

Chapter 3. Affected Environment, Significant Impacts, and Mitigation Measures

This chapter describes the potential impacts of the Preferred Alternative and compares those impacts to the Draft SEIS Alternatives, particularly Alternative 2 the closest alternative to the Preferred Alternative. This Chapter in particular addresses the following topics:

- Section 3.1: Natural Environment
 - 3.1.1. Water Resources (Surface and Ground)
 - 3.1.2. Plants and Animals
- Section 3.2: Built Environment: Land Use and Transportation
 - 3.2.1. Land and Shoreline Use
 - 3.2.2. Relationship to Plans and Policies
 - 3.2.3. Population, Housing and Employment
 - 3.2.4. Transportation
- Section 3.3: Built Environment: Public Services and Utilities
 - 3.3.1. Public Buildings
 - 3.3.2. Fire Protection
 - 3.3.3. Law Enforcement
 - 3.3.4. Parks and Recreation
 - 3.3.5. Schools
 - 3.3.6. Solid Waste
 - 3.3.7. Wastewater
 - 3.3.8. Stormwater
 - 3.3.9. Water
 - 3.3.10. Energy and Telecommunications
 - 3.3.11. Library

3.1. NATURAL ENVIRONMENT

3.1.1. Water Resources (Surface and Ground)

Water resources potentially affected by Preferred Alternative development include lakes, streams, marine waters, frequently flooded areas, groundwater, aquifer recharge areas, wetlands and stormwater runoff. Development under the Preferred Alternative would create additional

impervious surfaces and increase activities such as lawn fertilizing that can cause water quality issues in lakes, streams and marine waters. Removal of vegetation and creation of impervious surface has been shown to have the largest impact on streams and lakes by altering the watershed runoff process (Booth et al. 2002). This has the potential to affect several natural systems including: groundwater recharge, stormwater runoff, stream flow patterns, water quantity and quality, flooding, and sediment transport in many complex ways. Impervious surfaces can intercept precipitation and alter the timing and volume of discharge to groundwater and surface water, and interrupt the recharging of groundwater by diverting natural flow patterns. They are also generally pollutant sources. For example, roads receive metals and hydrocarbons from vehicles, which are concentrated and carried offsite into receiving waters by stormwater runoff.

Most of the development anticipated to occur in the UGAs under the Preferred Alternative is residential development, which is a potential source of stormwater and groundwater pollution through pet waste (bacterial and nutrient pollution), and use of yard care products including fertilizers and pesticides, which contain nutrients that can affect water quality. Excessive nutrients can cause algal blooms, which deplete dissolved oxygen adversely affecting fish and other marine organisms.

Impacts on marine/estuarine areas may include reduced water quality from increased input of pollutants from stormwater runoff such as: fertilizers, herbicides and pesticides from lawn management; metals, oils and grease from vehicles; and sediment and other contaminants in runoff. Other impacts of development on the shoreline are conversion of the natural shoreline to armoring or other hardened structures and construction of overwater piers and docks. Shoreline armoring and overwater structures affect nearshore sediment transport, beach nourishment and the erosive actions of tides and waves. Hardened shorelines tend to cause erosion and narrowing of the beach.

Similar to the other alternatives, the Preferred Alternative has the potential to affect flooding in floodplains and flood hazard areas due to changes in stream flow from the creation of additional impervious surface. However, any additional increases in stream flow are not anticipated to significant largely because designated flood hazard areas are protected by the Kitsap County Critical Areas Ordinance (CAO) regulations and permit requirements.

The increase in impervious surface under any of the alternatives could potentially affect groundwater in several ways. A general rule is when impervious surfaces exceed 10% of a subbasin, there is an increased potential for flooding, reduced groundwater recharge, and contamination of groundwater from urban stormwater runoff. The impacts of reduced groundwater recharge include lower water tables and less available potable water, and a reduction in the base flows that are needed to maintain lakes, streams and wetlands. The increased population envisioned under the four SEIS alternatives will also increase demand for potable water, which will tend to draw down drinking water aquifers and similar effects on base flows as mentioned above. However, these impacts would be somewhat reduced under the Preferred Alternative as compared to Alternative 2, because the Preferred Alternative would create less impervious surface.

Wetlands may also be affected under the Preferred Alternative; however, Kitsap County has requirements that protect wetlands from development. Nevertheless, increases in the amount of impervious surface in a wetland's drainage basin can alter the depth and amount of water in a wetland, as well as the duration of time water remains in the wetland. This alters the wetland's hydro-period, which can cause a shift in composition of plant species in the wetland and permit invasion by non-native species. It can also change the vegetative structure – groundcover, shrubs and trees - of the wetland. The creation of impervious surface also increases the potential for

sediment and pollutants to be carried into wetlands by stormwater runoff, which adversely affects water quality in the wetland.

Table 3.1-1 shows the projected percentage of total impervious surface that would be created under the four alternatives. The Preferred Alternative’s total impervious surface area would range between 43,818 and 46,631 acres making up 17.3% and 18.4% of the county, respectively.

Table 3.1-1. Estimated Percent Total Impervious Surface Area for Each Alternative

	Alternative 1		Preferred Alternative		Alternative 2		No Action Alternative	
	Low	High	Low	High	Low	High	Low	High
Acres	43,030	45,626	43,818	46,631	44,183	47,110	44,713	47,986
Percent of County Wide	17.0%	18.0%	17.3%	18.4%	17.4%	18.6%	17.6%	18.9%

Source: Parametrix and Kitsap County 2012.

The impervious surface anticipated under the Preferred Alternative by watershed is shown in Table 3.1-2. The most development and therefore most impervious surface will occur in the Bainbridge Island, Dyes Inlet, Upper Hood Canal and Sinclair Inlet watersheds. The least amount of impervious surface would be expected in the Burley Lagoon, Minter Bay and Foulweather Bluff-Appletree watersheds.

Table 3.1-2. High and Low Estimates of Total and Percent Impervious Surface for the Preferred Alternative

Watershed Group	Total Acres	TIA Low	Percent	TIA High	Percent
Bainbridge Island	17,399	5,527	31.8%	5,527	31.8%
Burke Bay	6,940	1,715	24.7%	1,984	28.6%
Burley Lagoon	8,719	664	7.6%	685	7.9%
Colvos Passage	22,028	2,395	10.9%	2,477	11.2%
Dyes Inlet	30,412	8,270	27.2%	9,192	30.2%
Foulweather Bluff – Appletree	11,552	1,029	8.9%	1,101	9.5%
Liberty Bay – Miller Bay	26,575	4,619	17.4%	4,938	18.6%
Lower Hood Canal	22,530	2,975	13.2%	3,031	13.5%
Minter Bay	6,738	753	11.2%	793	11.8%
North Bay	14,983	2,061	13.8%	2,061	13.8%
Sinclair Inlet	27,012	8,071	29.9%	8,334	30.9%
Upper Hood Canal	58,462	5,739	9.8%	6,507	11.1%
Total	253,350	43,818	17.3%	46,631	18.4%

Source: Kitsap County and Parametrix.

TIA= Total Impervious Surface.

There are several types of impacts that would occur under the Preferred Alternative from increased stormwater runoff from impervious and other developed surfaces (e.g., roads, parking lots, roofs, and lawns). For example, impervious surfaces prevent water from soaking into the ground; as impervious surface increases, so do volume, peak flows, and velocity of stormwater runoff into rivers and streams. Increased stream volume, peak flows, and velocity exacerbate erosion and sedimentation, disrupt spawning and resting areas and increase water velocities through culverts, making fish passage more difficult. In addition, stormwater typically contains contaminants flushed

from impervious surfaces, which affects water quality. Increased stormwater also results in decreased recharge to groundwater, which leads to lower summer stream flows.

3.1.2. Plants and Animals

Habitat and Vegetation

The Preferred Alternative would impact vegetation and wildlife habitat. Development associated with this alternative would result in removal of vegetation or changes in habitat for particular plant species or groups. For all the studied alternatives including the Preferred Alternative, there would be a reduction in the amount of wildlife habitat over time as currently planned and future projects are implemented. Impacts could be both direct and indirect. Direct impacts would include loss or conversion of habitat to either unsuitable or less suitable types for many wildlife species currently occupying those habitats. Development of currently vacant or underdeveloped parcels could lead to fragmentation of wildlife habitat, potentially reducing habitat connectivity.

Indirect effects of the Preferred Alternative could include a reduction in wildlife habitat quality and function due to increased human disturbance and associated factors in areas adjacent to wildlife habitat. Increased noise and light in areas adjacent to otherwise suitable wildlife habitat can cause a trend toward reduction of species diversity, with an increase in species that are adapted to human presence. Increases in these predatory species can lead to a reduction in the number and diversity of birds and small mammals utilizing an area, which in turn can lead to a reduction in larger animals, such as raptors, that prey upon these species. Indirect impacts may occur as a result of introduction and establishment of nonnative invasive plant species, which can out compete and displace native species.

Another indirect effect of the Preferred Alternative is that development may have some benefit on wildlife and wildlife habitat by supporting increased capacity in areas already planned for some level of development, which would relieve pressure to develop areas currently outside UGAs beyond the level allowed under current zoning.

There are no known populations of rare plant species within any of the UGAs in Kitsap County, thus the Preferred Alternative is not expected to have any impact on rare plants. There is a slight potential for unmapped rare plants to be affected, but this effect is similar for all the alternatives.

Under the Preferred Alternative there would be 16,629 acres in unincorporated UGAs available for development. For Alternative 2, there are 18,186 acres that would be in unincorporated UGAs. Thus, the Preferred Alternative would have less impact on vegetation and wildlife habitat by approximately 1,557 acres as compared to Alternative 2.

Listed Fish and Wildlife Species

There is the potential to decrease habitat for listed terrestrial wildlife species under the Preferred Alternative. Similarly, there is the potential for impacts on aquatic species from loss or alteration of habitat due to changes in water quality and quantity and shoreline development. Impacts on upland habitat and wildlife (i.e., loss of vegetation, increases in non-native plant species, fragmentation of habitat, etc.) discussed above would be similar for listed wildlife species.

