



# GLOUCESTER COUNTY PUBLIC UTILITIES ASSESSMENT

Final Report  
November 18, 2011



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# Section 1. Executive Summary

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## **Introduction and Project Background**

Gloucester County, Virginia (County), like many communities, seeks to assure that its public water and sewer utility organization is governed, managed, and operated with maximum efficiency. The County's Public Utilities Department (Department or GCPU) provides water services to approximately 4,500 customers and sewer services to approximately 1,300 customers in Gloucester County, Virginia. The County accounts for its water and sewer utilities separately as an enterprise fund (Water and Sewer Fund), which, by definition, provides services to the public at a price that makes the fund self-supporting. Analysis shows, however, that the County's water and sewer utilities have not been self-sufficient for many years, despite support from the General Fund.

Public water and sewer utility organizations provide a number of critical roles in a community including:

- Protecting Public Health;
- Enhancing Environmental Stewardship;
- Supporting Community Growth & Prosperity;
- Providing Affordable Public Service; and
- Protecting and Preserving the Public's Investment in Infrastructure.

It is vital that public utility organizations demonstrate that they are governed, managed, and operated with maximum efficiency and effectiveness in a fully transparent environment. Assurance that best practice performance is achieved fosters critical stakeholder support, which is necessary when seeking rate increases or capital financing. To assist the County's leadership in ensuring that the Department regains its ability to be self-supporting, Raftelis Financial Consultants, Inc. (RFC), and our management consulting practice, SUNESIS, were engaged to assess and evaluate the County's Department and to identify opportunities to strengthen the financial sustainability of the County's utilities.

A series of workshops, stakeholder interviews, employee focus group meetings, and an online management level employee survey were conducted. The project team assembled an inventory of existing issues associated with current governance, finance, management, and operations practices being utilized in the County, which served as the basis for more detailed evaluation of the Department.

During the analysis phase of this assessment, RFC examined how the County's current approach to governance, finance, management, and operations either enhances or impedes its ability to achieve the desired outcome of financially sustainable utility services. Where applicable, the analysis compares the existing approaches used by the County to industry best practices.

## **Key Findings and Observations**

Over the course of this assessment, several themes emerged. The first deals with the Department's leadership and staff. By all accounts, the Department's employees are competent and hard-working individuals. The leadership team is cohesive and collaborative, and has a strong working relationship with the County Board of Supervisors (Board). Leadership can also be commended for showing good

day-to-day organizational direction, and for its focus on maximizing the utility's efficiency and effectiveness. The culture of customer service spans the entire organization, and employees reported feeling a strong sense of purpose in their work.

The second theme presents more of a challenge – the financial stability of the County's water and sewer utilities has become somewhat tenuous. Due to the combination of substantial investments in raw water capacity and a slowdown in service area growth, the Water and Sewer Fund must support a significant amount of excess capacity and its related debt with limited economies of scale. As a result, the Water and Sewer Fund shows a significant gap between projected revenues and projected revenue requirements, even though water and sewer rates are relatively high compared to other utilities in the region. To address a portion of this revenue gap, the Water and Sewer Fund has been subsidized by the General Fund (approximately \$500,000 per year). However, even with this support, it appears that additional revenues will be required to meet objectives for financial self-sufficiency.

Self-sufficient enterprise funds are able to support all their revenue requirements (operating expenses, debt service & coverage, asset repair and replacement, system investment, and reserves) from water and sewer user fees and charges. The County has an opportunity to put its utilities on a path towards self-sufficiency, but it will require a reasonable combination of rate increases and contributions from the General Fund. Attempting to immediately shift the entire burden of the water supply debt onto the Water and Sewer Fund would require dramatic and immediate increases in water and sewer rates. Additionally, the investment in raw water supply has been an impetus for economic development over the past two decades, and has an ancillary benefit of community recreation. As such, there is a basis for providing a certain level of support until the Water and Sewer Fund is more financially secure.

Lastly, the County's utility system continues to age. Infrastructure that was installed 40, 50 and 60 plus years ago simply has a limit of how long it can be asked to remain in service. Over time, water and sewer system assets must be replaced. The Department's leadership is aware of system needs and has developed a plan to address the most critical elements of the system.

## **Approach to the Project**

RFC has developed a structured approach to evaluate the overall effectiveness and efficiency of utility organizations. The approach examines the underpinnings of successful utilities by looking at the Four Pillars of Organizational Sustainability: Governance, Finance, Management, and Operations. RFC uses this approach to structure its findings and analysis because each of the Four Pillars has a major influence on the effectiveness, efficiency, and sustainability of the public utilities.

## **Findings and Recommendations**

### **Overview**

RFC believes that the diminished financial health of the Department, which resulted in high annual debt payments, was the result of funding for growth that did not occur and Gloucester's small customer base. Sustained financial stability cannot be achieved through additional savings or efficiency measures. Achieving a state of sustained financial sufficiency will likely require a long time horizon, with modifications to the County's approach to governance, finance, management, and operations as outlined in this report.

*Further, while these recommendations will, over time, significantly strengthen the County's overall utility financial health, no immediate impacts will be realized that would eliminate the need for multi-year rate increases.*

The following are the key findings and significant recommendations, organized around the Four Pillars of Governance, Finance, Operations, and Management.

### **Governance**

*To provide a complete review of the Governance issues affecting the County's Department, RFC has conducted its analysis based on a multi-faceted definition of Governance, which includes legal structure, setting and communicating strategic vision, relationships with staff, and stakeholder understanding and support.*

### **Key Governance Findings**

- 1) Like many other counties in Virginia, the County maintains a public utility for water and sewer, governed by the Board. While the current governance structure has not hindered effective utility operations, there are other effective governance structures in Virginia and in utility Best Practices that were evaluated for their potential to fit the County's needs and strategic vision.
- 2) The County has approved and adopted a strategic plan, which includes utility services; however, the Department does not currently have its own utility-specific strategic plan.
- 3) Interviews and other anecdotal evidence suggest that there is a positive working relationship between the Board and the utility staff. The Board has been actively engaged in utility issues, and the staff makes regular reports on utility operations.
- 4) Future development in the County could have a strong and positive effect on achieving financial self-sufficiency. Land use decisions and development policies have a significant impact on the capacity for future growth.

