



The South Carolina Rural Infrastructure Authority would like to thank the following organizations and individuals for their contributions to this study:

Consultant Team

WK Dickson & Co., Inc.: Angie Mettlen, Valerie Wilkinson, Collin Filo, Anita Robertson, Kraig Kern, Jennifer Barker Raftelis Financial Consultants, Inc.: Melissa Levin, Will Kerr, Mihaela Coopersmith, Ford Moriarty, Koscina Reynolds Blue Cypress Consulting, LLC: Caroline Evans, Sarah Beddington, Monica Klinkmueller, Gabe Branch, David Gordon

Funding Partner

Economic Development Administration of the U.S. Department of Commerce Award Number 04-69-07461

Data and Information Partners

South Carolina Department of Health and Environmental Control
Economic Development Administration of the U.S. Department of Commerce
Community Development Block Grant Program of the South Carolina Department of Commerce
South Carolina Rural Water Association
Southeast Rural Community Assistance Project, Inc.
South Carolina Office of the State Treasurer

Advisory Committee

David Baize, SC Section of the American Water Works Association/Water Environment Association of SC Eric Budds, Municipal Association of South Carolina
Brian Burgess, Lowcountry Regional Water System
Robin Cooley, U.S. Department of Commerce, Economic Development Administration
Jeff Field, Laurens County Water and Sewer Commission
Charles Gorman, SC Department of Health & Environmental Control
Buck W. Graham, Jr., SC Department of Health & Environmental Control
Charlie Gray, Chesterfield County Rural Water Company, Inc. and SC Rural Water Association
Michael Hemingway, City of Florence
Kin Hill, Charleston Water System
Lisa Kalsbeck, SC Department of Commerce
Willie J. Morgan, Southeast Rural Community Assistance Project, Inc.
Steve Pelissier, Appalachian Council of Governments
Donna Tuttle, Kershaw County and Lee County Regional Water Authority
Jason L. Ward, Dorchester County and Technical Advisory Group of the Lake Marion Regional Water Agency

FOREWORD

For over nine years, the South Carolina Rural Infrastructure Authority has been making key investments in modernizing and improving the state's infrastructure. These efforts have been focused on addressing some of the state's most pressing infrastructure needs related to public health and the environment, while building capacity for economic opportunities. More than \$174M in grant funding for 419 projects - with \$471M leveraged for additional infrastructure improvements – has yielded tangible results with regard to improving the reliability of services and maintaining affordability for customers.

But even with grant funding supplementing local investment, some communities struggle to operate, maintain and invest in the future of their water and sewer systems. Increasing regulatory, financial and staffing challenges keep some utilities from achieving a sustainable business model.

After sharing these concerns with other funders and utility leaders, a statewide study of these issues was deemed necessary to provide the understanding needed to respond effectively. With funding from the U.S. Economic Development Administration, RIA designed a study that would include an assessment of the challenges that water and sewer systems face and the development of strategies for all of us to tackle them together.

The next step was to form an advisory committee that included representatives of large and small systems, urban and rural communities, utility associations, technical assistance providers and other infrastructure funders. Their insights, informed by years of experience, have been absolutely central to this effort. In order to get the right mix of skills to carry out this project, a consultant team was hired. They have worked closely with RIA staff for nearly a year to research this issue, analyze data, pursue new ideas and present the results in this report.

Stakeholder input played an important role in the development of strategies that can work in communities across the state. Over 200 people participated in a statewide forum for these ideas, and additional feedback was gathered through an online survey.

What you will see in this report is an outline of the ways we can all work toward a stronger future for water and sewer utilities in South Carolina. Although each community's unique situation calls for a tailored solution, there are many common challenges that can be tackled more effectively through cooperative efforts. I truly believe partnerships at all levels are the key to reaching our goals.

After you read this report, please continue the conversation about utility viability with your colleagues, your neighbors, your elected officials, and your board. It will take all of us to make lasting, meaningful improvements in the infrastructure that is so critical to residents and businesses across the state.

Bonnie Ammons Executive Director Rural Infrastructure Authority

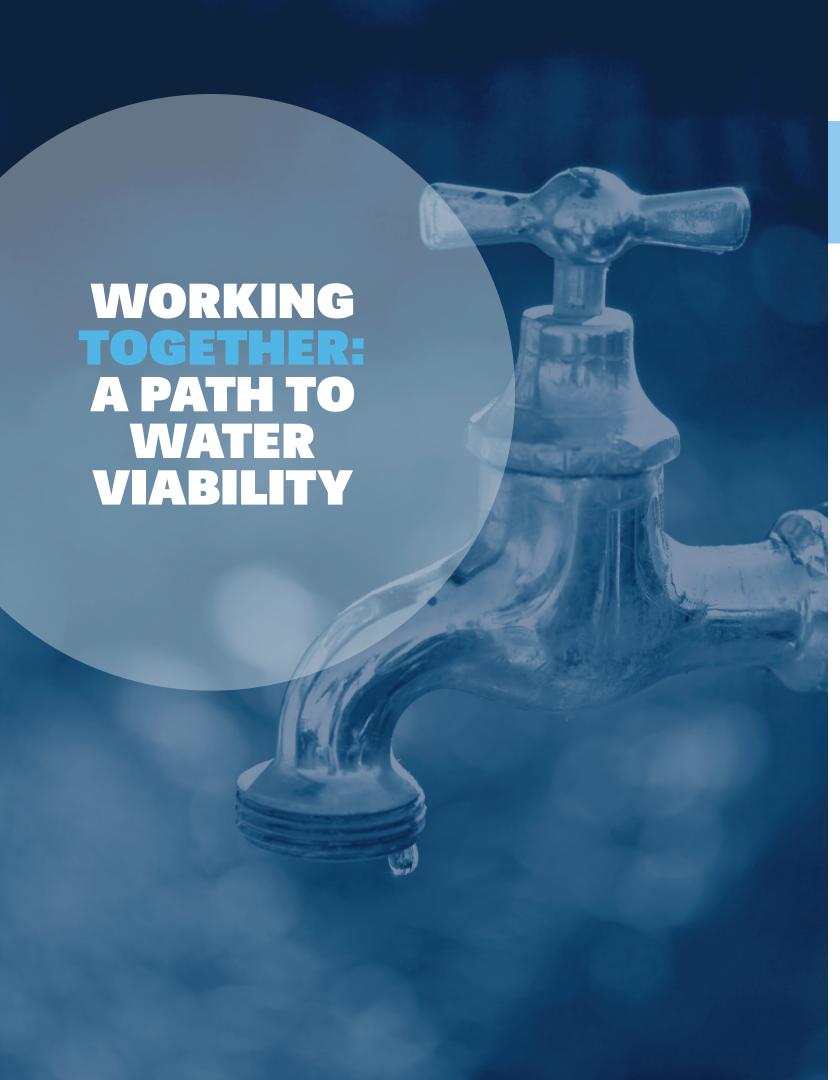
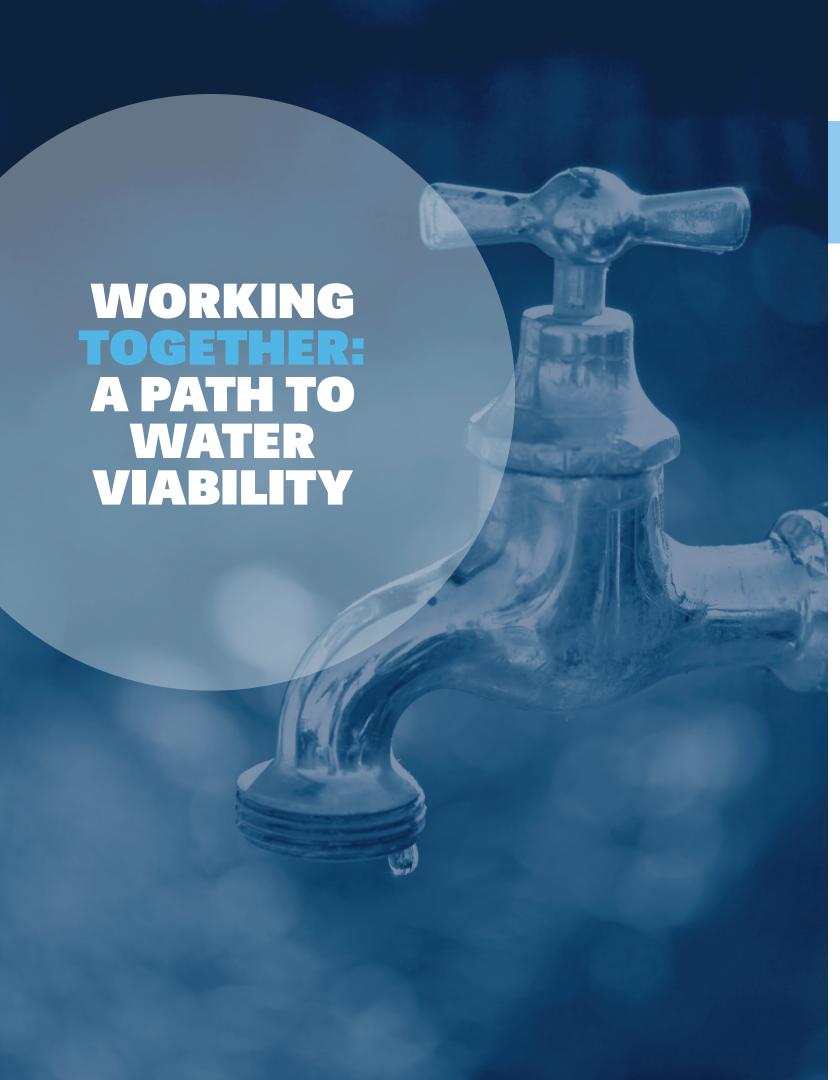


TABLE OF CONTENTS

| EXECUTIVE SUMMARY | 7 |
|---|----|
| WATER AND WASTEWATER ASSESSMENT | 13 |
| | |
| Assessment Methodology | 13 |
| Statewide Water and Wastewater Utility Assessment | 21 |
| Geographic Water and Wastewater Utility Assessment | 34 |
| Service Population Water and Wastewater Utility Assessment | 39 |
| Assessment Summary | 44 |
| South Carolina Water Utility Forum | 47 |
| WATER UTILITY VIABILITY STRATEGY | 51 |
| Strategy Overview | 51 |
| Utility Viability Strategy | 53 |
| Long-Term Viability Strategy Considerations | 62 |
| | |
| APPENDICES | 67 |
| A - Basic Data Attributes | |
| B - Financial Viability Indicator Formulas | |
| C - State Average Comparisons | |
| D - Viability Toolkit | |
| E - South Carolina Technical Assistance and Training Overview | |

F - Legal Forms of Utility Organization in South Carolina

G - Acronyms



EXECUTIVE SUMMARY

Viable water utilities - which provide drinking water and/or wastewater services - are essential to the continued growth of South Carolina's economy, the preservation of its water resources and, most importantly, the protection of the health of its people. This assessment of the state's public water utilities resulted in the identification of indicators that are most likely to signal that a utility may be trending toward non-viability and led to the development of initial recommended steps that can be taken to proactively provide assistance to those utilities through a coordinated statewide strategy.

Water utilities exist to serve an essential public function, but they receive the majority of their funding from user fees and rates. They must be able to operate efficiently and effectively to be viable. A viable utility has the ability to operate and maintain its infrastructure, make necessary improvements, and provide reliable service to its customers for the foreseeable future. Sufficient managerial, technical/ operational, and financial capacity are all necessary to reach this goal.

In this statewide assessment, socio-economic, infrastructure and financial utility characteristics were evaluated to identify common challenges. Information from the South Carolina Department of Health & Environmental Control, infrastructure funding agencies, organizations that provide technical assistance, and others was key in this analysis. Although the data represented only a snapshot in time, the results illuminated several underlying factors that may contribute to long-term viability challenges.

The key takeaways from this assessment were:

There is a strong correlation between utility size and all other characteristics assessed – smaller utilities tend to struggle with more viability-related issues and have fewer resources to address them. Over two-thirds of South Carolina's hundreds of water utilities can be classified as small based on the number of people they serve.

South Carolina's smallest utilities charge higher utility rates, on average – because these utilities also tend to be located in areas of the state with more socio-economic challenges, they also face more utility rate affordability constraints.

The majority of the state's public utilities have assets that have reached the end of their useful life – South Carolina's water infrastructure is in need of significant investment and the amount of funding needed will increase as water assets continue to age. Smaller utilities will have more challenges addressing these needs using their user rates alone.



The primary result of the assessment was the identification of 15 specific viability indicators that, when evaluated holistically, can provide an early warning for utility viability concerns. These indicators can be used by utilities to complete routine self-assessment exercises and by funding and regulatory agencies along with technical assistance providers to direct early intervention resources to prevent utility non-viability. Understanding these indicators and being able to proactively identify when a utility is facing challenges is the cornerstone of the statewide utility viability strategy recommendations. These are complex problems that will not be solved overnight, so it is critical that we start on the path to long-term utility viability.

The problem is not unique to South Carolina, but the strategies for tackling it should be uniquely suited to our state.

For this reason, the study was guided by an advisory committee of accomplished professionals and the initial strategy recommendations were presented to stakeholders at the South Carolina Water Utility Forum held in September 2021. The valuable feedback from these stakeholders was used to further refine the recommendations provided in this report.

The recommended strategy components center around partnerships that can be used to proactively identify and assist utilities that have viability challenges.

1 Utility Viability Identification 2 Coordination of Assistance 3 Leveraging Partnerships 4 Targeted Financial Assistance

Water utility partnerships come in many forms and involve government regulators, funding agencies and professional associations in addition to utilities themselves. Partnerships on all levels are key to the recommendations in this strategy.

RECOMMENDATION 1: UTILITY VIABILITY IDENTIFICATION

The first recommendation is to develop a self-assessment tool for the viability indicators along with an online toolkit of resources. All stakeholders - including utilities themselves - could use the tool as a standardized process for the identification of viability issues and

a catalyst for taking action. The goal of this portion of the strategy is to identify viability concerns as soon as possible and encourage resource engagement before the problems become more significant.

RECOMMENDATION 2:COORDINATION OF ASSISTANCE

For this viability indicator tool and associated resources to be effective, a targeted partnership among the funding and regulatory agencies and the professional associations that provide technical assistance to utilities is encouraged. This network of water utility partners could provide several important functions around utility viability issues:

- Development of protocols to respond to viability concerns.
- Coordination of technical assistance provided.
- Development and coordination of training and identification of additional training needs.
- · Collaboration on new or expanding programs to promote viability.
- Identification of resources needed to effectively implement viability efforts.

RECOMMENDATION 3: LEVERAGING PARTNERSHIPS

Enhancing existing partnerships and developing new opportunities is another recommendation of this statewide viability strategy. Several new programs were proposed by members of the study's advisory committee and participants in the Utility Viability Forum. These include:

Sister Utilities Program to provide utility-to-utility mentoring opportunities around specific issues or needs.

Funding for addressing viability issues can serve two vital functions:

- **Identification and** quantification of needs through planning-level activities
- 2 Implementations viability solutions Implementation of
- **Regional Utility Coordination Groups** that can bring utility managers and staff together on a regular basis to collaborate, provide training and direct assistance amongst neighboring communities. This could also be a vehicle to identify regional partnerships at the grassroots level.
- Water Utility Institute to provide a curriculum for training utility board members and local elected officials on water utility management best practices.
- **Rapid Assessment** Partnerships to identify and develop operational/managerial, technical, financial, and legal resources that can be deployed rapidly to address immediate, serious needs for hands-on assistance and to quickly identify the scope of the underlying issues. This would also set the stage for additional targeted assistance to be provided to utilities seeking long-term viability solutions.

RECOMMENDATION 4: TARGETED FINANCIAL **ASSISTANCE**

Establishing reliable, effective funding for addressing viability issues is another important part of the recommended strategy. This funding can serve two vital functions: identification and quantification of needs through planning-level activities and then the actual implementation of viability solutions.

The planning assistance programs may include such activities as:

Partnerships are the key to the recommendations in this strategy.



- Asset Management Planning
- · Rate Studies/Rate Setting
- Capital Improvement Studies
- Regional Feasibility Studies

Once the specific needs have been identified through rapid assessments and/or planning studies, implementation funding assistance could be targeted for capital improvements that will lead to long-term viability or that are necessary to implement regional solutions. As with partnerships, regional solutions can take on many forms. In addition to consolidation of utilities, this could include operational/management contracts or agreements around billing and financial support. Successful partnerships may involve a large utility and one that is smaller, or multiple small utilities that come together to share resources. Funding for implementation can be crucial to ensuring identified solutions can be carried out successfully.

The coordination of viability-related programs could provide a consistent approach for various statewide assistance programs to include:

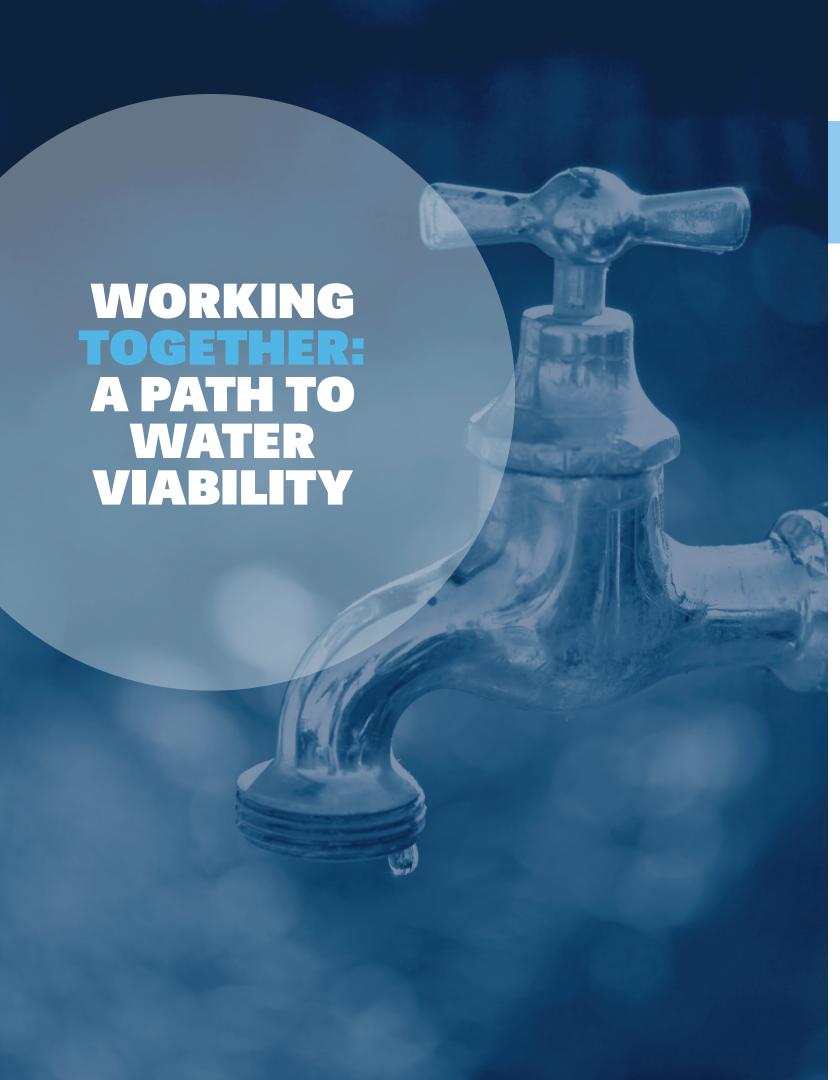
- Including viability indicators in funding applications and priorities
- Incentivizing regionalization where appropriate
- Strengthening conditions of assistance to promote viability
- Evaluating potential for new programs of assistance

These recommendations are just the first steps of the path to long-term utility viability in South Carolina. They will need to be evaluated and adjusted over time to ensure that they are appropriate and are successful in addressing utility viability across the state. In addition, there are several longer-term considerations that may require more discussion and that may take more time to implement, to include:

- Review of state laws and policies to identify opportunities to better support the implementation of viability solutions.
- Identification of sustainable utility viability funding sources.

The completion of this assessment and the development of these strategy recommendations could not come at a better time. Our nation is seeing once-in-a-generation federal investment in water infrastructure which translates into an unprecedented opportunity to make transformational, targeted investments that may improve the viability of many of South Carolina's water utilities. The many partnerships that already exist are the foundation for this path to viability. Our water utility stakeholders are engaged and ready to begin the journey to ensure the long-term success of our water and wastewater utilities and, in turn, our state.





WATER AND WASTEWATER ASSESSMENT

ASSESSMENT METHODOLOGY

The overarching goal of the assessment was to utilize readily available data to determine what variables or characteristics are most likely to indicate that a utility may have viability issues, which are those things that may impact its ability to provide required services effectively and efficiently at a reasonable cost. Those characteristics could then be used as proactive indicators to help utilities and be the starting point for an overall statewide viability strategy.

SYSTEMS ASSESSED

The assessment and all other portions of this study were focused on water utilities, specifically public community drinking water and wastewater systems as defined by the US Environmental Protection Agency (USEPA). These do not include small systems serving less than 25 connections; systems that serve transient populations; and systems that are owned and operated by private, for-profit entities or homeowner associations. However, private, non-profit systems were included in the assessment.

DATA UTILIZED

To complete the assessment in the most efficient and cost-effective manner, readily available data from state and federal agencies was utilized. This data was provided in March 2021 and was current as of that date; therefore, it represents

only a snapshot of water and wastewater utilities in the state but was effective for achieving the assessment goal. Appendix A provides the basic data attributes that were collected and used in the assessment along with the respective sources of each.