Listed salmon and trout are sensitive to any change in the stream environment and urban development has the potential to alter stream habitat. Development activities can pollute water, degrade instream and riparian habitat, and alter the natural flow regime of rivers and streams. Generally, listed fish such as salmonid species require good water quality and cool water

Transportation 2040

A review of the alternatives programmatically in relation to the key principles of Transportation 2040 is provided below:

- **Congestion and Mobility.** The studied alternatives would not exceed the countywide concurrency measures and the County has proposed transportation improvements to address local congestion issues. More compact growth patterns could be more easily served by transit. See also the discussion of vehicle miles travelled (VMT) below.
- **Environment.** Alternatives 1 and 2 and the Preferred Alternative provide for more compact growth and a greater share of higher density and mixed use growth that can help reduce VMT. The Preferred Alternative accomplishes the countywide population growth in a more compact UGA and with a greater share of higher density development than Alternative 2.
- **Funding.** The No Action Alternative would retain the current CFP that expires in 2012, though the TIP has been regularly updated. The proposed CFP developed for the Action Alternatives includes funding projections for transportation facilities under County responsibility. The County will continue to partner with the PSRC on transportation planning and funding opportunities.

Countywide Planning Policies

Alternatives 1 and 2 and the Preferred Alternative would more completely meet the intent of CPPs for UGAs that provide for urban growth consistent with GMA; see Table 3.2-8.

Alternatives 1 and 2 and the Preferred Alternative do avoid some concentrations of critical areas by removing UGA territory along shorelines, critical areas, and other locations. They provide for more open space by returning some undeveloped lands to a rural classification. More than any other studied alternative the Preferred Alternative would be more in balance in terms of growth targets and urban land supply and may have less pressure on rural areas as a result; it is similar in growth but more compact in land area than Alternative 2.

The County has prepared land capacity analysis, updated Comprehensive Plan policies and zoning regulations consistent with CPPs addressing UGAs.

Table 3.2-8. CPP Consistency Analysis

CPP Concept Summary	Discussion
<p>Countywide Growth Pattern: Establishes the countywide vision which includes livable urban communities and neighborhoods, centers for employment, civic activities and housing; a vital diversified economy; efficient multi-modal transportation system; natural systems protection; maintaining the character of rural areas; and responsive government.</p> <p>The role of Kitsap County in the countywide growth pattern is to:</p> <ul style="list-style-type: none"> ▪ Keep regional vision in mind when making local decisions ▪ Promote stewardship of unincorporated urban areas and promote annexation into cities or incorporation ▪ Maintain/enhance natural systems and rural character ▪ Include a variety of low density rural communities, densities, and uses 	<p>All alternatives include the County vision and policies addressing livable urban communities and neighborhoods, centers for employment, civic activities and housing; a vital diversified economy; efficient multi-modal transportation system; natural systems protection; maintaining the character of rural areas; and responsive government. Some policies would be updated with the Alternatives 1 and 2 and the Preferred Alternative to maintain consistency with land capacity and UGA boundary results.</p> <p>The County continues to promote stewardship of the UGA until annexation or incorporation and has coordinated with the cities as identified in Chapter 2. See a discussion of environmental and rural policies elsewhere on this chart.</p>

Table 3.2-8. CPP Consistency Analysis (continued)

CPP Concept Summary	Discussion
<p>Urban Growth Areas. Includes the outline of the land capacity analysis program, which serves as the basis for UGA expansion, establishes policies on population increments, and establishes process and criteria for expanding and adjusting UGAs. These criteria include:</p> <ul style="list-style-type: none"> ▪ UGAs are areas within which urban growth shall be encouraged and outside of which growth can occur only if it is not urban in nature per GMA. ▪ Unincorporated UGAs shall be associated with an existing or future city. ▪ All UGAs shall be reflected in County and respective city comprehensive plans. ▪ Sufficient area must be included in the UGAs to accommodate the adopted 20-year population distribution in the CPPs developed by the KRCC. ▪ A jurisdiction may define growth tiers within its UGA or phase utility development. ▪ The County, city, or interested citizens may initiate an amendment to an existing UGA. ▪ Any jurisdiction seeking to expand its UGA shall achieve densities consistent with the GMA and the City's adopted Comprehensive Plan and any interlocal agreement between the City and the County. ▪ If an adopted or proposed 20-year projected population distribution may require expansion of its UGA, the respective jurisdiction shall conduct planning and analysis, including a land capacity analysis, assessment of present zoning; consideration of reasonable measures; and ability to provide services first to areas with adequate public facilities and services, second to areas that can be served by a combination of existing and expanded public services and facilities, and last to areas adjacent to the first and second priority areas. ▪ A jurisdiction, as part of its Comprehensive Plan amendment or sub-area plan process, that proposes an expansion of the UGA shall prepare or update a comparison of potential areas for expansion, including. Planning and zoning regulations currently in place; an evaluation of how a full range of urban-level infrastructure and services would be provided within potential expansion areas, including appropriate capital facility analysis; and other factors, including but not limited to: environmental constraints; economic development; preservation of cultural, historical, and designated resource lands. ▪ Conduct early and continuous public involvement when establishing, expanding, or adjusting UGAs. 	<p>The County is continuing to follow its ULCA method, and has updated trend information informing the discount factors and densities that can be used in that methodology.</p> <p>In 2006, the County considered reasonable measures prior to considering UGA expansions, as upheld by the CPSGMHB. The County increased densities in mixed use and commercial zones, and upzoned territory, particularly along corridors, as well as considered other reasonable measures. With Alternatives 1 and 2 and the Preferred Alternative, the densities assumed in the land capacity are more reflective of trends and would further compact growth in smaller UGAs.</p> <p>Alternatives 1 and 2 and the Preferred Alternative provide for more compact UGA boundaries. Alternative 1 is the most compact, but does not quite meet the growth targets for UGAs, being undersized by 14%; which could result in higher levels of growth occur in rural areas. Alternative 2 provides UGA sizing within 3% of the target (slightly low and within the County's +/-5% tolerance). The Preferred Alternative is within 2% of growth targets (slightly low and within the County's +/-5% tolerance), but accommodates the growth in a more compact boundary than Alternative 2. The No Action Alternative provides for UGAs that are oversized by about 31%. Thus Alternatives 1 and 2 are more able to focus growth within already urbanized areas.</p> <p>The County has prepared an updated analysis of public facilities and services in a CFP. All Alternatives would require mitigation measures to ensure adequate facilities and services. See Section 3.3 of this Final SEIS for the Preferred Alternative; see Section 3.3 of the Draft SEIS for other studied alternatives.</p>
<p>Centers for Growth. Identifies a hierarchy of areas of the county within which population and employment should be concentrated consistent with VISION 2040.</p>	<p>All alternatives maintain centers designations for Silverdale, and none would change the boundaries or the land use within. Any mixed use or residential densities would be higher under Alternatives 1 or 2 or the Preferred Alternative, but all alternatives would continue to meet or exceed the center designation criteria. The City of Bremerton has annexed SKIA and no change to center status is anticipated there, as is also the case with Downtown Bremerton.</p>
<p>Rural Land Uses and Development Patterns. Seeks to preserve and enhance the rural character of areas outside of the UGAs, by protecting the natural environment, open space and recreation, scenic and historic areas, and supporting small scale farming, low density residential living and cluster development at an appropriate scale, and with appropriate rural levels of service.</p>	<p>All alternatives would retain the Rural Element that promotes and protects rural lands, as well as retain a TDR program. Alternatives 1 and 2 and the Preferred Alternative would place more land into rural status, while the No Action Alternative would have less rural lands. Being oversized, the No Action Alternative has had the potential to pre-maturely convert rural lands.</p>

Table 3.2-8. CPP Consistency Analysis (continued)

CPP Concept Summary	Discussion
<p>Countywide Strategies for Open Space Preservation, Resource Protection and Critical Areas, Air Quality, and Water Quality/Quantity. Defines these areas and establishes the importance of maintaining, protecting and enhancing these areas.</p>	<p>All alternatives would implement the County's parks and recreation plans and critical areas regulations. Action Alternatives 1 and 2 and the Preferred Alternative may promote more land in a rural category which may have an open space character.</p> <p>Alternatives 1 and 2 and the Preferred Alternative do avoid some concentrations of critical areas by removing UGA territory along shorelines, critical areas, and other locations. However, under all alternatives, critical area and shoreline regulations would guide development. Alternatives 1 and 2 and the Preferred Alternative provide for more compact growth and a greater share of higher density and mixed use growth that can help reduce vehicle miles travelled.</p>
<p>Contiguous, Compatible, and Orderly Development. Provides policies for cooperative inter-jurisdictional planning, and coordination of land use, transportation, environmental and infrastructure planning. Promotes fiscal equity such as revenue sharing due to changes in municipal boundaries. Provides policies on community design and development that promote the unique character of a community, encourage healthy lifestyles, and support sustainable economic and environmental development techniques.</p>	<p>The County is continuing to participate in the KRCC, and has coordinated with other agencies in the public outreach process, and the CFP preparation as described in Chapter 2. See discussions of economic and environment topics elsewhere in this matrix.</p>
<p>Siting Public Capital Facilities. Establishes a process for the siting of regional facilities, which would mitigate the potential adverse impacts from the location and development of these facilities.</p>	<p>The focus of the Remand is not on essential public facilities. However the County is coordinating with the cities and special districts on the CFP.</p>
<p>Transportation. Seeks to promote a transportation system, which would serve the designated centers, preserve the natural environment and provide for a balanced system for the efficient and safe movement of people, goods and services among the centers of Kitsap County and the larger Puget Sound Region. Promotes measures to reduce single occupancy vehicles, and complete streets for all modes.</p>	<p>All alternatives would add traffic to County and state roads, but all would meet the County's countywide concurrency measure. See Section 3.2.4 of this Final SEIS for the Preferred Alternative. See Section 3.2.4 of the Draft SEIS for other studied alternatives.</p>
<p>Housing. Establishes a framework for the provision of housing with in Kitsap County to all income levels at a variety of housing densities. Promotes a jobs/housing balance.</p>	<p>All alternatives would add housing at different densities providing greater housing opportunities and choices at all income levels, including affordable levels. By reducing the UGAs and assuming higher densities, Alternatives 1 and 2 and the Preferred Alternative would provide a greater share of housing in higher density zones. For Alternative 1, 19.8% of land in the UGAs is in these higher density use designations the most of the three studied alternatives. For Alternative 2, 16.3% of land in the UGAs is in these higher density use designations, which is lower than Alternative 1 because there are smaller UGA reductions, but it is still higher than the No Action Alternative. The Preferred Alternative has a greater share of higher density designations at 17.8% than Alternative 2. The No Action Alternative provides 14.1% of land in study UGAs in higher density designations, the least of all studied alternatives.</p>
<p>Countywide Economic Development. Encourages coordinated economic growth among all jurisdictions in Kitsap County, a healthy economy with a spectrum of jobs, and diversification. Seeks to add predictability and certainty to private development decisions.</p>	<p>All alternatives provide for employment growth to meet forecasts. Alternative 1 would remove some mixed use zoning in Port Orchard UGA, and may slightly alter the available land.</p>
<p>Analysis of the Fiscal Impact. Identifies opportunities for jurisdictions to plan for infrastructure and services such as through comprehensive plans, capital facilities plan, at the time of UGA expansions, and UGA Management Agreements. Special districts should be involved in the planning for UGAs.</p>	<p>The County is coordinating with the cities and special districts on the CFP.</p>
<p>Coordination with Tribal Governments and the Federal Government. Seeks to involve and inform these governments in regional and local planning efforts in the county.</p>	<p>None of the studied alternatives alter the projected land use or growth of tribal reservations. The County will continue to coordinate with the tribes through the KRCC and other forums.</p>

