



2012 Utility Rate Study Preliminary Results

City Council Public Works Committee
Work Session September 4, 2012



City of
Bellingham



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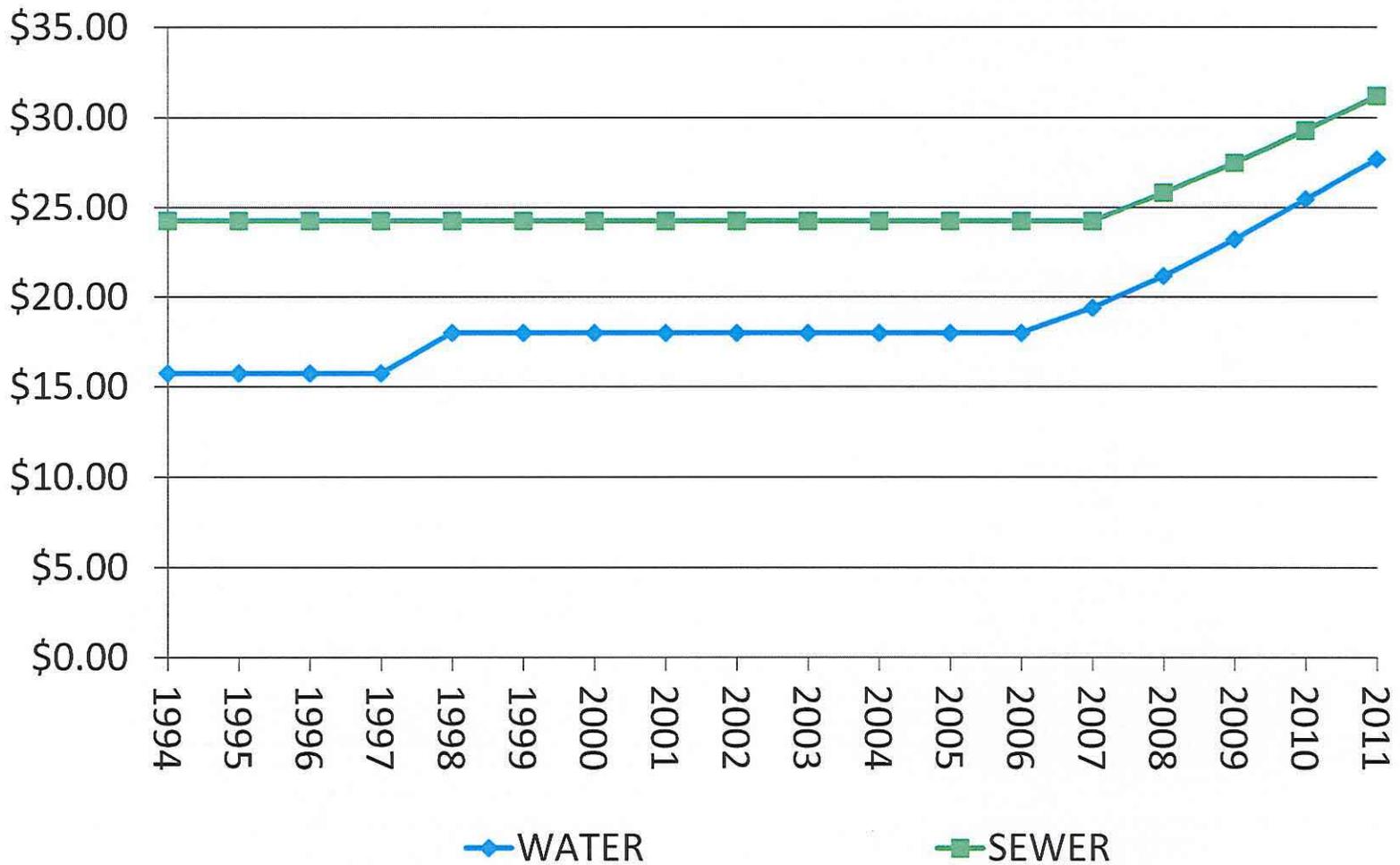
Agenda

- Background
- Summary of Special Issues
- System Development Charges (SDC)
 - Updated Charges
 - Options for Encouraging Targeted Redevelopment
- Forecast Assumptions and Results
- Cost Allocation
- Water Rate Structure
- Sewer Rate Structure
- Summary of Recommendations/Next Steps

Background – Historical Impacts

- Last rate studies: Water (2007) & Sewer (2008)
- Historical models emphasized development revenue; \$9M shortfall resulting from slow growth in recent years
- No Utility Rate Increases: 1997-2008

City of Bellingham – Utility Rates By Year



Background – Current Challenges

- Improved customer conservation = continuing reductions in average water use
- Mandatory metering project (Water)
- Limited reserves – insufficient contingency funding and minimum debt coverage
- New or expanding water quality measures (Lake Whatcom)
- Ongoing utility system operation and maintenance needs
- Continuing capital improvements

