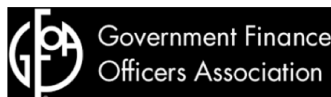




Jump-Starting Long-Term Planning and Setting Financial Targets

Tuesday, February 19, 2019
2:00-3:00pm EST

This program is made possible under a cooperative agreement with EPA.





Carol Rosenfeld

Senior Project Director

Environmental Finance
Center at UNC's School
of Government

crosefeld@sog.unc.edu

(919) 843-5240

www.efc.sog.unc.edu



Poll

What kind of water and/or sewer utility do you represent?



Long-Term Planning to Improve Resiliency and Environmental Service of NC's Water and Wastewater Utilities

Utilities that undertake
more or earlier **long-term planning efforts** benefit from
more resilient finances and
improved system performance
relative to other utilities.

Project Partner



Funder

North Carolina Policy Collaboratory



SCHOOL OF GOVERNMENT
Environmental Finance Center



**Results of the 2017-2018 North Carolina
Water and Wastewater Utility Management Survey**
August 2018

INTRODUCTION

Between November 2017 and March 2018, the North Carolina League of Municipalities (NCLM) and the Environmental Finance Center (EFC) at the University of North Carolina's School of Government conducted a statewide survey of the management and long-term planning practices and policies of North Carolina drinking water and wastewater utilities. The purpose of this survey was to examine the relationship between long-term planning and resiliency, as measured by financial stability and fewer regulation violations. The hypothesis is that utilities that undertake more or earlier long-term planning benefit from more resilient finances and improved system performance, thereby providing better environmental services relative to other utilities. All local government-owned utilities and many not-for-profit utilities were invited to participate in the survey. These utilities serve the vast majority of residents who are connected to public water and/or wastewater systems in North Carolina. This initial report summarizes the data collected in the survey. A future report will examine the data presented here using regression analysis to determine the correlation, if any, between long-term planning and resiliency.

Five key types of plans were identified and then broken down into their constituent efforts. Whether a utility has a particular type of plan was determined based on whether they stated that they undertake a key component effort (rather than whether they simply have a document titled "ABC Plan.") This was done to capture the efforts of utilities that may functionally be participating in a given type of planning, but may not have a formal document, or may have a document by a different name.

Not every question was answered by every respondent. In all cases, results are based on those utilities who responded to the question. The n-value included with each question's results indicates the number of utilities responding to that question. When question numbers are not consecutive, that indicates questions where data could not be aggregated, or could not be aggregated sufficiently to ensure anonymity.

This survey was conducted by Shadi Eskaf, James Farrell, and Carol Rosenfeld from the Environmental Finance Center, and Chris Nida from the North Carolina League of Municipalities.

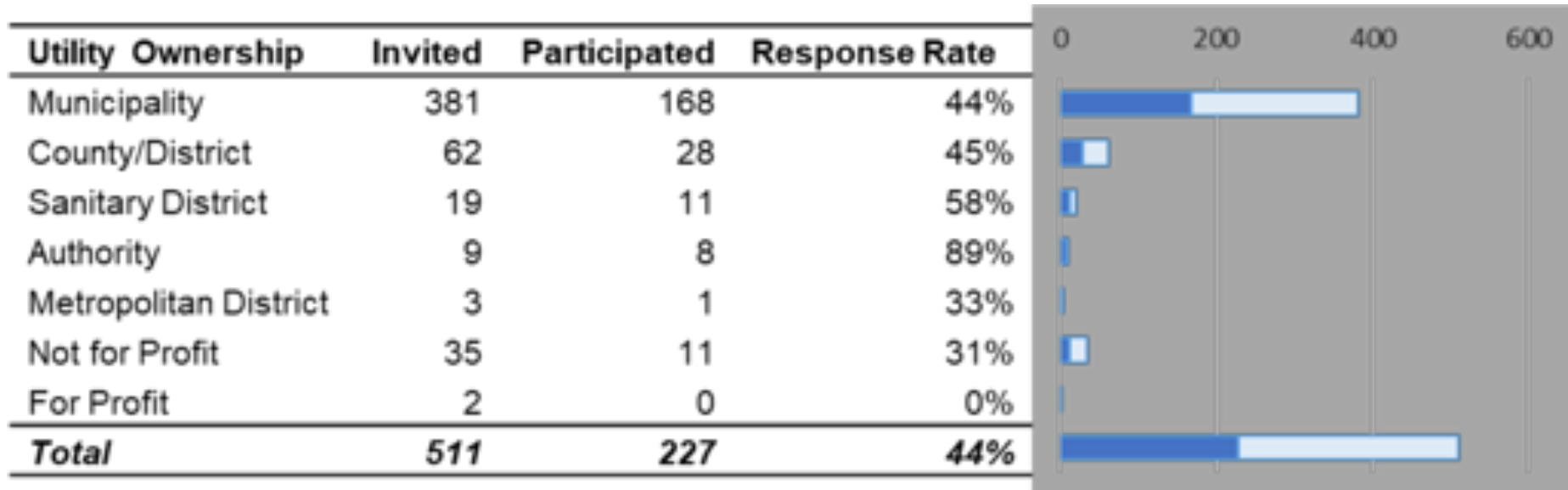
ACKNOWLEDGEMENTS

We would like to thank each utility that participated in the survey. We also would like to thank all of the individuals from local government utilities and the North Carolina Department of Environmental Quality Division of Water Infrastructure who pretested the survey and provided feedback. Funding to conduct this project was provided by the North Carolina Policy Collaboratory.

<https://efc.sog.unc.edu/resource/results-2017-2018-north-carolina-water-and-wastewater-utility-management-survey>,
under "Resources"



Response Rate by Type



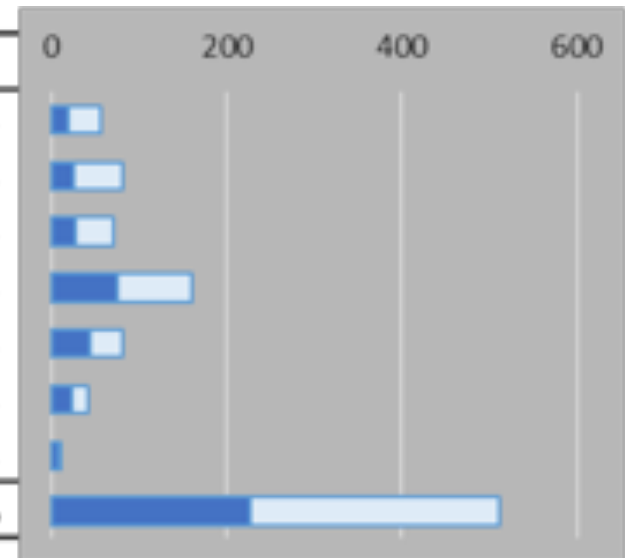
Out of 511 utilities invited to participate in the survey, 227 (44%) participated.

Response rate was highest for municipal utilities.



Response Rate by Size

Service Connections	Invited	Participated	Response Rate
15 - 250	56	20	36%
251 - 500	82	26	32%
501 - 1,000	72	28	39%
1,001 - 4,000	160	76	48%
4,001 - 10,000	82	44	54%
10,0001 - 50,000	43	24	56%
50,000 - 280,000	12	9	75%
Total	511	227	44%



Utilities of all sizes participated in the survey.

Response rate was higher for larger utilities, but was significant even for small utilities.



Planning Efforts

Financial plan: a plan to ensure that the performance of the utility fund meets or exceeds identified financial targets and goals.

Asset management plan: a long-range plan identifying how the existing assets will be managed, and when they will be replaced or rehabilitated.

Capital improvement plan: a plan that identifies capital projects to be completed in the next few years.

Disaster / emergency / resiliency plan: identification of risks and vulnerabilities to the utility's functions, and a course of action to mitigate the risks.

Long-range water resources plan: an assessment of water supply needs and/or wastewater demands long in the future (more than 10 years) and the ability of the utility to meet those needs.