Information regarding technical assistance for water and wastewater systems was also provided from the South Carolina Rural Water Association (SCRWA), the Southeast Rural Community Assistance Project (SERCAP), and the South Carolina Department of Health & Environmental Control (SCDHEC). This data was utilized to determine how these efforts were currently being deployed across the state.

Compliance, funding, user rate and technical assistance data was provided for the most recent 5-year period from SCDHEC, South Carolina

Rural Infrastructure Authority (RIA), SCRWA and SERCAP. For audit information, completed audits for fiscal years 2019 and 2020 were provided from the SC Office of the State Treasurer for units of local government (municipalities and counties). Some additional audit data was utilized for some special purpose districts (SPDs) or authorities for which the data was available.

Regarding capital needs, the USEPA 2008 Clean Water Needs Survey data was the most recent survey that included South Carolina data and was utilized for wastewater system needs analysis and the USEPA 2015 Drinking Water Needs Survey, the latest survey inclusive of South Carolina data, was utilized for drinking water system needs analysis. This is the same information that was utilized to complete the 2021 American

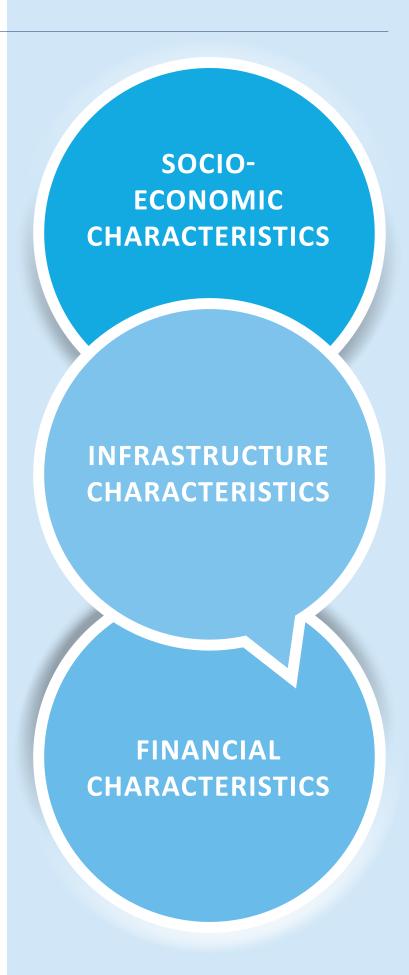


Society of Civil Engineers (ASCE) Report Cards for South Carolina Water and Wastewater Infrastructure. State funding data was also utilized to estimate an average minimum 5-year need, which was then extrapolated for additional 20-year need estimation.

ASSESSMENT PROCESS

For the publicly owned water and wastewater system assessment, the analyses were completed by WK Dickson and Blue Cypress Consulting and were initially focused on the evaluation of all permitted systems to get an accurate picture of the current condition of all systems across the state. However, some utilities own, operate, and maintain multiple separate, permitted systems. Therefore, upon completion of the initial permitted system assessment, the data was consolidated to the utility level, which is also how the financial data was provided and how the financial analyses were conducted by Raftelis.

The data utilized to assess SC utility systems covered basic utility characteristics identified in the USEPA Capacity Development Program and the Effective Utility Management (EUM) initiative. The assessment then identified which of these characteristics, when evaluated holistically, are most likely to signal viability concerns. Three types of utility characteristics were analyzed: socio-economic, infrastructure, and financial.



SOCIO-ECONOMIC CHARACTERISTICS

The socio-economic characteristics evaluated were selected to capture those attributes of the primary geographic area served by a utility that may impact its ability to remain viable and can also be demonstrative of a utility's technical, managerial, and financial capacity. These factors

are those over which utilities have the least control but may have considerable effects on long-term viability. For example, customers in areas with lower incomes and high unemployment may be less able to afford potential utility rate increases. Also, utilities serving areas with shrinking populations may have to

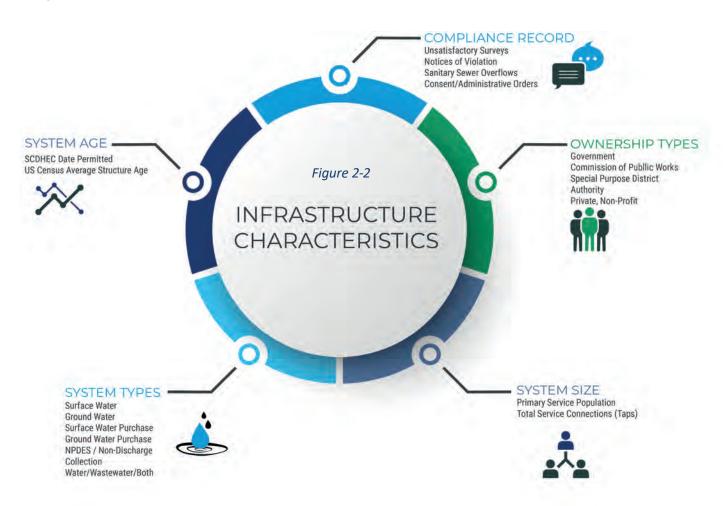
contend with declining revenues as a result of decreasing customer bases. Persistent socio-economic challenges can have a lasting impact on the long-term viability of the local utilities. The main socio-economic characteristics from the utility assessment are shown in *Figure 2-1*.

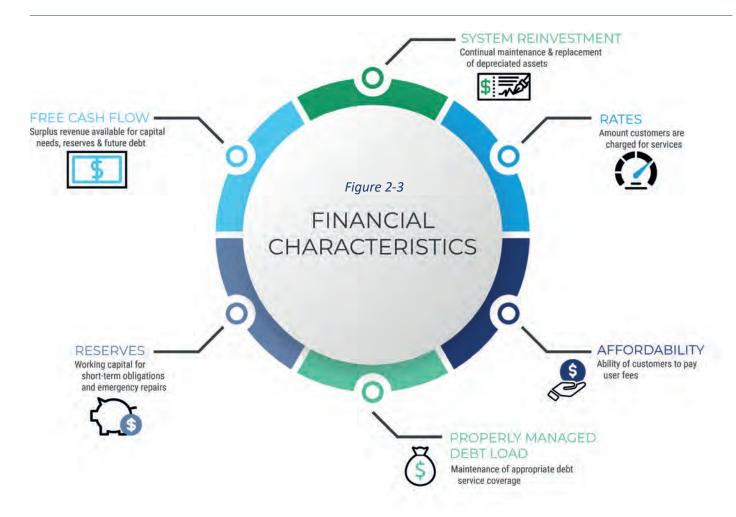




INFRASTRUCTURE CHARACTERISTICS

The infrastructure characteristics are physical or organizational attributes of a water and wastewater system. These attributes are those that are most directly related to the system itself and its operation. While there are many infrastructure characteristics, the ones utilized for this assessment were selected based on the availability of consistent data that could be most demonstrative of viability concerns. They are shown in *Figure 2-2*.





FINANCIAL CHARACTERISTICS

Several financial characteristics were selected based on the available data and commonly used benchmarks for financial management. Annual financial audit information for municipal and county-owned utilities is provided to the State Treasurer's office and available upon request. Water and wastewater rate information is typically available via surveys, websites and/or upon request from the utility. It is important to note that while this data can provide a financial snapshot, an integral piece of financial viability is the

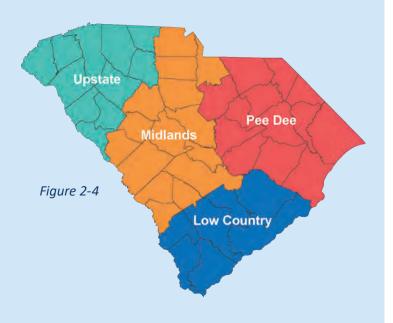
prevalence of financial management and planning. Part of financial management and planning is a projection of future capital needs which is not always readily available. While a financial snapshot may indicate that a utility is financially viable at a certain point in time, future capital needs may be such that it is unfeasible for the utility to continue to be financially viable in the long term. These financial characteristics are shown in Figure 2-3.

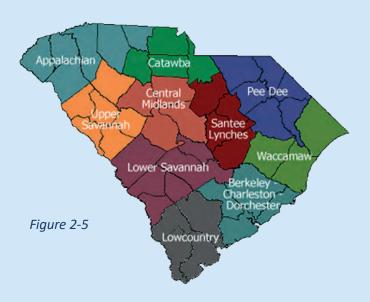
ASSESSMENT COMPONENTS

The overall assessment consisted of a high-level overview of the utilities

on a statewide basis utilizing the characteristics outlined. Additional analyses were then completed based on four different geographies that are widely utilized to describe the location of or to categorize water and wastewater utilities. This was done to determine if there were any significant trends based on geography. These analyses were completed based on SCDHEC regions, Council of Governments (COG) regions and County Economic Tiers. The final analyses were completed based on the size of the utility service population.







SCDHEC REGIONS

The counties included within each SCDHEC Region are detailed below and depicted in *Figure 2-4*.

- Upstate (Abbeville, Anderson, Cherokee, Greenville, Greenwood, Laurens, McCormick, Oconee, Pickens, Spartanburg, Union)
- Midlands (Aiken, Allendale, Bamberg, Barnwell, Calhoun, Chester, Edgefield, Fairfield, Lancaster, Lexington, Newberry, Orangeburg, Richland, Saluda, York)
- **Pee Dee** (Chesterfield, Clarendon, Darlington, Dillon, Florence, Georgetown, Horry, Kershaw, Lee, Marion, Marlboro, Sumter, Williamsburg)
- **Low Country** (Beaufort, Berkeley, Charleston, Colleton, Dorchester, Hampton, Jasper)

SC COUNCIL OF GOVERNMENTS (COG) REGIONS

The counties included within each COG Region are detailed below and depicted in *Figure 2-5*.

- **Appalachian COG** (Anderson, Cherokee, Greenville, Oconee, Pickens, Spartanburg)
- Berkeley-Charleston-Dorchester COG (Berkeley, Charleston, Dorchester)
- Catawba Regional COG (Chester, Lancaster, Union, York)
- Central Midlands COG (Fairfield, Lexington, Newberry, Richland)
- Low Country COG (Beaufort, Colleton, Hampton, Jasper)
- **Lower Savannah COG** (Aiken, Allendale, Bamberg, Barnwell, Calhoun, Orangeburg)
- Pee Dee Regional COG (Chesterfield, Darlington, Dillon, Florence, Marion, Marlboro)
- Santee-Lynches Regional COG (Clarendon, Kershaw, Lee, Sumter)
- Upper Savannah COG (Abbeville, Edgefield, Greenwood, Laurens, McCormick, Saluda)
- Waccamaw Regional COG (Georgetown, Horry, Williamsburg)

SC COUNTY ECONOMIC TIERS

The analysis of counties by economic tier was based on a grouping of the four economic tiers identified annually by the SC Department of Revenue (SCDOR) using three years of unemployment and per capita income data.1 Using the tiers published by SCDOR in December 2020, Tiers I and II were combined to indicate the more developed counties and Tiers III and IV were combined as the least developed. These groupings are shown below and depicted in Figure 2-6.

Tiers I/II - Least Economically Disadvantaged (Blue)

(Aiken, Anderson, Beaufort, Berkeley, Charleston, Dorchester, Edgefield, Florence, Georgetown, Greenville, Greenwood, Kershaw, Lancaster, Lexington, McCormick, Newberry, Oconee, Pickens, Richland, Saluda, Spartanburg, York)

Tiers III/IV - Most Economically Disadvantaged (Grav)

(Abbeville, Allendale, Bamberg, Barnwell, Calhoun, Cherokee, Chester, Chesterfield, Clarendon, Colleton, Darlington, Dillon, Fairfield, Hampton, Horry, Jasper, Laurens, Lee, Marion, Marlboro, Orangeburg, Sumter, Union, Williamsburg)

UTILITY SERVICE POPULATION SIZE

The service population categories utilized are shown in Chart 2-1 and are based on categories used in other water utility reports, such as the USEPA Needs Surveys. One category (10,001-50,000) was added based on the crosssection of state-specific service population data to ensure an accurate representation of the utility sizes in South Carolina.²

Chart 2-1: System Service Population Categories



https://dor.sc.gov/resources-site/lawandpolicy/Advisory%200pinions/IL20-33.pdf South Carolina has several bulk water and wastewater treatment providers. In these cases, the service population data from SCDHEC represents only those bulk customers; however, the service they provide serves a larger population. For entities that provide both water & wastewater service, the water system service population was used due to $limitations \ of the \ was tewater \ data \ provided. \ For entities \ that \ provide \ only \ was tewater$ service, the county or municipal population was used unless other specific data regarding their service population was available.

Figure 2-6





ADDITIONAL ASSESSMENT CONSIDERATIONS

RIA completed a survey of its
Sustainability Advisory Committee
members during the assessment
phase of the study to solicit input
on key issues that may impact longterm system viability. The responses
were reviewed and used to analyze
intersection points within the data
sets used for the assessment. These
specific areas are as follows:

ADVISORY COMMITTEE SURVEY INTERSECTION POINTS

- Revenue Sufficiency
- Customer Base/Population Shift
- System Needs
- Financial Resources
- Financial Need/Affordability
- Public Health/Environmental Issues (NOVs, Orders, etc.)

Adequate system staffing and management were also noted as key issues; however, the data available did not specifically address these issues. It is understood that these issues are generally linked to many of the characteristics that were assessed. For example, a utility with significant compliance issues is also likely to have staffing issues, management issues or a combination of both.

Since these are often cited as critical components of overall utility viability, other programs/ resources from across the country were reviewed to gain a better understanding of how they may be used to assess a utility's viability.

These programs and resources³ included:

- Effective Utility Management (EUM) Initiative
- Capacity Development/State Revolving Fund Viability Checklist
- State of Washington Department of Health – Consolidation Grant Program
- Missouri Department of Natural Resources – Engineering Grant Program

In August 2021, RIA conducted a separate survey of public utilities to gather additional specific information on 5-year capital needs and system asset age. This information was also included in the assessment.

STATEWIDE WATER & WASTEWATER UTILITY ASSESSMENT

STATEWIDE SOCIO-ECONOMIC **CHARACTERISTICS**

Water utility viability can be defined in numerous ways, but for the purposes of this study, it is a utility's technical, operational, and managerial capacity to effectively deliver services that comply with regulatory requirements and protect public health and the environment at an affordable rate. At the core of this are demographic factors based on the geographic location of a utility. Understanding how these impact certain utilities more than others requires understanding the average demographics of South Carolina as a whole. Chart 2-2 provides a summary of the state averages for the characteristics that were used in the assessment and outlined in the Assessment Methodology.

The total population of an area is important in understanding the current and potential customer base for utilities, which can impact their ability to increase revenues over time. South Carolina, while growing, remains primarily a rural state comprised of many small towns, which is demonstrated by the average population density in

the state's counties compared with the average population density in cities. The lower average 10-year annualized growth rate of 0.38% in counties compared with the average 10-year annualized growth rate of 1.34% in cities supports that much of the state's growth is happening within metropolitan areas. From a utility perspective, this is not necessarily a negative in that, in general, growth is occurring in areas with the infrastructure and density to support it; however, it does signal that those utilities in smaller towns and rural areas may see population decreases or less

Chart 2-2: Statewide Socio-Economic Averages

| County Population | 109,148 |
|---|----------|
| | 103,140 |
| City Population | 5,941 |
| County Population per Square Mile | 145 |
| City Population per Square Mile | 790 |
| County 10 Year Annualized Average Population Change | 0.38% |
| City 10 Year Annualized Average Population Change | 1.34% |
| County MHI | \$45,608 |
| City MHI | \$43,860 |
| County Poverty Rate | 18.65% |
| City Poverty Rate | 19.15% |
| County Unemployment Rate | 5.18% |





Chart 2-3: National Socio-Economic Average Comparison

| South Carolina | | United States | | SC Average as Percentage of US Average |
|--|----------|---------------------------------------|----------|--|
| Statewide Average MHI | \$45,608 | National Average MHI | \$65,712 | 69% |
| Statewide Average Poverty Rate | 18.65% | National Average Poverty Rate | 12.3% | 152% |
| Statewide Average Unemployment Rate | 5.18% | National Average Unemployment Rate | 5.8% | 0.62% below National Average |

aggressive growth in their customer base, thereby limiting their opportunities for increased revenue generation over time. These also tend to be the same areas that have lower income-based characteristics and higher unemployment and poverty rates.

Currently, South Carolina's economy is strong; however, the data shows that there are still areas of the state that have more challenging socio-economic conditions and most significantly, areas that are

not growing or that are even losing population in comparison with areas experiencing significant growth. The intersection of these challenges creates the perfect storm regarding utility viability. Those utilities with viability concerns are losing customers; do not have significant industry to offset those losses; and their customer bases have lower wages and higher poverty rates that ultimately impact utility rates and revenue. With an economic downturn, these differences would become even

more significant and continue to add to viability concerns for some utilities.

As summarized in *Chart 2-3*, South Carolinians have a lower average income and higher rates of poverty than national averages. Although the state's unemployment rate is better than the national average, low household incomes restrict utilities' ability to increase revenue by raising rates.

Figure 2-7: Numbers of permits versus utilities for public, community water and wastewater systems.



STATEWIDE INFRASTRUCTURE **CHARACTERISTICS**

As discussed in the Assessment Methodology, the assessment was initially conducted at the permit level, but a more detailed assessment was then completed at the consolidated utility level, which mirrored how the financial analysis was completed. This effort consisted of combining information for those utilities that have multiple, separate water systems and/or multiple wastewater permits in order to avoid duplication of certain data and to provide the assessment results in the most useful manner that would identify **utility** viability indicators. Figure 2-7 illustrates the difference in the number of public water and wastewater permits/systems versus utilities.

Chart 2-4 provides the breakdown of the key infrastructure attributes of the utility assessment.

UTILITY SYSTEM TYPE

The utility system type analysis consisted of an assessment of the type of water supply source (treatment and wholesale purchase) and wastewater treatment (including collection systems) utilized by public utilities across the state. These attributes provide insight into statewide water resource issues that may impact future regulatory challenges as well as where opportunities for future regional partnerships may exist. Figure 2-8 and Figure 2-9 show the breakdown of water and wastewater utility system types in South Carolina.

Chart 2-4: Statewide Water and Wastewater Utility *Infrastructure Attributes*

| | WATER | WASTEWATER |
|--|-------|------------|
| Total Count | | |
| Total | 262 | 201 |
| Population Served | | |
| ≤3,300 | 116 | 73 |
| 3,301 - 10,000 | 72 | 61 |
| 10,001 - 50,000 | 59 | 49 |
| 50,001 - 100,000 | 9 | 10 |
| > 100,000 | 6 | 8 |
| Governance Type | | |
| Government | 148 | 146 |
| Commission of Public Works | 13 | 8 |
| Special Purpose District | 57 | 37 |
| Private Non-profit | 30 | 4 |
| Other Governmental | 14 | 6 |
| County Tier | | |
| Tier I/II | 149 | 119 |
| Tier III/IV | 113 | 82 |
| DHEC Region | | |
| Upstate | 73 | 61 |
| Pee Dee | 72 | 46 |
| Midlands | 81 | 66 |
| Low Country | 36 | 28 |
| COG Region | | |
| Appalachian COG | 53 | 45 |
| Berkeley-Charleston-Dorchester COG | 20 | 16 |
| Catawba Regional COG | 23 | 17 |
| Central Midlands COG | 20 | 17 |
| Low Country COG | 16 | 12 |
| Lower Savannah COG | 47 | 32 |
| Pee Dee COG | 29 | 22 |
| Santee-Lynches Regional COG | 19 | 9 |
| Upper Savannah COG | 16 | 16 |
| Waccamaw COG | 19 | 15 |
| Water Source | | |
| Groundwater | 101 | |
| Groundwater Purchase | 9 | |
| Surface Water | 49 | |
| Surface Water Purchase | 103 | |
| Sewer Permit Type | | |
| National Pollutant Discharge Elimination System (NPDES) | | 114 |
| Non-Discharge (ND) | | 16 |
| Collection | | 71 |



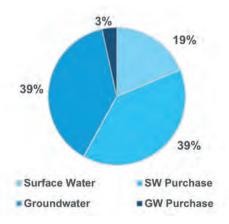


Figure 2-8: Statewide Water
Utilities System Type

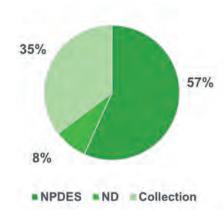


Figure 2-9: Statewide Wastewater
Utilities: System Type

This portion of the assessment illustrated that most of the state's utilities are served by a surface water source, either through direct treatment or wholesale purchase; however, the number of utilities that treat groundwater is greater than those that treat surface water. Regarding wastewater utilities, most of the treatment is through surface discharges (NPDES), with very few non-discharge (ND) wastewater utilities in the state.

GOVERNANCE

Utility governance was also included among the attributes assessed as a partofinfrastructure characteristics. The type of governance has an impact on a number of aspects of utility operations, including budget, rate-setting and staffing. The types of utility governance that were reviewed included:

Unit of Local Government. For the purposes of this assessment, these included municipal and county governments that own, operate and maintain a utility as a department of their respective local government. (SC Code Ann. §5-7-10, et seq.)

Commission of Public Works.

A CPW is a separate governing board established by a unit of local government for the purposes of owning, operating, and maintaining a utility. The governing board of a CPW is elected. (SC Code Ann. §5-31-210, et seq.)