Water Quality Measures

- New Invasive Species Program – dedicated funding for program staff; program plans underway
- Watershed Land Acquisition – purchase of 1921.7 acres through 2012 (1436 outright; 164 with other agencies, and 321.7 pending)
- Outreach & Education Programs
- New Water Quality Projects starting in 2013 (Stormwater)
 - Pre Treatment
 - Homeowner Incentives
 - Easements & Improvements
 - Property Acquisition; Develop Stormwater Facilities (discussing possible joint programs with other state agencies)

Summary of Special Issues

- Review of fire protection costs (Water)
 - Removed from rates as required by *Lane v. Seattle*
- Update of rates for untreated water (Water)
- Shift of individually metered condos from non-single-family to single-family rates
- Policy change regarding credit card use
- Consideration of potential policy revisions:
 - Expansion of reduced-rate program
 - Conversion to monthly billing

System Development Charge (SDC) Update

- SDCs are a one-time charge intended to recover an equitable share of system costs from new development and redevelopment

Calculation Method	What Does Growth Pay For?
<u>Average Cost</u> <i>(Basis for Current Water and Stormwater SDCs)</i>	<ul style="list-style-type: none">• Blended average of existing asset and future capital project costs
<u>Growth Pays For Growth</u> <i>(Basis for Current Sewer SDC)</i>	<ul style="list-style-type: none">• Proportionate share of existing asset costs• Future project costs attributed to growth

SDC Update

SDC per ERU	Existing	Updated	Recommended	
			Alternative A	Alternative B
Water	\$ 3,110	\$ 5,213	\$ 5,213	\$ 5,213
Watershed	576	878	878	878
Sewer	7,637	9,155	4,879	7,637
Stormwater	678	1,251	1,251	1,251
Total	\$12,001	\$16,497	\$12,221	\$14,979

Recommendation: Use the average-cost method to calculate sewer SDCs, for simplicity and consistency with water and stormwater SDCs

- Alternative A: Direct transition to average-cost methodology
- Alternative B: Phased implementation; retain existing charge and use average-cost method to justify future increases

Special Issues: SDCs

- Question: How can the City use its SDC structure to encourage infill development, particularly downtown?
- The City has two primary options:
 - Offer robust credits for prior development
 - Develop a “tool kit” of options for redevelopment within designated areas

Credits for Prior Development

- If prior use is commercial/industrial,
 - Waive 3-year vacancy limit
 - SDC credit based on historical payment
 - Net SDC based on meter equivalents or estimated demand, whichever is less
- Recognizes actual benefits to the City
- Need to compute credits on a parcel-specific basis increases administrative complexity

