Building a Financially Resilient Utility

Lumber River Council of Government
Teaching Tuesdays series
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UNC SCHOOL OF GOVERNMENT
Environmental Finance Center

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EFC's mission:

Dedicated to enhancing the ability of governments and other organizations to provide environmental programs and services in fair, effective and financially sustainable ways through:

- Direct advising
- Applied research
- Teaching and outreach

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Typical assistance to utilities

- Phone/email advising
- Staff & board education
- Financial health review
- Rates/rate structure analysis
- Capital funding scenarios
- Regionalization assistance
- Resource/info. development
- And more

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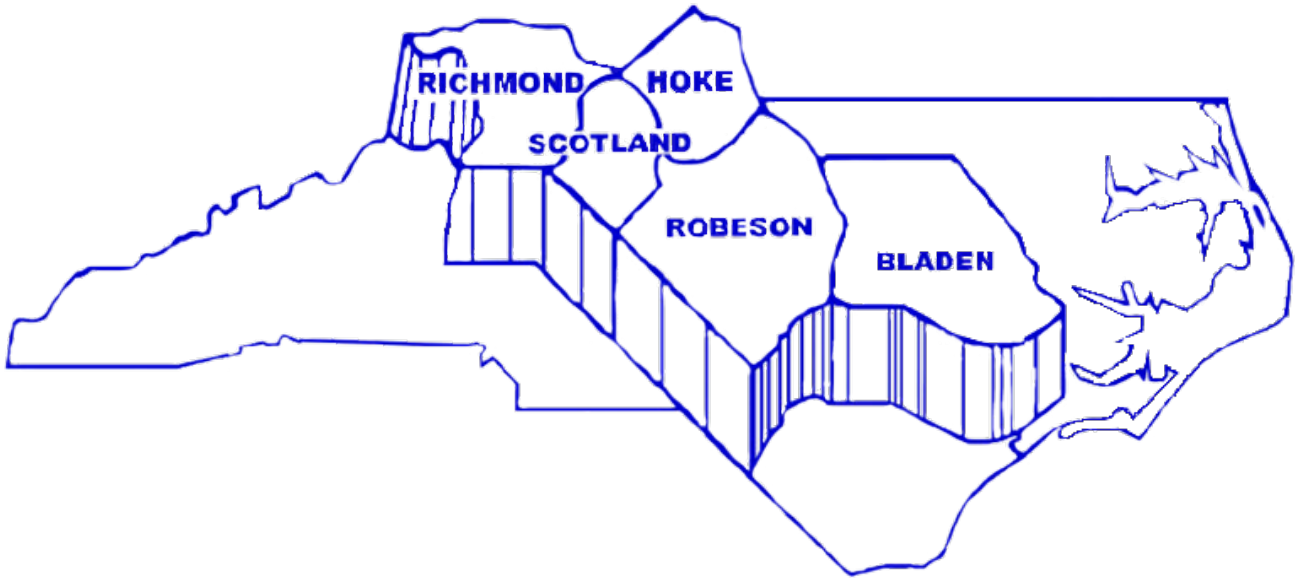
Thank you

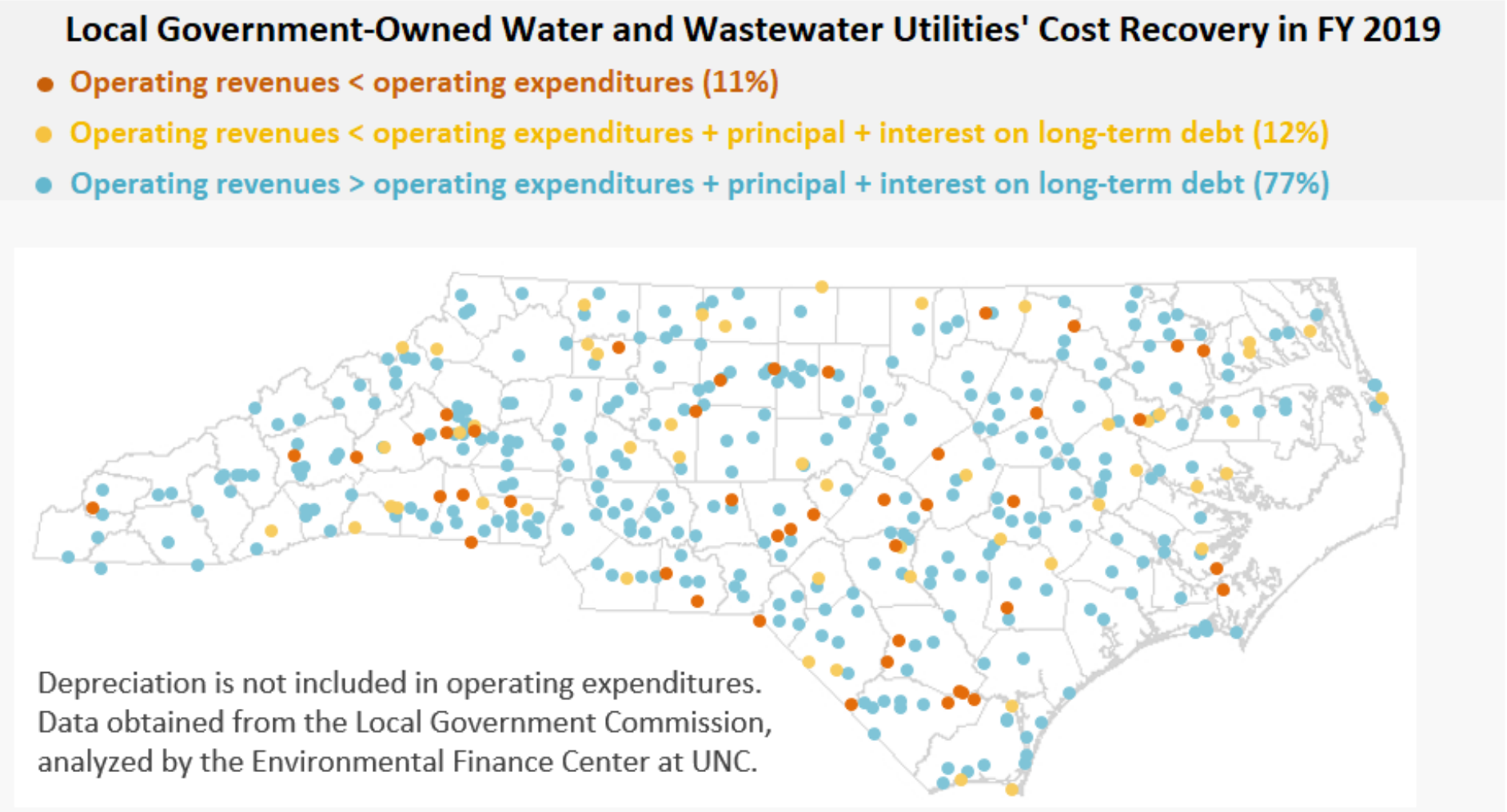
Lumber River Council of Governments



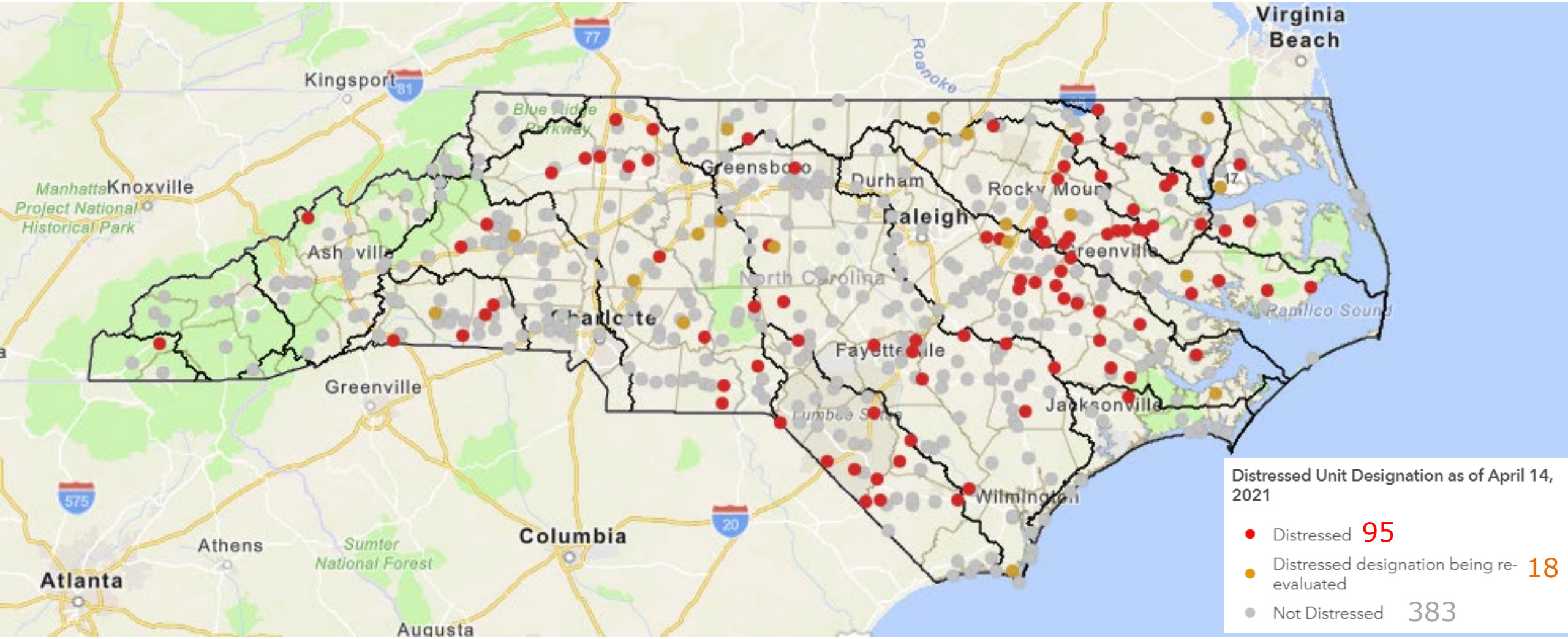
NC Water Infrastructure
ENVIRONMENTAL QUALITY

Utility Financial Resilience

Cost recovery in 398 local government water and wastewater utilities during FY2019



Utilities designated as “distressed” in April 2021

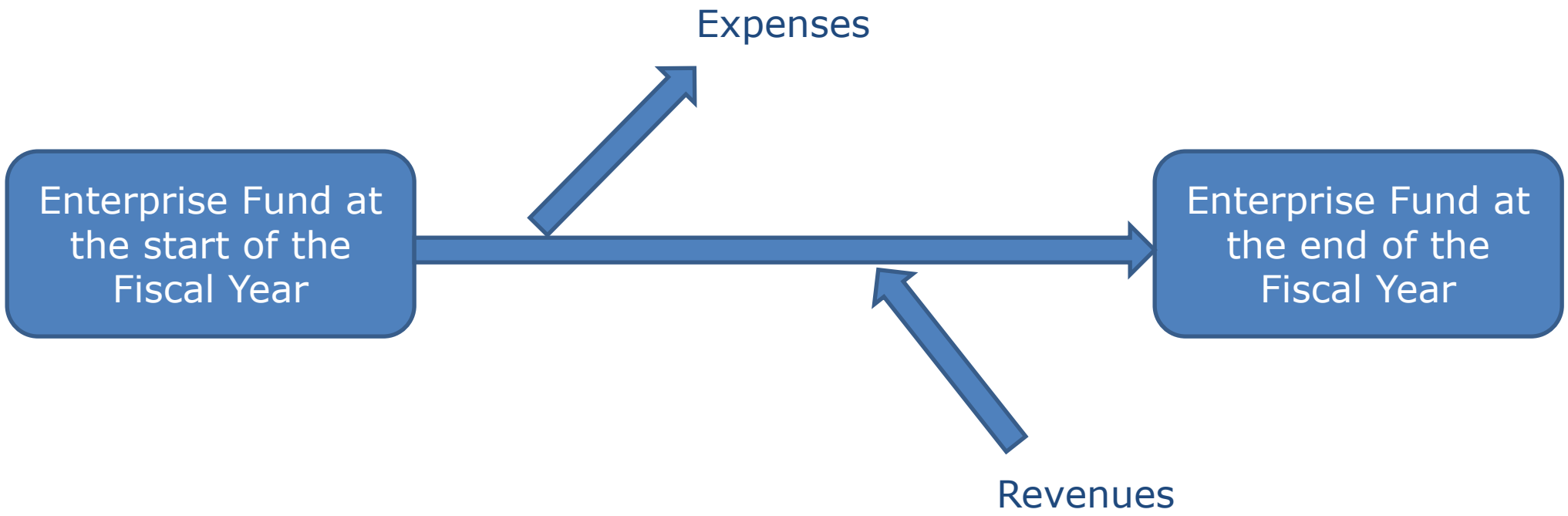


A Guiding Principle for Enterprise Funds

Self-sufficiency

Revenues collected = Costs expended
Avoid or minimize transfers

Budgeting and Financially Managing your Enterprise Fund


Expenses
Enterprise Fund at the start of the Fiscal Year
Enterprise Fund at the end of the Fiscal Year
Revenues

What costs should utilities account for?

Operations & Maintenance

- Personnel
- Chemicals
- Energy
- Billing
- Equipment
- Contracts
- Purchase agreements
- Maintenance
- Planning
- Etc.

Debt

- Principal and interest on existing debt
- New debt service?

Future capital

- Cash for projects and matches
- Outlays to improve existing infrastructure
- Outlays for new infrastructure
- Planning
- Contingencies

Reserves

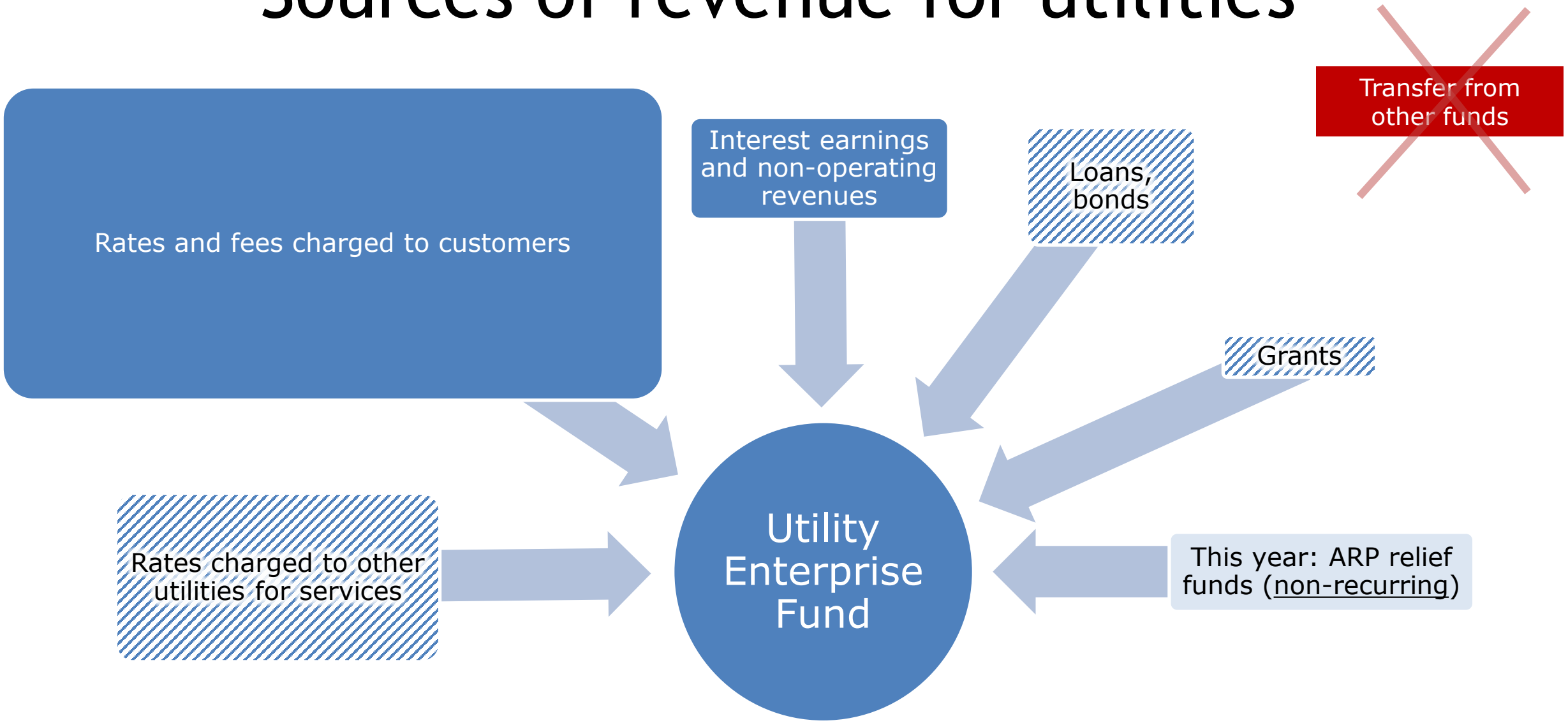
- Build and maintain reserves for emergencies and capital

Other

- Indirects and expenses related to the utility (fleet, buildings, shared expenses)

NOT transfers to other funds if not related

Sources of revenue for utilities



Transfers out would disqualify you from funding

§ 159G-37. Application to CWSRF, Wastewater Reserve, DWSRF, and Drinking Water Reserve.