Special Purpose District. An SPD is considered a special form of local government that is "...created by an act of the General Assembly or pursuant to general law and which provides any local governmental service or function including, but not limited to, fire protection, sewerage treatment, water distribution, and recreation." It can also refer to a rural community water district formed under SC Code Ann. §6-13-10, et seq. (SC Code Ann. §4-8-10, et seq.) The geographic boundary is established in the enabling legislation that creates the SPD. Any changes to that boundary would require additional action by the General Assembly.

Not-for-Profit Utility. This refers to private, not-for-profit 501(c) (12) utilities that were formed with

financing from the Farmers Home Administration (now US Department of Agriculture - Rural Development) for the purpose of providing services in rural areas. (SC Code Ann. §33-36-10, et seq.)

Authority. An Authority for the purposes of this assessment is an entity formed under the "South Carolina Joint Water and Sewer Act" (or preceding legislation to this Act). Authorities can be organized for the sole purpose of financing improvements, providing wholesale services to member utilities, or providing joint ownership, operation and maintenance of member utilities. (SC Code Ann. §6-25-20, et seq.) Joint authorities formed under this legislation are required to file an application for approval by the Secretary of State that, in part, includes an agreement on the number of commissioners for the joint authority and authorizing resolutions of participation for each member entity. After a joint authority is established, additional entities may join pending authorizing resolutions of their

governing body and approval by the Secretary of State, unless the joint authority is created only for the purpose of establishing a financing pool.

The importance of this characteristic centers around access to funding and other legal considerations regarding governance, service areas, provision of other services outside of utilities, and ability to issue bonds for infrastructure improvements. Figure 2-10 provides the breakdown of utility governance across the state.

From this assessment, unit of local government was found to be the predominant type of governance for South Carolina's water and wastewater utilities, with SPD governance being the next most prominent. The significance of this analysis is that units of local government and some SPDs must balance the provision of multiple services from police, fire, and sanitation to utilities. This can lead to competing interests around budgeting, manpower and financing, which may ultimately lead to viability challenges for smaller municipalities and SPDs.

POPULATION SERVED (UTILITY SIZE)

The customer base or the population served by a utility is another key infrastructure characteristic that was assessed. This characteristic impacts a utility's ability to generate revenue through user rates and fees. A utility serving a smaller population has less ability to spread the cost of utility operations and capital improvements among rate payers. *Figure 2-11* provides the

Figure 2-10: Statewide Utilities: Governance

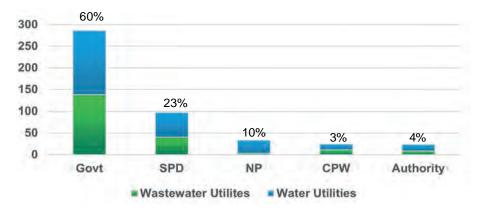
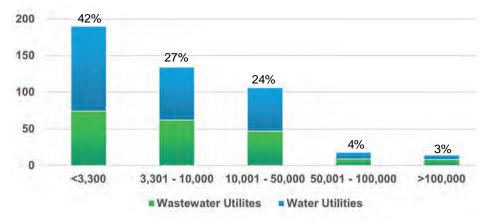


Figure 2-11: Statewide Utilities: Population Served



breakdown of utilities in the state based on the service population categories outlined in the Assessment Methodology.

Of significance is that nearly 70% of South Carolina's public water and wastewater utilities serve primarily populations of 10,000 or less while less than 10% serve populations greater than 50,000; however, these same large utilities serve over 60% of the state's population.

UTILITY SYSTEM AGE

The average age of a utility's infrastructure assets is an important factor that can signal the need for significant investment in rehabilitation and/or replacement

of these assets. If the average age of the assets exceeds the industry standard for its useful life, a utility will need to undertake significant capital improvements in the near term to ensure that it can operate effectively, efficiently and in compliance with regulatory requirements. For water/wastewater lines, the industry-accepted useful life standard is 40 years and for treatment and mechanical assets. such as pump stations, it is 20 years. Based on this assessment, the estimated average age⁴ of South Carolina's water utilities is 45 years, so utilities must fund significant rehabilitation and replacement of assets in order to keep up with the useful life standards.

Because system age is not a specific data point tracked by SCDHEC or other regulatory agencies, for the purposes of this study it was estimated using Census data for average structure age or the date that a system was permitted or added to the SCDHEC inventory.





South Carolina public utilities that received specific technical assistance and...



...percentage of those utilities that had significant violations



COMPLIANCE HISTORY

A utility's ability to comply with regulatory requirements represents all of the key factors that comprise utility viability – technical, managerial and financial capacities. Limited capacity in any or all of these areas can result in regulatory noncompliance.

Overall, the state's utilities maintain a very high rate of compliance. According to SCDHEC's Annual State Public Water System Report for Calendar Year 2020, over 98% of the state's water systems were in full compliance with all state and federal regulatory maximum contaminant level (MCL) and treatment technique requirements. One factor that contributes to this high rate of

compliance is the monitoring program provided by SCDHEC. Through this program, SCDHEC conducts the majority of the compliance monitoring for systems and is funded through an annual fee charged to each system.

While an annual report detailing wastewater system compliance was not available for this assessment, the state's wastewater systems generally demonstrate a high level of compliance with sanitary sewer overflows (SSOs) and general NPDES permit limit violations being most prevalent.⁵

Specific compliance elements were analyzed to determine if there were regulatory trends that intersected with other data analyses. These included:

- Number of unsatisfactory sanitary/collection surveys
- Number of notices of violation (NOVs)
- Number of sanitary sewer overflows (SSOs)
- Number of enforcement orders

Technical assistance efforts were also evaluated based on data provided by SCDHEC-Office of Rural Water, SCRWA and SERCAP. While not a direct compliance element, this type of assistance is often provided as a result of some regulatory issue or concern. SCDHEC refers providers to specific utilities in order to address compliance concerns. Other technical assistance is provided at the request of a utility itself or another interested party,

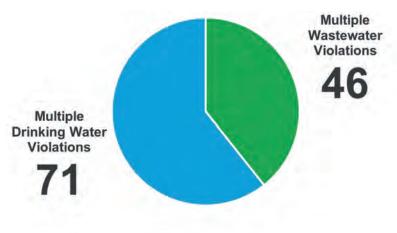
such as a funding agency, to address potential compliance issues or other concerns such as staffing needs. SCDHEC and USDA fund some of the technical assistance efforts in the state. Some technical assistance may be provided on a fee-for-service basis. For additional information about technical assistance available to South Carolina water utilities, please see *Appendix E*. This assessment focused on technical assistance efforts that were directly linked to compliance activities, which were outlined in reports provided by SCRWA to SCDHEC. This showed that 21% of South Carolina's public utilities received this type of assistance within the past five years. Of those receiving this assistance, 68% had significant compliance violations.

For this assessment, significant violations were defined as multiple types of compliance issues during the 5-year period assessed, not just a single violation. *Figure 2-12* provides the breakdown of the utilities with significant regulatory violations,6 which equates to 23% of the total number of public wastewater utilities and 27% of public water utilities.

STATEWIDE FINANCIAL **CHARACTERISTICS**

It is important for water and wastewater utilities to operate as enterprise systems that generate sufficient revenues to cover all operating expenses, annual debt service requirements, and capital needs as well as to maintain adequate reserves for unexpected events. User rates and charges are the primary source of water and wastewater utility revenues

Figure 2-12: Statewide Utility Significant Violations



and utilities aiming for financial viability may need periodic rate increases. While it is critical to generate sufficient revenues through user rates, utilities must carefully balance utility financial health while maintaining rates that are affordable for the users of the water and wastewater utilities. The assessment of financial characteristics focused on three specific financial areas: utility rates, affordability, and financial metrics, which were calculated from annual financial audit information to measure the financial health of South Carolina utilities. The calculated financial metrics measure utilities' free cash flow. reserves, debt load and system reinvestment and were defined as

part of the Assessment Methodology.

UTILITY RATES

The Statewide Utility Rate Assessment used rate information for over 300 utilities across the state, provided by the most recent annual rate surveys from RIA. The SCRWA Annual Rate Survey was used to fill any gaps in rate information; however, the RIA surveys were the primary source. The rate surveys provided a calculated water and wastewater bill for each utility at varying usage levels. The assessment focused on a 668 cubic feet (5,000 gallon) bill, which is recognized as the average monthly residential consumption level in South Carolina. The average customer bill for all utilities in South

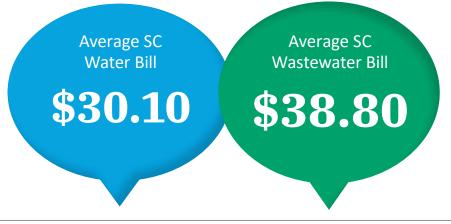
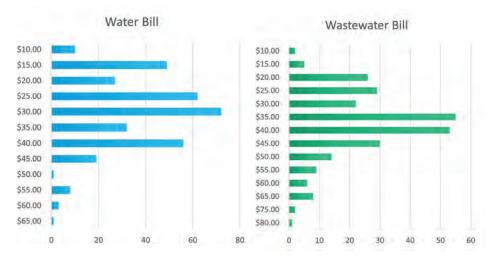




Figure 2-13: Distribution of Water and Wastewater Bills (5,000 Gallons)



Carolina is \$30.10 for water and \$38.80 for wastewater.

Figure 2-13 shows the distribution of water and wastewater bills throughout the state.

For additional perspective, the average water and wastewater bill was compared against national and regional information from the AWWA/Raftelis 2020 Water and Wastewater Rate Survey. Note that the survey data is presented in cubic feet so the average state bill is based on 500 cubic feet (or 3,740 gallons). This national survey, which included South Carolina data, provides the basis for the comparison shown in Figure 2-14. The SC average water bill is in line with the regional average while the national average is 10.5% higher than the state bill. For wastewater, the regional average bill is 25.4% higher and the national average bill is 16.9% higher than the SC average water bill.

In addition to actual monthly bills for water and wastewater service, it is important to understand

how monthly utility bills may be increasing over time. Using the RIA rate survey data from 2016-2020 and the most recent SCRWA rate survey, the statewide combined annual bill increase is roughly 2.32% (3-year average). In fact, 85% of combined bill increases are 5% or below. For context, per the AWWA/Raftelis 2020 Water and Wastewater Rate Survey, the national annualized rate increases seen over the last 10 years has been 5.2% for water and 5.7% for wastewater. It is worth noting that the 2020 pandemic may have

impacted utilities' willingness to increase water and wastewater rates for 2021. *Figure 2-15* shows the distribution of rate increases expressed on a percentage basis.

AFFORDABILITY

The Statewide Affordability Assessment was performed to gain a better understanding of current vear affordability across the state. Affordability of water and wastewater service is getting increased attention within the industry as water and wastewater rate increases outpace growth in wages and inflation. Recently published affordability guidance (2019⁷ and 2021⁸) has promoted the use of more localized, targeted analyses. In order to assess household affordability, both publications recommend comparing annual water and wastewater charges against the upper limit of the Lowest Quintile Income (LOI) or the bottom 20% of earners.

In November 2021, Raftelis published a Think Tank article which summarized affordability

Figure 2-14: Average Bill Comparison (3,740 Gallons)



 $^{7 \}qquad 2019, New Framework for Household Affordability and Financial Capability Assessment by the AWWA, the National Association of Clean Water Agencies (NACWA), and the Water Environment Federation (WEF).\\$

^{8 2021,} Financial Capability Assessment Guidance by the USEPA.

findings from a nationwide affordability analysis. The analysis compared water and wastewater bills against the LQI and summarized by region. The results of the analysis are shown in Figure 2-16, and it has been updated to include the state of South Carolina. As is shown, the state's average water rates are more affordable by this metric than the averages for all U.S. regions. The state's average wastewater rates are slightly more affordable than the Southern region average and consistent with the affordability of the average wastewater rates in the Northeastern region.

FINANCIAL METRICS / FINANCIAL **HEALTH ASSESSMENT**

In order to assess the financial health of South Carolina water and wastewater utilities, financial metrics were calculated using 2018 and 2019 audited financial statements for approximately 130 water and wastewater utilities across the state. The majority of these utilities were municipal/county systems given that the data source was the South Carolina Treasurer's Office. The assessment relied on these financial metrics to measure debt service coverage, liquidity as measured by reserves/days cash on hand, free cash flow, and system reinvestment. The financial metrics are shown in Chart 2-5.

Annual Debt Service Coverage (Properly Managed Debt Load and Free Cash Flow)

Debt service coverage measures a utility's ability to meet debt service requirements with current year revenues after paying operating expenses. A debt service coverage

Figure 2-15: Combined Rate Increases in South Carolina

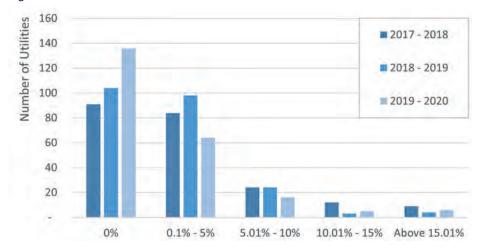
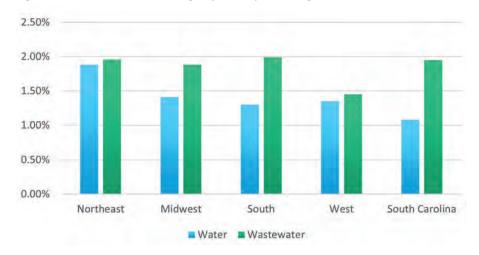


Figure 2-16: Bill as a Percentage of LQI, by U.S. Region



ratio below 1.00x means that a utility is not generating enough current revenues to fully cover principal and interest on annual debt obligations. Over a quarter of the utilities in the audit sample had debt service coverage ratios below 1.00x and insufficient revenue to cover their debt. Typically, lenders will require minimum debt service coverage ratios of 1.00x - 1.20xwhile coverage ratios above 1.50x are typically considered "strong." Figure 2-17 presents a visual of debt service coverage levels across the state.

Days Cash on Hand (Reserves)

Unrestricted days cash on hand is a liquidity measurement that indicates flexibility to meet short term obligations and is measured in "days." Utilities with higher days cash on hand are considered "less risky" by lending agencies. Days cash on hand thresholds vary by rating agency. A utility with 180 days cash on hand would meet Standard and Poor's (S&P) "Aa" rating criteria and would be considered "extremely strong" in days cash on hand with Moody's. Figure 2-18 presents a visual of days cash on hand levels across South Carolina. While nearly



Chart 2-59: Utility Financial Health Characteristics

| Financial Characteristics | Financial Metrics | Significance |
|--|--|--|
| Properly Managed Debt Load / Free Cash Flow | All-In Annual Debt Service Coverage (Operating Revenues Only) | Indicates the financial margin to meet current annual debt services with current revenues available for debt service |
| Reserves | Days Cash on Hand (days) | Indicates financial flexibility to pay near-term obligations |
| Free Cash Flow / System Reinvestment | Free Cash Flow as % of Depreciation | Indicates annual financial capacity to maintain at current level of services from existing cash flows |
| Properly Managed Debt Load | Total Outstanding Debt to Net Plant Assets (%) | Indicates existing debt leverage of capital assets |
| System Reinvestment | Asset Condition (Remaining Useful Life) | Indicates the blended remaining useful life of fixed assets |
| Overall Health | Change in Net Assets (\$) | Indicates ability to meet financial obligations on ongoing / accrual financial basis |

two-thirds of the utilities analyzed met this extremely strong 180-day threshold, 20% had less than 90 days of cash on hand.

Free Cash Flow as Percent of Depreciation (Free Cash Flow and System Reinvestment)

Free cash flow as a percent of depreciation indicates annual financial capacity to maintain facilities at current level of service (fully recover depreciation) from existing cash flows. Depreciation serves as a proxy for annual renewal and replacement needs. In Fitch Ratings 2020 Water and Sewer Medians report, the median ratio for all utilities ("AAA," "AA," and "A") is above 100%. Figure 2-19 presents a visual of free cash flow as percent of depreciation levels across the state. Only 40% of the utilities in the audit sample had over 100% of free cash flow as a percentage of depreciation.

Asset Condition (System Reinvestment)

Asset condition in years estimates the blended useful life of system assets. Lower ratios may indicate that long-lived assets are nearing the end of their useful life which means significant reinvestment may be required in the short term. Higher ratios may indicate recent reinvestment in long-lived assets. Moody's scorecard indicates utilities with a ratio above 12 years as "upper medium grade and subject to low credit risk" (A and above). Figure 2-20 presents a visual of asset condition or the blended remaining useful life of existing fixed assets based on accounting standards. It is typical to see an average asset depreciation life of 50 years for utilities in the southeast. Utilities with asset lives of 25 years or less would be half depreciated and have half of their useful life remaining. Based on the audit sample,

approximately 61% of the utilities have no more than half of their useful life remaining.

Overview of the Estimated Statewide Number of Utilities Not Achieving Minimum Metric Targets

After assessing high-level trends in the financial metrics calculated for the state, it was important to understand an estimate of the number of utilities based on the survey sample that were not achieving minimum metric targets. Thresholds were set for each financial metric as shown in *Chart 2-6*.

Figure 2-21 details the specific financial metrics violated and the number of utilities that violated that particular metric for both the 2018 and 2019 financial audits. Further examination showed that out of 130 utilities, a slight majority (54%) did not violate the threshold for any single metric in both 2018 and 2019.

⁹ Specific statewide information has not been included for Outstanding Debt to Net Plant Assets as this metric is a measurement for utilities that have larger amounts of outstanding debt. Since the majority of the utilities in the state are smaller utilities for which this is not the case, we have not included specific information similar to what is shown for the other financial metrics. This metric is evaluated year to year and it is either a negative or positive change, with multiple years showing a negative change being a potential concern.

Figure 2-17: Debt Service Coverage

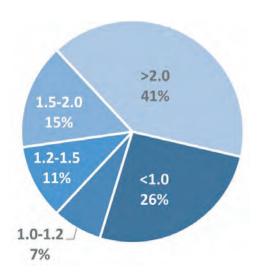


Figure 2-19: Free Cash Flow as Percent of Depreciation

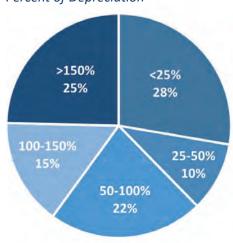


Figure 2-18: Days Cash on Hand

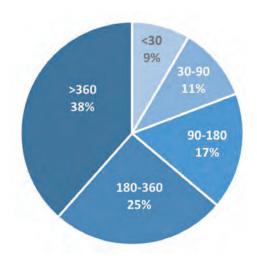


Figure 2-20: Asset Condition (Remaining Useful Life)

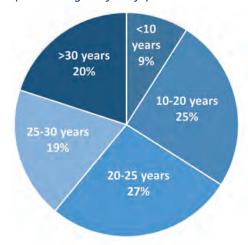
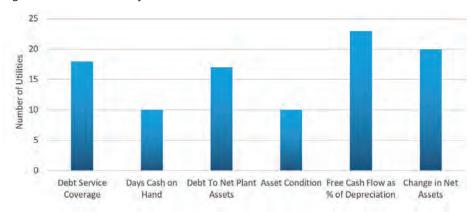


Chart 2-6: Financial Metric Thresholds

| Metric | Target Threshold |
|-------------------------------------|-------------------|
| Debt Service Coverage | At least 1.00x |
| Days Cash on Hand (Unrestricted) | At least 60 days |
| Debt to Net Plant Assets | Below 50% |
| Asset Condition (Years) | At least 15 Years |
| Free Cash Flow as % of Depreciation | At least 25% |
| Change in Net Assets | At least \$0 |



Figure 2-21: Violation of Financial Metrics



Roughly a quarter of the utilities violated the threshold for a single metric in both years. The remaining 22% repeatedly violated two or more minimum thresholds, which may indicate financial distress. This is shown in *Chart 2-7*.

STATEWIDE FUNDING NEEDS

Funding data from RIA, SCDHEC
- State Revolving Fund (SRF),
SC Department of Commerce Community Development Block
Grant (CDBG), and US Department of
Commerce - Economic Development
Administration (EDA) for the
last five years was analyzed to
determine the requests that were

funded, the funding that was leveraged from other sources and, ultimately, the amount of utility needs that were not funded during that period. This data included both grants and low-cost loans provided through the SRF programs. Funding data was not provided directly from USDA-Rural Development; however, some low-cost USDA loan funding was included when it was identified as a co-funder with the other agencies. The analysis of this data was also one component in determining an estimate of South Carolina's utility infrastructure needs as well as demonstrating the ability of state and federal funding

Out of 130 water and wastewater utilities, approximately

60 utilities

were unable to meet at least one minimum target threshold over the two-year period.

to leverage additional dollars to fully fund necessary projects.

Figures 2-22 and 2-23 provide an overview of water and wastewater funding over the last 5 years. For the assessment, the data provided from the funders was cross-referenced to determine the total amount funded for each project/system as each funder provided other funding source information. For this analysis, project funds from sources other than RIA, SRF, CDBG, or EDA, including local contributions or other sources, were counted as matching funds.¹⁰

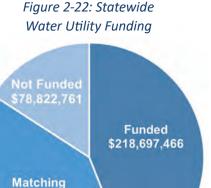
The primary indication shown from this data was that much of the funding provided is being significantly leveraged from other sources, thereby effectively amplifying the impact of state and federal dollars to address utility needs in South Carolina. Even with the large amount of leveraged funds, there were over \$100 million in utility needs that were not funded by the agencies included in this dataset. Although some of those projects may have been financed by other sources, it is likely that these

Chart 2-7: Utility Financial Health Assessment Overview

| Metrics Violated | % of Utilities in Sample | |
|------------------|--------------------------|--------|
| 0 | 54% | _ |
| 1 | 24% | |
| 2 | 17% |) |
| 3 | 4% | 22% |
| 4 | 1% | [2290 |
| 5 | 0% | J |
| Total | 100% | |

¹⁰ There are limitations to this data in that some projects that were not funded by these agencies may have been ultimately funded locally and many needs are not captured in this data set because of the specific funding prioritizations of the agencies. If a project was not funded, it was considered to have not been funded during that period.

