-use trails (20 feet or more) and connecting pathways within and between neighborhoods (15 feet or more).
- G. Support opportunities to secure new easements or renegotiate existing easements (example: utility access agreements).
- H. Provide mechanisms for funding, prioritizing, and implementing projects to develop non-motorized facilities identified in this plan. Identify and prioritize specific non-motorized projects in the City's transportation planning including but not limited to the IWTP and the Capital Facilities Plan to assure their completion.
- I. Actively pursue various funding sources, such as available grant and bond initiatives for priority projects. Pursue joint funding opportunities with the School District, Parks District, and Department of Transportation. Provide flexibility in the program as needed to be competitive.
- J. Support the development of a non-motorized bond measure to fund regional and intra-island trails, Core 40 shoulder improvements, and other island-wide non-motorized improvements.
- K. Support involvement of the NMTAC in transportation planning and capital improvement planning. Important aspects of this work include developing and prioritizing projects, and collaborating to develop grant applications and secure funding.
- L. Support involvement of the NMTAC in public outreach and the development of transportation improvement projects.
- M. Incorporate non-motorized improvements into capital improvement projects. Consideration to be given to the context of each site in developing designs.
- N. Study maintenance needs and include budget recommendations in Operations and Maintenance to provide for new facilities and improved level of service of all facilities.

Non-Motorized Improvement Plan

Programs and projects to achieve the proposed Non-motorized Transportation System Plan are identified in Maps E and F.



- E. Provide separation for non-motorized from vehicular uses at higher speed (over 30mph) and higher volume (over 2000 ADT) motorized traffic locations. When separation is not practical, alternative routes should be provided to accommodate users of all ages and abilities. A particular emphasis for separated facilities is on roads connecting to schools and along SR305.
- F. Consider lowering speed limits on secondary and collector streets with significant bicycle and/or pedestrian traffic that lack non-motorized facilities.
- G. Post walking and biking warning signs on roadways in high non-motorized use areas lacking adequate facilities.
- H. Incorporate traffic calming elements such as narrow lanes (9-10 feet depending on roadway classification), center island/ crossing islands, chicanes or winding roadways, and maintain native vegetation or provide street trees in all designs. Consider speed humps, and/or raised crosswalks at local access streets with a desired speed limit of 20mph when there are large vehicular traffic generators or very high volumes of pedestrians.
- I. Provide street lighting on secondary arterials and collector streets in designated centers and marked crosswalks on arterial streets.
- J. Provide bicycle-activated sensors at signal locations.
- K. Avoid placement of utility facilities, such as manhole covers and utility poles, within non-motorized travelways.
- L. Design of new parking lots and garages to include covered bike storage or parking facilities. Where existing bicycle parking is sufficient and conveniently located, the City Engineer may omit this requirement.
- M. When bike racks are required for commercial development and public facilities, the racks shall be conveniently located to the building entrance, appropriately designed to be compatible with the design and development of the site, and sheltered from inclement weather.



Standards

The City's existing Design and Construction Standards were developed in 1997 and have not been updated to include all of the non-motorized elements identified in the 2003 Non-Motorized Transportation Plan. It is recommended that this document be updated following the update of the Island-Wide Transportation Plan and the City's Comprehensive Plan.

Refer to the table below showing a list of considerations for updating the Design and Construction Standards.

Standards 1	Maintain narrow 10-foot lanes on major roadways.
Standards 2	Require pedestrian facilities to be maintained at-grade at driveway entrances.
Standards 3	Require sidewalks to be built to the back of the right-of-way along arterial and collector streets.
Standards 4	Require planter strips for increased pedestrian separation from traffic.
Standards 5	Minimum bike lane width on secondary arterial and major collectors is 5 feet. An additional one-foot clearance of the curb to be provided at curb and gutter locations. Consider buffered bike lanes.
Standards 6	Require paved driveway approaches at all driveways serving more than 3 households for all categories of projects.
Standards 7	Develop standards for shared use paths, buffered separated multi-use paths, intra-island trails, etc.
Standards 8	Utility structure covers are to be located out of the sidewalk and shoulders used by cyclists unless impractical and any deviation requires approval by the City Engineer. Covers to have flush, skid, and lock down characteristics suitable for cycle use.
Standards 9	Tenant improvements and remodels trigger frontage improvements to meet current ADA standards.



Preservation and Maintenance

Non-motorized facilities need to be preserved and maintained to ensure continued usefulness. As the system grows, so does the demand for resources to maintain it. Facilities deteriorate over time and the City needs to plan for expenditures to repair and /or reconstruct these assets.

Areas of emphasis for maintenance:

- o Annual raised sidewalk grinding or replacement of sidewalk panels to address deficient disability access.
- o Annual sidewalk and cross walk power washing where needed to maintain slip resistance and contrasting color.
- o Monthly sweeping of separated pathways.
- o Annual cleaning of separated pathways.
- o Seasonal brush cutting of trails.
- o Annual grading and graveling of unpaved trails where needed to address unevenness and traction issues.
- o Maintenance of roadway surfacing to consider serviceability of shoulders for cyclists when prioritizing repairs.
- o Trimming of roadside brush to maintain use of shoulders by cyclists and pedestrians.
- o Monthly shoulder / bike lane sweeping with higher frequency at problem areas.
- o Pulling and re-ballasting shoulders with gravel.
- o Repair and adjustment of lids and grates to maintain even surfaces for cyclists and pedestrians.
- o Annual pavement marking maintenance of cross walks, bike lane symbols, and other surface markings.
- o Washing and replacement of signage such as no-parking signs, way finding signs, and others.



Education, Encouragement and Enforcement

The NMTAC, supported by City Public Works, Planning, and Police Staff, and in coordination with School District, Parks District, Fire District, Kitsap County Health District, and community groups, will work to further the education goals of this Plan. This includes developing programs, or adopting programs used successfully elsewhere, to encourage use of non-motorized modes and promote safety.

- Listen to the community to identify transportation system deficiencies and opportunities for improvement
- Coordinate and support programs and projects that encourage active modes of transportation
- Support community outreach and involvement for the development of transportation projects
- Support safe routes to school programs
- Support "Adopt-a-Trail" and "Adopt-a-Route" programs
- Develop and distribute guide maps and provide wayfinding signage. Public non-motorized facilities such as trails should be identified with signage in order to designate routes and access points. This is especially important where facilities are adjacent to or run through easements on private property.

The NMTAC and City routinely support the following efforts:

- 'Bainbridge Shares the Road' program and signage.
- League of American Bicyclists 'bicycle friendly community' designation.
- Walking, Cycling, and Paddling Map supported on the City's web site.
- Walking Map of Winslow, produced by Sustainable Bainbridge and supported on the City's website.
- Map of accessibility features in the Winslow area, produced in cooperation with the Kitsap County Accessible Communities Advisory Committee.
- Participating in 'Bike to School Day' and Bike to Work Day.
- Community engagement for connectivity opportunities and easements.



- Participating in public outreach involvement opportunities for City transportation projects.
- Coordinating with the Police Department to identify areas with higher non-motorized use that may need education and enforcement emphasis for safety due to collision history, speeding, observed poor behaviors by either motorized and/or non-motorized users.
- Promoting police bicycle patrols for enforcing laws for cyclists and patrolling multi-use pathways.

