



October 11, 2017



# Asset Management & Best Practices – North Carolina’s Statewide Water and Wastewater Infrastructure Master Plan

*Department of Environmental Quality  
Division of Water Infrastructure*



# General Assembly Legislation in 2013

- Created Division of Water Infrastructure

- Consolidated water infrastructure funding programs

- Created 9-member State Water Infrastructure Authority

- Qualifications and knowledge

- Wastewater professional engineer
- Federal water/wastewater funding
- Urban water/wastewater systems
- Rural water/wastewater systems
- Rural county commissioner/resident; public health services experience
- Water, wastewater, stormwater issues and state funding sources

- 12 tasks

## Division Funding Programs

- ❖ State Revolving Funds (SRF)
  - Clean Water SRF loans
  - Drinking Water SRF loans
- ❖ Community Development Block Grants (CDBG)–Infrastructure
- ❖ State Programs

# *Fostering Partnerships*

- NC Rural Water Association
- NC AWWA-WEA
- UNC School of Government / Environmental Finance Center
- NC Councils of Government (COGs)
- NC Local Government Commission
- Buried Asset Management Institute
- NC Dept. of Commerce – Rural Economic Development
- US Dept. of Agriculture – Rural Development
- NC League of Municipalities
- NC Association of County Commissioners
- Southeast Rural Community Assistance Project (SERCAP)



# *Some of the State Water Infrastructure Authority's Tasks*

- Establish criteria and set priorities for project funding
- Distribute loan and grant funds
- Assess and make recommendations on the role of the State in the development and funding of water infrastructure
- Maximize the use of current funding resources – federal, state, local – and ensure coordinated use
- Review the application of emerging best practices in utility management
- Develop a master plan to meet the State's water infrastructure needs

# *The State Water Infrastructure Authority's Work*

- Priority systems
  - Fixing existing infrastructure first
  - Benefits (environmental / public health)
  - Proactive system management including asset management plans
- Funding long-term solutions
  - Merger/Regionalization Feasibility Grants
- Utility best practices
  - Asset Inventory and Assessment Grants
- Development of Master Plan to meet the State's water infrastructure needs

# *Merger/Regionalization Feasibility Grants*

- Options for voluntary partnerships
- Wide range of solutions
- Sharing staff, expertise, equipment
- Develop realistic costs for comparison
  - Operate
  - Maintain
  - Set aside reserves

“This grant gave us the resources needed to analyze our water system’s finances and needs to determine the best path for the whole community. Our system has served a vital community need for almost 100 years, but we knew it was time to review the long-term benefit of operating a small system.”



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# *Asset Inventory & Assessment Grants*

- Inventory existing water and/or sewer system
- Document condition of infrastructure
- Define and prioritize most critical projects
- Prepare capital improvement program



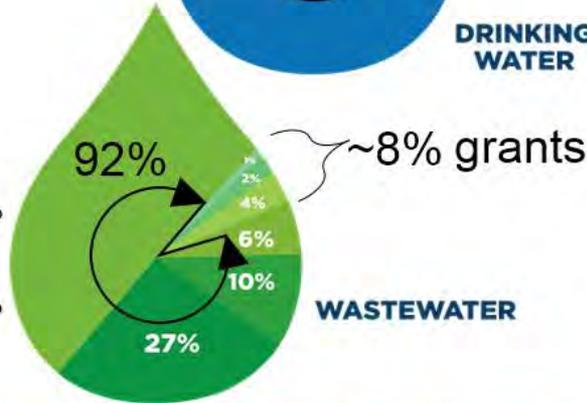
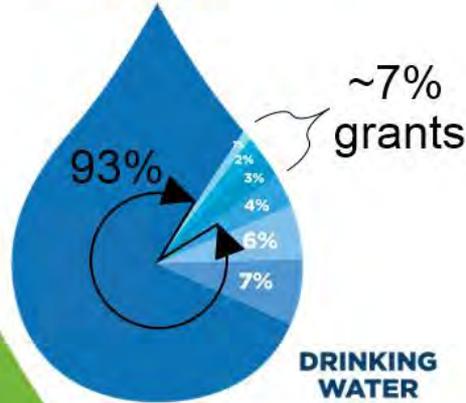
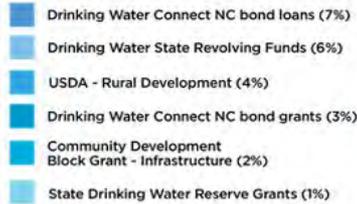
“This process has opened our eyes as staff as well as opened the line of communication to our governing board on the condition and needs of our aging infrastructure.”