### **Governance Recommendations**

The Governance recommendations are intended to help ensure the financial viability of the County's utility services, and flow from the Key Findings.

- 1) The County should explore the feasibility of merging its utility system with that of a regional provider. A regional public partner may be able to take advantage of the excess capacity, provide a more reliable and cost effective back-up source of treated water, provide for improved service through interconnections, and provide for more stable rates due to a larger customer base and economies of scale. This is a long-term effort requiring careful analysis of the economic and non-economic implications of various service delivery alternatives.
- 2) The County should also continue utilizing the citizen's Utility Advisory Committee to work with the utility staff and to advise the Board.
- 3) The Department should create a utility-specific strategic plan, utilizing input from the Board, County Administration, Utility staff from all levels, the Advisory Committee, and other stakeholders.
- 4) The County should encourage a higher density of mixed use development in areas where water and sewer services are already available or could be easily extended. The County should also undertake a comprehensive review of all Development Policies and Application and Development Fees, to evaluate policies that help the County to better realize development goals.
- 5) The Department should work with County Administration to develop an implementation plan with a reporting structure that will ensure a collaborative approach to implementing these recommendations.
- 6) The County should remove utility rates from the Gloucester County Code of Ordinances. The County Code of Ordinances should include the rate structure only, rather than specific rates.

By utilizing these recommendations, the Department can strengthen its Governance structure, focus on its own strategic vision and goals, better ensure cross-departmental communication and collaboration, and put policies in place to promote appropriate growth and development.

## **Finance**

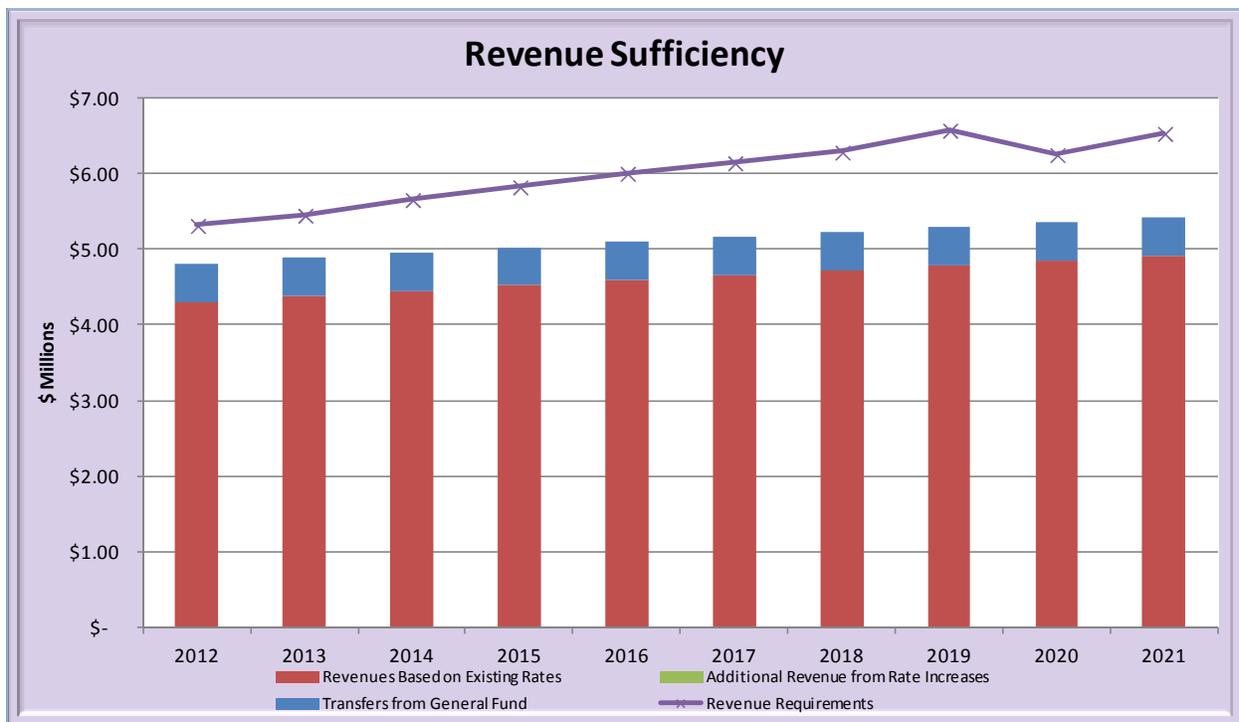
*This section considers the impacts of the second Pillar, Finance, by examining financial sufficiency, financial procedural integrity, financial policies, and rate setting and affordability issues. The review conducted by RFC includes detailed analysis and findings for each of the aforementioned issues, as well as specific recommendations based on industry best practices in each area.*

### **Key Finance Findings**

- 1) *Financial Sufficiency*
  - a. The County's water and sewer utilities have not been self-supporting for many years, despite subsidies from the County's General Fund. Much of the Department's challenge lies in servicing its significant outstanding debt, which, due to current economic conditions and limited economies of scale, has forced the Department to utilize available reserves to meet annual cash needs, thus increasing operational risk and decreasing liquidity.