Table 3.2-8. CPP Consistency Analysis (continued)

CPP Concept Summary	Discussion
Coordination with Federal Government including Navy. Promotes coordination with the federal government on land use and other activities.	The County has notified federal agencies about this planning process as part of public outreach methods including notices and similar means.
Roles and Responsibilities. Establishes the roles and Responsibilities for the various governments and agencies within the county including the KRCC, Kitsap County, the Cities, and Special Districts.	The County's role is consistent with GMA – the County in consultation with the cities is developing UGA boundaries, and is continuing periodic monitoring such as the buildable lands analysis.
Appendix B, Population Allocations. In 2004, the CPPs were amended to establish a total population distribution of 331,571 people by 2025, consistent with the mid-range estimate provided by OFM. This represents an approximately 99,602-person increase above the 231,969 people counted in the 2000 census. As of the 2010 Census, the countywide population estimate was 331,571 people, leaving the remaining net increase to equal 80,438. Updating to the 2010 base year, the net increase is equivalent to a 2025 population target for the unincorporated areas of approximately 41,622 people in the unincorporated urban areas and 14,782 people in the rural areas. Focusing on the UGAs that are the subject of the remand (all UGAs except for Poulsbo and SKIA), then the unincorporated UGA target is 37,883; rural targets would remain the same at 14,782.	Alternative 1 is the most compact, but does not quite meet the growth targets for UGAs, being undersized by 14%; this may mean that higher levels of growth occur in rural areas. Alternative 2 provides UGA sizing that is within 3% of the target (slightly low and within the County's +/-5% tolerance). Alternative 2 provides for growth within 2% of growth targets (slightly low and within the County's +/-5% tolerance), but in a more compact boundary than Alternative 2 The No Action Alternative provides for UGAs that are oversized by about 31%.

Source: BERK 2012

Kitsap County Comprehensive Plan and Development Regulations

The Action Alternatives would require amendments to the County Comprehensive Plan due to updated growth trends, remaining growth targets with 2010 base year, new land use maps and UGA boundaries. Table 3.2-9 identifies the changes proposed as part of the Remand effort and associated with the Preferred Alternative, Alternative 1, and 2.

Table 3.2-9 Proposed Comprehensive Plan Amendments – Action Alternatives

Element	Proposed Changes
Introduction	<ul style="list-style-type: none"> ▪ Update growth figures post 2000 ▪ Reflect VISION 2040 and Transportation 2040 ▪ Describe the 2012 UGA Remand and associated public involvement activities ▪ Reference SEIS ▪ Update list of subarea plans
Land Use	<ul style="list-style-type: none"> ▪ Remove outdated context information on land use and growth ▪ Update remaining growth targets ▪ Update descriptions of UGAs ▪ Amend policies addressing interim and alternative wastewater techniques (the Preferred Alternative does not allow for interim septic and promotes sewer connection) ▪ Amend policies that show associated UGAs ▪ Amend descriptions of revenue sharing and urban growth area management agreements ▪ Amend description of urban low-density residential and implementing zones; describe the Illahee Greenbelt zone (Alternative 2) ▪ Remove description of Urban Village Center zone ▪ Make a minor amendment to description of parks zone and remove the requirement to only apply the Park zone to County-owned land
Rural and Resource Lands	<ul style="list-style-type: none"> ▪ No changes proposed
Natural Systems	<ul style="list-style-type: none"> ▪ No changes proposed
Economic Development	<ul style="list-style-type: none"> ▪ No changes proposed

Table 3.2-9. Proposed Comprehensive Plan Amendments – Action Alternatives (continued)

Element	Proposed Changes
Housing	<ul style="list-style-type: none"> No changes proposed
Utilities	<ul style="list-style-type: none"> No changes proposed
Transportation	<ul style="list-style-type: none"> Update background information and policy reference to Transportation 2040
Shorelines	<ul style="list-style-type: none"> Under revision in separate effort
Parks, Recreation, and Open Space	<ul style="list-style-type: none"> No changes proposed
Capital Facilities	<ul style="list-style-type: none"> Updated cross references and dates to proposed CFP Appendix A CFP fully updated for 2013-2018 and remainder of the planning period 2019-2025
Kingston Sub-Area Plan	<ul style="list-style-type: none"> Update description of plan Update land use map
Port Orchard / South Kitsap Sub Area Plan	<ul style="list-style-type: none"> Update description of plan Update land use map Update policy on sewer systems (Alternative 2) and on wastewater service providers
Silverdale Sub-Area Plan	<ul style="list-style-type: none"> Update land use map Remove policy on Barker Creek (Alternative 2) Modify wastewater policies
Urban Sub-Area Plans	<ul style="list-style-type: none"> ULID policies amended
Rural Villages and LAMIRDS	<ul style="list-style-type: none"> No changes proposed
Community and Neighborhood Plans	<ul style="list-style-type: none"> In Alternative 1, the Illahee Community Plan would be proposed to be removed from the Comprehensive Plan as that area would be removed from the UGA. In Alternative 1, the land use map would be amended to reflect zoning changes located with the Illahee Community boundary.
Hansville Community Plan	<ul style="list-style-type: none"> No changes proposed
Implementation	<ul style="list-style-type: none"> No changes proposed

Source: Kitsap County Special Projects Division; BERK 2012

Development regulation updates would match some of the policy amendments above. Under Alternative 1, the Illahee Community Plan regulations would be proposed to be repealed from the zoning code as the area would be removed from the UGA.

Under Alternative 2, policies on septic as an interim wastewater service in UGAs are added. This would allow a development proposal to install interim septic systems provided that they provide planning for future public sewer connection and install dry sewer infrastructure to the property boundary of each lot consistent with this planning. Only urban densities would be allowed with this option. This regulatory approach is similar to that of other counties, such as Pierce County. As proposed with Alternative 2 the draft regulation applies only to projects with 9 or fewer lots that are more than a 1,000 feet from the existing sewer. Depending on site conditions and type of system used (individual on-site septic system versus community septic system), the actual achieved density of the development will be a site-specific determination and could result in greater than the minimum density established in the zone. The draft regulations also require installation of dry sewers and no protest agreements to connect to sanitary sewer if a LID is formed, a documented public health hazard occurs or if sewer is located within 200 feet of the development's outer boundary.

The Preferred Alternative does not include new rules for interim septic facilities and instead promotes sewer connection consistent with current County rules (as clarified in Title 13 amendments). The Preferred Alternative would also implement new zoning that would limit land

uses to senior housing and apply performance standards to future development in the Waaga Way Central Kitsap UGA expansion.

Finally, as a consistency measure under all action alternatives, the County's SEPA rules establishing a categorical exemptions for infill development in the Silverdale urban center would be amended consistent with the analysis of the SEIS.

Kitsap County Shoreline Master Program

As a result of UGA reductions along shorelines and a change from urban to rural classifications, under Alternatives 1 and 2 and the Preferred Alternative, the SMP environment designations could require amendment. Further, the proposed SMP environment designations that are underway do not match the change from urban to rural land use designations in some cases. There is an opportunity with the SMP update process to match the changes in UGAs under the action alternatives. See Section 3.2.1 Land and Shoreline Use for more detail.

Municipal Plans

External consistency with Municipal Comprehensive Plans is addressed by consistency with the Countywide Planning Policies, addressed above. The County coordinates planning efforts with the cities through the KRCC.

The City of Bainbridge Island does not have an unincorporated UGA and is not addressed in this Remand effort.

For the UGAs under study, the County has incorporated the growth assumptions of the cities' comprehensive plans in addressing cumulative growth impacts (e.g. transportation). The growth assumptions for the cities of Bremerton and Port Orchard's plans have not changed since 2006. (City of Bremerton 2010; and City of Port Orchard 2008) The County has coordinated with the cities through Capital Facility Planning efforts as described in Chapter 2.

The Poulsbo UGA was not amended in 2006 nor is it currently proposed for amendment as it is not subject to the Remand Order. The City and County jointly adopted a subarea plan and the County applies the city's standards in the Poulsbo UGA. The City has amended its Comprehensive Plan through annual and comprehensive reviews since 2006. The County and City are likely to coordinate planning again for the regular Comprehensive Plan review cycle due next in 2016.

Land use designations along the boundaries between incorporated and unincorporated areas are similar to those planned in 2006 under the No Action Alternative since proposed changes to the UGA boundaries are generally located in the outer areas of the current UGAs. However, the cities of Bremerton and Port Orchard future land use plans assume the UGA boundaries of the 2006 Comprehensive Plan (No Action) and will need future amendment to be consistent with revisions to the Kitsap County comprehensive plan in this process. Alternative 2 and the Preferred Alternative propose to add some Park designated property to the ULID 6 UGA boundaries at the City of Port Orchard's request to recognize City owned property with public facility uses.

Tribal Plans

None of the studied alternatives alter the projected land use or growth of tribal reservations. The County will continue to coordinate with the tribes through the KRCC and other forums.

3.2.3. Population, Housing and Employment

The Preferred Alternatives assumes an increase in population and employment over the planning period. Impacts of population and employment growth within the County from the present through 2025 likely include an increase in demand for infrastructure and public services, as well as the loss of open space within the UGAs as areas convert from semi-developed to developed characters.

Employment Growth Comparison

The Remand effort does not address employment projections or capacity. Cumulatively, the total number of jobs under study in this SEIS (e.g. transportation) is approximately 137,600. These assumptions were used for all studied alternatives in the SEIS.

Residential Land Capacity Analysis Comparison

The Preferred Alternative reduces the size of all the UGAs under study, and assumes the same densities as Alternative 2 for the Urban Low, Urban Restricted, Illahee Greenbelt, Urban Medium, Urban High, Mixed Use and Urban Village zones. Table 3.2-10 below compares the population capacity of each UGA for the Preferred Alternative and other studied alternatives. The SEIS uses the UGA total excluding the Poulsbo and SKIA UGAs for assessing how appropriately sized the County's UGAs are overall. The Preferred Alternative has less capacity than the CPP-projected population, but is within 2% of the projected population. Kitsap County considers UGA capacity within +/- 5% of the growth target to be appropriately sized. The Preferred Alternative comes closest of all the studied alternatives to the countywide growth targets improving on the results of Alternative 2 in particular.

