Council Meeting: 09/01/2010
Agenda: Unfinished Business
Item #: 10. a.

CITY OF KIRKLAND
Public Works Department
123 Fifth Avenue, Kirkland, WA 98033 425.587-3833
www.ci.kirkland.wa.us

MEMORANDUM

To: Kurt Triplett, City Manager

From: Ray Steiger, P.E., Interim Public Works Director

Date: August 26, 2010

Subject: Utility Rate Discussion III

RECOMMENDATION:

City Council considers proposed rates for enterprise utilities and provides direction to staff.

BACKGROUND DISCUSSION:

On July 20, and August 3, 2010 Council discussed the preliminary proposed 2011/2012 utility rates for water, wastewater, surface water and solid waste. A number of issues were identified and policies reviewed during those meetings. This memo includes follow-up material that was requested by the Council during their August 3 meeting.

Included within this memo is a copy of a 2007 presentation by the City's consultant performing the majority of the most recent rate analyses (water/wastewater/surface water); the presentation outlines options for the City's reinvestment policies especially as they relate to depreciation (Attachment A). The same methodology for surface water is applicable; however the surface water utility is a much newer utility and has not reached the level of reinvestment recommended for water and wastewater. The solid waste rate does not include City depreciation funding as there are no City assets; Waste Management Inc does include it in their fees to the City however.

Using the methodology outlined in the 2007 report, a long term (50-year) look at the water utility concluded the following:

- Asset parameters:
  - ✓ 25-year useful life used for Meters/Services and Hydrants
  - ✓ 50-year useful life used for all other assets (consistent with City's depreciation schedule)
- $298.6 million in future reproduction costs over 50-year period
- Annual funding liability (reproduction costs) ranges from $2.2 million in 2007 to $12.3 million in 2055
- Annual funding of 1.22 times (1) annual depreciation expense achieves desired debt/cash funding ratio

(1) note: 1.22 is rounded to 1.25 for the water scenarios

And then various reinvestment (depreciation) scenarios were examined to bring about varying levels of available funding. The following options for water were looked at in the report (report page 11):

- **Option 1: Recommended funding**
  - ✓ 1.22 (rounded to 1.25) times annual original cost depreciation expense
  - ✓ 15.5% rate increase in 2008
  - ✓ 25% of capital debt-funded over the 50-year period
- **Option 2: Current City policy**
  - ✓ 1.0 times annual original cost depreciation expense
  - ✓ 12.0% rate increase in 2008
  - ✓ 38% of capital debt-funded over the 50-year period
- **Option 3: Phase-in to recommended funding**
  - ✓ 0.8 times annual depreciation expense in 2008, phased to 1.25 in 2013 and thereafter
  - ✓ 9.5% rate increase in 2008
  - ✓ 25% of capital debt-funded over the 50-year period

In the evaluations using these options, the following rate funding was established by the planning horizon (in this case 2055):

		2008	2009	2010	2011	2012	2013	2014	2015	2055
OPTION 1	Annual Rate Funding	$ 1,236,214	$ 1,359,231	$ 1,486,063	$ 1,613,641	$ 1,760,530	$ 1,913,150	$ 2,058,211	$ 2,208,677	$ 9,128,518
	Cumulative Rate Funding	$ 1,236,214	$ 2,595,445	$ 4,081,508	$ 5,695,149	$ 7,455,680	$ 9,368,829	$ 11,427,041	$ 13,635,718	$ 225,986,961
	Annual Rate Increase	15.50%	5.65%	3.32%	5.98%	1.76%	5.04%	0.99%	2.83%	1.70%
	Cumulative Increase [a]	26.47%	33.62%	38.06%	46.32%	48.89%	56.39%	57.95%	62.42%	363.01%
OPTION 2	Annual Rate Funding	$ 988,971	$ 1,087,385	$ 1,188,850	$ 1,290,913	$ 1,408,424	$ 1,530,520	$ 1,646,569	$ 1,766,942	$ 7,302,815
	Cumulative Rate Funding	$ 988,971	$ 2,076,356	$ 3,265,206	$ 4,556,119	$ 5,964,544	$ 7,495,063	$ 9,141,632	$ 10,908,574	$ 180,789,569
	Annual Rate Increase	12.00%	5.72%	3.53%	6.22%	1.85%	5.23%	1.12%	3.01%	1.75%
	Cumulative Increase [a]	22.64%	29.66%	34.23%	42.59%	45.23%	52.82%	54.54%	59.19%	373.50%
OPTION 3	Annual Rate Funding	$ 791,177	$ 924,277	$ 1,307,735	$ 1,420,004	$ 1,971,794	$ 1,913,150	$ 2,058,211	$ 2,208,677	$ 9,128,518
	Cumulative Rate Funding	$ 791,177	$ 1,715,454	$ 3,023,189	$ 4,443,194	$ 6,414,988	$ 8,328,138	$ 10,386,349	$ 12,595,026	$ 224,946,269
	Annual Rate Increase	9.50%	6.50%	6.50%	6.50%	6.50%	2.19%	1.16%	2.80%	1.70%
	Cumulative Increase [a]	19.90%	27.70%	36.00%	44.84%	54.25%	57.63%	59.46%	63.92%	363.01%

[a] Cumulative increase includes 2007 increase of 9.5%

Option 2 falls significantly short of the funding required. However, both Option 1 and Option 2 provided, in the long term, an equivalent amount of rate funding and an overall equivalent rate increase; Staff recommended and Council adopted Option 3 thereby deferring significant 2008 increase of Option 1 (15.5%) with the anticipated objective of increasing them over the following years. This gradual phase in to the recommended 1.25 level of depreciation for water is consistent with Staff's recommendation for the 2011/2012 water rates.

Similarly, the recommended wastewater rate increase in 2008 envisioned moving to the 1.65 level of depreciation recommended in the 2007 analysis – this somewhat deviates from the current Staff recommendation for the 2011/2012 wastewater rates primarily due to the large 2011 King County DNR increase.

Both of these long term depreciation evaluations envisioned periods of reserve accumulation, which is being experienced. During periods of significant capital improvements the reserves will be drawn down accordingly as shown in Table 1.