“Tool Kit” of Redevelopment Options

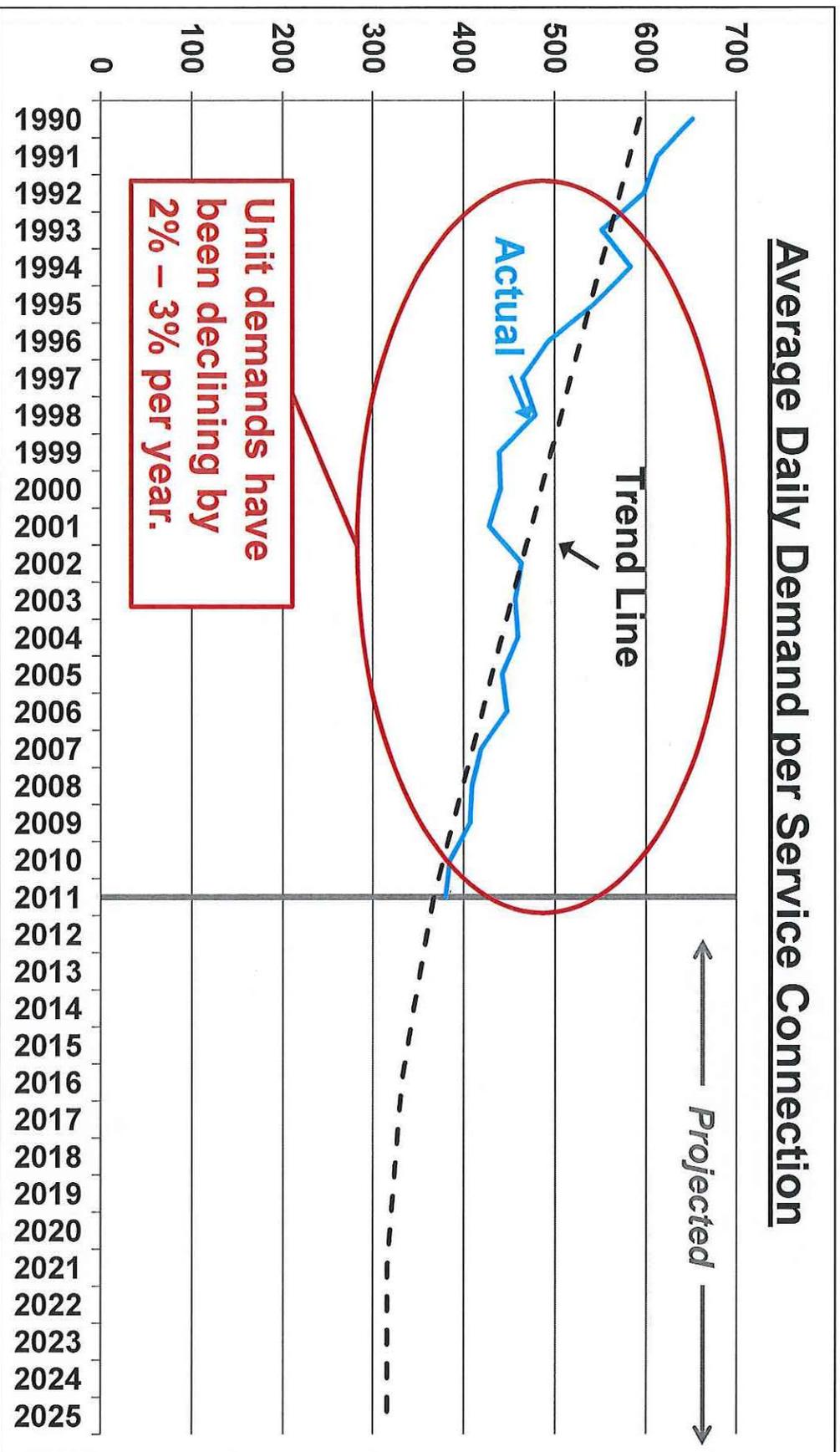
Initial “Tool Kit”	Potential Future Additions <i>(Would Require Further Study)</i>
<ul style="list-style-type: none">• Deferral plus surcharge<ul style="list-style-type: none">– Surcharge based on amortization of SDC over a specified period (e.g. 10 years)– Low interest rate based on utility’s average cost of debt or City’s investment earnings rate• General Fund payment of SDC<ul style="list-style-type: none">– Would require case-by-case Council authorization– Would be based on anticipated future benefit to General Fund (e.g. tax revenues)	<ul style="list-style-type: none">• SDC distinction based on relative expansion requirements<ul style="list-style-type: none">– Area-specific SDCs based on location/benefit of capital projects– Would require justification through cost-based analysis• SDC distinction based on reduction in demand over time<ul style="list-style-type: none">– Intends to recognize demand reductions from redevelopment– Would require sub-area study focusing on relative demands

Forecast Assumptions

Policy/Topic	Assumption(s)
Reserve Funding	<ul style="list-style-type: none">• New operating reserve policy – 60 days ($\approx 16\%$) of budgeted operating expenses• Rate stabilization reserve – phase-in to 50% of annual debt service by 2016
System Reinvestment	<ul style="list-style-type: none">• Cash funding of depreciation phased to 50% of depreciation expense by 2017
Growth	<ul style="list-style-type: none">• SFR: 0.7% – 1.3% per year plus annexations• Non-SFR: 1.3% – 2.3% per year• No out-of-city growth
Water Demand	<ul style="list-style-type: none">• Per capita water use declines by 2% per year through 2016, and 1% per year in 2017 and 2018
Metering Program	<ul style="list-style-type: none">• Completed by end of 2016

Water Demand History

Average Daily Demand per Service Connection



Forecast Assumptions: Capital & Debt

Projected Capital Costs (\$ Millions)	2012	2013	2014	2015	2016	2017	2018	2012 - 2018 Total
Water	\$11.7	\$2.7	\$6.9	\$13.5	\$4.4	\$5.3	\$21.8	\$66.3
Sewer	\$18.5	\$34.1	\$8.6	\$8.6	\$17.8	\$3.4	\$8.3	\$99.3

Net Debt Proceeds Needed (\$ Millions)	2012	2013	2014	2015	2016	2017	2018	2012 - 2018 Total
Water	\$0.0	\$0.0	\$0.0	\$11.6	\$0.0	\$0.0	\$23.9	\$35.5
Sewer	\$0.0	\$13.0	\$0.0	\$17.5	\$0.0	\$0.0	\$1.7	\$32.2
Combined Debt Service Coverage	2.37	2.48	2.90	3.29	2.15	2.54	3.21	

Forecast Results: Overall Rate Revenue Increases

Water	2013	2014	2015	2016	2017	2018
Baseline	9.0%	8.0%	8.0%	8.0%	6.0%	6.0%
Alternate	9.0%	9.0%	8.0%	8.0%	6.0%	6.0%

Sewer	2013	2014	2015	2016	2017	2018
Baseline	6.5%	8.0%	7.0%	7.0%	6.0%	4.0%
Alternate	6.5%	8.0%	8.0%	7.0%	5.0%	4.0%

“Baseline” scenario includes expansion of reduced-rate program

“Alternate” scenario also includes conversion to monthly billing

Cost Allocation

- Allocation to functions
 - Customer service (e.g. billing)
 - Demand/Flow (average, peak)
 - Strength (sewer only)
 - Fire Protection (water only)
- Allocation to customer classes
 - Based on relative demands
 - May shift cost burden between classes

