CAPITAL BUDGETING AND FUNDING

Road Map for the Future

SDARWS ATC

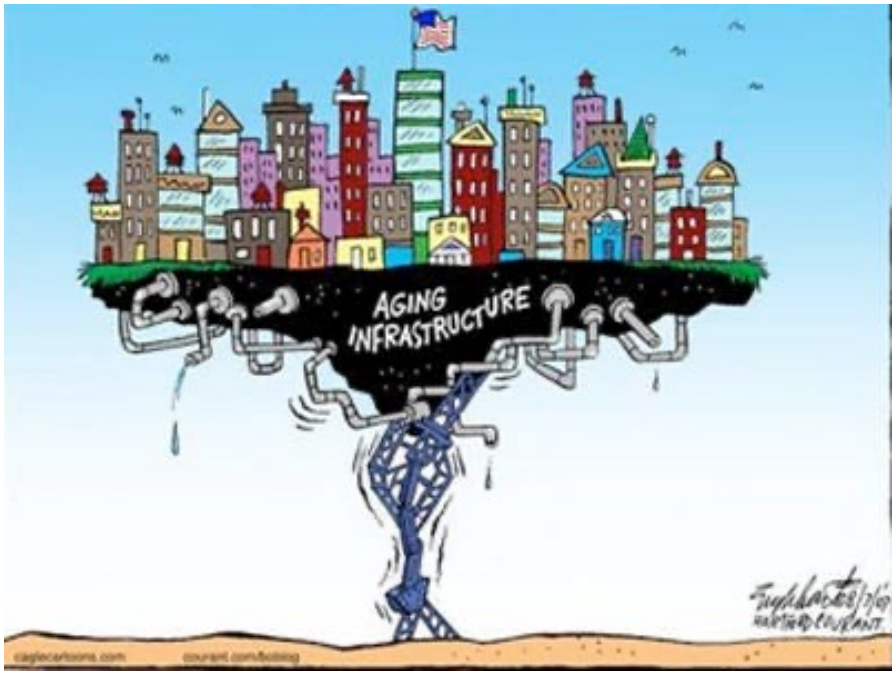
Pierre, SD

January 10, 2024

ATC 2023
South Dakota Association of Rural Water Systems
ANNUAL TECHNICAL CONFERENCE

AE2S

PRESENTATION THEMES



- Understanding Value
- Maintaining Value
- Financial Viability
- Best Utilizing Available Funds
- Near- and Long-Term Plan
- Communicating Value, Planning Vision, and Viability

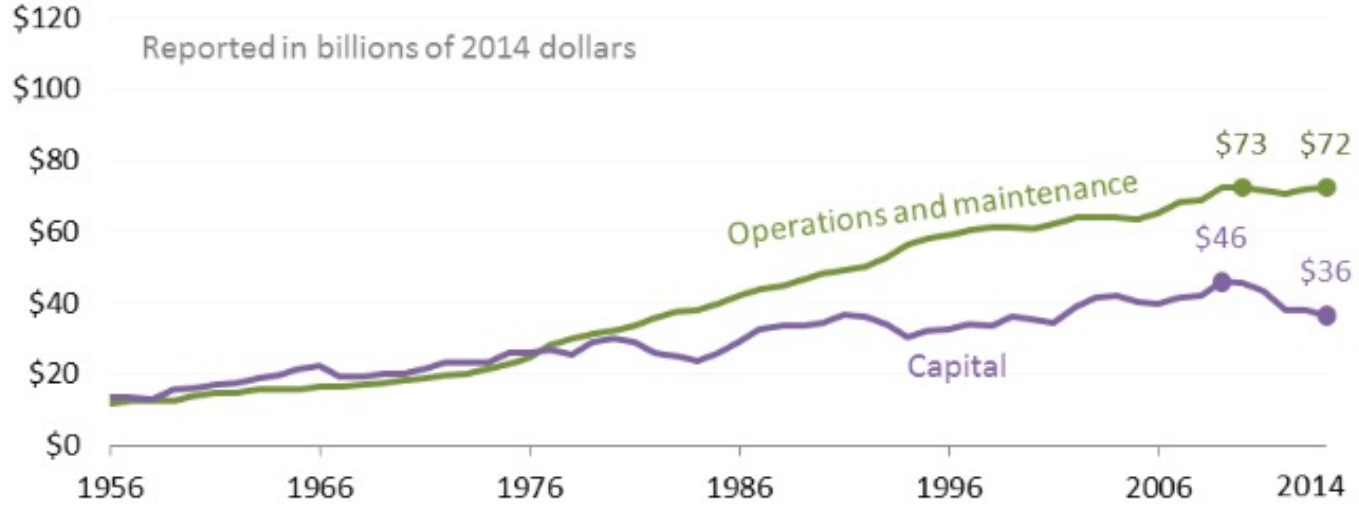
TOP ISSUES FACING THE WATER INDUSTRY

1. **Renewal and Replacement of Aging Infrastructure**
2. **Long-Term Water Supply Availability**
3. **Financing for Capital Improvements**
4. Public Understanding of the Value of Water Resources *(#8 last year)*
5. Watershed/Source Protection
6. Aging Workforce
7. Public Value of Services

Source: AWWA, 2023: "**2023 State of the Water Industry Report**"

TRADITIONAL WATER & WASTEWATER SPENDING LEVELS

Between 1980 and 2014, real spending on O&M grew 126% while real spending on capital grew 22%, including a decline of 21% between 2009 and 2014



Graphed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Source: Congressional Budget Office supplemental data for the *Public Spending on Transportation and Water Infrastructure, 1956 to 2014* report (March 2015). Displays public spending on supply systems for distributing potable water as well as wastewater and sewage treatment systems and plants. Real spending is shown after adjusting nominal spending to their 2014 dollar equivalent using infrastructure-specific price indexes.

Four Trends in Government Spending on Water & Wastewater (unc.edu) (Sept 2015)

HISTORIC LEVEL OF FEDERAL FUNDING (SINCE 2020)

ARPA (State & Local)

Obligate before 2025
Spend before 2027
Includes Water Infrastructure

Congressionally Directed Spending "Earmarks"

$9 Billion direct federal dollars to cities for 5,000 projects in the first year

Inflation Reduction Act

$4 Billion in drought relief Urban or Agricultural Water Efficiency and Conservation funding