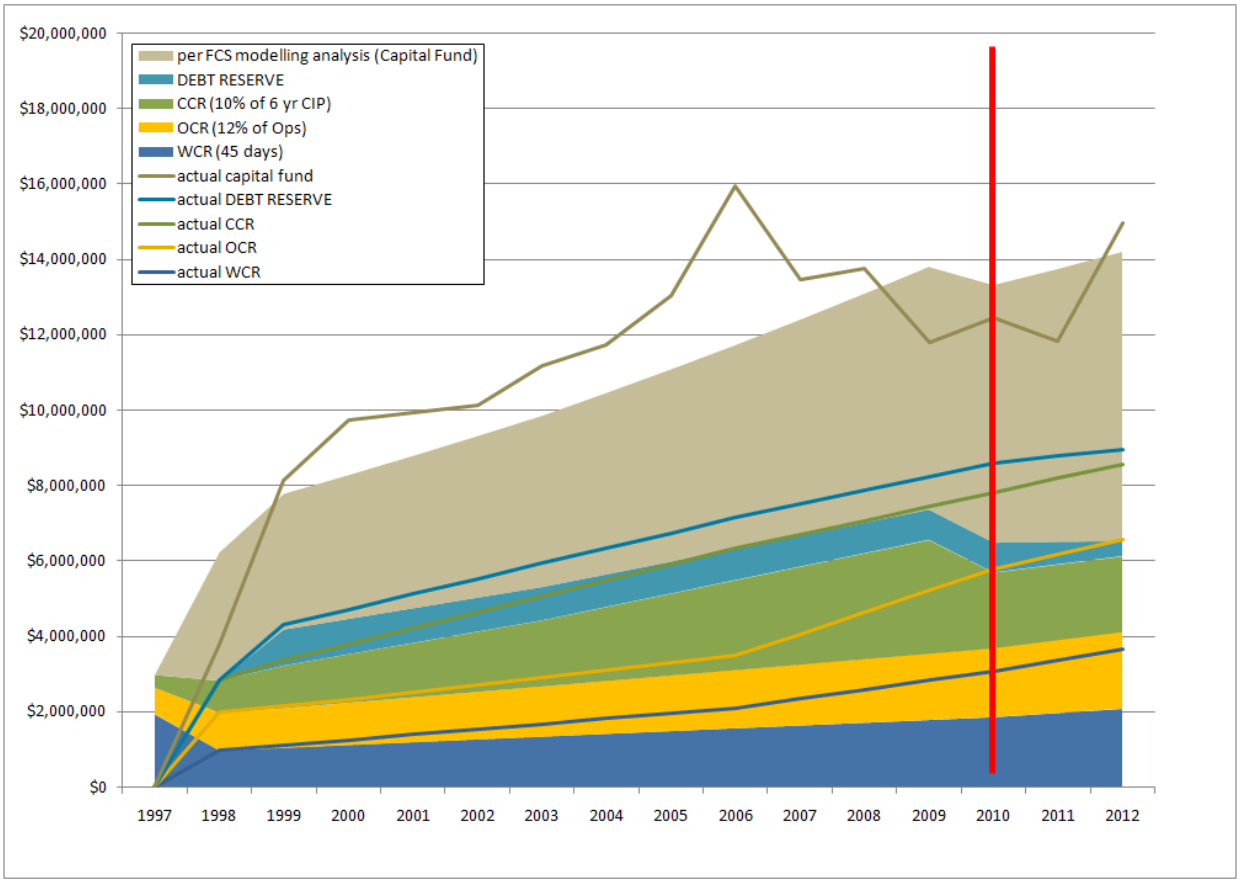


Table 4. Comparison of anticipated water/sewer reserves vs. actual over time

In contrast to the water/sewer utilities which have been in place for a significant number of years, the surface water utility for Kirkland was only established in the mid 1990's. During previous rate discussions with the Council, the level of depreciation for surface water has been questioned.

The reserves in the surface water utility at the end of 2010 are estimated to be approximately $9.4 million. The depreciation funding level is currently approximately 60% of the estimated full depreciation value, and Staff had originally proposed advancing this rate to approximately 86% by 2016 – the originally recommended 2011/2012 surface water rates incorporate this proposed increase. Whereas the water and sewer reserves are consistent with the City's long term reinvestment strategy targets, the surface water reserve is substantially above its established target. Council has asked for an analysis of the "sensitivity" of holding the depreciation level and perhaps utilizing some of the reserve balance to offset the rate increase.

In response to this, Staff has looked at the impact of deferring the increased depreciation rate until beyond 2012 when a better assessment of the surface water fund will be performed (this will included looking at the annexation area). Currently surface water capital improvements continue to be queued due to a number of permitting and other factors. Some of our significant proposed transportation projects utilize surface water funding as a component (NE 120th Street, 124th Ave NE)

and those transportation projects are in need of additional grant funding or impact fees in order to proceed – this prevents the expenditure of the surface water component also.

One alternative, delaying the increased depreciation amount for surface water, can reduce the rate increase to 3% for 2011 and 2012. Staff is recommending this reduced depreciation alternative:

Surface water rate	2010	2011 (original proposal)	2012 (original proposal)	2011 (revised proposal)	2012 (revised proposal)
Depreciation	--	55%	66%	48%	59%
Rate Increase	--	5.0 %	5.0 %	3.0 %	3.0 %
Monthly Rate (SF)	$14.15	$14.86	$15.60	$14.56	$14.99

This 3% alternative would reduce the reserve accumulation by approximately $300,000 however it would continue to preserve some level of depreciation funding. For comparison, if a 0% rate increase were implemented (not recommended), there would be almost no depreciation funding set-aside by the end of 2012; overall reserves would be reduced by nearly $1 million.

The remaining issues from the August 20, Council meeting are centered on the Solid Waste rates. During the original recommendations, Staff had proposed increasing the Solid Waste rate to accomplish two primary objectives (address two drivers):

- Rate Stabilization – in anticipation of future rate increases after the WMI contract expires in 2014; and
- Street preservation – a cost borne by the rate payers to address the incremental impact of heavily loaded garbage trucks on City streets; this was previously identified as one potential component of the overall street preservation program.