- b. Annual debt service in the Water and Sewer Fund is \$2.6 million, and is expected to remain fairly constant until 2020, when the debt associated with the Beaver Dam Reservoir (Reservoir) will be fully retired and the annual existing debt service will decrease significantly. This assumes that any new debt associated with the Special Order on Consent (Consent Order) is supported by the General Fund until the Water and Sewer Fund is more financially secure.
- c. The Capital Improvement Plan (CIP) outlines several projects to be undertaken over the next five years to address water and sewer infrastructure reinvestment and meet regulatory requirements. Additionally, there will be a need for a more proactive program for asset repair and replacement as the County's system continues to age and its condition deteriorates.
- d. Projections indicate that without an increase in water and sewer rates or additional contributions from the General Fund, the only incremental revenue increases would be due to system growth. However, even with moderate system growth, revenues will not be adequate to reach a level of financial self-sufficiency.

**Exhibit A: Projected Revenues vs. Revenue Requirements (FY 2012 – FY 2021)**



2) *Financial Policies*

- a. The County currently has only 68 days of O&M expenses (or 28 days O&M plus debt service expenses). Our experience and industry best practices suggest that 120 days of O&M expenses (or 60 days of O&M plus debt service expenses) represent a moderately strong position with regard to liquidity.

- b. The Water and Sewer Fund currently has a debt service ratio (excluding transfers and reserves) of 0.80. Although the County’s Trust Indenture, which secures the Water and Sewer Fund’s outstanding revenue bonds, provides for the use of transfers and reserves to meet its debt service coverage requirements of 1.20, a calculation based on utility annual net revenues only is more common and provides a better comparison to industry best practices. Standard and Poor’s (S&P) Key Water and Sewer Utility Credit Ratio Ranges indicates a debt service coverage ratio of 1.0 to 1.15 is “adequate” and a debt service coverage ratio of 1.26 to 1.50 is “good.”
  - c. The 2008 National Association of Clean Water Agencies (NACWA) survey reports that, industry-wide, approximately 28% of capital expenditures are either funded through revenues or reserve funds. The County’s Water and Sewer Fund does not currently cash-fund any capital projects.
- 3) *Rate Setting and Affordability*
- a. Best practices suggest that a utility financial plan (10-year plan with emphasis on the next five years) should be developed and updated annually. Key assumptions related to costs, growth, and capital funding sources should be reviewed to support reasonable and appropriate rate recommendations.

Best practices also suggest that comprehensive cost of service studies should be undertaken every five years, and should include an evaluation and prioritization of the County’s most important rate setting pricing objectives.

## **Key Financial Recommendations**

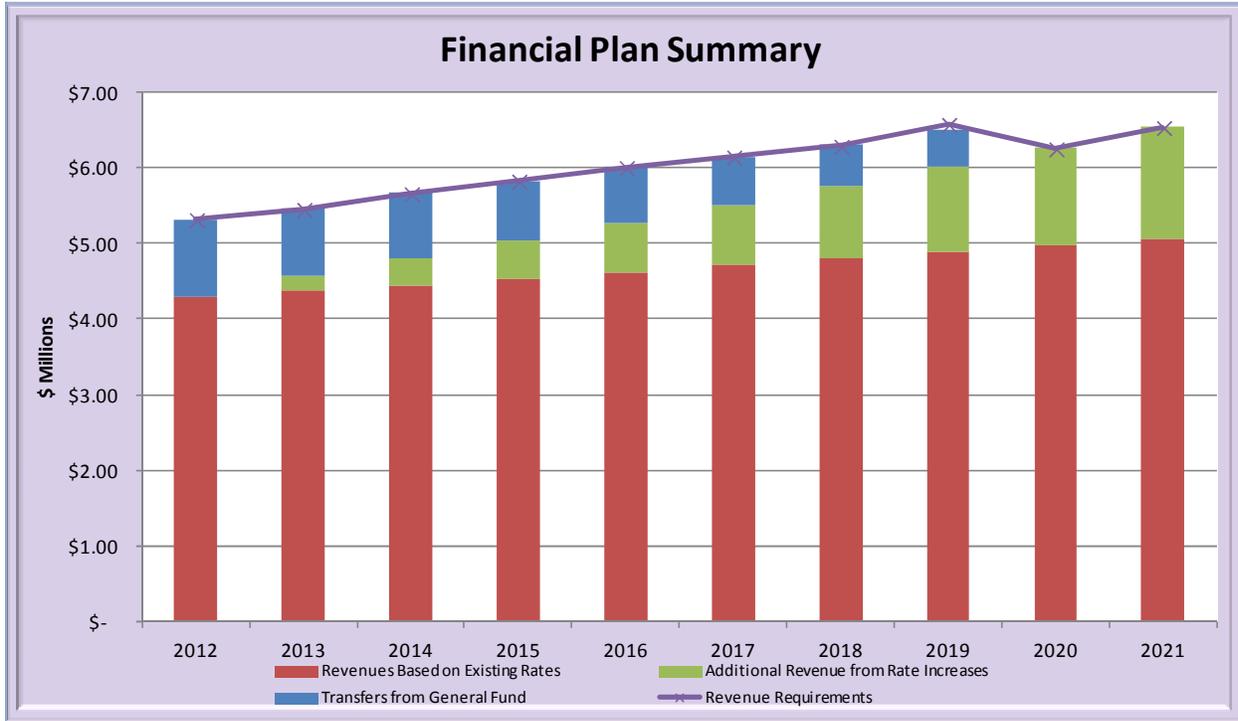
The Finance recommendations are intended to help ensure the financial viability of the County’s utility services, and flow from the Key Findings.

