Rates, Ratings and Loans: Strategic Leveraging of Your Asset Management Program

An event from the Asset Management Committee

Heather Himmelberger
Southwest Environmental Finance Center at the University of New Mexico
Part 1: Rate Justification and Asset Management

Theodore A. Chapman
Standard & Poors
Part 3: Bond Ratings and Asset Management Programs

Tom Entsminger
Texas Water Development Board
Part 2: Asset Management Planning's Contributions to SRF Funding

Go to https://www.weat.org/event/am-webinar-2019-3-27/2019-03-27 to view the webinar, presentation slides, multi-site user sign in sheets, and webinar questions for CEU credit.

Water Environment Association of Texas

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Mazen Kawasmi
Freese & Nichols, Inc.
Moderator

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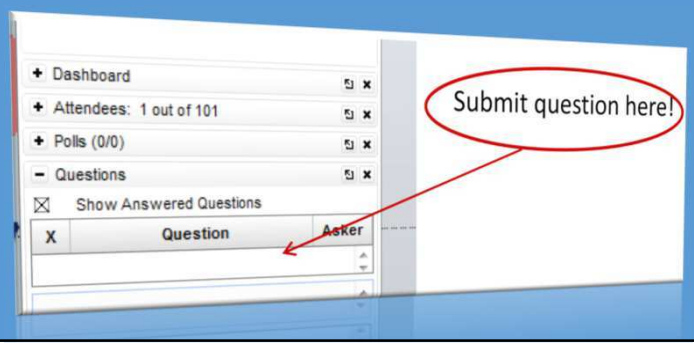

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Heather Himmelberger, PE

Heather Himmelberger is Director of the Southwest Environmental Finance Center at the University of New Mexico. For the past 15 years, she has been a staunch advocate for asset management practices, delivering more than 200 training programs throughout the U.S., as well as assisting utilities of all sizes. A registered professional engineer enrolled in UNM's PhD program in civil engineering, Heather is a member of the EPA's Environmental Financial Advisory Board and the American Water Works Association's Asset Management Committee.

3

Tom Entsminger

Tom Entsminger is Manager of Program Administration for the Texas Water Development Board. Tom plays a wide-ranging role in managing TWDB's water-related infrastructure financing programs. He also served as State Programs Coordinator for the State Water Implementation Fund for Texas (SWIFT). Prior to joining TWDB, Tom spent several years working with the Community Development Block Grant (CDBG) program at the Texas Department of Agriculture, specializing in drought recovery and Colonia assistance programs. He also is a former grant writer for the County of El Paso.

4

Ted A. Chapman

Ted Chapman is a Senior Director for Standard & Poors, providing analysis to the investment community on the credit worthiness of local and state governments. He specializes in sewer, water, electric and gas utilities. Named a "Municipal All-Star" by Smith's Research and Gradings, Ted was named to the EPA's Financial Advisory Board in 2017. He is a member of the American Water Works Association's Finance, Accounting and Management Controls Committee and is a former budget officer for El Paso Water Utilities. Ted has a Master of Public Administration and a Bachelor of Arts in political science from the University of Texas at El Paso.

Ted Chapman
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Asset Management & Ties to Finance

Heather Himmelberger
Southwest Environmental Finance Center Director, UNM

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Quick Reminder of Asset Management

Giving your customers what they want (their desired level of service) at the most appropriate cost

Asset Management is a thought process (not a computer program) that includes the following:

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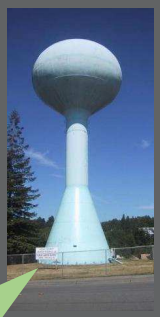
Identifying & Inventorying Your Assets

How Many, What Type, Location, Condition, Useful Life Remaining, & Replacement Cost

Current State of the Assets



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Understanding What You Want Your Assets to Do

Understanding What You Want Your Assets to Do

How Well Are Your Assets Doing That?

Are You Meeting Customer Expectations?

Level of Service

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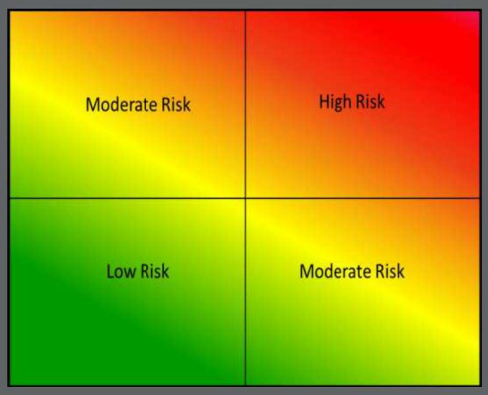
Determining Which Assets Are Critical



How likely are the assets to fail?

What are the consequences if they do?

Criticality

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Figuring Out the Most Advantageous Way to Intervene in the Assets Over Their Entire Life

- When is the Best Time to Intervene?
- What Interventions Are Possible at Each Stage?
- What's the Most Efficient Way to Intervene?

Life Cycle Costing

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Ensuring Long-Term Funding for Sustainability

- How Much Money Do You Need?
- Where Will it Come From?

Long-Term Funding

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Overall Thought Process

Know what assets you have, understand what service you want them to provide to your customers, and determine which ones are most critical to achieving those objectives. Use that information to figure out how to best use your resources – both personnel and money – to intervene in the life of the assets in the most advantageous way possible. Make sure you have sufficient funding, now and into the future, to do what you need to do.

