



"Improving the quality of life in rural communities"

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RCAP Asset Management Webinar Series

BUDGETING

Your Speakers Today



Julie Ward



Tim Campbell

Today's Class is sponsored by



*Division of Drinking &
Ground Waters*

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- To receive credit for a contact hour, you must be logged in the entire time and participate in the polls during the training.
- Please submit questions using the webinar chat box in the lower left hand corner of your screen.
- Please call or text 216-409-8081 if you are having any technical difficulty.
- If you wish to receive 1.0 operator contact hour (water or sewer), please email tfishbaugh@wsos.org if you did not include your core operator ID on the registration form.
- If you are at a site with multiple people watching on one computer, and one or more attendees wish to receive a contact hour, please designate one person as the room monitor, and use the sign-in sheet provided with the reminder email this morning.

Please complete the evaluation form at the end!



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Ohio Rural Community Assistance Program



Ohio RCAP provides technical assistance to communities for infrastructure and community development. Often, those under 10,000 population can receive free assistance under our grant funded programs. We assist with project planning, development and funding. Often, we work with communities to evaluate their rate structures and financial capacity. In addition to helping individual communities, we offer several utility management classes each year to local officials and operators. RCAP also has a GIS Team and operates a GIS Cooperative for communities.

RCAP Asset Management Webinar Series



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Sept 8 Completing an Asset Inventory

Sept 15 Completing a Condition Assessment

Sept 22 Completing a Capital Improvement Plan

Sept 27 Completing a Preventative & Predictive
Maintenance Plan



Sept 29 Budgeting for P&P, CIPs & Sustainability

Let's try a poll!



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Are you involved in the budget development for your utility?

- a. Yes – I develop the budget
- b. Yes – but very limited
- c. No
- d. Not applicable to me

What we'll discuss today...



- Overview of Asset Management
- Developing a Budget for Your Utility
- Incorporating Improved Maintenance & Reserve Targets
- Recognizing the Impact of Inflation
- Pointers on Selling the Plan

What Are Your Assets?

- Treatment Plant Components
 - Wells, intake structures, pumps, filters, etc.
- Distribution System Components
 - Distribution lines, booster stations, valves, hydrants, etc.
- People!

What is Asset Management?



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- **Asset management** is a planning process that ensures that you get the most value from each of your assets and have the financial resources to rehabilitate and replace them when necessary.
- Simply stated, taking care of what you have to get the best bang for your buck.
- An Asset Management Plan is used to determine **reserve requirements** that should be included in the annual budget.

Why Asset Management?



Aging water infrastructure demands our attention. **Run until failure** has been our management philosophy to date for underground infrastructure. Asset management is a change in philosophy by **improving maintenance & monitoring performance to maximize useful life of public investment.**



Why is AM Important?

- Aging infrastructure
 - In Ohio, \$12.2 billion needed for the drinking water infrastructure over the next 20 years.*

- Dwindling resources
 - Public resistance to rate increases
 - Reduction in grant funding as % of total project cost
 - Diminishing technical labor pool
 - Loss of knowledge with personnel retirement

- Maintaining equipment is cheaper than replacement



*2017 ASCE Infrastructure Report Card.

Reality of Asset Replacement



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- Water distribution cost \$12,500+ per customer.
- Sewer collection cost \$15,000+ per customer.
- Treatment will cost at least \$4,000,000 per utility.
- Replacement of water and sewer infrastructure for a community of 600 customers would cost \$25+ million dollars. Public utilities are one of your largest assets.
- **The math is clear!** Massive asset replacement projects are not economically feasible. **Sustainability requires a change in management philosophy: taking care of what we have to extend useful life.**

Asset Management Key Steps

1. Completing an asset inventory.
2. Determining condition of assets.
3. Developing list of capital projects
4. Plan for maintaining, repairing and replacing assets.
5. **Funding for these activities.**

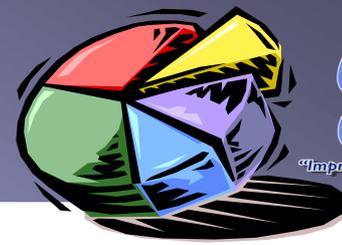
Utility Budgets

- A budget is a quantitative expression of a plan for a defined period of time.
- Budgets are used to help the utility plan for and predict future expenses and revenues.
- A rate increase will be required for most initial asset management programs because existing rates are often unsustainable from a long-range perspective.

