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## Utility Capital Planning and Rate Structuring

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## Outline

- Why Planning
- What are key components
- What are the desired outcomes
- Utility planning and rate structures
- Summary

## Why Undertake a Planning Process?

- Establish consensus and priorities for operational and capital needs
- Develop a tool to provide control and flexibility by integrating operational and capital budgets, including determining the impact to ratepayers



## Why Undertake a Planning Process (Cont.)

- Proactive Management to Avoid Crisis
- Development of “What if” scenarios
  - Loss of major customer
  - Continued decline in billable flows
  - Identify the impact of regulation



## What are the Key Components of a Plan?

1. Key Financial Indicators
2. Establishing a strategic framework
3. Operational budget (targets if appropriate)
4. Capital Needs (cash financing or borrowing)
5. Integration of Operational and Capital budgets



## (1.) Key Financial Indicators

- “Key Financial Indicators” provide an overview of financial position.
- Utilities:
  - Annual cash flow
  - Unrestricted reserve levels
  - Debt Coverage on outstanding revenue bonds and overall coverage on all outstanding debt
  - ROI – Current benchmark is 5.25%



## (2.) Establish Strategic Framework

- Are services adequately keeping up with growth?
- What are the requirements to maintain existing infrastructure?
- Opportunities to reduce operating costs?
- Timing main replacement programs based upon the priority of street reconstruction projects?
- What level of capital improvement funding can we do within a certain annual percentage rate increase



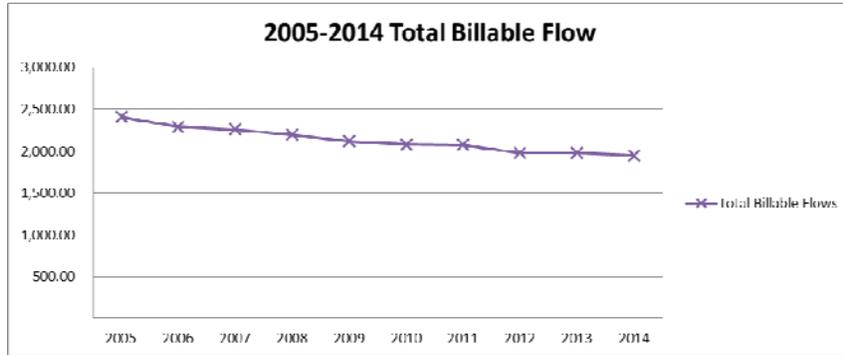
## (3.) Operational Budget

### *Revenues*

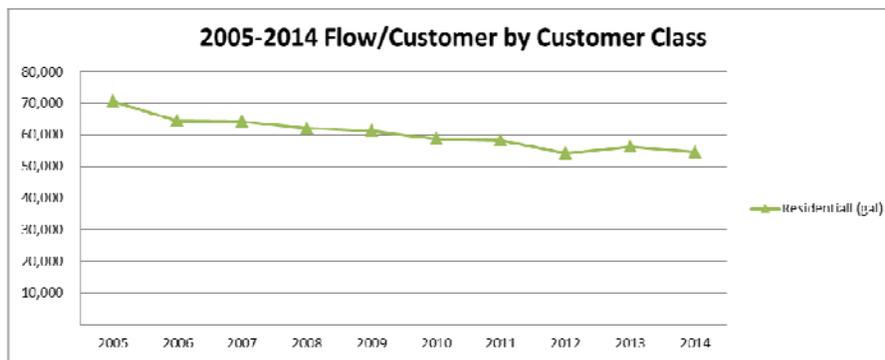
- Properly recognizing trends in customer data is one of the most important items in assessing the current financial state of your utility
- In general, utilities across Wisconsin and the Midwest are seeing declining water consumption.
  - Aging population
  - Appliances that are more water efficient
  - Greater awareness of water conservation
  - Inclining “conservation” water rate structure



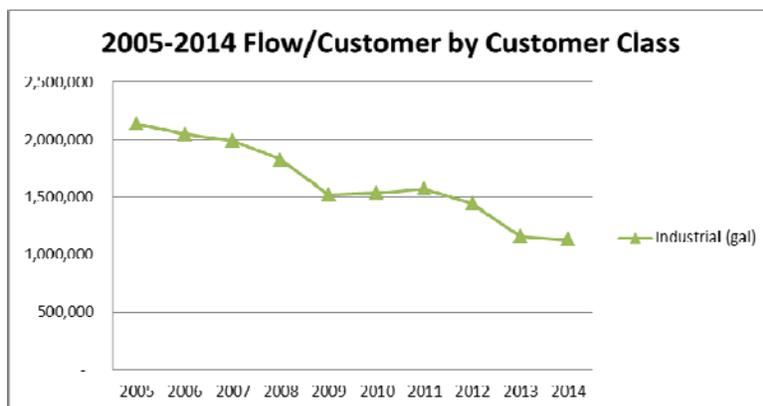
### (3.) Operational Budget



### (3.) Operational Budget



### (3.) Operational Budget



### (3.) Operational Budget

- Look at trends in customer data over a 3-5 year period to assist in projecting revenues for the current and/or upcoming years, including:
  - Number of customers
  - Water consumption by customer class & rate block (water)
  - Excess wastewater loadings
  - Wastewater Haulers (septic and holding tank waste)