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Asset Management and Funding are Inextricably Linked
Let's Look at Three Particular Links (There are more)

Life Cycle Costing: Operation & Maintenance

Public Involvement /Public Acceptance

Life Cycle: Replacement Cycle

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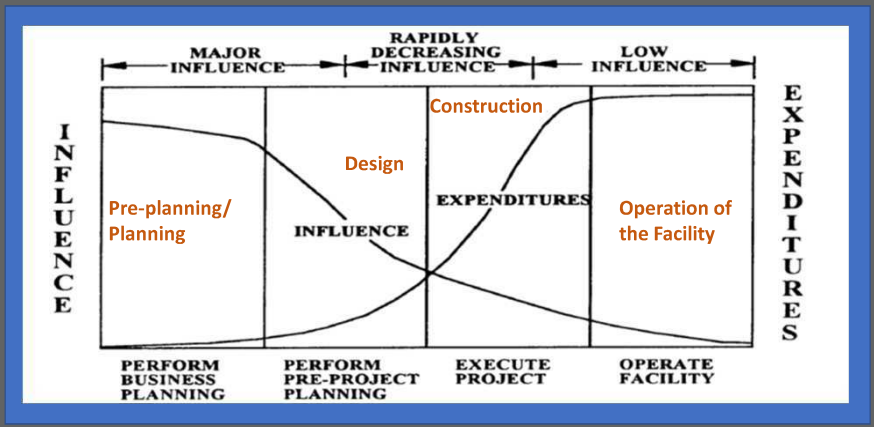
An Asset's Life Starts During the Planning Phase



Source: Gibson and Hamilton (1994) Analysis of pre-project planning effort and success variables for capital facility projects. Construction Industry Institute Source Document 105.

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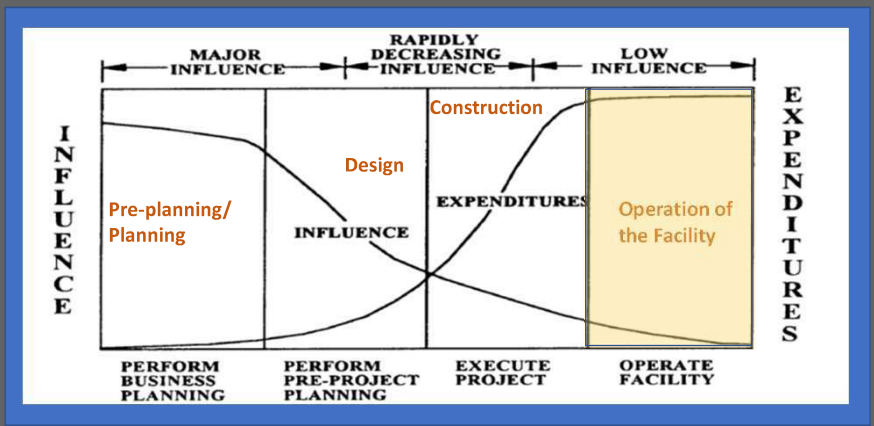
By the Time You Are "Given" the Assets, Most of the Costs Are Locked In



Source: Gibson and Hamilton (1994) Analysis of pre-project planning effort and success variables for capital facility projects. Construction Industry Institute Source Document 105.

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However, Look for the Opportunities to Reduce Operation & Maintenance Costs That Are There

Life Cycle Costing: Operation & Maintenance

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Work Efficiency

Locations of Assets

Spare Parts

Proactive Operation

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Energy Efficiency

- Off-peak pumping, when possible
- Pumps designed properly for operational situation
- VFDs when appropriate
- Lights, HVAC efficiency
- Alternative energy

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Water Efficiency

- Reducing non-revenue water
- Fixing leaks
- Encouraging water conservation

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Financial Efficiency

- Manual vs. automated operation
- Operation matches the needs of the customers
- Running equipment in optimal operational range

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Regulatory Efficiency

- Operate the system to consistently meet regulatory requirements
  - Primary Contaminants
  - Pressure
  - Residual Chlorine

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Doing the right maintenance at the right time, the right way extends the life of the assets and reduces the risk of the facility

- What maintenance Activities Do You Do?
- When Do You Do Them?
- How Do You Do Them?
- What Do They Cost?
- What Impact Do They Have?
- Why did you pick this approach?

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Another Concept: Don't Just Fix It, Improve It!

Use the knowledge you have to make things better next time.

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O&M Examples: Large Utility in Kansas

Expensive and Too Large for the Need

½ HP Pump
$1,500 Purchase
$700~$900 to rebuild

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Retrofit: Same Performance, Cost Savings

1/16 HP Pump $250 new
No rebuild

Each Pump Minimum of $2,000 savings every 2 years

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Chlorine Scrubber: Is There a Better Way?