Water Rate Structure Revisions

- Reflects cost of service, phased over 3 years
- Introduction of “transitional” SFR class
 - Mitigate customer impacts and revenue volatility
 - Target: 65% of revenue through fixed charges
 - Merges with metered SFR class in 2016
- Separate class for water districts
 - Currently combined with single-family
 - Unique usage patterns warrant a separate class
- Untreated water rates set to 80% of non-residential water rates

Recommended Water Rates

Single-Family & Water District Rates	2012	2013	2014	2015	2016	2017	2018
System-Wide Rate Revenue Increase		9.0%	8.0%	8.0%	8.0%	6.0%	6.0%
Unmetered Single-Family Residential							
Overall Rate Revenue Increase		9.0%	8.0%	8.0%	8.0%		
Monthly Flat Rate:							
Single-Family Residence	\$29.96	\$32.66	\$35.27	\$38.09	\$41.14		
Unmetered Duplex	\$59.92	\$65.31	\$70.54	\$76.18	\$82.28		
Transitional Single-Family Residential							
Overall Rate Revenue Increase		13.2%	10.7%	10.8%			
Monthly Fixed Rate - 5/8" Meter		\$16.33	\$17.90	\$19.35	Combined With Metered Single-Family Residential Rate Structure		
Volume Rate per ccf		\$1.27	\$1.42	\$1.64			
Metered Single-Family Residential							
Overall Rate Revenue Increase		8.7%	6.4%	6.4%	15.9%	5.5%	6.1%
Monthly Fixed Rate - 5/8" Meter	\$11.61	\$13.10	\$14.21	\$15.42	\$19.35	\$20.33	\$21.46
Volume Rate per ccf	\$1.53	\$1.58	\$1.63	\$1.67	\$1.72	\$1.82	\$1.94
Water Districts							
Overall Rate Revenue Increase		39.1%	31.8%	28.2%	8.5%	6.7%	6.5%
Monthly Fixed Rate - 5/8" Meter	\$11.61	\$13.10	\$14.21	\$15.42	\$19.35	\$20.33	\$21.46
Volume Rate per ccf	\$1.53	\$2.18	\$2.94	\$3.82	\$4.10	\$4.38	\$4.67

Recommended Water Rates

Non-Single-Family Rates	2012	2013	2014	2015	2016	2017	2018
System-Wide Rate Revenue Increase		9.0%	8.0%	8.0%	8.0%	6.0%	6.0%
Non-Residential							
Overall Rate Revenue Increase		7.2%	5.8%	5.8%	7.6%	6.2%	6.1%
Monthly Fixed Rate - 5/8" Meter	\$19.51	\$21.00	\$21.75	\$22.39	\$25.56	\$28.32	\$30.86
Volume Rate per ccf	\$1.53	\$1.63	\$1.77	\$1.93	\$1.94	\$1.94	\$1.97
Irrigation							
Overall Rate Revenue Increase		3.6%	1.8%	1.5%	7.3%	6.0%	6.2%
Monthly Fixed Rate - 5/8" Meter	\$19.51	\$21.00	\$21.75	\$22.39	\$25.56	\$28.32	\$30.86
Volume Rate per ccf	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.30	\$2.35
Untreated Industrial Water							
Overall Rate Revenue Increase		-50.9%	6.7%	6.9%	5.0%	4.0%	4.6%
Monthly Fixed Rate - 12" Meter	\$13,359.00	\$2,436.59	\$2,523.29	\$2,597.54	\$2,964.92	\$3,285.93	\$3,580.70
Volume Rate per ccf:		\$1.30	\$1.42	\$1.54	\$1.55	\$1.55	\$1.58
0 - 296,000 ccf per Month	\$0.070						
> 296,000 ccf per Month	\$0.756						

Sewer Rate Structure Revisions

- Reflects cost of service, phased over 3 years
- Creation of “domestic-strength” class:
 - Merges single-family, multiple dwelling units, and commercial customers into one class
 - Single-family only pays fixed rate
- Higher strength classes for SIUs
 - Classes based on average concentrations of biochemical oxygen demand (BOD) and suspended solids (SS)
 - Medium-strength: BOD and SS < 500 mg/L
 - High-strength: BOD or SS \geq 500 mg/L
 - Potential to expand classes to include non-SIU commercial customers (e.g. restaurants, Laundromats)