Under the Preferred Alternative, the McCormick Woods/ULID 6 and Central Kitsap are the only study UGAs that have significant more capacity than projected population. Oversized UGAs may see land development patterns less dense and more dispersed throughout the UGA, and more land area would be developed for urban housing and commercial uses.

The Bremerton East, Bremerton West, and Port Orchard UGAs have less capacity than projected population. The Bremerton East UGA in particular is undersized by -1,512 population. UGAs that are undersized could lead to a development pattern that achieves higher densities than assumed in those locations or sees the projected growth in these UGAs shift to other parts of the County where there is more land area to accommodate them.

All other UGAs are relatively close to their population targets.

As described in Section 3.2.1, Land and Shoreline Use, by reducing UGA boundaries previously planned for Urban Low, Urban Cluster, and Urban Restricted zones as proposed in the Preferred Alternative and Alternative 2, there is a greater proportion of land designated for higher density housing (Urban Medium, Urban High, Mixed Use, and Urban Village). This would mean a slightly more diverse mix of housing types in the study UGAs than for the No Action Alternative.

Table 3.2-10. Comparison of Growth Targets and Population Capacities

Urban Growth Area	Growth Target 2010-2025	Alternative 1		Alternative 2		No Action		Preferred Alternative	
		Capacity	Difference from Target	Capacity	Differ- ence from Target	Capacity	Differ- ence from Target	Capacity	Differ- ence from Target
Kingston UGA	2,805	2,640	-165	2,844	39	3,657	852	2,821	16
Poulsbo UGA	3,739	2,152	-1,587	2,152	-1,587	2,152	-1,587	2,152	-1,587
Silverdale UGA	7,779	8,424	645	8,420	641	11,416	3,637	7,768	-11
Central Kitsap UGA	6,191	7,739	1,548	5,901	-290	8,207	2,016	6,500	309
Bremerton East UGA	3,529	879	-2,650	1,741	-1,788	1,962	-1,567	2,017	-1,512
Bremerton West UGA	2,346	1,295	-1,051	1,872	-474	1,730	-616	2,082	-264
Gorst UGA	76	105	29	77	1	62	-14	82	6
Port Orchard UGA	8,506	7,491	-1,015	7,987	-519	12,466	3,960	8,006	-500
McCormick Woods UGA ULID6	6,780	4,131	-2,649	8,093	1,313	10,110	3,330	8,093	1,313
Bremerton Port UGA (SKIA)	-129	0	-129	0	-129	0	-129	0	-129
Uninc. UGA Total	41,622	34,856	-7,024	39,086	-2,794	51,762	9,882	39,521	-2,359
<i>Percent Difference from Target (including Poulsbo and SKIA)</i>			-17%		-7%		24%		-6%
Uninc. UGA Total excluding Poulsbo and SKIA	38,012	32,704	-5,308	36,934	-1,078	49,610	11,598	37,369	-643
<i>Percent Difference from Target (excluding Poulsbo and SKIA)</i>			-14%		-3%		31%		-2%

Source: Kitsap County Special Projects Division 2012; BERK

3.2.4. Transportation

System-wide Travel Impacts

Table 3.2-11 summarizes a number of travel statistics that have been defined for the alternatives based upon countywide population and employment projections, the proposed land use plan for each alternative, planned infrastructure improvements, and travel demand modeling results. The table shows that the Preferred Alternative results in similar—but slightly higher—travel demand than Alternative 2, with estimated daily vehicle trips increasing by 35% over existing conditions, and daily VMT increasing by 34%.

Table 3.2-11. Summary of Countywide Travel Statistics

Category	Alternative 1	Preferred Alternative	Alternative 2	No Action
Countywide Population				
Existing (2010)	251,133	251,133	251,133	251,133
2025	324,807	329,473	329,037	341,743
% Increase	29%	31%	31%	36%
Countywide Employment				
Existing	78,960	78,960	78,960	78,960
2025	137,621	137,621	137,621	137,621
% Increase	74%	74%	74%	74%
Lane Miles of County Roadways⁴				
Existing	2,246	2,246	2,246	2,246
2025	2,254	2,254	2,254	2,254
% Increase	0.35%	0.35%	0.35%	0.35%
Daily Vehicle Trips				
Existing	666,968	666,968	666,968	666,968
2025	891,843	899,531	898,218	921,916
% Increase	34%	35%	35%	38%
Daily Vehicle Miles of Travel (VMT)				
Existing	5,064,708	5,064,708	5,064,708	5,064,708
2025	6,750,979	6,794,875	6,792,395	6,926,875
% Increase	33%	34%	34%	37%
Daily Rideshare Vehicle Trips				
Existing	14,854	14,854	14,854	14,854
2025	19,621	19,813	19,785	20,326
% Increase	32%	33%	33%	37%
Daily Transit Person Trips				
Existing	11,309	11,309	11,309	11,309
2025	14,100	14,090	14,092	14,182
% Increase	24%	24%	24%	25%
PM Peak Hour Vehicles				
Existing	64,029	64,029	64,029	64,029
2025	85,617	86,355	86,229	88,504
% Increase	34%	35%	35%	38%

Source: Kitsap County 2012.

¹ Includes functionally classified arterial and collector roadways, and local access roadways.

Roadway segments

Table 3.2-12 summarizes the lane-miles of deficient county roadway segments projected by 2025 under each of the alternatives. None of the alternatives are expected to result in a percentage of deficient lane-miles of roadway that exceeds the County concurrency standard of 15%. Generally, the 15% threshold for road concurrency is the County’s adopted strategy to ensure LOS standards are within an accepted range. This 15% is evaluated countywide; rural and urban. Deficient roadway segments under the Preferred Alternative are shown in Figure 3.2-5. Locations of deficient segments under Alternatives 1 and 2 and No Action are shown in Figures 3.2-19 through 3.2-21, respectively in Chapter 4 (these were revised from the Draft SEIS to show appropriate UGA boundaries but do not change deficient segment results).

The Preferred Alternative would reduce UGA boundaries similar to Alternative 2 and assumes slightly higher densities than current development trends. Accordingly, this alternative is projected to experience levels of travel demand and LOS impacts similar to Alternative 2. Build-out of the proposed land use in the Preferred Alternative is not expected to result in a percentage of deficient lane-miles of roadway that exceeds the County concurrency standard of 15%.

Table 3.2-12 shows that the percentage of deficient lane-miles of roadway is expected to increase as land use intensity under each of the alternatives increases. The Preferred Alternative is expected to experience a similar, but slightly lower, level of roadway segment deficiency as Alternative 2, at 8.3%.

Table 3.2-12. Projected Roadway Segment Deficiencies under the Alternatives by 2025

	Alternative 1	Preferred Alternative	Alternative 2	No Action
North County	10.2 lane-miles	9.6 lane-miles	9.7 lane-miles	15.0 lane-miles
Central County	10.2 lane-miles	9.2 lane-miles	9.3 lane-miles	11.1 lane-miles
South County	31.3 lane-miles	34.9 lane-miles	34.9 lane-miles	34.9 lane-miles
Total Deficient Lane-Miles	51.7 lane-miles	53.7 lane-miles	53.9 lane-miles	61.0 lane-miles
Total 2025 County Roadway Lane-Miles	642.6 lane-miles	642.6 lane-miles	642.6 lane-miles	642.6 lane-miles
Percent of Deficient Lane-miles	8.0%	8.3%	8.4%	9.5%
Exceeds Countywide Concurrency Standard of 15%	No	No	No	No

Source: Kitsap County 2012

State Highways

Table 3.2-13 summarizes the miles of deficient state highway segments projected by 2025 under each alternative. A state highway is considered deficient if its operations are projected to exceed adopted highway standards.

The table shows that 63% of the state highway miles in Kitsap County are projected to be deficient under the Preferred Alternative, which is similar but slightly less than for Alternative 2

Table 3.2-13. Projected State Highway Deficiencies by 2025

State Highway	Total Length (miles)	Alternative 1		Preferred Alternative		Alternative 2		No Action Alternative	
		Length of Deficient Segments (miles)	Percentage of Total Length	Length of Deficient Segments (miles)	Percentage of Total Length	Length of Deficient Segments (miles)	Percentage of Total Length	Length of Deficient Segments (miles)	Percentage of Total Length
SR 3	31.8	15.3	48%	17.3	54%	15.3	48%	15.3	48%
SR 16	14.1	9.5	68%	7.0	49%	9.5	68%	7.0	49%
SR 104	9.4	3.0	33%	3.0	33%	3.0	33%	3.0	33%
SR 160	7.7	3.5	45%	3.3	43%	3.5	45%	3.5	45%
SR 166	4.8	4.8	100%	4.8	100%	4.8	100%	4.8	100%
SR 303	8.8	8.3	94%	8.6	97%	8.3	94%	8.3	94%
SR 304	3.0	1.9	64%	2.4	82%	2.4	82%	2.4	82%
SR 305	13.7	12.7	93%	12.7	93%	11.2	82%	12.7	93%
SR 307	5.3	5.3	100%	5.3	100%	5.3	100%	5.3	100%
SR 308	4.2	0.2	6%	0	0%	0.2	6%	0.2	6%
SR 310	1.8	1.5	85%	1.5	85%	1.5	85%	1.5	85%
Total	104	66	63%	65.9	63%	65	63%	64	62%

Source: Kitsap County 2012

Mitigation Measures

Table 3.2-14 summarizes the roadway segments that have been identified for improvement for the Preferred Alternative in order to meet adopted County roadway segment LOS standards.

The Preferred Alternative CFP contains more information on project phasing and costs. Beyond the six-year list of TIP projects applicable to all alternatives, the total cost of improvements for the Preferred Alternative is estimated to be approximately \$159,318 million - less than the cost of improvements for the Draft SEIS alternatives that ranged from \$181,227-\$205,246 million. However, the project descriptions and costs for the Preferred Alternative have been further refined to address essential and minimum improvements that achieve the mitigation desired to meet County standards.

Beyond the refined list of proposed transportation improvements listed in Table 3.2-14, the additional mitigation measures described in the Draft SEIS continue to be applicable for the Preferred Alternative. These include strategies to achieve a balance between LOS, financing, and land use, incorporated plan features, applicable regulations and commitments, and other potential mitigation measures.