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Improvement: Retrofit Scrubber to Dry and Inert Media

Including retrofit costs, savings of almost $75,000 over 11 year period. After 11 year period, savings of almost $20,000 per year

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Data Driven Decisions

Use data to help you make better decisions and to optimize your operations and maintenance

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Life Cycle: Replacement Cycle

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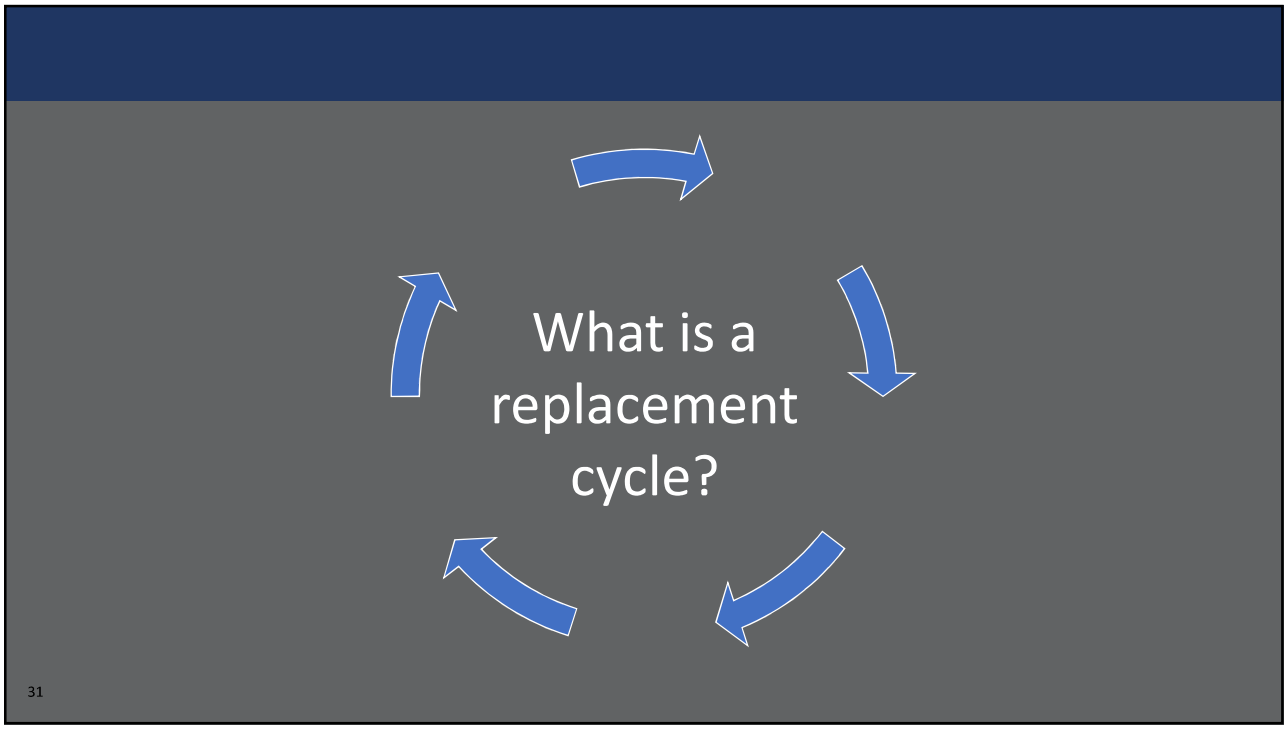

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Information Needed

- Total Replacement Value of the Utility
- The Estimated Life Expectancy of the Facility
- Annual Average Investment in Capital

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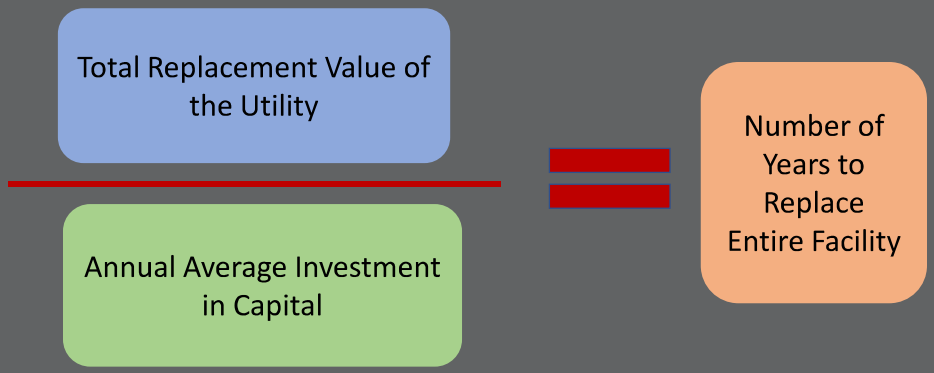
Information Needed



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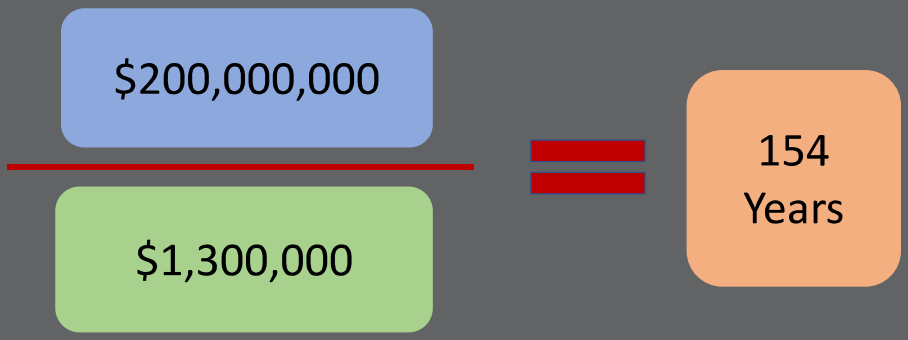
Example



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Is your system expected to last 154 years?