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# Water Infrastructure Needs

Estimated  
Water and Sewer  
**INFRASTRUCTURE NEEDS**  
For  
FY 2017 and FY 2018  
(Funding includes Connect NC bonds)

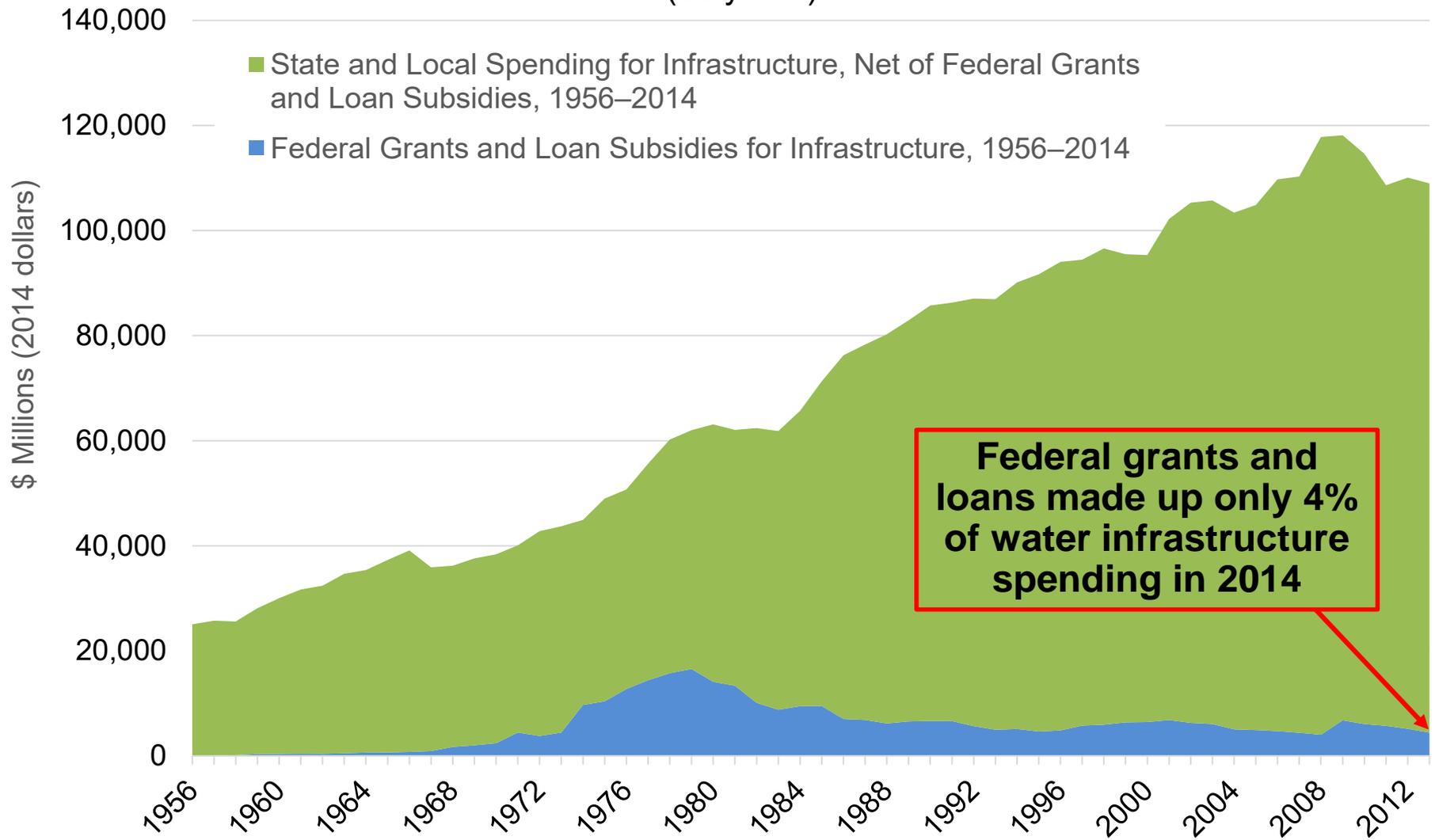


- Drinking water systems needs are \$10-\$15 billion over next 20 years\*
- Wastewater systems needs are \$7-\$11 billion over next 20 years\*
- For most funding sources, users pay to meet capital needs (e.g., loans, bonds, reserves, etc.)

(\* Environmental Finance Center at the University of North Carolina's School of Government (EFC) evaluation of needs surveys

# Public Spending on Water Infrastructure, 1956 to 2014

(58 years)