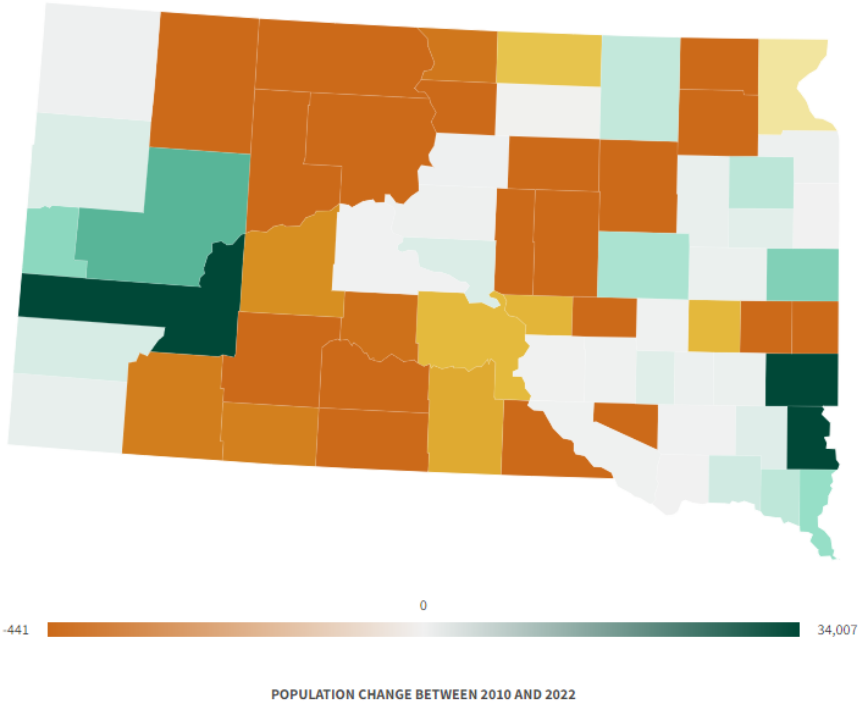
CARES Act

Direct Response to COVID
Targeted to help businesses

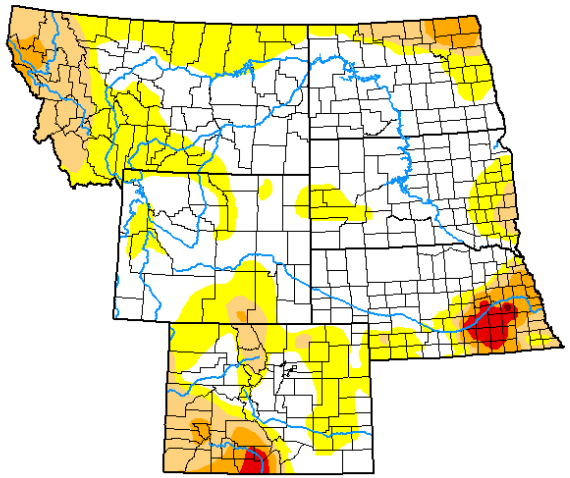
Bipartisan Infrastructure Law (BIL)

$50 Billion in funding for Water Infrastructure. (i.e., SRF, Lead, PFAS)

OTHER CHALLENGES



Source: Census Bureau



U.S. Drought Monitor

USDA Northern Plains Climate Hub

January 2, 2024

(Released Thursday, Jan. 4, 2024)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	55.86	44.14	17.31	5.71	1.34	0.02
Last Week 12-26-2023	57.95	42.05	15.98	5.81	1.67	0.28
3 Months Ago 10-03-2023	63.59	36.41	24.36	12.93	2.82	0.63
Start of Calendar Year 01-02-2024	55.86	44.14	17.31	5.71	1.34	0.02
Start of Water Year 09-26-2023	62.93	37.07	24.15	12.79	4.32	0.63
One Year Ago 01-03-2023	14.17	85.83	62.11	32.29	10.87	1.66

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

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National Drought Mitigation Center