154 Years
(calculated)

>

100 Years
(Estimated expected life)

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What happens when the funding is less than what is needed?

300 Year Replacement Cycle

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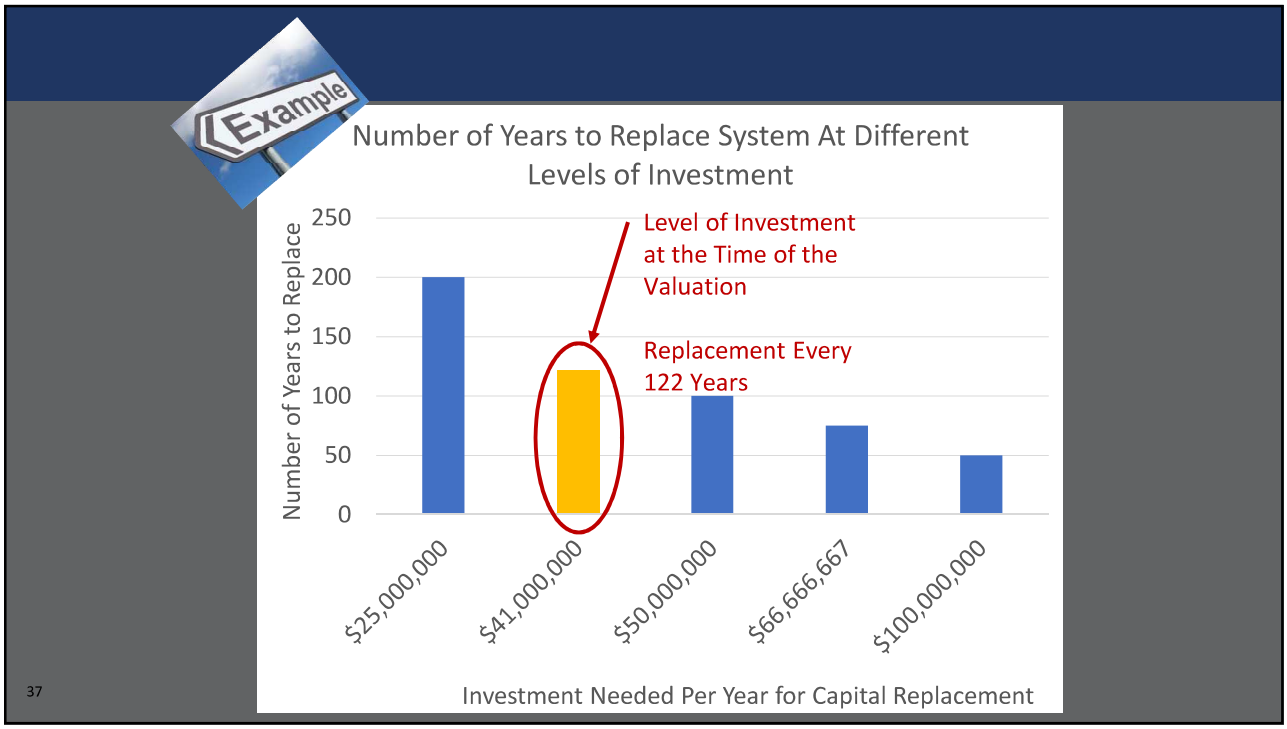
Example
Number of Years to Replace System At Different Levels of Investment
Number of Years to Replace
250
200
150
100
50
0
Level of Investment at the Time of the Valuation
Replacement Every 122 Years
$25,000,000
$41,000,000
$50,000,000
$66,666,667
$100,000,000
Investment Needed Per Year for Capital Replacement
37