Historical numbers are often compromised by past budgetary constraints creating a significant void between actual management practices and industry recognized "Best Management Practices".



Budgets Provide a Foundation for Rates

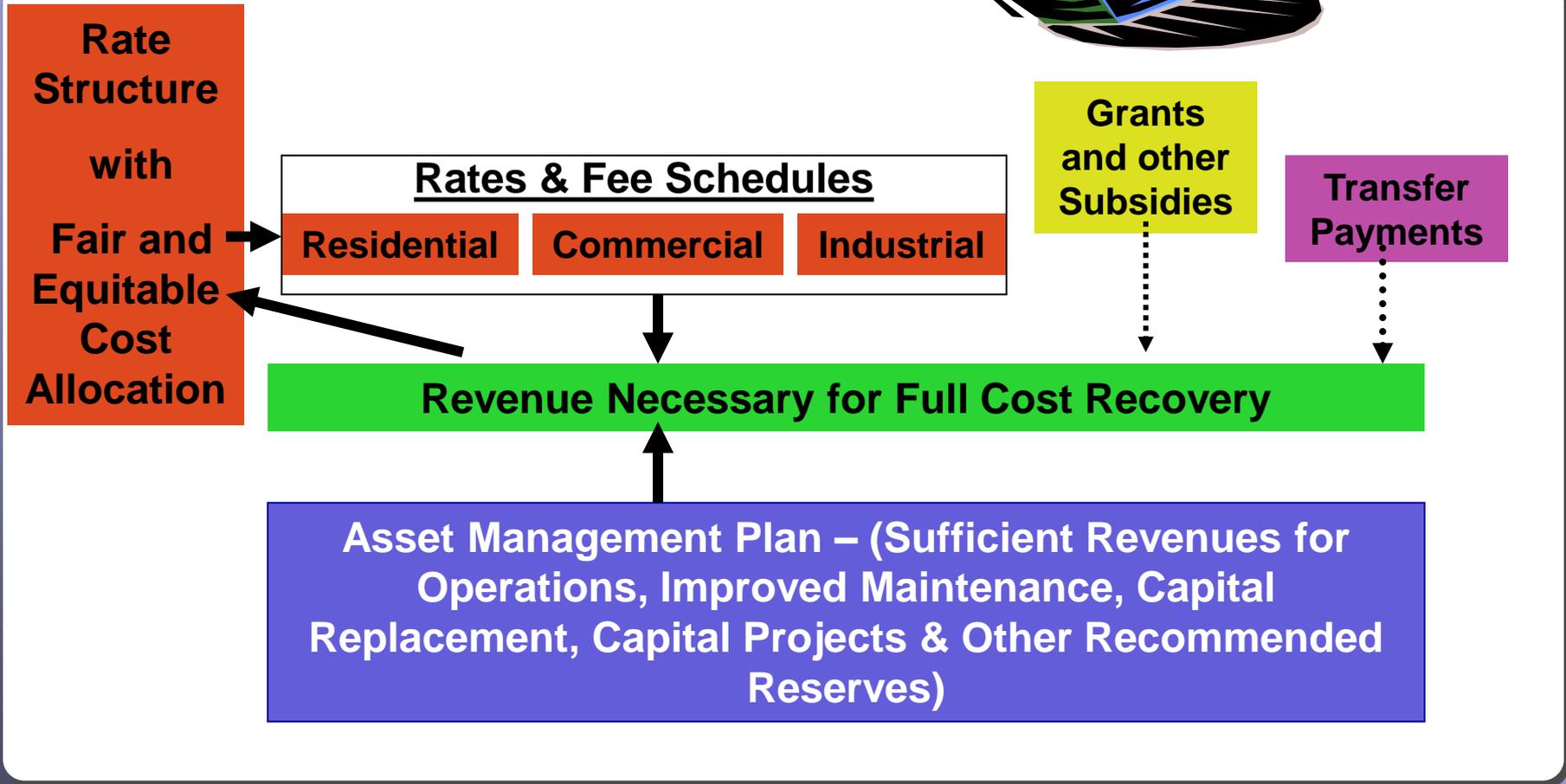
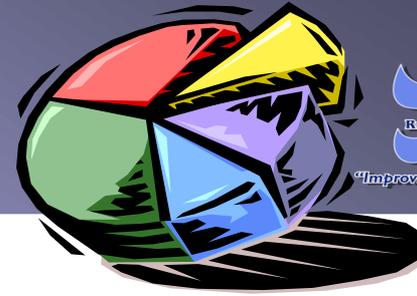