droughtmonitor.unl.edu

PROMOTING SUSTAINABILITY

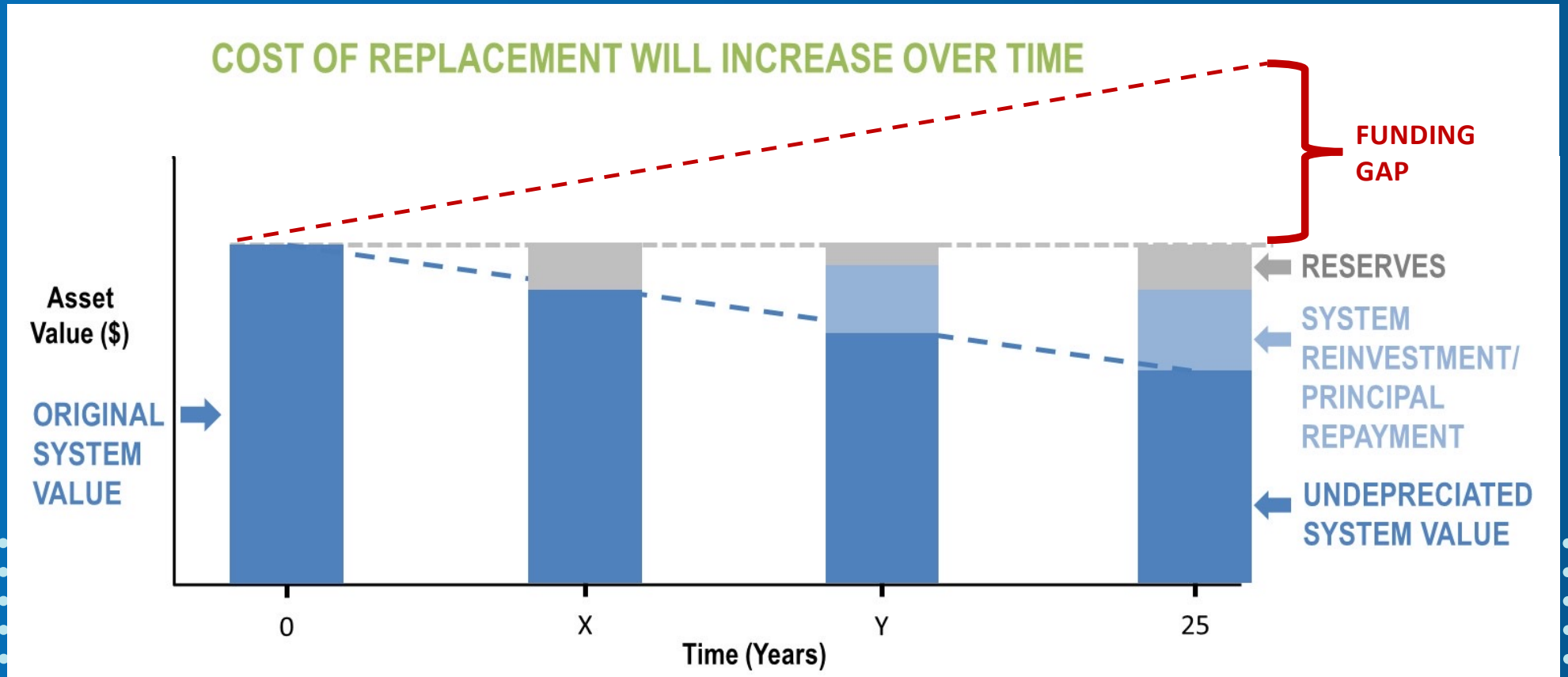
Understanding and Maintaining Value

Renewal Planning: Defining Sustainability

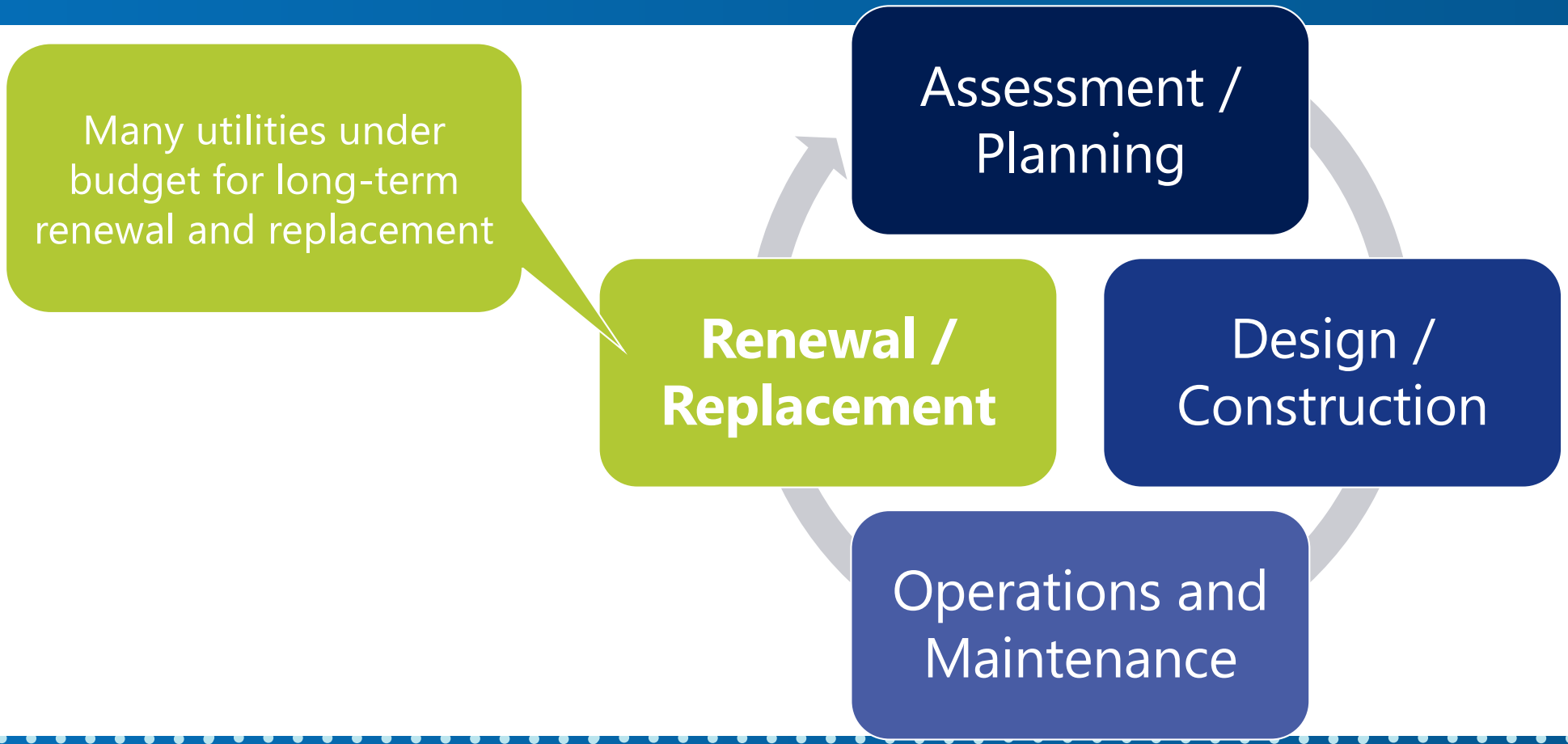
Funding Infrastructure Renewal: Sustainability in Practice

Asset Value and The Cost of Waiting

SYSTEM VALUE



GENERALIZED ASSET LIFECYCLE



THE COST OF WAITING
Case Study

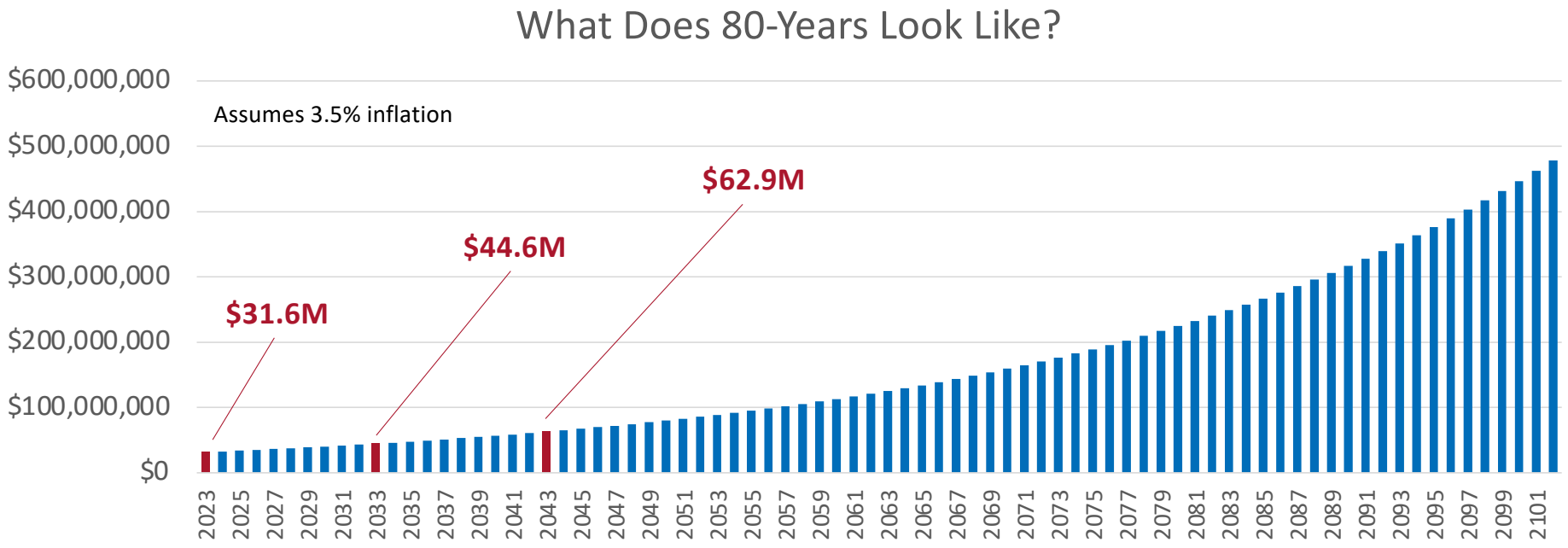
System	Infrastructure Miles	Life Cycle	Miles / Year
Water Main	352	80 Years	4.4 miles / year
Sanitary Sewer	275	80 Years	3.4 miles / year
Storm Sewer	237	80 Years	3.0 miles / year
Roads	296	80 Years	3.7 miles / year
Miles per year based on infrastructure ≈ 4.0 miles / year			

What is the cost of waiting?

THE COST OF WAITING
Case Study

- **2018 Total Municipal Reconstruction Project Example**
  - 1,900 Feet
  - $2,500,000 (2018$)
  - $7,900,000 per mile (2023$)
- **2023 Hypothetical Reconstruction Project Costs**
  - 4.0 miles = $31,600,000 (2023$)
  - Costs are going to keep increasing…

THE COST OF WAITING
Case Study



The cost of waiting is exponential

What is Renewal Planning and Why It's Important

WHAT IS RENEWAL PLANNING?

Making the appropriate investments in existing infrastructure systems to provide a reliable, sustainable, and consistent level of service to customers.

NBC News. Water Main Break Shuts Down Intersection. August 26, 2016.

Investments can be made directly into improving infrastructure or reserves for use in the future.