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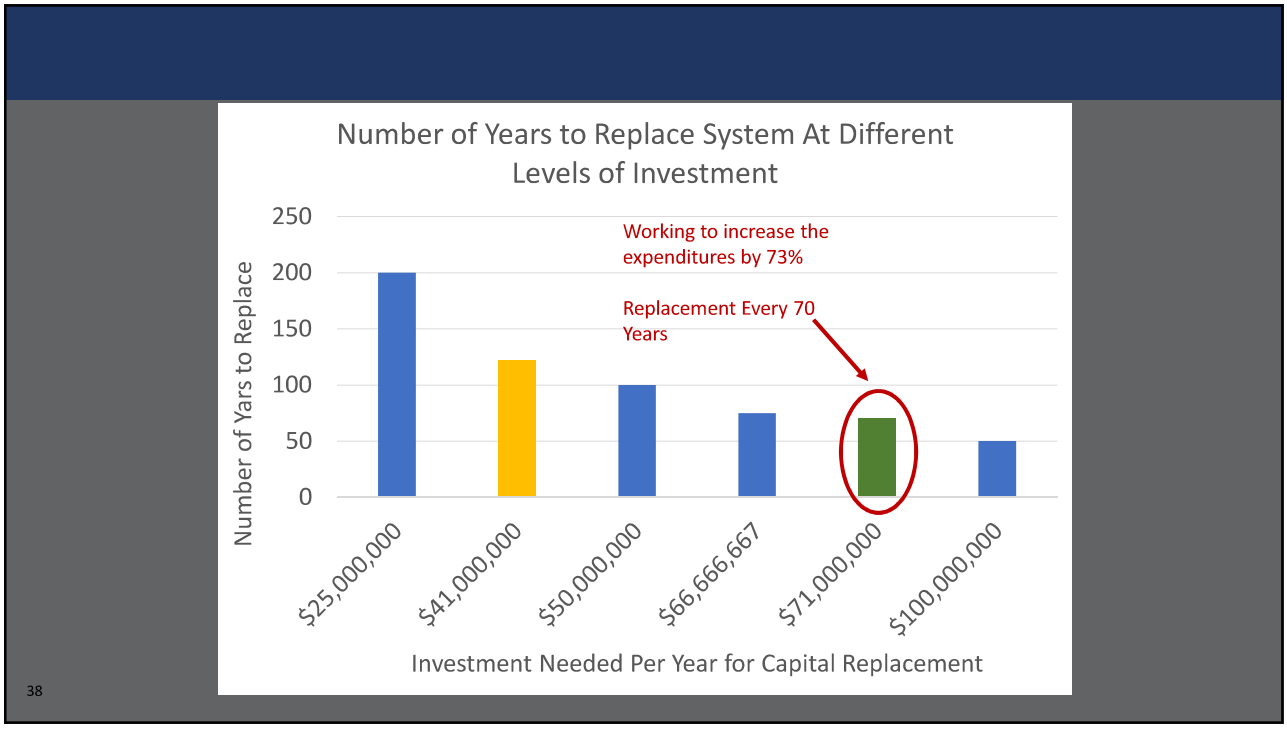
Number of Years to Replace System At Different Levels of Investment
Number of Yars to Replace
250
200
150
100
50
0
Working to increase the expenditures by 73%
Replacement Every 70 Years
$25,000,000
$41,000,000
$50,000,000
$66,666,667
$71,000,000
$100,000,000
Investment Needed Per Year for Capital Replacement
38

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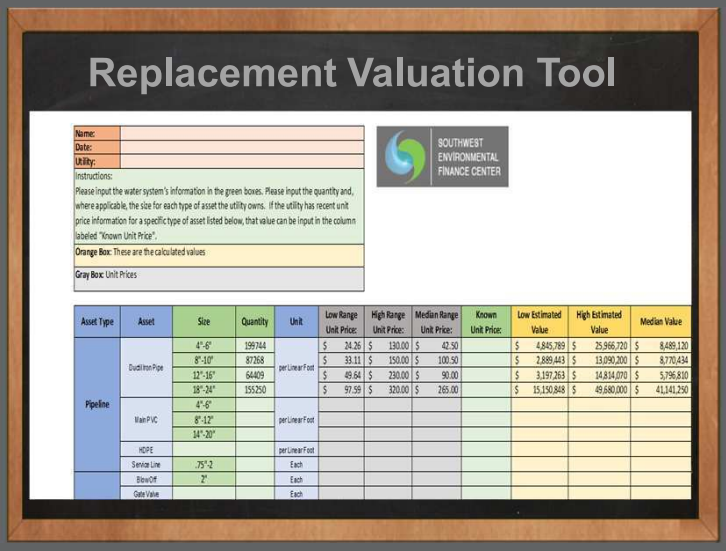
Do You Know Your Replacement Cycle?

Is it Enough?



http://southwestefc.unm.edu/asset-management/

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Public Involvement /Public Acceptance

A word about Public Involvement/Public Acceptance

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Customers as Part of the Utility

Consider your customers partners or collaborators with the utility

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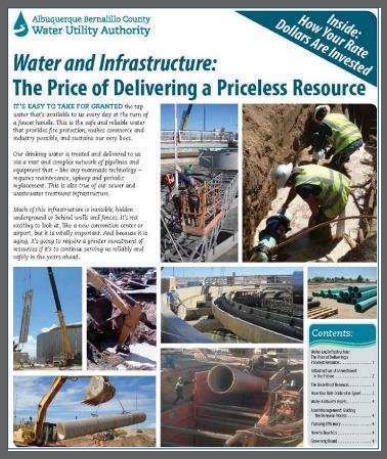
Use every opportunity to communicate with your customers



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Don't Forget About the CRR

- CCR's are now once a year communication with customers, changes in the laws will make them twice a year
- Use the CCR as a way to communicate how well you are meeting the level of service (show your progress towards meeting the goals)

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Why Care About Informing and Involving Customers?

Increase customers'....

- support for the utility
- willingness to pay rates
- support for rate increases
- willingness to pass bond issues for capital