### *1) Financial Sufficiency*

- a. Embrace a framework for Water and Sewer Fund financial self-sufficiency that fully supports utility O&M expenses, debt service and coverage requirements, asset repair and replacement, system upgrades and expansions, and sufficient levels of reserves.
- b. Implement a phased-approach to achieve financial self-sufficiency that includes a program of systematic, annual water and sewer rate increases over the next ten years. In the short-term (e.g. next two years) consider a slightly more aggressive program of increases in the 4.0% to 5.0% range, with more moderate increases in the range of 3.0% thereafter.
- c. Implement a framework for determining the annual contribution from the General Fund, which should be tied specifically to support the existing debt associated with the water supply infrastructure (Reservoir and Groundwater Reverse Osmosis Facility). The framework would reduce the remaining debt burden on the Water Sewer Fund (after the contribution) to approximately 35% of utility revenues only. The level of contribution from the General Fund should decrease as revenues in the Water and Sewer Fund increase.

- d. Allow the General Fund to support any new debt until the Water and Sewer Fund is independently self-sufficient.

**Exhibit B: Long-term Financial Plan**



2) *Financial Policies*

- a. The Board should consider establishing a set of financial policies regarding reserve funds with the following targets:
  - i. Operating reserve = 120 O&M expenses or 60 days O&M expenses plus debt service;
  - ii. Capital repair and replacement reserve = annual depreciation;
  - iii. Rate stabilization reserve = approximately 10% of revenues from rates; and
  - iv. Capital improvement reserve = annual average of 5-year CIP.
- b. The County should establish a financial policy for the Water and Sewer Fund regarding a target debt service coverage ratio based on utility net revenues only of at least 1.20.
- c. The County should establish a financial policy (longer-term) regarding the level of cash funded projects and should set the target between 10% and 30% of its annual CIP costs.

3) *Rate Setting and Affordability*

- a. Staff should update and review the financial plan annually to support rate recommendations necessary to achieve financial self-sufficiency.
- b. The County should conduct a comprehensive cost of service rate study for the Water and Sewer Fund that encompasses the elements discussed in the Key Findings.

## **Management**

*Industry-wide, the evaluation of the third Pillar, Management, has been codified in a new standard, Effective Utility Management (EUM). EUM is considered a best practice methodology for water and sewer utilities, as it provides a structure for the analysis of existing management approaches – the Five Keys. RFC has used the Five Keys to evaluate the County’s Department, and has, in the following section, highlighted several significant findings and recommendations.*

## **Key Findings**

- 1) The Department has effective leadership, and has been able to provide effective day-to-day direction and share organizational priorities with staff. The leadership team appears to be cohesive and collaborative, and focuses on maximizing the effectiveness and efficiency of utility operations.
- 2) The Department does not currently have a comprehensive utility-specific strategic plan.
- 3) A significant portion of the operational resources have gone to emergency repairs of the aging system.
- 4) The Department does not currently have a set of measures that is tracked or trended, however the Management, Operations, and Maintenance (MOM) plan, imposed by the Consent Order, will likely address this issue. Regulatory requirements provide pressure for the measuring of certain metrics; however, regulatory requirements tend to only focus on the Product Quality Attribute, which does not provide a comprehensive look at the state of the utility.

## **Key Recommendations**

The Management recommendations are derived from the Key Findings, and are designed to help the Department move toward more effective management.

- 1) The Department leadership should continue its current succession planning, to prepare for the potential change of key administrative and other personnel.
- 2) The Department should develop an inclusive, utility-specific strategic plan, organized around the Ten Attributes of an Effectively Managed Utility. This plan would help staff understand Department objectives, have measurable objectives, and be linked to the County Strategic Plan.
- 3) The Utilities Department should move forward with the planned relocation of the customer service staff to the same location as the County Treasurer.
- 4) Taking industry standards into account, the Department should establish a specific set of performance-driving metrics to aid in utility evaluation. Where possible, the Department should look to peer utilities for benchmarks, and should track and trend metrics where peer data is unavailable.

## Operations

The final Pillar, Operations, has also been codified by the Effective Utility Management framework. RFC conducted its analysis of the County's Department using each of the Ten Attributes. Select key performance benchmarks were used to provide a comparison of County's operational performance against peer utilities from around the United States, through the 2007 AWWA QualServe Benchmarking Report.

### Key Operations Findings

- 1) Despite an aging infrastructure, water quality has been excellent. The Department complies with all regulatory requirements and maintains a 100% drinking water compliance rate at its water treatment facilities. The Department has continued to address ground water source challenges associated with one of the County's two reverse osmosis supply wells.
- 2) Employees working at the Department expressed a strong sense of purpose, and the customer service staff's dedication and responsiveness are among best in class. Even with an aging infrastructure, the number of unplanned service interruptions (greater than 4 hours) per 1,000 customers is well within industry performance levels of .24 – 3.36 per 1,000 customers. In fact, the Department has had no unplanned service interruptions for greater than 4 hours in the last several years.
- 3) Analysis indicates that resource utilization, expressed as total O&M costs per Million Gallons (MG) is within industry norms.

	<b>Gloucester County</b>	<b>Target, Range or Peer Group Comparison</b>
O&M Costs per MG Water	\$3,256	\$2,120-\$3,329
O&M Costs per MG Sewer	\$3,392	\$2,083-\$5,373

- 4) The County has excess treatment capacity and a large service area geographically, which require fixed amounts of labor, equipment, and capital investment. Even though the existing number of staff is slightly above industry norms, expressed as number of accounts per Full Time Equivalent (FTE), the number of current staff is likely lower than the amount actually needed to address the current infrastructure. Very few staff resources are available to shift from reactive to preventative maintenance.

	<b>Gloucester County</b>	<b>Target, Range or Peer Group Comparison</b>
Number of (Water) accounts/number of FTEs	278	386-605
Number of (Sewer) accounts/number of FTEs	349	378-658

- 5) The Department does not currently have complete infrastructure maps, inventory, or condition registers, and also lacks a sustained replacement and renewal program for buried and aging assets.
- 6) The operational resiliency of the Department is threatened by aging treatment plants and ground water quality concerns, in addition to the lack of permanent stand-by power generation at both water treatment facilities and some pump stations.
- 7) A large portion of the Department's budget includes costs associated with targeted outsourcing. The items being outsourced include design engineering, specialized maintenance, and sanitary sewer system condition assessment, and all fall within industry norms.