Recent direction to City Staff to begin negotiations with Waste Management Inc. on a new contract would suggest that implementing any anticipatory rates would be premature. Sentiment expressed at previous Council meetings indicated concern about current rate payers paying for potential "future" rate payer increases. Combined with the opportunity to negotiate favorable rates now instead of waiting to begin negotiations in 2013, it is apparent that a rate stabilization reserve would not be in our best interest at this time, and as such, Staff recommends against establishing the reserve and instead negotiating favorable rates to begin with.

And finally, with regards to the street preservation component of the proposed rate increase, this issue is consistent with the City's objectives of maintaining the infrastructure. Currently the City utilizes gas tax and various other designated revenues to address the street preservation of the roadway network. However, after considering the impacts of various utility projects: water, sewer, power/gas, and surface water directly on the street system, the City has implemented fees and charges levied on those utilities as a means of recovering their incremental impact on the roadway conditions. Traffic loading associated with garbage trucks is less immediate, and is manifest in greater design standards (needing additional pavement thickness) and with a more rapid degradation of the asphalt roadway. A fully loaded garbage truck on its weekly collection rounds degrades a roadway the equivalent of approximately 9000 car trips. Like other elements of the City's overall street preservation strategy, the element of charging garbage rate payers for hauling impacts is not a "silver bullet" solution to street preservation. As has been expressed in previous discussions, it does not take into account other heavy truck traffic, moving vans, or transit using the roadway network. It is however a component of the overall strategy and begins the process of

ascribing costs directly to users of the system. With its implementation, Staff would continue to pursue other components identified in the street preservation strategy. If you choose not to proceed with the street preservation fee, no rate increase would be required.

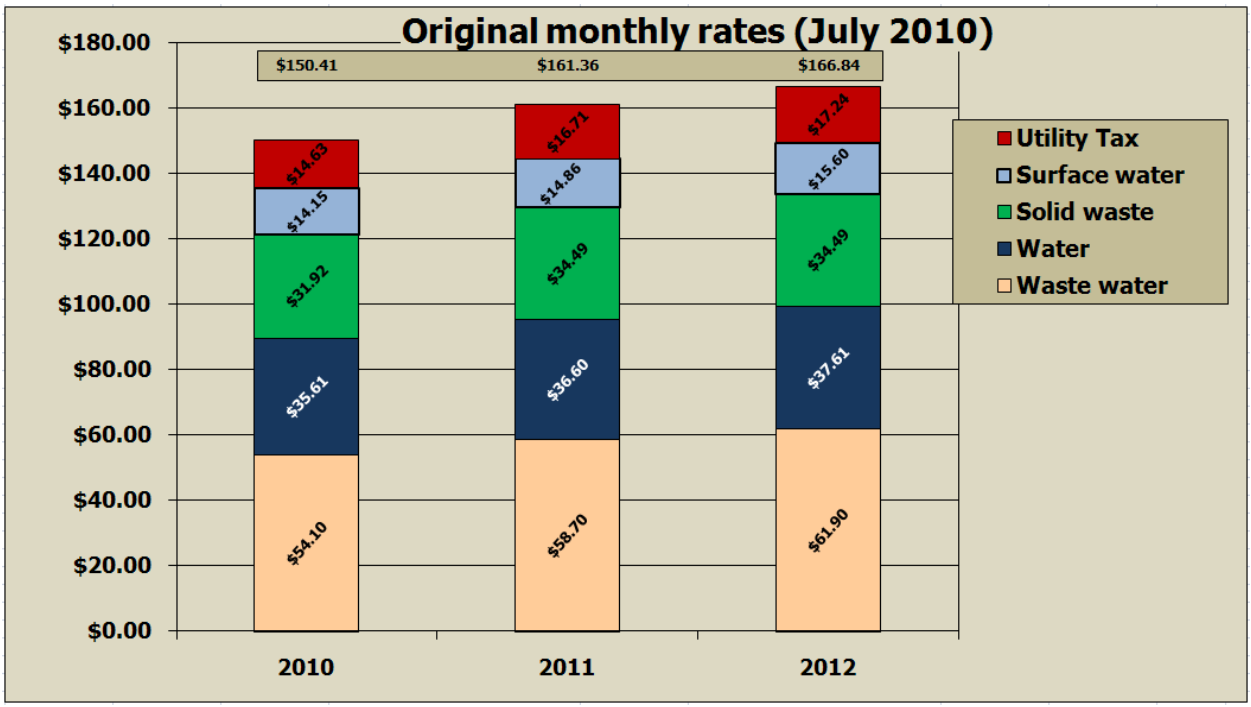
The impacts of the current staff recommendation on the solid waste rate are as follows:

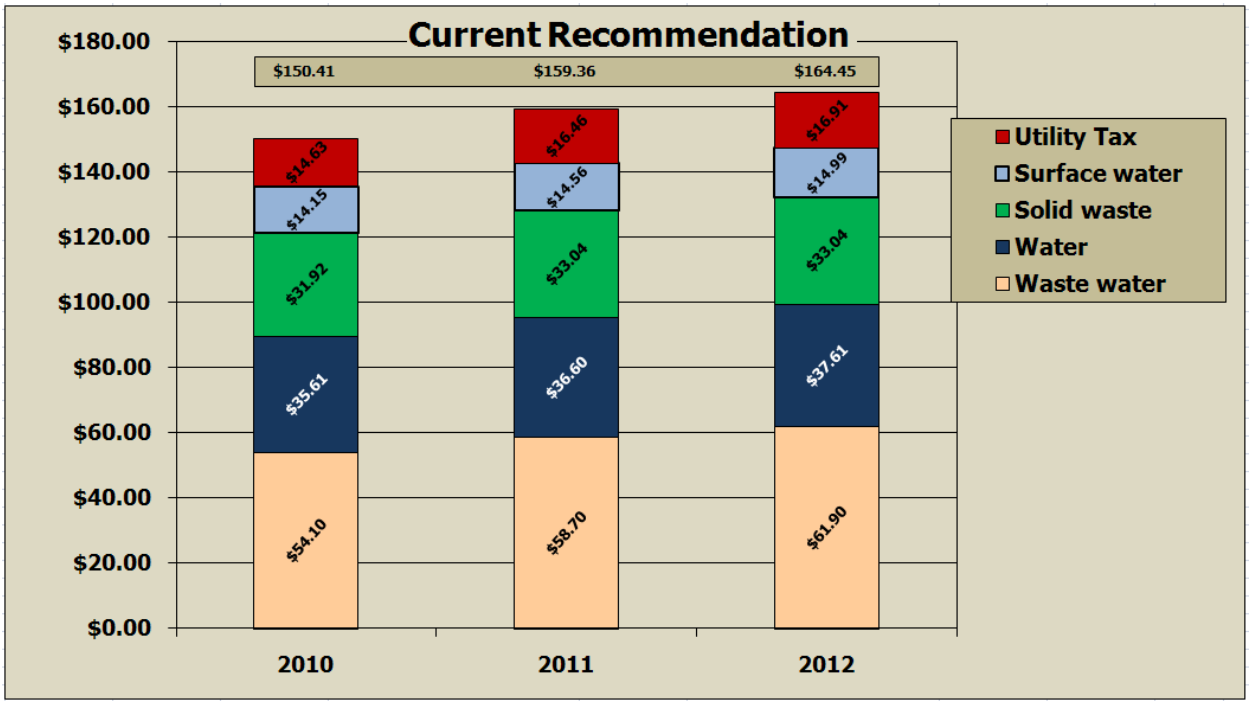
Solid Waste Rate	2010	2011 (original proposal)	2012 (original proposal)	2011 (revised proposal)	2012 (revised proposal)
Base rate adjustment	---	-0.86%	na	-0.86%	---
Rate increase for RSR	--	4.35%	na	---	---
Rate increase for SPF	---	4.50%	na	4.50%	---
Total Rate increase	---	7.99%	na	3.50%	tbd
Monthly Rate (SF)	$31.92	$34.49	na	$33.04	tbd

Thus incorporating previous utility rate decisions by the Council for water and sewer:

Water Rate	2010	2011 (Council accepted)	2012 (Council accepted)
Increase		4.50%	4.50%
Monthly Rate	$35.61	$36.60	$37.61
Sewer Rate			
Increase		8.50%	5.50%
Monthly Rate	$54.10	$58.70	$61.90

The monthly impact to rate payers is shown on the following page. Staff will be available at the City Council meeting to answer questions regarding these final recommendations. The current schedule anticipates returning to Council with a resolution to adopt rates at the September 20, 2010 meeting.


Original monthly rates (July 2010)
$150.41
$161.36
$166.84
$180.00
$160.00
$140.00
$120.00
$100.00
$80.00
$60.00
$40.00
$20.00
$0.00
$14.63
$14.15
$31.92
$35.61
$54.10
$16.71
$14.86
$34.49
$36.60
$58.70
$17.24
$15.60
$34.49
$37.61
$61.90
2010
2011
2012
Utility Tax
Surface water
Solid waste
Water
Waste water


Current Recommendation
$150.41
$159.36
$164.45
$180.00
$160.00
$140.00
$120.00
$100.00
$80.00
$60.00
$40.00
$20.00
$0.00
$14.63
$14.15
$31.92
$35.61
$54.10
$16.46
$14.56
$33.04
$36.60
$58.70
$16.91
$14.99
$33.04
$37.61
$61.90
2010
2011
2012
Utility Tax
Surface water
Solid waste
Water
Waste water

City of Kirkland, Washington

Water and Sewer Utility
Rates & Capital
Facilities Charges

✓WATER ✓SEWER

Depreciation 1.25 1.65

Long-Term System Reinvestment Funding

February 27, 2007

FCS GROUP . 8201 – 164th Ave. NE, Suite 300, Redmond, WA 98052 ■ 425-867-1802

Presentation Outline

- Introduction to System Reinvestment
- Findings
- Impact on Rates
- Next Steps

Introduction

- What is system reinvestment?
  - ✓ Funding R&R through a regular and predictable rate provision
- Why is it used?
  - ✓ In order to provide continuing service, the City will need to replace system facilities
  - ✓ Mitigates the impacts to ratepayers during periods of substantial system investment

Policy Comparison

- Current policy: Annual rate-fund an amount equal to annual depreciation expense
  - ✓ Note: For water utility, rates not currently set to achieve current policy; reserves used to supplement current needs
- Recommended policy: Annually rate-fund an amount forecasted to recover long-term R&R
  - ✓ Use multiplier of original cost depreciation expense as a surrogate for calculation of reproduction costs.

	Existing Plant-In-Service		2006 Reproduction Value	
	Total Original Cost	Annual Depreciation Expense	Total Replacement Cost	Annual Depreciation Expense
Water Utility	$ 45,555,980	$ 888,155	$ 89,524,822	$ 1,990,696
Sewer Utility	$ 42,480,607	$ 817,991	$ 72,385,002	$ 1,445,784

Methodology

1. Compile original cost of fixed assets and upgrade/expansion portion of CIP projects
2. Determine useful lives of current and planned future assets
3. Create replacement cycle for existing and planned future assets
4. Calculate reproduction cost using information from steps 1 & 2 and ENR index. Add annual costs to reproduction schedule
5. Smooth annual cost to mitigate spikes
6. Forecast annual original cost depreciation expense for entire system, including replacement assets
7. Use multiplier to achieve desired debt/cash funding ratio (25/75)