Helps to Stabilize finances for the utility

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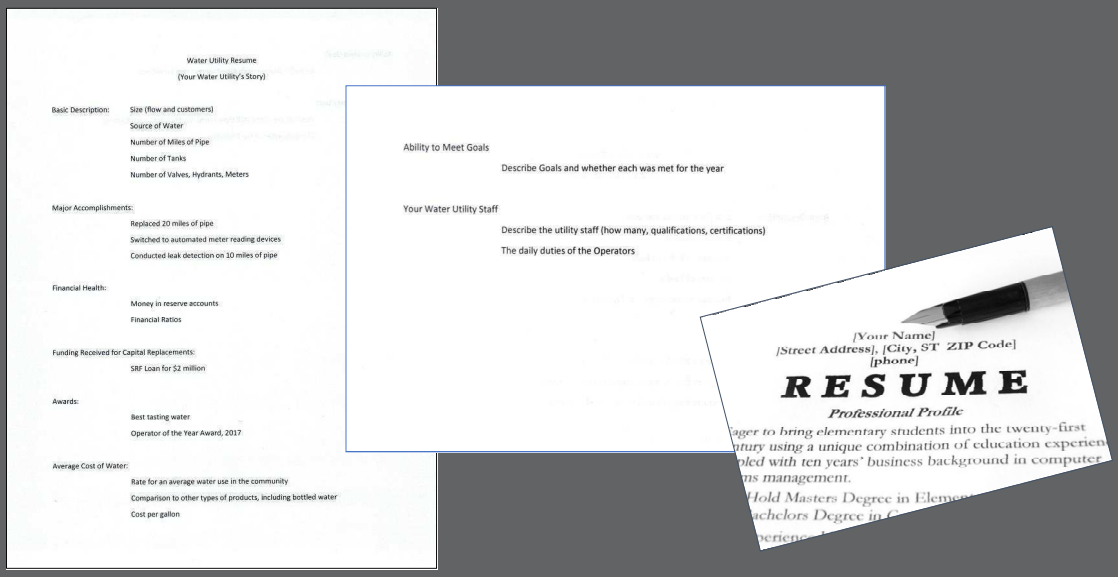
Consider a Water Utility Resume



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In Summary…

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Texas Water Development Board

Support for Asset Management

Tom Entsminger
TWDB Program Administration

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Quick TWDB Background

- **Created in 1957**
- **Several financial assistance programs for water, wastewater, flood control, and related projects**
- **More than just the tangible infrastructure!**
- **Also involved in planning, mapping, and research**

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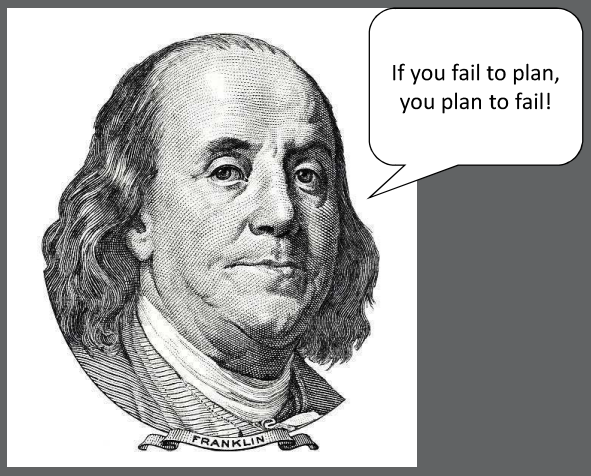
Planning Ahead Makes Sense



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Planning & Asset Management at TWDB

- **State Water Plan**
- **Water Conservation & Drought Contingency plan requirements**
- **Water loss audit thresholds**
- **State Revolving Fund (SRF) programs:**
  - Stated program goals
  - Project ranking
- **AMPSS pilot program**

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SRF Programs

- **Subsidized interest rates**
- **Partial principal forgiveness:**
  - Green projects
  - Disadvantaged communities
  - Very Small Systems (DWSRF only)
  - Emergencies

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SRF Support for Asset Management

- **Support for effective utility management practices is a stated SRF program goal in Texas**
- **Asset management plans are eligible for SRF financing and included in many funded projects**
- **SRF project ranking includes points for asset management plan development & implementation**

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State Revolving Fund (SRF) Programs

CWSRF

Effective Management Rating Criteria

5 pts.	–	Entity has adopted an asset management plan within the past 5 years that incorporates an inventory of all assets, an assessment of the criticality and condition of the assets, a prioritization of capital projects needed, and a budget
1 pt.	–	Entity is planning to prepare an asset management plan as part of the proposed project.
1 pt.	–	Asset management training has been administered to the entity's governing body and employees.
1 pt.	–	Proposed project addresses a specific goal in a water conservation plan.
1 pt.	–	Proposed project addresses a specific goal in an energy assessment, audit, or optimization study conducted within the past three years.
2 pts.	–	Project is consistent with a state or regional water plan, integrated water resource management plan, regional facility plan, regionalization or consolidation plan, or a TMDL implementation plan.

11 points

DWSRF

Effective Management	
An adopted asset management plan that contains an inventory of assets, an assessment of the criticality and condition of assets, a prioritization of capital projects, and a budget.	2.50
Entity plans to prepare an asset management plan with completion of proposed project	0.50
Providing asset management training for the entities governing body and employees	0.50
Project addresses a specific goal in a water conservation plan	1.00
Project involves the use of reclaimed water	1.00
Project addresses a specific goal in an energy assessment, audit, or optimization study conducted within the past three years	1.00
Project is consistent with a municipal and/or state watershed protection plan, water efficiency plan, integrated water resource management plan, a regional facility plan, regionalization or consolidation plan, or an approved Total Maximum Daily Load implementation plan	2.00

8.5 points

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Asset Management Program for Small Systems (AMPSS)

- Grants for development of Asset Management Plans
- 6 communities around the state working with engineering firms
- Focus on smaller, primarily rural communities with household income below the statewide median
- $75k per contract

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AMPSS Deliverables

- Asset Management Plan for the community's water or wastewater system
- Source assessment/Sustainable system planning
- Operations & maintenance/Compliance manuals
- Training on monitoring
- Implementation report

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AMPSS: Looking Ahead

- Expected to continue & expand
- Future selection criteria not yet decided
- Interested? Please stay tuned!
  - Web: www.twdb.Texas.gov
  - Contact staff
  - Social media
  - Monthly workshops

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Thanks!