Which Color to Look At?

Blue

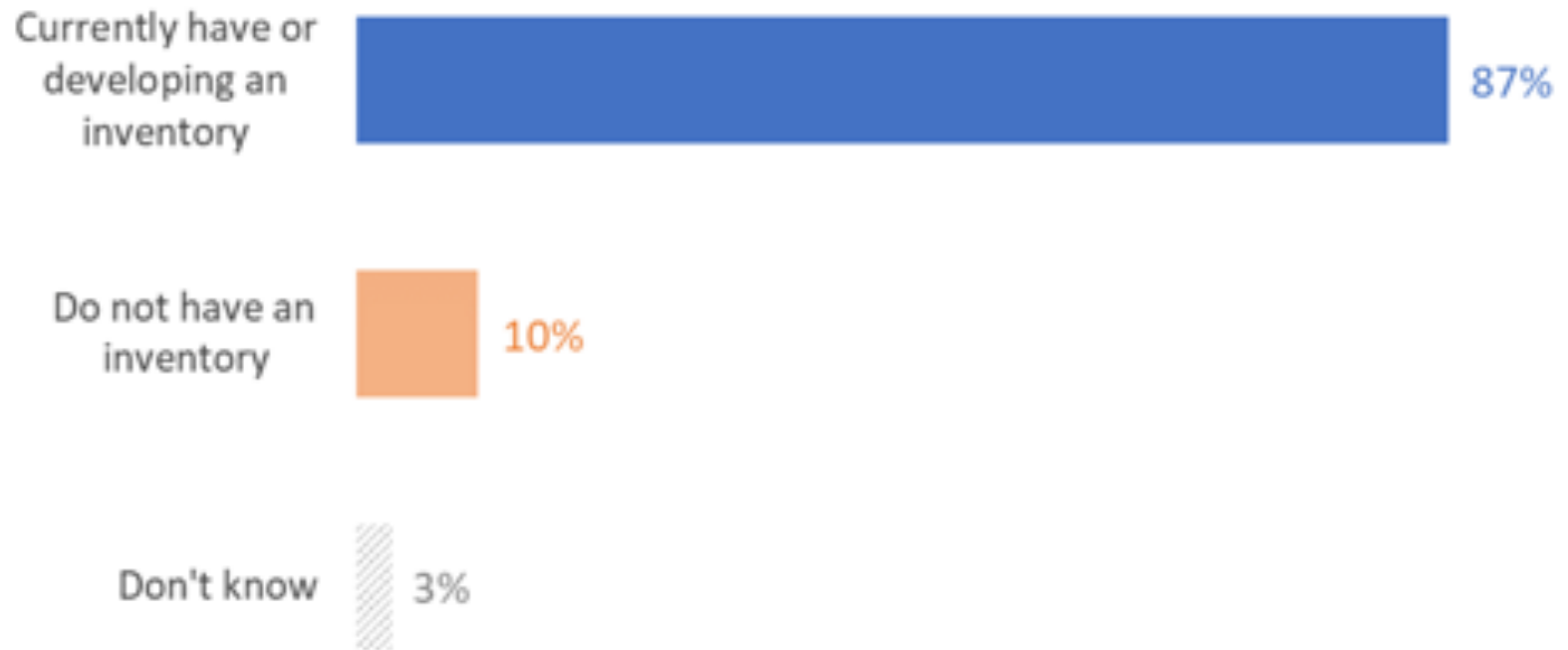
- Strengths
- Glass half-full
- Opportunities to learn from/mentorship
- Best management practices

Orange

- Challenges
- Glass half-empty
- Opportunities to improve
- Focused assistance



Asset Management

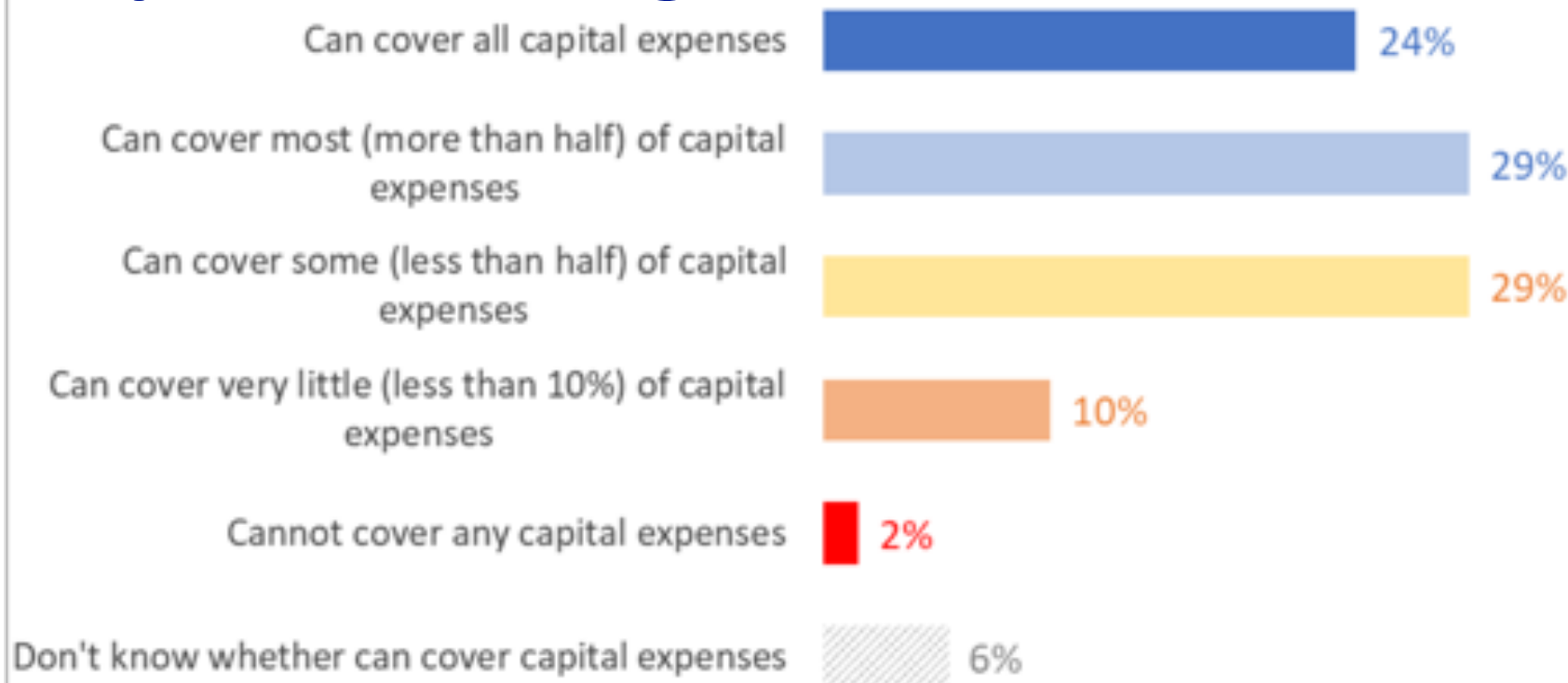


Eighty-seven percent of utilities *have or are currently developing an inventory* of their key assets (such as pipes and pumps) (n = 215).

Location is the most likely to be tracked, followed by asset age, operations and maintenance plan, and maintenance history.