Recommended Debt/Cash Ratio

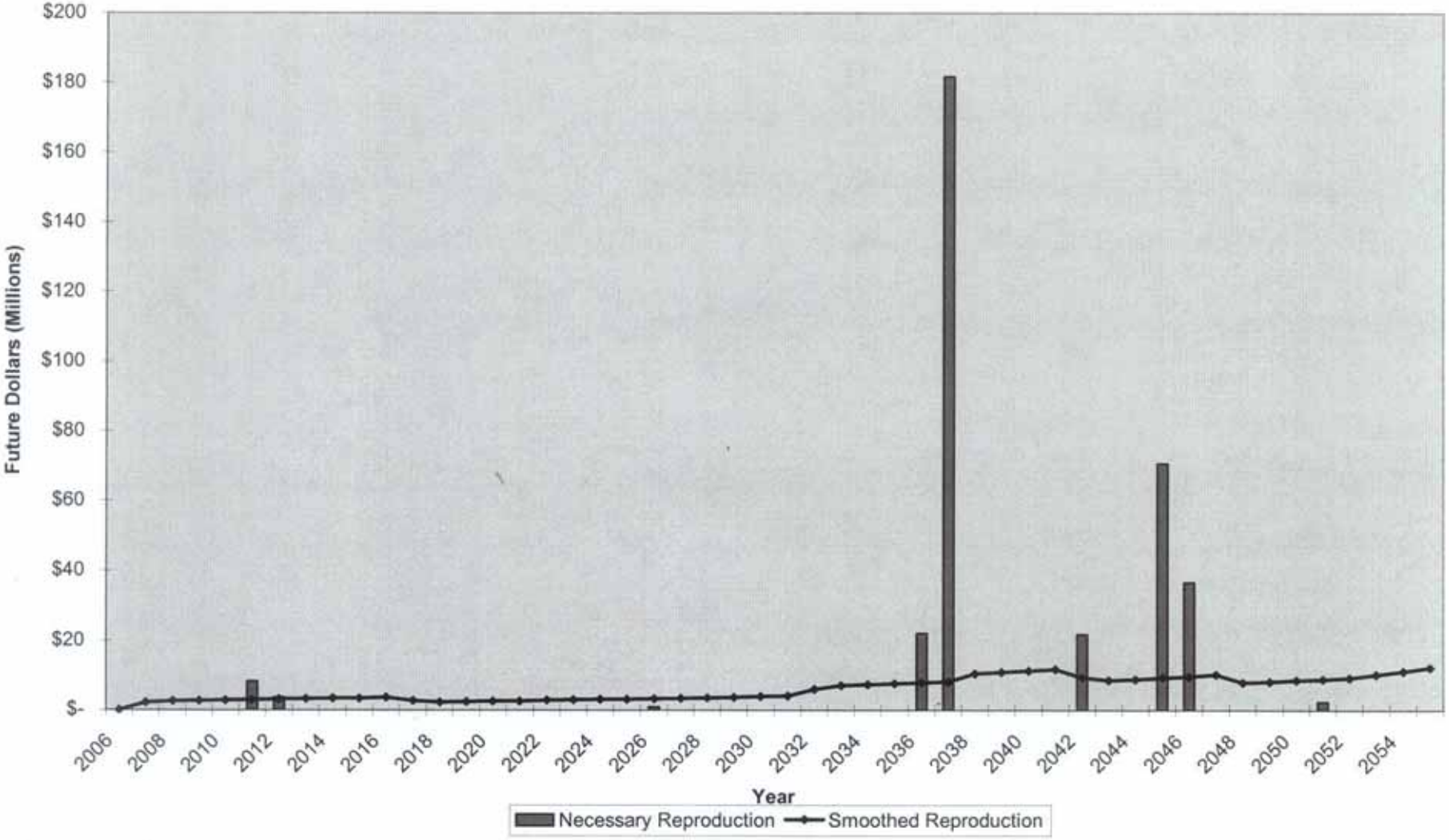
- Why fund a portion of R&R with debt?
  - ✓ Provides flexibility in the event program expenditures are slower or lower than forecasted
- What is an appropriate ratio?
  - ✓ We recommend a debt/cash funding ratio of 25/75 to ensure each utility remains within industry debt to equity standards

WATER UTILITY

Water Utility Results

- Asset parameters:
  - ✓ 25-year useful life used for Meters/Services and Hydrants
  - ✓ 50-year useful life used for all other assets (consistent with City's depreciation schedule)
- $298.6 million in future reproduction costs over 50-year period
- Annual funding liability (reproduction costs) ranges from $2.2 million in 2007 to $12.3 million in 2055 Capital
- Annual funding of 1.22 times annual depreciation expense achieves desired debt/cash funding ratio USE 1.25

Water Utility
Reproduction Cost Schedule



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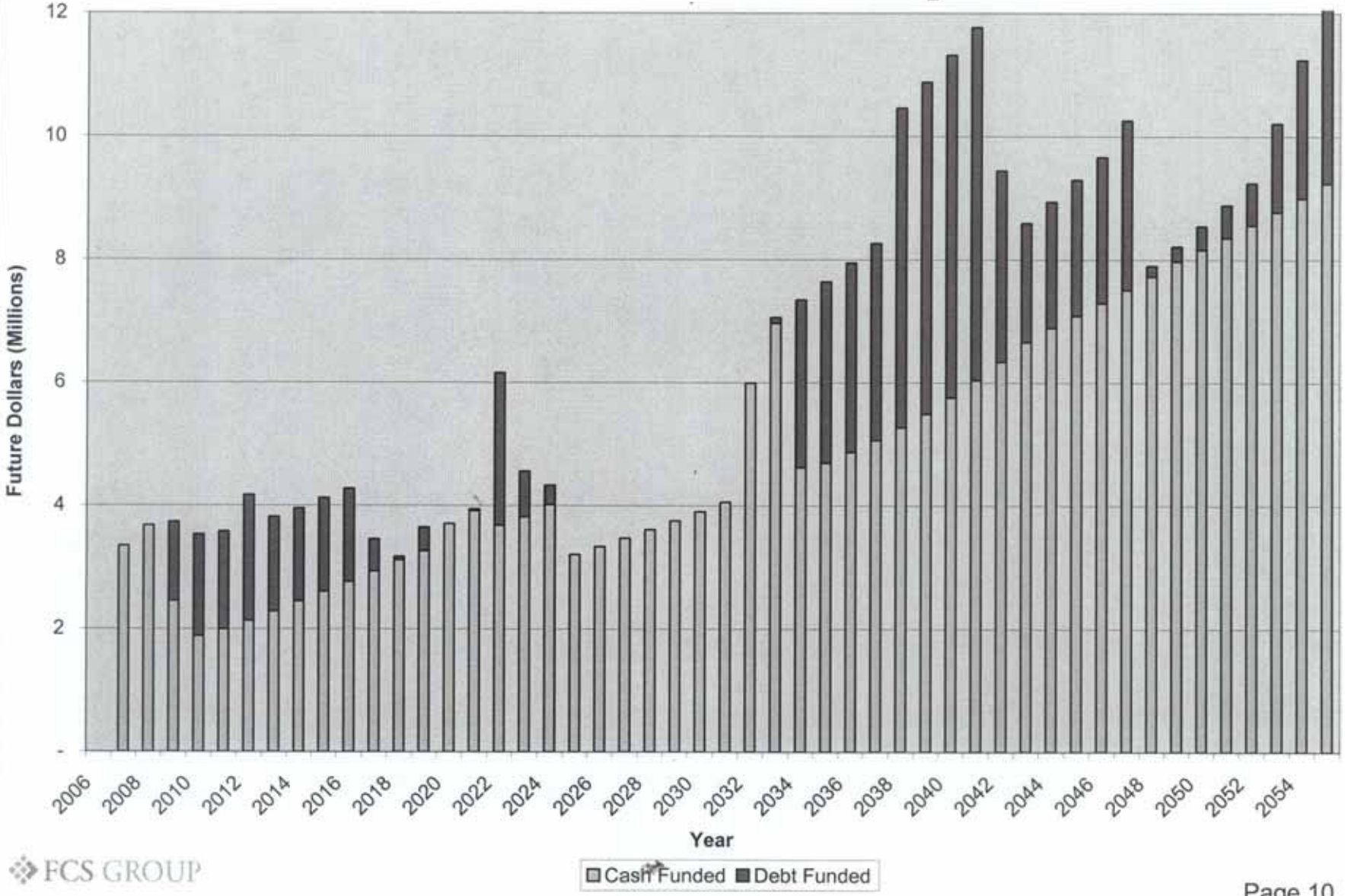
(YEAR OF EXPENDITURE $)