(b) Certification. - The Division of Water Infrastructure shall require all local governments applying for loans or grants for water or wastewater purposes to certify that no funds received from water or wastewater utility operations have been transferred to the local government's general fund for the purpose of supplementing the resources of the general fund. The prohibition in this section shall not be interpreted to include payments made to the local government to reimburse the general fund for expenses paid from that fund that are reasonably allocable to the regular and ongoing operations of the utility, including, but not limited to, rent and shared facility costs, engineering and design work, plan review, and shared personnel costs. (2005-454, s. 3; 2011-145, s. 13.3(kkk); 2013-360, s. 14.21(i); 2013-413, s. 57(u); 2014-100, s. 14.17; 2014-115, s. 17.)

Since July 1, 2014

Multiple faces of Transfers

- Cost reimbursements
  - E.g. Part of city manager's time
  - Fraction of fleet maintenance costs
  - Percentage of shared building operating costs
- Procedural transfers
  - Moving funds from operating to capital project fund
- General Transfers
  - No documentation at all
  - Plug a hole in General Fund or Enterprise Fund
  - Reduce need for property tax/fee increase (i.e. subsidize)
  - Paying a dividend or profit

Document these

Avoid these (including PILOTs) if plan to access DWI funding programs

Isn’t a balanced budget enough?

Not always.

Budget Expenses

		Account	Budget
19		30-810-01 W/S PROF. SERVICES	$500.00
20		30-810-02 TOWN MANAGER SALARY	$28,499.99
21		30-810-03 W/S EMPLOYEE SALARY	$57,200.00
22		30-810-04 CLERK SALARY	$37,251.88
23		30-810-05 FICA EXPENSE	$8,703.00
24		30-810-06 W/S EMPLOYMENT TAX	$975.00
25		30-810-07 W/S OVERTIME	$4,500.00
26		30-810-08 MERIT BONUS	$3,000.00
27		30-810-09 HOLIDAY/EMPLOYEE APREC	$1,200.00
28		30-810-10 POSTAGE	$2,700.00
29		30-810-11 Office Supplies/Repairs	$4,700.00
30		30-810-12 PHONE	$3,400.00
31		30-810-13 W/S UTILITES	$30,000.00
32		30-810-14 TRAINING	$2,400.00
33		30-810-15 Employee Screening	$105.00
34		30-810-16 MAINT/REPAIR:SYST-EQUIP	$30,000.00
35		30-810-17 Mayor Salary	$1,800.00
36		30-810-18 Board Salary	$10,500.00
37		30-810-20 W/S UNIFORMS	$2,000.00
38		30-810-30 GAS AND OIL FOR VEHICLES	$4,500.00
39		30-810-31 TIRES FOR VEHICLES	$600.00
40		30-810-32 REPAIRS TO VEHICLES	$1,000.00
41		30-810-33 SUPPLIES & MATERIALS	$3,000.00
42		30-810-34 CHEMICALS AND SALT	$20,000.00
43		30-810-45 CONTRACTED SERVICES	$36,500.00
44		30-810-46 STATE PERMITS	$1,700.00
45		30-810-48 DUES/SUBSCRIPTIONS	$1,500.00
46		30-810-50 DEPRECIATION	$0.00
47		30-810-54 INSURANCE	$13,608.00
48		30-810-55 HOSPITAL INSURANCE	$22,443.00
49		30-810-57 MISC EXPENSE	$500.00
50		30-810-60 W/S - LGERS	$9,272.00
51		30-810-70 WATER STUDY EXPENSES	$24,000.00
52		30-810-74 Online Payments SVC	$1,600.00
53		30-810-75 ARRA LOAN PRINCIPAL	$8,875.00
54		30-810-76 PURCHASE WATER BILL	$2,400.00
55		30-810-79 Banking Fees	$500.00
56		30-810-89 CAPITAL OUTLAY NEW EQUIP	$0.00
57		30-810-90 TRANSFER TO OTHER FUND	$0.00
58		30-810-95 FINES AND PENALTIES	$1,500.00
			$382,932.87

Budget Revenues

	Account	Budget
1	30-329-00 W/S INTEREST EARNED DEPOS	$0.00
2	30-334-00 CONTRIBUTIONS/DONATIONS	$0.00
3	30-335-00 W/S MISC. REVENUE	$700.00
4	30-336-00 FUND BALANCE APPROPRIATED	$9,187.87
5	30-345-01 SALES TAX REFUND	$0.00
6	30-371-01 W/S CHARGES	$344,445.00
7	30-371-02 W/S ADJUSTMENTS	$0.00
8	30-373-00 TAP CONNECTIONS	$1,500.00
9	30-373-02 SERVICE CHARGES/CUT OFFS	$12,500.00
10	30-373-04 IMPACT FEES	$1,000.00
11	30-373-05 CAPITAL CONTRIBUTIONS	$0.00
12	30-374-00 Online W/S Payment Fee	$1,600.00
13	30-375-80 Contributed Capital - G.R.S.P.	$0.00
14	30-375-81 Contributed Capital Fund	$0.00
15	30-377-00 RBEG - Pump Station	$0.00
16	30-378-00 I&I Study Grant - Commerce	$12,000.00
17	30-385-00 SALE OF ASSETS	$0.00
18	30-386-00 TRANSFER FROM OTHER FUND	$0.00
		$382,932.87

$382,933 = $382,933

No budget for capital expenses, reserves or depreciation.

No comparison to previous budgets. Is it adequate and growing?

No info on current financial health of Enterprise Fund. Do you need to budget for and build reserves?

Steps to take when reviewing rates and budgeting

1. Assess the financial health of your Enterprise Fund
2. Look at trends in your expenses over time
3. Plan for capital projects and how to fund them
4. Budget for all the above expenses and reserve target
5. Look at trends in water sales and revenues
6. Review rates annually and project revenues conservatively (worse case scenarios) using a multi-year cash flow model
7. Propose and adjust rates
8. Track and monitor your budget monthly

Assessing Your Utility's Financial Health

Handout for board members

Board Members: Find Out if your Water or Wastewater Utility is Financially Viable in the Long-Term

Questions to ask your Utility Manager:

1. Have we been notified by the Local Government Commission or the State Water Infrastructure Authority that our utility is "distressed" or deficient in some way?

If yes: ask the manager to follow up with the state agency to learn more about why and what is consequently required of the board and the utility.

2. Were the utility revenues enough to cover expenses for operations, maintenance, debt service, capital projects, and maintain reserves in the Enterprise Fund this past fiscal year and over the past five years?

If revenues are too low, or if it's trending that way: ask staff to make recommendations about adjusting the rates and fees and/or adjusting expenses or financing strategies without sacrificing the utility's level of service or eliminating necessary capital improvements.

3. When was the last time we reviewed rates and adopted the recommended rate increase to ensure that revenues will cover operations, maintenance, debt, capital, and reserves?

Rates should be reviewed at least once a year and recommendations on the necessary adjustments to rates must be made to be able to fully fund all of these expenses. The board should adopt increases when necessary. In North Carolina, the vast majority of local governments raise rates at least once every 2-3 years, and nearly half raise rates in any given year.

4. How much does the Enterprise Fund have in non-designated reserves?

Reserves provide financial resiliency to fluctuations in revenues and unanticipated costs. Days Cash on Hand is one metric that can be useful. If the reserves are lower than a minimum target your utility should be achieving, ask for recommendations to increase the reserve levels.

5. Are we regularly transferring funds out of or into the Enterprise Fund that are not associated with water or wastewater projects or services?

If yes: Find out why that is. If it's a subsidy or due to lack of funds or reserves in one fund or another, ask the staff to develop plans to end these transfers and make recommendations on the needed adjustments to rates, taxes, or other revenue sources to ensure independence and self-sufficiency of each Fund with adequate reserves.

6. Do we have a plan for all of the investments we need to make to our physical systems?

If no: ask the staff to look into developing an Asset Management Plan and a Capital Improvement Plan to account for and prioritize needed capital projects.

If yes: ask how much is being spent on capital projects relative to how much is needed to stay on top of maintaining or improving all of the infrastructure's condition.

If "don't know" or if not spending anything or spending too little, assets will deteriorate and become more expensive to replace later. Ask staff to ensure that the Capital Improvement Plan includes plans and scenarios for funding the projects without significant (or any) reliance on grant funding. Ask staff to make recommendations on using cash reserves/pay-go, bonds, commercial loans, or subsidized loans.

Note: Some questions are specific to local governments in North Carolina and do not necessarily apply elsewhere.

7. Does it make sense for us to consider partnering with another utility or outsourcing some operations?

Staff can make recommendations about specific aspects of utility management or operations that can be contracted out to other parties, or to interconnect with another utility to supplement or provide all of the treatment services for your utility, or to consolidate the utility with another utility in an effort to reduce costs to your residents. There are many forms of partnerships, including ways to retain control in some aspects. See Regionalization of Water and Wastewater Systems for more information. To study potential partnerships in more detail, consider applying from an MRF grant or contact a resource agency partner.

8. Are we selling less water over time?

"Selling water" is used here only in the context of assessing whether there's a risk of revenues declining faster than expenses. If selling less, ask why (is it population decline, more efficient water use by customers, loss of businesses, faulty meters, increased leaks, or something else?).

Will this soon create financial or operational difficulties for the utility?

If yes, ask staff to consider regionalization options: either as a supplier to neighboring systems or as the recipient of the services from a neighboring system rather than managing a treatment plant. The Merger/Regionalization Feasibility Grant can pay for a more in-depth analysis. Also, ask staff to consult with economic development agencies to promote the availability of water/wastewater resources as a way to attract businesses to the area.

9. Is the utility adequately staffed?

If no: ask for recommendations on staffing or outsourcing, and budget implications. Utilities should have a dedicated manager and finance officer in addition to operators and field staff.

10. Are board members, utility managers, finance officers, operators and staff attending trainings?

If no: consider adding a budget for training and licenses, and incentives for training (financial or career advancement). At least two board members should receive training or consultation on managing water/wastewater utilities. Trainings are offered by resource agency partners.

Need Help? For advising and free direct assistance to work through any of the issues identified above, contact one of the resource agency partners. Many of these resource agency partners also provide training for governing boards and utility staff on these topics.

Visit efc.sog.unc.edu for more info and resources.

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Contact us today
Shadi Eskaf: *eskaf@sog.unc.edu*

Tools you can use

- Monitor finances against the budget
- Monitor collections
- Track financial performance indicators

Examples of what you can assess with financial performance indicators

Is your utility self-sufficient?	Operating Ratio
Are you able to cover your debt service after paying for your day-to-day operations?	Debt Service Coverage Ratio
If your customers stop paying their bills, how long can you maintain operations?	Days Cash on Hand
Can your system meet its short-term obligations?	Quick / Current Ratio
How much of your utility's expected life has already run out (and how much is left)?	Percent Depreciated

These indicators (and more) focus mostly on current revenues and expenses. Need to consider future costs as well.

Whiteboard video: financial benchmarking

https://www.youtube.com/watch?v=pfs0brT_jkU

Part of a series of whiteboard videos at this link

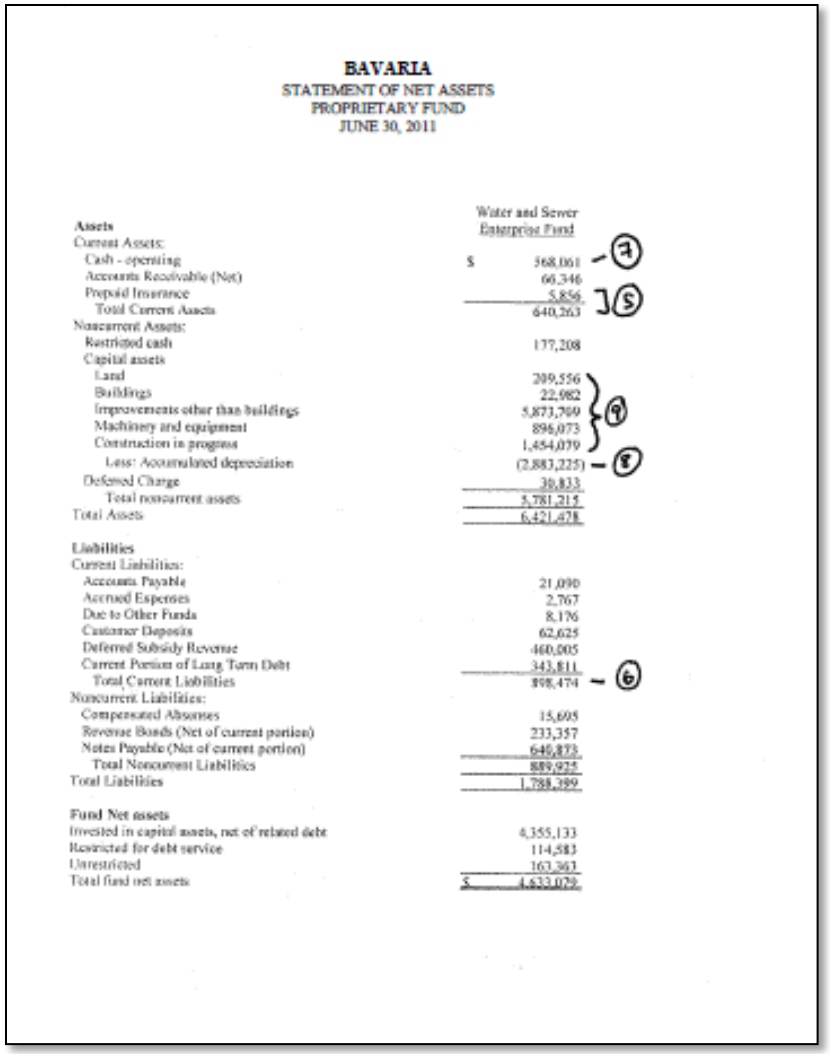
Where to Find Data

Local governments:

annual audited financial statements

Non-governments:

balance sheets, shareholder reports, annual reports, etc.