WHY IT'S IMPORTANT

Ensuring public safety

Continue to provide consistent level of service

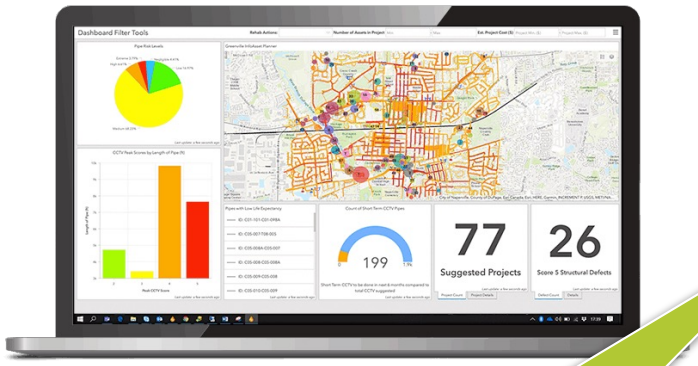
Minimize surprises

Build confidence – know when and how to fund infrastructure

Predictable rate adjustments

Justify reserves and cash on hand

RENEWAL PLANNING
Recommendations for Getting Started



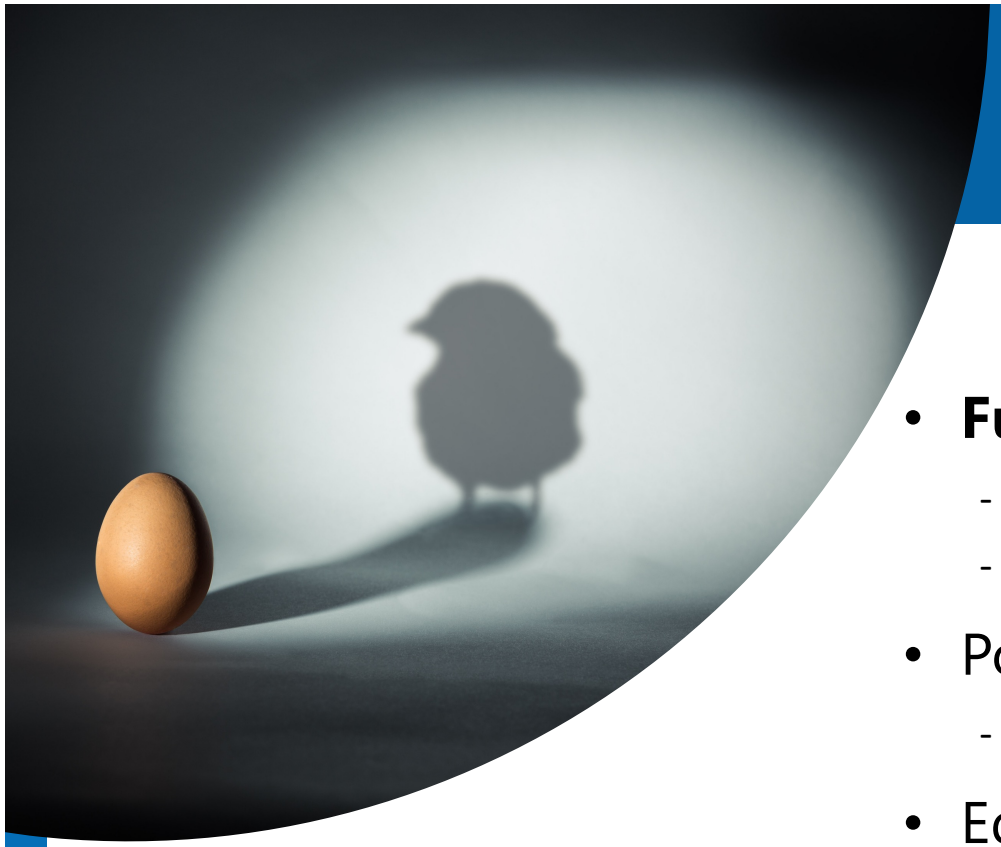
GIS and other tools can help throughout the renewal planning process

1. Develop a robust infrastructure inventory; the more data the better
2. Analyze your infrastructure; determine strategies and priorities for improving
3. Align your renewal plan (and other capital improvement plans) with a financial model
4. Advocate for policies that include funding infrastructure renewal and/or reserves

SOME QUESTIONS TO CONSIDER

- What do we own? What is it worth? What is the condition?
- What has been depreciated in the system? What infrastructure is at or nearing the end of its useful life?
- What do we currently have in reserves?
- How will projects be paid for the in the future? (cash vs debt)
- What is value of system “consumed” annually?
- How much capital is funded annually through rate revenues?
- What does affordability mean to my users?

Funding Infrastructure Renewal Efforts



WHERE TO START?

- **Full Cost Recovery**
  - When was the last time we evaluated our rates?
  - Are our rates covering the full cost of service?
- Policy Discussion
  - Do we have financial policies in place?
- Education
  - What is our strategy for educating stakeholders?
  - What is our strategy for educating customers?

FULL COST RECOVERY

Full Cost Recovery (or Pricing) - charging rates and fees that reflect the full cost of providing water and/or wastewater services; this includes renewal and replacement costs for treatment, storage, distribution, and collection systems.

Full Cost Recovery should include:

- **Annual O&M Expenses**
- **Capital Costs (i.e. debt service, other capital outlay)**
- **Adequate Working Capital and Required Reserves**

FULL COST RECOVERY (Continued)

Some utilities have previously kept their rates low by minimizing or ignoring renewal and replacement costs.

But as the useful lives of our infrastructure systems come to an end, managers and the communities they serve are forced to address these costs, sometimes **through painful and unexpected rate increases**.

EXAMPLE: SIMPLE CAPITAL PLAN-BASED APPROACH

- Capital Reserve Placeholder
  - Minimum recommended annual reinvestment = Annual Depreciation

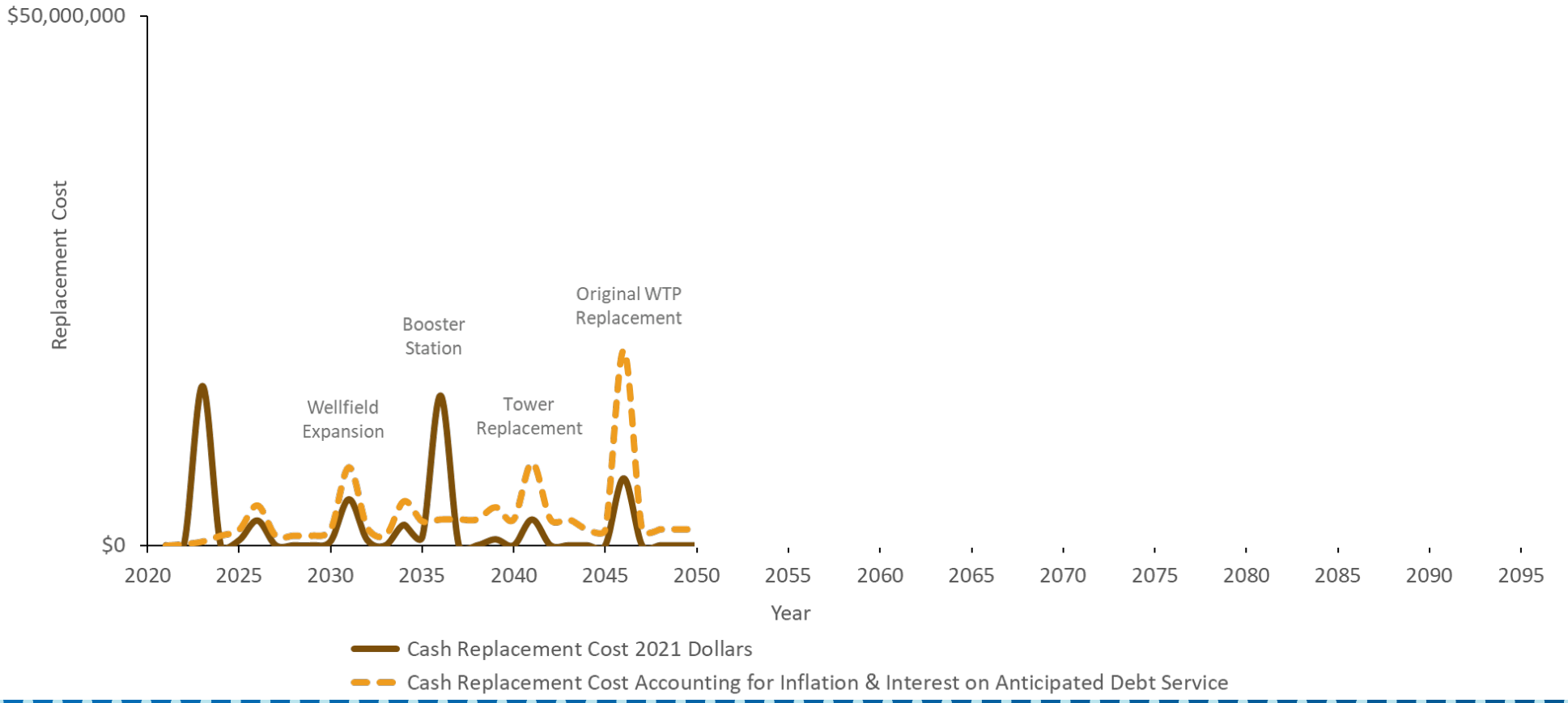
Potential Capital Items*	2024	2025	2026	2027
Generators for Pump Stations	$40,000	$40,000	$40,000	$40,000
Rural Water Mtce Bldg			$200,000	$200,000
Total	**$40,000**	**$40,000**	**$240,000**	**$240,000**
Annual Average =	**$140,000**			