Capital Planning

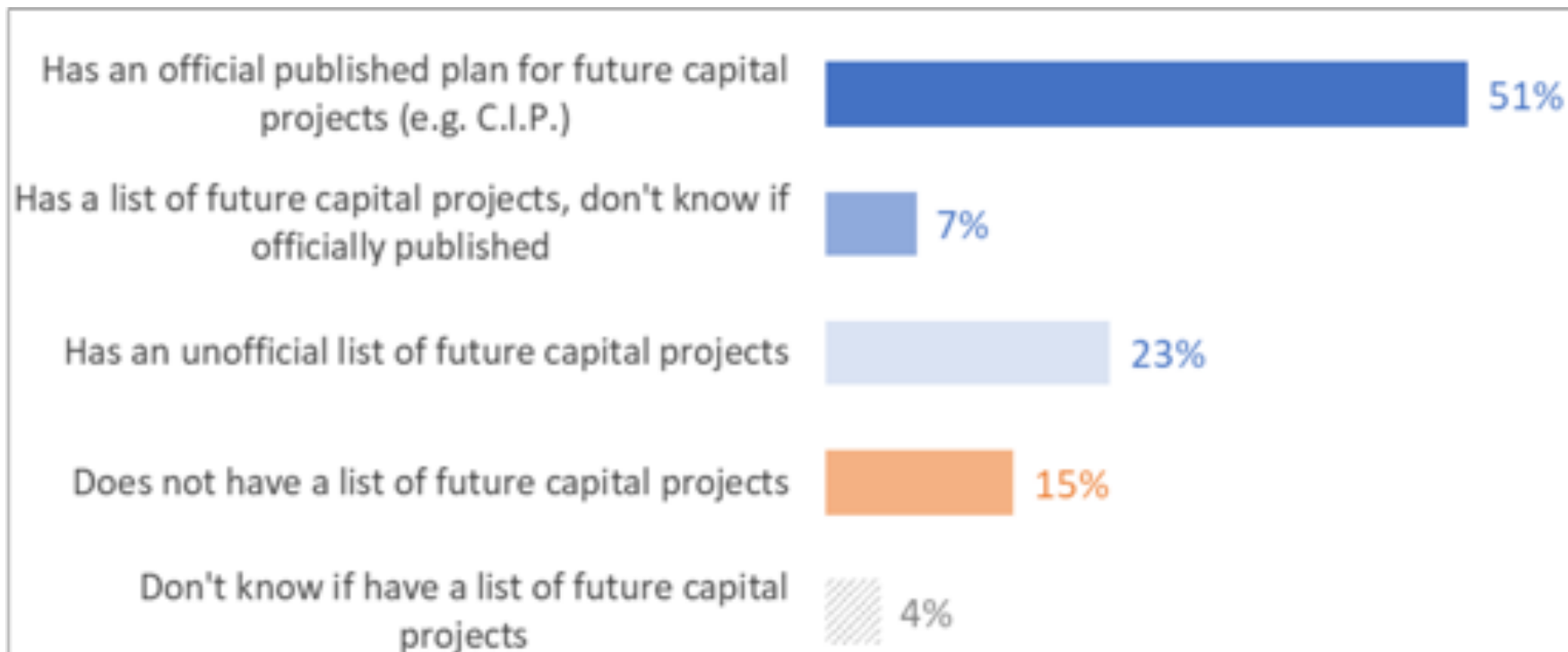


The majority of utilities (53%) comfortably **cover < half of planned capital improvements and unplanned/emergency capital improvements during the year.**

51% of responding utilities have a capital reserve fund (n = 195).



Capital Planning

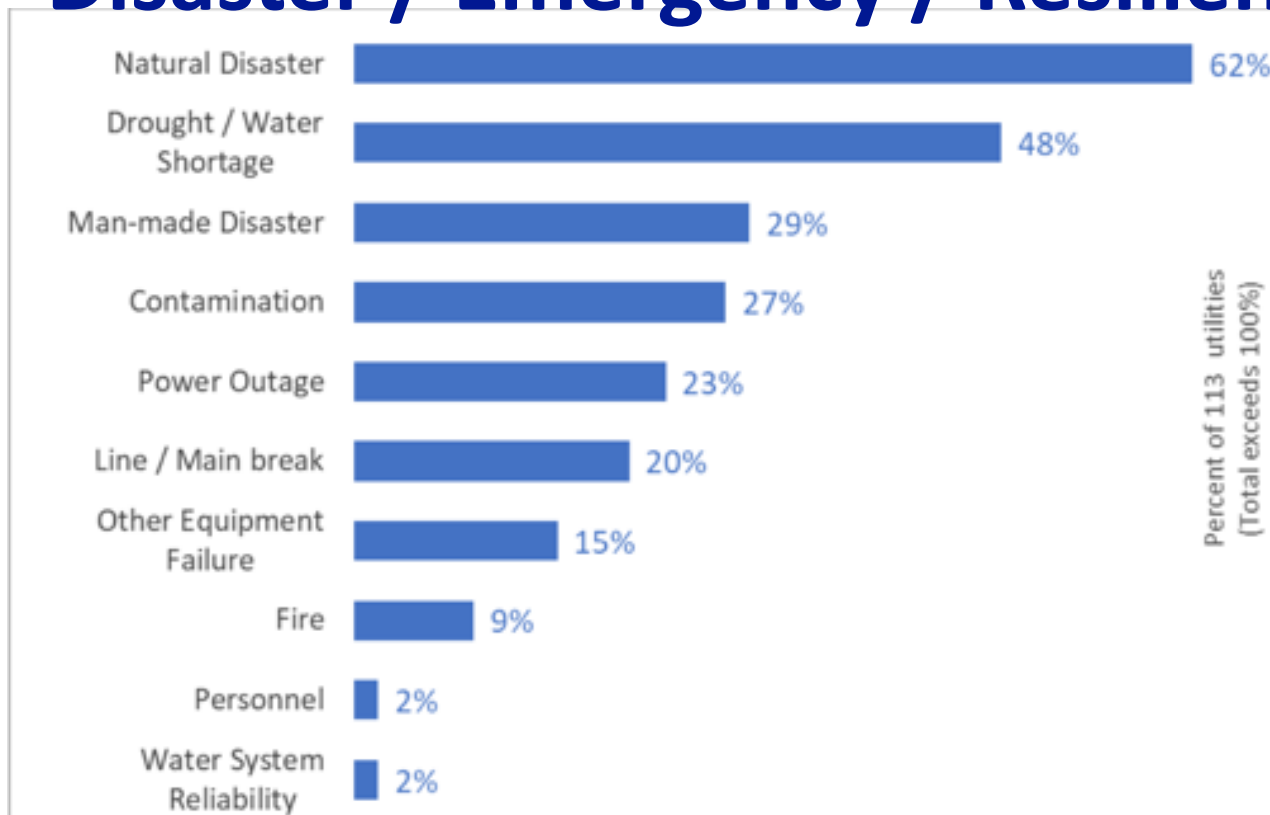


Most (81%) responding utilities have a **list of potential future capital projects (n = 208).**

Most of these are published in official documents such as Capital Improvement Plans.