Table 3.2-14. Description of Proposed Roadway Improvements – Preferred Alternative

Roadway	Location	Description
North County		
Finn Hill Road NW	SR 3 Overpass – 158 ft SE of Karkainen Ln NW	Widen to undivided 4 lanes
Miller Bay Road NE	Gunderson Road NE – Indianola Road NE	Widen to undivided 4 lanes
Ridgetop Boulevard NW	SR 303 On/Off Ramp – Hillsboro Drive NW	Widen to undivided 4 lanes
Suquamish Way NE	Totten Road NE – Division Avenue NE	Add 1 left-turn pocket. Assume 200 feet long
Viking Way NW	SR 308 - Poulsbo City Limits	Add new 12 foot center two-way left turn lane
Central County		
Anderson Hill Rd NW	Apex Rd NW - Frontier Pl NW	Widen to undivided 4 lanes
Anderson Hill Rd NW	SE of Frontier Pl NW - Bucklin Hill Rd NW	Add new 12 foot center two-way left turn lane
Bucklin Hill Rd NW	Mickelberry Rd NW - Tracyton Blvd	Widen to undivided 4 lanes
Bucklin Hill Rd NW	Anderson Hill Rd (NW) - Silverdale Way NW	Widen to undivided 4 lanes
Bucklin Hill Rd NW	Silverdale Way NW - Blaine Ave NW	Signal improvements
National Ave W	Loxie Eagans Blvd W – Arsenal Way W	Widen to undivided 4 lanes
Newberry Hill Rd NW	Hideway Ln NW - Roundup Ln NW	Add a 12 foot new center two-way left turn lane
Newberry Hill Rd NW	Provost Rd NW - Chico Way NW	Widen to undivided 4 lanes
Newberry Hill Rd NW	Chico Way NW – NW Byron St	Widen to undivided 4 lanes
Perry Ave NE	Sheridan NE - 30th St NE	Assume a new 12 foot center lane along the project
Riddell Rd NE	SR 303 - Almira Dr NE	Add new 12 foot center two-way left turn lane
Riddell Rd NE	Pine Rd NE - East of Parkhurst Ln NE	Add new 12 foot center two-way left turn lane
Ridgetop Blvd NW	Silverdale Way NW - Myhre Rd (NW)	Widen to undivided 4 lanes
Silverdale Way NW	Newberry Hill Rd NW - Byron St NW	Signal improvements

Table 3.2-14. Description of Proposed Roadway Improvements – Preferred Alternative (continued)

Roadway	Location	Description
South County		
Belfair Valley Rd (W)	Mason County Line - Bremerton City Limits	Widen to undivided 4 lanes
Belfair Valley Rd (W)	Bremerton City Limits - Sam Cristopherson Ave W	Widen to undivided 4 lanes
Bethel Rd SE	Lider Rd SE - Bielmeier Rd SE	New 4-lane overpass
Bethel Rd SE	Bielmeier Rd SE - Ives Mill Rd SE	Add additional lanes, center turn lane
Glenwood Rd SW	Lake Flora Rd SW – Fern Vista Place SW	Widen to undivided 4 lanes
Jackson Ave SE	Salmonberry Rd (SE) - Mile Hill Dr (City Limits)	Widen to undivided 4 Lanes
Lake Flora Rd SW	Bremerton City Limit - J M Dickenson Rd SW	Widen to undivided 4 lanes
Lund Ave	Madrona Dr SE - Jackson Ave SE	Add new 12 foot center two-way left turn lane
Lund Ave	Jackson Ave SE - Cathie Ave SE	Widen to undivided 4 lanes
Mile Hill Dr SE	California Ave SE - Whittier Ave SE	Widen to undivided 4 lanes
Mullenix Rd SE	SR 16 NB Ramp - Horizon Ln SE	Widen to undivided 4 lanes
Old Clifton Rd SW	Sunnyslope Rd SW - Feigly Rd SW	Widen to undivided 4 lanes
Old Clifton Rd SW	Anderson Hill Road SW - Port Orchard City Limits	Widen to undivided 4 lanes
Sunnyslope Rd SW	Old Clifton Rd (SW) - Old Clifton Rd (SW)	Intersection channelization improvements

Source: Parametrix 2012

3.3. Built Environment: Public Services and Utilities

This section of the Final SEIS is based on population data illustrated at a countywide scale in Table 3.3-1. The variation among the alternatives is based on the differences in UGA land capacity and boundaries. The focus of the analysis in Section 3.3 is on the Preferred Alternative, which has a population similar to Alternative 2.

Table 3.3-1. Countywide Population Assumptions by Alternative

Year	Alternative 1	Alternative 2	No Action Alternative	Preferred Alternative
Existing (2010)	251,133	251,133	251,133	251,133
2025	324,807	329,037	341,743	329,473

Source: US Census 2010; BERK 2012

This Final SEIS analysis presents impacts based on population growth from 2010 to 2025. The CFP (Appendix A of the Plan) addresses population growth and capital facilities needs for a 6-year period, 2013–2018 as well as 2019-2025. The CFP will be updated no less frequently than every 6 years to then accommodate another 6-year period of growth, as required by GMA. Impacts that are identified in the Built Environment section for the full 20-year planning period and associated deficits will be addressed by each succeeding update of the CFP.

3.3.1. Public Buildings

Under the Preferred Alternative, the new LOS standard for County administrative buildings would vary slightly from the standard proposed under Alternative 2, equaling 952 square feet per 1,000 population (compared to 953 under Alternative 2). The small difference in population

would not impact the LOS standards for courtrooms, community centers, or maintenance facilities compared to Alternative 2.

There would be very slight changes in the estimated need for some facilities. Table 3.3-2 shows the estimated need for administrative offices, maintenance facilities, courtrooms, and community centers under the Preferred Alternative in 2025, according to both the adopted 2006 LOS standards and the proposed LOS standards, based on total countywide population. These calculations assume facilities identified in the CFP will be constructed.

Table 3.3-2. Preferred Alternative - Public Buildings LOS Comparison

	2006 Adopted LOS (per 1,000 pop)	2010 Achieved LOS (per 1,000 pop)	Proposed New LOS Standard (per 1,000 pop)	2025 Surplus/(Deficit) with 2006 LOS Standard*	2025 Surplus/(Deficit) with Proposed LOS Standard*
Administration Buildings	1,092 sf	1,249 sf	952 sf	(46,049) sf	0 sf
Maintenance Facilities	130 sf	143 sf	109 sf	(6,903) sf	0 sf
District Courtrooms	0.022 rooms	0.016 rooms	0.012 rooms	(3) rooms	0 rooms
Superior Courtrooms	0.029 rooms	0.028 rooms	0.021 rooms	(3) rooms	0 rooms
Community Centers	239 sf	262 sf	200 sf	(12,824) sf	0 sf

* LOS and need in 2025 are based on the existing inventory of buildings, improvements currently under construction, new facilities identified in the CFP for construction through 2025, and countywide population. The 2025 countywide population for the Preferred Alternative equals 329,473.

Source: Kitsap County Department of Public Works, 2012; and BERK, 2012.

3.3.2. Fire Protection

Under the Preferred Alternative, there would be no change to the LOS for Central Kitsap Fire and Rescue (CKFR), as it can meet its currently adopted LOS through 2025 with planned facilities. The new LOS standards for fire protection for South Kitsap Fire and Rescue (SKFR), North Kitsap Fire and Rescue (NKFR) and District No. 18/City of Poulsbo Fire Department would be the same as those proposed under Alternative 2, as listed below:

- SKFR: 0.36 fire units per 1,000 population
- NKFR: 0.54 fire units per 1,000 population
- District No. 18/City of Poulsbo: 0.44 fire units per 1,000 population

The Preferred Alternative would result in slightly different countywide population than Alternative 2, but would not result in changes to LOS in 2025 from that under Alternative 2.

In 2025, under the Preferred Alternative:

- CKFR would have a population of 91,744 (compared to 91,435 under Alternative 2).
- SKFR would have a population of 99,212 (compared to 99,000 under Alternative 2).
- NKFR would have a population of 24,030 (compared to 24,053 under Alternative 2).
- Poulsbo/FD 18 would have a population of 29,367, which is the same as under Alternative 2.

Table 3.3-3 shows the estimated need for units (defined as the combination of vehicles and equipment that responds to a fire or EMS situation, such as engines, ladders, rescue units, and aid cars, but not including staff or miscellaneous vehicles) under the Preferred Alternative in 2025, based on the LOS standards adopted in 2006 and the proposed LOS standards. Table 3.3-3 assumes completion of planned capital projects that will increase the number of fire units.

Table 3.3-3. Preferred Alternative – Fire Protection LOS Comparison

	2006 Adopted LOS (units per 1,000 pop)	2010 Achieved LOS (units per 1,000 pop)	Proposed New LOS Standard (units per 1,000 pop)	2025 Surplus/(Deficit) with 2006 LOS Standard*	2025 Surplus/(Deficit) with Proposed LOS Standard*
Central Kitsap	0.41	0.51	0.41	2.4 fire units	2.4 fire units
South Kitsap	0.41	0.50	0.36	(4.7) fire units	0 fire units
North Kitsap	0.59	0.70	0.54	(1.2) fire units	0 fire units
Poulsbo/FD 18	0.54	0.55	0.44	(2.9) fire units	0 fire units

* LOS and need in 2025 are based on the existing inventory, new facilities identified in the CFP for construction through 2025, and fire district population.

Source: Individual Fire Districts, 2012; and BERK, 2012.

Under the Preferred Alternative, similar to Alternative 2, demand for fire protection will increase most in those districts with the highest population growth. The south county area has the highest percent change in population, followed by the central county. Therefore, SKFR would experience the greatest increase in demand, followed by CKFR. Based on the existing number of fire/emergency units and both the 2006 adopted LOS standards and the proposed LOS standards, SKFR would experience the largest LOS deficit of the four districts over the 20-year period. CKFR has adequate planned facilities to grow with its estimated population increase.

Kitsap County has adopted levels of service based on fire/emergency units per 1,000 population in its CFP. Fire/emergency units include fire engines, water tenders, and medic units. Fire stations are included in the CFP when considering capital facilities housing fire units and personnel; however, fire stations themselves are not included in the LOS calculation. Although personnel is an integral component to the operation of any fire district, personnel is not considered a capital facility item under the requirements of the GMA. There are other metrics for measuring fire department level of service, such as response time. These alternatives are described in further detail in the Draft SEIS.

Because of the Fire Districts’ requirement to measure response time, the County could work with the districts to develop an updated LOS measure for the CFP that accounts for factors that best represent response time service objectives. In addition, the revised LOS could be established to link to a district’s ability to collect impact fees. This could be developed in association with Kitsap County’s regular GMA Comprehensive Plan review due next in 2016.