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- Revenues need to be sufficient to cover the **full cost** of doing business.
- Utilities need to enact the “**right**” rate for their needs; not compared to the neighboring utility’s rate.
- Total revenues should meet or exceed total expenses (including **reserves** needed), otherwise it should be obvious that rates need to go up.

The budget justifies utility rates.

Full Cost Recovery



Why Reserves?

Personal Goal: Own a bass boat.



Problem: **No MONEY!** Money is drained to assist with other household (operating) expenditures.

Solution: **Dedicated SAVINGS account. ([New Boat Reserve Fund](#))**

Safeguarding Reserves

- Specific reserve accounts should be established by statute to help future decision makers understand the necessity of seemingly large cash balances.
- Reserve accounts must withstand the political storms which will occur during the asset's lifecycle.
- Future decision makers must be trained to understand and respect the asset management accomplishment of their predecessors.



Recommended Reserve Levels



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- ✓ **Predictive Maintenance/Short Lived Asset Replacement Reserve: Based on actual needs.**
Asset Management Plan
- ✓ **Capital Replacement Reserve: Based on actual needs.** *Asset Management Plan*
- ✓ **Contingency/Emergency Reserve: Maintain at 12.5% of operating expenses.**
45 Days Working Capital for Emergency Preparedness.

Recommended Reserve Levels



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- ✓ **Debt Service Reserve: One annual Debt Service payment.**

What if your largest customer went out of business? Reaction Time.

- ✓ **Operating Account: Maintain at 12.5% of Operating Expenses**

45 Days Working Capital for Seasonal Changes in Operations.



Let's try another poll!



Who has the following reserve accounts? Mark all that apply.

- a. Capital Improvement
- b. Short Lived Asset Replacement (Predictive Maintenance)
- c. Emergency/Contingency
- d. Debt Service
- e. None

Developing A Budget

- ✓ Data Collection – 3 to **5** Years of Revenues, Expenses (Operating and Non-operating)
- ✓ Analysis of Historical Data – Identify Trends, Non-Typical Expenses
- ✓ Documentation of Typical Year Operating Budget – Average Some, Use Most Recent Others



Developing A Budget

- ✓ Recognize the Impact of Inflation
- ✓ Incorporate Costs Identified During Developing the AM Plan
 - ✓ Improved Maintenance - Operating
 - ✓ Reserve Targets
 - ✓ Deferred Maintenance Capital Projects – Additional Debt Service Needs?
- ✓ Project Full Cost Recovery Needs 5 to 10 Year Budget – THEN – Project Revenues Sufficient to Meet Those Needs



Data Collection

- Financial History
- Customer Billing Information
- Rate History
- Operation and Maintenance History



Everyone needs to be involved.

Data Analysis

- Organize for comparative analysis.
- Acid Test – Does everything make sense.
- Look for income and expense trends.
 - Stable Trends – Project using 3 to 5 year average.
 - Increasing Trends – Most recent years results.
 - Declining Trends – Why! **Costs rarely decline!**

Shortcuts in data collection negatively impact accuracy of results!