CHAPTER 7 OTHER TRANSPORTATION SYSTEMS

On Bainbridge Island, non-city transportation systems have an extremely important role in the movement of people, vehicles, and goods. Ferry and transit systems are the primary means of moving people to and from their destinations, from commuter trips to Seattle, to tourists visiting Bainbridge Island. This chapter describes each of these systems and their relationship to the Bainbridge Island transportation system.

Ferry System



The Washington State Ferries (WSF) service is the primary provider of ferry transit services in western Washington. The Seattle-Bainbridge ferry run provides an integral connection between greater King County and locations east of Puget Sound to the Kitsap Peninsula and the Olympic Peninsula regions. System-wide, the WSF system carries more than 23 million passengers per year (*2014 Washington State Ferries Rider Statistics Report*).

Washington State Ferry Operations

The Seattle/Bainbridge Island ferry provides daily crossings between Bainbridge Island and downtown Seattle's Colman Dock. The 35-minute crossing covers 8.6 miles and connects Bainbridge Island and the SR-305 corridor with downtown Seattle and the Interstate 5 and 90 corridors. Two Jumbo Mark II Class auto/passenger ferries, the M/V Tacoma and M/V Wenatchee, serve the route. Each vessel has a travel speed of 18 knots and maximum capacity for 2,500 passengers, 218 vehicles and 60 commercial vehicles.

Table 7-1 lists the ridership, schedules, crossing times, and service frequencies for the Seattle-Bainbridge Island route and alternative ferry routes that serve the central Kitsap County region. These alternative routes include the Seattle-Bremerton (passenger-vehicle and passenger only), and Kingston-Edmonds runs. The Seattle-Bainbridge run carries the largest share of ridership with more than 6.32 million passengers per year. The Kingston-Edmonds runs carries approximately 4 million annual passengers and the two Seattle-Bremerton ferries carry about 2.5 million riders.



Credit: WSF

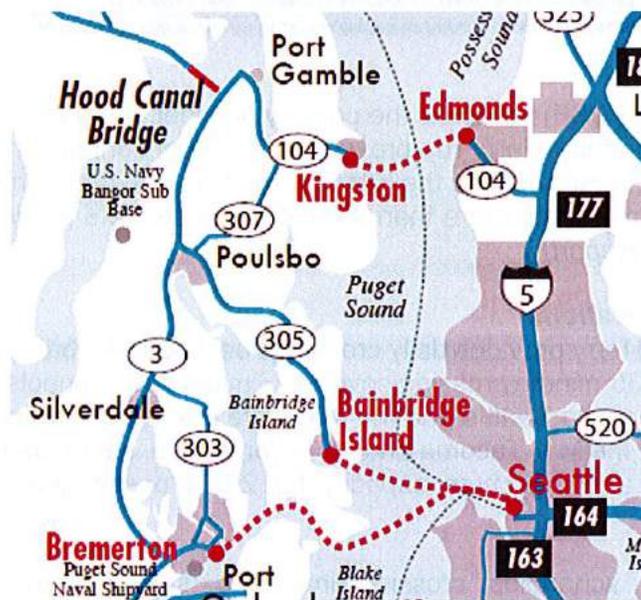


Table 7-1. WSF Schedules and Headways

<i>Route</i>	<i>2002 Ridership</i>	<i>Vehicles Carried</i>	<i>Hours of Operation (first-last sailing)</i>	<i>Crossing Time</i>	<i>Service Frequency</i>
Seattle/Bainbridge Island	6.72 million	2.19 million	4:45 am-2:10 am	35 min	40-50 min
Seattle/Bremerton	2.21 million	0.72 million	4:50 am-12:50 am	60 min	70-140 min
Seattle/Bremerton Passenger Only	0.68 million	--	5:00 am-1:30 am	30 min	40-270 min
Kingston/Edmonds Ferry	4.49 million	2.34 million	4:55 am-12:55 am	30 min	40-70 min

Source: Washington State Ferries

Figure 7.1 Ferry Routes



Ferry LOS

WSF uses daily percentage of vessels at vehicle capacity as the measure of the Level of Service for ferry services. The methodology places an emphasis on using existing capacity as opposed to an earlier method of measuring length of wait times at peak sailings which emphasized commute times for motorists.

Table 7-2 Ferry Operation LOS

<i>Route</i>	<i>Level 1</i>	<i>Level 2</i>
Seattle/Bremerton	25% to 30%	50% to 60%
Seattle/Bainbridge Island	25% to 30%	65% to 75%
Edmonds/Kingston	25% to 30%	65% to 75%

Source: WSF 2009 Long Range Plan



Level 1 LOS represents the percentage of sailings at peak vehicle capacity. At 25% capacity, peak sailings are filled to capacity but other sailings are not. Exceeding the LOS standard is an indicator that adaptive strategies should be employed to reduce peak demand.

Level 2 represents the percentage of sailings at peak vehicle capacity. Standards are set to 65% to 75% for routes that reflect the ability to spread demand throughout the day due to more time flexibility amongst customers. Exceeding the LOS standard is an indicator that additional investment is needed to address capacity.

The WSF Long Range Plan forecast that percentage of vessels sailing at peak capacity will not exceed 67% through 2030, nor exceed the LOS threshold of 75% for the peak summer month of August. Thus capacity improvements in the planning period are not driven by the LOS standard.

Kitsap Transit Passenger Only Ferry Proposals

WSF discontinued passenger-only ferry service in 2003. A private company, Aqua Marine and the Port of Kingston have attempted to restore high speed passenger-only service from Kingston and Seattle. Both services have proven to be unsustainable financially due to limited ridership and high passenger fares. The Port of Kingston ended its service in 2012.

Kitsap Transit proposed to develop a passenger only ferry service supported by a sales tax increase in Kitsap County in 2003. This proposition was not supported by the voters at that time. In 2014 Kitsap Transit commissioned a study to evaluate the potential for passenger ferry service. Kitsap Transit is currently exploring alternatives to fund passenger-only ferry service.

In the past, passenger only ferry service has served only one port of call in Kitsap, limiting ridership. It is suggested that a return to a mosquito fleet model of service with multiple ports of call for each vessel in Kitsap be considered. Examples for this type of service would include Kingston, Indianola, Suquamish, Bremerton, and Port Orchard with shared service to these multiple ports and Seattle.

Ferry System Issues

The primary issue for ferry service is funding. With citizen initiatives to reduce car tab fees and the erosion of the gas tax with more fuel efficient vehicles, transportation funding has been in decline. Since the taxpayer backed tax cuts in the early 2000's, WSF has been faced with raising fares, deferring maintenance of its fleet and terminals, and foregoing expanded operations. Challenges include:

- Maintain operating funding to provide 80% fare box recovery
- Fund vessel maintenance and replacement reserves
- Fund terminal reconstruction including the Seattle Ferry Terminal
- Develop long range plans and funding strategies for expanding services including investments in expanding existing service, additional routes, and multimodal transportation to meet more sustainably the region's growing transportation needs. Examples may include upgrading the Edmonds-Kingston ferry terminals to better serve bus and other multimodal transportation, introducing ferry service from Southworth to Seattle and upgrading walk-on capacity and level of service to Bainbridge Island using three smaller auto capacity ferries to reduce traffic congestion impacts to SR305.