Recommended Sewer Rates

Sewer Rate Structure	2012	2013	2014	2015	2016	2017	2018
System-Wide Rate Revenue Increase		6.5%	8.0%	7.0%	7.0%	6.0%	4.0%
Single-Family Residential							
Overall Rate Revenue Increase		2.2%	3.3%	6.2%	6.0%	5.5%	3.6%
Monthly Flat Rate:							
Single-Family Residence	\$33.23	\$33.97	\$35.07	\$37.24	\$39.47	\$41.66	\$43.16
Unmetered Duplex	\$66.46	\$67.94	\$70.15	\$74.48	\$78.95	\$83.32	\$86.31
Multiple Dwelling Units							
Overall Rate Revenue Increase		13.4%	11.6%	6.8%	8.1%	6.5%	4.4%
Monthly Fixed Rate	\$33.23	\$33.97	\$35.07	\$37.24	\$39.47	\$41.66	\$43.16
Volume Rate per ccf (> 8 ccf per Month)	\$3.49	\$4.09	\$4.66	\$4.99	\$5.43	\$5.80	\$6.07
Domestic-Strength Non-Residential							
Overall Rate Revenue Increase		5.1%	11.3%	6.8%	8.0%	6.5%	4.4%
Monthly Fixed Rate	\$33.97	\$33.97	\$35.07	\$37.24	\$39.47	\$41.66	\$43.16
Volume Rate per ccf (> 8 ccf per Month)	\$3.82	\$4.09	\$4.66	\$4.99	\$5.43	\$5.80	\$6.07
Medium-Strength Non-Residential							
Overall Rate Revenue Increase		67.2%	13.4%	7.1%	8.6%	6.7%	4.6%
Monthly Fixed Rate	\$19.60	\$33.97	\$35.07	\$37.24	\$39.47	\$41.66	\$43.16
Volume Rate per ccf (> 8 ccf per Month)	\$2.45	\$4.09	\$4.66	\$4.99	\$5.43	\$5.80	\$6.07
High-Strength Non-Residential							
Overall Rate Revenue Increase		66.8%	48.9%	28.5%	7.8%	6.4%	4.6%
Monthly Fixed Rate	\$19.60	\$33.97	\$44.35	\$56.84	\$59.84	\$62.97	\$65.23
Volume Rate per ccf (> 8 ccf per Month)	\$2.45	\$4.09	\$6.09	\$7.83	\$8.44	\$8.98	\$9.40

Water & Sewer Rate Comparison (Monthly – Billed at 8 CCF)

Jurisdiction	Water	Sewer	Tax	Total
Blaine	\$21.46	\$99.00	\$10.84	\$131.30
Lake Whatcom Water & Sewer District	\$47.67	\$65.66	(N/A)	\$113.32
Ferndale	\$32.17	\$52.06	\$5.47	\$89.69
Lynden	\$30.58	\$44.27	\$6.36	\$81.21
AVERAGE	\$25.50	\$50.34	\$5.19	\$81.03
Nooksack	\$30.25	\$45.22	\$4.53	\$80.00
<i>Bellingham (Unmetered, Proposed 2013)*</i>	\$32.66	\$33.97	\$9.87	\$76.50
Everson	\$25.56	\$43.00	\$4.11	\$72.67
<i>Bellingham (Unmetered, Existing)*</i>	\$29.96	\$33.23	\$9.29	\$72.48
Sumas	\$10.96	\$53.94	\$5.84	\$70.74
<i>Bellingham (Metered, Proposed 2013)*</i>	\$25.74	\$33.97	\$8.60	\$68.31
<i>Bellingham (Metered, Existing)*</i>	\$23.85	\$33.23	\$8.17	\$65.25
Birch Bay Water & Sewer District	\$24.90	\$30.20	(N/A)	\$55.10