BAVARIA
STATEMENT OF NET ASSETS
PROPRIETARY FUND
JUNE 30, 2011

	Water and Sewer Enterprise Fund
Assets	
Current Assets:	
Cash - operating	$ 368,061
Accounts Receivable (Net)	66,346
Prepaid Insurance	5,856
Total Current Assets	640,263
Noncurrent Assets:	
Restricted cash	177,208
Capital assets	
Land	209,556
Buildings	22,982
Improvements other than buildings	5,873,709
Machinery and equipment	896,073
Construction in progress	1,454,079
Less: Accumulated depreciation	(2,883,225)
Deferred Charge	30,833
Total noncurrent assets	5,781,215
Total Assets	6,421,478
Liabilities	
Current Liabilities:	
Accounts Payable	21,090
Accrued Expenses	2,767
Due to Other Funds	8,176
Customer Deposits	62,625
Deferred Subsidy Revenue	460,005
Current Portion of Long Term Debt	343,811
Total Current Liabilities	898,474
Noncurrent Liabilities:	
Compensated Absences	15,695
Revenue Bonds (Net of current portion)	233,357
Notes Payable (Net of current portion)	640,873
Total Noncurrent Liabilities	889,925
Total Liabilities	1,788,399
Fund Net assets	
Invested in capital assets, net of related debt	4,355,133
Restricted for debt service	114,583
Unrestricted	163,363
Total fund net assets	$ 4,633,079

Operating Ratio

$$= \frac{\textit{Total Operating Revenues}}{\textit{Total Operating Expenses}}$$

Calculate two numbers:
one *including* depreciation in total operating expenses,
and one *excluding* depreciation.
Aim to exceed well over 1.0

http://efc.web.unc.edu/2015/02/27/operating-ratio/

Days of Cash on Hand

$$= \frac{\textit{Unrestricted cash and cash equivalents}}{\textit{(Operating Expenses excluding depreciation) / 365}}$$

Aim for > what you need to hold in reserve for emergencies, cashflow fluctuations, unexpected revenue losses, ability to cover ? days or months of costs without rev.

http://efc.web.unc.edu/2015/06/24/days-cash-on-hand/

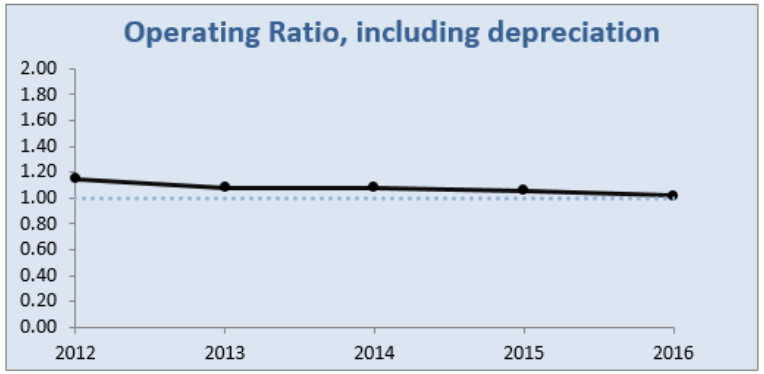
Find your utility's latest FY metrics on the NC Water and Wastewater Rates Dashboard

https://efc.sog.unc.edu/resource/north-carolina-water-and-wastewater-rates-dashboard

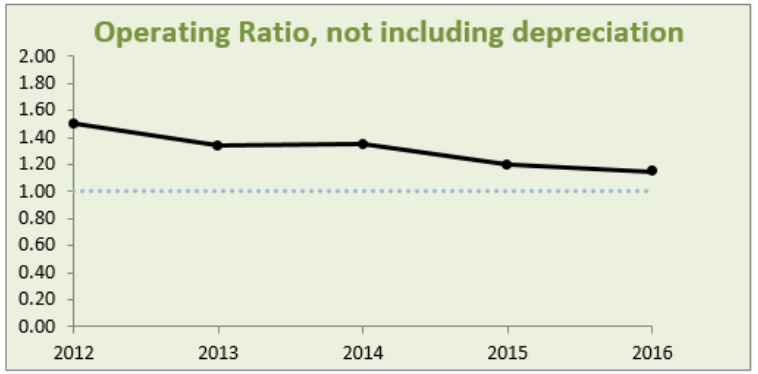
Consider trends in the last 5 years

Assessment for Example utility

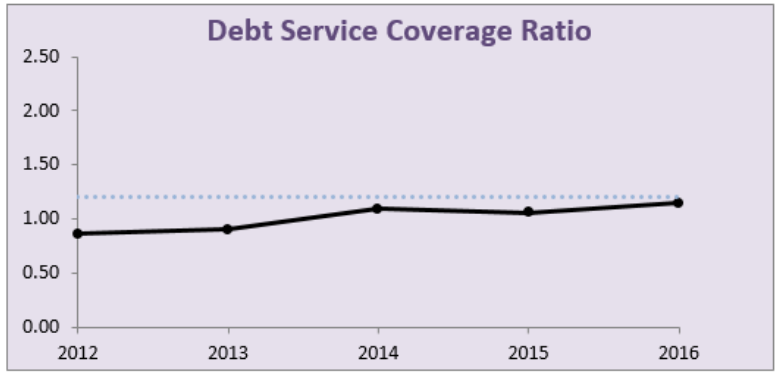
Did you generate the revenues needed to pay for O&M and a little for capital?



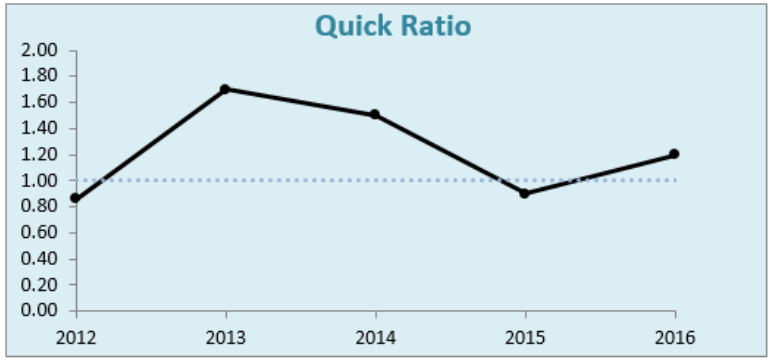
Did you generate the revenues needed to pay for O&M by itself?



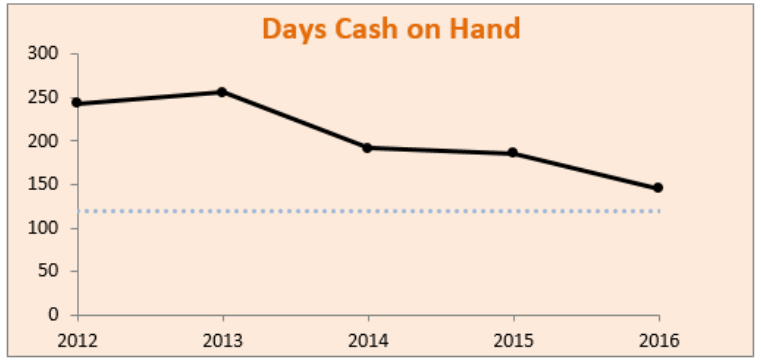
Did you generate the revenues needed to pay for O&M and existing debt service?



Did you have enough liquidity to pay your current liabilities at the end of the year?



How many days could you continue to operate the utility with the cash levels available?

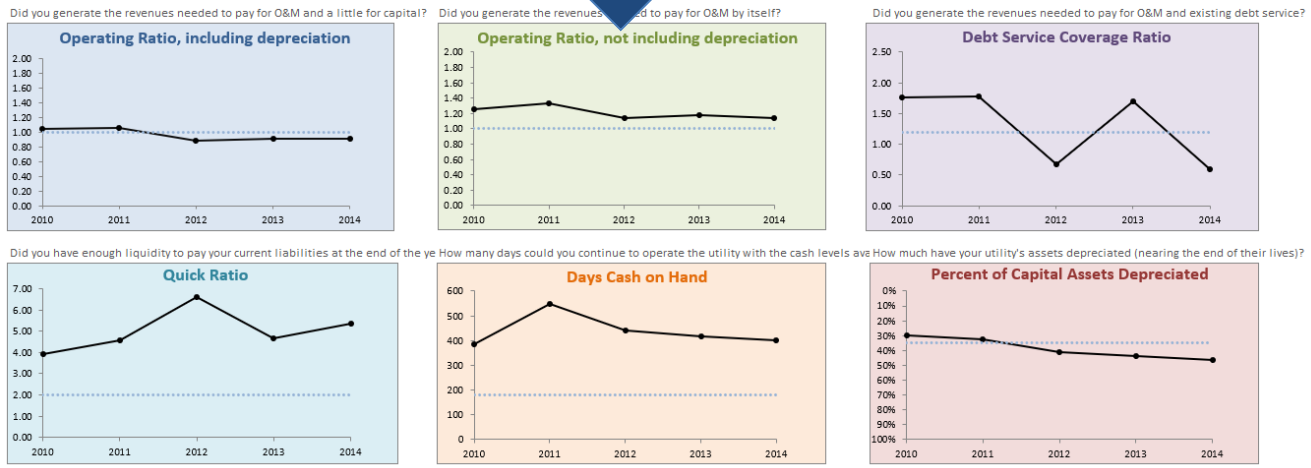


Financial Health Checkup for Water Utilities

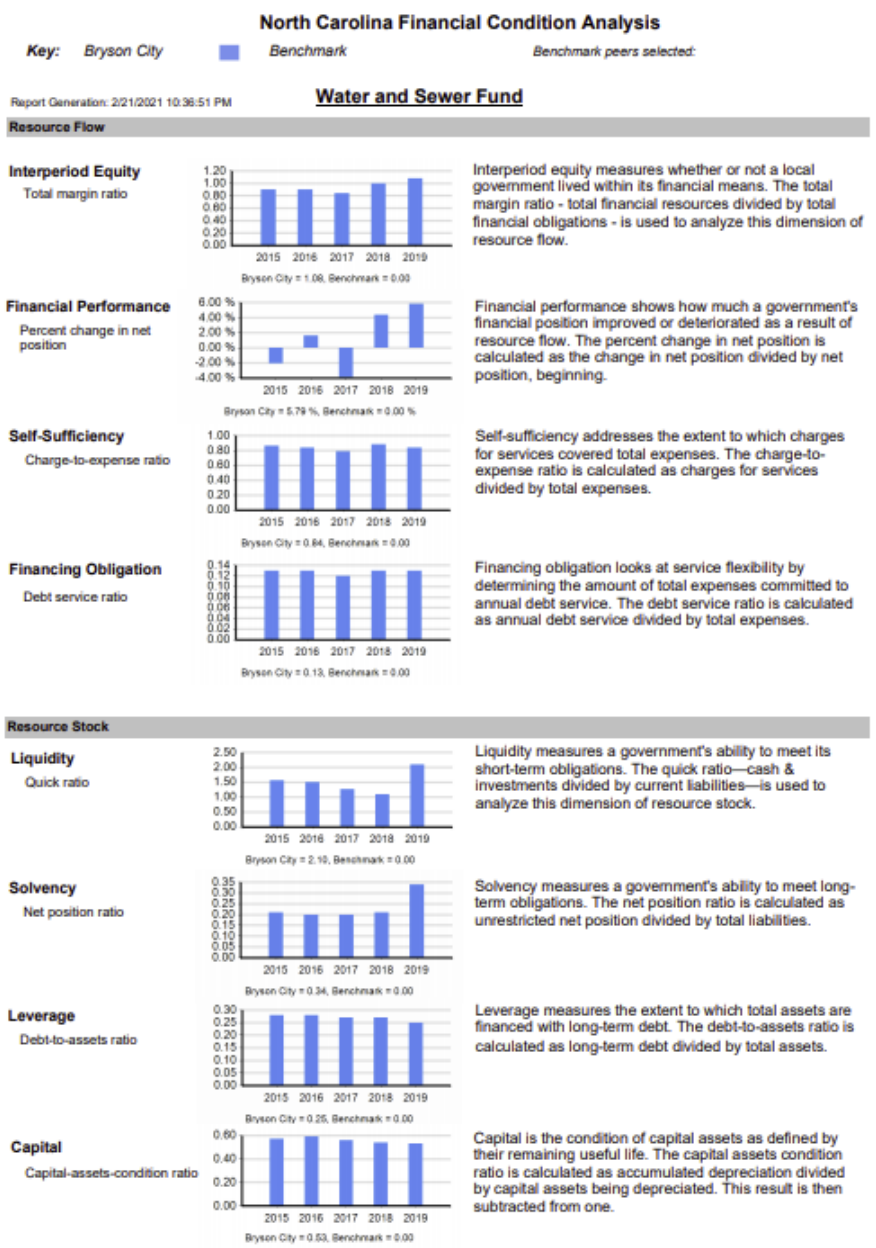
http://efc.sog.unc.edu or http://efcnetwork.org
Find the most up-to-date version in Resources / Tools

Free, simplified Excel tool allowing you to track and benchmark financial performance metrics for your water/sewer fund in the past 5 years

Key	Field in the financial statement/CAFR	Fiscal Year End 2010	2011	2012	2013	2014	Instructions
[1]	Total Operating Revenues	$ 2,341,857	$ 2,556,399	$ 2,271,777	$ 2,334,236	$ 2,501,286	Enter as shown in the Total Operating
[2]	Total Operating Expenses	$ 2,229,208	$ 2,403,938	$ 2,565,282	$ 2,555,504	$ 2,740,266	Enter as shown in the Total Operating
[3]	Depreciation & Amortization Expenses	$ 362,047	$ 490,007	$ 569,998	$ 568,179	$ 534,000	Depreciation and amortization are liste
[4]	Debt Principal Payments	$ 185,000	$ 279,242	$ 333,558	$ 132,742	$ 436,459	Enter $0 if there were no debt service
[4b]	Debt Interest Payments	$ 84,859	$ 81,330	$ 72,808	$ 71,620	$ 55,535	Enter $0 if there were no debt service
[5]	Current Assets, excluding inventories, restricted cash, prepaids	$ 2,986,691	$ 3,565,601	$ 3,266,234	$ 3,050,573	$ 2,941,629	Total Current Assets minus all inventor
[6]	Current Liabilities, excluding deposits & bond anticipation notes	$ 757,776	$ 776,266	$ 495,555	$ 656,257	$ 547,019	Total Current Liabilities minus all refun
[7]	Unrestricted Cash & Investments	$ 1,961,851	$ 2,883,569	$ 2,411,154	$ 2,273,697	$ 2,415,013	Unrestricted Cash & Investments (and
[8]	Total Accumulated Depreciation	$ 5,125,329	$ 5,520,510	$ 7,661,024	$ 8,229,207	$ 8,763,207	Total accumulated depreciation on cap
[9]	Total Depreciable Capital Assets	$ 17,221,067	$ 17,144,542	$ [illegible]697,849	$ 18,744,028	$ 18,854,157	Enter the total value of capital assets



Excel®-based Free to download Free to use


North Carolina Financial Condition Analysis

Key: Bryson City Benchmark Benchmark peers selected:

Report Generation: 2/21/2021 10:36:51 PM

Water and Sewer Fund

Resource Flow

Interperiod Equity
Total margin ratio
Bryson City = 1.09, Benchmark = 0.00
Interperiod equity measures whether or not a local government lived within its financial means. The total margin ratio - total financial resources divided by total financial obligations - is used to analyze this dimension of resource flow.

Financial Performance
Percent change in net position
Bryson City = 5.79 %, Benchmark = 0.00 %
Financial performance shows how much a government's financial position improved or deteriorated as a result of resource flow. The percent change in net position is calculated as the change in net position divided by net position, beginning.

Self-Sufficiency
Charge-to-expense ratio
Bryson City = 0.84, Benchmark = 0.00
Self-sufficiency addresses the extent to which charges for services covered total expenses. The charge-to-expense ratio is calculated as charges for services divided by total expenses.

Financing Obligation
Debt service ratio
Bryson City = 0.13, Benchmark = 0.00
Financing obligation looks at service flexibility by determining the amount of total expenses committed to annual debt service. The debt service ratio is calculated as annual debt service divided by total expenses.

Resource Stock

Liquidity
Quick ratio
Bryson City = 2.10, Benchmark = 0.00
Liquidity measures a government's ability to meet its short-term obligations. The quick ratio—cash & investments divided by current liabilities—is used to analyze this dimension of resource stock.