	Projected 2024
Annual Depreciation	**$793,083**
Less 2024 Debt Principal	($604,740)
Less Average Rate-Funded Capital	($140,000)
Calculated Contribution to Capital Reserve	$48,343

Note: Recommended Capital Placeholder Value is based on Depreciation, and would not change in the absence of any potential Capital Improvement items

- Capital-Related Revenue Requirements
  - $604,740 Debt Service Principal
  - $188,343 Capital Investment or Contribution to Capital Reserves

BEING PROACTIVE | FORWARD LOOKING
Case Study



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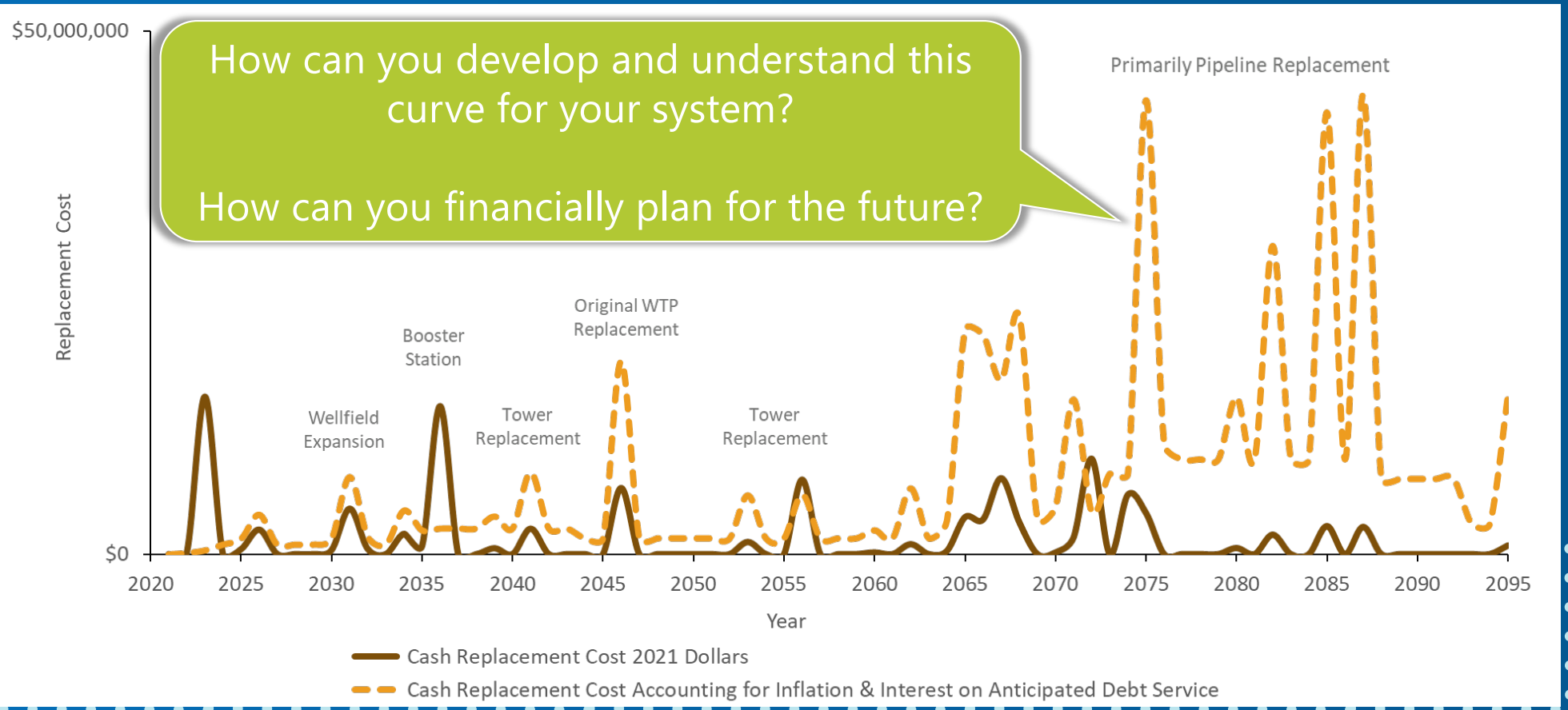
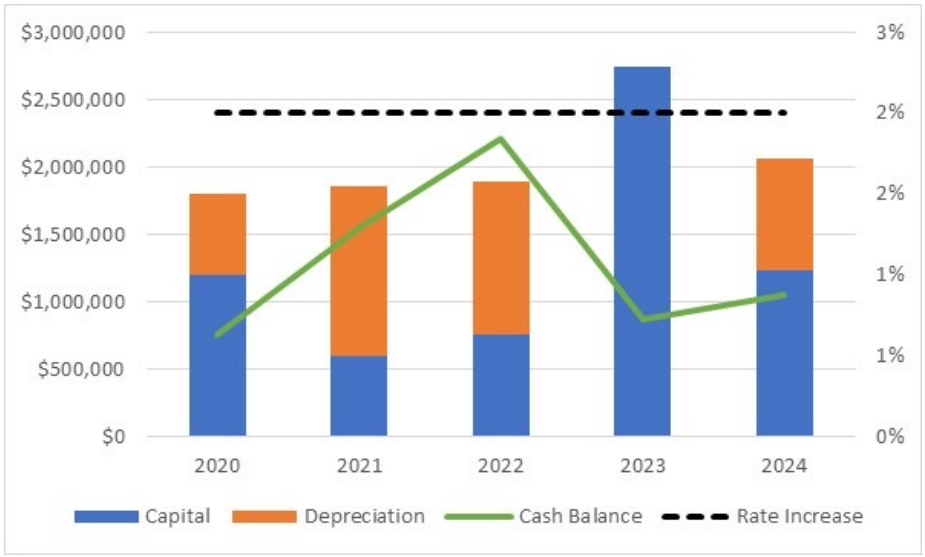
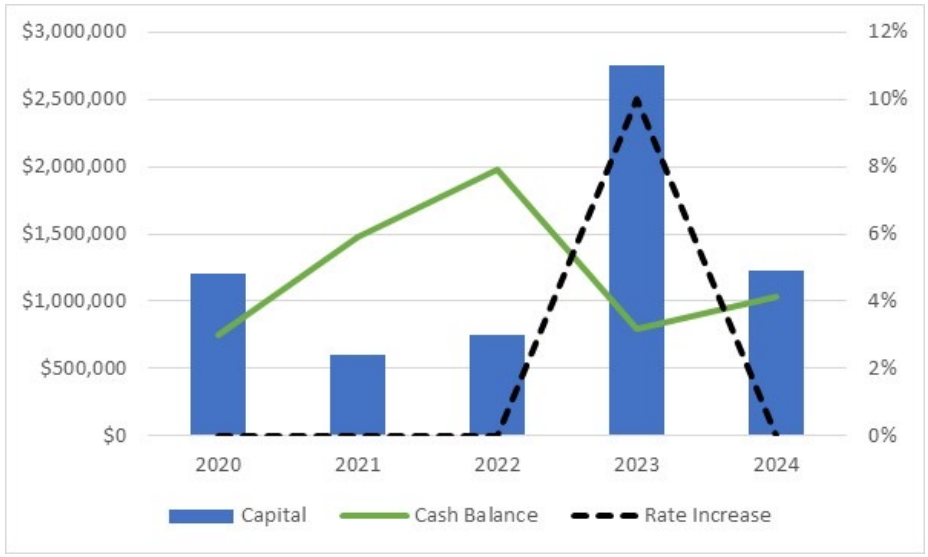


PROACTIVE CAPITAL PLANNING YIELDS SMOOTHER RATE MANAGEMENT

Strive for This:



Not This:



RESERVES

What Reserves are Recommended? What are the Targets?