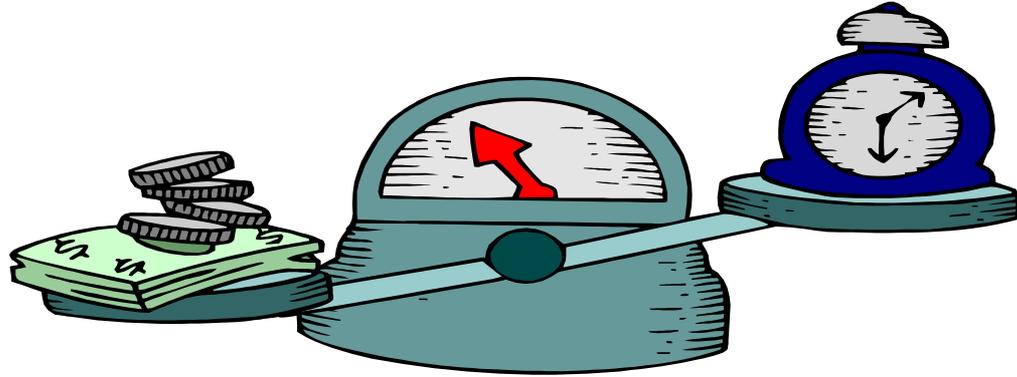
Typical Year Operating Costs



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- Typical year results serve as the basis for future budget projections.
- Must eliminate any non-typical expenses.
- Incorporate needs identified in AM plan.

Recognizing Inflationary Impacts



Inflation is the erosion of spending power caused by an increase the price of commodities and consumer goods. Time is money!

Why small increases matter



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Assume a \$1.00 base rate with an an annual 3.0% compounded increase.									Accumulated Dollars Collected
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7		
	\$1.00	\$1.03	\$1.06	\$1.09	\$1.13	\$1.16	\$1.20		
Per 10 Customers	\$10.00	\$10.30	\$10.61	\$10.93	\$11.27	\$11.60	\$12.00	\$53.10	
								\$64.70	
								\$76.70	
Waiting four years to increase rates results in 31% increase vs 13%									
	\$1.00	\$1.00	\$1.00	\$1.00	\$1.31				
Per 10 Customers	\$10.00	\$10.00	\$10.00	\$10.00	\$13.10			\$53.10	
Waiting five years to increase, results in 47% increase vs 16%									
	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.47			
Per 10 Customers	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$14.70		\$64.70	
Waiting six years to increase, results in 67% increase vs 20%									
	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.67		
Per 10 Customers	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$16.70	\$76.70	

Identifying Best Maintenance Practices - Water

- **Performance Monitoring / Water Audits**
- **Valve Exercising & Maintenance**
- **Hydrant Testing & Maintenance**
- **Unidirectional Flushing Program**
- **Active Leak Control Programs**
- **Pipe Condition**



Small communities struggle with proactive maintenance practices due to limited staffing, equipment and knowledge.

[RCAP could help communities with these activities!](#)

Poll time!



What best management practices are you already doing?

- a. Water Audits
- b. Valve Exercising
- c. Hydrant Maintenance
- d. Unidirectional Flushing
- e. Active Leak Detection Program
- f. None

Budgeting for Improved Maintenance

- The maintenance budget is often the target of budget cuts because maintenance can be delayed in the short-term with few consequences.
- However, deferred maintenance usually results in higher "Life-Cycle Costs". Therefore the decision to postpone maintenance often proves to be "Penny Wise and Dollar Foolish".



If you don't proactively maintain the collection system, you will eventually be forced to deal with the consequences of a reactive solution.

Expense reductions are more difficult when consequences are understood.

Improved Maintenance Budget



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➤ Improved Maintenance Needs

Budgeting & Short Lived Asset Replacement (Predictive)

- Predictive maintenance involves the renovation and replacement of short-lived components of long-term assets.
- The asset management goal should be to save 100% of predictive maintenance cost.
- An intermediate goal is to fund predictive maintenance from savings within 10-years.



Small capital projects should be funded from savings. Preserve credit capacity for large projects.