¹¹ For FY2022, SCDHEC/RIA estimates that \$123.4M will be available for funding drinking water projects through the DWSRF and \$264.4M for wastewater projects through the CWSRF. The majority of the SRF funding is provided through loans. Other funding agencies can fund water and wastewater projects equally depending on eligibility and need.



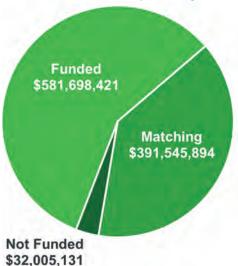
needs continue to grow and outpace available funding year over year.11

\$199,312,837

Another signal seen in this assessment was the amount of wastewater needs. During this 5-year period, the amount of funding for wastewater was more than double that of water. Several factors likely contribute to this disparity: wastewater projects tend to be more costly overall, much of the state's wastewater infrastructure assets need to be rehabilitated or replaced, and there are more SRF funds available for wastewater improvements.

RIA regularly coordinates with other agencies that provide funding for infrastructure in South Carolina with the goal of addressing funding gaps and identifying solutions to current challenges. The impact of this collaboration was apparent in this funding analysis. Data provided from the funding programs indicated when other programs had co-funded a project or if the project was recommended to be funded through another program, which

Figure 2-23: Statewide Wastewater Utility Funding



highlighted the effectiveness of these efforts.

Even with this integrated funding coordination, the latest USEPA estimates of the 20-year water and wastewater infrastructure investment need equal nearly \$8 billion of today's dollars.12 These numbers are outdated - based on surveys conducted in 2015 for drinking water and 2008 for clean water - and are widely considered to be an underestimation of the true need. Because the needs survey data is older than the other data used in this analysis, the \$1.9 billion five-year need based on the total amount of funding application requests in the state from the last five years was factored into the estimate which added an additional \$7.6 billion, bringing the state's estimated 20-year water and wastewater infrastructure need to over \$15.6 billion. Although limitations in the available data make it difficult to quantify total statewide needs, these estimates give a sense of the magnitude of investment required in this sector.

EPA estimate of South Carolina's 20-year water and wastewater infrastructure needs in 2015 and 2008

\$8.0 billion

Five-year need based on funding application requests in SC over the past five years

\$1.9 billion

South Carolina's current estimated 20-year water and wastewater infrastructure need

>\$15.6 billion

¹² The 20-year need from the USEPA Drinking Water and Clean Water Needs Surveys were adjusted to 2021 dollars for this assessment.



GEOGRAPHIC WATER & WASTEWATER UTILITY ASSESSMENT

This assessment included analyses of the state's public utilities based on their location within three specific geographic cross-sections: SCDHEC Regions, COG Regions and County Economic Tiers which were outlined in the Assessment Methodology. These analyses evaluated the socio-economic,¹³ infrastructure and financial¹⁴ characteristics of utilities in each region/group to determine if there were significant utility viability trends in certain parts of the state. Relevant highlights of these analyses are discussed below.

SCDHEC REGION ASSESSMENT

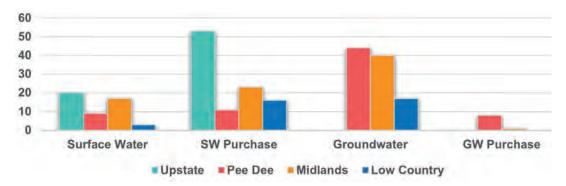
From the socio-economic perspective, this analysis revealed that the Pee Dee SCDHEC region lags behind the state averages for all socio-economic characteristics analyzed, while the Upstate and Low Country SCDHEC regions perform better than the state averages. (Appendix B: State Average Comparisons)

The most significant infrastructure characteristics seen in this analysis were based on population served (utility size), utility system age and compliance history.

While not hugely significant in the overall viability analysis, the distribution of system types across the state by SCDHEC region was a data point of interest. This characteristic is important when evaluating future needs for some areas of the state. For example, there are more regulatory requirements for surface water systems, in general, as compared to groundwater systems and groundwater sources are generally less costly to develop. In turn, groundwater is not an option for all areas of the state due to subsurface conditions or depletion of the aquifer system. With wastewater systems, the non-discharge systems

are only permitted where soil conditions allow and are not used for large-scale wastewater treatment due to the amount of land needed and constraints on application during wet weather conditions. Figure 2-24 illustrates that most of the state's surface water utilities are located in the Upstate region while the groundwater utilities are mainly within the Midlands and Pee Dee regions. Wastewater utilities are evenly distributed across the state with non-discharge utilities being primarily located in the Midlands.





¹³ Based on the statewide assessment, there were 5 socio-economic characteristics that were determined to be most significant in signaling potential utility viability issues: population change, population density, median household income, poverty rate and unemployment rate.

¹⁴ Because full and/or complete audits were not available for all utilities, the financial analysis was not completed in detail for all geographic cross-sections.

Utilities serving 10,000 or fewer persons are fairly evenly distributed in the Upstate, Midlands and Pee Dee regions, with the Midlands having the most small utilities. Overall, the Low Country has the fewest small utilities and a higher number of the largest systems than any other region. (Figures 2-25 and 2-26)

The oldest utilities are found in the Upstate and Pee Dee SCDHEC regions, with the newest being in the Low Country. (Figure 2-27) In general, this can be explained by the locations of former mill villages with infrastructure systems built to support them in the Upstate along with the location of many of the initial rural utility systems in the state being constructed in the Pee Dee region over 50 years ago. On the other hand, the coastal areas of the Low Country region have experienced more recent rapid growth requiring the expansion of new utility services. Further, the subsurface conditions in that region tend to require more frequent infrastructure renewal investment.

Over one-third of the utilities in the Pee Dee SCDHEC region had significant regulatory violations, compared with less than a quarter of the utilities in the Low Country. Figure 2-28 provides an overview of this data.

Figure 2-25: Distribution of Water Utilities (By Population Served & SCDHEC Region)

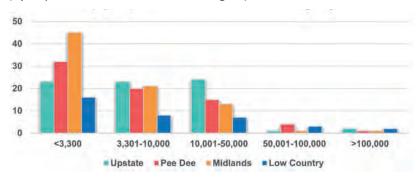


Figure 2-26: Distribution of Wastewater Utilities (By Population Served & SCDHEC Region)

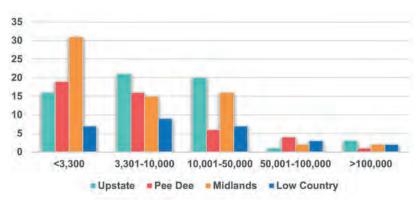


Figure 2-27: Average Utility System Age by SCDHEC Region

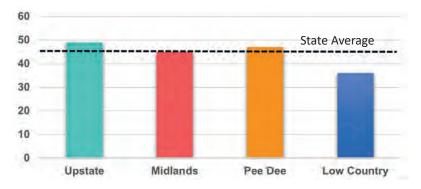
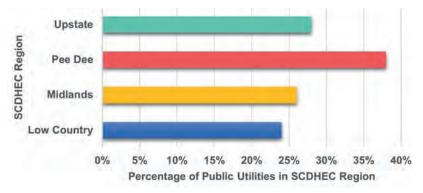


Figure 2-28: Utility Significant Violations by SCDHEC Region





Rates and affordability were also assessed by SCDHEC region. As shown in *Figure 2-29*, the average water and wastewater monthly bill is highest in the Low Country followed by the average bill for the Upstate. Bills are calculated using the information from the 2020 RIA and SCRWA rates surveys and present a monthly bill for a residential customer using 5,000 gallons.

To assess affordability, the monthly bills were compared to local income data. *Figure 2-30* shows the combined water and wastewater bill as a percent of MHI.

As shown, despite having the highest average bill, the Low Country region has the lowest affordability ratio, which indicates household incomes are higher in this region than in others. The highest affordability ratios are seen in the Midlands and Upstate. It is important to note that low rates do not always signal financial strength. Rates must be set high enough to generate revenues sufficient to maintain liquidity, generate free cash flow, meet coverage requirements, and allow for adequate system reinvestment.

Figure 2-29: Average Bills by SCDHEC Region

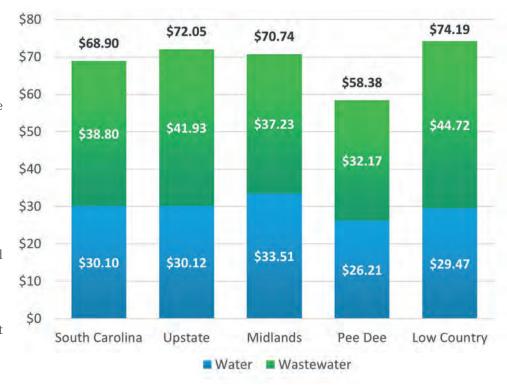
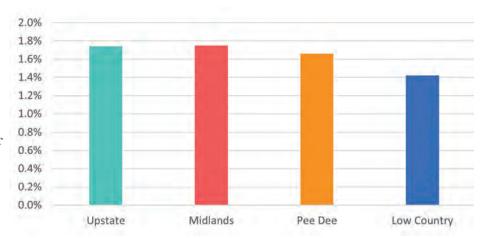


Figure 2-30: Combined Bill as % of MHI by Region



The key point identified from the SCDHEC regional analysis was that the SCDHEC region with the most challenging socio-economic conditions, a large number of small utilities, and some of the oldest utilities in the state had the most significant regulatory compliance issues.

COG REGION ASSESSMENT

The COG regions divide the state up into smaller cross-sections and represent how many utilities identify their specific geographic location and how they collaborate and partner for training and assistance. The analysis was completed to determine if some of the larger trends seen in the SCDHEC regions could be further differentiated within smaller geographic areas based on these same characteristics.

The Lower Savannah, Pee Dee, Santee-Lynches and Upper Savannah COG regions had the most socio-economic challenges, and the Appalachian and Berkely-Charleston-Dorchester COG regions had the strongest socio-economic metrics. Of particular significance was that the Lower Savannah and Pee Dee regions had overall negative **growth rates.** (Appendix C: State Average Comparisons)

With this analysis, those infrastructure characteristics that were most important were population served (utility size), utility system age and compliance history just as was seen in the SCDHEC regional analysis.

The COG regional analysis did provide more detail regarding more specific locations of our state's smallest utilities. Overall, the Appalachian, Lower Savannah and Pee Dee COG regions had the most small utilities with Berkeley-Charleston-Dorchester, Low Country and Waccamaw having the fewest. Some of this difference may be due to the fact that Berkelev-Charleston-Dorchester, Low Country and Waccamaw also have fewer counties than other COG regions. (Figures 2-31 and 2-32)

The oldest systems were found to be in the Appalachian, Pee Dee and Upper Savannah COG regions while the newest were found in the Berkeley-Charleston-Dorchester and Low Country regions. (Figure 2-33)

Figure 2-31: Distribution of Water Utilities (By Population Served and COG Region)

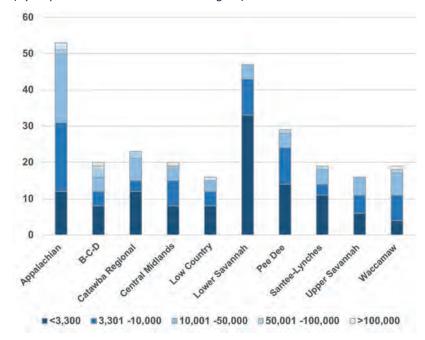


Figure 2-32: Distribution of Wastewater Utilities (By Population Served and COG Region)

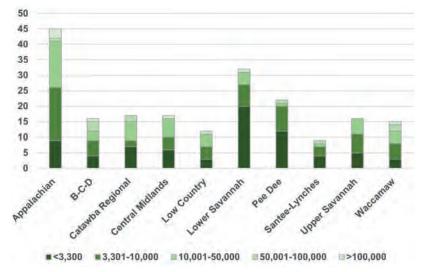
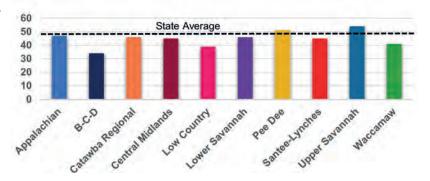


Figure 2-33: Average Utility System Age by COG Region





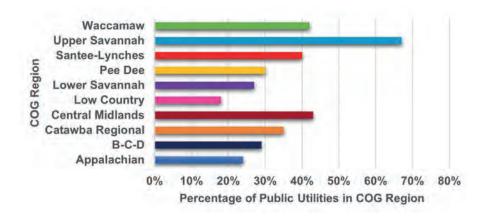
FAST FACTS

The SC Department of Revenue groups counties into four tiers, with Tier I having the strongest economic metrics and Tier IV having the weakest.

As a group, counties in Tiers III and IV lost population over the past 10 years.

Almost all of the largest utilities were in Tier I and II counties.

Figure 2-34: Utility Significant Violations by COG Region



From the compliance perspective, utilities in the Upper Savannah region were the most likely to have significant compliance issues, with those in the Low Country being the least likely. (*Figure 2-34*)

With the completion of the COG regional analysis, it was even more evident that there was a clear nexus between socio-economic conditions, utility size, system age and significant compliance issues.

COUNTY ECONOMIC TIERS ASSESSMENT

The final geographic analysis was completed based on the county tier groupings determined by the SC Department of Revenue in December 2020 with Tiers I and II grouped together and Tiers III and IV grouped together. These tier designations are updated annually based on per capita income and unemployment rate, with Tiers

I/II being the least distressed and Tiers III/IV being the most distressed. In addition to having economic disadvantages, these areas of the state also had average negative growth over the past 10 years. (Appendix C: State Average Comparisons)

With this geographic assessment, there wasn't a significant difference between the number of small utilities that were located within each tier group; however, almost all the largest utilities were in Tier I/II counties.

The analysis of system age characteristics based on these tier groupings provided the major differentiation in that Tier III/IV counties had the oldest utilities; however, the number of significant violations were virtually the same across both tier groups.

SERVICE POPULATION WATER & WASTEWATER UTILITY ASSESSMENT

From the statewide and geographical analyses, it was determined that the size of the utility, when evaluated with the other characteristics analyzed, was one of the most important factors for signaling potential utility viability concerns.

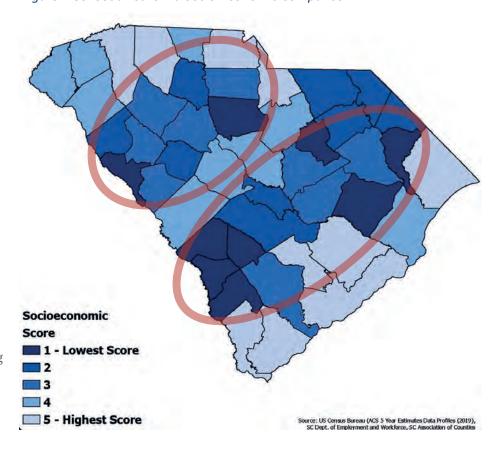
The service population analysis showed that our state's smallest utilities are located in portions of South Carolina that are not growing as fast or even have net negative growth. These challenges provide small utilities located in these areas less opportunity to cost-effectively expand their customer bases and they must maintain their existing systems with fewer customers overall. These areas are also most often lagging in median incomes and employment rates and tend to have a higher percentage of their population living below the poverty line. (Appendix B: State Average Comparisons)

To illustrate the socio-economic differentiation across the state, county-level data for five of the main characteristics - population change, population density, median household income, poverty rate and unemployment rate - was aggregated and scaled by the deviation from the state average with a score of 1 being those counties most economically disadvantaged and a score of 5 being the least disadvantaged. (Figure 2-35) This comparative analysis was mapped for the state and the

results look very similar to the County Economic Tier map. Using this map to compare with what was seen through the geographical analyses, it was clear that there was a correlation between the locations of the smallest utilities and the areas with the most challenging socio-economic conditions in the state, circled in *Figure 2-35*. This is especially significant given that over two-thirds of the state's water utilities serve fewer than 10.000 people.

Our state's smallest utilities are located in rural portions of South Carolina that are not growing as fast or even have net negative growth.

Figure 2-35: South Carolina Socio-Economic Comparison





The state's smallest public utilities were also found to be among the oldest. *Figure 2-36* shows the average age of utilities by size, estimated using the date each system's SCDHEC permit was first issued and the average age of structures in the community. As noted in a previous section, useful life of water infrastructure ranges from 20-40 years depending on the type of asset.

In August 2021, RIA conducted a survey of public utilities across the state to obtain information for infrastructure needs and to provide additional data for this assessment. This survey included a question about the age of the oldest portions of their systems and what percentage of their total system was that age. Over 60 utilities representing all utility size ranges participated and most stated that they had portions of their systems that were older than the state average of 45 years. But of most significance was that, while the largest utilities had some parts of their systems that were significantly older than 45 years, it was a relatively small percentage of their total system; whereas the smaller utilities stated that the oldest part of their system comprised the majority of their assets. (Figure 2-37)

The analysis of regulatory compliance violations based on utility size also provided more correlation around trends seen in the geographical analyses in that those utilities serving 10,000 or fewer people were also those that were more likely to have significant violations during the 5-year period that was evaluated (*Figure 2-38*). In addition, 22% of these small utilities had significant violations for both water and wastewater, which is almost double that of larger systems. It is important to note that any utility may experience regulatory violations over

Figure 2-36: Average Utility System Age by Population Served

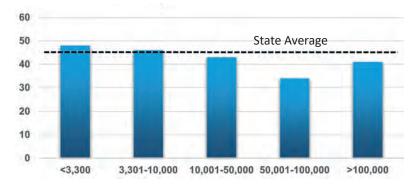
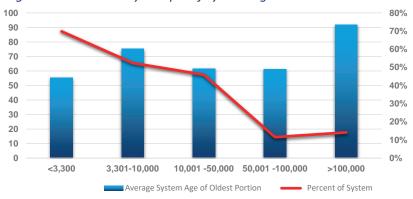


Figure 2-37: RIA Survey Sample of System Age



While utilities of all sizes reported having some assets older than 45 years, the oldest portion of the smallest utilities' infrastructure comprised an average of nearly 90% of their systems.

Figure 2-38: Utility Significant Violations by Population Served

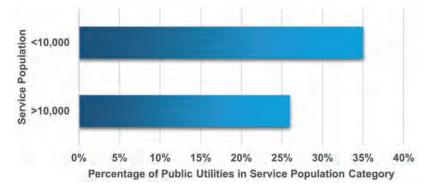


Figure 2-39: Combined Bills by Population Served



time; it is the ability of a utility to correct these violations promptly that is important. Larger utilities have more technical and financial resources to invest in corrections whereas smaller utilities may struggle in this regard.

Financial assessment findings were also consistent with those identified in the socio-economic and infrastructure assessments: small utilities in the state are facing more affordability and financial challenges than their larger neighbors. As shown in Figure 2-39, based on the most recent RIA and

SCRWA rate surveys, utilities serving less than 10,000 people have the highest average combined utility bill in the state. Monthly bills are presented for a residential customer using 5,000 gallons.

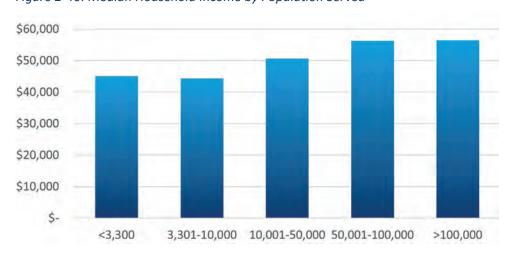
The affordability impact of smaller utilities' larger bills is compounded by the lower average incomes in the communities they serve, as shown in Figure 2-40.

Water and wastewater bills for each utility were compared against local income statistics to assess general



Utilities serving up to 10,000 people have the highest average combined utility bills in South Carolina.

Figure 2-40: Median Household Income by Population Served¹⁵







Small utilities serving up to 3,300 people were more likely than larger utilities to be flagged for not meeting the thresholds for multiple financial metrics two years in a row.



Figure 2-41: Bill as % of MHI

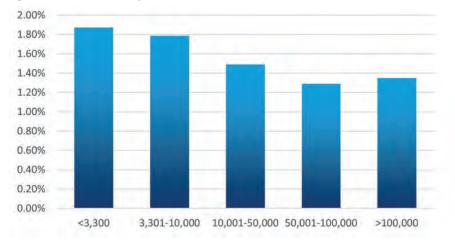
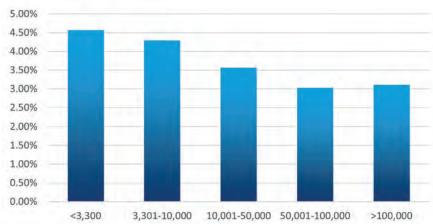


Figure 2-42: Bill as % of LQI



service affordability. Currently, the 1997 EPA Affordability Guidance identifies a combined water and wastewater bill that is more than 4% of MHI as unaffordable. As shown in *Figure 2-41*, on average smaller utilities' bills comprise a higher percentage of customers' income. However, the average bills for utilities of all sizes are well within the EPA's affordability threshold. Comparing utility bills to the community's LQI produces an affordability measure for a utility's lowest income customers. As shown in Figure 2-42, the average bills for smaller utilities

exceed 4% of LQI. While the EPA has not yet set a national standard for this comparison, it indicates that many small utilities may risk overburdening lower-income customers if they raise rates.