Recommendations for Ferry Services

The City supports the retention and expansion of ferry systems to reduce the dependency on the Bainbridge Island terminal and SR 305, and to promote a more convenient and equitable ferry system. Elements of the recommendations include:

- *Parity of ferry services* – The City promotes services closer to home origins to reduce demand at the Bainbridge Island ferry terminal and on SR 305. Examples include vehicle/passenger ferry service from Southworth to Seattle, and high speed passenger-only ferry service from Kingston to Seattle, and direct bus service from Kitsap County to King County via the Kingston-Edmonds Ferry.
- *Ferry Priority* – The City supports the WSDOT and Kitsap Transit's programs to encourage non-SOV use through priority boarding and through the development of facilities for bicycles and pedestrians.
- *Passenger Ferry Options* – The City supports passenger-only ferry services through public and private initiatives.
- *Walk-on and bicycle capacity* - The City supports long range planning for capital improvement expenditures to enhance walk-on and bicycle capacity at peak sailings.
- *Motorized capacity* – The City supports long range planning for capital improvement expenditures to maintain a two-boat maximum wait-time for motor vehicle capacity at peak sailings.
- *Fare box recovery* – Maintain affordable fares for service to Bainbridge Island and Kitsap County. The City supports long range planning and investment for State funding to subsidize operation and maintenance for the ferry system.

Kitsap Transit bus and other services

Kitsap Transit, as the public transit service provider in Kitsap County, serves the County including the City of Bainbridge Island. Bus service is provided for commuter hours to and from the ferry terminal. Kitsap Transit has an Access program providing transportation for seniors and disabled persons who are unable to use regular-route buses. Starting in June 2014, BI-Ride- service was introduced providing day time intra-island bus service. Kitsap Transit also provides park-and-ride lots, vanpool programs, and rideshare programs.

Existing Routes

Eleven bus routes serve Bainbridge Island providing service mainly to and from the Winslow ferry terminal. Figure 7-2 shows the routes as they relate to the roadway system and areas of the Island.

Table 7-3 provides details about the origins and destinations of the routes, the 2014 ridership levels, hours of operations, and service frequency. Most service is provided to meet peak morning and evening demand related to ferry terminal travel, with little or no mid-day service. Service also tends to be one-directional with transit vehicles "deadheading" back (not in service) to meet the demand from arriving ferry passengers.

A total of 534,226 annual passengers in 2014 used the Kitsap Transit routes that serve the ferry terminal (Routes 33, 90-106). WSF reports 3,087,786 walk-on passengers for 2014. If the assumption



is made that all of the ridership also used the ferry system, approximately 1 out of every 6 ferry riders use Kitsap Transit service.



Figure 7-2 Kitsap Transit Routes

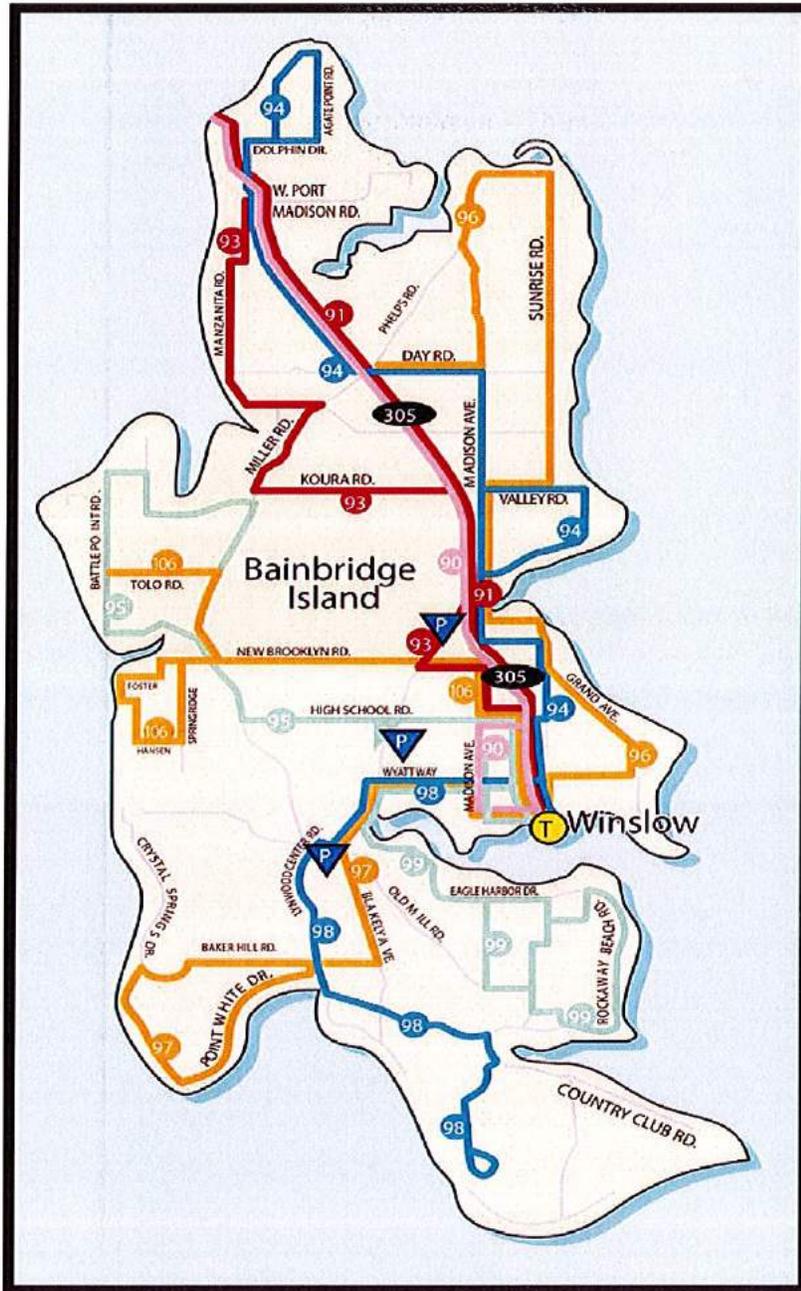




Table 7-3. Kitsap Transit Services

Route	2014 Ridership	Hours of Operation	Service Frequency
# 33 – Silverdale/Bainbridge	29,500	4:30-7:45 15:30-19:45	45-50 min
# 90 – Poulsbo/Bainbridge	254,200	4:50-8:05 15:50-20:05	45-50 min
# 91 – Kingston/Bainbridge	97,500	4:45-8:10 15:45-20:10	35-50 min
# 93 – Manzanita	35,600	4:55-7:40 15:55-19:40	40-55 min
# 94 - Agate Point	21,400	4:50-7:40 15:55-19:40	40-55 min
# 95 - Battle Point	38,000	4:50-7:40 15:50-19:40	45-55 min
# 96 – Sunrise	27,800	4:50-7:40 15:50-19:40	45-55 min
# 97 – Crystal Springs	36,500	4:50-7:40 15:50-19:40	45-55 min
# 98 - Fort Ward	26,200	5:00-7:40 16:00-19:40	45-55 min
# 99 - Bill Point	26,700	4:50-7:40 15:50-19:40	45-55 min
# 100 - Winslow Shuttle	28,300	5:30-7:40 16:30-19:40	45-50 min
# 101 – Ferncliff Shuttle	--	7:00-13:45	45-60 min

Source: Kitsap Transit (www.kitsaptransit.org)



Park-and-Ride Lots

Kitsap Transit has developed a number of park-and ride facilities along SR-305 and in North Kitsap County at hubs where passengers can leave a vehicle prior to boarding a bus. Park-and-ride facilities are used by Kitsap Transit bus riders, and also serve as meeting locations for vanpools and carpools.