Water Utility
Annual Capital Financing



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(YEAR OF EXPENDITURE $)

Water Utility
Impact on Rates

- Option 1: Recommended funding
  - ✓ 1.22 (rounded to 1.25) times annual original cost depreciation expense
  - ✓ 15.5% rate increase in 2008
  - ✓ 25% of capital debt-funded over the 50-year period
- Option 2: Current City policy
  - ✓ 1.0 times annual original cost depreciation expense
  - ✓ 12.0% rate increase in 2008
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- Option 3: Phase-in to recommended funding
  - ✓ 0.8 times annual depreciation expense in 2008, phased to 1.25 in 2013 and thereafter
  - ✓ 9.5% rate increase in 2008
  - ✓ 25% of capital debt-funded over the 50-year period

Water Utility
Rate Impact Summary

		2008	2009	2010	2011	2012	2013	2014	2015		2055
OPTION 1	Annual Rate Funding	$ 1,236,214	$ 1,359,231	$ 1,486,063	$ 1,613,641	$ 1,760,530	$ 1,913,150	$ 2,058,211	$ 2,208,677		$ 9,128,518
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	Annual Rate Increase	15.50%	5.65%	3.32%	5.98%	1.76%	5.04%	0.99%	2.83%		1.70%
	Cumulative Increase [a]	26.47%	33.62%	38.06%	46.32%	48.89%	56.39%	57.95%	62.42%		363.01%
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OPTION 3	Annual Rate Funding	$ 791,177	$ 924,277	$ 1,307,735	$ 1,420,004	$ 1,971,794	$ 1,913,150	$ 2,058,211	$ 2,208,677		$ 9,128,518
	Cumulative Rate Funding	$ 791,177	$ 1,715,454	$ 3,023,189	$ 4,443,194	$ 6,414,988	$ 8,328,138	$ 10,386,349	$ 12,595,026		$ 224,946,269
	Annual Rate Increase	9.50%	6.50%	6.50%	6.50%	6.50%	2.19%	1.16%	2.80%		1.70%
	Cumulative Increase [a]	19.90%	27.70%	36.00%	44.84%	54.25%	57.63%	59.46%	63.92%		363.01%

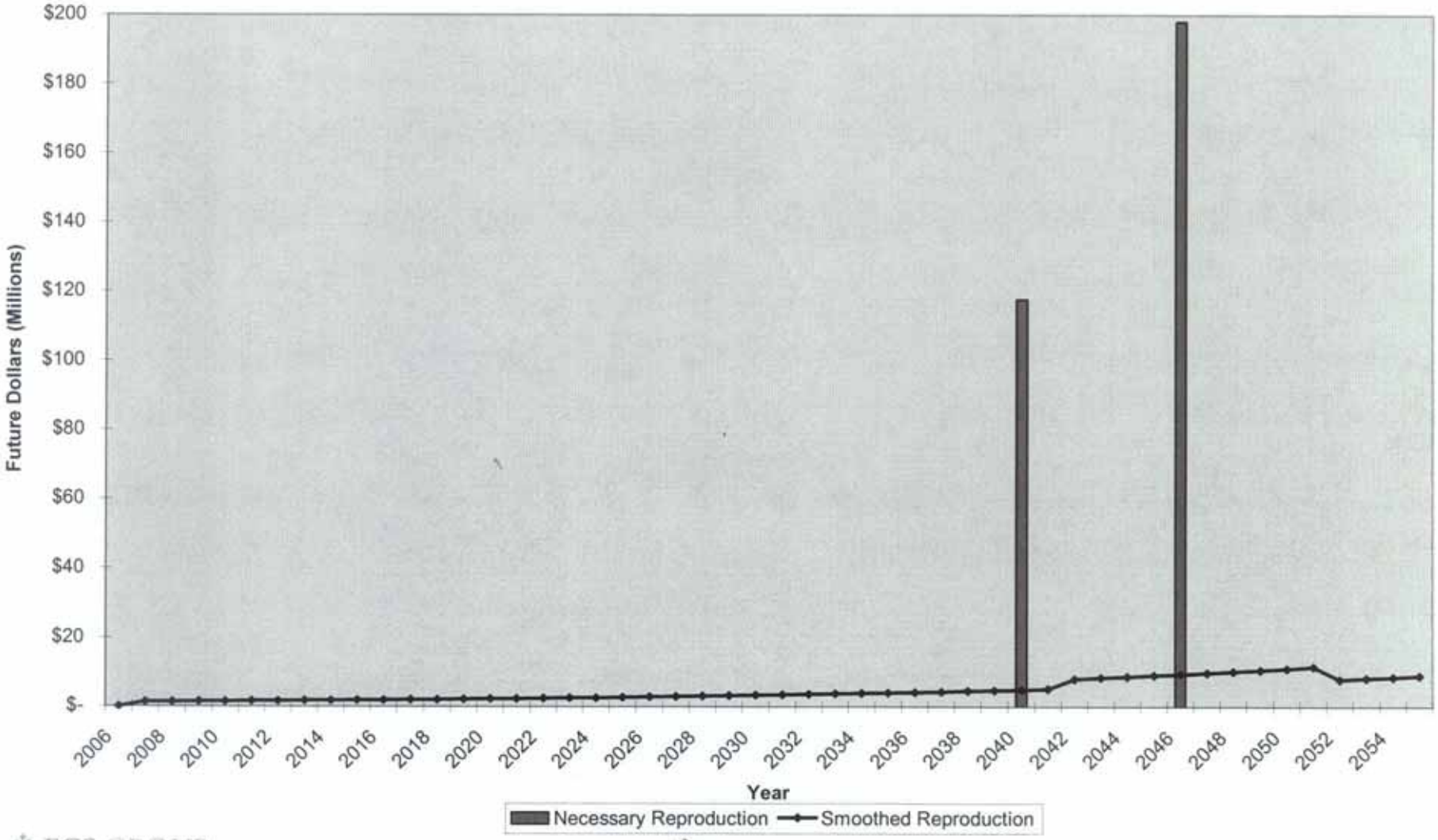
[a] Cumulative increase includes 2007 increase of 9.5%

