

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