Source: CBO's March 2015 report Public Spending on Transportation and Water Infrastructure, 1956 to 2014.

# Operating as an Enterprise System?

## Local Government-Owned Water and Wastewater Utilities' Cost Recovery in FY 2016

- Operating revenues < operating expenditures (10%)
- ◆ Operating revenues < operating expenditures + principal + interest on long-term debt (10%)
- Operating revenues > operating expenditures + principal + interest on long-term debt (81%)

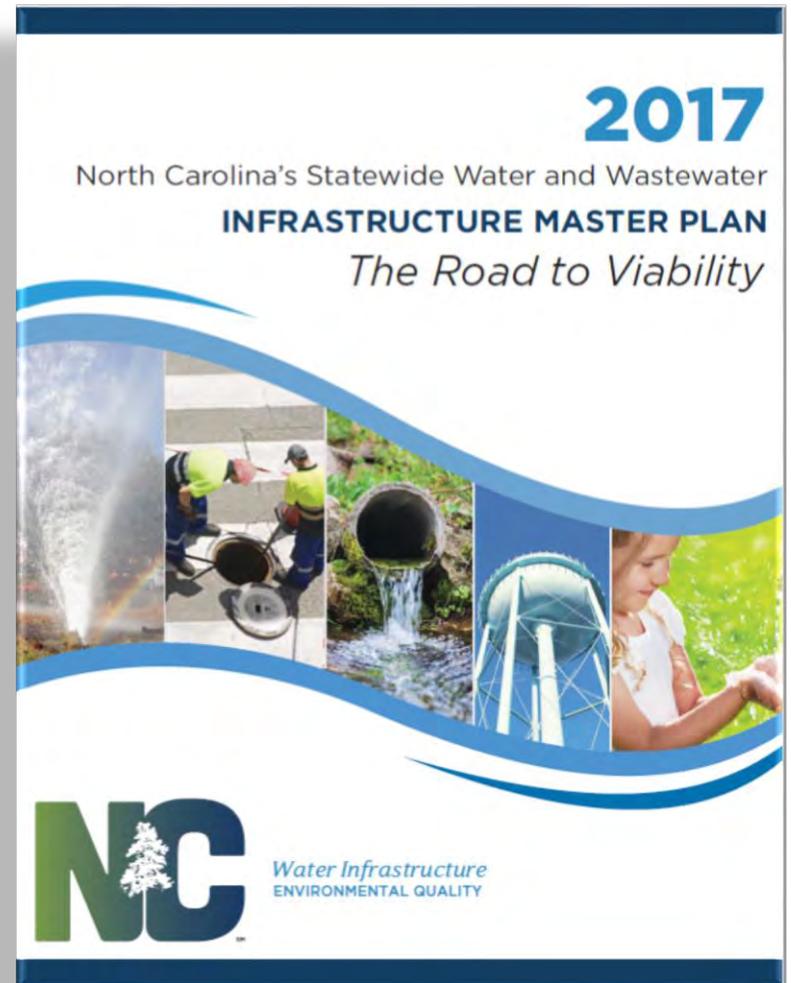
Number of service connections	# of utilities	■	◆	●
< 1,000	143	17%	11%	72%
1,000 - 10,000	163	2%	10%	87%
> 10,000	48	0%	4%	96%