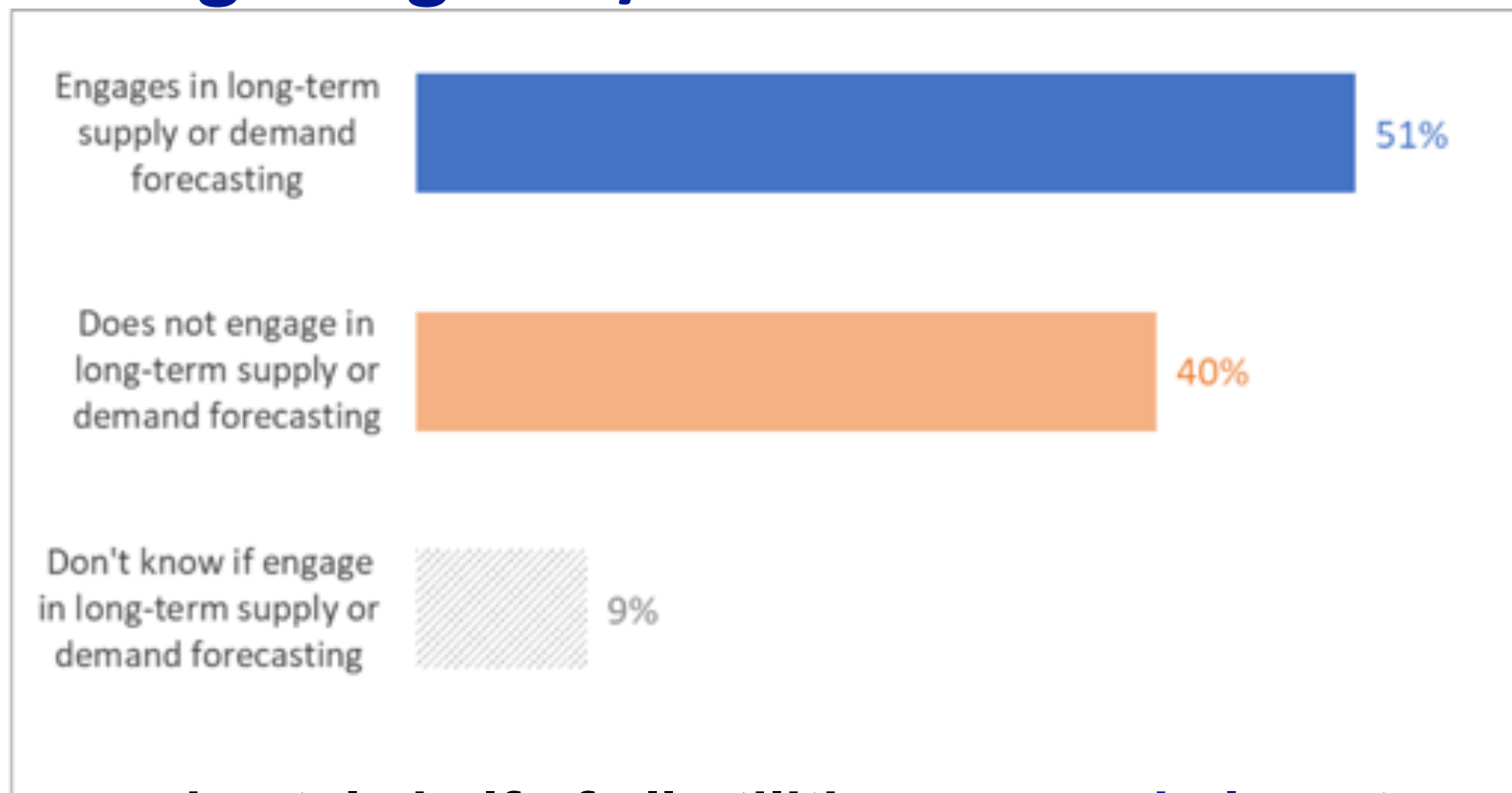
Disaster / Emergency / Resiliency Planning



72% of utilities have or are currently developing documentation of at least one type of system vulnerability.

System vulnerabilities utilities have documented include natural disasters (62%), drought / water shortage (48%), and man-made disasters (29%).

Long Range W / WW Resources Planning



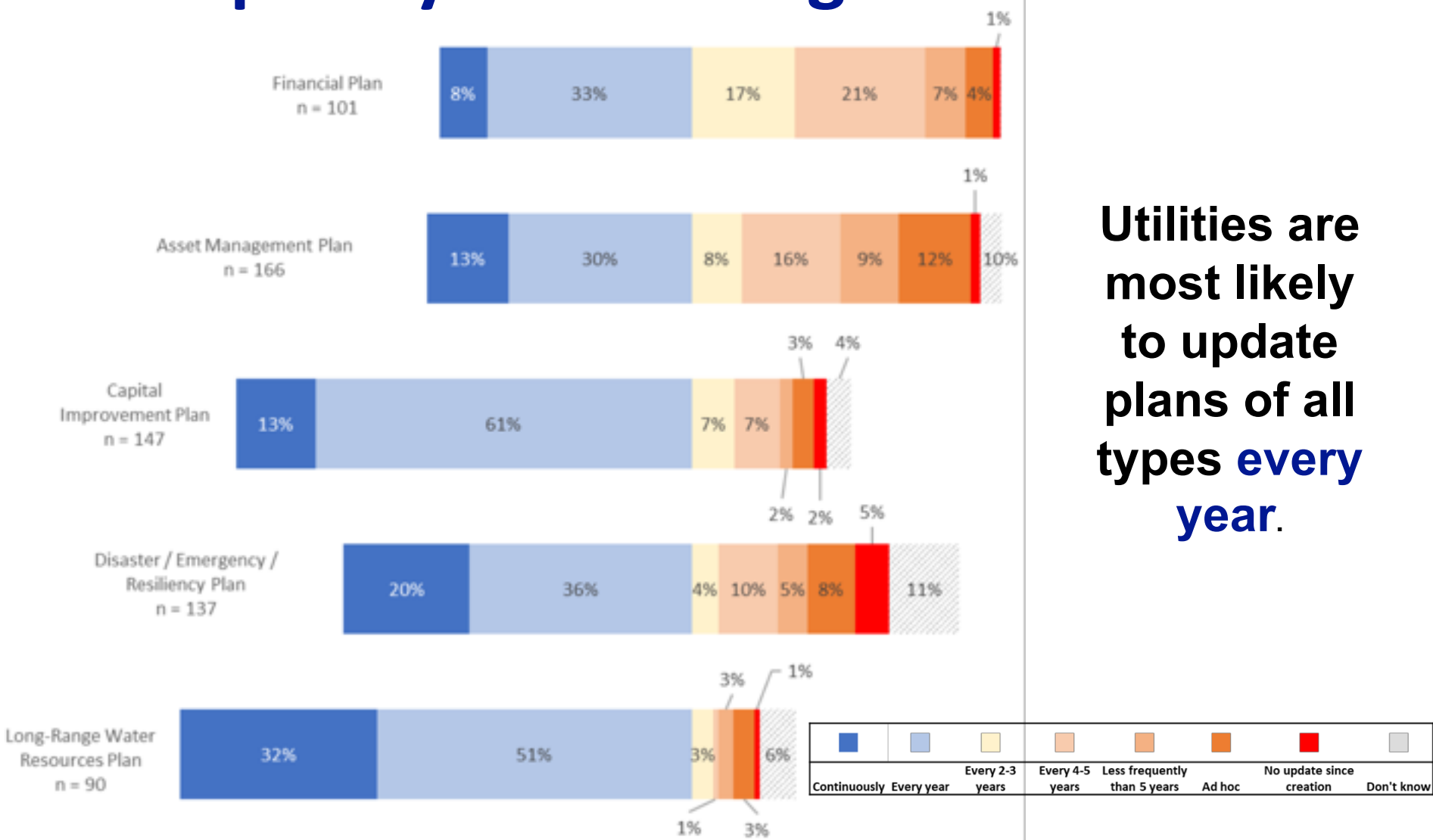
Approximately half of all utilities engage in long-term supply or demand forecasting (n = 205).

Demand and supply forecasts go out 10 to 20 years for half of all utilities.