Table 7-4 describes the park-and-ride facilities located on transit routes that serve Bainbridge Island as identified by Kitsap Transit.

Table 7- 4. Park-and-Ride Facilities

Park-and-Ride Facility	Location	Spaces	Served by Bus Routes
Clearwater Casino	Suquamish	96	90, 91
Georges Corner	Kingston	225	91
Gateway Fellowship	Poulsbo	138	33, 90
Liberty Bay Presbyterian Church	Poulsbo	75	33, 90
No. Kitsap Baptist	Poulsbo	57	90
Poulsbo Junction	Poulsbo	35	33, 90
Poulsbo Church of Nazarene	Poulsbo	100	90
Suquamish United Church of Christ	Suquamish	65	91
American Legion Post	Bainbridge Island	5	98
Bethany Lutheran Church	Bainbridge Island	80	94
Island Church	Bainbridge Island	37	93
Day Road	Bainbridge Island	25	90, 91

Source: Kitsap Transit (www.kitsaptransit.org)

Kitsap Transit assessed use of park-and-ride facilities in 2014. Table 7-5 summarizes the park-and-ride lots' capacity, the number of observed vehicles, and parking utilization rates for the lots on Bainbridge Island.



Table 7-5. Park-and-Ride Lot Utilization

Park-and-Ride Facility	Capacity	Observed 2014	Parking Utilization
American Legion	5	10	200%
Bethany Lutheran Church	80	65	81%
Island Church	37	18	49%
Overall	122	93	76%

Source: WSDOT Office of Urban Mobility

The study shows that area park-and-ride lots are well used and still have adequate capacity. It appears that additional capacity at the American Legion location would be a benefit if a lease can be secured.

Transit System Issues

Most transit agencies in the region, including Kitsap Transit, have not developed LOS measurements at this time. However, general assessments can be made about areas service frequency, capacity and access. Kitsap Transit has provided a morning and afternoon peak period transit service that meets the needs of many Island commuters. Mid-day (9:15am to 3:30pm) intra-island service is also provided. Review of the transit service reveals that the main issues are related to the expansion of transit services and improving the frequency of service. Issues related to transit include:

- With ferry passenger service expected to grow and increasing congestion on SR305, ridership capacity for commuter buses is a critical element for achieving a viable multimodal transportation system. Capacity is an important aspect of level of service.
- With more congestion on SR305 attributed to commuting to employment both on- and off-island, improving bus service within Kitsap County is an increasingly important element of a viable transportation system. Frequency of service and transfer efficiency are important aspects of level of service.
- Park-and-ride lots and bicycle parking at park-and-ride lots and bus stops are important to support commuters and encourage ridership.
- To better serve seniors, youth, and persons with disabilities, intra-island bus transit is an important element of an effective transportation system. Locations served and hours of service are important aspects for level of service.
- Improving access to the transit center near the ferry terminal is needed. Currently the pedestrian facilities are sub-standard and do not provide adequate accommodation for a wide range and number of users and there are no bike facilities on Olympic Drive.
- Improving access to bus stops is needed in Winslow and at the City's designated centers. Both lack of infrastructure and deficient infrastructure are barriers to access in some areas.
- Improving King County Metro transit services at the Seattle ferry terminal to provide better connections to popular destinations including the airport.

Recommendations for Transit System

The City supports the development and improvement of transit services on Bainbridge Island and services that provide options for non-Island commuters.



- *Transit LOS* – Encourage Kitsap Transit to monitor system use to ensure that current and forecasted demand is met for the SR305 corridor. Monitor underserved Island locations for transit service expansion as Island development occurs.
- *Public Transit Ferry Access* – Support changes to transit services that promote ferry use, including service to Sea-Tac airport, popular destinations, and special events in the Seattle area.
- *Expansion of Island Transit* – Support the expansion of bus services on the Island to better serve commuters, non-commuters, disabled users, residential areas, and neighborhood centers. This includes the Access Bus and BI Ride services.
- *Ferry Commute* – Improve service with high capacity buses as needed to meet demand. This should include expanding accommodation for riders with bicycles.
- *Route 90 to Poulsbo* – Improve frequency of service between the Bainbridge Ferry Terminal to the Poulsbo Transit Center with transfers to Kingston at Suquamish and Bremerton and other locations from Poulsbo.
- *BI Ride* – Extend hours of service to include evenings and Sundays.

Non-Motorized System Connectivity to Transit

Active modes of transportation such as walking and bicycling are important to many island residents. The City has invested in planning and implementation for pedestrian and bicycle infrastructure to accommodate a wide range of users. Providing connectivity to transit is important for non-motorized improvements. Opportunities include development of a network of bike lanes that link commuters to the ferry terminal and regional and intra-island trail systems that link pedestrians and cyclists to transit stops along SR305 and throughout the island.



Multimodal – Transportation Demand Management

A key to the development of a multimodal system is through the use of Transportation Demand Management (TDM). TDM is a series of methods and strategies that discourage the use of single occupant vehicles and encourage non-motorized and transit travel. TDM includes measures that provide travel alternatives such as transit, carpools, park-and-ride facilities, or passenger ferry service. TDM strategies are focused on increasing the use of alternatives to single occupant automobile trips through a mix of incentives and disincentives. These programs tend to be lower in cost than roadway or other capital projects.

While TDM programs may increase the number of person trips through a corridor by increasing use of buses, carpools, and diverting trips to off-peak hours, traffic levels may not decrease due to unmet travel demand replacing any reductions from TDM programs (latent demand for travel).

There are many TDM programs currently in effect on Bainbridge Island. Agencies and major employers have implemented these programs to discourage single occupant vehicle (SOV) trips during commute periods.



The City of Bainbridge Island, Kitsap Transit, and Washington State Ferries have programs that encourage the use of transportation alternatives to the SOV.