3.3.3. Law Enforcement

Under the Preferred Alternative, a population increase of 48,078 within the unincorporated county⁶ would be slightly higher than under Alternative 2, which estimated an increase of 47,621. Countywide, the Preferred Alternative is also slightly higher than Alternative 2 (increase of 78,340 from 2012 to 2025, versus 77,904 for Alternative 2). Demand for law enforcement would be very similar and would not change the proposed LOS standards identified for Alternative 2, as listed below:

- 129 SF per 1,000 population for Sheriff Offices.
- 1.43 beds per 1,000 population for County Jail.

⁶ Assumes annexations between 2006 and 2012 have occurred.

- 0.15 beds per 1,000 population for the Work Release Facility.
- No adjustment needed for the Juvenile Facility LOS (currently at 0.084 beds per 1,000 population).

Table 3.3-4 shows future needs in 2025 for law enforcement facilities provided by the County under the Preferred Alternative, based on adopted 2006 LOS standards and the proposed LOS standard.

Table 3.3-4. Preferred Alternative – Law Enforcement LOS Comparison

	2006 Adopted LOS (per 1,000 pop)	2010 Achieved LOS (per 1,000 pop)	Proposed New LOS Standard (per 1,000 pop)	2025 Surplus/(Deficit) with 2006 LOS Standard*	2025 Surplus/(Deficit) with Proposed LOS Standard*
Sheriff Offices	266 sf	166 sf	129 sf	(29,512) sf	0 sf
County Jail	1.70 beds	1.88 beds	1.43 beds	(88) beds	0 beds
Work Release Facility	0.17 beds	0.19 beds	0.15 beds	(8) beds	0 beds
Juvenile Facility	0.084 beds	0.14 beds	0.084 beds	7 beds	7 beds

* LOS and need in 2025 are based on the existing inventory, new facilities identified in the CFP for construction through 2025, countywide population (for jail, work release, and juvenile), and unincorporated county population (for sheriff offices).
Source: Kitsap County Sheriff Department, 2012; and BERK, 2012.

3.3.4. Parks and Recreation

Proposed LOS standards under the Preferred Alternative would change slightly from those identified under Alternative 2 for open space and heritage parks:

- **Open space:** 57.1 acres per 1,000 population (compared to 57.2 under Alternative 2).
- **Heritage Parks:** 11.5 acres per 1,000 population (compared to 11.6 under Alternative 2).

The Preferred Alternative would result in slightly higher countywide population, and therefore slightly higher future demand for these parks and recreation facilities. The standards for community parks, regional parks, shoreline access, and trails would be the same as under Alternative 2. Table 3.3-5 summarizes LOS and facilities needs under the Preferred Alternative with both the standards adopted in the 2012 Parks, Recreation, and Open Space (PROS) Plan and the proposed standards.

Table 3.3-5. Preferred Alternative – Parks, Open Space, Trails, and Shoreline Access LOS Comparison

	Current Adopted "Target" LOS* (per 1,000 pop)	2010 Achieved LOS (per 1,000 pop)	Proposed New "Base" LOS Standard** (per 1,000 pop)	2025 Surplus/(Deficit) with "Target" LOS Standard*	2025 Surplus/(Deficit) with Proposed "Base" LOS Standard*
Open Space	71.0 acres	74.2 acres	57.1 acres	(4,560) acres	0 acres
Regional Parks	16.0 acres	11.6 acres	8.9 acres	(2,340) acres	0 acres
Heritage Parks	19.0 acres	15.1 acres	11.5 acres	(2,461) acres	0 acres
Community Parks	4.65 acres	4.58 acres	3.5 acres	(383) acres	0 acres
Shoreline Access	0.061 miles	0.096 miles	0.061 miles	4 miles	4 miles
Trails	0.20 miles	0.29 miles	0.20 miles	88 miles	88 miles

* The Current adopted LOS is the LOS as adopted in the 2012 Parks, Recreation, and Open Space (PROS) Plan.
** The Proposed New LOS Standards are the standards the County could adopt in order to reflect fiscal constraints and meet its LOS through 2025.
Source: Kitsap County Parks and Recreation Department, 2012; and BERK, 2012.

The LOS standards adopted in the 2012 PROS Plan could remain in place as “target” standards that the County could continue to work toward if it is able to secure additional funding that would allow the County to reach its target LOS. The proposed new LOS standards above would function as “base” LOS standards that reflect funding constraints.

3.3.5. Schools

At the Countywide level, population in 2025 under the Preferred Alternative is only about 0.2% higher than under Alternative 2. While growth will vary slightly within each school’s district boundaries, the overall change in enrollment for each school district from Alternative 2 to the Preferred Alternative is less than 1.0%:

- North Kitsap: Enrollment of 9,035 in 2025 (compared to 9,036 in Alternative 2).
- Central Kitsap: Enrollment of 15,035 in 2025 (compared to 15,002 in Alternative 2).
- South Kitsap: Enrollment of 14,927 in 2025 (compared to 14,913 in Alternative 2).
- Bremerton: Enrollment of 7,208 in 2025 (compared to 7,163 in Alternative 2).

Table 3.3-6 summarizes projected capacity surpluses and deficits in 2025 for both permanent facility capacity and total capacity (which includes portables). The methodology for estimating future enrollment and capacity needs is as the same as in the Draft SEIS, and may differ slightly from a district’s own enrollment projections. Future capacity surpluses or deficits include consideration for planned facilities through 2025.

Table 3.3-6. Preferred Alternative – Schools LOS Comparison

	Student per HH Ratio*	2025 Projected Households	2025 Projected Enrollment	2025 Permanent Capacity	2025 Reserve/ (Deficiency)	2025 Permanent Capacity**	2025 Reserve/ (Deficiency)
North Kitsap	0.39	23,077	9,035	6,517	(2,518)	8,492	(543)
Central Kitsap	0.46	32,784	15,035	11,537	(3,498)	13,092	(1,943)
South Kitsap	0.42	35,653	14,927	10,865	(4,062)	12,734	(2,193)
Bremerton	0.28	25,445	7,208	6,153	(1,055)	7,369	161

* For North Kitsap and South Kitsap, enrollment was projected based on separate student per household ratios for multi-family and single-family dwellings. This column shows the effective total ratio for those districts. For Bremerton and Central Kitsap, this is the actual ratio used to calculate projected enrollment.

** Includes permanent capacity and interim (portables) facilities.

Source: Individual School Districts, 2012; Washington State OSPI, 2012; Washington State OFM, 2012; and BERK, 2012.

Under the Preferred Alternative, all school districts within Kitsap County will need to add capacity by 2025 to accommodate increased enrollment, similar to Alternative 2. Bremerton’s capital plan includes additional portables facilities that will allow it to serve its projected enrollment, but it is still estimated to have a deficit compared to its permanent capacity.

3.3.6. Solid Waste

Under the Preferred Alternative, the expected population increase of 78,340 countywide would vary only slightly from that under Alternative 2 (which estimated an increase of 77,904). The amount of solid waste generated in 2025 would be similar to that with Alternative 2. Generation of solid waste countywide is estimated at 1,647,365 pounds (824 tons) per day of solid waste

production by 2025 accounting for residential waste only, approximately 2,200 pounds per day more than with Alternative 2.

If the current recycling rate were maintained, by 2025 it would result in 672,125 recycled pounds (336 tons) per day, about 900 pounds more per day than with Alternative 2

3.3.7. Wastewater

Sewer system capital projects have been identified based on a combination of existing Sewer Comprehensive Plans, work that was conducted for the County's 2007 Wastewater Infrastructure Task Force, and supplemental technical analysis associated with each UGA and included in the Draft CFP. Sewer capital facilities projects and costs for each UGA and each land-use under the Preferred Alternative are summarized in Table 3.3-7. Table 3.3-7 includes project and cost information for Central Kitsap, Silverdale and Kingston UGAs, as well as the Keyport and Suquamish area that was developed since the Draft CFP and Draft SEIS were completed (BHC 2012). This information represents a more refined analysis of sanitary sewer capital project needs and costs compared to that prepared in the Draft CFP and Draft SEIS. Information on potential revenue sources that may be used for sewer facilities is provided in the CFP.

Capital projects for Kitsap County facilities are associated with upgrade and/or replacement of existing pump stations, force mains and gravity sewers, as well as new pump stations, force mains and gravity collectors and interceptors to provide sewer service beyond the existing County sewer systems.

Table 3.3-8 below provides a comparison of costs by alternative, and shows the relative demand for sewer facilities for the alternatives. The costs for the Preferred Alternative are generally similar to or lower than for Alternative 2, except for the Kingston and Central Kitsap wastewater treatment plants. The projected costs for the City of Port Orchard and City of Poulsbo sewer projects are the same for both alternatives. The West Sound Utility District would require 12 capital sewer projects through the year 2025 under the Preferred Alternative, at a cost of approximately \$12,631,000.

Capacity upgrades at the CKWWTP and Kingston WWTP are expected to be needed for all land use alternatives including the Preferred Alternative. Projects required under the Preferred Alternative for the Central Kitsap, Silverdale, Keyport and Kingston UGA areas have an estimated cost of approximately \$371.4 million.

3.3.8. Stormwater

Additional stormwater drainage systems would be needed to handle increased stormwater runoff resulting from new development and impervious surfaces under the Preferred Alternative. Without adequate drainage facilities, an increase in either peak flow or volume of stormwater runoff could potentially add to existing flooding problems by increasing the depth of flooding, the area that is flooded, the frequency of flooding, and the length of time an area remains flooded. In some cases, an increase in the peak flow or volume of stormwater runoff may also create new flooding problems (i.e., flooding hazards in areas that are not currently subject to them).

The Preferred Alternative would result in slightly lower levels of urbanization as compared to Alternative 2. This would limit the overall amount of impervious surface that would be created and the need for facilities to handle stormwater runoff and treatment. See Section 3.3-1 for additional analysis of impervious surface.