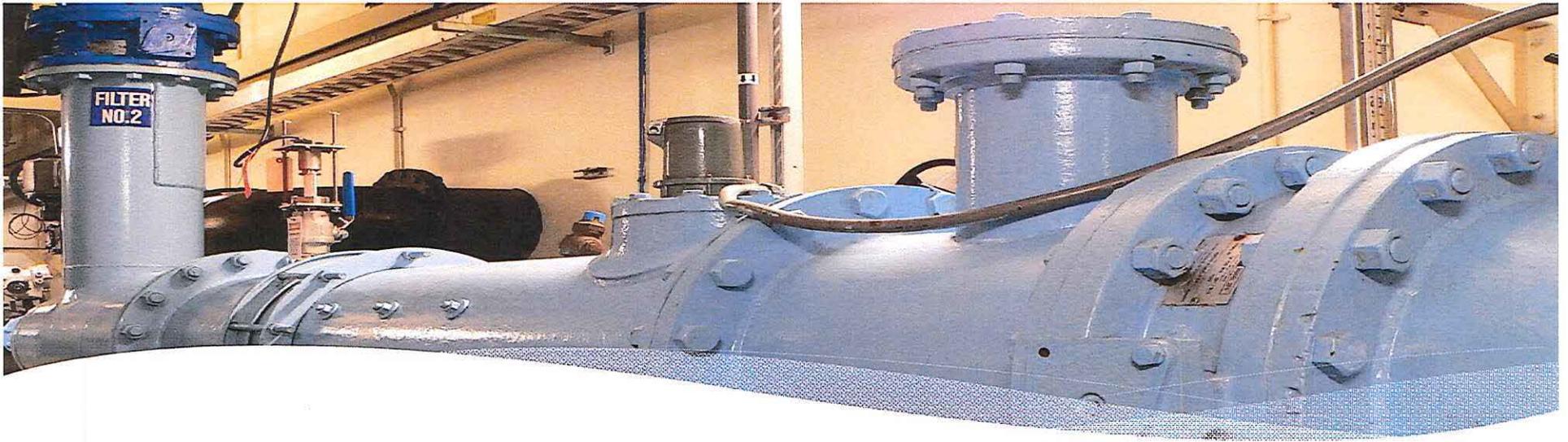
**Excludes watershed surcharges*

Summary of Recommendations

- Adopt proposed water, sewer, and stormwater SDCs, which reflect:
 - Updated costs and growth estimates
 - Conversion to a consistent method for all utilities
- Adopt proposed water and sewer rates, which reflect:
 - Proposed rate revenue increases
 - Revised customer class structure
 - Phased shifts of costs between customer classes
- Monitor utilities' financial status, and adjust strategy as needed

Next Steps

- Discuss remaining topics:
 - Potential wholesale water rates
 - Rates for Lake Whatcom Water & Sewer District