Examples of TDM programs promoted by these agencies include:

- *Ferry Terminal Parking Restrictions* – The City has limited amount of parking at the ferry terminal and charges an hourly or daily fee to reduce the number of persons who drive to access the ferry. As parking becomes more difficult or expensive, fewer drivers will desire to use the parking areas. On the other hand, restricted parking may increase the amount of drop-off/pick-up activity at the terminal or encourage parking in adjacent neighborhoods.
- *Commercial Parking Tax* – The City has charged a tax on commercial parking lots since 1999. The current rate is a 30% tax that provides funds for the City's general fund. This tax, if added to the parking fee, increases the out-of-pocket costs for automobile commuters, encouraging ridesharing, non-motorized travel, and transit use.
- *Carpool Parking Areas* –The City provides reserved parking areas for carpools at its ferry terminal lot. Providing reserved spaces or reduced parking rates encourages drivers
 - to form carpools, increasing the occupancy of vehicles.
- *Rideshare Programs* – Programs that promote the formation of carpools and vanpools can increase the rate of vehicle occupancy by increasing the number of persons
 - moved during peak times. Kitsap Transit has a program to match interested commuters with carpools and vanpools using the RideshareOnline.com database.
- *Vanpool Programs* – Kitsap Transit also administers a vanpool program that provides vans for commuters for a monthly fee. WSF provides additional incentives to registered carpools and vanpools through preferential boarding. Vanpools also receive a reduced ferry rate.
- *Land Use Policies* – The City's promotion of higher-density residential in the Winslow area promotes increased opportunities for residents to walk or use bus service rather than drive.
- *Parking Restrictions and Enforcement* – The development and enforcement of parking policies and rules may reduce undesired parking behaviors, such as in neighborhoods adjacent to the ferry terminal area. Types of parking restrictions include hourly parking limits and residential parking zones
- *Car sharing Program* – A car sharing program allows people to have access to a vehicle that they rent on an hourly and/or mileage basis. This type of program reduces vehicle ownership, encourages transit and non-motorized travel, and lowers overall driving behavior.

Employer-Based Programs

Major employers (100 or more employees) are required by the State's Commute Trip Reduction law to promote ridesharing and transit use by developing in-house incentive programs that encourage employees to use ridesharing, transit use, and non-motorized travel. Kitsap Transit administers the program within the county. According to Kitsap Transit data only two Island employers have formal CTR programs. Each major employer is required to designate an in-house coordinator and develop a Commute Trip Reduction Plan indicating how the employer will meet the required trip reduction targets. Some of the examples of employer-based programs in use include.



- *Transit subsidies* – Employers can fully or partially subsidize the cost of monthly transit passes for their employees.
- *Flextime programs* – Employees are allowed to shift their work schedule to avoid travel during peak travel periods, or to meet transit schedules.
- *Telecommute programs* – Employees are allowed to work from home offices in order to reduce the amount of commute travel.
- *Guaranteed Ride Home Program* – This program provides employees who commute by transit, carpool, vanpool, bicycle, or foot a free taxi ride in the event they need to return home on an emergency basis during mid-day or after working late evening hours.
- *Commute Subsidies* – Employees are eligible for a monthly subsidy if they commute by transit, bicycle, foot or carpool to work.

Regional Coordination

The Growth Management Act requires that cities coordinate planning efforts with adjacent jurisdictions, by county and region. This coordination effort is particularly important, where transportation plans by one jurisdiction may have a significant impact on its neighboring counterpart. Regional planning allows a long-range vision to be established for the region allowing predictability and consistency between jurisdictions, while still maintaining flexibility to meet community goals.

There are a number of regional plans that affect the transportation system of Bainbridge Island. Implementation of many of the regional concepts depend on the availability of funds in the future.

WSDOT Plans

The Washington State Department of Transportation (WSDOT) identified a number of improvements to the state route system in its *Washington Transportation Plan (WTP)*. In the Puget Sound Region, these projects are first identified in the Puget Sound Regional Council's *Metropolitan Transportation Plan "Transportation 2040"* (MTP) plan. This plan sets the transportation plans and policies over a 30-year period, with the emphasis on the first 20-year time frame. The MTP identifies improvements to the SR 305 corridor.

- *SR 305 Corridor Improvements (Winslow Ferry Terminal to Agate Pass Bridge)* - Access management, intersection improvements, and HOV queue jump lanes improvements.

Consistency with IWTP

These projects should improve the overall mobility of the SR 305 corridors. The improvements along SR 305 between the ferry terminal and Agate Pass Bridge are unlikely to affect overall traffic levels, but may shorten transit travel times and enhance safety for bicyclists. The off-Island improvements will complement the SR 305 alternatives considered on Bainbridge Island, but will not significantly affect the City's traffic situation.

Kitsap Transit Plans

Kitsap Transit has plans to develop future alternatives to expand transit throughout its service area. Kitsap Transit has considered a variety of approaches including dedicated high-capacity bus service, passenger rail or monorail service, and passenger ferry services.



© Can Stock Photo - csp14431185

- *High Capacity Transit Facilities:* – This “long-range” concept of the high-capacity transit service would improve transit travel times by developing dedicated transit lanes. A Bus Rapid Transit system has been identified as a priority.

Consistency with IWTP

Any of the transit proposals would be compatible with the IWTP SR 305 Alternative A and Alternative B scenarios.

Depending on the level of transit ridership, and the success of Transportation Demand Management programs to control single occupant vehicle use would likely improve SR 305 levels of service if constructed.

CHAPTER 8 FINANCING



The City of Bainbridge Island, uses a variety of funding resources for the design, right-of-way procurement, and construction of transportation facilities. Taxpayers, developers, and County, State and Federal programs all contribute to the development of the transportation system. The City prepares a biennial budget, a financial capacity analysis, and a 6-year Capital Improvement Plan (CIP) to provide an updated look at the projects to be completed for the year and in the years', ahead, as well as financing plans for those projects. The State of Washington's Growth Management Act requires that the transportation element of a comprehensive plan

include:

- An analysis of funding capability
- A multi-year financing plan based on the needs identified
- A discussion of how the jurisdiction will address funding shortfalls through a reassessment strategy.

This chapter describes how the City plans to pay for the transportation improvements identified in the IWTP along with projects that appear in the current Capital Improvement Plan (CIP). Included in this section, is a discussion of the City's funding capabilities, potential funding sources, the 6-year and 20-year transportation improvement plans, and reassessment strategy.

Funding Capabilities

The City of Bainbridge Island has implemented a variety of revenue sources and financing mechanisms to fund City services and capital improvements. One indication of the City's funding capability is the analysis of historic revenue sources.

Table 8-1 summarizes the revenue sources from 2011 to 2014 for the City's Streets Fund, Capital Project Grants, and for overall City revenues. The City has consistently allocated a large portion of its funding outside of the operating budget for transportation. Over the last few years, the City has aggressively pursued transportation grant funding from State and Federal sources. The City recently implemented a Transportation Benefit District and is currently evaluating Transportation Impact Fees providing for more revenue. The City supplements dedicated transportation revenues to pay for operating costs such as salaries, benefits, and other associated costs.





Table 8-1. Historic Transportation Funding Sources

	<i>Actual</i>	<i>Actual</i>	<i>Actual</i>	<i>Actual</i>
<i>(All numbers are in 1000s)</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>
<i>Commercial Parking Lot Tax</i>	<i>\$552</i>	<i>\$588</i>	<i>\$715</i>	<i>\$753</i>
<i>Motor Vehicle Fuel Tax</i>	<i>484</i>	<i>471</i>	<i>477</i>	<i>478</i>
<i>Parking Fees (City lots)</i>	<i>337</i>	<i>4</i>	<i>0</i>	<i>0</i>
<i>Interest and Other</i>	<i>72</i>	<i>1,334</i>	<i>50</i>	<i>738</i>
<i>Total Street Fund Revenue</i>	<i>\$1,446</i>	<i>\$2,398</i>	<i>\$1,242</i>	<i>\$1,970</i>
<i>Transportation Grants (Federal)</i>	<i>1,987</i>	<i>200</i>	<i>809</i>	<i>1,502</i>
<i>Transportation Grants (WA State)</i>	<i>1,379</i>	<i>288</i>	<i>465</i>	<i>0</i>
<i>Total Capital Grants</i>	<i>\$3,366</i>	<i>\$488</i>	<i>\$1,273</i>	<i>\$1,502</i>
<i>Transportation Benefit Dist. funding</i>	<i>0</i>	<i>0</i>	<i>122</i>	<i>391</i>
<i>Total City Non-Utility Revenue Sources</i>	<i>\$22,901</i>	<i>\$19,629</i>	<i>\$20,781</i>	<i>\$22,048</i>

Source: City of Bainbridge Island financial statements

Overall, the City has annual non-utility revenues of more than \$20 million. The City's 2015-2016 biennial budget projects relatively flat revenue trends for both years. In addition, the City has significant additional bonding capacity. As of the end of 2014, the City is at 28% of its general obligation bond limit (not requiring a vote of the taxpayers) and 7% of its limit for special levy bonds that could be used for transportation projects (requiring a 60% majority vote of the taxpayers).