Reserve Fund	Description/Purpose	Recommended Target Guidelines
Operating	Cash available to ensure the utility can meet on-going O&M expenses despite seasonal revenue fluctuations	Minimum one-eighth of annual operating and maintenance expense (45 days); 45-120 days, sometimes up to one year of O&M
Debt Service	Restricted account required by bond/loan covenant, held for the life of the loan and used for final debt retirement	As specified in bond/loan documents, typically equal to the highest annual payment within repayment period
Capital	Cash set aside for capital renewal/replacement, or future system expansion, based on desired approach to capital funding	A strategic target is normally set based on specific capital funding goals of the system, i.e.: • One year of depreciation • Five-year average of rate-funded capital investment • Percentage of the annual capital improvements plan • **Asset-based annual reinvestment calculations**
Emergency	A reserve fund specifically established to offset revenue needed in the event of unplanned expenditures or events, such as a drought	Approaches vary; sometimes based on the cost of replacement of the most critical and expensive infrastructure, or designed to replace a critical revenue loss, such as in a drought situation
Rate Stabilization	Similar to an emergency reserve designed to avoid rate spikes and minimize necessary rate adjustments when expenses are higher than anticipated and/or revenues are less than anticipated for any reason	A target is not always specified, sometimes set as the amount of revenue associated with a certain percent rate increase

CAPITAL RESERVE APPROACHES

	GOOD	BETTER	BEST
APPROACH	STRAIGHT-LINE DEPRECIATION	DEPRECIATED REPLACEMENT COST	CONDITION-BASED DEPRECIATION
ANNUAL CAPITAL PLANNING VALUE CALCULATION	• **Depreciation =** (Original Capital Asset Value - Assumed Salvage Value) ÷ Expected Useful Life in Years	• **Replacement Cost =** Original Cost x (1 + Capital Index Percentage) ^ (Expected Useful Life in Years) • **Depreciated Cost =** Calculated Replacement Cost ÷ Expected Useful Life in Years	• Based on condition assessment tools/ methods, develop annual reinvestment values

Are you reinvesting enough into your utility?

Perform these calculation system-wide for all assets

Total Annual Capital Investment ≥ Total System Calculated Depreciation

CAPITAL RESERVE APPROACHES

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APPROACH	STRAIGHT-LINE DEPRECIATION	DEPRECIATED REPLACEMENT COST	CONDITION-BASED DEPRECIATION
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Are you reinvesting enough into your utility?

Perform condition analysis to determine estimate life and renewal/replacement strategies and directly incorporate into utility capital improvement plans and budgets

CAPITAL RESERVE APPROACHES - EXAMPLES

Pump Station (Simplified Example):

- $10M to construct in 2000
- 30-Year Estimated Life
- 3% Historical Inflation

Good: $10M / 30-Years = **$334K Annual Reinvestment**

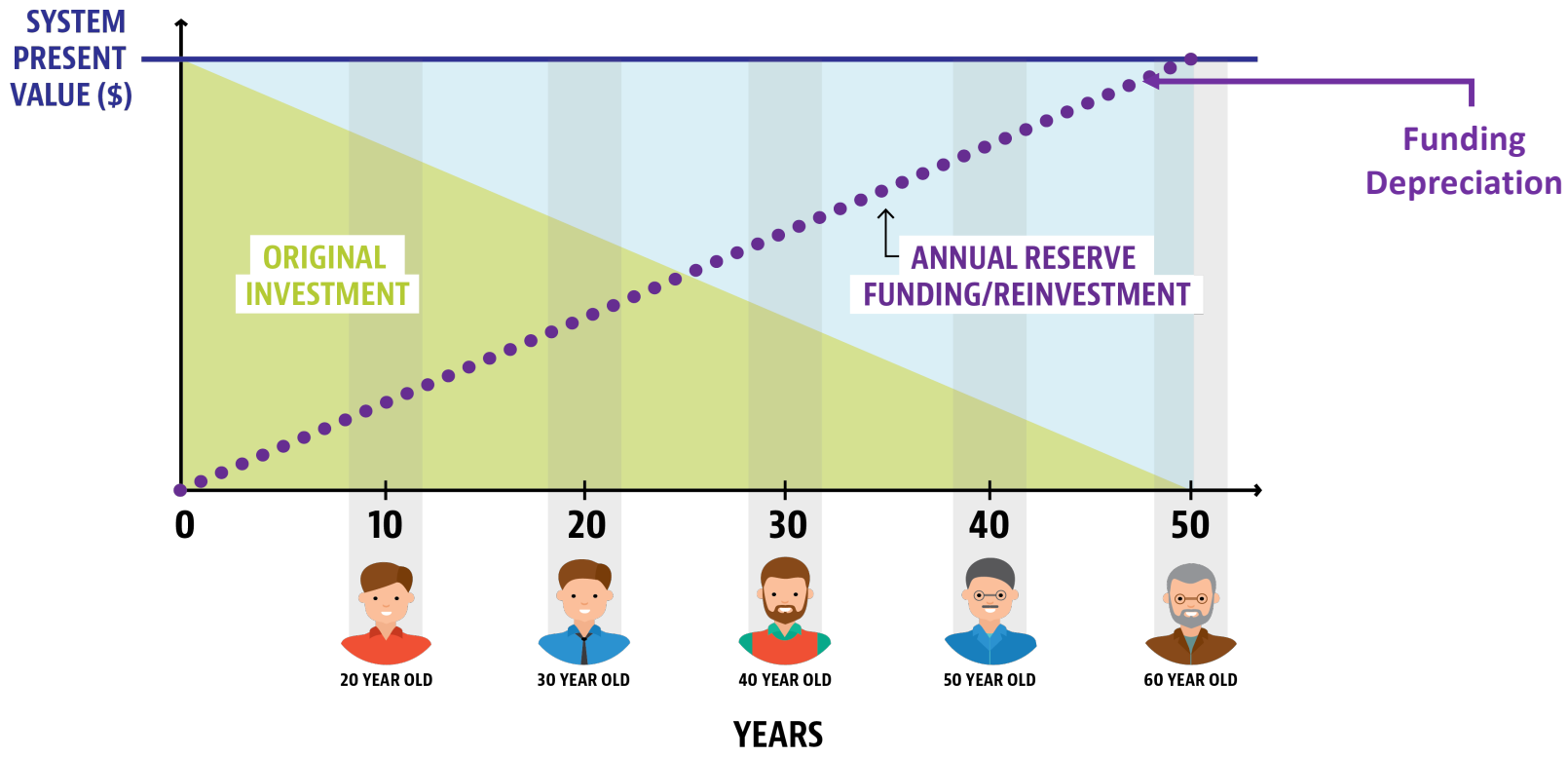
Better: $10M x $(1.03)^{30}$ = $24.3M to replace it in 2030