Source: UNC Environmental Finance Center

# Master Plan Vision

The state will best be able to meet its water infrastructure needs by ensuring individual utilities are, or are on a path to be, viable systems

A viable system is one that functions as a long-term, self-sufficient business enterprise, establishes organizational excellence, and provides appropriate levels of infrastructure maintenance, operation, and reinvestment that allow the utility to provide reliable water services now and in the future



# *Characteristics of Viable Systems*

- Organization embraces responsibility for utility's mission
- Ability to access a range of different forms of capital
- Prioritize/continuously reinvest in the most critical components
- Proactively manage system assets & minimize reactive projects
  - Elements of asset management planning / effective utility management
- Function as self-sufficient business enterprise
- High degree of partnership with other utilities
- Transparent decision-making
- Engage stakeholders and customers

# Best Practices in Utility Management



## Infrastructure management

- Proactive approaches
- Life-cycle costs
- Risk management



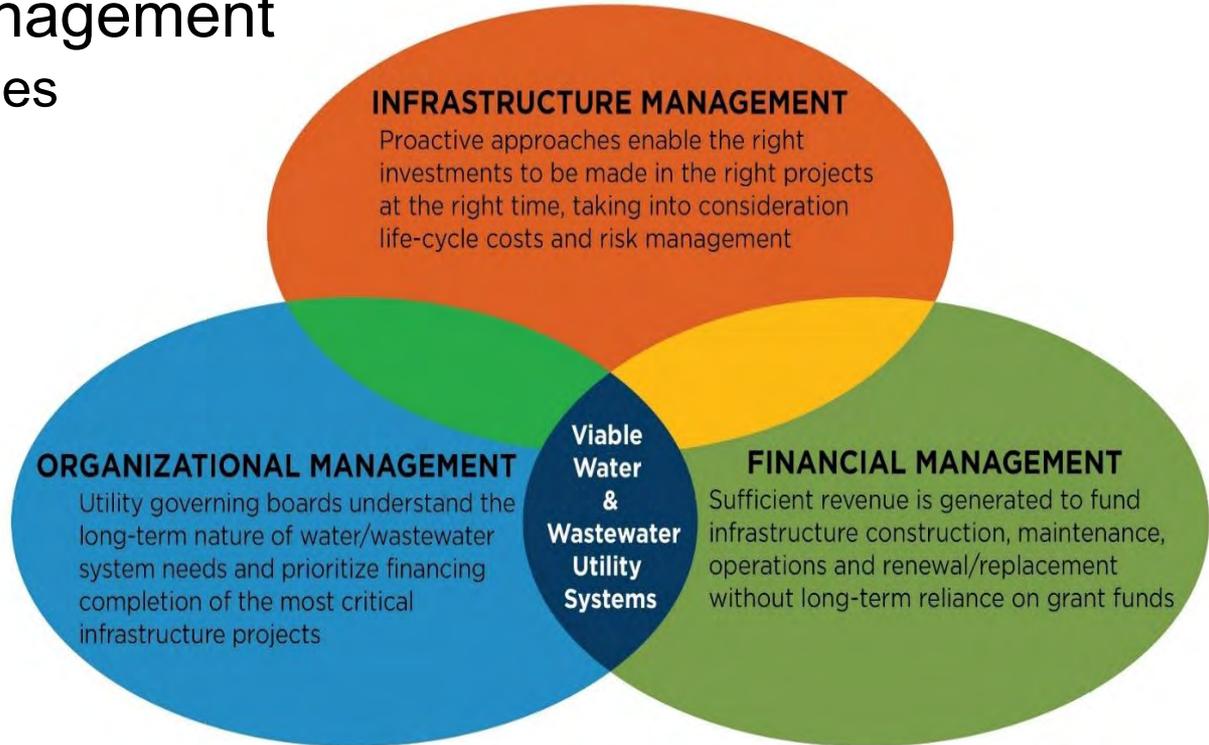
## Organizational management

- Long-term nature of system needs
- Governing boards prioritize the most critical projects



## Financial management

- Sufficient revenue generation for O&M, renewal/replacement, reserves
- Permanent local funding solutions