### (3.) Operational Budget

#### *Expenditures*

- Look at history of expenditures for trends
- Evaluate program/service driven expenditures
- Determine if operational targets should be established



### (4.) Capital Plan

- Inventory existing capital items (define)
  - Develop replacement schedule
- What additional equipment and facility needs exist?
  - Do you have an equipment replacement fund, is it adequately funded? Is it overfunded?
- Identify funding sources
  - Cash
  - Equipment Replacement Fund
  - Utility Revenues
  - Impact fees or Special Assessments



## (4.) Capital Plan

### Expenses

- Cost of Deferring Capital
  - Deterioration
  - Added annual maintenance costs
  
- Pay-As-You-Go (Cash)
  - Save up over time to pay for item
  
- Pay-As-You-Use (Debt)
  - Pay for item over time
  - Short-term or long-term



## (4.) Capital Plan – Example of Summary Analysis

- The City’s planned capital projects for the years 2016 through 2025 are projected to require between \$246.60 and \$373.03 million in long term financing.

	Sewer Utility- Phosphorus Upgrades	Sewer Utility- No Phosphorus Upgrades	Water Utility	Total Costs w/ Phosphorus Upgrades	Total Costs w/o Phosphorus Upgrades
<b>CIP Projects</b>	<b>254,796,283</b>	<b>142,204,276</b>	<b>104,199,771</b>	<b>360,996,053</b>	<b>246,404,046</b>
Less: Cash on Hand	(9,156,468)	(9,156,468)	(10,764,575)	(19,921,042)	(19,921,042)
Debt Service Reserve Req	20,179,974	10,010,027	5,804,213	25,994,167	15,814,240
Issuance Costs	4,152,833	2,457,359	1,848,281	6,001,064	4,305,584
Estimated Interest Earnings	(61,910)	(39,262)	(23,359)	(85,269)	(56,621)
Rounding	29,288	26,074	23,719	55,007	91,799
<b>Net Bond Size</b>	<b>271,940,000</b>	<b>145,510,000</b>	<b>101,090,000</b>	<b>373,030,000</b>	<b>246,600,000</b>



## (5.) Integration of Operational and Capital Budgets

### *Budget Considerations*

- Identify the ability each utility has to take on new projects under existing revenues
- Prioritize Expenditures/Services
  - Essential vs. Non-Essential Expenditures
  - Identifying most critical main and other asset replacements
  - Lining up main replacements with major street reconstruction work
- Involve Elected Officials Early
- Priorities may be changing



## (5.) Integration of Operational and Capital Budgets

- Model out different CIP scenarios as needed to examine changes in rate increases based upon prioritization of projects
- Essential to transition from an annual budget model to a strategic budget model:
- Develop a budgeting model for outcomes and results.



## (5.) Integration of Operational and Capital Budgets

### *Focus on Results*

- Budget available dollars to the most significant programs and activities.
- Set measures of annual progress, monitor, and provide feedback.
- Verify what actually happened.
- Communicate performance results.



## (5.) Integration of Operational and Capital Budgets

### *Program Evaluation Questions*

- To what extent is a program or service consistent with department and organizational mission & priorities?
- What is the geographic area or population served?
- Are program benefits long lasting & essential to service population?



## (5.) Integration of Operational and Capital Budgets

### *Program Evaluation Questions cont.*

- To what extent does the program provide a benefit or support to other departments?
- To what extent does the program make the department as a whole more effective or efficient?
- Is there evidence the program is effectively planned, managed, & implemented?



## (5.) Integration of Operational and Capital Budgets

### *Program Evaluation Questions cont.*

- If not funded, are there:
  - Readily available alternatives to the community?
  - Significant, direct negative consequences?
  - Likelihood for added risk, liability or legal ramifications?



## (5.) Integration of Operational and Capital Budgets

### *Developing a Strategic Framework*

- Re-examine existing plans and documents to determine if services or programs are aligned with long-term priorities.
  - Comprehensive plans.
  - Capital improvement programs.
  - Visioning sessions with elected officials & community stakeholders.