$24.3M / 30-Years = **$810K Annual Reinvestment**

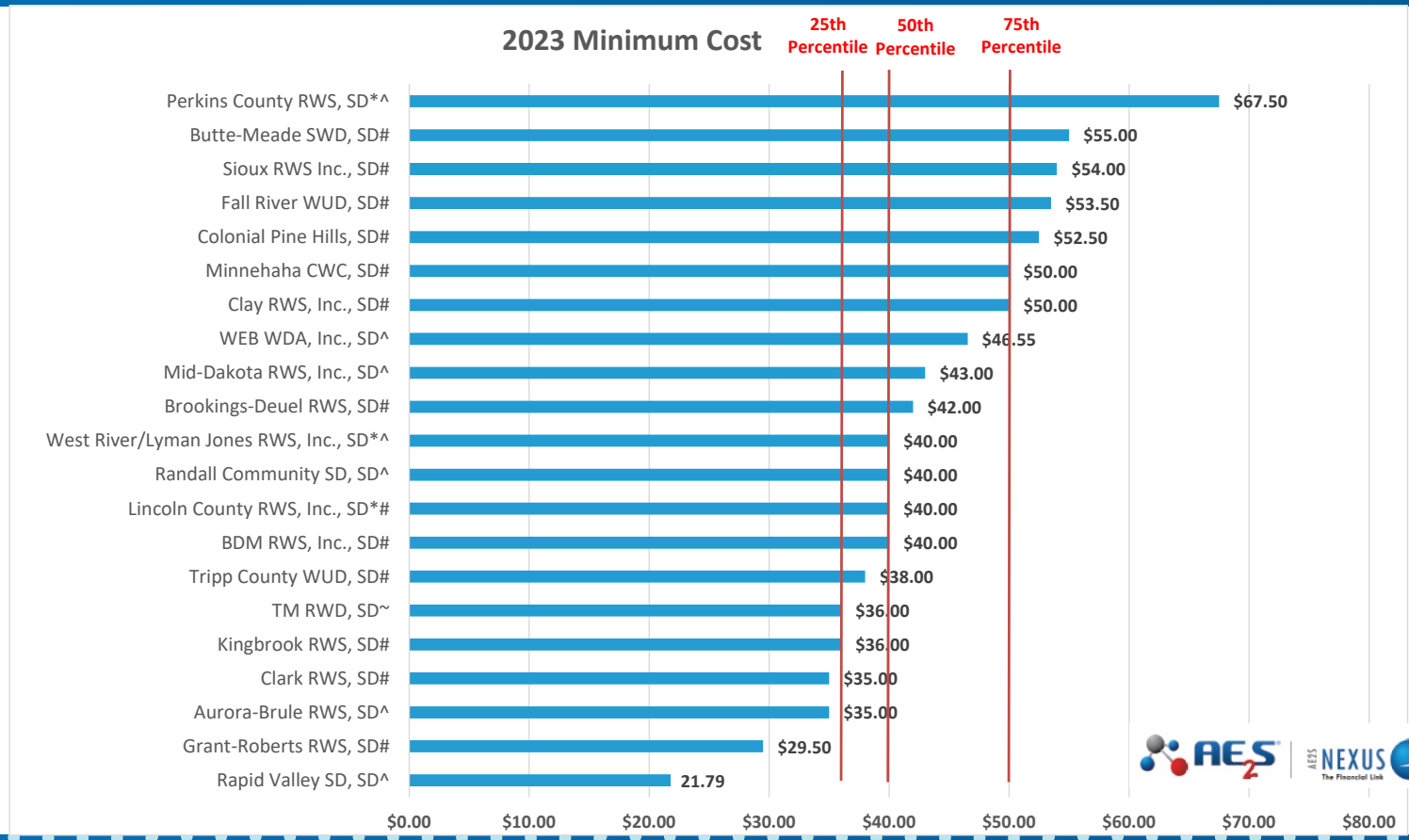
Best: Perform condition analysis and develop specific rehab plan and budget for it (reinvestment value could be between the other two approaches)

Financial based models can be performed utility-wide and provide guidance for total utility reinvestment amounts

GENERATIONAL EQUITY



EDUCATION AND COMMUNICATION: Benchmarking Tools



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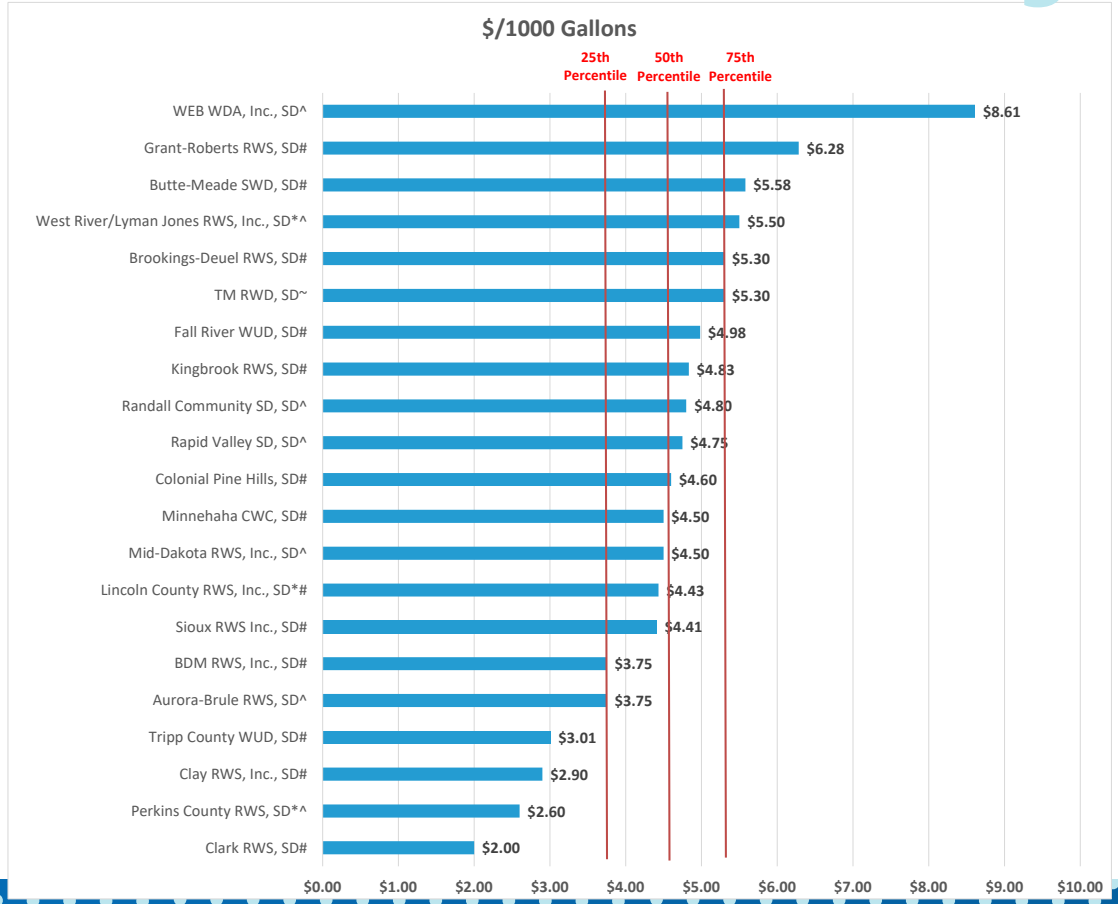
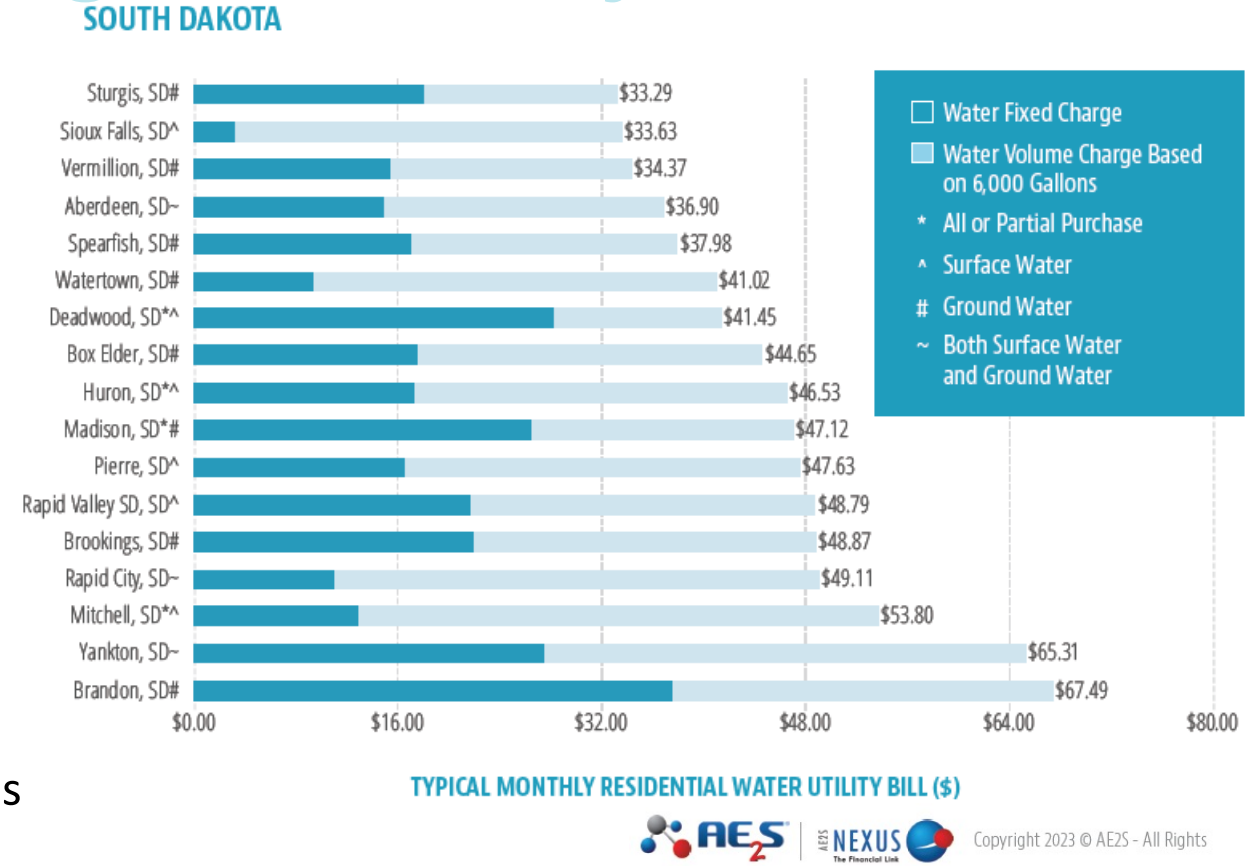