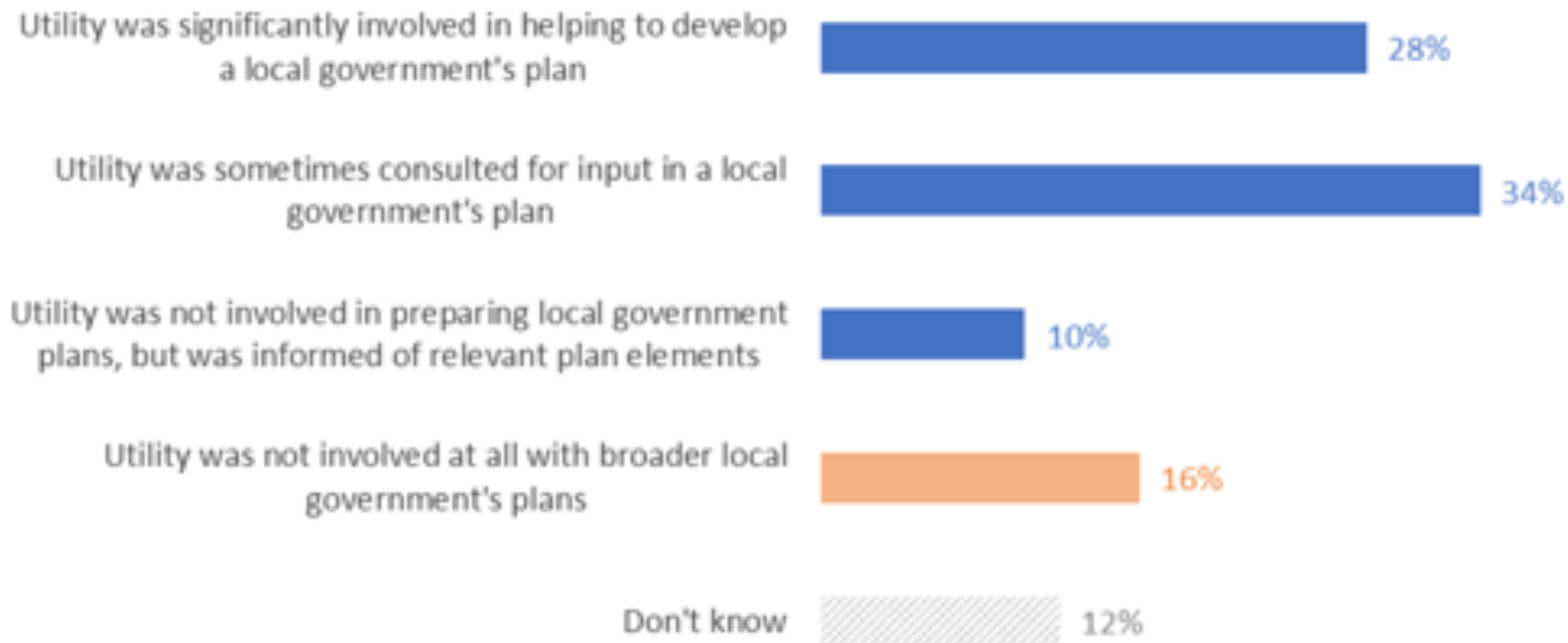
Frequency of Planning

Utilities are most likely to update plans of all types **every year**.





Integration With Other Local Plans

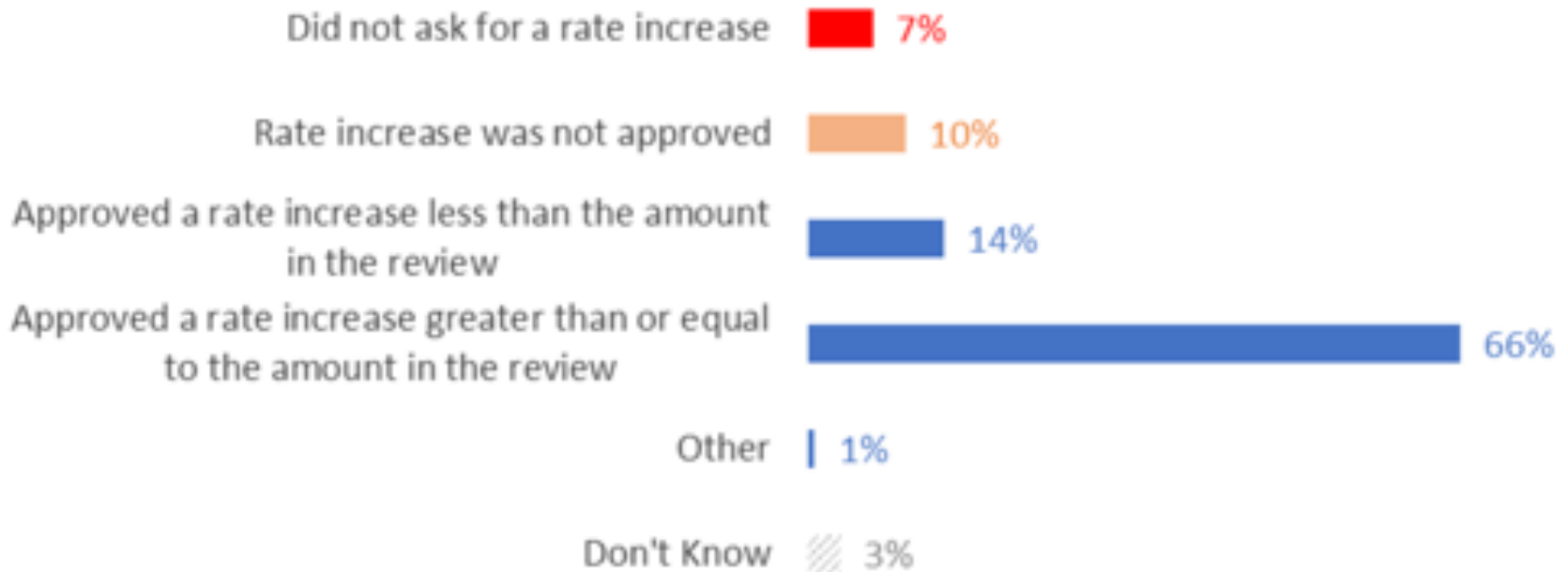


Excludes 11 utilities that operated in areas where the local governments did not conduct any broader planning efforts.

Utilities sometimes play a role in the broader (non-utility) planning efforts of the local governments served by the utility (n = 173).