Predictive Maintenance/Short Lived Asset Replacement Reserves

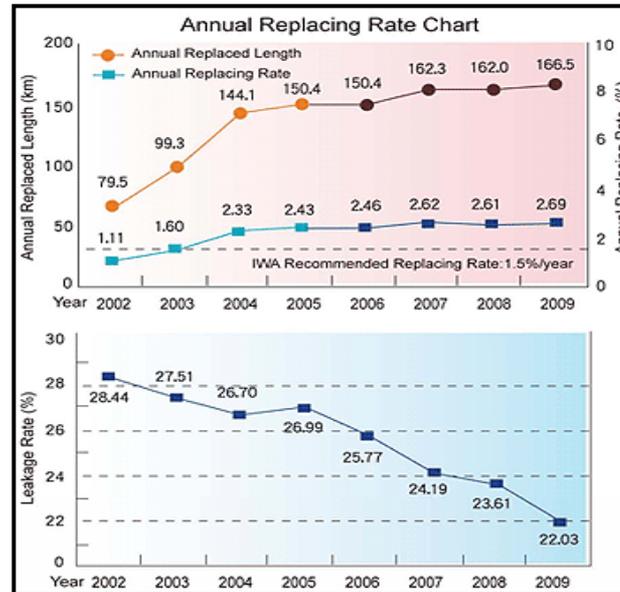


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➤ Predictive Maintenance Reserve

Capital Replacement Reserve

- A water system rehabilitation program is necessary to defend the distribution system against the effects of time.
- Rehabilitation activities should be scheduled based upon information obtained from your performance monitoring program.



Capital Replacement Reserve



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- Time is your friend! The longer the planning period, the greater the opportunity to save for future capital needs.
- An asset management plan is used to document the current year reserve deposits necessary to provide long-term sustainability of the utility system.
- Utilities should accumulate at least 15% to 20% of the estimated asset replacement cost over the remaining useful life of the infrastructure.

Capital Replacement Reserve



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Capital Replacement Reserve

Capital Improvement Planning (Deferred Maintenance)

- Deferred maintenance discovered by condition assessments needs corrected as soon as practical to mitigate further damages.
- Integrating a capital improvement plan into a longer term budget helps the utility maximize grants/subsidized loans for projects (grant funding cycles can add more time to projects!).
- Costs of overcoming deferred maintenance is the greatest barrier to the implementation of an Asset Management Plan



Even with an asserted effort, it may require several years to overcome past management practices.

Capital Improvement Planning



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➤ Capital Improvements

Putting it all Together in the Utility Budget



To Summarize:

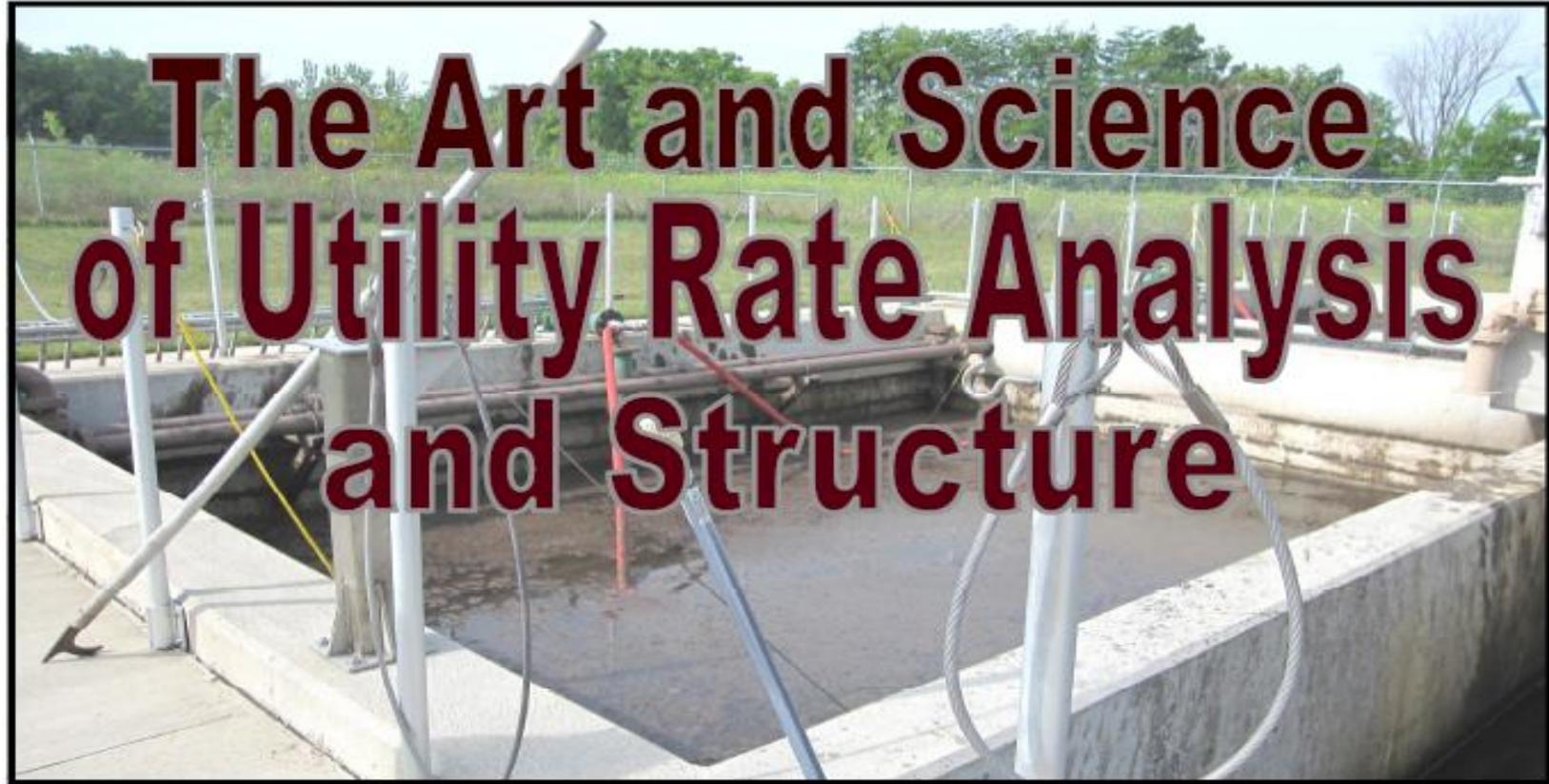
1. Complete data collection and set up spreadsheet.
2. Determine typical year budget.
3. Project at least 5 year typical OM costs recognizing inflation.
4. Incorporate preventive maintenance needs.
5. Add reserve accounts.
6. Don't forget to project future debt service needs for those deferred maintenance capital projects.