SEWER UTILITY

Sewer Utility Results

- Asset parameters:
  - ✓ 50-year useful life used for all assets (consistent with City's depreciation schedule)
- $231.9 million in future reproduction costs over 50-year period
- Annual funding liability ranges (reproduction costs) from $1.4 million in 2007 to $9.0 million in 2055 Capital
- Annual funding of 1.64 times annual depreciation expense achieves desired debt/cash funding ratio USE 1.65

Sewer Utility
Reproduction Cost Schedule



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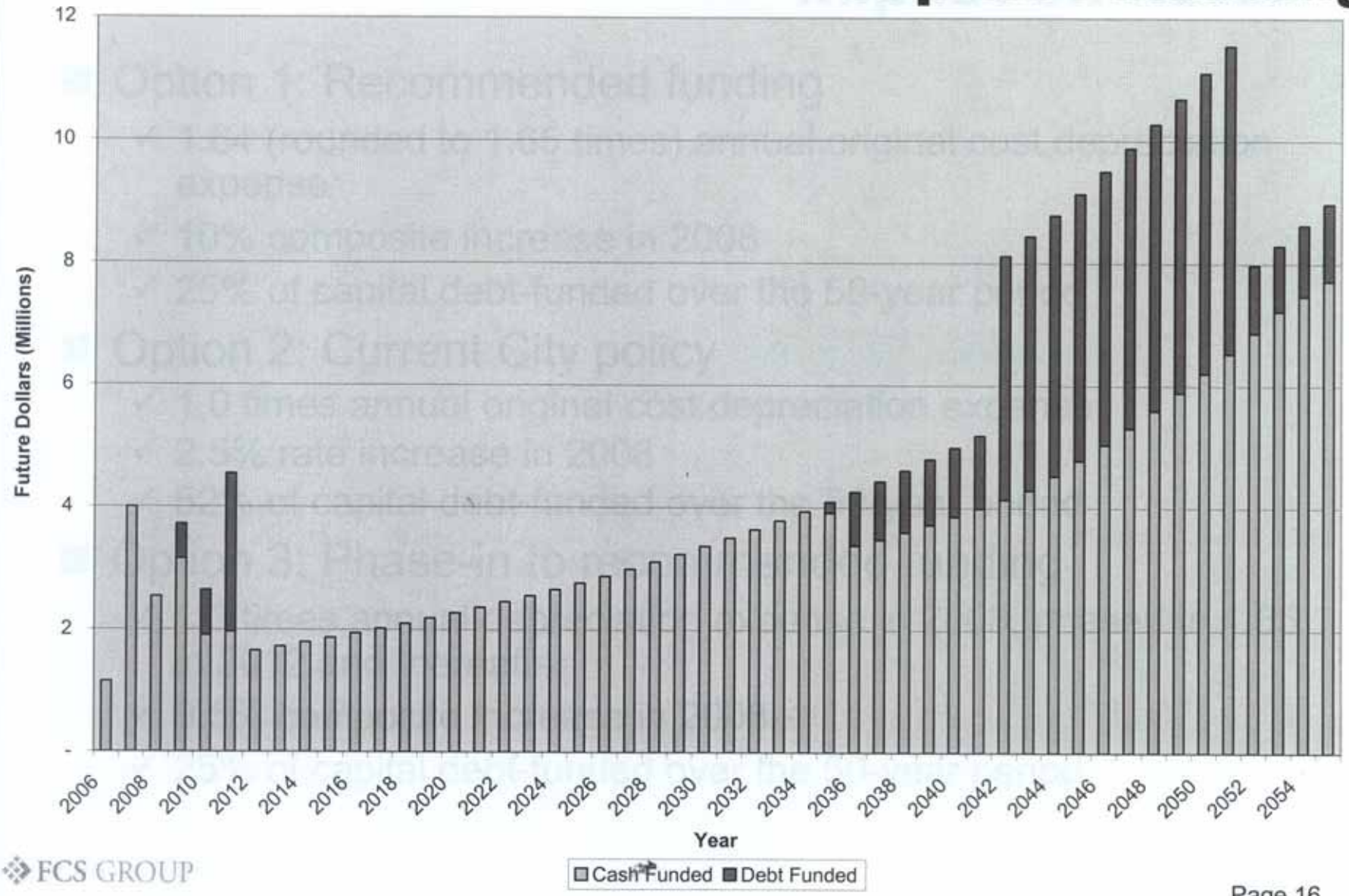
Sewer Utility
Annual Capital Financing



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Sewer Utility
Rate Impact Summary