2012 Utility Rate Study

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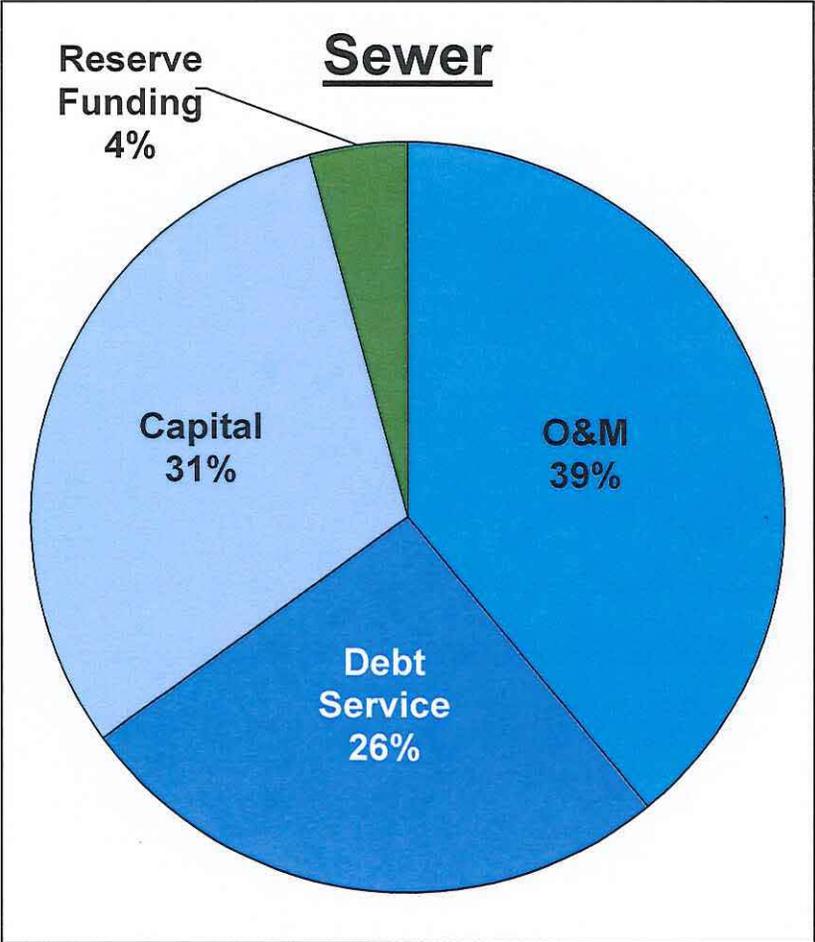
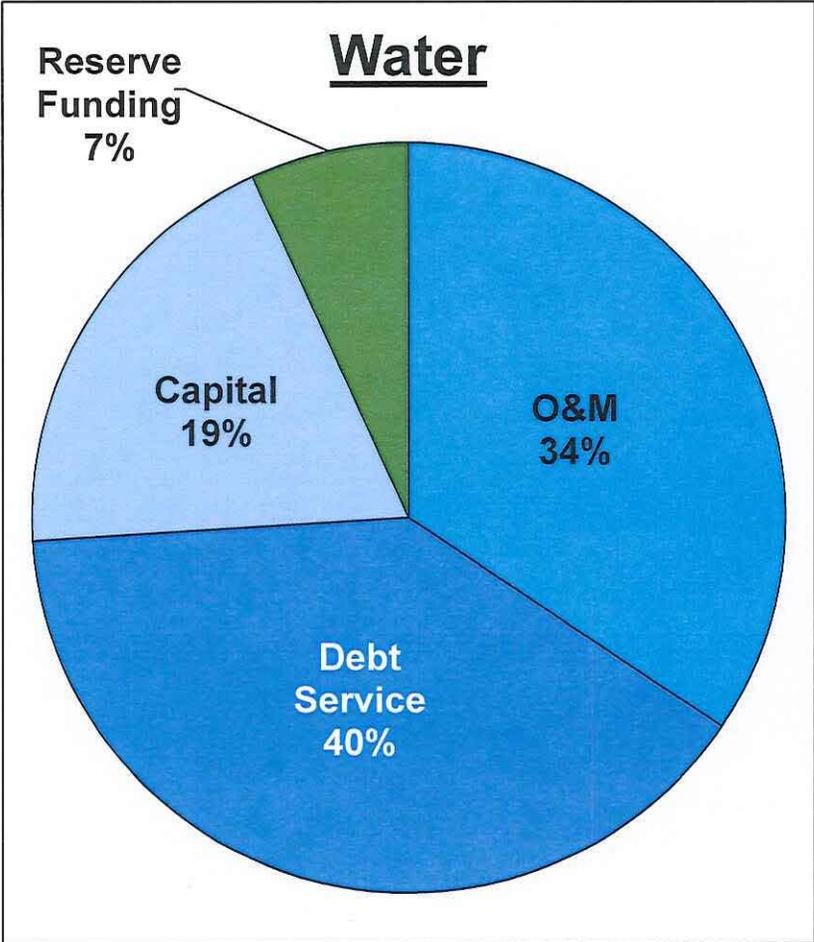
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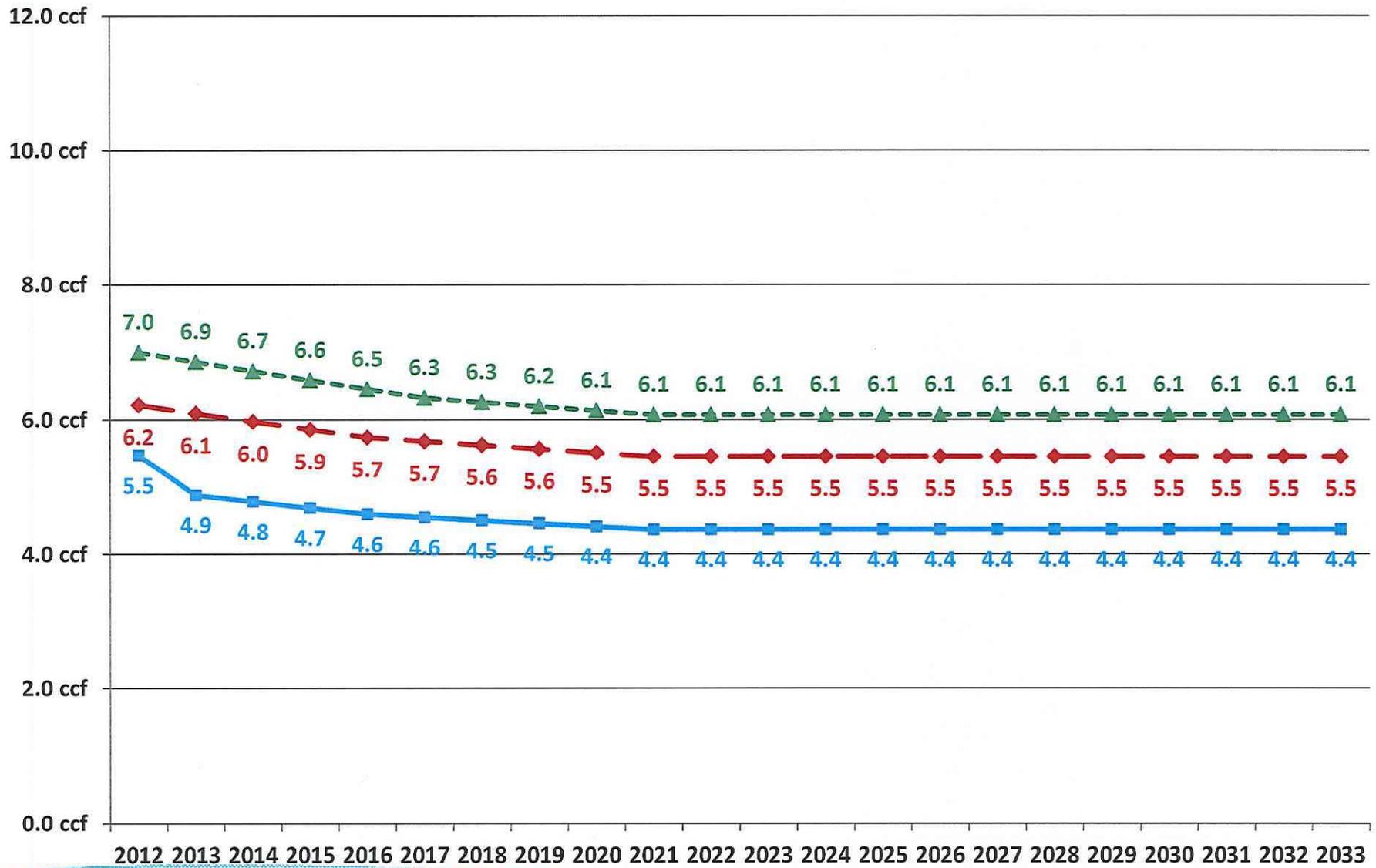
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Optional Slides