## What are the desired outcomes of a plan?

- **Integrated Operating and Capital Budget**
  - Understanding of impacts on ratepayers in terms of impact on average single family home
  - Framework to run sensitivity analysis
    - “What if” Scenarios
- **Governing Body Consensus**
  - Operational
  - Capital
- **Present analysis in an easy to understand format**



## Example Cash Flow Analysis

	2013 Actual	2014 Actual	2015 Budget	2016	2017	2018	2019	2020
<b>Revenues</b>								
Total Revenues From User Rates	\$1,175,407	\$1,148,888	\$1,181,860	\$1,181,660	\$1,252,588	\$1,252,588	\$1,252,588	\$1,327,745
<b>Percent Increase to User Rates Required</b>				0%	6%	0%	0%	6%
Dollar Amount Increase to Revenues Required				\$0	\$70,901	\$0	\$0	\$76,166
<b>Other Revenues</b>								
Interest Income	\$1,330	\$465	\$300	\$8,170	\$8,378	\$7,251	\$15,588	\$18,549
Other Income	\$71,340	\$72,704	\$82,525	\$83,778	\$85,051	\$88,352	\$87,878	\$89,033
Total Other Revenues	\$72,670	\$73,169	\$82,825	\$91,948	\$93,429	\$95,603	\$103,466	\$107,582
<b>Total Revenues</b>	<b>\$1,248,077</b>	<b>\$1,222,057</b>	<b>\$1,264,685</b>	<b>\$1,273,608</b>	<b>\$1,346,017</b>	<b>\$1,348,191</b>	<b>\$1,356,054</b>	<b>\$1,435,327</b>
<b>Expenses</b>								
Operating and Maintenance	\$432,308	\$600,830	\$610,240	\$623,002	\$630,077	\$649,479	\$663,210	\$677,297
Taxes (PI OT)	\$188,859	\$187,812	\$226,800	\$238,459	\$249,601	\$249,601	\$251,359	\$258,062
Not Before Debt Service and Capital Expenditures	\$610,750	\$474,101	\$507,467	\$495,172	\$541,210	\$527,030	\$521,202	\$577,161
<b>Debt Service</b>								
Existing Debt Service	\$208,216	\$291,355	\$307,025	\$299,143	\$301,872	\$304,203	\$301,138	\$228,872
New Debt Service	\$0	\$0	\$0	\$0	\$67,738	\$41,875	\$41,875	\$136,983
Total Debt Service	\$208,216	\$291,355	\$307,025	\$299,143	\$369,610	\$346,078	\$343,013	\$365,855
<b>Capital Projects</b>								
Road & Grant Projects	\$0	\$105,000	\$0	\$1,285,000	\$0	\$0	\$0	\$0
Differences (Cash funded projects)	\$87,740	\$176,391	\$7,800	\$164,300	\$591,400	\$75,000	\$80,800	\$255,000
Payoff Unfunded Pension Liability			(\$79,560)					
Net Annual Cash Flow	\$230,766	\$3,410	\$118,250	\$31,729	(\$414,800)	\$106,927	\$97,401	(\$38,613)
<b>Restricted and Unrestricted Cash Balance</b>								
Balance at end of year	\$1,258,078	\$1,507,582	\$1,715,888	\$1,033,855	\$1,065,604	\$1,450,885	\$1,558,812	\$1,854,212
Not Annual Cash Flow Addition/(subtraction)	\$278,000	\$178,114	\$118,250	\$31,729	(\$414,800)	\$106,927	\$97,401	(\$38,613)
Balance at end of year	\$1,537,082	\$1,710,000	\$1,833,950	\$1,065,584	\$1,450,880	\$1,556,812	\$1,656,212	\$1,815,599
<b>Return on Rate Base</b>	8.22%	3.65%	3.72%	2.97%	3.22%	2.80%	2.93%	3.06%

## Example of Impact of Plan on SF Home

- Assuming residential property with an equalized value of \$100,000 and using 4,000 gallons of water per month