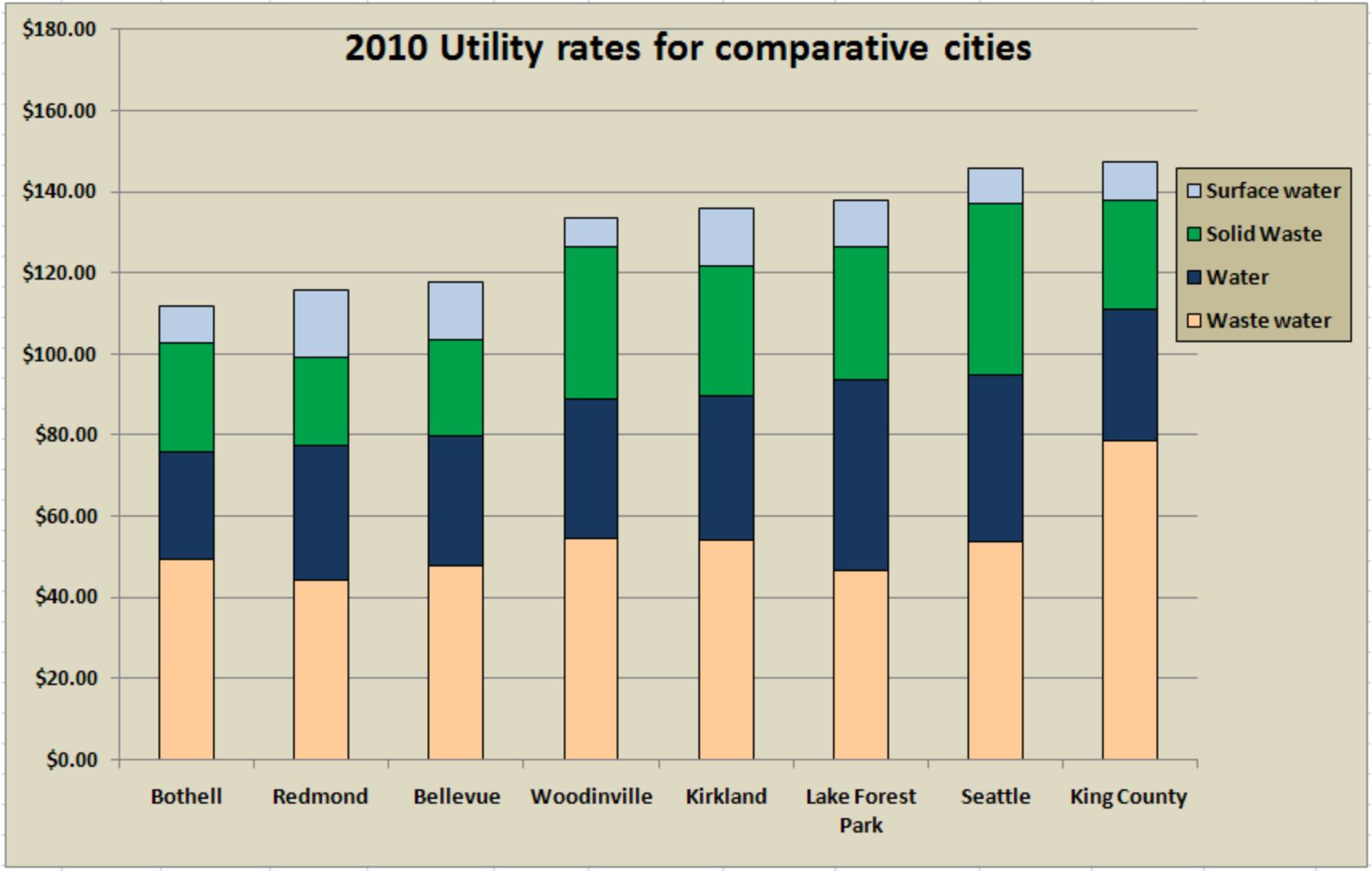
		2008	2009	2010	2011	2012	2013	2014	2015		2055
OPTION 1	Annual Rate Funding	$ 1,479,847	$ 1,534,844	$ 1,624,025	$ 1,682,379	$ 1,795,879	$ 1,826,462	$ 1,859,237	$ 1,894,293		$ 7,699,096
	Cumulative Rate Funding	$ 1,479,847	$ 3,014,691	$ 4,638,716	$ 6,321,094	$ 8,116,973	$ 9,943,435	$11,802,672	$13,696,965		$ 167,901,997
	Annual Composite Increase	10.00%	13.60%	5.63%	6.97%	2.42%	2.46%	2.50%	2.53%		3.65%
	Cumulative Increase [a]	17.70%	33.71%	41.23%	51.08%	54.73%	58.54%	62.50%	66.61%		639.13%
OPTION 2	Annual Rate Funding	$ 896,877	$ 930,209	$ 984,257	$ 1,019,623	$ 1,088,411	$ 1,106,946	$ 1,126,810	$ 1,148,056		$ 4,666,119
	Cumulative Rate Funding	$ 896,877	$ 1,827,085	$ 2,811,343	$ 3,830,966	$ 4,919,378	$ 6,026,324	$ 7,153,135	$ 8,301,191		$ 101,758,786
	Annual Composite Increase	2.50%	14.90%	6.30%	7.66%	2.54%	2.57%	2.61%	2.64%		3.71%
	Cumulative Increase [a]	9.68%	26.02%	33.96%	44.22%	47.88%	51.68%	55.64%	59.76%		642.05%
OPTION 3	Annual Rate Funding	$ 1,435,003	$ 1,302,292	$ 1,574,812	$ 1,631,398	$ 1,795,879	$ 1,826,462	$ 1,859,237	$ 1,894,293		$ 7,699,096
	Cumulative Rate Funding	$ 1,435,003	$ 2,737,295	$ 4,312,107	$ 5,943,504	$ 7,739,383	$ 9,565,845	$11,425,082	$13,319,375		$ 167,524,407
	Annual Composite Increase	9.50%	12.50%	7.00%	7.00%	2.42%	2.46%	2.50%	2.54%		3.56%
	Cumulative Increase [a]	17.17%	31.81%	41.04%	50.91%	54.57%	58.37%	62.33%	66.44%		639.16%

[a] Cumulative increase includes 2007 composite increase of 7.0%

Next Steps

- Incorporate desired system reinvestment policy
- Finalize water rate design for 2008
- Staff review (March 7th)
- Council presentation?
- Documentation

Questions



Attachment B