Solvency
Net position ratio
Bryson City = 0.34, Benchmark = 0.00
Solvency measures a government's ability to meet long-term obligations. The net position ratio is calculated as unrestricted net position divided by total liabilities.

Leverage
Debt-to-assets ratio
Bryson City = 0.25, Benchmark = 0.00
Leverage measures the extent to which total assets are financed with long-term debt. The debt-to-assets ratio is calculated as long-term debt divided by total assets.

Capital
Capital-assets-condition ratio
Bryson City = 0.53, Benchmark = 0.00
Capital is the condition of capital assets as defined by their remaining useful life. The capital assets condition ratio is calculated as accumulated depreciation divided by capital assets being depreciated. This result is then subtracted from one.

Benchmark your Enterprise Fund over 5 years on the Local Government Commission's Financial Reports and Analysis Tools

https://logos.nctreasurer.com/Reporting/Report/External?applicationCode=BMT

Financial Strategies for Resiliency

Financial strategies for resiliency

- *Careful** reduction and management of operating costs
- Planning for asset management and capital costs
- Build up reserves
- Set and track financial performance targets
- Plan and budget for water use reductions
- Revenue enhancement
- Rate adjustment approaches
- Alternative rate designs

* Use with extreme caution. Never cut costs if it will negatively affect levels of service or simply delay expenses to a later year (when costs will be higher).

Careful* reduction and management of operating costs

Reduce non-revenue water

Energy management

Asset management to reduce maintenance

Partner with other utilities

Monitor expenditures over time

* Use with extreme caution. Never cut costs if it will negatively affect levels of service or simply delay expenses to a later year (when costs will be higher).

Example of Ahoskie, NC's cost reductions

Steps toward Financial Viability: How Ahoskie Paid off Millions in Debt

MAY 4, 2021 / OMID BARR / 0 COMMENTS

Print PDF

The past year has forced local government utilities to make difficult decisions about how to maintain operations while providing essential services during an infectious disease pandemic, as discussed in several of our past blog posts (here, here, and here).

Financial viability is a cornerstone of a utility's ability to weather a proverbial storm that disrupts revenue flows. A viable system is one that functions as a long-term, self-sufficient business enterprise while providing reliable water services. The EFC has been on the look-out for stories of utilities and municipalities that are making steps towards financial viability, even in the midst of challenges like COVID-19.

The town of Ahoskie, located in rural Hertford County, has been implementing financial best practices over the past few years to decrease expenses and pay off debt, which set them up to survive a financially straining event like a lockdown. Below is a part of their story, here is a video that highlights the work they've done, and here is a more in-depth report. More resources regarding evaluating costs can be found at this webpage.

https://efc.sog.unc.edu/resource/resources-systems-evaluating-expenses

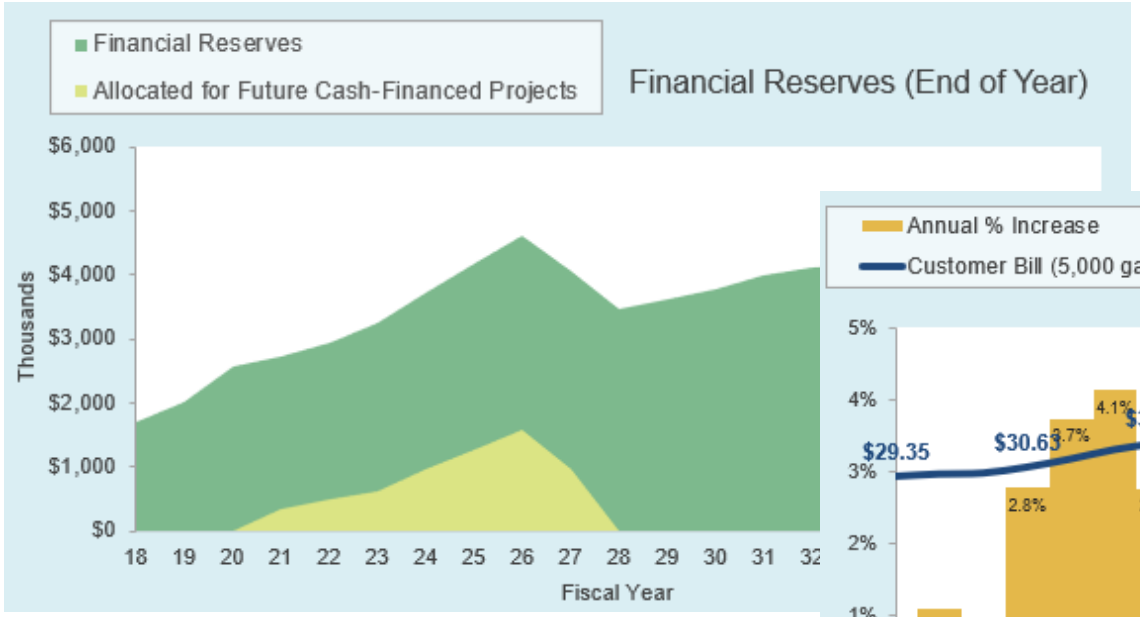
Planning for asset management and capital costs

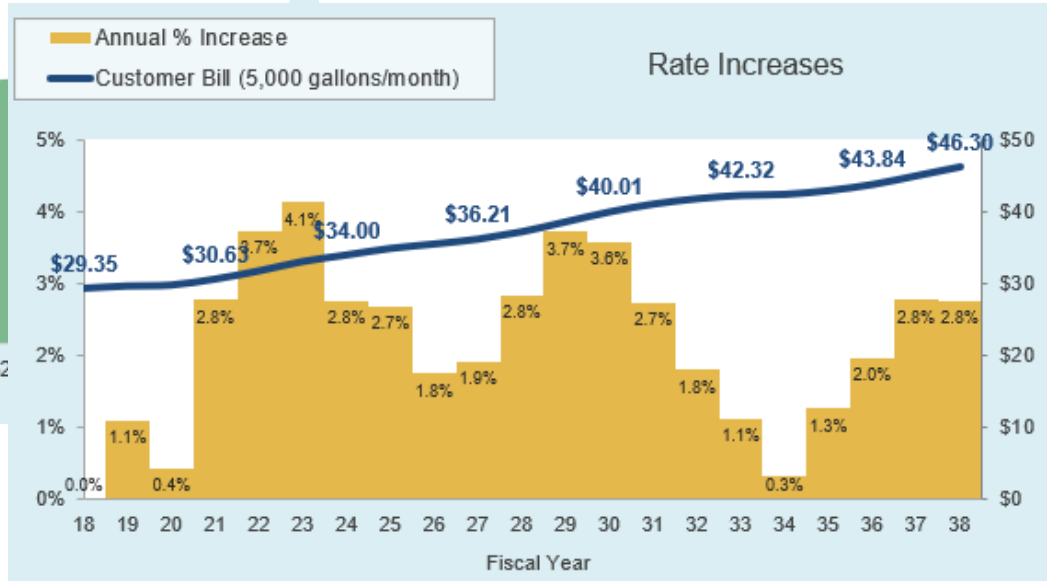
- Re-examine the need for expansions
- Partner with other utilities on regional capital projects to reduce costs and achieve higher priority points
- Create an asset management plan and a capital improvement plan
- Explore and test funding scenarios (debt vs. cash)
- Learn about different subsidized funding programs
- Look into debt refinancing if applicable
- Find out how to achieve a (higher) credit rating

Plan to Pay: Scenarios to Fund your C.I.P.

http://efc.sog.unc.edu or http://efcnetwork.org
Find the most up-to-date version in Resources / Tools

List your capital projects and compare different scenarios for funding them by automatically estimating the impact on your rates.





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Build up reserves

Reserves are funds built up over time that you can use for various purposes.

Build reserves early: *before* signs of problems.

If you are already suffering from loss of customers or water use, it might be too late, unless you can raise rates quickly.

How much do you need in your reserves?

- Look into setting a minimum target for a reserve fund to cover a reasonable decline in revenues so that you can continue to operate the water system and buy yourself enough time to make additional adjustments to mitigate the loss.

- Consider, for instance, a reserve that would cover at least three or four months of all O&M expenses. More would be better. For long-term resilience, aim for more than a year.

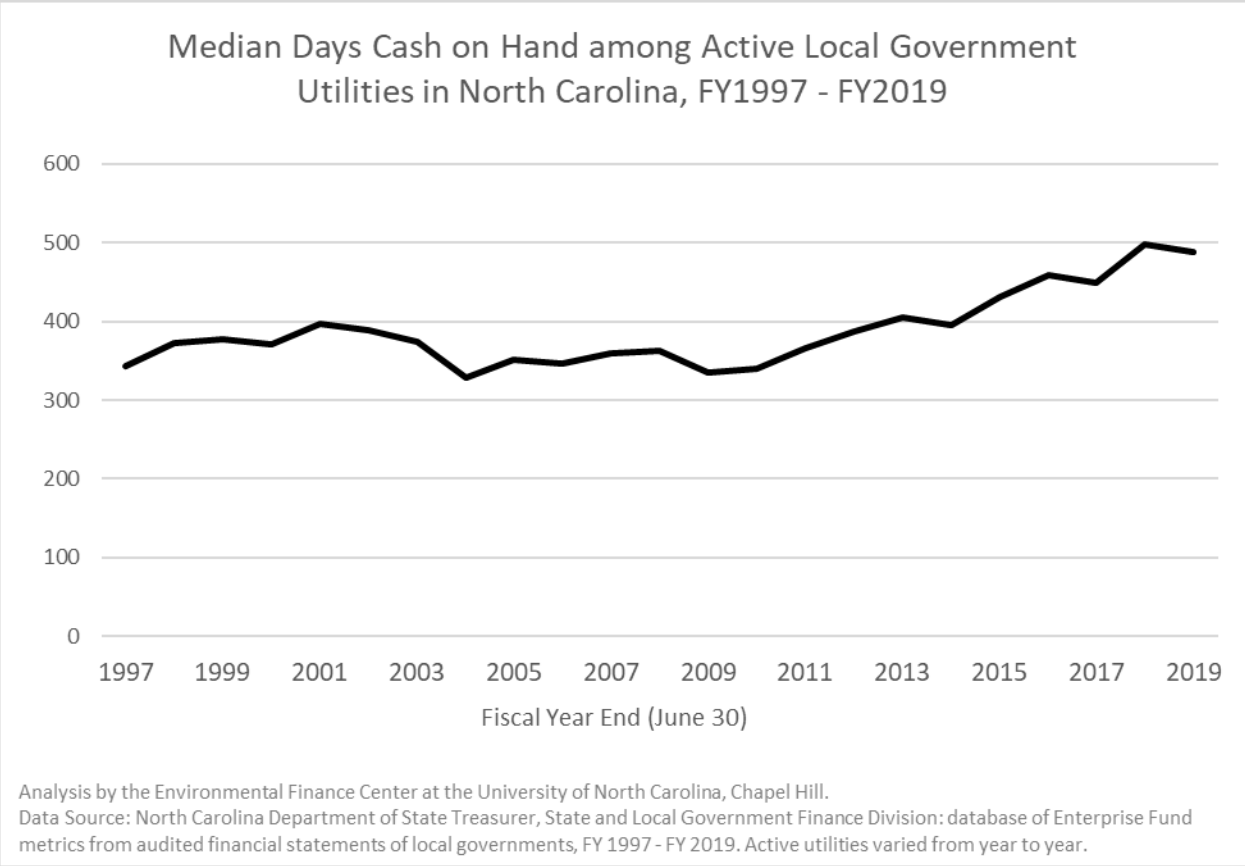
Example of target for reserves by a small water system

Town of Shallotte, NC (2,300 accounts):

"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."

W/WW reserves in North Carolina leading up to 2020



Water System Reserves During the COVID-19 Pandemic

APRIL 16, 2020 / CHRISTIAN LUTZ / 0 COMMENTS

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Local governments have an increased public health responsibility to ensure that people have access to clean water during the COVID-19 pandemic. During this time, many utilities are refraining from shutting off customers' water, despite unpaid bills. In more than a dozen states, mandates have even been put in place to

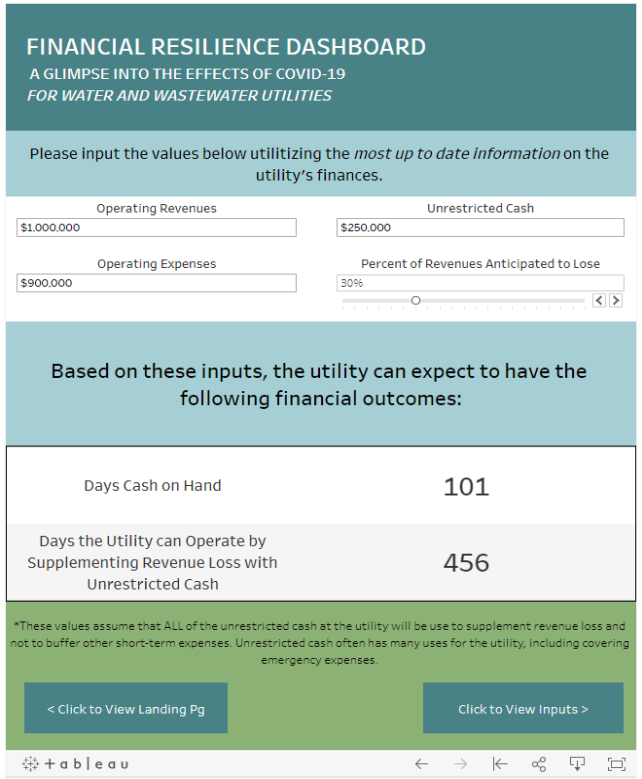
64% of local government utilities in NC had >365 days cash on hand at the end of FY2019 (less than 50% prior to FY2011).

Read the blog post https://efc.web.unc.edu/2020/04/16/water-system-reserves-during-the-covid-19-pandemic/

Financial Resilience Dashboard

https://efc.sog.unc.edu/resource/financial-resilience-dashboard-glimpse-effects-covid-19-water-and-wastewater-utilities

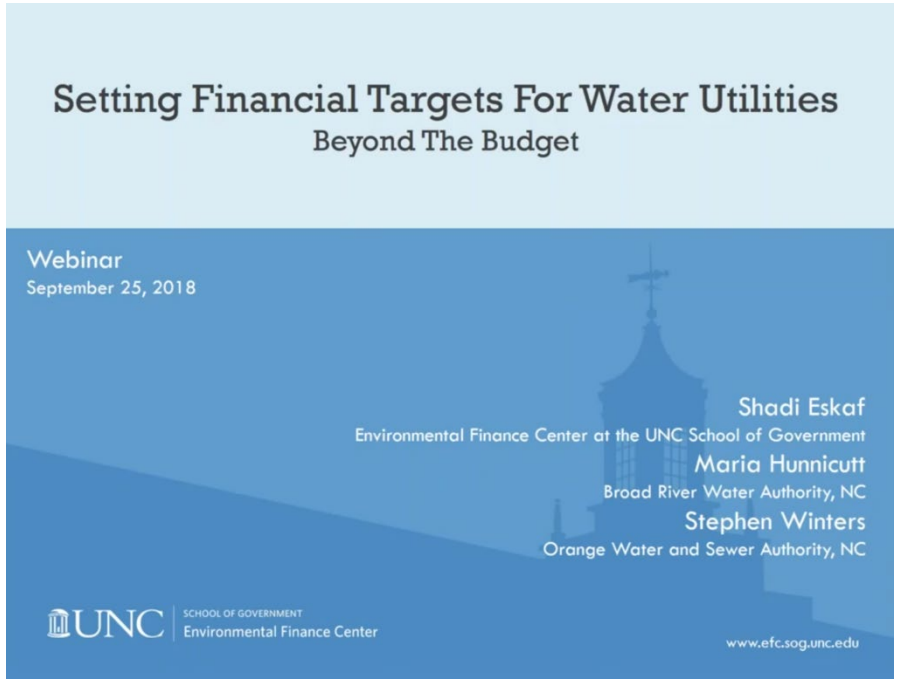
How long will your unrestricted cash and reserves offset different levels of revenue losses and still cover expenditures on O&M?