Sample Utility Budget



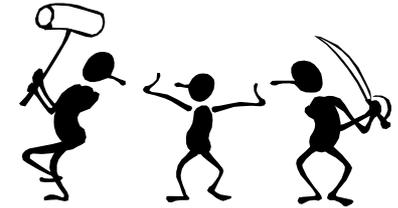
➤ 5 Year Utility Budget Projections

Critical Final Step



Defending Rate Decisions

- Think about the objections you are likely to hear and be prepared to defend your position.
- Normalize your data, i.e. most utilities charge less than 1 cent per gallon for safe drinking water.
- Make sure your calculations are written down.
- Let your most vocal critics review your figures.
- Emphasize the consequences of not implementing necessary rate increases.



Remember: The do nothing alternative can be very expensive!

Mission Possible!



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- Have a clear understanding of how the rate change will be implemented. How much and when!
- Understands why the rate increase is necessary to operate the system on a financially sound basis.
(Your Asset Management Plan)
- Believe that each customer group is paying its fair share of the cost.

Customer Service

- Think about your customer's quality and service expectations, not just their desire for low utility rates.
- Make sure your employees can explain how utility rates are figured.
- Document your efforts!
(Level of Service Goals)



Final Thoughts

- Remember it will takes years to overcome past maintenance practices from run to failure philosophy.
- Small steps are better than failing to move forward because it seems overwhelming!



- It's up to you to demonstrate to the governing board the consequences of deferred maintenance and the need for implementing an asset management program.

Let's try a poll!



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Did you participate in all of RCAP's webinars?

- a. Yes
- b. No

Want to learn more?



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Register other Ohio RCAP training events this fall!

www.ohiorcap.org

CONTACT RCAP FOR HELP!



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If you need more information about preparing an asset management plan, or would like information about RCAP's services to help communities with inventory development, data collection, GIS development and mapping, asset management plan development, or rate studies, please contact us!

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Thank you!



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Please don't forget to fill out the evaluation form following this presentation!

Ohio RCAP Provides Free & Low Cost Services thanks to the generous support of the following agencies.



Questions



Course Evaluations

Thanks for Participating!

Success
is the sum
of small efforts,
repeated
day in and day out.

Robert Collier