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The Key Financial Benefits of an Effective Asset Management Program

Theodore Chapman
U.S. Public Finance Infrastructure Group

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Am I Managing for Main Street or Wall Street?

- **It is generally too expensive to just pay for R&R and some types of cap-ex solely with cash**
- **Whether you borrow via the SRF, bond market or a direct relationship with a counterpart (bank, private equity, syndicate, etc.) the lender wants to know ALL about your utility**
  - Financial health
  - Operations
  - Management and governance teams
- **There is a clear economic benefit to your utility to make a good, long-lasting impression**
  - A lot like your mortgage
- **These lenders might choose to supplement their own due diligence with outside research and opinions like a rating agency**

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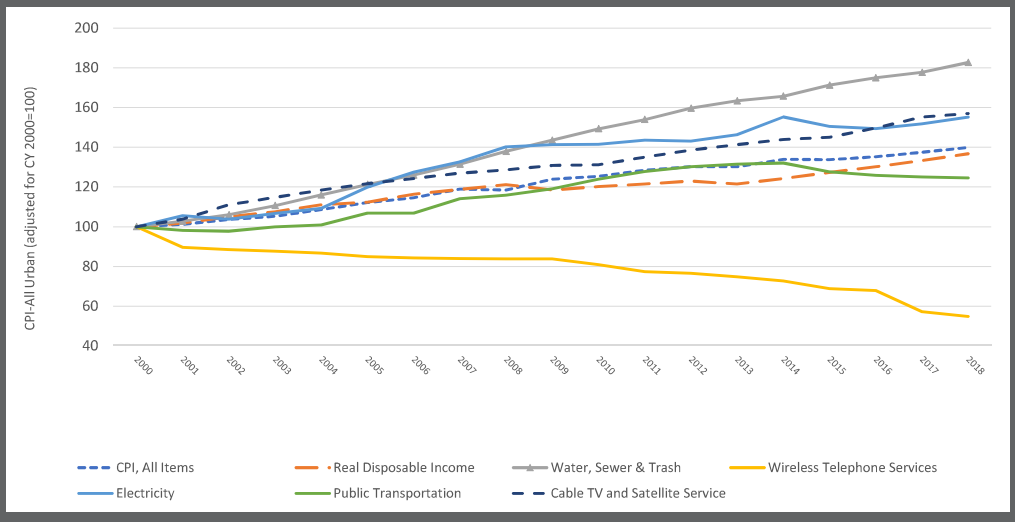
Selected Inflation Rates Since 2000



Source: U.S. Bureau of Labor Statistics and S&P Global Ratings

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How It All Fits Together

- **Generally, your CIP determines what needs to be done with rates, and what you do with rates determines your financial health**
  - AWWA's State of the Industry: aging infrastructure and how it will be paid for

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- Natural resource stewardship
- Affordability, community sensitivities, customer assistance programs
- Maintaining the integrity of the infrastructure, assets and organization (including its finances)

The Triple Bottom Line

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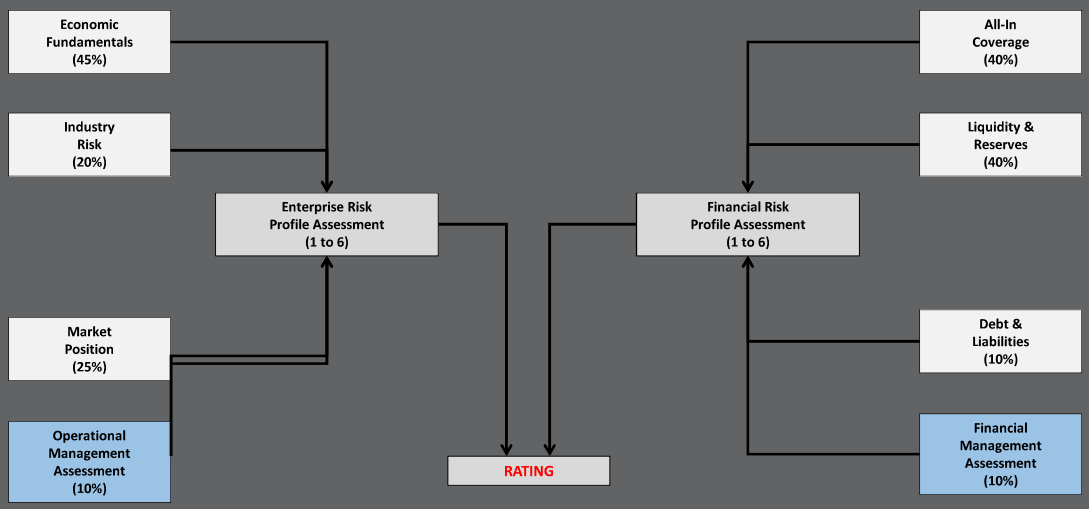
S&P Global Ratings Revenue Bond Criteria

(Summary schematic only. See *spratings.com* for full criteria)



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What Can You Really Affect As a Utility Manager?