Tableau®-based | Online calculator | Free to use

Set up and track financial performance targets

Set up specific financial performance targets, measure and monitor performance indicators, and adjust financial decisions to maintain success.



More information and examples from NC utilities on a recorded webinar: https://efc.sog.unc.edu/event/setting-financial-targets-water-utilities-beyond-budget

Examples of financial performance 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

Examples of financial performance targets (in 2014)

Financial Metric	Policy Target
Debt Service Coverage Ratio	• Parity coverage of 1.5x • Total coverage of 1.2x
Debt Load	• Debt service less than 40% of total revenue requirements
Capital Funding	• Minimum of 25% of annual capital expenses funded through rate-funded capital (PAYGO)
Days Cash on Hand	• 180 days
O&M Budget Escalation	• Maximum annual O&M budget escalation of 5%
Operating Reserve Fund	• Minimum fund balance of 90 days of annual O&M expenses
Capital Reserve Fund	• Minimum fund balance of 25% of annual Capital expenses
Rate/Revenue Stabilization Fund	• Minimum fund balance target of 5% of projected annual revenues
Rate Revenue Composition	• Minimum of 25% of annual revenue from fixed charges
Rate Increases	• Minimum of automatic rate increases indexed to inflation
Service Affordability	• Maximum annual bill of an average customer of 2% of median household for each water and wastewater

Targets should be customized for each utility based on objectives, conditions, and purpose. Do not copy-and-paste another utility's.

Source: Water Research Foundation report, 2014, *Defining a Resilient Business Model for Water Utilities.*

Plan and budget for use reductions

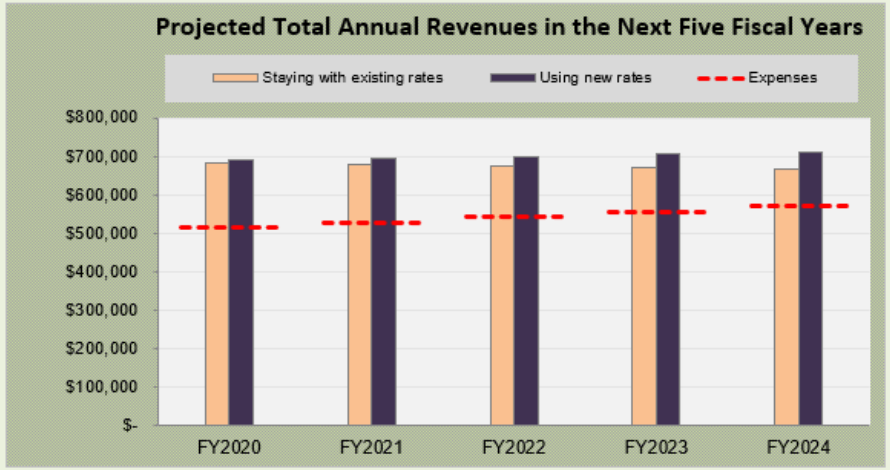
- Conservative forecasts
- Run scenarios, not a single forecast
- Look at your long-term trends to inform forecast
- Incorporate short-term and long-term reductions in demand
- Assess the likelihood and consequence of sudden, significant decline in use
- Establish a policy or protocol to move any “excess revenue” into a reserve fund

Water & Wastewater Rates Analysis Model

http://efc.sog.unc.edu or http://efcnetwork.org

Find the most up-to-date version in Resources / Tools

Cash-flow model to compare different rates on your projected fund balance to determine sufficiency of covering costs.



	FY2020	FY2021	FY2022	FY2023	FY2024
Net revenues without changing rates (existing rates)	$166,199	$149,665	$132,780	$115,532	$97,909
Net revenues after changing rates (new rates)	$174,771	$166,844	$158,602	$150,036	$139,817
Net Revenues Gained (Lost) Using the New Rates	***$8,572***	***$17,178***	***$25,822***	***$34,504***	***$41,908***

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Revenue Enhancement

- Raise rates and fees
- Sell water to neighboring systems
- Generate new revenue from other sources: rethink your utility services (e.g. leasing water tower for cellphone antennas or advertising)

Rate adjustment approaches

Raise rates as often as needed (within reason).

If it's politically difficult, consider ways to set automatic rate increases:

- Pass-through charges
- Multi-year rate increases
- Indexed rate adjustments

Structural and Managerial Strategies for Resiliency

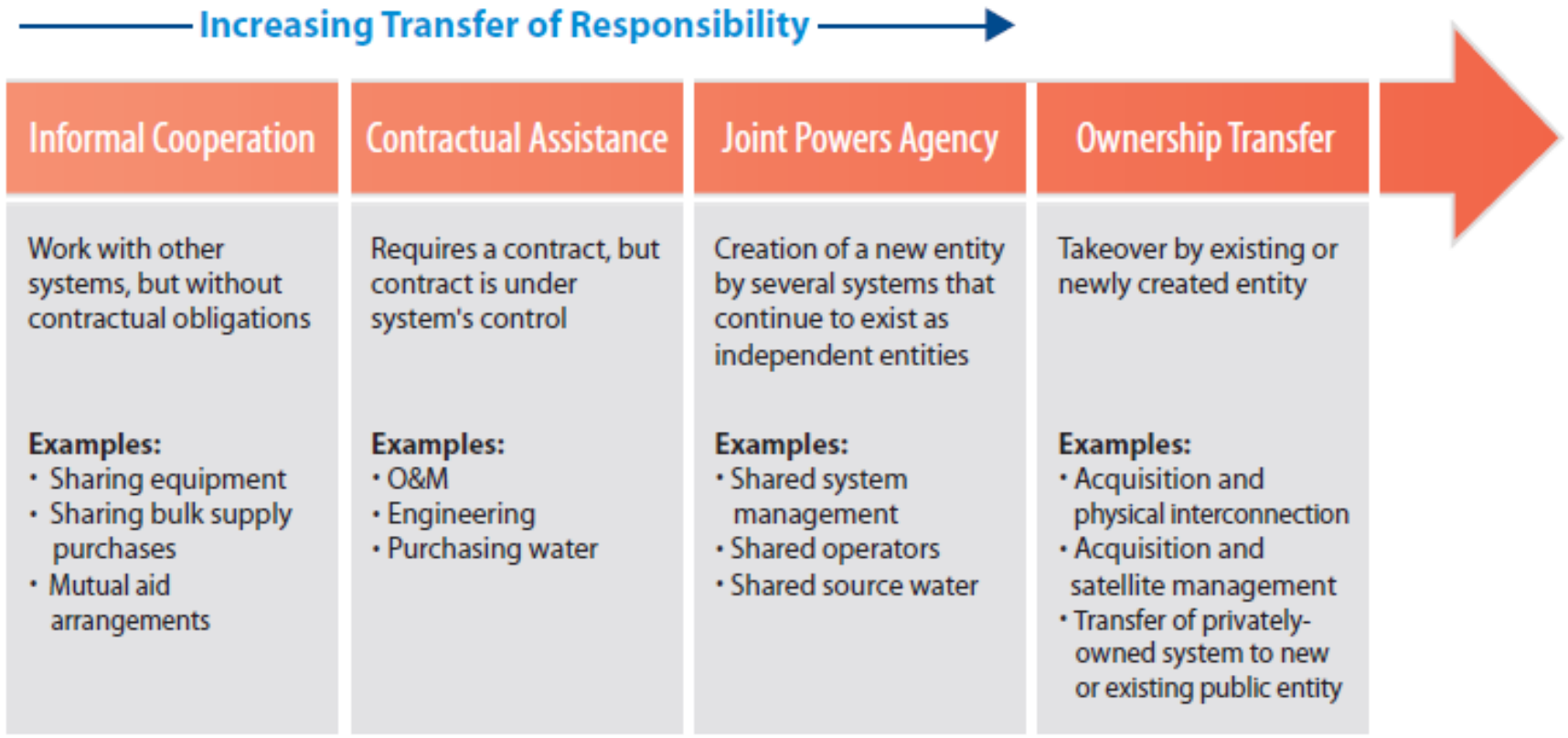
Structural and Managerial Strategies for Resiliency

- Assist with economic development efforts
- Partnerships with other utilities (regionalization)
- Communication

Partnerships with other utilities

- Share services and equipment
- Sell excess water to other water systems
- Buy water from another water system and reduce or eliminate the need for treatment
- Share personnel
- Consolidate with other water systems to create a regional utility
- Transfer ownership of your system

Spectrum of partnership with other utilities

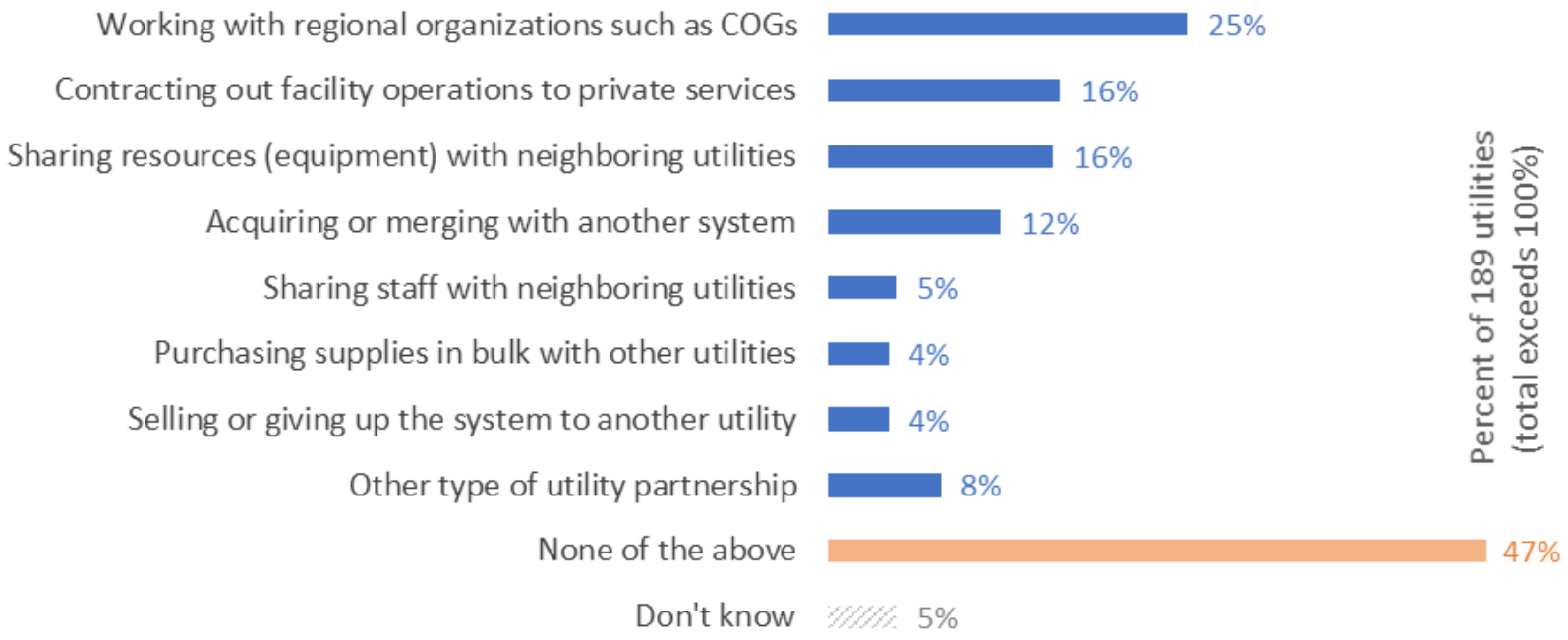


Any kind of collaboration can be helpful

Partnerships in North Carolina

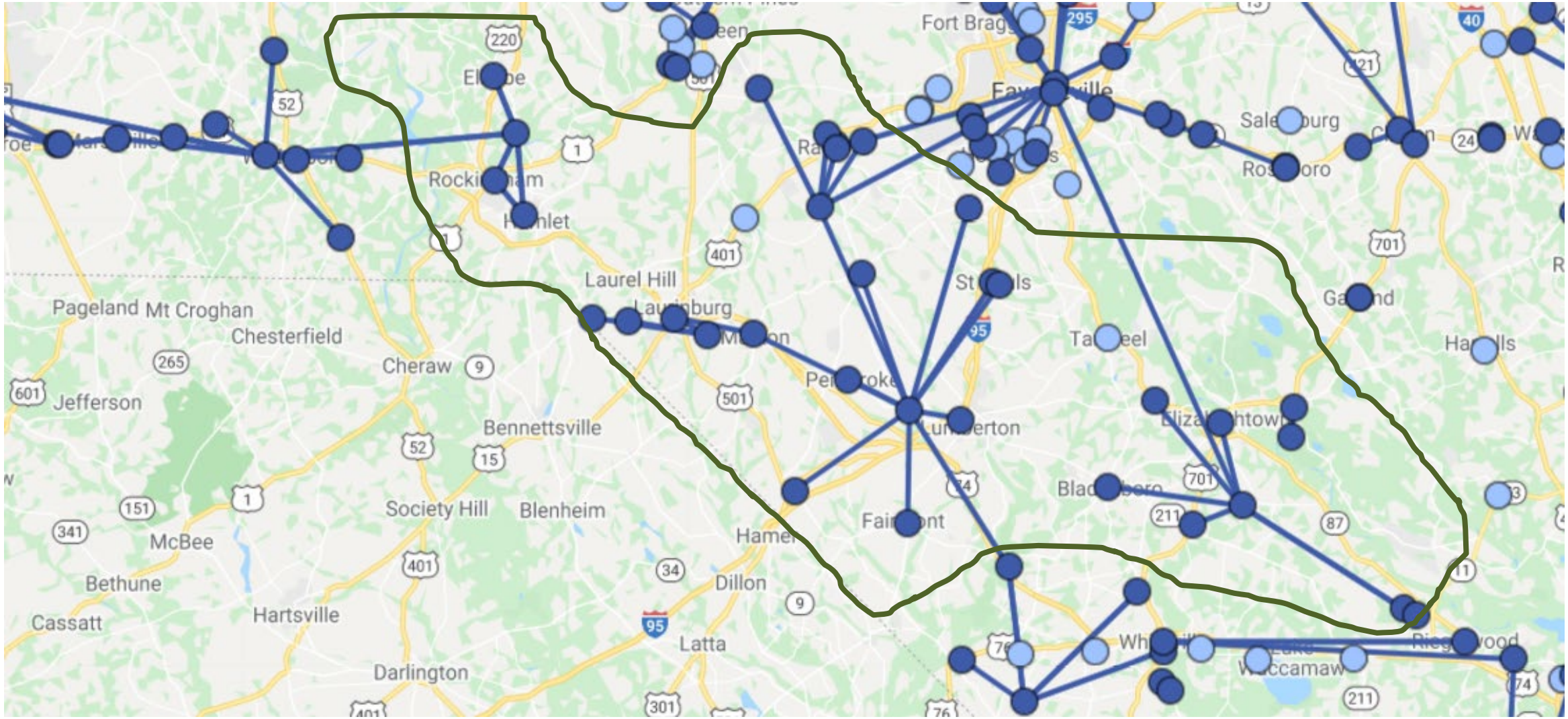
Partnership activities that North Carolina utilities are currently engaged in or are considering. Excludes interconnections and wholesale purchase/sale agreements for water or wastewater treatment and delivery between utilities.

n = 189



Source: 2017 North Carolina Water and Wastewater Utility Management Survey conducted by the Environmental Finance Center at the UNC School of Government and the North Carolina League of Municipalities.