Types of Funding Sources

The implementation of the 6-year CIP and 20-year CFP depends on the availability of transportation funds. This section describes the sources of transportation funds available to the City of Bainbridge Island.

General Funds

City general funds are made up of a variety of revenue sources and can be used to pay directly for transportation improvements or to meet the City's local funding requirement or "match", for other funding sources. Some revenues are specifically dedicated for transportation projects, such as the City's share of the State Motor Fuel Tax are dedicated to popular activities like roadway repair and construction. Other City revenues from the general fund can also to be used for transportation according to City funding priorities or to pay for transportation improvements that also benefit other funds such as water, sewer and stormwater. For 2015, the City budgeted approximately \$1.5 million of dedicated operating revenues and \$6.1 million for capital expenditures.

Grants

There are numerous state and federal grant programs for improving the mobility or safety of the transportation system. Some sources of funds allow a local agency to apply directly, while other grant programs require submittals through a coordinated application process through the jurisdiction's Metropolitan Planning Organization. In addition, there are other sources of funding available to only counties or WSDOT, requiring the City to advocate for improvements through coordination with these eligible agencies. Most grants are issued on a competitive basis and require local jurisdictions to contribute between 10-25% of the cost. A higher local match percentage can make a project more competitive for grant funds. In 2015, the City received \$4.4 million for transportation projects.



General Obligation Bonds

General Obligation Bonds are an important method for the building and construction of transportation facilities. The City can issue bonds up to 1.5% of the assessed property values within the City without a vote of the people and an additional 2.5% with a vote of the people. A bond can allow the rapid development of the transportation system within a short period of time. Bonds are used by cities to finance major improvements and are repaid either through general funds, special taxes or assessment, or roadway tolls. Between 2007 and 2011, the City used two general obligation bond issues for street, sidewalk and other non-motorized improvements throughout the Island. General obligation bonds can be funded by revenues from growth and are an alternative method to fund infrastructure to accommodate growth as it occurs.

Developer Contributions

Development provides an opportunity for the portions of the system to be built without the expenditure of public funds. Where roadway improvements are required (as indicated in the City's Comprehensive Plan), developers construct the facilities along the length of the property as part of their street frontage improvements. Typically, two to three projects are developer-funded during each year.

Impact Fees

An impact fee or transportation mitigation fee can be established by a city to collect fees for every new vehicle trip added to the roadway system. Developments are charged the fee based upon the number of new vehicle trips added to the road. These fees must be used to improve roadways that will be impacted by the new development.

Transportation Benefit District (TBD) Fees

Cities and Counties are provided a mechanism to raise revenues for transportation programs charging a fee for vehicles licensed in their jurisdictions in accordance with Washington Code (RCW 36.73.020). The City currently levies a fee of \$20 per year on qualifying licensed vehicles.

Local Improvement Districts

Another funding option is the development of Local Improvement Districts (LIDs). Generally, an LID requires a petition or survey with approval from a majority of property owners for the formation of the special assessment district and is repaid by members of that district. LIDs are most often used in places where the improvements also have an economic incentive, for example, a retail area may form an LID to widen sidewalks to create a more pedestrian-friendly area that could translate into higher sales. The City has used LIDs for transportation and utility improvements.

User Fees

This funding mechanism attempts to pay for all or part of the cost of an improvement by charging the users of the facility. Roadway and bridge tolls, and the WSF ferry service are all examples of transportation-related user fees. Tolls are usually tied to the repayment of General Obligation Bonds for a specific set of transportation improvements. Tolls are most common for the funding of bridges and other major improvements. The City is not currently using tolling at this time.

Proposed Projects and Funding Needs

The development of a transportation development plan identifies a schedule for planned expenditures over a six-year period. Table 8-2 is a list of recommended improvements to meet Level of Service (LOS) standards and accompanying proposed funding sources. Table 8-3 is a



list of transportation projects that have been identified in the City's Capital Improvement Plan (CIP), including discretionary projects in addition to those needed to meet LOS standards.

Funding for the projects needed to meet LOS standards will come from a combination of local, state, and federal sources. The Wyatt Way Reconstruction project will be funded with significant support from a state grant. In the next six years, given the past history of federal grant funding, it can be anticipated that grant funding can be secured for the Sportsman's Club/New Brooklyn Intersection Improvement project. In summary, the City is well positioned to address projects to maintain LOS standards over the next six years.

The City plans to address all the LOS issues on City streets within the 6-year CIP. The 6-year CIP therefore meets the need for the 20-year CIP. For other discretionary projects to be considered for the 20-year planning, refer to Maps E and F in Chapter 6 – Non-Motorized System.

Many non-motorized improvement projects have been identified in the City's CIP. Over the coming six years, the number of discretionary transportation projects exceeds the City's ability to fund them. Establishing priorities for funding and securing new funding sources is needed if a sizable portion of these projects are to be delivered.

The most significant and expensive current needs to meet LOS standards are along SR305. At this time, WSDOT is responsible for planning and developing capacity projects to meet LOS standards on SR305, while the City performs much of the routine maintenance along the SR305 corridor. The City's population is approximately 23,000 and is expected to reach 25,000 in the next five to seven years. At that time the City may become responsible for improvements on some segments of SR305 depending on access requirements. The City should consider partnerships with WSDOT to address current needs. This Plan identifies needs for capacity improvements and includes a special study that proposes both at grade and separated grade solutions. The City has developed projects along the corridor such as the Olympic Drive project that was funded by a State Grant and could consider implementing additional projects. This could include funding elements of WSDOT projects or the City undertaking and funding its own projects along the corridor by obtaining development permits from the state.

Proposed Sources of Funding

To increase funding capacity both in the short term for non-motorized projects and in the long term for capacity projects, the city could consider increasing the TBD fees and/or issuing bonds. A bond issue could provide for investments in non-motorized transportation so that more complete networks of bicycle and pedestrian facilities could be realized in a shorter time frame. Alternatively, revenues from the current mix of resources could be directed to transportation rather than to other City programs and services.

Reassessment Strategy

At the time of this Plan, no funding shortfalls for capacity projects to meet LOS standards were anticipated for the CIP six-year time horizon. However, if the City is unable to secure grant funding or suffers other financial setbacks, the City may need to reassess in future years.