**Table 3.3-7. Kitsap County Capital Facilities Projects and Financing for Preferred Alternative 2012-2025
(All Amounts Times \$1,000)**

Project and Cost/Revenue (thousands \$)	Capacity Project (Yes/No)	2013	2014	2015	2016	2017	2018	2019-2025	Total
West Bremerton UGA – Rocky Point									
1-Pump Station OB-1 Cost	Yes							1,500	1,500
2- Bertha 8" Gravity Cost	No							864	864
3-Morgan 8" Gravity Cost	No					384			384
4-Phinney Bay 8" Gravity Sewer Cost	No					1,440			1,440
5-Kitsap Way 15" Gravity Sewer Cost	Yes							1,200	1,200
6-RP-3 8" Gravity Main Cost	No						1,280		1,280
7-Kelly Rd. 12" Gravity Cost	No							360	360
8-Pump Station MD-2 Cost	No							2,200	2,200
9-Pump Station MD-3 Cost	No							1,200	1,200
10- MD-3 10" Force Main Cost	No							980	980
11-RP-1 12" Gravity Cost	No							684	684
12- RP-1 10" Gravity Cost	No							1,015	1,015

**Table 3.3-7. Kitsap County Capital Facilities Projects and Financing for Preferred Alternative 2012-2025
(All Amounts Times \$1,000) (continued)**

Project and Cost/Revenue (thousands \$)	Capacity Project (Yes/No)	2013	2014	2015	2016	2017	2018	2019-2025	Total
West Bremerton UGA – West Hills									
1-WWTP Gravity Pressure Sewer Cost	Yes							259	259
2-Bayview Drive Trunk Sewer Cost	Yes							288	288
3- Kean Street Trunk Cost	Yes						893		893
4- Harlow Drive 21" Gravity Cost	No							265	265
5-Price Rd. 8" Gravity Sewer 2300 LF Cost	No						736		736
6-Sunnyhill Rd. 8" Gravity Cost	No							736	736
7-Ida St. 8" Gravity Cost	No							544	544
8-Broad St. 8" Gravity Cost	No							544	544
West Bremerton UGA – SR304									
1-West Sherman Heights Rd. Cost	No							1,728	1,728
2-Kent/Viking 8" Gravity Cost	No							1,216	1,216
Gorst UGA									
1-Pump Station SB-3 (Gorst) Upgrade Cost	Yes							100	100
East Bremerton UGA									
1-8" Gravity Sewer on Forest Drive Cost	No							800	800
2-6" Force Main and Pump Station (TA-1) at 350 gpm Cost	No							734	734

**Table 3.3-7. Kitsap County Capital Facilities Projects and Financing for Preferred Alternative 2012-2025
(All Amounts Times \$1,000) (continued)**

Project and Cost/Revenue (thousands \$)	Capacity Project (Yes/No)	2013	2014	2015	2016	2017	2018	2019-2025	Total
3-10" Gravity Sewer on Sylvan Way Cost	No							1,050	1,050
4-12" Gravity Sewer on Trenton Ave Cost	No							1,296	1,296
5-10" Force Main and Pump Station (TA-3) at 1500 gpm Cost	No							1,920	1,920
6-8" Gravity Sewer on Sylvan and Ridgeview Cost	No							1,152	1,152
7-18" Gravity Sewer on Perry Ave to Beach Sewer Cost	No							2,385	2,385
8-4" Force Main and Pump Station (TA-2) @ 160 gpm Cost	No							592	592
9-4" Force Main and Pump Station (TA-4) @ 150 gpm Cost	No					350			350
10- Tracyton 6" Force Main and Pump Station (TB-1) @350 gpm Cost	No							828	828
11-Tracyton 12" Gravity Sewer Cost	No							1,836	1,836
12- Tracyton 10" Force Main and Pump Station (TB-2) @1500 gpm Cost	No							3,705	3,705
Port Orchard (City) ^a									
1- Bay St. Pump Station Capacity Increase Cost	Yes	1,300							1,300
2- Tremont Trunk "H" Capacity Increase Cost	Yes	650							650
3-Marina Pump Station Capacity Increase Cost	Yes		2,100						2,100
4- McCormick Pump Station and Trunk Capacity Increase Cost	Yes	150	960	500					1,610

**Table 3.3-7. Kitsap County Capital Facilities Projects and Financing for Preferred Alternative 2012-2025
(All Amounts Times \$1,000) (continued)**

Project and Cost/Revenue (thousands \$)	Capacity Project (Yes/No)	2013	2014	2015	2016	2017	2018	2019-2025	Total
5- Sidney-Sedgwick Pump Station and Trunk Capacity Increase Cost	Yes				20			1,000	1,020
6- Pottery Pump Station and Trunk Capacity Increase Cost	Yes							2,100	2,100
7- Cook Road Collection and Conveyance Cost	Yes						1,400		1,400
8-Glenwood Rd. Collection and Conveyance Cost	No						1,100		1,100
9-Cedar Heights Collection System Cost	No							450	450
10-Bay St. Conveyance Capacity Cost	Yes							1,200	1,200
Port Orchard (WSUD)									
1- Sector 1 Collection and Conveyance (Lidstrom Rd.) Cost	Yes						950		950
2- Sector 3 Collection and Conveyance (Collins Rd.) Cost	No							3,100	3,100
3- Sector 4 Mile Hill Force Main Cost	No							475	475
4- Sector 7 Collection and Conveyance (Converse Ave) Cost	Yes							977	977
5- Sector 8 Collection and Conveyance (Brasch Rd.) Cost	No							151	151
6- Sector 9 Collection and Conveyance (Bethel Rd.) Cost	No							662	662
7- Sector 3 Collection and Conveyance (Horstman Rd.) Cost	No							620	620
8- Sector 5 Collection and Conveyance (Aiken Rd.) Cost	No							882	882
9- Sector 8 Collection and Conveyance (Brasch Rd.) Cost	No							731	731

**Table 3.3-7. Kitsap County Capital Facilities Projects and Financing for Preferred Alternative 2012-2025
(All Amounts Times \$1,000) (continued)**

Project and Cost/Revenue (thousands \$)	Capacity Project (Yes/No)	2013	2014	2015	2016	2017	2018	2019-2025	Total
10- Sector 9 Collection and Conveyance (Bethel Rd.) Cost	No							2,016	2,016
11- Sector 10 Collection and Conveyance (Bielmeier Rd. North) Cost	No							567	567
12- Sector 12 Collection and Conveyance (Phillips Rd.) Cost	No							1,500	1,500
Poulsbo									
1- Annual Inflow Reduction Program Cost	Yes	20	20	20					60
2-6th & 9th Avenue Pump Station Cost	Yes	900							900
3- Tollefson Forcemain Upgrade Cost	Yes	50							50
4- Poulsbo Village Pump Station Upgrade Cost	No	81							81
5- Harrison Forcemain Replacement Cost	No	340							340
6- Replace Johnson Pipe Cost	No		58						58
7- I&I Effectiveness & Downstream Capacity Project Cost	No				110				110
Central Kitsap									
Project #1 – CK Pump Station 6 Upgrades Cost	Yes	105	209	888	888				2,090
Project #2 – CK – PS 8 Upgrades Cost	Yes	85	178	759	758			200	1980
Project #3 – CK – PS 6 FM/So. Military Rd Cost	Yes	232	464	1,972	1,972				4,640
Project #4 – CK – PS-8 Downstream Conveyance Cost	Yes	285	571	2,427	2,427				5,710

**Table 3.3-7. Kitsap County Capital Facilities Projects and Financing for Preferred Alternative 2012-2025
(All Amounts Times \$1,000) (continued)**

Project and Cost/Revenue (thousands \$)	Capacity Project (Yes/No)	2013	2014	2015	2016	2017	2018	2019-2025	Total
Project #5 – CK – LS-10 Upgrades Cost	Yes							2,340	2,340
Project #6 – CK – LS-32 Upgrades Cost	Yes							2,340	2,340
Project #7 – CK- LS-33 Upgrades Cost	Yes							1,060	1,060
Project # CK-8 LS-34 Upgrades Cost	Yes							3,760	3,760
Project # CK-9 LS-36 Upgrades Cost:	Yes							1,060	1,060
Project # CK-10 LS-62 Upgrades Cost	Yes							1,060	1,060
Project # CK-11 LS-65 Upgrades Cost	Yes							2,340	2,340
Project # CK-12 LS-69 Upgrades Cost	Yes							2,340	2,340
Project # CK-13 No. Military Rd. Pipeline Replacement Cost	Yes							7,710	7,710
Project # CK-14 LS-18 Conveyance System Improvements Cost	Yes							1,310	1,310
Project # CK-15 LS-65 Forcemain Replacement Cost	Yes							3,500	3,500
Project # CK-16 LS-69 Forcemain & Gravity Sewer Replacement Cost	Yes							2,100	2,100
Project # CK-17 LS-32 Forcemain Replacement Cost:	Yes							600	600
Project # CK-18 LS-36 Forcemain Replacement Cost:	Yes							400	400
Project # CK-19 New Forcemains and Gravity Sewers	Yes							33,300	33,300

**Table 3.3-7. Kitsap County Capital Facilities Projects and Financing for Preferred Alternative 2012-2025
(All Amounts Times \$1,000) (continued)**

Project and Cost/Revenue (thousands \$)	Capacity Project (Yes/No)	2013	2014	2015	2016	2017	2018	2019-2025	Total
Project # CK-20 New Small & Medium Sized Pump Stations Cost:	Yes							16,185	16,185
Silverdale Service Area									
Project # Silverdale-1 LS-1 Upgrades Cost:	Yes	99	198	842	841				1,980
Project # Silverdale-2 LS-3 Upgrades Cost:	Yes					188	376	3,196	3,760
Project # Silverdale-3 LS-4 Upgrades Cost:	Yes					485	970	8,245	9,700
Project # Silverdale-4 Silverdale Way Pipeline Replacement Cost:	Yes	92	183	778	777				1,830
Project # Silverdale-5 Bayshore Pipe Replacement Cost:	Yes	67	134	570	569				1,340
Project # Silverdale-6 Lower Anderson Hill Rd. to LS-3 Pipe Replacement Cost:	Yes			125	250	1,063	1,062		2,500
Project # Silverdale-7 LS-12 Upgrades Cost:	Yes							3,760	3,760
Project # Silverdale 8 LS-21 Upgrades Cost:	Yes							2,340	2,340
Project # Silverdale 9 LS-22 Upgrades Cost:	Yes							2,340	2,340
Project # Silverdale 10 Washington Ave. Pipe Replacement Cost:	Yes							1,000	1,000
Project # Silverdale 11 Silverdale Way to LS-1 Pipe Replacement Cost:	Yes							3,750	3,750
Project # Silverdale 12 Levin Road Pipe Replacement Cost:	Yes							1,700	1,700
Project # Silverdale 13 Provost Road Pipe Replacement Cost:	Yes							3,100	3,100

**Table 3.3-7. Kitsap County Capital Facilities Projects and Financing for Preferred Alternative 2012-2025
(All Amounts Times \$1,000) (continued)**