Water interconnections in the LRCOG area



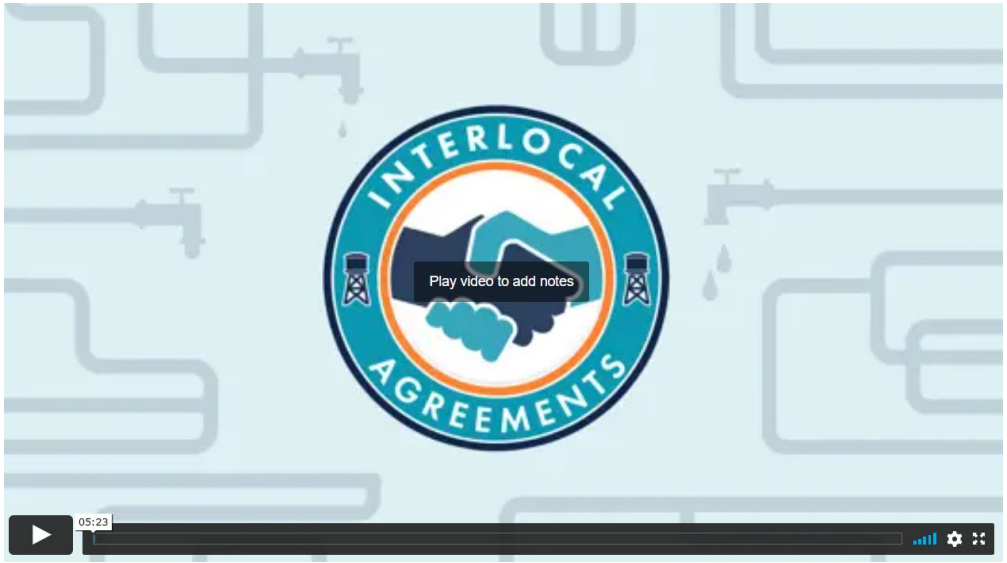
Lines and points are only approximations and are not precise representations of locations of water systems and water lines.
https://efc.sog.unc.edu/resource/interactive-map-community-water-system-interconnections-north-carolina

Key financial benefits for utility partnerships*

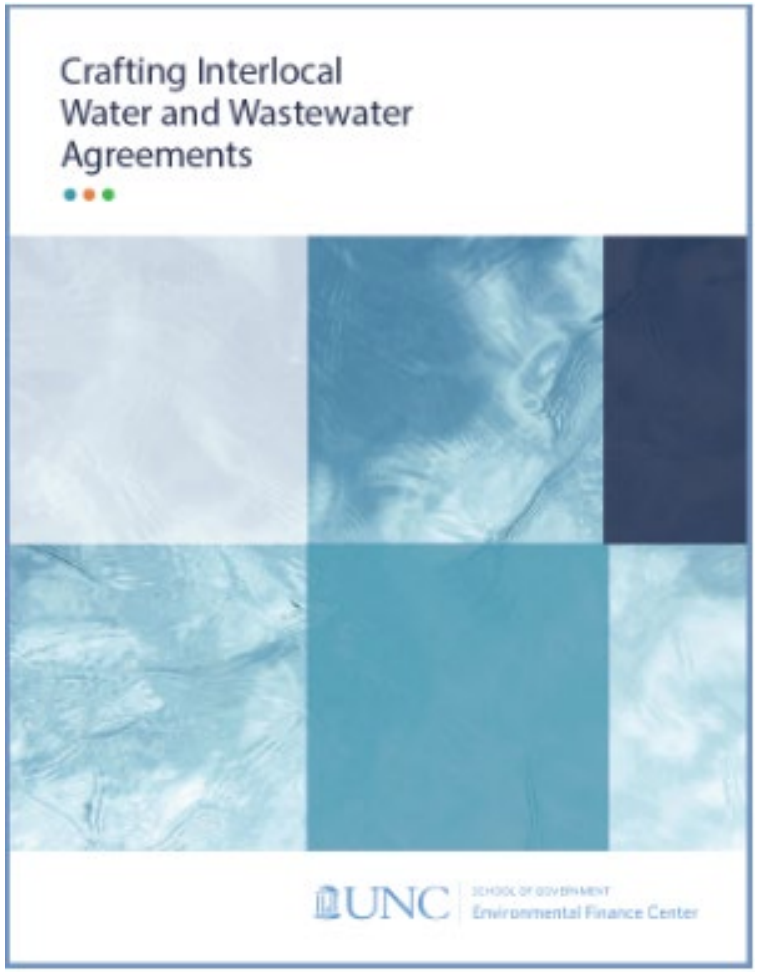
**Can vary by situation and model*

- Economies of scale/operating efficiencies
- Increased access to capital
- Revenue stability
- Improved planning and risk management
- Increased opportunities for economic development
- Enhanced employment and retention incentives
- Reduction in rate discrepancies among nearby communities
- Increased opportunities for water resource management

Guidance on crafting an interlocal agreement



https://vimeo.com/digitalpmedia/review/372993470/18aeaef9a2



https://efc.sog.unc.edu/project/utility-regionalization-and-consolidation

Interlocal agreement considerations described in the guide

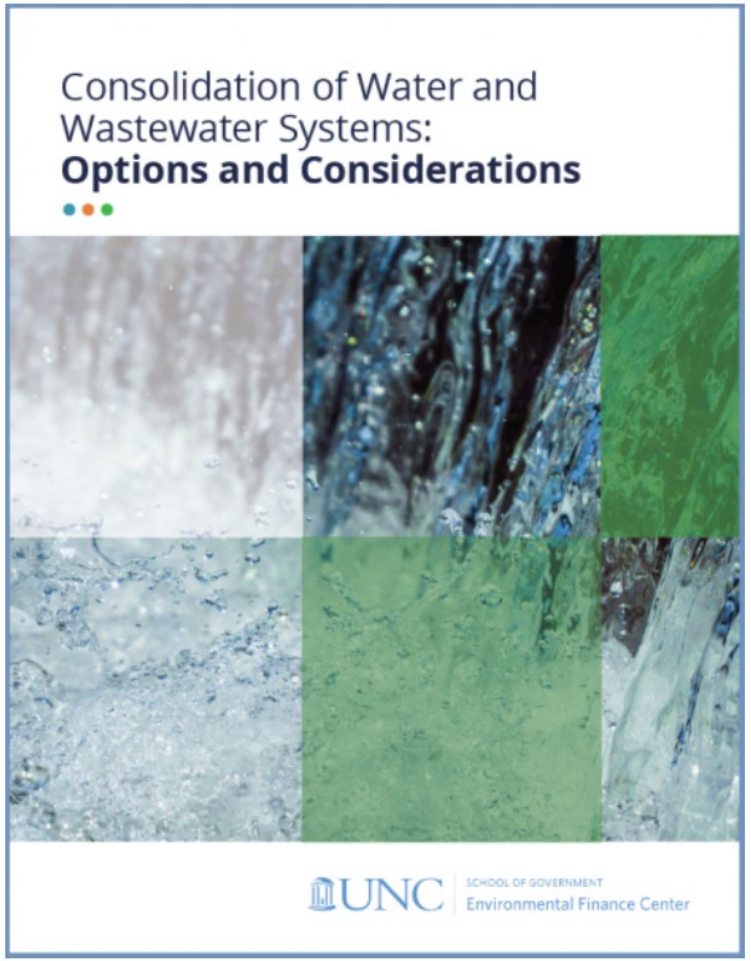
1. Defining Current and Future Service Areas
2. Annexation and Growth
3. Key Usage Thresholds
4. Meter Maintenance
5. Water Quality Concerns
6. Water Pressure
7. Adequate Payment for Use of Capital
8. Calculation and Modification of Commodity Charges
9. Reselling Water or Capacity
10. Handling Supply Interruptions and Shortages and Emergencies
11. Transferability of Conservation Status/Measures/Emergency Reduction
12. Non-Revenue Water

Options and Considerations for Consolidation of Water Systems

Available at

https://efc.sog.unc.edu/project/utility-regionalization-and-consolidation

Describes variety of "consolidated" utility models and roles/authority of members.



Forms of consolidation

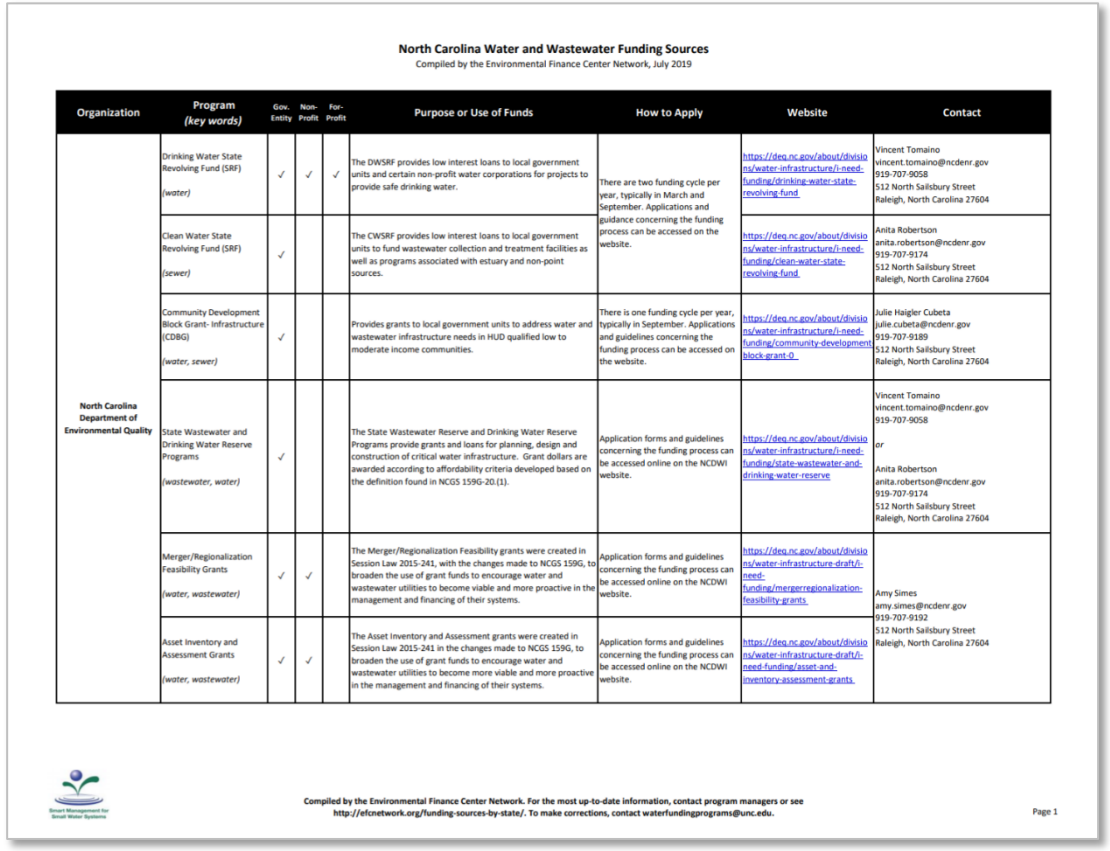
- Direct Acquisition - one higher-capacity utility absorbing another in its entirety.
- Joint Merger - two or more utilities often, but not necessarily, of similar capacity consolidating to become a new entity that is jointly owned by the participating utilities.
- Balanced Merger - hybrid of the other two types and involves two or more utilities consolidating and creating a governance structure that is designed to allow for participation by the previously existing utilities in future decision-making.
- Consolidation of Governance/Operations/Management

Communication

- With staff: recognize the challenges and empower staff to come up with solutions
- With the board: educate on the issues, enable longer-term planning
- With customers: explain why decisions have been made, get buy-in

Grants and Loans

Funding programs in the state



North Carolina Water and Wastewater Funding Sources

Compiled by the Environmental Finance Center Network, July 2019

Organization	Program *(key words)*	Gov. Entity	Non-Profit	For-Profit	Purpose or Use of Funds	How to Apply	Website	Contact
North Carolina Department of Environmental Quality	Drinking Water State Revolving Fund (SRF) *(water)*	✓	✓	✓	The DWSRF provides low interest loans to local government units and certain non-profit water corporations for projects to provide safe drinking water.	There are two funding cycle per year, typically in March and September. Applications and guidance concerning the funding process can be accessed on the website.	https://deq.nc.gov/about/divisions/water-infrastructure/i-need-funding/drinking-water-state-revolving-fund	Vincent Tomaino vincent.tomaino@ncdenr.gov 919-707-9058 512 North Salisbury Street Raleigh, North Carolina 27604
	Clean Water State Revolving Fund (SRF) *(sewer)*	✓			The CWSRF provides low interest loans to local government units to fund wastewater collection and treatment facilities as well as programs associated with estuary and non-point sources.		https://deq.nc.gov/about/divisions/water-infrastructure/i-need-funding/clean-water-state-revolving-fund	Anita Robertson anita.robertson@ncdenr.gov 919-707-9174 512 North Salisbury Street Raleigh, North Carolina 27604
	Community Development Block Grant- Infrastructure (CDBG) *(water, sewer)*	✓			Provides grants to local government units to address water and wastewater infrastructure needs in HUD qualified low to moderate income communities.	There is one funding cycle per year, typically in September. Applications and guidelines concerning the funding process can be accessed on the website.	https://deq.nc.gov/about/divisions/water-infrastructure/i-need-funding/community-development-block-grant-0	Julie Haigler Cubeta julie.cubeta@ncdenr.gov 919-707-9189 512 North Salisbury Street Raleigh, North Carolina 27604
	State Wastewater and Drinking Water Reserve Programs *(wastewater, water)*	✓			The State Wastewater Reserve and Drinking Water Reserve Programs provide grants and loans for planning, design and construction of critical water infrastructure. Grant dollars are awarded according to affordability criteria developed based on the definition found in NCGS 159G-20.(1).	Application forms and guidelines concerning the funding process can be accessed online on the NCDWI website.	https://deq.nc.gov/about/divisions/water-infrastructure/i-need-funding/state-wastewater-and-drinking-water-reserve	Vincent Tomaino vincent.tomaino@ncdenr.gov 919-707-9058 *or* Anita Robertson anita.robertson@ncdenr.gov 919-707-9174 512 North Salisbury Street Raleigh, North Carolina 27604
	Merger/Regionalization Feasibility Grants *(water, wastewater)*	✓	✓		The Merger/Regionalization Feasibility grants were created in Session Law 2015-241, with the changes made to NCGS 159G, to broaden the use of grant funds to encourage water and wastewater utilities to become viable and more proactive in the management and financing of their systems.	Application forms and guidelines concerning the funding process can be accessed online on the NCDWI website.	https://deq.nc.gov/about/divisions/water-infrastructure-draft/i-need-funding/mergerregionalization-feasibility-grants	Amy Simes amy.simes@ncdenr.gov 919-707-9192 512 North Salisbury Street Raleigh, North Carolina 27604
	Asset Inventory and Assessment Grants *(water, wastewater)*	✓	✓		The Asset Inventory and Assessment grants were created in Session Law 2015-241 in the changes made to NCGS 159G, to broaden the use of grant funds to encourage water and wastewater utilities to become more viable and more proactive in the management and financing of their systems.	Application forms and guidelines concerning the funding process can be accessed online on the NCDWI website.	https://deq.nc.gov/about/divisions/water-infrastructure-draft/i-need-funding/asset-and-inventory-assessment-grants	

Compiled by the Environmental Finance Center Network. For the most up-to-date information, contact program managers or see http://efcnetwork.org/funding-sources-by-state/. To make corrections, contact waterfundingprograms@unc.edu.