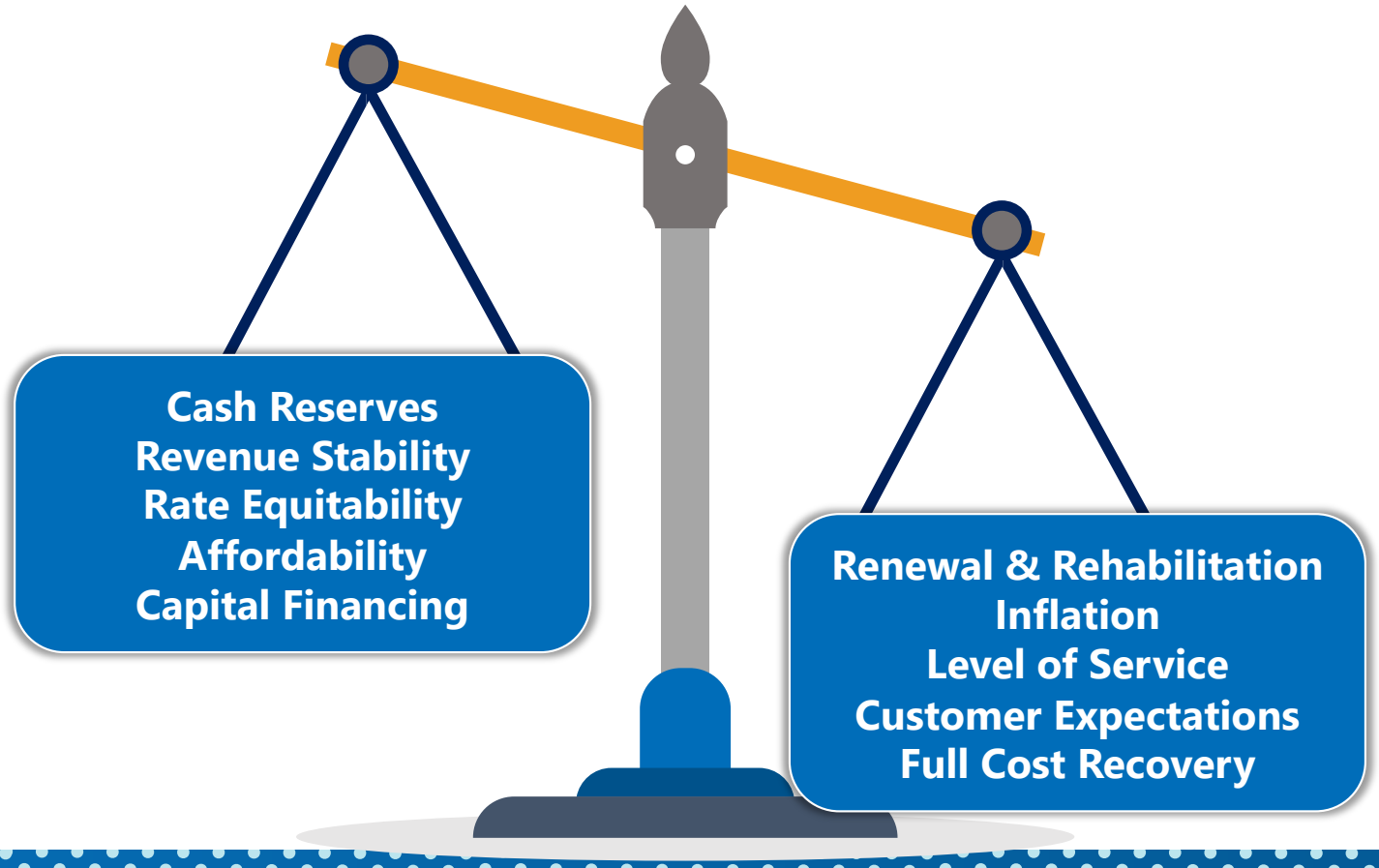
EDUCATION AND COMMUNICATION: Financial Management/Policy Discussions

- Self-supporting utilities
- Revenue stability
- Physical sustainability
- Economic development
- Funding agency requirements
- Access to capital
- Fair and equitable charges
- Affordability
- Financial sustainability/health
- Approaches to rate structuring
- Approaches to funding reserves



WRAP UP

PLANNING FOR THE FUTURE IS A TRUE BALANCING ACT



TAKEAWAYS

- Multiple reports and studies warn us of the burdens of delaying investments in renewing our infrastructure
- Costs will continue to increase, and the cost of waiting is exponential
- Ensure your rates are covering the full cost of providing service, but continue to leverage grant and low interest loan funding opportunities
- Funding infrastructure renewal on a recurring basis directly or via investments in reserve funds is strongly recommended

Position your System for success by getting started with an infrastructure renewal plan

REMEMBER WHY IS THIS IMPORTANT

- Maintain value and reliability of system
- Continue to provide consistent level of service
- Build confidence:
  - What infrastructure to fund
  - When to fund it
  - How to fund it
- Support predictable rate adjustments
- Justify cash on hand

FINANCIAL PLANNING "ACTION ITEMS"

- Policy Discussion – Reserves
- Policy Discussion – Capital Planning Approach
- Policy Discussion – Financial Planning/Rate-Setting Approach
- Revisit Capital Planning Annually
- Practice Financial Planning On-Going

➢ **What is most important to you?**
(1 being most important)

- _____Confidence in when significant reinvestments will be required and how they will be funded.
- _____Modest rate adjustments.
- _____Provide a consistent level of service to customers.
- _____Justify cash on hand.

THANK YOU to the SDARWS!

Questions?

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Participate in the 2024 AE2S Annual Utility Rate Survey!

Data collection will run February 1 through March 22, 2024