Project and Cost/Revenue (thousands \$)	Capacity Project (Yes/No)	2013	2014	2015	2016	2017	2018	2019-2025	Total
Project # Silverdale 14 LS-4 Forcemain Replacement Cost:	Yes							6,700	6,700
Project # Silverdale 15 Fredrickson Road NW Pipe Replacement Cost:	Yes							1,100	1,100
Project # Silverdale 16 Upper Anderson Hill Road Pipe Replacement Cost:	Yes							1,500	1,500
Project # Silverdale 17 LS-22 Forcemain Replacement Cost:	Yes							600	600
Project # Silverdale 18 New Small and Medium Sized Pump Stations Cost:	Yes							24,570	24,570
Project # Silverdale 19 New Forcemains and Gravity Sewers Cost:	Yes							46,800	46,800
Central Kitsap Treatment Plant									
Project # CKTP-1 CKTP Reclamation/Reuse Cost:	Yes	3,900	17,550	17,550					39,000
Project # CKTP-2 CKTP Primary Sed. Tanks Cost:	Yes	1,575	1,575	6,300	6,300				15,750
Project #CKTP-3 CKTP Secondary Clarifiers Cost:	Yes					978	978	7,826	9,782
Project # CKTP-4 Reclaimed Water Filters Cost:	Yes							21,439	21,439
Project # CKTP-5 Existing Digester Improve. Cost:	Yes							23,311	23,311
Project # CKTP-6 New Admin. Building Cost:	No							3,822	3,822
Project # CKTP-7 Laboratory Expansion Cost:	No							2,504	2,504
Project # CKTP-8 Storage and Main Bldg. Cost	No							2,960	2,960

**Table 3.3-7. Kitsap County Capital Facilities Projects and Financing for Preferred Alternative 2012-2025
(All Amounts Times \$1,000) (continued)**

Project and Cost/Revenue (thousands \$)	Capacity Project (Yes/No)	2013	2014	2015	2016	2017	2018	2019-2025	Total
Keyport Service Area									
Project # Keyport-1 PS16/67 Upgrades	Yes								
Cost:			241	481	2,044	2,044			4,810
Project # Keyport-2 Lemolo Pipeline Replacement	Yes								
Cost:								7,920	7,920
Kingston Service Area									
Project # Kingston-1 LS-41 Upgrade	Yes								
Cost		30	60	343	342				775
Project # Kingston-2 LS-71 Upgrade	Yes								
Cost		16	32	183	183				414
Project # Kingston-3 Flow Meter Vaults	Yes								
Cost				7	15	84	84		190
Project # Kingston-4 Miscellaneous Maintenance Projects	No								
Cost		45							45
Project # Kingston-5 LS-71 Pipe Replacement	Yes								
Cost:		2	3	19	19				43
Project # Kingston-10 WWTP Reclaimed Water	No								
Cost:		250	250						500
Project # Kingston-6 New Arborwood PS	Yes								
Cost								913	913
Project # Kingston-7 New Small Pump Stations	Yes								
Cost								3,213	3,213
Project # Kingston-8 New Force Mains	Yes								
Cost								3,657	3,657
Project # Kingston-9 New Gravity Collectors	Yes								
Cost:								14,116	14,116
Suquamish Service Area									
Project # Suquamish 1 Prospect and Division Sewer Basin Improvements	Yes								
Cost:		2,000							2,000

**Table 3.3-7. Kitsap County Capital Facilities Projects and Financing for Preferred Alternative 2012-2025
(All Amounts Times \$1,000) (continued)**

Project and Cost/Revenue (thousands \$)	Capacity Project (Yes/No)	2013	2014	2015	2016	2017	2018	2019-2025	Total
Project # Suquamish-2 Park and Center Sewer Basin Improvements	Yes								
Cost:		150	1,347						1,497
Project # Suquamish-3 Harris and Angeline Sewer Basin Improvements	Yes								
Cost:				305					305
Project # Suquamish-4 Beach Sewer Main	Yes								
Cost:								1,729	1,729
TOTAL COSTS BY ALTERNATIVE (2013-2025)									441,115

Source: Collection and conveyance estimates, BHC 2012; CKWWTP estimates, Brown and Caldwell, 2011; Suquamish estimates, RH2, 2012

^a Sanitary sewer capital projects in the Port Orchard UGA reflect information within the City of Port Orchard's most recent Comprehensive Sewer Plan, including annexations that have occurred since 2006."

Table 3.3-8. Sewer Cost Comparison by Alternative (Thousands \$)

UGA/Service Area ¹	Alternative 1	Preferred Alternative	Alternative 2	No Action
East Bremerton	8,185	16,648	16,648	16,648
West Bremerton	14,013	20,316	20,316	16,308
Gorst	100	100	100	100
Port Orchard (City)	12,930	12,930	12,930	12,930
Port Orchard (West Sound Utility District)	10,677	12,631	11,635	15,730
Poulsbo (City)	1,600 ²	1,600 ²	1,600 ²	1,600 ²
Central County Sewer Service Area				
Central Kitsap UGA (Conveyance)	86,635	95,825	98,915	109,040
Silverdale UGA (Conveyance)	103,175	120,370	133,700	145,900
Keyport LAMIRD (Conveyance)	12,730	12,730	12,730	12,730
Central Kitsap WWTP	113,422	118,568 ¹	113,422	113,422
Kingston				
Kingston Conveyance and WWTP	9,666	23,866 ³	12,552	19,758
TOTAL	373,633	435,584	435,048	464,666

Source: Kitsap County, 2012

¹ Excludes Suquamish area facilities though these are addressed in Table 3.3-6. Suquamish facilities would be added to each alternative at a cost of \$5,531.

² Rounded up from \$1,599.

³ Higher cost for Preferred Alternative reflects additional capacity and collection system projects that were identified since the Draft SEIS was completed. The differences are in three areas generally: 1) the required Arborwood sewer projects in the approved development agreement are added in Kingston, 2) some Central Kitsap pump stations have been advancing through design and have more refined costs; and 3) the CKWWTP estimates are more refined.

3.3.9. Water Supply

Table 3.3-9 shows the analysis of water consumption by alternative. The population estimate for each alternative was divided by the average household size for various jurisdictions. This figure was then multiplied by the average water consumption per household of 356 gallons to get the estimated water consumption by alternative.

The Preferred Alternative would concentrate growth within a smaller UGA compared to Alternative 2, but there would be more population. Thus water consumption is expected to be greater under the Preferred Alternative as compared to Alternative 2, though less than the No Action Alternative. For example, the Preferred Alternative is projected to consume 0.08 mgd and 0.06 mgd more water than Alternative 2 for Kitsap County as a whole, and the incorporated and unincorporated areas, respectively.

Table 3.3-9. Water Consumption per Alternative

Jurisdiction	Household Size	Water Consumption (mgd)			No Action Alternative
		Alternative 1	Preferred Alternative	Alternative 2	
Kitsap County	2.49	4.68	5.34	5.28	7.09
Unincorporated Kitsap County	2.58	4.51	5.16	5.10	6.85
Incorporated Kitsap County	2.32	5.02	5.73	5.67	7.61
Bainbridge Island	2.41	4.83	5.52	5.46	7.33
Bremerton	2.24	5.20	5.94	5.87	7.88
Port Orchard	2.43	4.79	5.47	5.41	7.27
Poulsbo	2.30	5.06	5.78	5.72	7.68

Source: OFM 2011 and Parametrix 2012.

3.3.10. Energy and Telecommunications

The Preferred Alternative is nearly identical to Alternative 2 in terms of population and would have moderate population growth in the studied UGAs (37,369 net increase in population in the eight UGAs, about 435 in population greater than Alternative 2). Though greater in UGA territory and population than Alternative 1, the Preferred Alternative would have less demand than the No Action Alternative. Growth would occur in a more compact geography than the No Action Alternative and Alternative 2, and may be more efficient to serve.

3.3.11. Library

As population increases, both within UGAs and at a countywide level, so too will the demand for library resources and services. Existing facilities may have to be expanded or new facilities may have to be built. Additional staffing, library materials, technological resources, and other services could be required to meet growing demand. Areas where proportionally higher new population growth would occur could experience higher localized demand for additional library resources.

While not a standard formally used by the Regional Library, per capita circulation is a measure of service that is tracked at the state level and can be calculated for the County and study UGAs. Per capita demand for library square footage can also be calculated. However, since library services have been changing to focus on all formats – digital, as well as bound – it is not clear that the same square footage per capita would be needed for the future population.

The Preferred Alternative would have a similar but slightly greater demand as Alternative 2 in terms of both per capita circulation demand and demand for library space at a countywide level. See Table 3.3-10.

Table 3.3-10. Demand for Library Services by Alternative

	2010	Alternative 1	Alternative 2	Preferred Alternative	No Action Alternative
Countywide Population	251,133	324,807	329,037	329,473	341,743
Study UGA: Population Net Increase		32,704	36,934	37,369	49,610
Annual circulation per capita, countywide population, if circulation not increased	9.07	7.01	6.92	6.91	6.66
Increase in annual circulation, countywide, to meet 2010 circulation per capita		668,202	706,567	710,521	821,806
Increase in annual circulation, Study UGAs, to meet 2010 circulation per capita		296,614	334,980	338,926	449,948
Square feet per capita, countywide population, if square footage not increased	0.354	0.274	0.270	0.270	0.260
Potential countywide demand for library space		26,101	27,599	27,754	32,100
Offset of countywide demand with planned facilities		19,311	20,809	20,964	25,310
Potential demand for library space in Study UGAs		11,586	13,085	13,239	17,575
Offset of UGA demand with planned facilities		4,796	6,295	6,449	10,785

Source: BERK 2012

Based on individual UGA growth, the Preferred Alternative would have a greater demand for library services in Downtown Bremerton than other studied alternatives, but still a fraction of the annual patron count. East Bremerton would add demand to the Sylvan Way Library similar to Alternative 1. Other locales would be similar to Alternative 2. See Table 3.3-11.

Table 3.3-11. Library Facilities and Proximity of Study UGA Net Population Increases

Current Library Facilities in Study UGAs	Annual Patron Count	Local UGAs Served	UGA Net Population Increase			
			Alternative 1	Alternative 2	Preferred Alternative	No Action Alternative
Kingston	57,782	Kingston	2,640	2,844	2,821	3,657
Silverdale	161,328	Silverdale	8,424	8,420	7,768	11,416
Downtown Bremerton	62,140	West Bremerton	1,295	1,872	2,082	1,730
Sylvan Way – Library (East Bremerton)	224,824	Central Kitsap, East Bremerton	8,618	7,642	8,517	10,169
Port Orchard	197,814	Gorst, Port Orchard, ULID6	11,726	16,157	16,181	22,638
Total	703,888	--	32,704	36,934	37,369	49,610

Source: Pers com Whitford; BERK 2012