## **Key Recommendations**

In each case, RFC recommends the following specific actions as part of our analysis of the County's Operational Review:

- 1) The current maintenance operations complex should be replaced.
- 2) The Department should consider investment in a computerized work order and maintenance management system and a customer service data system.
- 3) The largest maintenance and professional service contracts should be reviewed, to ensure that the best value is being provided to the County.
- 4) To increase the infrastructure stability, the Department should institute a life-cycle asset management approach, driven by complete asset registers and funding for preventative maintenance. System mapping and inventory registers should be completed by leveraging the County's GIS resources.
- 5) The Department should transition its facilities to become more automated by expanding its use of SCADA to its surface water treatment plant, water storage tanks and its wastewater pump stations. While there are no benchmarks available to directly measure productivity improvements from the use of SCADA, the efficiencies gained (labor hours) could then be channeled to address a number of unmet needs associated with the Department's aging infrastructure.
- 6) The Department should address the operational resiliency issues by installing stand-by power sources where necessary, and by exploring the opportunity for an inter-governmental agreement to connect with another water provider to provide redundancy to the current system.

# Section 2. Governance Analysis

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## **A. Background**

The Department provides water and wastewater services to 5,600 customers in Gloucester County, Virginia. The Department is headed by the Director of Public Utilities, who is appointed by the County Manager, and is governed by the elected Board. As a public utility, all of the assets of the system are owned by the County and all local laws, ordinances, and policies governing the operations are established by the Board.

As part of an “Operational Assessment of the Gloucester County Public Utilities Department” RFC has conducted a review of Governance issues that impact the provision of water and wastewater services. Our approach is to evaluate Governance around a broad definition, which includes legal structure, setting and communicating a strategic vision, relationship with staff, and stakeholder understanding and support. The assessment resulted in a number of findings and recommendations that are intended to improve on the governance issues that appear to be impacting the goal of self sufficiency.

## **B. Governance Structure**

The current governance structure of water and wastewater services being provided by a City or County Department with elected officials serving as the governing board is a commonly found structure. In fact, in Virginia this is the most prevalent structure, with approximately 60% of the providers being public entities. While the current structure is the most common form, there are several other governance structures that are effective in other areas. The effectiveness of a governance structure is evaluated by examining whether the structure creates barriers to the utility’s ability to effectively meet its strategic goals and deliver services. For a structure to change, there needs to be evidence that the existing structure is not effective and that a new structure will provide a significant improvement.

## **Findings**

Privatization does not appear to be an option that would create distinct advantages over the current structure. Were it to occur, privatization could take the form of the sale of asset, resulting in the provision of services as the sole responsibility of a private company. With the issues highlighted in this report, concerning the necessity for the integration of land use with utility services and the large investment that has previously been made in water supply, this option is not recommended. It was also evident from interviews that stakeholders were of the strong belief that the public sector has a very important role in providing water and sewer services as a part of achieving the County’s strategic vision.

Privatization of the operations while retaining ownership was also reviewed, but is not recommended. The size and financial difficulties of the utility would be problematic for a private operator, and procurement and contract management could be an additional cost and burden to the county that would not justify this option.

The creation of an independent authority, with a separate board having legal governing powers, is used effectively in a number of locations. This option is usually effective when there is reluctance on the part of an elected body to address utility issues, often due to political discord. Simply substituting an appointed board for an elected board is unlikely to solve the pervasive issues faced by the County and detailed in this report.

The formation of a Utilities Advisory Committee is a “Best Practice” for public utility systems. A citizen’s advisory group, working with staff and advising the elected body, provides an important link in the governance structure, to help the elected body increase understanding and support for the utility’s needs. An Advisory Committee also aids in vetting utility issues with a representative body of the public and customers, allowing staff and elected officials to gain a better understanding of community issues.

The current governance structure in the County has not been a barrier to effective utility operations. While there are significant unmet needs and the road to financial sufficiency has not been mapped, the Board has made decisions in the past to increase water supply, interconnect with Hampton Roads Sanitary District, on occasion increase rates significantly, and provide a significant subsidy to the water fund for debt service, all of which have supported the economic development of the entire county.

## **Recommendations**

The County should explore the long-term feasibility of merging its utility system with a regional provider. The primary stressor on utility finances is the large debt burden that is being supported by utility rates and a general fund subsidy. The debt burden was caused by the building of a reservoir for additional water supply that has excess capacity, building a Reverse Osmosis plant for backup supply and treatment, and a very small customer base to support the debt. A regional public partner may be able to take advantage of the excess capacity, provide a more reliable and cost effective backup source of treated water, provide for improved service in the distribution system through interconnections, and provide for more stable rates due to a larger customer base and economies of scale. This form of merger would maintain the utility system as a public entity and would allow for negotiated agreements on issues that are of importance to Gloucester County, such as extension policies, integration with land use, quality, etc.

The Utilities Advisory Committee is an important piece of the current Governance model and should be used to its fullest extent. A review of the membership and duties and responsibilities shows that the Committee is adhering to best practices and has the ability to be a crucial vehicle for input and support.

The County should remove utility rates from the Gloucester County Code of Ordinances. A more common, effective, and efficient approach is to include only the rate structure in the Code of Ordinances, with the specific rate approved as part of the annual budget process.

## **C. Communicating Strategic Vision and Community Values**

An effective public governing body is one that sets the strategic vision for an organization and communicates community values. By doing so, the community is engaged in setting direction and priorities. The organization is likewise engaged in and informed of how the delivery of public services can be a major component of achieving the community’s vision for the future.