The financial characteristics assessment also indicated potential financial challenges for small utilities. The assessment identified the utilities that were below the threshold for the metrics identified in the Assessment Methodology for two consecutive years, 2018 and 2019. A two-year criterion was used to recognize that a single year

violation of one of these metrics may not indicate a pattern of financial distress. The smallest utilities those serving up to 3,300 people - were the most likely to be flagged for not meeting the threshold for one or more metrics. While flagging one metric may be a preliminary indicator of financial distress, utilities flagging multiple indicators are more likely to be facing financial challenges.

All of this translates into significant water and wastewater infrastructure needs. As was discussed in the Statewide Assessment, the estimated 20-year needs based on the most recent USEPA Needs Surveys combined with the funding analysis completed for this effort was determined to be more than \$15.6 billion. The August 2021 RIA survey also asked participating utilities to identify their 5-year capital needs. These results provided more specific needs information based on utility size. This showed that the total 5-year need for those participating utilities was over \$1.7 billion with the needs of the smallest utilities estimated at approximately \$24 million per utility based on the utilities that responded to the survey. When this data was further analyzed based on the average size of those smallest responding utilities, the real issue was revealed.

The per capita cost of the smallest utilities' five-year needs was estimated to be over \$17,000 - a burdensome cost if funded by user fees and rates alone.

Regardless of size, all utilities are facing many challenges that can, over time, have an impact on longterm viability if adjustments are not made to effectively manage them. These challenges include increasing regulations, such as the Lead & Copper Rule Revisions and stricter wastewater discharge limits that will require significant investments in pipe replacements and treatment technologies; emerging contaminants, such as perfluoroalkyls (PFAs) and harmful algal blooms that can impact water resources and require additional treatment; competing water uses and restrictions in some areas, along with economic development opportunities.

And these infrastructure needs will likely only continue to increase. When you consider that the average age of South Carolina's public utility systems is at least 45 years old, it is easy to see that actual need over the next 20 years will exceed the current estimates. But this is amplified for the smallest utilities in South Carolina that tend to have fewer technical, managerial, and operational resources and are in more rural areas with less potential for growth. For these utilities, affordability constraints are a significant factor when it comes to being able to raise rates and secure financing to address these needs.



For smaller utilities, affordability constraints are a significant factor when it comes to being able to raise rates and secure financing to address these needs.



ASSESSMENT SUMMARY

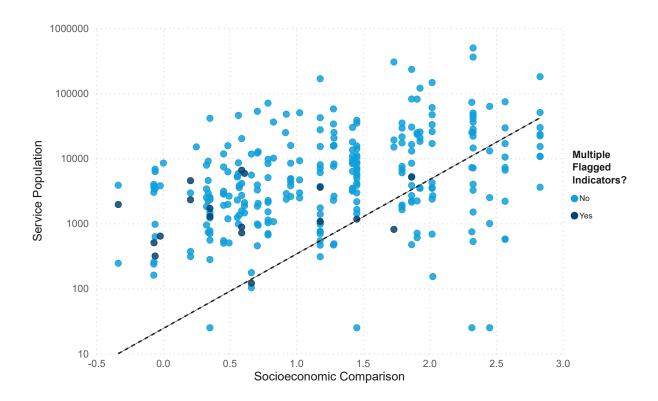
As discussed in the Assessment Methodology, the goal of the assessment was to identify specific characteristics that may signal viability issues when evaluated against set benchmarks and, therefore, would be effective indicators for use as a part of the statewide viability strategy.

Of the utilities that were flagged for two or more financial characteristics, 60% were also flagged for multiple challenging infrastructure and socio-economic characteristics.

The utility assessment showed that overall, utilities that serve populations of up to 10,000 located in areas with socio-economic challenges also experienced more regulatory compliance issues and had older infrastructure. From the financial analysis, these smaller utilities also had more financial challenges. Additional analysis between the financial and technical assessments demonstrated the correlation between viability concerns, service population and socio-economic conditions. Figure 2-43 provides a graphical illustration of this correlation demonstrating

that the utilities that had multiple financial indicator concerns as well as significant compliance issues were all utilities serving populations of up to 10,000 people and generally in the most economically disadvantaged areas of the state.

Figure 2-43: Utilities with Multiple Flagged Indicators and Significant Compliance Issues by Service Population and Socio-Economic Comparison



Based on the assessment and correlation between the characteristics analyzed, the following indicators with associated benchmarks were recommended to be included in the statewide viability strategy (Charts 2-8, 2-9 and 2-10).

Chart 2-8: Recommended Socio-Economic Indicators

| Indicator | Description | Early Warning Benchmark |
|-------------------------|---|-------------------------------|
| Population Change | Census or ACS Data for Primary Service Area | Negative growth over 10 years |
| Median Household Income | Census or ACS Data for Primary Service Area | < State Average |
| Poverty Rate | Census or ACS Data for Primary Service Area | > State Average |
| Unemployment Rate | SC Dept. of Employment & Workforce Data for Primary Service Area | > State Average |

Chart 2-9: Recommended Infrastructure Indicators

| Indicator | Description | Early Warning Benchmark |
|-------------------|--|----------------------------------|
| Compliance Record | SCDHEC Repeat NOVs, Consent & Administrative Orders and SSOs | Two or more within 5-year period |
| System Age | Estimated Age of Majority of System | Greater than 40 years |
| System Size | Service Population (as defined by SCDHEC) | <u>≤</u> 10,000 |

Chart 2-10: Recommended Financial Indicators¹⁶

| Indicator | Description | Early Warning Benchmark |
|-------------------------------------|-----------------------|--|
| Debt Service Coverage | Revenue Sufficiency | Below 1.10x |
| Days Cash on Hand (Unrestricted) | Liquidity | Below 90 days |
| Debt to Net Plant Assets | Debt Leverage | Above 50% |
| Asset Condition (Years) | System Investment | Below 25 Years |
| Free Cash Flow as % of Depreciation | Revenue Sufficiency | Below 50% |
| Change in Net Assets | Finance | Below \$0 |
| Annual Bill as % of MHI | Affordability | Above 4% |
| Relative Rates | State Bill Comparison | Top 20% of statewide bill distribution |



It is important to note that reaching the early warning benchmark for one or more indicators would not necessarily signal that a utility is non-viable. These indicators must be evaluated in concert with each utility's specific issues; however, they can provide a basis for proactive evaluations of these utilities, which can, in turn, allow them to receive assistance **before** a critical situation arises. Further evaluation and assistance would be recommended for a utility that is found to have issues with more than six of these indicators, with the most focus placed on the following key factors: compliance, debt service coverage, days cash on hand, free cash flow and annual bill as percentage of MHI indicators.

Overall, the assessment yielded a great deal of data and information but there are three main points that have particular significance for long-term utility viability in South Carolina:



There was a strong correlation between utility size and all other characteristics identified as viability concerns.



The smallest utilities are charging higher rates on average which can signal potential affordability constraints for these utilities.



Most South Carolina utilities have assets that are greater than 40 years old and need renewal investment.



SOUTH CAROLINA WATER UTILITY FORUM

From the inception of this study, RIA focused on this effort being an inclusive process. This was achieved through the Sustainability Advisory Committee that provided invaluable input throughout the study and through hosting a fullday interactive workshop with stakeholders.

On September 30, 2021, RIA held the South Carolina Water Utility Forum and invited public utilities and stakeholders from across the state to provide input on viability issues and proposed strategies to address them. Participants included leaders and staff of small and large utilities, engineers, local and state elected officials, and representatives of COGs, state agencies, and professional associations. During this collaborative forum, the results

of the assessment were provided, the major elements of the proposed viability strategy were discussed, and feedback was received from over 200 participants. This feedback was critical to the development of the final viability strategy.

Many participants were particularly interested in the results of the statewide assessment, and expressed surprise at some of the results, such as the fact that smaller systems have higher rates on average. Some people indicated a desire to participate in additional, similar meetings in order to continue the conversation. By the conclusion of the forum, some attendees had made specific plans to discuss financial situations, rates and regionalization opportunities based on the information presented.



Responses to questions about common viability indicators and challenges underscored the results of the assessment and validated the recommended indicators, which were the basis for the strategy.

What do you think are the most common indicators signaling that a system may have viability issues?

```
COMPLIANCE PROBLEMS

POPULATION <10 000 FAILURE TO MAINTAIN ISSUES CUSTOMER COMPLAINTS INFRASTRUCTURE FAILURE

EXPENSES VS INCOME FISCAL STABILITY
LACK OF FUNDS I HAVE AN IDEA MEETING DEFERREL

SYSTEM SIZE INADEQUATE RESERVES & POPULATION CONSENT ORDER

GOVERNANCE LIMITED STAFF
CUSTOMER DECLINE LACK OF RESERVES LACK OF LEADERSHIP SIZE VIOLATIONS
COMMUNITY AGING INFRASTRUCTURE COMPLIANCE CAPACITY
NONCOMPLIANCE TURNOVER CASH FUNDING BOIL WATER ADVISORIES CASH ON HAND
CHARACTERISTICS NO PLAN CASH FUNDING BOIL WATER ADVISORIES CASH ON HAND
AGING SYSTEM SIZE
NO CASH ON HAND
SOCIOECONOMIC
NOVS STAFF SIZE LOW
SYSTEM AGE SSOS CAPITAL POPULATION LOSS
SYSTEM AGE SSOS CAPITAL POPULATION LOSS
TURNOVER CASH RESERVES SSO COMPLIANCE ISSUES
AGING SYSTEM SSO'S IHAVE NO CLUE

AGING SYSTEM SSO'S IHAVE NO CLUE

NO CASH BROKEN PIPES
                                          AGING SYSTEMS DEBT COVERAGE RATIO

AGING SYSTEM SSO'S I HAVE NO CLUE
LACK OF COUNCIL UNDERSTANDING POP LESS THAN 3300
                                           COLLAPSE FINANCIAL DIFFICULTY KEEPING OPERATO
                                                                        DRAWING FROM GENERAL FUND REQUIREMENTS
                                                                                                                        CUSTOMER SIZE VERSUS RATES
```

```
OPERATOR SHORTAGE
                                                                                                                                   IMPLEMENT STAFFING AND NEW REGULATIONS
                                                                                     LEADERSHIP
                                                                LABOR CERTIFIED OPERATORS
TENT OPERATORS REF
RELIABILITY REPLACEMENT
                                                                                                                                                          REPLACING AGED INFRASTRUCTURE MATERIALS
   SERVICES COST AGING SYSTEMS INFRASTRUCTURE BREAKING SUSTAINABILITY GROW
   LABOR MARKET AVAILABILITY OLD STAFFING WORKFORCE ENVIRONMENTAL DIRECTOR OF THE PROPERTY OF THE
               MANAGEMENT NEW REGULATIONS FUNDING AGING RISING CUSTOMER RATES
             STAFFING AND COST CERTIFIED PAY AGING INFRASTRUCTURE
                                                                                                                                                                                                                                                               MANAGING GROWTH
      COST OF REPLACING FACILITIES
                                                                                                          RATES WORKFORCE DEVELOPMENT
                                                                                               OLD PEOPLE SOURCE WATER SUSTAINABILITY FORCE DEMAND
                                                                                 WORK FORCE NEED NEW REGULATIONS IMPROVEMENTS
```

What are the biggest challenges facing utilities in the next five years?

South Carolina Water Utility Forum Feedback



WHAT WE HEARD

What actions do you expect to take because of the information shared at the forum?

- "Assess our financials based on key indicators presented. Have serious conversations about the possibility of raising rates."
- "...enhance our partnership agreements with surrounding community. Ensure that financing is key to our decision-making."
- "Attempt to find areas where we can form partnerships or regional groupings to work smarter."
- "Help educate clients."
- "More training."

What follow-up actions do you hope to see from RIA and other water infrastructure partners?

"Interactive online tools."

"Technical colleges training our next generation of water/sewer employees."

"Regional partnership assistance/ opportunity identification."

"Continue to lead the conversation."

"Helping out smaller systems to overcome adversity."

"More advocacy and education to board/councils/elected officials."

SOUTH CAROLINA UTILITY FORUM SEPTEMBER 30, 2021









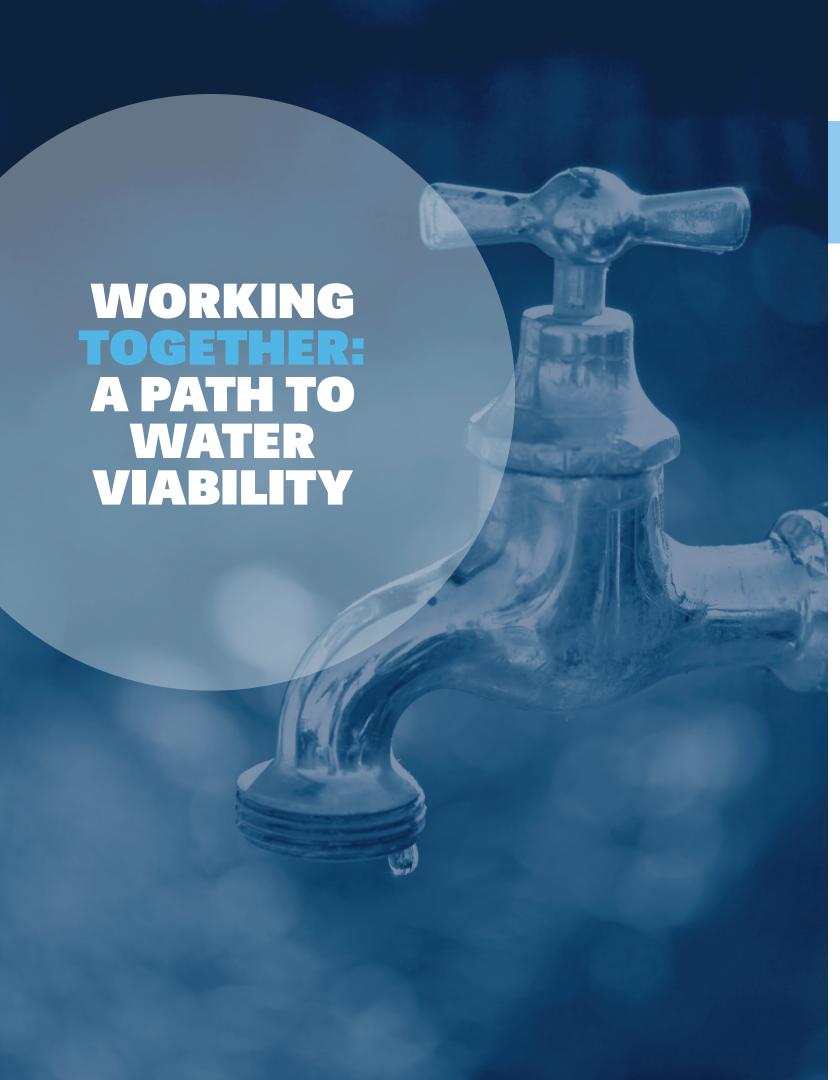












WATER UTILITY VIABILITY STRATEGY

STRATEGY OVERVIEW

The Water Utility Assessment demonstrated that the smaller the utility service population, the greater the probability is that the utility will face some level of viability challenges. The data indicated this was due to a number of factors: limited growth or population losses; loss of industry; aging infrastructure; workforce challenges; and challenging socioeconomic conditions. While many of these factors are not within the control of a utility, there are opportunities to help turn the tide for many of the state's struggling water utilities and a statewide Water Utility Viability Strategy is one way to do this.

While the primary purpose of the assessment was to identify specific characteristics that could be used as indicators for the early identification of utilities facing viability challenges, the focus of this statewide strategy is to ensure that South Carolina's water and wastewater utilities will continue to supply safe drinking water and provide the necessary level of

wastewater treatment for years to come.

The words sustainability and viability are often used interchangeably and do have similar definitions; however, sustainability is linked to the protection of and most efficient use of natural resources. While that is an integral part of any successful utility system, in this report we are looking more broadly at the ability of utilities to operate and maintain their infrastructure, make necessary improvements, and provide reliable service to their customers for the foreseeable future. We use the term "viability" to refer to that type of

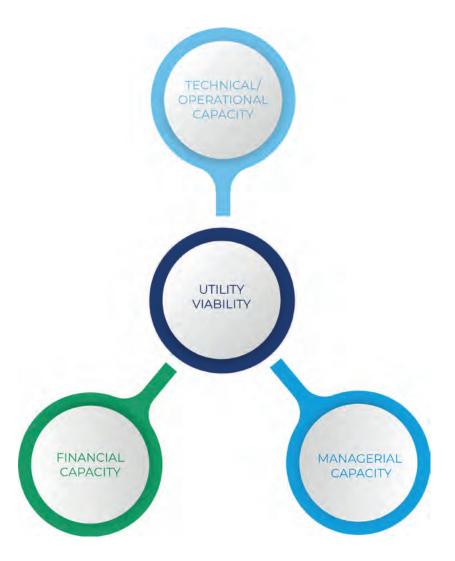
long-term self-sufficiency. Similarly, SCDHEC's State Primary Drinking Water Regulations (R.61-58) define a viable water system as one that "is self-sustaining and has the commitment and the financial, managerial and technical capability to consistently comply with [state laws and regulations related to safe drinking water]."

The concept of utility viability is now widely used and accepted by both water and wastewater systems alike. This is seen through the establishment of the Effective Utility Management¹⁷ initiative that was developed in 2007. Through the EUM initiative, 10 water-based



The tie to public health and economic prosperity is undeniable and, therefore, is critical to the future of the state.





nongovernmental organizations and the USEPA signed an agreement which pledged support and collaboration around this concept to ensure long-term viability of the nation's utility systems.

While the EUM is targeted at medium and large systems and includes 10 specific characteristics within its framework, it centers around the same basic characteristics used in the SDWA Capacity Development Program: Technical/Operational Capacity; Managerial Capacity; and

Financial Capacity. The underlying premise of both the Capacity
Development Program and the
EUM Initiative is that all technical/
operational, managerial, and
financial components of a utility
are interconnected and are part of a
process of continual assessment and
improvement that is necessary
for a utility to remain viable. Put
simply, a utility needs to continually
assess and adapt its capabilities and
capacities because conditions and
circumstances change.

This concept is what framed the data that was utilized in the statewide water and wastewater utilities assessment as well as the identification of the viability indicators and further provides the basis for the development of the strategy recommendations and identification of resources to help address these concerns.

UTILITY VIABILITY STRATEGY

The viability issues that face our state's utility systems are not unique to South Carolina nor are they simple to solve. Common challenges call for a coordinated solution. A statewide strategy will provide the support utilities need to continue providing the water and wastewater services that protect public health, preserve our state's abundant water resources and set the stage for economic prosperity. This initial strategy will evolve over time as more data is collected and more focus is placed on this issue in a comprehensive manner, which is recommended. Just like operating a successful utility, implementing this strategy should be a process of continual improvement and adaptation for it to achieve the goal: to provide targeted tools, resources

and assistance for South Carolina's water and wastewater utilities that lead to long-term viability.

PARTNERING FOR SUCCESS

Achieving this goal will take a collaborative effort on the part of everyone that is involved with South Carolina's water and wastewater utilities. Partnerships among the resource and regulatory agencies, professional associations, utility leaders and elected officials are key to successful implementation of the recommended strategy components. State elected officials play a critical role in providing any amendments to existing laws that may be needed to address on-going viability issues as well as consistent funding for viability-based programs. Local

elected officials and utility board members are key in making local decisions that can impact utility viability and can communicate challenges to state elected officials. Utility leaders are the lifeline for the utility itself. They make critical dayto-day decisions about the overall operation of the utility and work directly with their board members and local officials when there are viability concerns that must be addressed. Finally, the funding and regulatory agencies along with professional organizations provide the network of resources that can be deployed to provide viability assistance across the state. In short, all stakeholders will need to work together in their respective roles to execute and refine this strategy for maximum effectiveness.





STRATEGY COMPONENTS

The recommended strategy is a proactive approach to targeting assistance and promoting partnerships to strengthen utility capacity. It has four major components.

Strategy Components:

Utility Viability
Identification

2
Coordination of
Assistance

3 **Leveraging Partnerships**

Targeted Financial
Assistance

RECOMMENDATION 1:

UTILITY VIABILITY IDENTIFICATION

The first step to implement this strategy is to establish a mechanism for identifying utilities that are at risk for having viability issues. This starts with the set of viability indicators and established benchmarks identified through the assessment along with several basic operational and managerial indicators that are built into a common, easy-to-use viability indicator tool.

This tool could be used, first and foremost, by utilities to complete self-assessments and also by technical assistance providers and funding/regulatory agencies. It would be a common measure that all stakeholders could use to identify potential viability issues. If current or potential viability concerns are flagged through this tool, early assistance could be requested by or directed to that utility. The tool should be updated and/or modified as new benchmark data are released or additional indicators are identified.

The viability indicator tool and/ or the information contained in it could also be integrated into funding application processes for programs administered by state agencies. While federal funding partners may have less flexibility within their application process, these indicators could be part of the discussion around co-funding projects intended to address viability challenges. After discussion of the identified indicators, many forum attendees thought their utility may have potential viability concerns, and most said they would utilize a viability self-assessment tool.