Probably

- Operations
  - System Condition
  - Asset Management
- Risk Management
  - Environmental Stewardship
  - Resilience
  - Cyber and Other Emerging Risks
- Financial Management
  - Cash Flow
  - Cash Reserves
  - Forward-Looking Plans
    - Op-Ex
    - Cap-Ex
    - Future Rate Adjustments

Maybe

- Attracting and Retaining Staff
- Mentoring and Succession Planning
- Public Outreach and Support
- Pass-Thru Costs

Probably Not

- Weather/Climate/ Hydrology
- Regulations
- Macroeconomic Conditions and Economic Development
- Demographics
- Trends in the Number of Metered Accounts

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Does This Sound Familiar?

S&P's Management Assessments

- Asset Adequacy/Identifying Operating Risks
- Organizational Effectiveness, Mgmt. Expertise
- Rate Setting Practices
- Revenue & Expense Assumptions
- Budget Monitoring & Interim Reporting
- Long-Term Financial Planning
- Long-Term Capital Planning & Asset Mgmt.
- Investments & Liquidity Policies
- Debt Mgmt. Policies
- Transparency & Accountability

EUM

- Product Quality
- Customer Satisfaction
- Stakeholder Understanding & Support
- Financial Viability
- Operational Optimization
- Employee Leadership & Development
- Infrastructure Strategy and Performance
- Community Sustainability
- Water Resource Sustainability

Q: How well aligned are the timing and magnitude of approved rate increases versus what was requested?

A: Credibility and objectivity of requests can be very helpful. We've seen that AM systems can provide your decision makers with that data

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Examples of Questions You Can Expect to be Asked

DW

- Age of meters
- Lost water
  - Apparent and real, per M36
- SDWA issues
  - Ex. DBP, frequent boil water notices
  - In TX, lead and PFAS less problematic
- Drought contingencies
  - Reuse, IDPR or even DPR
- Source water
  - Quantity, quality, protection

CW

- I&I and overflows
- NPDES requirements
  - Nutrient removal
- Stormwater, if applicable

Other

- Climate risk management
  - Resilience, adaptation and mitigation
- Cybersecurity

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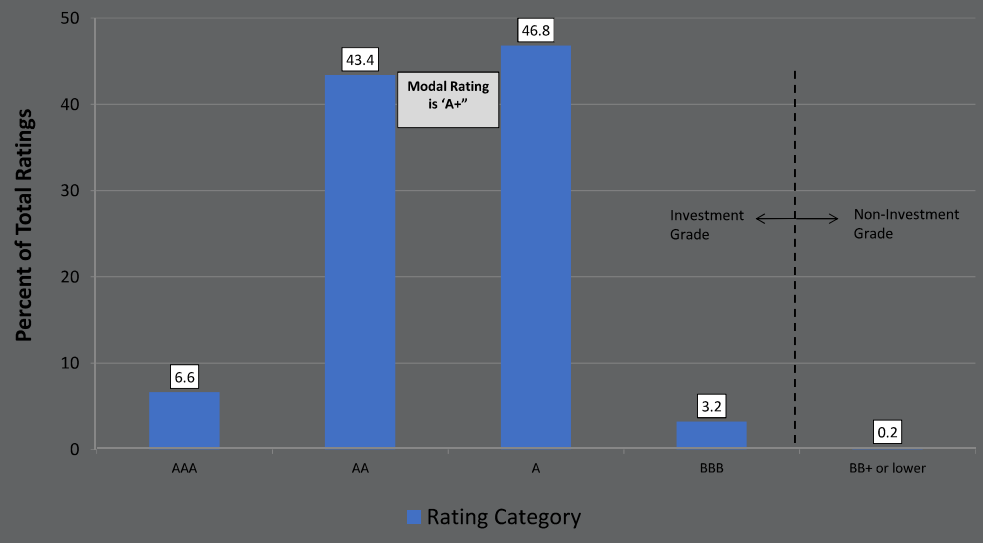
Most Municipal Utility Systems Are Rated Very Highly



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CEU Questions

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- **Do I need to have an asset management plan before applying for financial assistance from TWDB?**
  - Answer: No, you can request funds for a plan in your application. In some cases, asset management may help as a scoring factor, but usually not enough to make the difference between being funded or not.
- **Why would asset management be of interest to Wall Street investors or even relevant to the utility's credit rating?**
  - Answer: For any utility, whether municipally-owned or investor-owned, the better condition its assets are in, the more likely it is that its overall operational AND financial health will also be solid. Our rating opinion is our overall view of general creditworthiness and relative risk to the bondholders because those assets are expensive. This is a capital-intensive industry. The local utility is probably not going to be able to just 'write a check' for renewals and replacements or even have growth pay 100% for growth. Whether your utility looks to the state DWSRF/CWSRF or even the bond market, someone is investing their money in you when you borrow. They're going to want to know what the relative risks are, just as much as wanting to know about your strengths and weaknesses.

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- Why is it important to determine your life-cycle replacement cost?
  - Answer: It is very important to know whether you are investing enough money in infrastructure to keep up with the decay in the system. Once you understand your "gap" between what you are currently spending and what you need to spend it gives you a chance to have conversations at all levels within the organization and with customers on ways to reduce the gap and increase the spending level. On the reduction side, improving efficiency through asset management is one way to reduce costs. On the increasing side, it provides a chance to get elected leaders on board with ensuring the long-term sustainability of the water and/or wastewater system. One consideration is that it is not possible to increase the annual spending rapidly. It takes time to build up to a higher level of expenditure and this should be thought about as you are trying to increase the level of investment.

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