## **Findings**

The County has established a strategic vision that includes utility services. In 1998, after two years of work by the Strategic Plan Committee and other stakeholders, the County's 350 Strategic Plan was adopted by the Board. The plan contains a clearly defined vision statement for the County and goals for various areas of service. A Utilities Subcommittee specifically reviewed water and wastewater strengths, weaknesses, opportunities, and threats. Goals and strategies were identified in the plan, and are updated regularly.

There is not a Utility-specific strategic plan to set the strategic vision for Utility services, and is linked to the County's plan. The Utility does have a "Strategic Plan" that was produced in 2006 by EE&T, Inc. Consulting Engineers and Architects. This plan, however, is a facility "Master Plan" that primarily outlines capital improvement projects for 20 years.

## **Recommendations**

A Utility-specific Strategic Plan should be created. The process would include input from the Board, County Administration, Utility staff from all levels, the Advisory Board, and other stakeholders. A Strategic Plan would include vision and mission statements along with prioritized goals and objectives. The plan would address outcomes that would allow the Department to meet its strategic vision and would link to the County's vision and goals outlined in the 350 Strategic Plan. By completing an inclusive process and adopting a Strategic Plan, the Board can better link utility operations to the goals established in the Plan and communicate the value of clean water to the community.

## **D. Relationship with Staff**

An effective governance model is one where the relationship between governing Board and staff is open and supportive. While the Board must exercise its role of oversight and ensure accountability, it must also work with staff on establishing goals and understanding and addressing issues in a collaborative environment. The staff must look to the board for strategic direction and recognize the role of the governing body to steer the organization.

## **Findings**

Based on interviews and a review of recent actions regarding Utility operations, it appears that there is a good working relationship between the Board and staff. The Council/Manager form of government in the County aids in establishing an appropriate structure where the Board and staff recognize their separate and collective roles in policy development and service delivery. The Board has been engaged in utility issues and the staff makes regular reports on utility operations. This "Operational Assessment of the Gloucester County Public Utilities Department" is a good indicator of the desire of the Board and staff to work together to move the utility to financial self sufficiency.

## **Recommendations**

The Department staff should work with County Administration to develop an implementation plan that assigns priorities, schedules, and accountabilities for the recommendations in this assessment. The plan

should be presented to the Utilities Advisory Committee and the Board for input. A reporting structure should be developed to ensure that a collaborative approach to implementing the recommendations is maintained.

## **E. Stakeholder Understanding and Support**

Evaluating Stakeholder Understanding and Support usually involves assessing the level of involvement different stakeholders may have in a variety of utility issues. Stakeholder involvement and understanding of the value of public utility services usually leads to a greater support for efforts to improve utility systems.

### **Findings**

In the case of the County, the central issue of financial self sufficiency can be positively impacted by appropriate future development. Currently, a small customer base is supporting a system that is designed for, and has capacity to serve, more residential and commercial growth.

The utility system is located primarily in the Courthouse district and along Highway 17 south to Gloucester Point. The northern part of the county is rural and lacks utility services.

Policies concerning requirements to connect to the utility system when it is available, and the appropriate reimbursement for private funding of public facilities that are sized to serve a large area, have been discussed in the past. Application and Development fees have also been discussed to determine whether the current structure has any impact on growth.

### **Recommendations**

The County should support the Planning Commission's vision of "Concentrating growth where infrastructure is located and in areas best suited for development..." The update of the County's Comprehensive Plan is crucial to the affordable growth of the utility system, thus a key to financial stability. By encouraging a higher density of mixed use development in areas where water and wastewater services are currently available, or can be easily extended, the cost per additional customer will be affordable and the pressure on the capital budgets for expensive extensions will be lessened.

A comprehensive review of all Development Policies and Application and Development Fees should be undertaken. These issues have been identified by staff and various stakeholders and need to be addressed in order to ensure that development goals can be supported, without being subsidized.

Legislation should be actively pursued to require connection to public facilities if wells and septic tanks fail to meet current health standards.

# Section 3. Financial Analysis

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## Introduction

The financial viability of the County's water and sewer utilities is critical. Strong, healthy, and financially sustainable utilities will ensure the continued safe and reliable production and delivery of potable water services and the collection of wastewater for treatment and return to the regional watershed. A major focus of this study is to provide a comprehensive assessment of the financial condition of the water and sewer utilities and to provide recommendations for an optimal approach for GCPU to achieve financial sustainability and industry best practices.

## Background

The County accounts for its water and sewer utilities separately in the Water and Sewer Fund, which is a County Enterprise Fund. To assess the financial viability of the Water and Sewer Fund, RFC conducted interviews with County staff, stakeholders, and reviewed available financial information. The information obtained during the interviews and in reviewing the financial documents was then compared to industry benchmarking data and best practices, as well as to RFC's experience working with hundreds of utilities in the United States. Industry benchmarking data and best practices were obtained from the following sources:

- *2010 Water and Wastewater Rate Survey co-produced by the American Water Works Association and Raftelis Financial Consultants, Inc.*
- *Fitch Ratings Revenue Special Report – 2011 Water and Wastewater Medians*
- *North Carolina Environmental Finance Center – 2011 Rates and Benchmarking Dashboard*
- *Standard and Poor's (S&P) Key Water and Sewer Utility Credit Ratio Ranges*
- *2008 National Association of Clean Water Association (NACWA) Financial Survey – A national survey of municipal wastewater management financing trends*

RFC also developed a Revenue Sufficiency Model (Model) to conduct more detailed analytics and provide support for recommendations for and plan supporting long-term utility financial self sufficiency. The model was developed in Microsoft Excel and can be used by the County as an ongoing financial planning tool.