Reviewing Rates

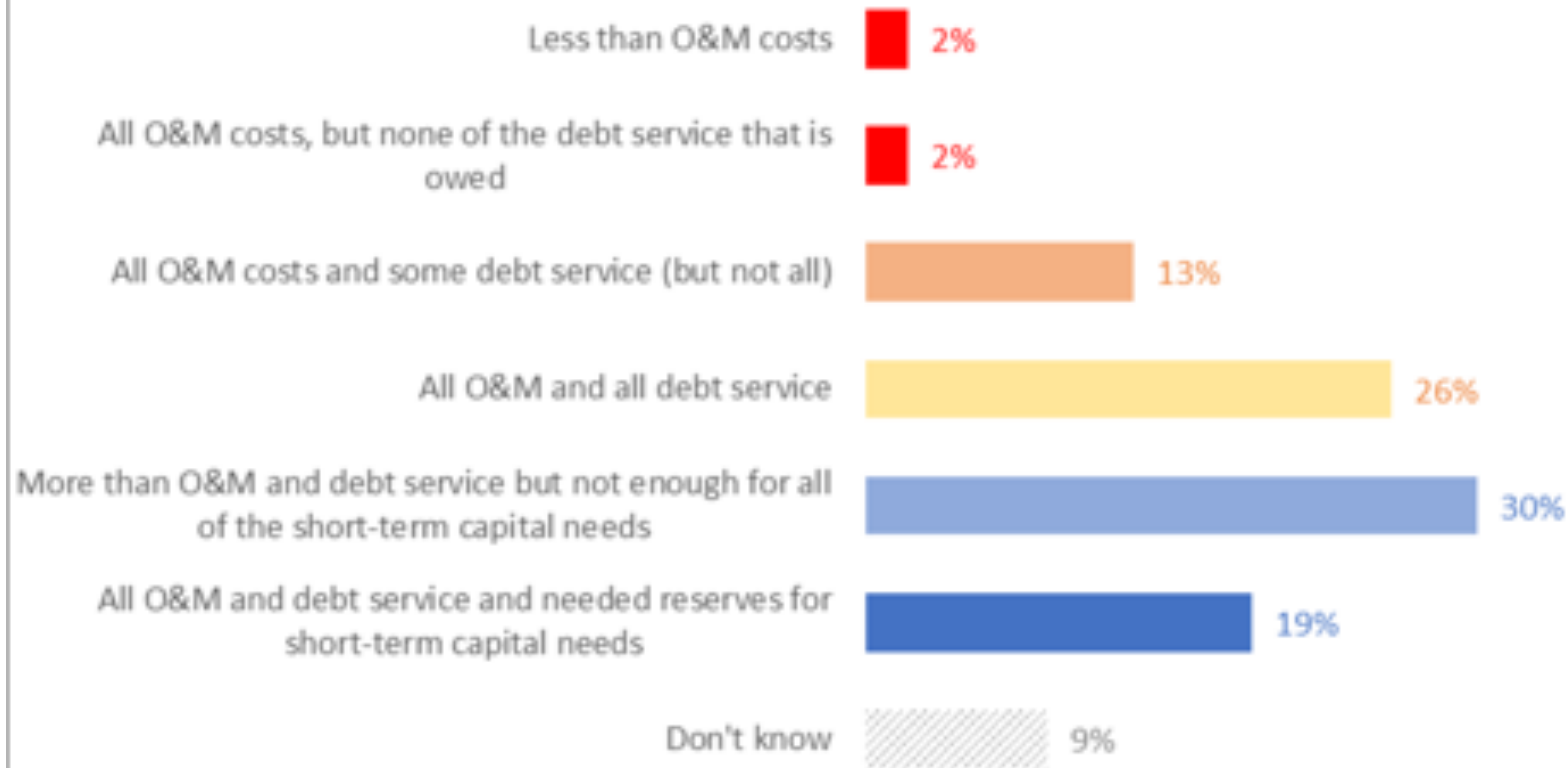


Includes only those utilities who reported a need to increase rates based on their most recent review.

Of utilities who reported a need to raise rates, 66% approved a rate increase greater than or equal to the amount recommended in the rates review (n = 152).



Current Revenues



Nearly half of utilities anticipate generating enough revenue for some capital needs (n = 192).



Setting Financial Targets

Financial Performance

WATER AND SEWER FUND					
Water and Sewer Revenues					
	Actual	Adopted	Estimated	Adopted	
	FY 2016-17	FY 2017-18	FY 2017-18	FY 2018-19	Change
Investment & Rental Income					
Interest: Investments and Assess.	\$ 1,863,375	\$ 1,978,739	\$ 1,978,739	\$ 1,062,918	-46.28%
Rental Income	158,325	200,000	200,000	200,000	0.00%
Total Investment & Rental Income	\$ 2,021,700	\$ 2,178,739	\$ 2,178,739	\$ 1,262,918	-42.03%
Operating Revenue					
Water & Sewer Sales					
Water & Sewer Sales	\$ 38,178,481	\$ 40,767,159	\$ 38,080,413	\$ 47,355,747	16.16%
Contract Water Sales	1,773,520	116,000	63,733	9,310	-91.97%
Late Fees	65,173	60,000	61,636	61,800	3.00%
Industrial Monitoring	10,605	15,000	10,400	15,300	2.00%
Sewer Surcharge	169,782	142,000	144,928	146,300	3.03%
Suspended Solids	9,551	8,000	6,999	8,160	2.00%
Subtotal	\$ 40,207,112	\$ 41,108,159	\$ 38,368,109	\$ 47,596,617	15.78%
Other Operating Revenues					
Septic Tank Disposal	\$ 50,640	\$ 62,000	\$ 51,000	\$ 62,240	2.00%

Budget



Financial Performance

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN FUND NET POSITION
PROPRIETARY FUNDS
For The Year Ended June 30, 2015

	Major Enterprise Fund
	Water and Sewer Fund
OPERATING REVENUES:	
Charges for Services	\$324,180
Water and Sewer Taps	1,500
Other Operating Revenues	13,706
Total Operating Revenues	\$339,386
OPERATING EXPENSES:	
Personnel	\$176,759
Water and Sewer Operations	148,499
Depreciation	140,087
Total Operating Expenses	\$465,345

Audited Financial Statement



Financial Policies

- Guidelines for an organization's financial operational and strategic decision making
- Often focused on financial stability and health of the utility
- GFOA recommends local governments adopt and use financial policies





Examples of Financial Targets

- Minimum Reserves / Cash on Hand
- Working Capital Reserves
- Debt Service Coverage Ratio
- Debt Burden or Debt-Per-Customer
- Cash Financing of Capital Projects
- Rates Affordability
- Credit Rating





Poll

Does your utility set financial targets?

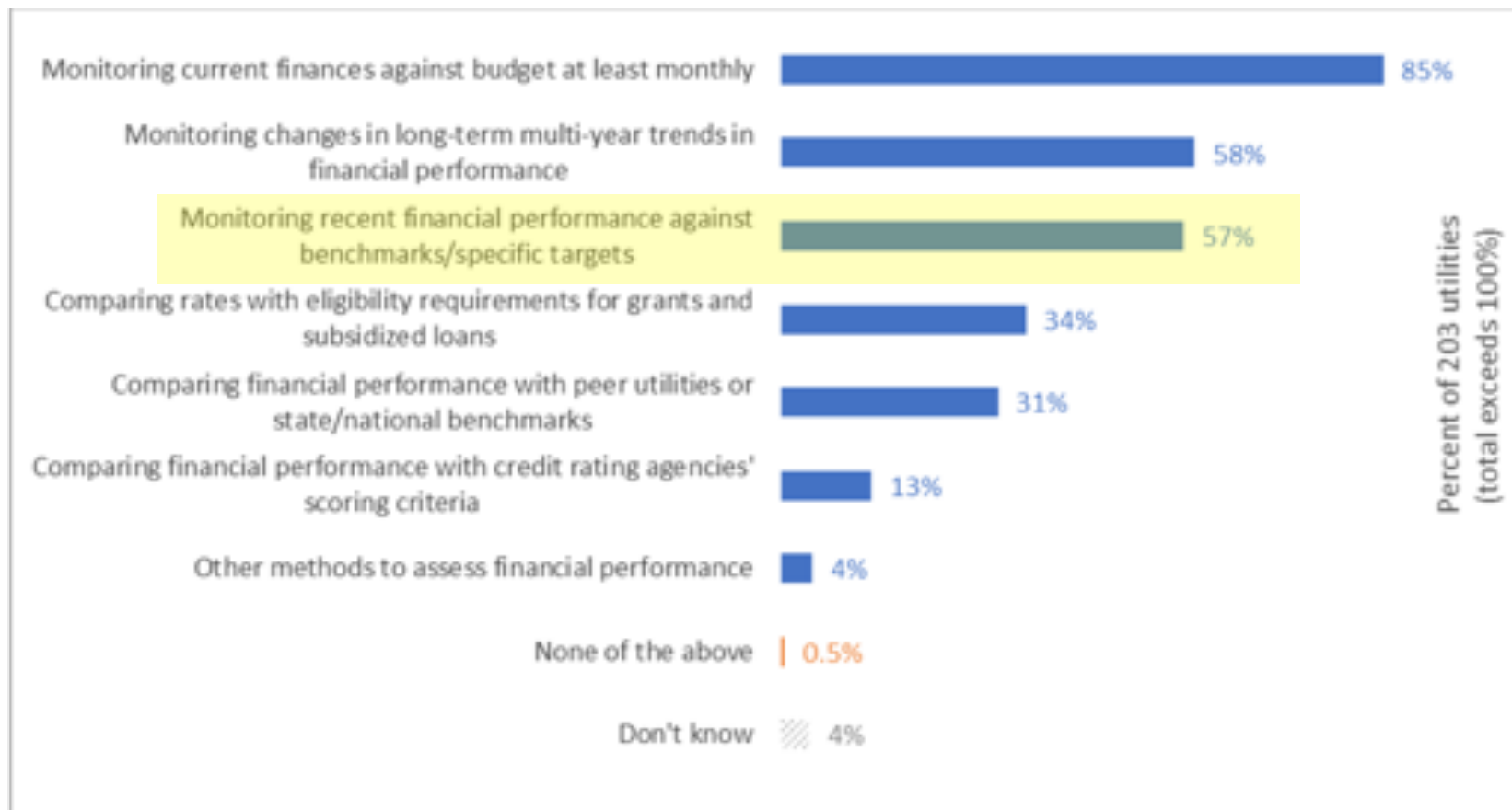
NC Utilities with Financial Targets



Over 62 percent of utilities set specific financial targets and goals.