The Growth Management Act requires that jurisdictions develop a reassessment strategy in the event that funding shortfalls occur that limit the City's ability to carry out the transportation improvement plan. In the event that the City cannot fund the transportation capital improvements



needed to maintain the adopted roadway LOS standards (as identified in the Level of Service section), then the City shall take one or a combination of the three following actions as directed by the City Council:

1. Phase proposed land developments that are consistent with the City's land use plan until such time as resources can be identified to provide adequate transportation improvements.
2. Reassess the City's transportation financing strategy to identify additional funding opportunities with federal and regional grants and funding programs, and through the development of new partnerships with WSDOT, Kitsap County, and the private sector.
3. Reassess the City's adopted roadway LOS standards to reflect service levels that can be maintained under the known financial resources.



Table 8-2 Recommended Improvements to meet LOS standards

Location	Description	Year (1)	Estimated (2)
Wyatt Way/ Madison Ave.	Intersection control - round about	2016	1200
New Brooklyn Road/ Sportsman's Club Road (3)	Intersection control - round about	2017	800
Madison Avenue/ New Brooklyn Road (3)	Intersection control - round about	2020	900
Madison Ave./ Wallace Way	Intersection control - left turn restriction	2021	20

Notes:

1. Project start date for design.
2. \$ in thousands, Transportation element only
3. Meets LOS requirement in model. Traffic impacts have been observed at peak hours for Schools.



Table 8 - 3
6 Year Transportation Funding Needs

ID	Name	Location	Description	Probable Cost (\$ in thousands)	Totals (\$ in thousands)
6 year Transportation Improvement Program					
Roadway Preservation Projects:					
PR-1	Annual Roads Preservation Program	Island-wide	Asphalt patching, chip Sealing, asphalt Overlay	9468	
PR-2	Annual Roadside Safety Program	Island-wide	Replace or improve guardrails and shoulders	600	
PR-3	Mountainview Road Reconstruction	Falk Rd. to end	Road reconstruction and drainage improvements	86	
PR-4	Wardwell Road Reconstruction	Sportman's Club to Triple Crown Dr.	Road reconstruction and drainage improvements	100	
PR-5	Country Club Road Reconstruction	Toe Jam Hill to Bulkhead	Road reconstruction and drainage improvements	175	10429
Intersection Improvement Projects:					
INT-1	See Wyatt Way Reconstruction				
INT-2	Sportsmans Club & New Brooklyn		Round about	993	993
Complete Streets Projects:					
CS-1	Wing Point Way Reconstruction	Fernciff Ave. to Park Ave.	Water and sewer utility replacement, storm drainage, road reconstruction, shoulders, and sidewalks	1539	
CS-2	Olympic Drive NM Impr., Phase 1	Winslow Way to Harbor Dr.	Bike and pedestrian facility improvements	1521	
CS-3	Olympic Drive NM Impr., Phase 2	Winslow Way to ferry terminal	Bike and pedestrian facility improvements	618	
CS-4	Wyatt Way Reconstruction, Phase 1	Madison Ave to Lowell Way	Road reconstruction, intersection imp., bike lanes, and sidewalks	3700	
CS-5	Winslow Way Reconstr., Phase 2	Madison Ave to Grow Ave	Water and sewer utility replacement, storm drainage, sidewalks, patching and overlay	2300	9678
Sidewalk Improvement Projects:					
SW-1	Madison Ave. Sidewalk, Phase 1	Wyatt Way to High School Rd.	Reconstruct sidewalks and drainage	3188	
SW-2	Madison Ave. Sidewalk, Phase 2	Winslow Way to Wyatt Way	Reconstruct H/C ramps at driveways	158	3346



Table 8 - 3
6 Year Transportation Funding Needs

Core 40 Shoulder Program Projects:			
SH-1	C40 - Spot Projects	Islandwide	300
SH-2	C40 - Fletcher, Phase 1	High School Rd. to N. Brooklyn Rd.	470
SH-3	C40 - Bucklin, Phase 2	Blakely Ave. to Fletcher Bay Rd.	1136
SH-3	C40 - Miller, Phase 1	Tovanger Rd. to Peterson Hill Rd.	1010
SH-4	C40 - Eagle Harbor, Phase 1	Wyatt Way to Bucklin Hill Rd.	712
SH-5	C40 - Eagle Harbor, Phase 2	Bucklin Hill Rd. to McDonnald Rd.	700
Trails Projects:			4328
TR-1	Connecting Pathways		150
TR-2	Sound to Olympics Trail, Phase 2/4		2250
TR-3	Sound to Olympics Trail, Phase 3		2490
		Trail easements and construction	4890
		Seperated pathway	33664
		Seperated pathway and NM Bridge	5611
6 year program total			
Average annual			

Ross Hathaway Comments

Public Works Response in Red

General:

Change the plan to focus on Core 40 safety improvements and focus on the suburban areas that have high traffic speeds: The plan focuses too much on network connectivity and on SR305 and not enough on safety improvements, particularly for existing users. It downplays the value of shoulders and focuses on locations where there are no bicyclists rather than on balancing the needs to existing safety problems. Table 6-1 provides an example of this imbalanced approach with too much focus on SR305 and locations without users (even though SR305 does need improvement). This appears to reflect narrow interests rather than the needs of the many that are spread across the full extent of the island and the critical need to focus on current safety deficiencies.

Detailed Comments:

Change NM LOS for suburban areas: Chapter 3 page 3.9 adopts a level of service of "D" in the suburban areas. This equates to a 3-ft paved shoulder on secondary arterials using the tables provided in chapter 6. This is not acceptable. Per the City Standards the minimum standard shoulder for a secondary arterial is 5-ft paved shoulder plus a 3-ft gravel shoulder beyond. Therefore the BLOS does not match the standard (as well as being an unacceptably low LOS for what is a high public expectation.) Also, a 3-ft shoulder is of no value for non-motorized users and may actually create a hazard as people may attempt to ride on it tempting drivers to pass in an unsafe situation and inadequate clearance. This is typically even more important in the suburban areas than urban areas because traffic speeds tend to be much higher on suburban roads than on urban roads creating a higher risk of serious collisions and a greater need for separation. All secondary arterials should have 5-ft shoulders with a priority on climbing lanes in the suburban areas. Lastly, it is very difficult to create a new smooth 3-ft shoulder and it not much more work to make it 2-ft wider .

Using LOS C for suburban.

The priorities listed on page 6-7 are muddled and and out of order and do not reflect LOS deficiencies appropriately. Safety (E) should be first and should be on ALL roads with a special emphasis on safe routes to school (C.) Closing the gaps (G) should simply be an outgrowth of safety as closing a gap is a lower priority if it does not improve safety or mobility so G should be dropped.

Changing letters to bullets and placing in order of historical context of evolution of the facility types.

The network system list on page 6-7 includes (currently A) ... Bicycle lanes along streets in the Island's town centers. Bicycle lanes are likely not a good idea in town centers if there is on-street parking as it creates a hazard rather than reducing it. Rather, the focus in town centers with on-street parking should

be 20 MPH or lower target speeds and a fully mixed model (sharrows in the middle of the street) for bikes such as on Winslow Way. It would be unnecessarily dangerous to ride directly behind angle-in parking on Winslow Way or in Lynwood Center, or in the door zone of parallel parked cars in Rolling Bay.