RFC's assessment of the Water and Sewer Fund is discussed in the sections below.

## Findings and Recommendations

### Financial Sufficiency Findings

One of the primary objectives of this study was to develop a long-term plan for the County's water and wastewater utilities to achieve financial self-sufficiency. In order to meet this objective, it is crucial to understand what financial self-sufficiency means and how it applies to the County and its utilities. In our

experience financial self-sufficiency demonstrates sufficient annual revenue generation to fully support the utility:

- Operating and maintenance (O&M) expenses;
- Debt service and coverage requirements;
- System reinvestment (e.g. asset repair and replacement);
- System upgrades and expansion; and
- Appropriate levels of reserves.

a. Current Evaluation and Assessment

As noted above, the County’s water and wastewater utilities are accounted for as an enterprise fund which, by definition, should provide services to the public at a rate that makes the fund self-supporting. Based on our review, the County’s water and wastewater utilities have not been self-supporting for many years, despite support from the General Fund.

Exhibit A presents several financial indicators for the Water and Sewer Fund compared to median statistics provided in the *Fitch Ratings Special Report – 2011 Water and Wastewater Medians*. It should be noted that the median metrics used below are for small systems. The County data is based on non-audited results for the fiscal year ending June 30, 2011.

**Exhibit A: Financial Indicators**

	Water and Sewer Fund	Fitch
	FY 2011	Median (1)
	<i>Estimated</i>	
Total Outstanding Debt to Net Plant Assets	71.4%	41.0%
Total Outstanding Debt per Customer	\$3,693	\$1,446
All-In Debt Service as % of Gross Revenues	54.3%	18.0%
Operating Margin	20.1%	32.0%
Days Cash on Hand	172	290
Senior Lien ADS Coverage - with reserves (2)	1.39	2.0
Senior Lien ADS Coverage - net revenues only (3)	0.80	2.0

(1) 2011 Water and Wastewater Medians (Fitch Ratings Agency). Median for small systems.

(2) Gloucester County is permitted to include unrestricted reserves, developer charges, and transfers from the General Fund.

(3) Excludes reserves and transfers from General Fund.

*Total Outstanding Debt to Net Plant Assets* - This metric provides a basis for determining system leverage or the portion of net capital assets funded through debt. The Water and Sewer Fund's total outstanding debt to net plant assets (e.g. original cost less accumulated depreciation) is 71.4% compared to a median in the Fitch survey of 41.0%.

*Total Outstanding Debt per Customer* – This metric compares the total amount of utility long-term debt by the total number of utility customers. Since the County is a combined system with multi-unit structures, the total number of water billing units was used for calculation purposes. On average, County water and sewer customers must repay \$3,693 of long-term debt compared to a median in the Fitch survey of \$1,446 per customer.

*All-In Debt Service as % of Gross Revenue* - All-in debt service as a percentage of gross revenue represents current year total debt service divided by current year gross revenues. This metric indicates the level of annual total debt service burden on system operations. For the Water and Sewer Fund, over half of its annual gross revenues, which includes a contribution from the General Fund, is needed for annual debt service.

*Operating Margin* – The operating margin represents operating revenues minus operating expenditures, plus depreciation, divided by operating revenues. This indicates the available margin to pay operating expenditures. In FY 2011, the Water and Sewer Fund had an operating margin of 20.1%, which is approximately 12.0% less than the median in the Fitch survey of 32.0%.

*Days Cash on Hand* – This represents current unrestricted cash and investments divided by operating expenditures minus depreciation, multiplied by 365. The number of days cash on hand provides a sense of financial flexibility to pay near-term obligations. The number of days cash on hand in the Water and Sewer Fund is 172 compared to a median of 290 in the Fitch survey.

*Senior Lien All-In Debt Service Coverage (With Reserves)* – This represents revenue available for debt service divided by senior lien debt service. For the Water and Sewer Fund, all outstanding debt service is senior lien; there is no subordinated debt. Per the 1998 Trust Indenture (Trust Indenture), which secures the outstanding revenue bonds, the Water and Sewer Fund can include transfers and reserves from prior fiscal years provided they are legally available to pay for operating expenses and debt service. The Water and Sewer Fund's debt service coverage in FY 2011 is 1.39 compared to a median coverage of 2.0 in the Fitch survey.

*Senior Lien All-In Debt Service Coverage (Net Revenues Only)* – This represents revenue available for debt service excluding reserves and transfers from other funds. It is a more stringent debt service coverage calculation which includes only net revenues generated by water and wastewater rates and charges. The Water and Sewer Fund's debt service coverage based on net revenues only in FY 2011 is 0.80 compared to a median coverage of 2.0 in the Fitch survey. The same median coverage in the Fitch survey is used, as it is less common for water and sewer utilities to utilize transfers and reserves in the calculation of debt service coverage.

As demonstrated in the metrics above, it appears the primary issue facing the Water and Sewer Fund is servicing its significant outstanding debt. The debt is associated with the construction of the Beaverdam Reservoir (Reservoir) and a groundwater reverse osmosis facility (RO Facility). These facilities were

constructed in the early 1990s and early 2000s, respectively, and represent the County's investment in raw water supply. Although they both represent a valuable asset in terms of adequate raw water supply and provide ancillary benefits to the County, such as community recreation, the annual cash needs associated with servicing the outstanding debt place a significant strain on the Water and Sewer Fund's financial resources. The County has recognized this challenge and provides annual contributions from the General Fund for a portion of the existing debt service. However, due in large part to recent economic conditions, a continued slowdown in growth, and reduced per capita consumption, it appears the annual contribution from the General Fund is insufficient to adequately fund the utility's annual cash needs. As a result, the Water and Sewer Fund has relied on available reserves to meet a portion of annual O&M expenses and debt service, which has decreased liquidity and increased operational risk.