Most have the targets and goals approved by the governing body (n = 216).

Financial Self-Assessment



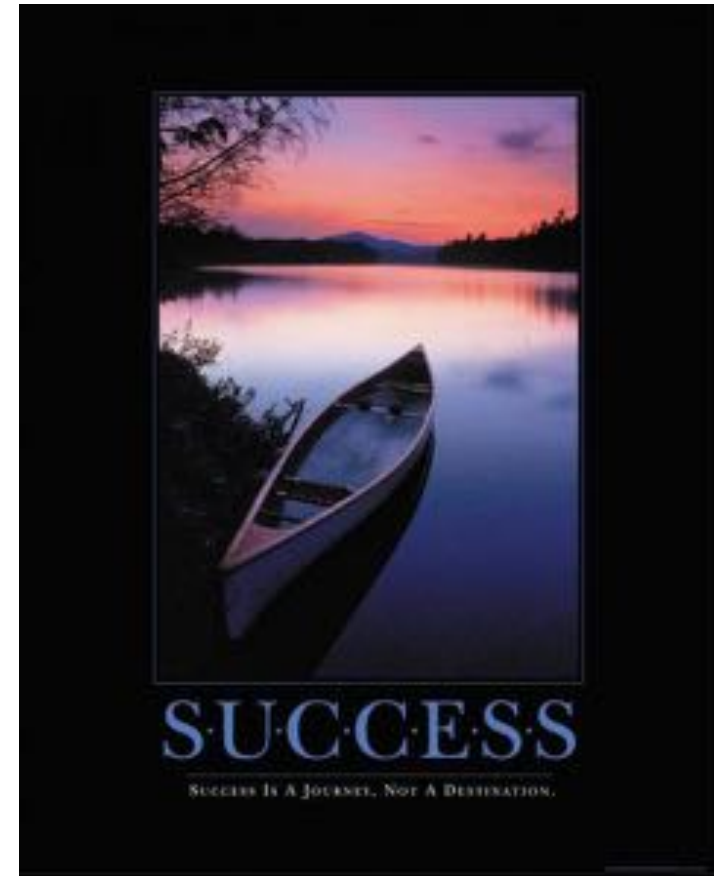
A majority of utilities **monitor their finances** against the benchmarks or specific targets.



Evidence of Success

Utilities that set financial targets by 2013:

- Had **higher operating ratios** in FY2017
- Were **twice as likely** to have higher operating revenues than operating expenses in FY2017



When comparing utilities against others of similar size, similar number of FTEs, and similar presence/absence of a full-time utility manager



Poll

If you set targets, what are they? (Select all that apply)

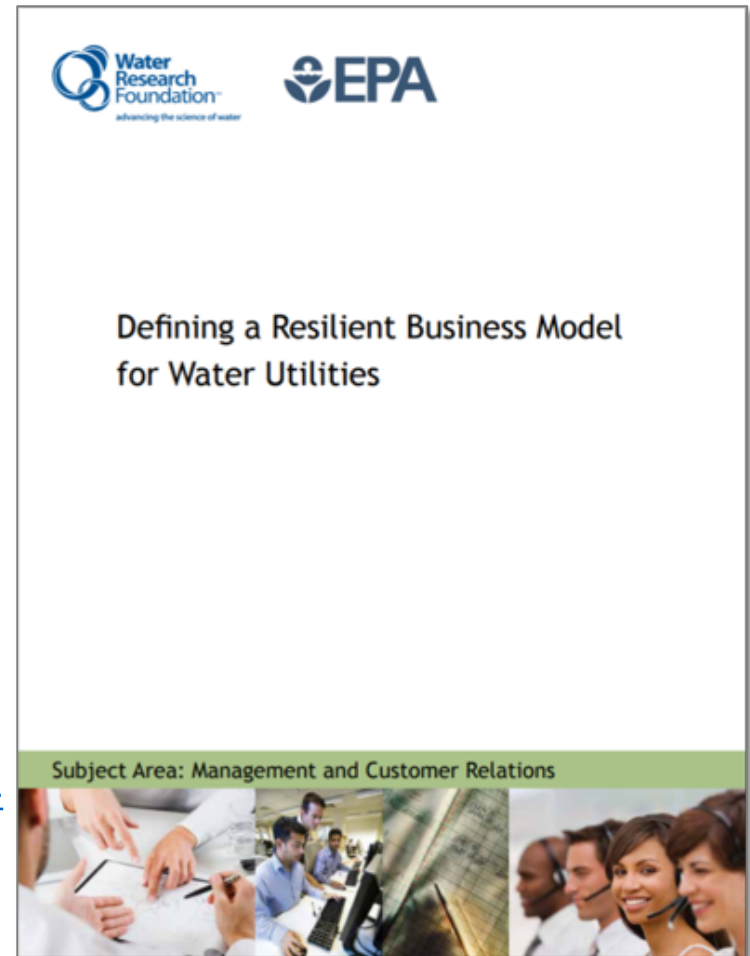


Chapter on Financial Strategies

Water Research
Foundation report (2014).

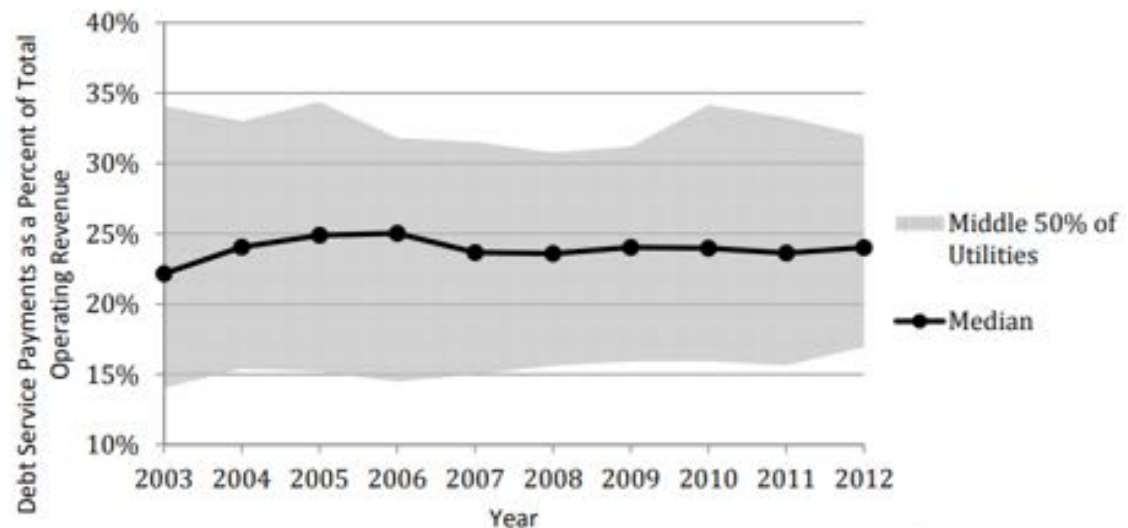
Chapter 4: Strategies and
Practices for Revenue
Resiliency.

<https://efc.sog.unc.edu/project/defining-resilient-business-model-water-utilities> or
<http://www.waterrf.org/PublicReportLibrary/4366.pdf>



Diversity of Approaches

- Formal vs. Informal
- Accountability vs. Flexibility
- Policy vs. Procedure
- Actionable vs. Philosophical
- Should be customized for each utility.



Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill and Raftelis Financial Consultants, Inc. Data source: Moody's rating agency. The same group of utilities is used each year, and only utilities with debt data available for all ten years were used.

Source: Water Research Foundation
report on Defining a Resilient
Business Model for Water Utilities.

Common Beginnings

- Experienced staff
- Credit rating agencies' statistics and guidance documents, speak with consultants
- What peers are doing (but customize)
- Get governing board buy-in

Start



Minimum Cash on Hand Target

Town of Shallotte, NC

Water and wastewater utility

2,300 accounts





Minimum Cash on Hand Target

“Our Board of Aldermen have always used a 90% rule: keeping at least 90% of current budget on hand in case of emergencies.