The Core 40 network (currently listed as C) has long been recognized as the most important priority and should be listed as "A"

Changing to "Designated Centers". The context of each location will be considered and the requirement can be relaxed for development in recognition of this and other issues.

There is too much emphasis on separated non-motorized facilities (currently listed as B.) These are fantastic but are very expensive and difficult to build and typically require long planning and right-of-way acquisition periods. Unless they are built on all secondary arterials and carefully engineered to be attractive to ALL ages and abilities, they will not be used by commuters, which is the group that is currently exposed to the highest safety deficiencies. If too much near-term emphasis is placed here we will get a couple of expensive, short and poorly planned facilities that serve a very few citizens and nothing else. The STO should be the only near-term separated facility considered and it needs to be carefully planned to be attractive to ALL users, specifically it must be attractively efficient and safe for commuters as all ages and abilities.

Refer to prior comments.

The Trail Connection Zones Table 6-2 list needs greater vetting. There are missing elements and items included that are of little value. Better descriptions are needed. See comments and questions on the prioritization spreadsheet. The cost for Knechtel Trail should be included in the SR305 crossing bridge as should be the requirement to connect from Vineyard Lane directly to Ferncliff so the superblock is actually breached. The Cave ave trail is low priority, The schools can be simply served by sidewalks by mending the transportation ordinance to allow children, escorting adults and people uncomfortable with riding on the road to ride on the sidewalks. Riding on sidewalks works perfectly well in Seattle at much higher pedestrian volumes. Head of the Bay may be better served by a boardwalk for peds and riders uncomfortable with the road (which should be 20 MPH) , Shepard, Wardwell, North Island should be dropped from the list for now until they are better thought out and until after all safety improvements and STO are complete.

The trail connection zones refer to the connectivity developed by the NMTAC. Separated facilities are important to serve persons all ages and abilities, which they have supported. Referring to the planned facilities map and Table 6-2 the Knechtel trail is intended to provide east-west connectivity west of the STO trail by providing connecting pathways to link to the existing roadway networks/ sidewalks. Comments being referred to the NMTAC.

Winslow are sidewalk gaps and deficiencies Table 6-3: Drop all Madison work until sidewalks are completed on the roads that do not have sidewalks, other higher priority pedestrian safety deficiencies are corrected, and the sidewalk standard to move the sidewalk to the back edge of ROW in ALL cases is executed and enforced (this one is easy and has been requested for many years). Grow should get sidewalks at back edge of ROW as it is redeveloped, no greenway (this has been tried before on Grow).

Facility Types Page 6-14: DROP TYPE C. This is a meaningless, even dangerous, concept. Build Type B or nothing.

The NMTAC has expressed support for the Madison Sidewalk and Grow Greenway projects and included them in their list of priorities.

Type C facilities are better suited for the motorized chapter, however it is convenient to include them in one map, in the non-motorized chapter. There are benefits to having 3 foot shoulders; providing some run out area, and the paved surface is ballasted improving pavement life. The write up has be modified to clarify that it is not intended to be a non-motorized facility and will be graveled and not be paved to 13 feet (min width for sharrows), as requested. Type C facilities are designated where is not practical to provide wider shoulder due to topographic constraints.

Table 6-4 needs further refinement into separate modes and LOS dependence on at least Speed, Traffic Volume, facility width and condition and separation for pedestrians. There is more that should go int on this we can talk about. This is an absolute need as Concurrency and Impact Fees will depend on these parameters being measured.

The table is designed to work with the planned facilities map. It is intended to work for speeds up to 45mph (35mph posted) and all traffic volumes. It does not preclude a future study to measure LOS at segments and intersections for use with impact fees and concurrency.

What were the parameters in the HCM used to develop the LOS measurements in Tables 6-5 and 6-6? Please provide the full calculation set.

LOS is set based on the planned facility types for segments. Refer to the new table provided. Intersection need to meet the LOS required using the HCM method or other approved method if the HCM method is found to not be well suited for the application.

In Table 6-6 are the 3,6,and 8-ft shoulders gravel? Why is there no 5-ft paved shoulder with no buffer? Do Conservation Areas and Designated Centers cover everywhere?

8 foot gravel shoulders are considered to be safe for pedestrians walking with traffic (as opposed to 6 foot shoulders walking facing traffic). Cyclists ride with traffic. It may be that the entire shoulder should be paved and two fog lines used to provide separation for cyclists. An example of this would be would be core 40 routes.

Table 6-7 is a good start but traffic volumes generated by the development action should be the primary driver and the table should be expanded to cover this. This is important to meet rough proportionality and essential nexus tests. It will need to dovetail with concurrency for other transportation modes (cars and their impacts on non-motorized users).

The improvements required are not determined by this table. The table provides for rough proportionality so that developers do not bear more costs than can be supported by the scale of the development.

Maps C, D, G and F need a complete re-write to match standards, changed priority list and updated LOS. For example ABSOLUTELY NO 3-ft SHOULDERS ON SECONDARY ARTERIALS. Put the Core 40 back on as the primary priority and climbing lanes as the top. Drop the Greenways for the most part, drop the expeditionary trails. Address our comments on the prioritization spreadsheet. Add a crossing island on Miller at the Forest to Sky crossing. Print out large copies and let the public work on it.

These maps have been developed with input from the NMTAC. The standards are developed to support the Planned Facility Maps C and D. Maps G and F are the projects that the NMTAC selected for consideration in developing future capital facilities plans. Comments are referred to the NMTAC.

Page 6-22 Design Considerations: Add center pedestrian crossing island to traffic calming list and additional speed reduction over the entire Core 40 (eventually max 30.) Narrow all secondary arterials to 10-ft center of centerline to center of fog line.

Added island/ crossing islands to the list. Confirming 10 foot lanes are measured from center of lines.

WHERE IS THE CORE 40 DISCUSSION AND CLIMBING LANE PRIORITIZATION????? THIS SHOULD BE THE ABSOLUTE TOP PRIORITY. SAFETY FIRST.

The C40 map has been included in the IWTP. The map prioritizes climbing lanes.

There appear to be significant problems with the weighting, or lack thereof, in the prioritization process.

Page 6-19 Add impact fees and concurrency.

This is in code already but it would be good to add it to this section for consistency. Also, identifying areas to improve using LOS.

Page 6-24 Table 6-8 : Standards 3 , the sidewalk shall be at the back edge of ROW on ALL streets, not just collectors and secondary arterials. Residential streets have lots of road approaches and rolled curb will create the problem of cars parking on (and breaking) sidewalks and creating a door zone problem for peds, as well as lacking separation from the roadway for peds and children on bikes (when we get the ordinance changed).

Rolled curbs are being removed from the City's design and construction standard as they are not ADA compliant at transitions.

Page 6-25 Preservation and Maintenance: Add requiring reballasting / regravelling of shoulders when they have been pulled (scraped) from this point into the future, and those that have been done in the past , as completing the maintenance.

Added.

Page 6-26 Should probably also add Bike to Work and State's annual Bike/Ped count to the list.

Added "Bike to Work". The bike/ ped count has been more of a Squeaky led item.

Detailed markups of the prioritization spreadsheet and the maps will be available.

Maps will be made available as PDF's separate from the maps embedded in the document.

This plan and the priority list needs a lot more work before it is ready for City Council.