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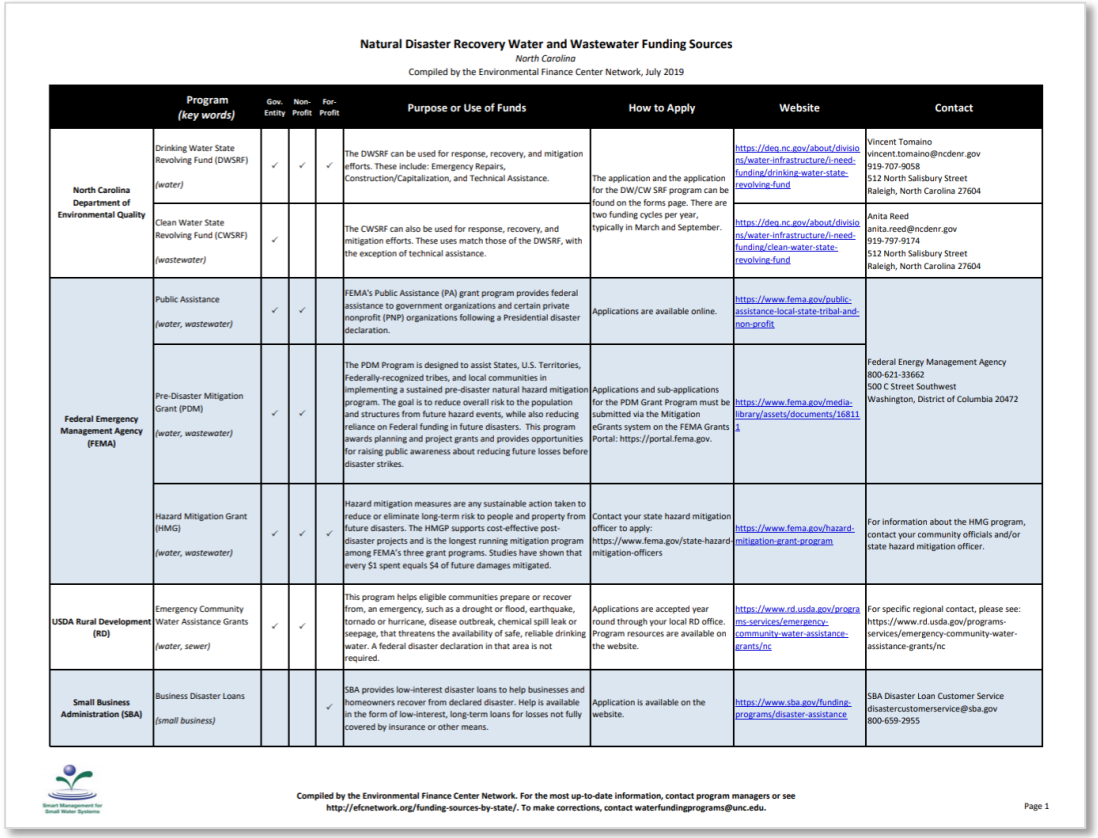
Find the latest at https://efcnetwork.org/funding-sources-by-state/

Funding for disaster recovery



Natural Disaster Recovery Water and Wastewater Funding Sources

North Carolina

Compiled by the Environmental Finance Center Network, July 2019

	Program (key words)	Gov. Entity	Non-Profit	For-Profit	Purpose or Use of Funds	How to Apply	Website	Contact
North Carolina Department of Environmental Quality	Drinking Water State Revolving Fund (DWSRF) *(water)*	✓	✓	✓	The DWSRF can be used for response, recovery, and mitigation efforts. These include: Emergency Repairs, Construction/Capitalization, and Technical Assistance.	The application and the application for the DW/CW SRF program can be found on the forms page. There are two funding cycles per year, typically in March and September.	https://deq.nc.gov/about/divisions/water-infrastructure/i-need-funding/drinking-water-state-revolving-fund	Vincent Tomaino vincent.tomaino@ncdenr.gov 919-707-9058 512 North Salisbury Street Raleigh, North Carolina 27604
	Clean Water State Revolving Fund (CWSRF) *(wastewater)*	✓			The CWSRF can also be used for response, recovery, and mitigation efforts. These uses match those of the DWSRF, with the exception of technical assistance.		https://deq.nc.gov/about/divisions/water-infrastructure/i-need-funding/clean-water-state-revolving-fund	Anita Reed anita.reed@ncdenr.gov 919-797-9174 512 North Salisbury Street Raleigh, North Carolina 27604
Federal Emergency Management Agency (FEMA)	Public Assistance *(water, wastewater)*	✓	✓		FEMA's Public Assistance (PA) grant program provides federal assistance to government organizations and certain private nonprofit (PNP) organizations following a Presidential disaster declaration.	Applications are available online.	https://www.fema.gov/public-assistance-local-state-tribal-and-non-profit	Federal Energy Management Agency 800-621-33662 500 C Street Southwest Washington, District of Columbia 20472
	Pre-Disaster Mitigation Grant (PDM) *(water, wastewater)*	✓	✓		The PDM Program is designed to assist States, U.S. Territories, Federally-recognized tribes, and local communities in implementing a sustained pre-disaster natural hazard mitigation program. The goal is to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding in future disasters. This program awards planning and project grants and provides opportunities for raising public awareness about reducing future losses before disaster strikes.	Applications and sub-applications for the PDM Grant Program must be submitted via the Mitigation eGrants system on the FEMA Grants Portal: https://portal.fema.gov.	https://www.fema.gov/media-library/assets/documents/168111	
	Hazard Mitigation Grant (HMG) *(water, wastewater)*	✓	✓	✓	Hazard mitigation measures are any sustainable action taken to reduce or eliminate long-term risk to people and property from future disasters. The HMGP supports cost-effective post-disaster projects and is the longest running mitigation program among FEMA's three grant programs. Studies have shown that every $1 spent equals $4 of future damages mitigated.	Contact your state hazard mitigation officer to apply: https://www.fema.gov/state-hazard-mitigation-officers	https://www.fema.gov/hazard-mitigation-grant-program	For information about the HMG program, contact your community officials and/or state hazard mitigation officer.
USDA Rural Development (RD)	Emergency Community Water Assistance Grants *(water, sewer)*	✓	✓		This program helps eligible communities prepare or recover from, an emergency, such as a drought or flood, earthquake, tornado or hurricane, disease outbreak, chemical spill leak or seepage, that threatens the availability of safe, reliable drinking water. A federal disaster declaration in that area is not required.	Applications are accepted year round through your local RD office. Program resources are available on the website.	https://www.rd.usda.gov/programs-services/emergency-community-water-assistance-grants/nc	For specific regional contact, please see: https://www.rd.usda.gov/programs-services/emergency-community-water-assistance-grants/nc
Small Business Administration (SBA)	Business Disaster Loans *(small business)*			✓	SBA provides low-interest disaster loans to help businesses and homeowners recover from declared disaster. Help is available in the form of low-interest, long-term loans for losses not fully covered by insurance or other means.	Application is available on the website.	https://www.sba.gov/funding-programs/disaster-assistance	SBA Disaster Loan Customer Service disastercustomerservice@sba.gov 800-659-2955

Compiled by the Environmental Finance Center Network. For the most up-to-date information, contact program managers or see http://efcnetwork.org/funding-sources-by-state/. To make corrections, contact waterfundingprograms@unc.edu.

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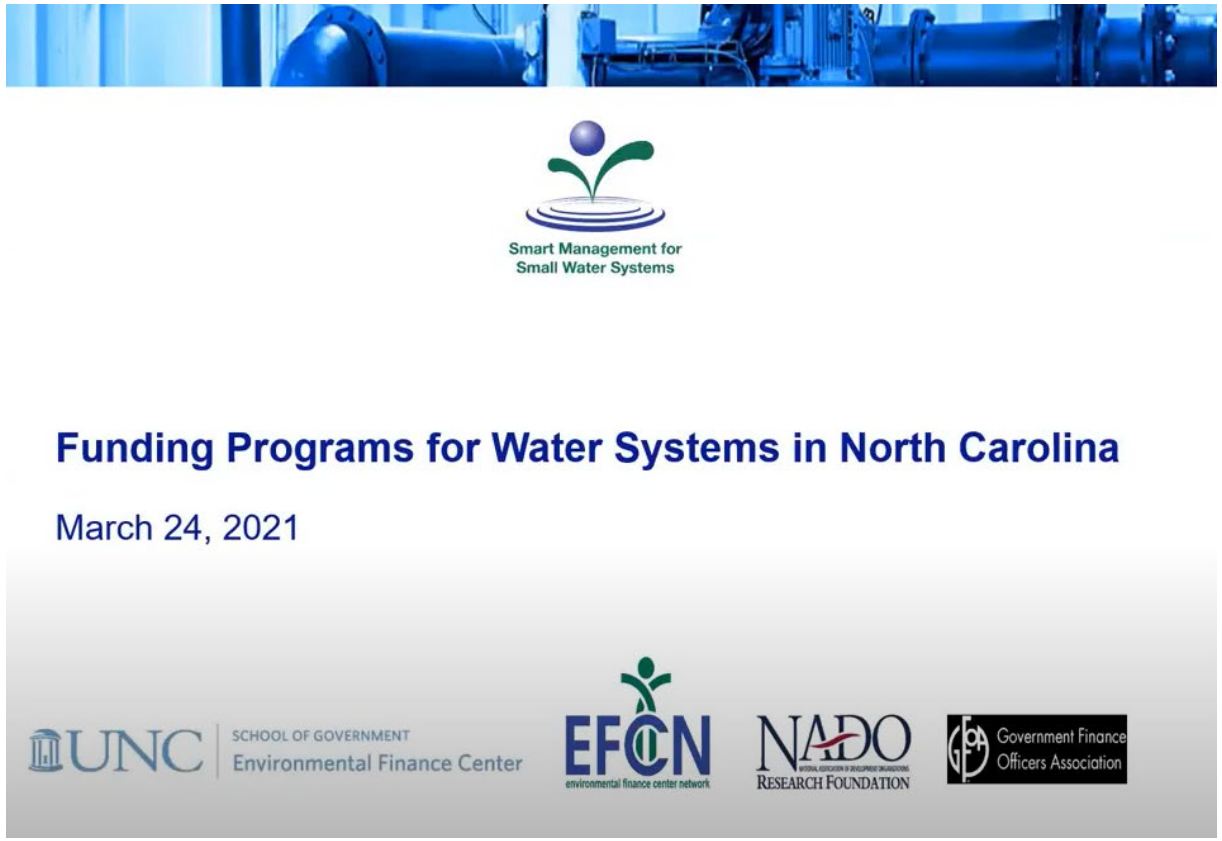
Find the latest at https://efcnetwork.org/funding-for-disaster-recovery/

Watch recorded webinar on NC funding programs (March 2021)



Presentations by

USDA United States Department of Agriculture Rural Development

NORTH CAROLINA Department of Environmental Quality DEQ

E·D·A U.S. ECONOMIC DEVELOPMENT ADMINISTRATION

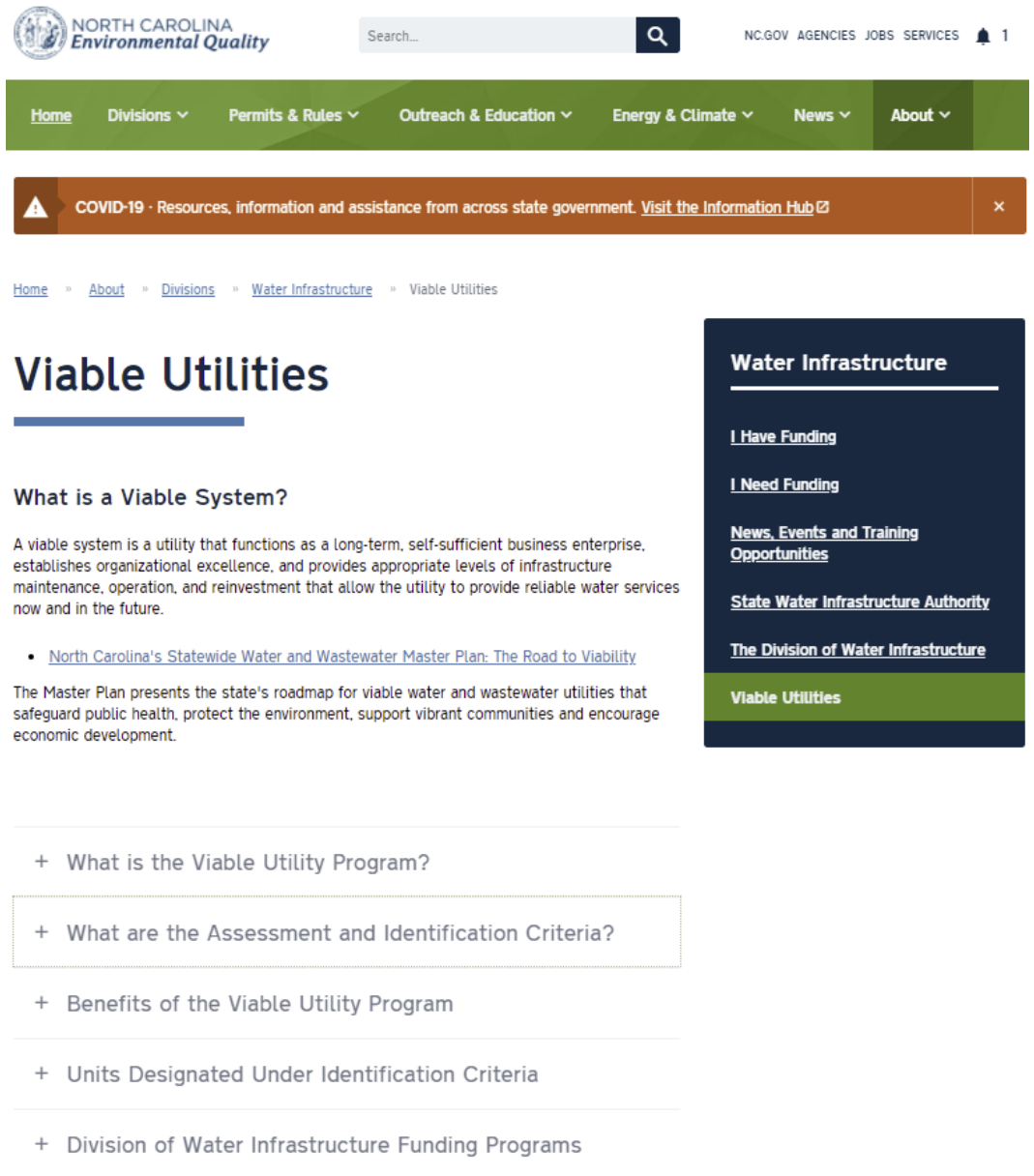
https://efc.sog.unc.edu/event/funding-programs-water-systems-north-carolina

American Rescue Plan funds

- Local governments receiving ARP funds; most from the NC Pandemic Recovery Office (https://www.nc.gov/agencies/ncpro)

- Can be used for water and wastewater capital projects
  - Frees up your water/wastewater funds for additional work