Being a coastal community, we realize that a hurricane could do significant damage.”



Minimum Reserve Target

Roanoke Rapids Sanitary District

Water and wastewater utility

7,600 accounts



Minimum Reserve Target

Composite
of multiple
funds

Total Annual Revenue Requirements

O&M (Including Depreciation)	8,611,996
Debt Service	658,404
TOTAL	\$ 9,270,400

Capital Plan

FY19	3,376,600
FY20	3,887,100
FY21	3,565,700
FY22	3,042,200
FY23	3,469,500
AVERAGE	\$ 3,468,220

Operating Fund	33.00%	\$ 3,059,232
Capital Fund	100.00%	3,468,220
Rate Stabilization/Demand Shortfall Fund	10.00%	927,040
TOTAL		\$ 7,454,492

Cash Reserves	\$ 11,988,512	
Appropriated Fund Balance	3,359,475	
Undesignated Fund Balance		\$ 8,629,037

Over/(Under) Funded Reserves		\$ 1,174,545
------------------------------	--	--------------



Debt Service Coverage Ratio

- Usually 1.2 or 1.25 in bond covenants
- But more ambitious utilities set a higher target (1.5 or 2.0)

$$= \frac{\text{Operating Revenues} - \text{Operating Expenditures (excludes depreciation)}}{\text{Principal} + \text{Interest Payments on Long Term Debt}}$$

A measure of the ability to pay debt service with revenue left over after operating expenses



Cash Financing of Capital Projects

- No less than [25%, 30%, 35%, etc.] of annual capital expenditures – various
- All unbudgeted revenue above 60 days of O&M expenses – Arlington Water Utilities Department



Appendix E: 2018 Medians Relative to Rating Category

Capital Demands and Debt Burden

Average Annual CIP Costs Per Customer (\$)
CIP Debt Financed (%)
Total Outstanding Debt to Net Plant Assets (%)
Debt to FADS (x)
Debt to Equity (x)
Total Outstanding Long-Term Debt Per Customer (\$) ^a
Total Outstanding Long-Term Debt Per Capita (\$) ^a
10-Year Principal Payout (%)
20-Year Principal Payout (%)
Projected Debt Per Customer Year Five (\$) ^a
Projected Debt Per Capita Year Five (\$) ^a

Charges and Rate Affordability

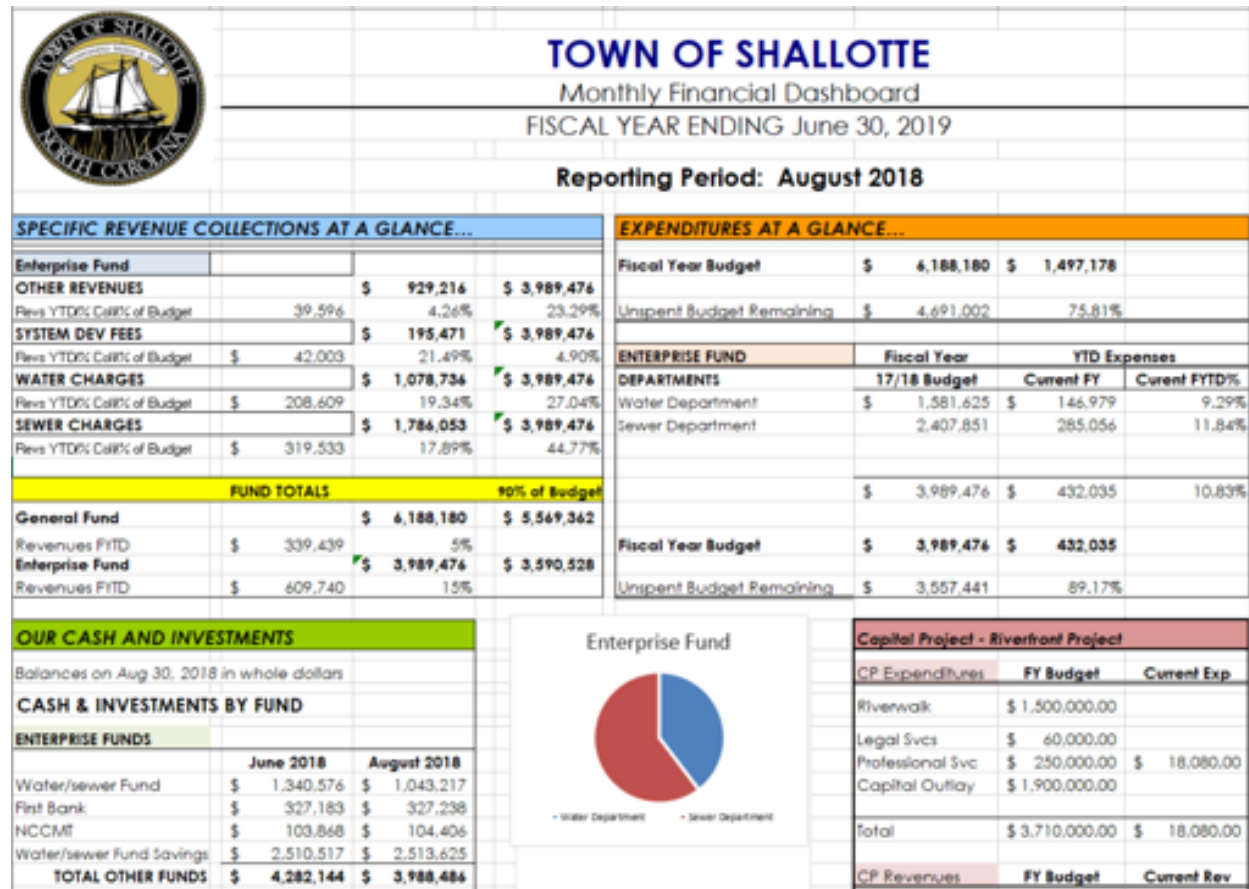
Individual Water/Sewer Utility Average Monthly Residential Bill (\$)
Individual Water/Sewer Utility Average Annual Bill as % MHI
Combined Water/Sewer Utility Average Monthly Residential Bill (\$)
Combined Water/Sewer Utility Average Annual Bill as % of MHI
Average Annual Projected Water Rate Increases (%)
Average Annual Projected Sewer Rate Increases (%)

Coverage and Financial Performance/Cash and Balance Sheet Considerations

Three-Year Historical Average Senior Lien ADS Coverage (x) ^a
Senior Lien ADS Coverage (x) ^a
Senior Lien ADS Coverage Excluding Connection Fees (x)
Senior Lien ADS Coverage Net of Transfers Out (x)
Minimum Projected Senior Lien ADS Coverage (x) ^a
Senior Lien MADS Coverage (x)
Senior Lien Debt Service as % of Gross Revenues
Three-Year Historical Average All-In ADS Coverage (x) ^a
All-In ADS Coverage (x) ^a
All-In ADS Coverage Excluding Connection Fees (x)
All-In ADS Coverage Net of Transfers Out (x)
Minimum Projected All-In ADS Coverage (x) ^a
All-In MADS Coverage (x)
All-In Debt Service as % of Gross Revenues
Operating Margin (%)
Operating Cash Flow Ratio (x)
Operating Revenue Growth Current Year (%)
Operating Revenue Growth Three-Year Average (%)
Operating Expenditure Growth Current Year (%)
Operating Expenditure Growth Three-Year Average (%)
Days of Operating Revenues in Accounts Receivable
Days Cash on Hand ^a
Days of Working Capital ^a
Quick Ratio
Current Ratio
Free Cash as % of Depreciation ^a
Capital Spending as % of Depreciation

Measurement

Dashboard of revenues, expenditures, cash and investments, and capital projects. Updated monthly.





Smart Management for
Small Water Systems

www.efcnetwork.org