Once concerns are identified using the assessment tool, utilities will need guidance in the practical steps they can take to address those issues. To this end, it is recommended to develop a toolkit of resources for self-improvement that can be accessed by all utilities. It would include free training and self-assessment resources/links for addressing various aspects of utility finance, operations and viability issues. An initial Viability Toolkit is provided in *Appendix D*.

This toolkit, along with the viability tool, could be hosted on a new website/webpage specifically developed to house information and resources for South Carolina Utility Viability. This site could also provide a means for utilities to request additional information or request assistance.

The ultimate course of action that is appropriate for a utility that has identified viability issues will depend on many factors, including the number and severity of the concerns. The available options can be classified in four categories:

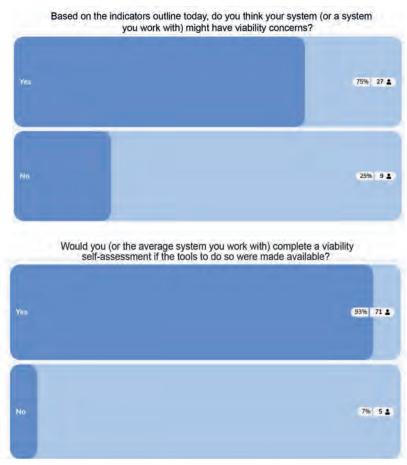
Utility Self-Improvement. A utility proactively seeks the resources to address the identified viability issues. This may involve training of staff and leadership, planning activities, and technical or financial assistance.

Regional Partnership

Agreements. One utility works with another to address the identified viability issues. These written agreements could include wholesale purchase of treatment services or contractual arrangements for operations, management, billing, resource partnerships, or shared services. Such agreements often formalize pre-existing cooperative arrangements between neighbors. They can provide mutual benefit by allowing utilities to pool their strengths while maintaining separate governance. A partnership agreement can also be an initial step in determining if consolidation makes sense in the long term. These agreements generally do not impact eligibility for state or federal funding programs, as the utilities remain separate entities.

Utility Consolidation. Especially for small systems, consolidation with another utility is sometimes the best way to address viability issues. This can be accomplished by a larger system taking on a smaller neighbor, or by two or more systems forming a new, joint entity. In all cases, the involved utilities have to reach a mutually satisfactory agreement. While consolidation efforts require careful planning and high levels of trust among partners, they offer the economies of scale to efficiently and effectively operate the system with a larger customer base.

Legal/Regulatory Action. When a utility is unable to address longterm viability issues with the available technical and financial assistance resources, formal legal and/or regulatory action may be



South Carolina Water Utility Forum Feedback

required to protect public health and the environment. Addressing concerns before they become severe enough to necessitate regulatory actions usually allows a community to have more control over the solutions. This strategy is aimed at limiting the number of utilities that fall into this category.

RECOMMENDATION 2: COORDINATION OF ASSISTANCE

Many utilities that have identified viability concerns will need handson technical assistance to identify and implement the appropriate solutions. Several different organizations currently provide technical assistance to many

utilities across the state, but not all utility leaders are aware of the range of resources that exist. Coordination among technical assistance providers and other stakeholders could make it simpler for utilities to seek help to resolve viability issues. It could also lead to more efficient provision of assistance.

To achieve this type of coordination, it is recommended to organize a South Carolina Viability Assistance Network (SC VAN), a voluntary group that would be jointly coordinated by RIA and the Office of Rural Water at SCDHEC. As a first step in the establishment of this network. it is suggested that the roles and responsibilities of each member



Recommended Initial SC VAN Member Organizations:

- Rural Infrastructure Authority
- South Carolina
 Department of Health
 and Environmental
 Control-Office of Rural
 Water
- South Carolina Rural Water Association
- Southeast Rural
 Community Assistance
 Project
- Municipal Association of South Carolina
- South Carolina
 Association of Counties
- South Carolina Councils of Government
- South Carolina Section
 of the American Water
 Works Association/
 Water Environment
 Association of South
 Carolina
- South Carolina
 Association of Special
 Purpose Districts

organization be defined to avoid duplication of effort and to provide clarity of activities related to proactive viability assistance.

The SC VAN would expand upon the important work of various collaborative groups that have been formed in the state to address specific utility issues, such as the Infrastructure Funders Coordinating Committee organized by RIA and the Technical Advisory Committees organized by SCDHEC. The goal of the SC VAN would be to collaborate on early intervention to address viability issues, including the coordination and identification of technical assistance resources. As an informal group, it would have no authority to make funding or regulatory decisions, but would be focused on coordinating resources and facilitating collaborative solutions.

To maximize effective coordination, it is proposed that the members of this network meet on a regular schedule throughout the year to collaborate, discuss viability issues identified throughout the state, and develop a coordinated plan of action for providing the necessary technical assistance to struggling utilities through existing programs and resources. The SC VAN could

also identify additional needs and develop new resources and/or programs to successfully address utility viability in South Carolina. During the forum, feedback was provided on the need for more training opportunities. For example, participants expressed an interest in resources that would help governing body members make informed policy choices for utilities. The SC VAN may use this type of feedback to recommend expansion of existing training and assist with development of common curricula and new programs that will be most impactful in addressing viability. South Carolina utilities are fortunate in that there are already numerous training and technical resources available throughout the state; however, those utilities that are most vulnerable to becoming non-viable may also be the ones that are not aware of these resources, don't know how to access them or don't know which ones may be able to help them with their specific issues. This is where the SC VAN can have a significant impact.

The work of this group would not interfere with the normal functions of its member agencies and organizations but rather would allow for routine collaboration and direction of resources when utilities

OPERATOR LICENSE

FUTURE PLANNING
AVENUES
AVENUES
ASSESSING RATE STRUCTURES
CERTIFICATION COMMUNITY
ASSING COLLEGES

OBJECT

PASSING COLLEGES

OBJECT

PASSING COLLEGES

OBJECT

OBJECT

OBJECT

OPERATOR LICENSE

RATHER
TESTS

JOB IMPLEMENT

PASSING COLLEGES

OBJECT

OBJE

What types of technical assistance/ training do water/ wastewater systems need more of in SC?

are identified as having viability issues. Each of the proposed partners has varying levels and types of assistance that they can provide and coordination between these groups can maximize the impact and reach of their efforts. An overview of the state's technical assistance/training resource organizations is included in Appendix E.

The SC VAN could also provide input to funding agencies regarding the allocation of funding resources in support of long-term viability solutions. This insight could amplify the success of the current coordination among the state's funding agencies in distributing limited funds effectively and efficiently.

As a part of this network, SCDHEC could use the viability indicator tool and resources to enhance its existing efforts to address viability concerns.

SCDHEC has the authority to take legal action to protect public health and the environment, but existing processes provide opportunities to proactively support struggling utilities before legal action is necessary.

State law gives SCDHEC the ability to consider viability in permitting decisions. The agency may revoke the operating permit of any drinking water utility that cannot demonstrate viability or deny a permit for a new drinking water system if a connection to an existing viable system is feasible. Agency regulations include a similar viability requirement for wastewater permits. As part of the permit approval

process for any new drinking water system, including the transfer of a system to a new owner, a business plan must be submitted to SCDHEC.

With representation on the SC VAN, SCDHEC would be kept aware of viability issues that may be relevant to a permit application. The viability indicators, through the new tool, may also inform the permitting processes, as appropriate.

In addition to these regulatory requirements, there are existing, federally-mandated programs that help to strengthen water utilities across the state. The 208 Water Quality Management Planning process involves regional wastewater management plans that establish the wastewater infrastructure needs and future plans for a region of the state. Any proposed National Pollutant Discharge Elimination System (NPDES) permit must be certified as in conformance with the 208 Plan for its region before being issued. In South Carolina, six of the COGs are the delegated 208 planning agencies for their respective regions, with SCDHEC covering the remaining 22 counties in the state. (*Figure 3-1*) Through the 208 planning process, SCDHEC specifically encourages the consolidation of wastewater treatment facilities, where possible.

SCDHEC also has a Capacity Development Strategy that is designed to work proactively to support the viability of public drinking water systems, which is a requirement of the federal Safe Drinking Water Act. The Capacity

The Department may deny a construction permit to any new system which is unable to demonstrate viability to comply with the Safe Drinking Water Act or where connection to an existing, viable water system is feasible. The Department also may revoke or deny renewal of an operating permit to any existing water system which is unable to demonstrate its ability to continue compliance with this Act.

- State Safe Drinking Water Act, SC Code Ann. § 44-55-120





Figure 3-1: SCDHEC/SC COG 208 Planning Agencies



Development Strategy includes a number of goals that could be supported by the SC VAN, including:

- Ensuring that new systems demonstrate capacity to be viable
- Encouraging and facilitating the consolidation and regionalization of public water systems
- Encouraging and facilitating the local planning process and coordination between state and local governments
- Supporting education initiatives for improving the technical, managerial and financial capacity of public water systems

The viability indicator tool also could be used by DHEC to proactively engage systems in decisions about how to improve viability and why it is important. For example, the tool or the indicators could be integrated into the normal utility inspection process in order

to facilitate routine conversations with utilities about viability. The tool could also become a resource for SCDHEC enforcement programs.

RECOMMENDATION 3: LEVERAGING PARTNERSHIPS

Through feedback received during the study and at the forum, several potential new partnership opportunities were identified. The SC VAN could assess these and provide recommendations about pursuing them.

Sister Utilities Program

This would be a type of peer-to-peer assistance that provides a vehicle for smaller utilities to engage with larger utilities around issues with which they are struggling. It may be developed similar to a mentoring program where participating utilities are matched based on the type of assistance needed as well as geographic location. This would be a voluntary program but is a powerful tool for strengthening partnerships and can be thought of as a SC Water/ Wastewater Agency Response Network (WARN) for viability.

Regional Coordination Groups

Peer-to-peer assistance groups could be established within each COG region. These groups would bring utility managers and staff together on a regular basis to collaborate and provide training or direct assistance to neighboring communities. This could provide a direct conduit for identifying regional partnership opportunities and promote additional regional collaboration and problem-solving.

Feedback from the Utility Viability Forum demonstrated that there was strong support for these types of peer-to-peer assistance opportunities and most in attendance would participate.

Water Utility Institute

This recommendation involves development of a specific training program aimed at board members and elected officials to educate them about basic utility concepts such that they can make more informed decisions on water utility infrastructure matters in the communities they serve. Often these individuals are the first to formally review utility financial information and make budget and utility rate decisions. Providing them with a basic understanding of what they should be looking for and what impacts may arise from their decisions may improve the effectiveness of utility governance. The SC VAN could oversee the development of a standard curriculum such that any of the

What obstacles do you (or a system you work with) face when adjusting rates?

FIXED INCOME INDIVIDUALS **POLITICAL IMPLICATIONS** POLITICAL PRESSURE POLITICS OF RATE INCREASES POLITICAL RESISTANCE CUSTOMER OBJECTIONS **KEEPING RATES AFFORDABLE** EXPLAINING WHY INFLATION CUSTOMERS ALOT LOW INCOME CUSTOMERS POLITICAL CONCERNS RAT THE BOARD S POLITICAL MHI CUSTOMER PUBLIC IMAGE THE PUBLIC YES BOARD AGREEMENT ENOUGH ADJUSTING INEQUITY EQUITY GROWING TOO FAST FINANCIAL LITERACY CUSTOMER COMPLAINTS AFFORDABILITY FOR RESIDENTS

South Carolina Water Utility Forum Feedback

resource partners can integrate it into their training programs, but it would be the same information statewide.

Participants at the forum overwhelmingly supported this type of targeted training and cited political challenges as being one of the primary obstacles to rate adjustments.

Rapid Assessment Partnerships

When a utility has identified viability issues, some quick and targeted assessments may help to accurately determine what type of assistance may be needed. While existing resource partners can assist with some assessments, there may be situations where other types of assistance and expertise may be needed. It is recommended to utilize the SC VAN to develop additional assistance partnerships over time in order to expand opportunities for proactive viability assistance.

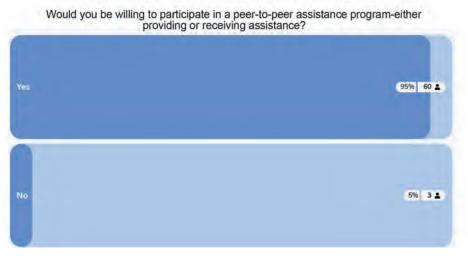
One such partnership opportunity may be the development of a SC Community Engineering Corps. This would be a group of engineering professionals who donate their time to provide limited engineering assistance to utilities that are facing viability issues. An example of a similar program is the AWWA Community Engineering Corps, which is a partnership

between AWWA, Engineers Without Borders-USA and the American Society of Civil Engineers (ASCE).¹⁸ This program could be used as a model or potentially even adopted through the SCAWWA. Considerations around this opportunity are professional insurance requirements and coordination with state licensing boards to allow professional development credit for licensure requirements.

Another opportunity could be to develop partnerships with state universities and technical colleges. Many of these institutions have student groups or organizations that can provide cost-effective

assistance while also offering training opportunities to the next generation of water industry professionals. An example of this type of group is Clemson University's Clemson Engineers for Developing Countries. 19 While this organization was started to provide inter-disciplinary communitybased solutions for communities in developing countries, it is now also focusing this same type of assistance in economically challenged communities of South Carolina.

Workforce issues, specifically finding and retaining licensed operators, were also identified as a challenge facing all utilities



South Carolina Water Utility Forum Feedback

https://www.awwa.org/Water-Equation/What-We-Fund/Community-Engineers-Corps-Projects

¹⁹ https://cecas.clemson.edu/cedc/



through surveys and during the forum but these issues are particularly impactful to small utilities. They often cannot pay the same wages as larger utilities, and many are located in rural areas where it is more difficult to attract a sufficient number of qualified staff. Partnerships with technical colleges, high schools, and utilities themselves can also be leveraged to address these significant workforce development challenges facing utilities, especially smaller utilities, through operator training or apprenticeship programs. Several of the professional associations and technical assistance providers that are recommended to be a part of this network are looking at these opportunities and coordinated efforts may yield more effective results. Evaluations of specific operator requirements needed for viable system operations based on type of system or treatment facilities could also be included in rapid assessments, technical assistance and training resources. This would give struggling utilities a road map for long-term staffing needs or provide identification of operational partnership opportunities.

In addition to technical and operational needs, utilities facing non-viability are also often struggling with legal and financial issues. Similar to engineering resources, legal and financial resource partnerships may be developed to address these specific needs. Coordination through utility law and financial firms as well as professional organizations, such as the Government Finance Officers Association of South Carolina



(GFOASC) could be used to identify these opportunities. Considerations around this requirement also involve professional insurance requirements and coordination with state licensing boards to allow professional development credit for licensure requirements.

RECOMMENDATION 4:TARGETED FINANCIAL ASSISTANCE

In surveys conducted as part of this study and feedback from the forum along with surveys and reports from across the country, funding is consistently named as one of the greatest challenges in tackling utility viability. The reason is simple – the utilities struggling with viability are also unable to fund necessary improvements; are solely dependent on grants because they cannot qualify for loans; and, have smaller customer bases with lower incomes such that rate increases to fund improvements would be unaffordable. On the other hand, utilities that are viable are reluctant to be a part of a regional solution until they have an idea of the magnitude of the improvements needed and are concerned about the effect the cost of those improvements will have on their

current customers' rates.

While funding alone will not solve these problems, utilizing the components of this strategy - such as first leveraging regional partnerships for cooperative agreements or consolidation options, and then applying targeted funding based on a consistent approach - can create opportunities for improvement. This may include using conditional funding for improvements within a non-viable system to facilitate a regional solution.

PLANNING ASSISTANCE PROGRAMS

In most cases where viability issues exist, a utility has not undertaken or has been unable to fund basic planning studies to understand the true need and its cost. These studies are necessary to establish the next steps for utility viability improvement and may include such activities as:

Asset management planning.

Many smaller utilities do not have an accurate accounting of the location of their infrastructure assets or of their condition. Knowing these things is important in



determining the magnitude of need for improvements and where those improvements should be focused for the greatest impact.

Rate studies/rate setting. Effective rate setting is an important part of a utility's financial health. Many smaller utilities have never undertaken a formal rate study to determine what structure would be most beneficial for their specific situation. This type of study may also be needed when utilities are looking at regional partnerships or consolidations.

Capital improvement planning.

This type of planning process is a natural next step and tied to asset management planning. It allows a utility to forecast infrastructure needs for a specific planning window (usually 5 – 10 years for highest accuracy) such that they can be budgeted annually and figured into rate adjustments.

Regional feasibility studies. These studies evaluate the opportunities and challenges associated with a regional partnership or consolidation and include budget-level costs for implementation and identification of potential challenges that will need to be addressed for success. Because

of socio-economic challenges, some utilities may find that a regional partnership is the most feasible solution. Exploring such options and the steps needed to achieve them is the focus of these studies. They can include components of the other planning studies outlined or those studies may be identified as being necessary before a regional solution can be implemented.

RIA initiated a pilot planning assistance program in September 2021. The SC General Assembly provided \$3.5M in non-recurring funding to RIA for specific regional purposes, of which \$1M was allocated for planning studies that include a regional component/ alternative. Data on this pilot funding program can be assimilated and shared with state elected officials so that it can be expanded and/ or modified, as needed, to fund the identified viability planning activities. In addition to this new RIA planning program, the SRF programs also allow funding of planning activities for disadvantaged communities that do not qualify for loans. These plans can ultimately lead to a specific project that can be submitted for additional funding from any of the funding agencies.

IMPLEMENTATION ASSISTANCE PROGRAMS

Once needs have been identified through appropriate planning studies, implementation assistance may be necessary. These funding programs are those targeted for capital improvements that will lead to long-term viability or that are necessary to implement regional solutions, to include consolidation. These implementation assistance

programs may be through existing funding programs or new programs may be established. Many existing funding programs already prioritize projects that implement regional solutions. For example, both the Clean Water SRF and Drinking Water SRF priority ranking systems award points for projects that will implement regional solutions and the RIA Basic Infrastructure Grant Program Strategy includes regional solutions as a top funding priority.

These existing funding opportunities can be leveraged through this strategy where a regional solution is identified as the best option for a non-viable utility.

In order to better support progress toward long-term viability goals, state funding programs could consider a consistent funding approach with the advice of the SC Infrastructure Funders Coordinating Committee and the SC VAN. This approach could involve:

- Including viability indicators in funding applications and priorities
- Incentivizing regionalization where appropriate
- Strengthening conditions of assistance to promote viability
- Evaluating potential for new programs of assistance



LONG-TERM VIABILITY STRATEGY CONSIDERATIONS

Many of the recommended elements of this strategy will take years to implement; therefore, it is recommended that the strategy be reviewed and adapted as more information and data is collected. There also may be changes to state law or policy that can facilitate this effort as the strategy matures. Finally, funding will remain one of the most important factors for the long-term successful implementation of this strategy.

VIABILITY STRATEGY REVIEW AND UPDATES

It is proposed that the successes and short-comings of the initial strategy implementation be reviewed on at least a bi-annual basis. This can ensure that the strategy remains relevant, and that new information can be incorporated in a timely manner.

STATE LAW REVIEW AND AMENDMENTS

Currently, there are nine primary legal organizational options available for forming, reorganizing and/or consolidating utility systems in South Carolina. These are provided in *Appendix F*. No additional organizational models are needed at this time; however, there is some debate on the processes units of local government are required to follow in order to sell or relinquish their system to another entity.

There are three SC Statutes that speak to this:



- SC Code Ann. § 5-31-620 –
 Requires that the sale of a
 municipal utility must be
 approved by local referendum.
- SC Code Ann. § 5-31-1310 –
 Requires that the sale of a
 municipal "electric light plant"
 and/or water system must be
 approved by local referendum.
- 3. SC Code Ann. § 5-7-40 (Home Rule Act) Authorizes municipalities to sell utilities without referendum.

A recent SC Supreme Court case, Sojourner v. Town of St. George, ruled that the provisions of the Home Rule Act (SC Code Ann. § 5-7-40) gives a municipality the authority to sell the wastewater system without a referendum. The ruling spoke to only wastewater systems and did not cite the additional statute, SC Code Ann. § 5-31-1310, which speaks to water systems. For this reason, there are legal opinions that, while the sale of wastewater systems can now be completed without a referendum, the sale of a municipality's water system would still require one to be executed.

This leaves room for legal interpretation. As such, the use of a referendum is not consistently applied in every case. This issue may need to be addressed or clarified in future legislation to remove any perceived impediments for cooperative regionalization/ consolidation efforts to address nonviable utilities.

As this strategy is implemented, it may also be necessary to explore specific utility viability legislation that can build upon the existing regulatory mechanisms that are in place, but provide more legal support for addressing non-viable utilities. Such a law would provide specific legal parameters and mechanisms for addressing nonviable utilities, which would provide additional enforcement powers the state can use to supplement existing regulatory authority. Most importantly, this type of legislation could provide a vehicle for funding of utility viability programs in South Carolina. An example of this is the North Carolina Viable Utility Reserve Legislation, Session Law 2020-79, which was signed

by Governor Cooper in July of 2020.20 This legislation established criteria for determining 'distressed' utilities and a separate fund to provide planning and project implementation grants to these utilities to address viability issues.

STATE POLICY REVIEW/ **AMENDMENTS**

Municipal and county governments are required to submit their annual audits to the SC Treasurer. SPDs must submit their audits to their county auditor and provide limited financial information to the Secretary of State. Currently, no one conducts a formal, systematic review of those audits once they are collected, except for specific components required by statute, such as significant findings related to court fine reports. Private, non-profits also complete audits but they are not required to be submitted to the state. However, a utility's financial information may be reviewed as part of a funding application. In the future, there could be an expansion of the required audit reviews based on the financial viability indicators such that significant financial issues could be identified sooner.