Cost Components of Planned Rate Increases



Forecasted Average Monthly Demand Per Meter Equivalent



—▲— Transitional SFR

—■— Metered SFR - Inside City

—◆— Metered SFR - Outside City

Economics of Conservation

■ Energy Policy Act of 1992

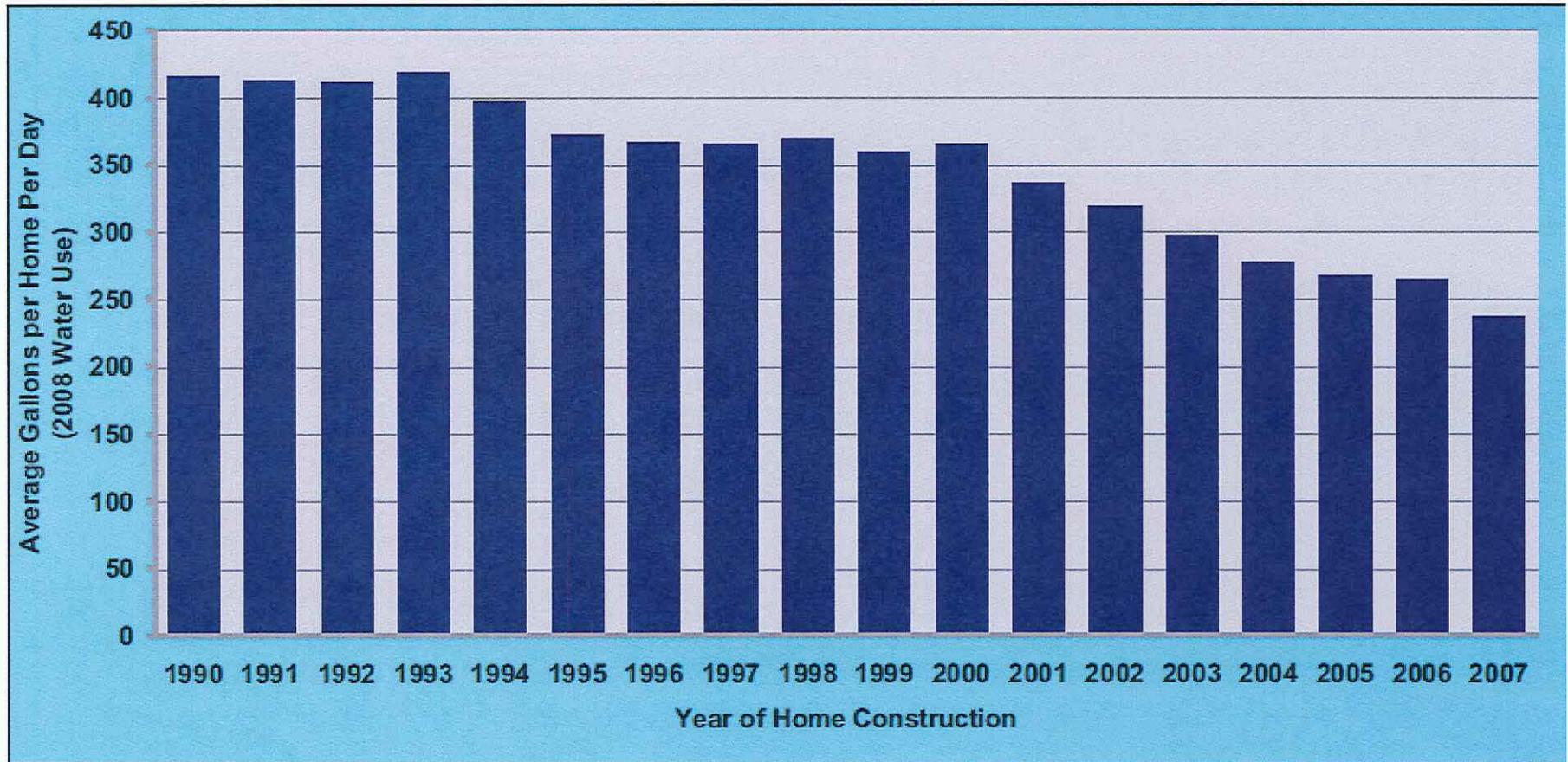
- ✓ Effective in 1994 (1997 for toilets)
- ✓ A family living in a house built after 1994 uses 10-13 fewer gallons per day than the identical family in an older house ("North American Residential Water Usage Trends Since 1992," Table 5.3)



■ New Technology (i.e., LEED standards)

- ✓ New buildings can utilize 70-82% less water
- ✓ And 40-46% less energy than older buildings

Correlation Between Year of Construction and Water Use Demands



2009 Study from Phoenix, Arizona