Year	Debt Tax Rate	Property Tax Bill	Change Over Prior Year	Water User Charge /1000 Gal	Water User Charge Meter-PPF	Utility Bill (Annual)	Change Over Prior Year	Sewer User Charge /1000 Gal	Sewer User Charge Gas Service	Utility Bill (Annual)	Change Over Prior Year	Total	Change Over Prior Year	Year
2015	4.28	\$ 423.04		4.40	22.15	\$ 477.00		4.35	21.00	\$ 391.20		\$ 1,291.24		2015
2016	4.22	\$ 422.55	\$ (0.58)	4.40	22.15	\$ 477.00	\$ -	5.19	13.75	\$ 414.80	\$ 82.80	\$ 1,313.95	\$ 22.71	2016
2017	4.28	\$ 423.14	\$ 0.79	4.66	23.48	\$ 505.62	\$ 28.62	5.23	16.50	\$ 496.80	\$ 82.80	\$ 1,425.96	\$ 112.01	2017
2018	4.19	\$ 419.33	\$ (3.81)	4.66	23.48	\$ 505.62	\$ -	6.38	16.81	\$ 508.22	\$ 12.42	\$ 1,434.17	\$ 8.21	2018
2019	4.25	\$ 424.60	\$ 5.26	4.66	23.48	\$ 505.62	\$ -	6.54	17.34	\$ 521.95	\$ 12.73	\$ 1,452.17	\$ 17.99	2019
2020	4.28	\$ 428.25	\$ 3.65	4.94	24.89	\$ 535.96	\$ 30.34	6.70	17.77	\$ 535.00	\$ 13.05	\$ 1,497.21	\$ 45.04	2020
2021	4.11	\$ 413.36	\$ (14.89)	4.94	24.89	\$ 535.96	\$ -	6.87	18.21	\$ 548.37	\$ 13.37	\$ 1,495.89	\$ (1.32)	2021
2022	3.44	\$ 343.65	\$ (67.71)	4.94	24.89	\$ 535.96	\$ -	7.04	18.67	\$ 562.08	\$ 13.71	\$ 1,441.69	\$ (54.20)	2022
2023	3.95	\$ 394.78	\$ (48.87)	4.94	24.89	\$ 535.96	\$ -	7.22	19.13	\$ 576.14	\$ 14.05	\$ 1,446.87	\$ 5.18	2023
2024	3.12	\$ 313.89	\$ (22.88)	4.94	24.89	\$ 535.96	\$ -	7.40	19.61	\$ 590.54	\$ 14.40	\$ 1,438.99	\$ (8.88)	2024
2025	2.16	\$ 216.31	\$ (95.58)	4.94	24.89	\$ 535.96	\$ -	7.58	20.10	\$ 605.30	\$ 14.76	\$ 1,357.57	\$ (80.41)	2025
2026	2.12	\$ 212.25	\$ (4.06)	4.94	24.89	\$ 535.96	\$ -	7.77	20.61	\$ 620.44	\$ 15.13	\$ 1,366.65	\$ 8.97	2026
2027	1.25	\$ 125.37	\$ (86.88)	4.94	24.89	\$ 535.96	\$ -	7.97	21.12	\$ 635.95	\$ 15.51	\$ 1,297.27	\$ (69.38)	2027
2028	1.28	\$ 122.98	\$ (2.39)	4.94	24.89	\$ 535.96	\$ -	8.17	21.65	\$ 651.84	\$ 15.90	\$ 1,310.78	\$ 13.51	2028
2029	0.19	\$ 12.67	\$ (110.31)	4.94	24.89	\$ 535.96	\$ -	8.37	22.19	\$ 668.14	\$ 16.30	\$ 1,216.77	\$ (94.01)	2029
2030	0.19	\$ 12.56	\$ (0.11)	4.94	24.89	\$ 535.96	\$ -	8.58	22.75	\$ 684.84	\$ 16.70	\$ 1,235.96	\$ 19.19	2030
2031	0.00	\$ -	\$ (12.56)	4.94	24.89	\$ 535.96	\$ -	8.80	23.81	\$ 703.87	\$ 17.12	\$ 1,237.92	\$ 1.96	2031
2032	0.00	\$ -	\$ -	4.94	24.89	\$ 535.96	\$ -	9.02	23.80	\$ 718.53	\$ 17.55	\$ 1,235.47	\$ (2.45)	2032

**NOTES:**

- Assumes property has a fair market/equalized value of \$100,000.
- Water utility bill includes monthly charge of \$40 plus \$2.16 for public fire protection for a 5/8" or 3/4" meter and assumes 4,000 gallons usage per month.
- Sewer utility bill includes monthly charge of \$11.00 for a 5/8" or 3/4" meter and assumes 4,000 gallons usage per month.
- Property tax and utility bills beyond 2020 do not include any new capital improvement projects beyond what is shown in the 2015-2020 CIP.

For Discussion Only



## Utility Capital Improvement Planning and Rate Structures

- Detailed utility rates computed on a Cost of Service basis are implemented on a test year basis.
- Assets added into rate base when booked into service.
- Somewhat limits a utility's ability to phase new rates into place for larger capital improvement projects
  - Primarily on the water utility side
- Can try to maximize the utility's rate of return to plan and phase new user rates into effect



# Questions?





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