RECURRING FUNDING

Adequate funding for addressing viability issues across the state will continue to be one of the biggest challenges in the future. In fact, funding for water infrastructure in general is a challenge not only in South Carolina but also across the nation. In addition to the substantial need for costly capital investments, funding is needed to provide technical assistance and training in utility management best practices. Many small or struggling utilities would also benefit from increased access to funds for planning activities that would help them identify the best route to viability.

The significant amount of funding made available for water infrastructure projects in 2021 through the American Rescue Plan Act and the Infrastructure Investment and Jobs Act has the potential to transform water infrastructure in South Carolina. This funding will primarily be directed to capital investment, although a portion may be available for planning needs.

But even these historic funding initiatives will not change the fact that most local infrastructure funding comes from non-federal sources. According to the recently released ASCE 2021 Infrastructure Scorecard, federal funding of local infrastructure needs accounts for only approximately 25% of the total investment, with the remaining 75% coming from state and local resources.²² This means that future funding of programs associated with this strategy will come primarily from South Carolina resources.

Since state and local sources comprise the majority of the funding for infrastructure needs across the country, the way these funds are generated has an impact on the total amount of funding available. Outside of SRF programs many states use statewide general obligation or special revenue bonds to fund water infrastructure needs in their states. North Carolina has used this process on two occasions in the last 20 years, with the latest being the \$2 billion Connect NC Bond in 2016, that allocated nearly \$300 million for water and wastewater infrastructure.



https://www.ncleg.gov/EnactedLegislation/SessionLaws/PDF/2019-2020/SL2020-79.pdf

https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40/

²² https://infrastructurereportcard.org/



A 2017 report by Jersey Water Works identified 14 states that had raised an average of \$200 million in new annual funding for water infrastructure projects. ²³ The majority of these funds were generated through bond programs, which may be an avenue in South Carolina for funding construction of infrastructure that strengthens the viability of water utilities. This has been successfully implemented in parts of the state through local sales tax initiatives for specific projects, to include infrastructure.

Regardless of the mechanism for generating the funds, funding advocacy efforts should be coordinated such that reliable funding can be secured to support the goal of long-term viability for the state's water infrastructure. Data should be collected through the implementation of this strategy and shared with state elected officials in demonstration of the continued water and wastewater needs.

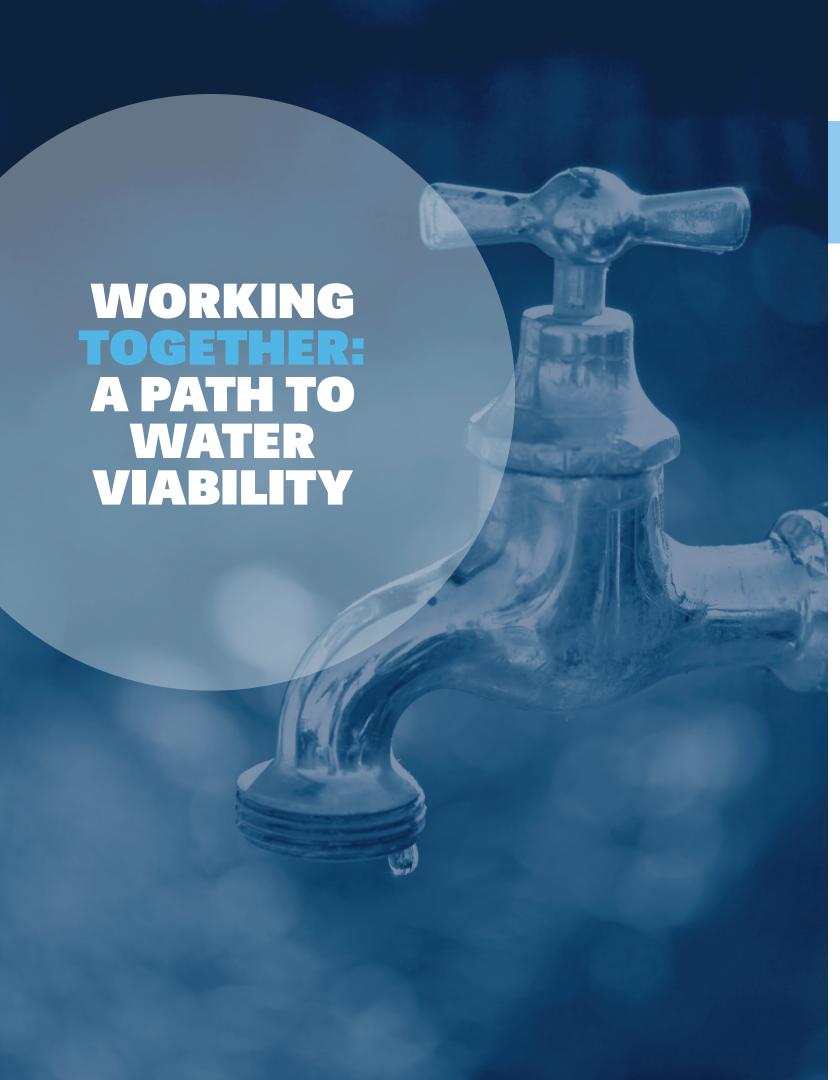






While this report is the culmination of the assessment of the viability of South Carolina's water and wastewater utilities, the recommended strategies merely lay the foundation for addressing this issue in a proactive and targeted manner. The state's water and wastewater stakeholders are engaged and ready to work together to address the significant viability challenges faced by many utilities in South Carolina. A focus on available data, existing partnerships and collaborative initiatives will help to ensure the viability of critical water and wastewater utilities across the state.





APPENDICES



APPENDIX A: BASIC DATA ATTRIBUTES

Chart 2-1: Basic Demographic Data Attributes

| General Information | Primary Source(s) |
|--|--|
| SCDHEC Region/COG Region/County Economic Tiers | Based on County |
| County Name | 2019 ACS 5-Year Estimates USEPA Envirofacts |
| City/Town Name with County | 2019 ACS 5-Year Estimates USEPA Envirofacts |
| County/City/Town Population | 2019 ACS 5-Year Estimates |
| County/City/Town Percent Population Change | 2019 ACS 5-Year Estimates |
| County/City/Town Population/Square Mile | 2019 ACS 5-Year Estimates |
| 2035 County Population Projections | SC Office of Revenue & Fiscal Affairs |
| County/City/Town Median Household Income | 2019 ACS 5-Year Estimates |
| County/City/Town Poverty Rate | 2019 ACS 5-Year Estimates |
| County Unemployment Rate | SC Department of Employment & Workforce |

Chart 2-2: Water & Wastewater System Data Attributes

| Water System Information | Wastewater System Information | Primary Source(s) |
|--|---|--|
| System Name | System Name | SCDHEC USEPA Envirofacts |
| County/City/Town | County/City/Town | SCDHEC USEPA Envirofacts |
| Entity Type Govt/CPW/SPD/Other/Non-Profit | Entity Type Govt/CPW/SPD/Other/Non-Profit | SCDHEC USEPA Envirofacts |
| SCDHEC System ID | SCDHEC System ID | SCDHEC USEPA Envirofacts |
| Water Source Type GW/GW Purchase/SW/SW Purchase | Permit Type NPDES/ND/Collection | SCDHEC |
| Service Population | Service Population | SCDHEC USEPA Envirofacts |
| Number of Connections | Number of Connections | SCDHEC USEPA Envirofacts |
| Number of Unsatisfactory Sanitary Surveys | Number of Unsatisfactory Compliance Inspections | SCDHEC |
| Number of Notices of Violation | Number of Sanitary Sewer Overflows | SCDHEC |
| Number of Enforcement Orders | Number of Enforcement Orders | SCDHEC |
| Average Structure Age (for System Age Estimate) | Average Structure Age (for System Age Estimate) | SCDHEC Census |
| Rates | Rates | AWWA/Raftelis |
| Capital Needs | Capital Needs | SCDHEC USEPA Needs Surveys |
| Rate/5,000 gal. | Rate/5,000 gal | RIA SCRWA AWWA/Raftelis Rate Survey |
| Completed Audits | Completed Audits | SC Treasurer's Office |
| Funding Requested/Obtained | Funding Requested/Obtained | RIA SCDHEC SC-CDBG EDA ¹ |

The information provided by these funding agencies included some amounts of USDA funding for co-funded projects, but it was not inclusive of all USDA funding for water infrastructure projects in the state. USDA did not provide funding information directly.

APPENDIX B: FINANCIAL VIABILITY INDICATOR FORMULAS

The following formulas are provided such that the financial indicators can be easily utilized by all stakeholders involved in the implementation of this strategy to verify the financial health of a utility. These formulas and instructions on where to find the required information should also be incorporated into the Viability Indicator Tool.

DEBT SERVICE COVERAGE

Operating Revenues — Operating Expenses (Excluding Depreciation) Annual Debt Service Payments

Debt Service Coverage is calculated as current-year operating revenues available for debt service divided by currentyear total debt service. This indicates the financial margin to meet current total annual debt services with current revenues available for debt service.

DAYS CASH ON HAND

Unrestricted Cash & Investments - x 365 Operating Expenses (Excluding Depreciation)

Days Cash on Hand is determined as current unrestricted cash and investments divided by operating expenditures minus depreciation, multiplied by 365. Days Cash on Hand indicates financial flexibility to pay near-term obligations.

TOTAL OUTSTANDING DEBT TO NET PLANT ASSETS

Total Outstanding Long Term Debt Book Value of Fixed Assets (Original Cost - Accumulated Depreciation)

Total Outstanding Debt to Net Plant Assets is calculated as the total amount of utility long-term debt divided by the net asset value of the plant (original cost less accumulated depreciation). This indicates existing debt leverage of capital assets.

ASSET CONDITION

Book Value of Fixed Assets Annual Depreciation Expense

Asset Condition is calculated as net fixed assets (original cost less accumulated depreciation) divided by annual depreciation expense. This ratio indicates the blended remaining useful life of existing fixed assets.



FREE CASH FLOW AS PERCENTAGE OF DEPRECIATION

Free Cash Flow

(Revenues-O&M (Excl.Depreciation) — Debt Service (P&I) — Transfers out)

Annual Depreciation Expense

Free Cash Flow as Percentage of Depreciation is determined as current surplus revenues after payment of operating expenses, debt service, and operating transfers out divided by current-year depreciation. This ratio indicates annual financial capacity to maintain facilities at current level of service from existing cash flows.

CHANGE IN NET ASSETS

Change in Net Assets (also called Net Income) is reported in an entity's Statement of Revenues, Expenditures, and Change in Net Assets (also known as the Income Statement). Change in Net Assets indicates the ability to meet financial obligations on an ongoing/accrual financial basis.

ANNUAL BILL AS PERCENTAGE OF MHI

Total Annual Typical Water and Sewer Bill

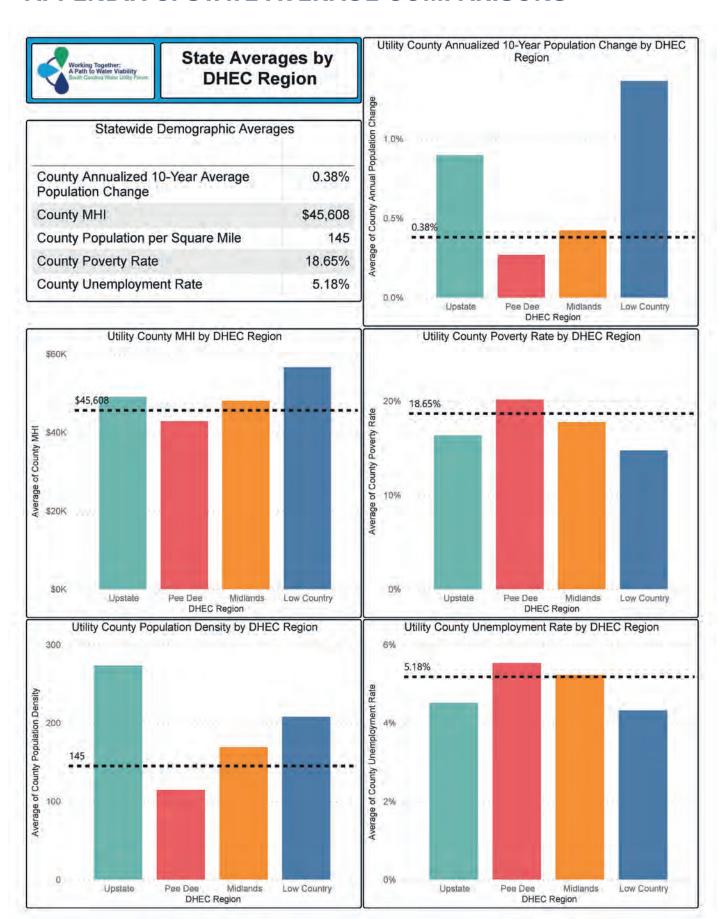
Annual Median Household Income for Service Area

Annual Bill as Percentage of MHI is calculated by dividing the total annual water and sewer bill for a typical household by the annual MHI for the service area. For this study, typical household bills are calculated using a utility's rates for water and sewer service to a household using 5,000 gallons of water per month. Utilities that provide only one of those services should calculate the combined water and sewer cost using the rates of the other utility serving the same area or the state average bill for the other service. MHI for municipalities and counties is reported as part of US Census and American Community Survey data. The municipality or county that most closely matches the utility's service area should be chosen for the purposes of this calculation. This metric is a general measurement of the affordability of water/sewer service.

STATE BILL COMPARISON

This metric is a comparison of a utility's rates to those for utilities across the state. Specifically, the annual RIA rate survey data could be used to identify the 80th percentile annual bills for water and sewer - that is, the level that 80% of utilities in the state fall below. Each utility could compare their annual bills to this number to determine whether their rates are in the top 20% in the state.

APPENDIX C: STATE AVERAGE COMPARISONS

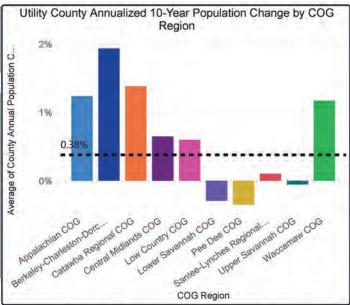


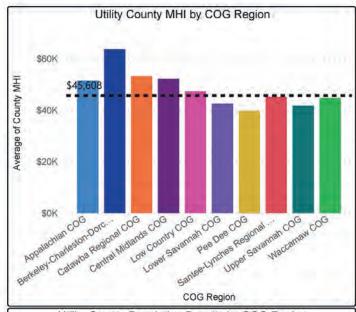


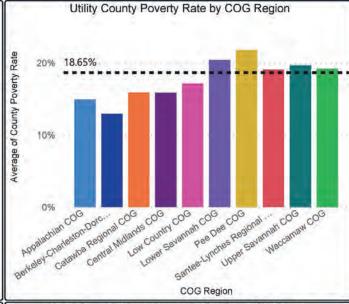


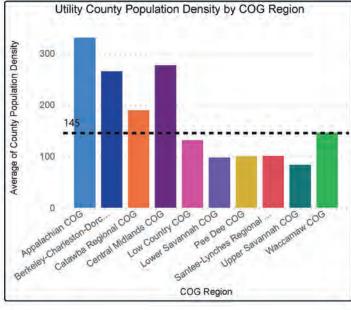
State Averages by COG Region

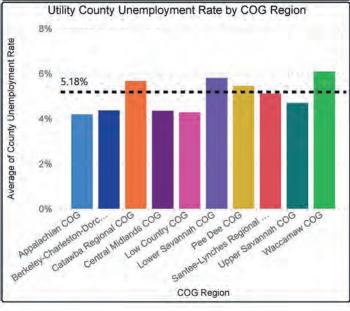
| Statewide Demographic Averages | | |
|--|----------|--|
| County Annualized 10-Year Average Population Change | 0.38% | |
| County MHI | \$45,608 | |
| County Population per Square Mile | 145 | |
| County Poverty Rate | 18.65% | |
| County Unemployment Rate | 5.18% | |







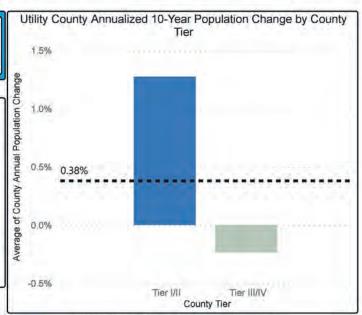


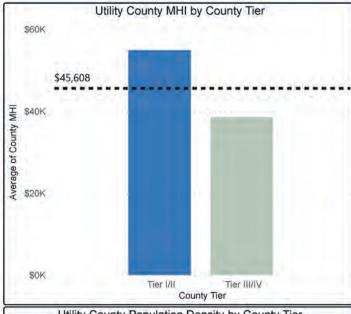


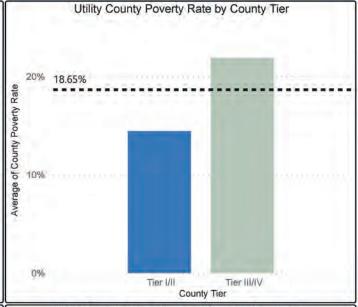


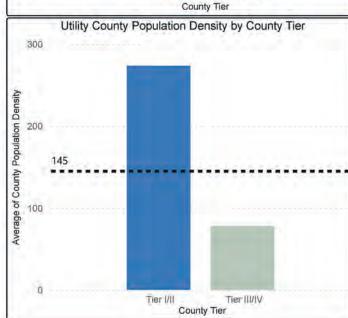
State Averages by **County Tier**

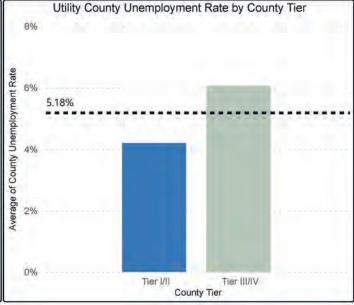
| Statewide Demographic Averages | |
|--|----------|
| County Annualized 10-Year Average Population Change | 0.38% |
| County MHI | \$45,608 |
| County Population per Square Mile | 145 |
| County Poverty Rate | 18.65% |
| County Unemployment Rate | 5.18% |
| | |









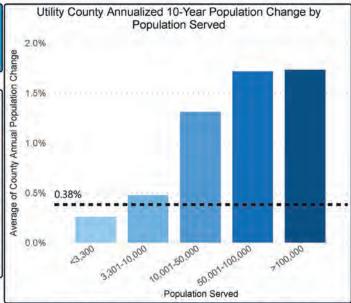


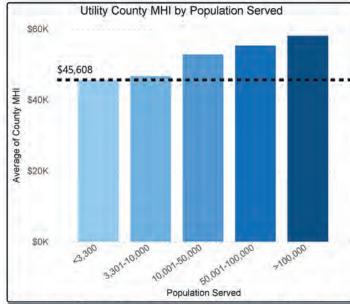


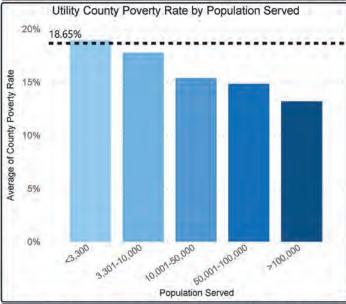


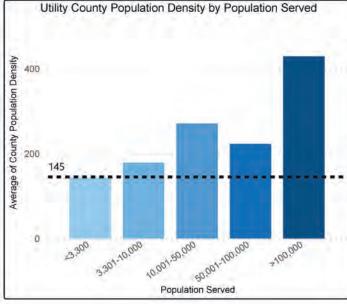
State Averages by Population Served

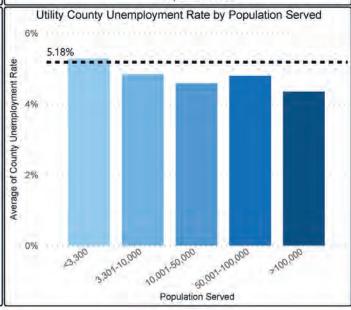
| Statewide Demographic Averages | |
|--|----------|
| County Annualized 10-Year Average Population Change | 0.38% |
| County MHI | \$45,608 |
| County Population per Square Mile | 145 |
| County Poverty Rate | 18.65% |
| County Unemployment Rate | 5.18% |











APPENDIX D: VIABILITY TOOLKIT

UTILITY SELF-ASSESSMENT TOOLS & RESOURCES

The following is a list of tools that utilities can use to complete a viability self-assessment. Additional tools may be added through the implementation of the Statewide Utility Viability Strategy.

| Resource Tool | Provider | Resource Link |
|--------------------------------------|---|--|
| SC Utility Viability Tool | RIA | Link to be added when uploaded to central website |
| Financial Checkup | Environmental Finance Center | https://efc.sog.unc.edu/resource/financial-health-checkup-water-utilities/ |
| Capital Improvement Planning Tool | Environmental Finance Center | https://efc.sog.unc.edu/resource/plan-pay-scenarios-fund-your-capital-improvement-plan/ |
| Rate Evaluation | SCAWWA Small Systems Training (Powdersville Water) | Link to be added when uploaded to central website |
| Utility Sustainability Assessment | SCDHEC-Bureau of Water | https://scdhec.gov/sites/default/files/media/document/ Utility%20Sustainability%20Assessment%20%28D- 0574%29_0.pdf |
| cMOM Self-Assessment Checklist | USEPA | https://www3.epa.gov/npdes/pubs/cmomselfreview.pdf |