# A Joint Effort to Achieve the Vision



## Resource Partnerships

- State agencies
- Key organizations



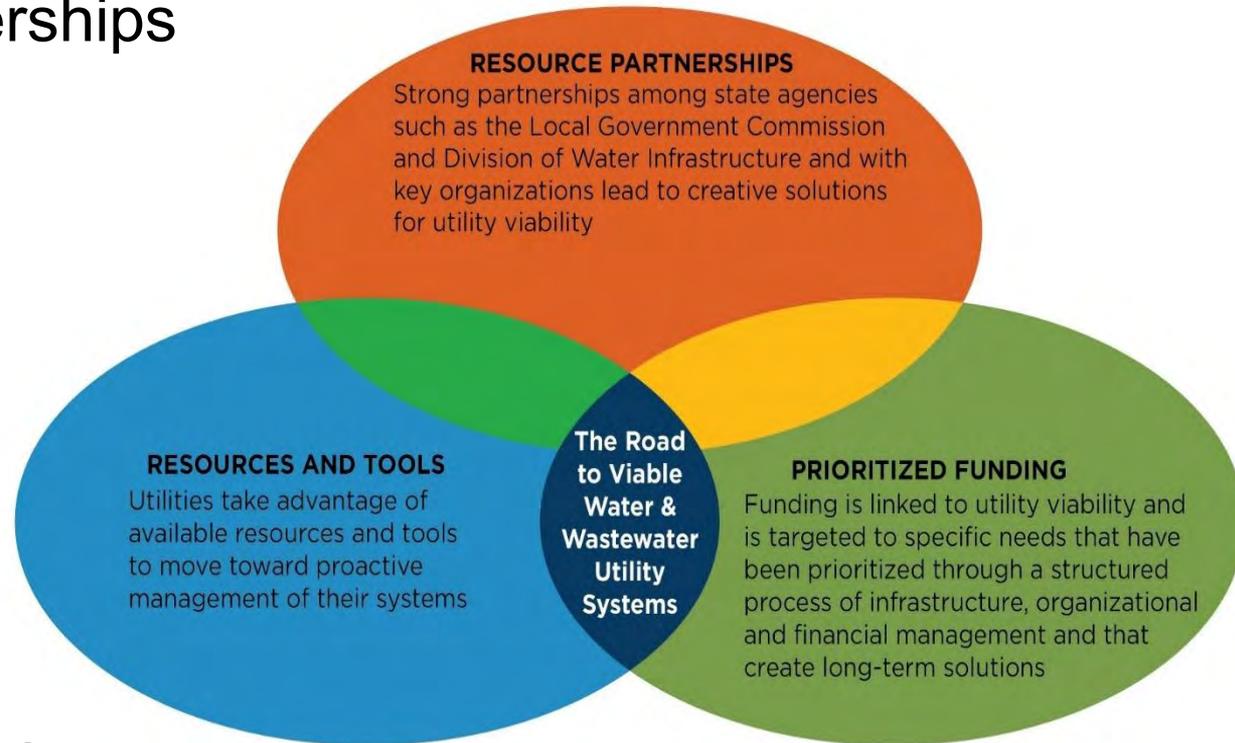
## Resources and Tools

- Available today, many at no cost
- Resource Toolbox
  - Webinars, videos
  - Publications



## Prioritized Funding

- Targeted to specific needs that create permanent solutions
- Linked to utility viability



## *Local Level Results*

- Local discussion of water infrastructure issues
- Governing boards must make long-term decisions about water and wastewater infrastructure spending
  - Investing in their economic future
  - Beyond 2- to 4-year terms

“I’ve already used this information on several occasions and it has helped make the point of the current state of the industry and what we can expect going forward as far as the priorities of your Division.

If this Master Plan and the strategic approach it promotes gains traction long term, it will give utilities like us the stability we need to map our own path forward with some certainty.”

# *Authority's Next Steps*

- Facilitate discussions at the local level
- Evaluate effects of recent program changes
  - Restructured funding priorities
  - Stretching funds by offering combination of loans and grants
  - New grants to support proactive utility management
- Strengthen resource partnerships
- Commitment to update and refresh Master Plan



**Division of Water Infrastructure**  
<http://portal.ncdenr.org/web/wi/home>

**State Water Infrastructure Authority**  
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