Viable Utilities Program

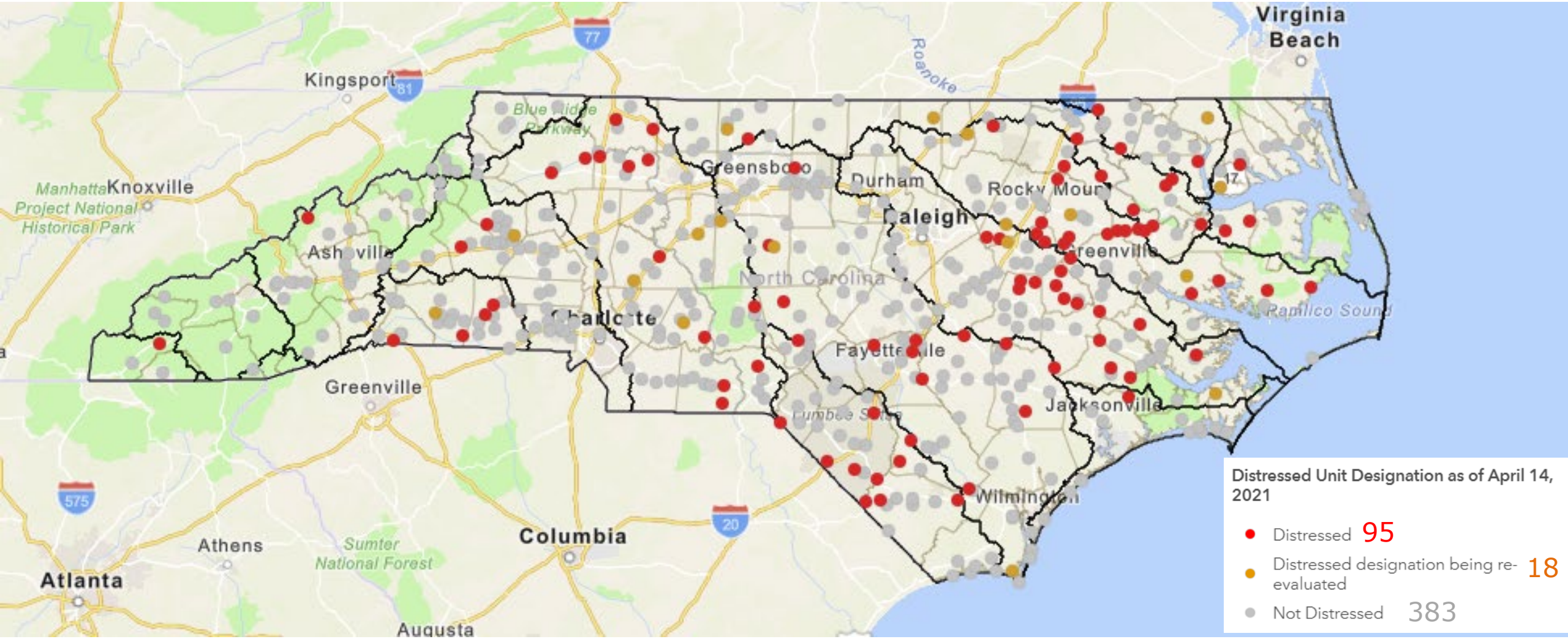


Viable Utilities Program

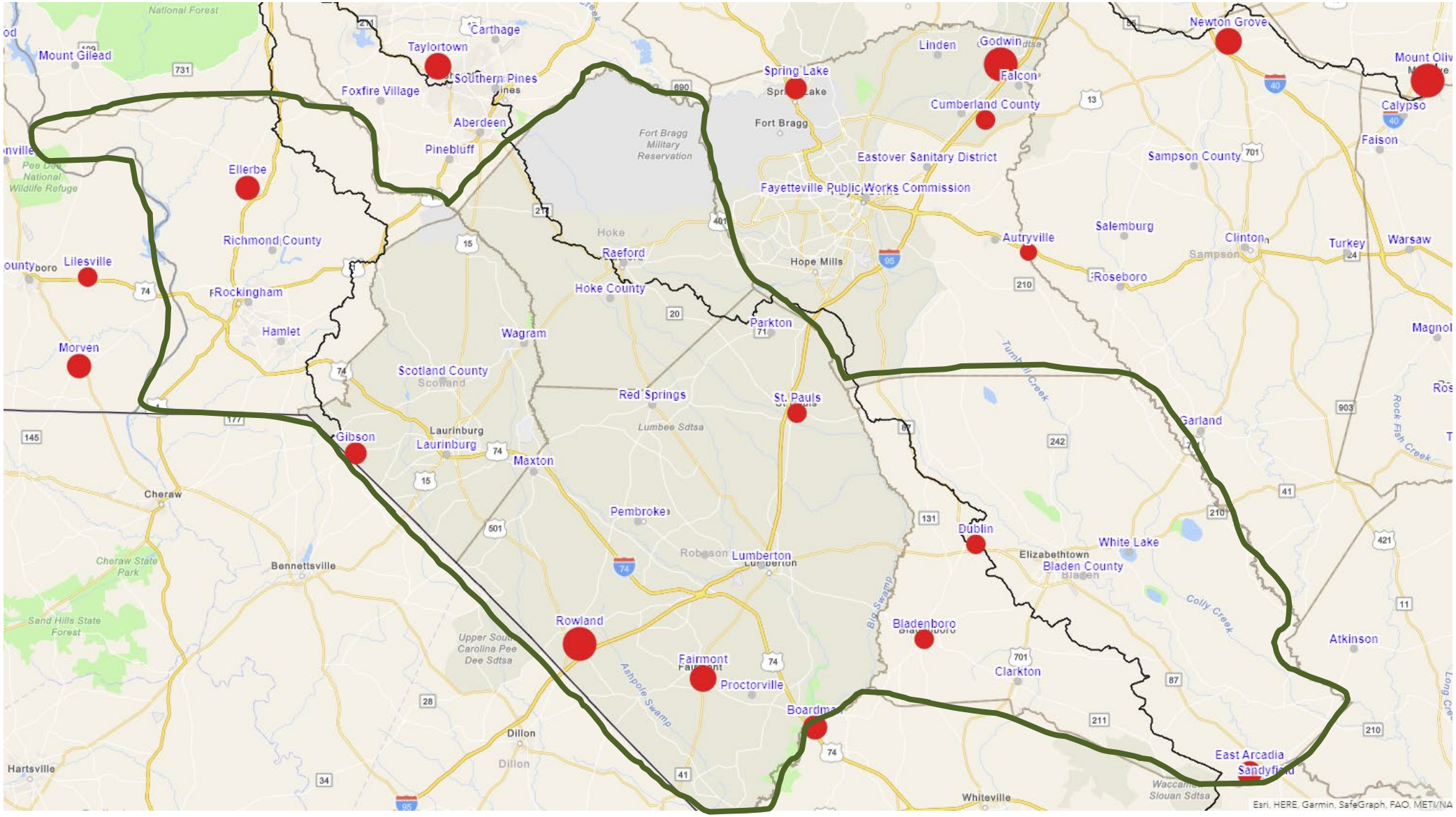
- Provides funding to build a path towards viable utility systems using long-term solutions for water and wastewater distressed utilities
- Run by the State Water Infrastructure Authority (SWIA) and the Local Government Commission (LGC)
- Information on the NC DEQ Division of Water Infrastructure website

https://deq.nc.gov/about/divisions/water-infrastructure/viable-utilities

“Distressed” Designations Across North Carolina as Approved by SWIA in April 2021



Designations in the LRCOG area



Viable Utility Program Overview

- New program established by legislators in 2020 (Session Law 2020-79).
- Goal is to help local government water/wastewater utilities ensure long-term viability.
- SWIA and LGC evaluated 496 local government utilities and identified 95 (plus potentially 18 more) that meet certain criteria used as a first step to identify distressed units.
- Utilities designated as distressed must:
  - Conduct an asset assessment and rate study: these will help you take stock of what you have and plan for their long-term upkeep
  - Participate in training/educational programs: these will enhance the boards' and managers' capacity and access to experts to assist with utility management
  - And develop an action plan to put the utility on a course for long-term viability
- Utilities designated as distressed have:
  - Access to the Viable Utilities Reserve grants
  - Potentially greater access to other grants and low-interest loans
  - Access to organizations that assist utilities address issues
- Utilities designated as distressed should first attend a Viable Utilities Program orientation by DWI
- Board members and utility managers are both encouraged to participate

Types of Assistance Suggested by DWI

Plans and Projects

Many kinds of assistance may be available to designated units

- Asset Assessment: Asset Inventory and Assessment Grants
- Rate Study
- Merger /Regionalization options: Merger / Regionalization Feasibility Grants
- Interconnection
- Decentralization
- Rehabilitation or replacement
- Emergency operating funds (ONLY if the Local Government Commission has assumed financial control of the LGU)

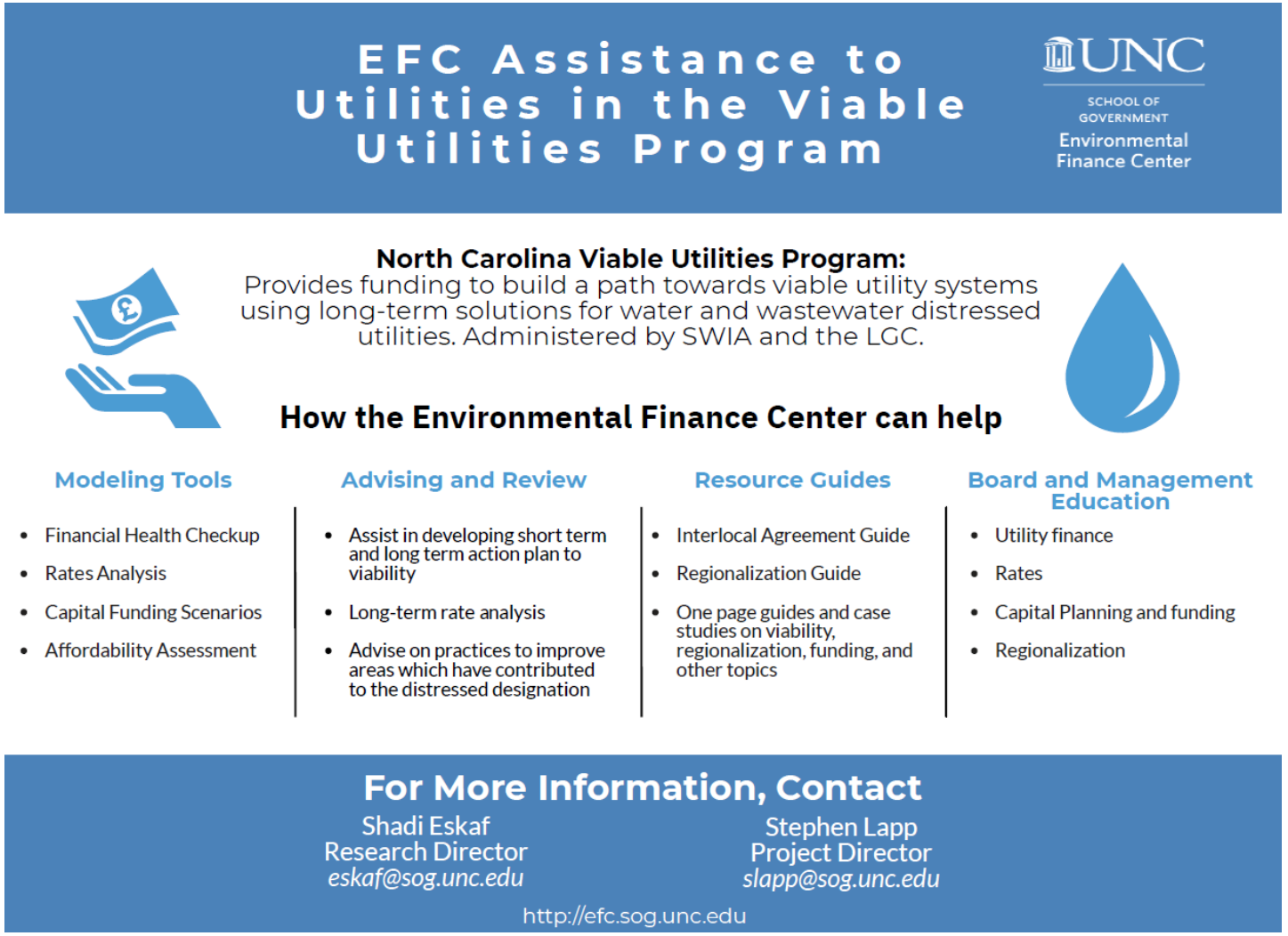
Education and Training

Designation as distressed can facilitate development and implementation of action plans

- Education and training for local leadership so they have information to share with citizens on the true cost of services they provide.
- Long-term planning ensures viability.
- Helps utilities break the cycle of relying on grants to alleviate difficult, acute or emergency infrastructure situations

EFC can assist communities with some of these at no cost

How EFC can engage with your utility



- Review financial health
- Review rates
- Scenarios for capital funding
- Rate structure designs; affordability
- Develop VUP action plan
- Review interlocal agreements
- Advise on financial management, budgeting, utility partnerships
- Examples from peer utilities
- Resource guides/how-to/models
- Discussions with utility managers in-person, by phone, or virtually
- Board presentations/meetings
- Customized trainings for boards/managers
- Connected to School of Government expertise

Examples of EFC analysis and modeling tools

Water and Wastewater Rates Analysis Model

Use this tool to review your rates to ensure projected revenues cover projected expenses. This tool will help you determine whether proposed rates will keep the utility financially self-sufficient for the next few years.

Financial Health Checkup for Water Utilities

Use this tool to get a snapshot of your utilitys financial health and demonstrate the financial strengths and weaknesses of your utility over the past 5 years. The tool uses your utility's financial data to calculate and visualize 6 financial performance indicators.

Residential Rates Affordability Assessment Tool

Use this tool to assess how affordable rates are to your customer base using multiple metrics.

Plan to Pay: Scenarios to Fund Your Capital Improvement Plan

Use this tool to help plan how to pay for future capital projects. The tool will estimate the effects that paying for capital projects will have on your rates under various scenarios.

Bill Payment Assistance Program Cost Estimation For Water Utilities

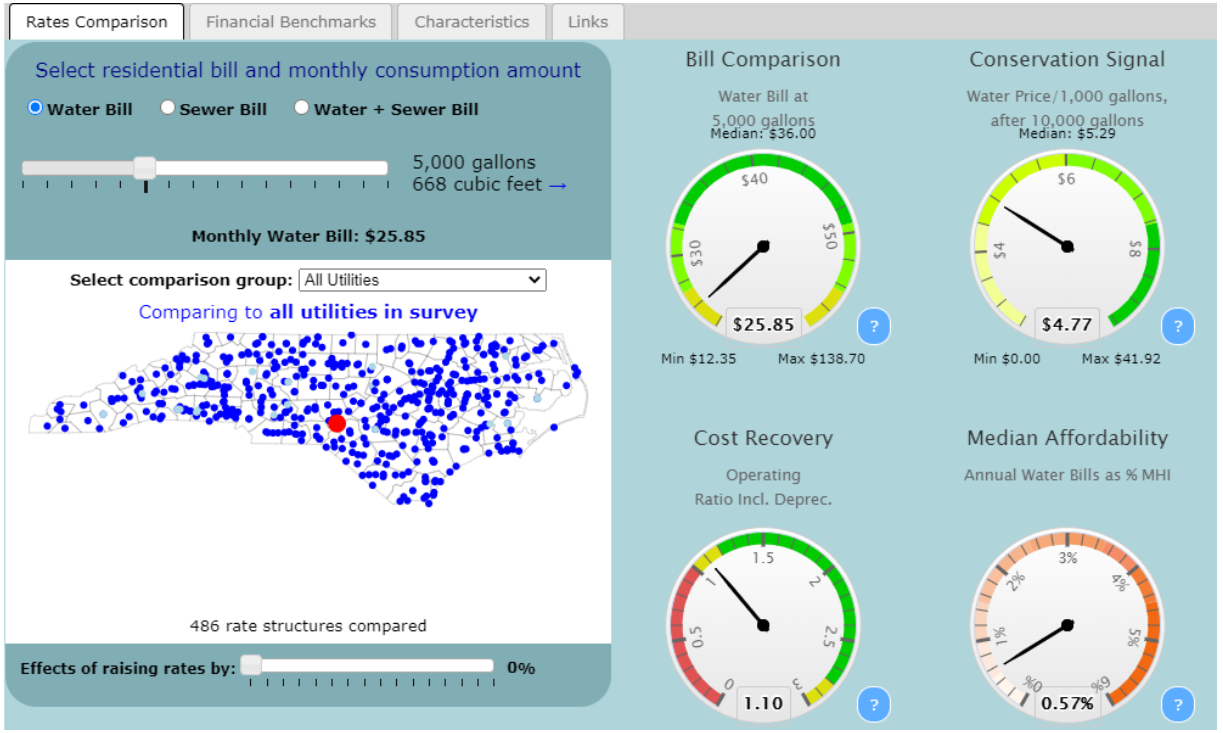
Use this tool to estimate the funds needed to create and implement a Bill Payment Assistance Program that helps low-income residential customers when they cannot afford to pay their bill.

Benchmarking rates and finances on the NC Water & Wastewater Rates Dashboard

Webinar on June 15
2:00 – 3:00pm

https://unc.zoom.us/meeting/register/tJIpcO6qpzgvHNGIqL7AvnATWNLMRFRcW5fE

Or contact the EFC for assistance in using the dashboard.



https://efc.sog.unc.edu/ncdashboard

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