TECHNICAL ASSISTANCE TOOLS & RESOURCES

The following is a list of the primary technical assistance providers for water and wastewater utilities in South Carolina. This list is not meant to be exhaustive and may be amended as the Statewide Utility Viability Strategy is implemented.

| Provider | Primary Focus | Resource Link |
|------------|--|---|
| SCDHEC-ORW | Small System Technical Assistance | https://scdhec.gov/BOW/office-rural-water |
| SCRWA | Technical Assistance, Training, Funding Support | https://www.scrwa.org/ |
| SERCAP | Technical Assistance, Training, Funding Support, Direct Funding Assistance | https://sercap.org/about/locations/south-carolina |

TRAINING TOOLS & RESOURCES

The following is a list of primary training/resource tools on a wide variety of subjects related to the technical and managerial capacity of utility systems. This list is not exhaustive and many of the resource providers have additional training/materials available on their respective websites. This list may be amended as the Statewide Utility Viability Strategy is implemented. Note: Additional training tools are available for purchase through multiple associations.

| | - v | |
|--------------------------------------|---------------|--|
| Resource Tool | Provider | Resource Link |
| Training (Various Subjects) | SCRWA | https://www.scrwa.org/class-descriptions.html |
| Training (Various Subjects) | SCAWWA/ WEASC | https://www.scwaters.org/events/event_list.asp |
| BOARD/ELECTED OFFICIAL RESOURCES | | |
| Municipal Elected Officials Training | MASC | https://www.masc.sc/education-events/online- training/municipal-elected-officials-institute-of- government |
| County Elected Officials Training | SCAC | https://www.sccounties.org/education-and- training |



| Resource Tool | Provider | Resource Link |
|--|--------------------------------|---|
| Board & Elected Officials Roles, Responsibilities & Policy Development | RCAP | https://www.rcap.org/managerialfinancialhub/board-elected-official-roles-responsibilities-policy-development/ |
| V | ORKFORCE DEVELOPMENT RE | ESOURCES |
| Workforce Development | USEPA | https://www.epa.gov/dwcapacity/learn-about- workforce-issues |
| Workforce Development & Planning | RCAP | https://www.rcap.org/managerialfinancialhub/workforce-development-planning/ |
| Operator Training & Resources | WaterOperator.org | https://wateroperator.org/library |
| UTILI | TY OPERATIONS/MANAGEMEN | IT RESOURCES |
| Technical, Managerial & Financial Capacity Resources for Small Drinking Water Systems | US EPA | https://www.epa.gov/dwcapacity/technical- managerial-and-financial-tmf-capacity- resources-small-drinking-water-systems |
| Simple Tools for Effective Drinking Water Utility Performance | US EPA | https://www.epa.gov/dwcapacity/simple-tools- effective-performance-step-guide-series |
| Tools for Water and Wastewater Utility Management | US EPA | https://www.epa.gov/sustainable-water- infrastructure/tools-effective-water-and- wastewater-utility-management |
| Tools, Training & Assistance for Small and Rural Wastewater Systems (Tools & Training Videos) | US EPA | https://www.epa.gov/small-and-rural- wastewater-systems/tools-training-and- technical-assistance-small-and-rural |
| Moving Toward Sustainability: Sustainable & Effective Practices for Creating Your Own Water Utility Road Map | US EPA | https://www.epa.gov/sites/default/files/2018-11/documents/eum_practices_roadmap_final_508-10-2018.pdf |
| Effective Utility Management Resources | US EPA, et.al. | https://www.epa.gov/sustainable-water- infrastructure/effective-water-utility- management-practices |
| Sustainable Utility Management | RCAP | https://www.rcap.org/managerialfinancialhub/ sustainable-utility-management/ |
| Rural & Small Systems Guidebook to Sustainable Utility Management | USDA/ US EPA | https://www.rd.usda.gov/files/ RuralandSmallSystemsGuidebook2016.pdf |
| Workshop in a Box: Sustainable Management of Rural & Small Systems | USDA/US EPA | https://www.rd.usda.gov/programs-services/ services/sustainable-management-tools |
| Asset Management Tools & Resources | US EPA | https://www.epa.gov/dwcapacity/interactive- tools-owners-and-operators |
| Small, Rural Water & Wastewater System Asset Management | RCAP | https://www.rcap.org/managerialfinancialhub/asset-management/ |
| Mapping | RCAP | https://www.rcap.org/managerialfinancialhub/mapping/ |
| Regionalization/Partnerships | RCAP | https://www.rcap.org/managerialfinancialhub/regionalization-partnerships/ |
| Water Loss Control | RCAP | https://www.rcap.org/managerialfinancialhub/ water-loss-control/ |
| Water Audit Software | AWWA | https://www.awwa.org/Resources-Tools/ Resource-Topics/Water-Loss-Control/Free- Water-Audit-Software |
| Security, Resiliency & Emergency Response Planning | RCAP | https://www.rcap.org/managerialfinancialhub/ security-resiliency-emergency-response- planning/ |
| Water & Wastewater Regulatory Information | SCDHEC-Bureau of Water | https://scdhec.gov/bow |
| Local Government Environmental Assistance Network | Environmental Law Institute | https://www.lgean.net/ |

| Resource Tool | Provider | Resource Link |
|---------------------------------|------------------------|--|
| Water System Viability Guidance | SCDHEC-Bureau of Water | https://scdhec.gov/sites/default/files/docs/ Environment/docs/viability.pdf |
| 208 Water Quality Planning | SCDHEC-Bureau of Water | https://scdhec.gov/bow/208-wastewater-water- quality-management |

RATES & FINANCE TOOLS & RESOURCES

The following is a list of rate and financial tools to support the financial capacity for utility systems. This list may be amended as the Statewide Utility Viability Strategy is implemented.

| Resource Tool | Provider | Resource Link |
|---|---------------------------------|---|
| Multiple Financial & Rate Resources & Tools | Environmental Finance Center | https://efc.sog.unc.edu/topic-area/water- finance/ |
| SC Rates Dashboard | Environmental Finance Center | https://efc.sog.unc.edu/resource/south-carolina- water-and-wastewater-rates-dashboard/ |
| Capital Improvement Planning Tool | Environmental Finance Center | https://efc.sog.unc.edu/resource/plan-pay- scenarios-fund-your-capital-improvement-plan/ |
| SC Water & Sewer Rates | RIA | https://ria.sc.gov/resources/forms-documents/ |
| The 4-1-1 on Financing: Strategies & Support for Small Water & Wastewater Systems (podcast) | Environmental Law Institute | https://www.lgean.net/podcasts.php |
| Financial Technical Assistance Tools for Water Infrastructure | USEPA | https://www.epa.gov/waterfinancecenter/financial-technical-assistance-and-tools-water-infrastructure#affordability |
| The Basics of Financial Management for Small Community Utilities | RCAP | https://www.rcap.org/wp-content/ uploads/2016/03/Basics-of-Financial- Management_updated.pdf |
| Budgeting & Financial Management | RCAP | https://www.rcap.org/managerialfinancialhub/budgeting-financial-management/ |
| Rate Setting & Affordability | RCAP | https://www.rcap.org/managerialfinancialhub/ rate-setting-affordability/ |
| Guide to Conducting a Rate Study for a Small System | RCAP | https://www.rcap.org/resources/formulate- great-rates-the-guide-to-conducting-a-rate- study-for-a-small-system/ |

There are additional financial resources available for purchase as follows:

- SCRWA Rate Survey
- Fitch Water/Sewer Medians
- Moody's Rating Criteria
- AWWA/Raftelis Rate Survey



FUNDING TOOLS AND RESOURCES

The following is a list of primary water and wastewater public funding agencies/programs. This list may be amended as more funding opportunities evolve or are identified.

| Funding Resource | Type of Funding | Resource Link |
|---|--|--|
| STATE FUNDING RESOURCES | | |
| RIA | Water/Wastewater Grants | https://ria.sc.gov/ |
| RIA Water & Wastewater Funding Sources | List of Current Funding Resources for Water & Wastewater Utilities | https://ria.sc.gov/wp-content/uploads/2021/02/ Funding-Sources-Spreadsheet-2021.pdf |
| SCDOC | CDBG Grants for Water/Wastewater | https://www.cdbgsc.com/ |
| SCDHEC- SRF | Water/Wastewater Loans & Principal Forgiveness | https://scdhec.gov/environment/businesses- communities-go-green/environmental-loans- grants-businesses-communities/state |
| | FEDERAL FUNDING RESOUR | RCES |
| Appalachian Regional Commission | Water/Wastewater Grant for Appalachian Areas | https://www.arc.gov/grants-and-contracts/ |
| EDA | Water/Wastewater Grants for Economic Development | https://www.eda.gov/funding-opportunities/ |
| EPA Water Finance Clearinghouse | Searchable Database of Water Funding | https://ofmpub.epa.gov/apex/wfc/f?p=WFC:12 |
| FEMA-BRIC | Water/Wastewater Resiliency Grants | https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities |
| USDA | Water/Wastewater Loans & Grants for Rural Communities | https://www.rd.usda.gov/programs-services/ water-environmental-programs/water-waste- disposal-loan-grant-program |
| OTHER FUNDING RESOURCES | | |
| Obtaining Infrastructure Funding | RCAP Resources | https://www.rcap.org/managerialfinancialhub/obtaining-infrastructure-funding/ |
| SCRWA | Rural Water Loan Fund | https://www.scrwa.org/usda-loans.html |
| SERCAP | Water/Wastewater Low Interest Loans & Grants for Rural Communities | https://sercap.org/about/who-we-serve/ community-government-groups |

APPENDIX E: SOUTH CAROLINA TECHNICAL **ASSISTANCE AND TRAINING OVERVIEW**

SCDHEC - OFFICE OF RURAL WATER

SCDHEC formed the Office of Rural Water (ORW) in 2016 as a part of its on-going efforts with the Capacity Development Program. This group has the focus of aiding small and rural utility systems to prevent them from becoming non-viable and working with other state and national organizations, such as SCRWA and SERCAP, to identify solutions for these systems. They also work to identify potential partners for regional solutions and to facilitate those discussions. The ORW receives referrals on utilities that need assistance through varying sources, including SCDHEC management and regional offices, SCDHEC enforcement sections, other associations and agencies as well as from the utilities themselves. The types of technical assistance/ training that ORW can provide include:

- Providing information on technical and financial assistance opportunities
- Assistance with regulatory compliance

The ORW is limited on the type of hands-on technical assistance that it can provide and collaborates with the other technical assistance providers when necessary. As it is a relatively new group within SCDHEC, many utilities may not be fully aware of the assistance it can provide or be reluctant to reach out to an office within the state's regulatory agency. The ORW also has limited staff, which makes working with other technical assistance providers even more critical.

SOUTH CAROLINA RURAL WATER ASSOCIATION

The SCRWA was formed in 1976 and is an affiliate of the National Rural Water Association, which is a non-profit trade association. It has a specific mission to provide training and technical assistance to utility systems that serve a population of 10,000 or less; however, it can and does provide services to larger utilities in some cases. SCDHEC-State Revolving Fund also contracts with SCRWA utilizing a portion of the DWSRF Small System Set-Aside to provide specific technical assistance to small utilities. SCRWA has a cadre of circuit riders and training staff that allow it to have a significant reach across the state. Rural water circuit riders are individuals that provide expanded skills, knowledge and expertise that is usually unavailable to many small and rural communities. SCRWA does direct outreach to small utility systems across the state and receives referrals from SCDHEC and other associations and resources agencies. The organization focuses its outreach and circuit rider efforts on small, rural systems serving 10,000 or less; however, it can provide technical and compliance assistance to any utility in the state,

if needed. Some of its services are provided for a fee, with reduced fees available for members. The types of technical assistance/training that SCRWA can provide include:

- Asset management
- Operator training/ apprenticeship programs
- Assistance with regulatory compliance
- GIS for system mapping
- Funding application assistance
- Rate setting
- Capital improvement planning
- Utility board training
- Limited hands-on technical assistance with basic utility operations

SCRWA coordinates with other technical assistance providers and because it has been in existence for over four decades, most utility systems are aware of the services that it offers.

SOUTHEAST RURAL COMMUNITY ASSISTANCE PROJECT

SERCAP is a non-profit organization formed in 1969 and is an affiliate of the national organization, Rural Community Assistance Partnership (RCAP). It serves the southeast region of the United States. SERCAP provides assistance beyond utility systems to include individual homeowners and businesses. It also has direct funding programs for specific projects and applicants. SERCAP receives referrals from



SCDHEC as well as through direct community involvement. With regard to referrals, SCDHEC will decide which technical assistance provider has the best-suited program for a utility's specific need or where that utility has an existing relationship with a particular provider. SERCAP focuses on providing assistance to low-tomoderate income communities across the southeastern United States and the majority of their services are free to these communities. The types of technical assistance that SERCAP can provide to water utilities include:

- Water, wastewater, and solid waste technical assistance
- Funding application assistance
- Budgetary & financial assessments
- · Board & administrative training
- Organizational & strategic planning
- · Recycling program development
- · GIS for system mapping
- Limited hands-on technical assistance

skills could be leveraged to address identified viability issues and these programs may also be a model for future programs focused on water utilities. Some of the specific programs include:

- Institute of Government for Elected Municipal Officials (MASC)
- Newly Elected Municipal Officials Training (MASC)
- Institute of Government for Elected County Officials (SCAC)
- Newly Elected County Officials Training (SCAC)
- Managerial/Supervisory Training (SC COGs)
- Financial Literacy (SC COGs/ MASC)
- Small System Training (SCAWWA/WEASC)
- Various Operator Training/ Certification Programs (SCAWWA/WEASC)

ADDITIONAL RESOURCES

Other associations that have training resources that are relevant to this strategy are the Municipal Association of SC (MASC), the SC Association of Counties (SCAC), the SC Councils of Government (SC COGs) and the SC American Waterworks Association/Water Environment Association (SCAWWA/WEASC). All these associations have various training programs, several of which deal broadly with local government management rather than the water sector specifically. However, general good governance

APPENDIX F: LEGAL FORMS OF UTILITY **ORGANIZATION IN SOUTH CAROLINA**

Although regional solutions do not fit every situation and they must be evaluated carefully, many utilities do not know what organizational options are available. The sections below provide a brief overview of the various organizational options; however, it is advised that any utility looking to regionalize or reorganize under one of these options secure legal counsel to provide guidance and information on all pros and cons associated with these alternatives. In addition, a utility should complete an evaluation or study to determine the overall feasibility of any regional or consolidated solution. In addition to the optimal organization format/governance, this should include, at a minimum, rate impacts, community impacts/concerns, asset valuation, impact on utility jobs (if any), franchise fees (if any) and impact on utility revenue.

BOARD OF COMMISSIONERS OF PUBLIC WORKS

Board of Commissioners of Public Works (CPW) is an agency of one municipality and is comprised of a Board of Commissioners that has the decision-making authority for the utility. The Commissioners are elected by the public and operate independently of the municipal government, except for borrowing money. They are, however, eligible for government funding programs. The creation of a CPW requires an act of the General Assembly. A CPW can only be abolished if the municipality itself is abolished or if all the Commissioners voted unanimously to abolish the CPW.

COUNTY WATER & SEWER AUTHORITY

A county water and sewer authority can be created by County Council either through local referendum or act of the General Assembly and its service area is confined to the county in which it is created. They can be governed by County Council, a Board of Commissioners appointed by County Council, or a Board of Directors recommended by the local legislative delegation and appointed by the Governor. These entities are considered

units of local government and are, therefore, eligible for governmental infrastructure funding programs.

JOINT WATER & SEWER AUTHORITY

A Joint Water & Sewer Authority is created through the Joint Authority Water and Sewer Systems Act, SC Code Ann. §6-25-5. It was formerly known as the "Joint Municipal Water System Act" and was developed specifically to provide a legally defined process to allow for regionalization of water and wastewater systems. Through this act, units of local government can form a Joint Authority by resolution of one or more participating unit without a referendum.

The approving resolution includes the appointment of a person that will represent the unit of government on the Authority Board. Two or more of these appointed members can then apply to the Secretary of State to obtain a Corporate Certificate for the Authority. Upon formation of the Authority, utility resources and revenues can be pooled, and the units of government can transfer water and/or wastewater assets to the Authority but transfer of assets

is not required. This gives broad legal discretion on how a utility established under this law is set up. In some situations, the way an Authority was organized may need to be reviewed for reorganization opportunities that improve operations, administration and governance.

This type of entity is considered a unit of local government and is eligible for governmental funding programs.

PRIVATE, NON-PROFIT WATER **& SEWER COMPANY**

Private, non-profit water and sewer companies are organized under the IRS Code 501(c)12 and must apply to the SC Secretary of State for operation. These entities are essentially co-operatives in that their Boards are made of people who are served by the system and are elected by the membership. In addition, the utility is owned by the membership. These entities are only eligible for some government funding programs, such as USDA and EDA.

REGIONAL WATER & SEWER AUTHORITY

A Regional Water & Sewer Authority



is created by an act of the General Assembly with Board Members that are appointed by the Governor based on recommendation from the local legislative delegation and that represent each participating system. In general, the number of members for each system is representative of the capacity each entity has in the regional system. This organizational structure is normally used in the creation of a regional water or wastewater treatment facility and each participating entity still owns, operates, and maintains its existing water distribution and/ or wastewater collection systems. These entities are considered units of local government and are eligible for governmental funding programs for the joint assets.

RURAL WATER & SEWER DISTRICT

Rural Water and Sewer Districts are non-profit entities created by an act of the General Assembly to provide utility service within a specified area. The Governing Board of these entities consists of residents of the district that are appointed by the Governor based on recommendation of the local legislative delegation. These entities are like private, nonprofit entities except that they are formed through state legislation, giving them status as units of local government. An example of a Rural Water & Sewer District in South Carolina is Pioneer Rural Water.

SPECIAL PURPOSE DISTRICT

A Special Purpose District (SPD) is established by an act of the General Assembly and is similar in some ways to a Special Tax District. This is currently one of the most common organizational models used for regional entities. The enabling

legislation for each SPD may be different and some may have specific service areas while some may not. There are also differences between SPDs that were formed before Home Rule was enacted (approximately 1976) and those that were formed afterwards. SPDs consist of a Board of Commissioners who are either appointed by the Governor based on the recommendation of the local legislative delegation or through elections from within the service area of the SPD. Counties have the authority to change the service area boundaries of an SPD within their jurisdiction but cannot abolish it. SPDs are considered units of local government and, therefore, have access to governmental funding programs. In addition, they can issue general obligation bonds with the approval of the county.

SPECIAL TAX DISTRICT

A Special Tax District can be established to own, manage, and operate a utility system. These districts are created through an act of the General Assembly, at the request of a county, and consist of a Board of Commissioners, who are appointed by the Governor based on recommendations from the local legislative delegation or through a vote of citizens within defined areas of the district. These districts are generally used in counties where the county itself cannot or does not want to operate a utility and are confined to a specific area in the county. As such, only the County Council can change the boundaries of the service area, but it cannot abolish the Special Tax District. In general, these districts have taxing authority in a specified area that can be used for infrastructure financing. This form

of organization is similar to a Special Purpose District but does not have as many powers.

PRIVATIZATION

With privatization, assets are transferred from the public utility to a private, for-profit entity. There is generally no opportunity for the public entity to provide input on decision making and policy once a transfer is completed; however, the rates would be regulated by the SC Public Service Commission. Private entities do not have access to most government infrastructure funding programs and rely on rates and private sector financing (capital market, bank loans, etc.) to fund operations, maintenance, and capital improvements.

APPENDIX G: ACRONYMS

| ACS | . American Community Survey |
|--------------|---|
| | . American Society of Civil Engineers |
| | . American Water Works Association |
| CCF | . Centum Cubic Feet |
| CDBG | . Community Development Block Grant |
| | . Council of Governments |
| CPW | . Commission of Public Works |
| CWA | . Clean Water Act |
| CWSRF | . Clean Water State Revolving Fund |
| DWSRF | . Drinking Water State Revolving Fund |
| EDA | . Economic Development Administration |
| | . Effective Utility Management |
| FCF | · · · · · · · · · · · · · · · · · · · |
| GFOASC | . Government Finance Officers Association of South Carolina |
| GW | . Groundwater |
| | . Lowest Quintile Income |
| | . Municipal Association of South Carolina |
| | . Maximum Contaminant Level |
| MHI | . Median Household Income |
| ND | . Non-discharge |
| | . National Pollutant Discharge Elimination System |
| NOV | |
| ORW | . Office of Rural Water |
| PFAS | . Per-Fluoroalkyl Substances |
| | . South Carolina Rural Infrastructure Authority |
| S&P | . Standard & Poor's |
| SCAC | . South Carolina Association of Counties |
| SCAWWA/WEASC | . South Carolina Section of the American Water Works |
| | Association/Water Environment Association of South Carolina |
| SCDHEC | . South Carolina Department of Health and Environmental Control |
| SCDOC | . South Carolina Department of Commerce |
| SCRWA | . South Carolina Rural Water Association |
| SCSPE | . South Carolina Society of Professional Engineers |
| SC VAN | . South Carolina Viability Assistance Network |
| SC WARN | . South Carolina Water/Wastewater Agency Response Network |
| SDWA | . Safe Drinking Water Act |
| | . Southeast Rural Community Assistance Project |
| SPD | . Special Purpose District |
| | . Special Purpose District Association of South Carolina |
| SPDWR | . State Primary Drinking Water Regulations |
| | . State Revolving Fund |
| | Sanitary Sewer Overflow |
| SW | |
| USDA | United States Department of Agriculture |
| | United States Environmental Protection Agency |
| | |