#### Revenue Sufficiency Model

RFC developed a Model to conduct more detailed analytics and provide support for recommendations for long-term utility financial self sufficiency. The Model provides a forecast of annual revenue requirements and revenues over a ten-year planning period. The Model incorporates a projection of O&M expenses based on the FY 2012 Operating Budget (Budget) and capital costs based on pay-as-you-go cash funding, annual obligations on current debt and estimated debt for future capital needs. The Model was designed as a high level planning tool to support reasonable and prudent recommendations for long-term financial sustainability in the Water and Sewer Fund.

#### Operating and Maintenance Expenses

The County's FY 2012 Budget was used as a starting point for O&M costs. The objective was to develop a reasonable projection of operating costs over the ten-year period, considering the effects of inflation, system growth, and incremental/reductions in operating costs associated with the capital program. RFC participated in detailed discussions with County staff to understand any known and measurable changes in operating costs, particularly as related to expected increases or decreases in personnel costs, commodities, and professional services supporting the capital program. As will be discussed in more detail in Sections 4 and 5: Management and Operations, for the purposes of developing a long-term forecast, it was assumed that any recommendations resulting in operational savings should be redeployed for more proactive system reinvestment in aging infrastructure. Additionally, due to expected increases in both energy and chemical costs and the potential for broader inflationary pressures outside of the County's control, it is anticipated that O&M costs will increase over the planning period. In aggregate, the forecast assumed on average annual compounded increase in operating costs of approximately 2.4%.

#### Capital Costs

One of the objectives of the forecast is to integrate existing capital costs as well as future capital needs into the process of determining the revenues required for financial self sufficiency. As noted previously, the Water and Sewer Fund has significant existing debt service obligations from its prior investment in water supply infrastructure. Annual debt service in the Water and Sewer Fund, which is currently approximately \$2.6 million, is expected to remain relatively constant until FY 2020. At this point, outstanding debt associated with the Reservoir will be fully retired and annual existing debt service will decrease significantly.

In terms of future capital needs, the County is faced with multiple projects outlined in its five-year Capital Improvement Plan (CIP) to address water and sewer infrastructure reinvestment needs and ensure

compliance with regulatory requirements. Of particular importance are the capital needs associated with the County's Special Consent Order to reduce the frequency and severity of sanitary sewer overflows (SSO). The Consent Order applies to multiple utilities in the region and requires the County to develop a plan and implement specific investments in the system to minimize SSOs. Additionally, the planned improvement of the maintenance facility is of significant importance, as the existing facility is antiquated and in need of substantial improvements. Although the Water and Sewer Fund does not have a CIP beyond five years, it appears that the system will require a much more proactive approach regarding asset repair and replacement, which will require continue investment on an annual basis. For modeling purposes, it has been assumed that, at a minimum, the Water and Sewer Fund will need to support annual system reinvestment at a level commensurate with forecasted annual depreciation.

The total cost of the County's CIP for both the water and sewer system is approximately \$7.0 million over the next five years. Of this amount, approximately \$3.0 million is related directly to the Consent Order. The County anticipates funding these additional capital needs through additional loans. The County anticipates utilizing the General Fund to service these new loans until the Water and Sewer Fund is more financial secure. This will not likely occur until the existing debt for the Reservoir matures in FY 2020.

#### Reserves

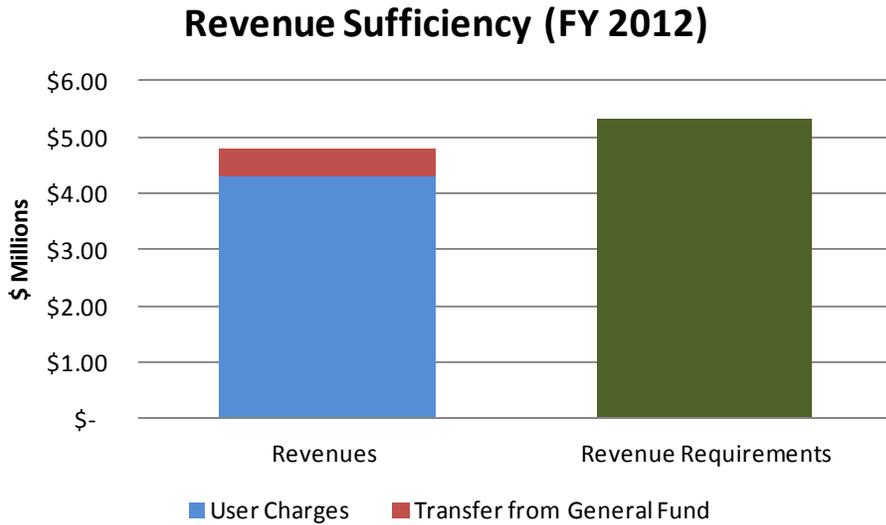
As shown in Exhibit A, as of the end of FY 2011 the Water and Sewer Fund has 172 days cash on hand of O&M expenses. Of this amount, approximately \$636,000 is related directly to revenue collected from upfront capital charges, which is segregated and should be used specifically for capital expenditures. This leaves only approximately \$415,000 in operating reserves, which represents only 68 days of O&M expenses.

The County's current level of reserves in its Water and Sewer Fund are below best practices. As will be discussed in detail in the following section on Financial Policies, it is recommended that County begin to rebuild reserves in the Water and Sewer Fund to increase liquidity.

#### Current Revenue Sufficiency

In order to further understand the current financial condition of the Water and Sewer Fund it was necessary to compare projected O&M expenses and capital costs, referred to collectively as revenue requirements, in FY 2012 with anticipated revenues, to project an annual surplus or deficit for the current fiscal year (see Exhibit B).

## Exhibit B: Projected Revenues vs. Revenue Requirements (FY 2012)



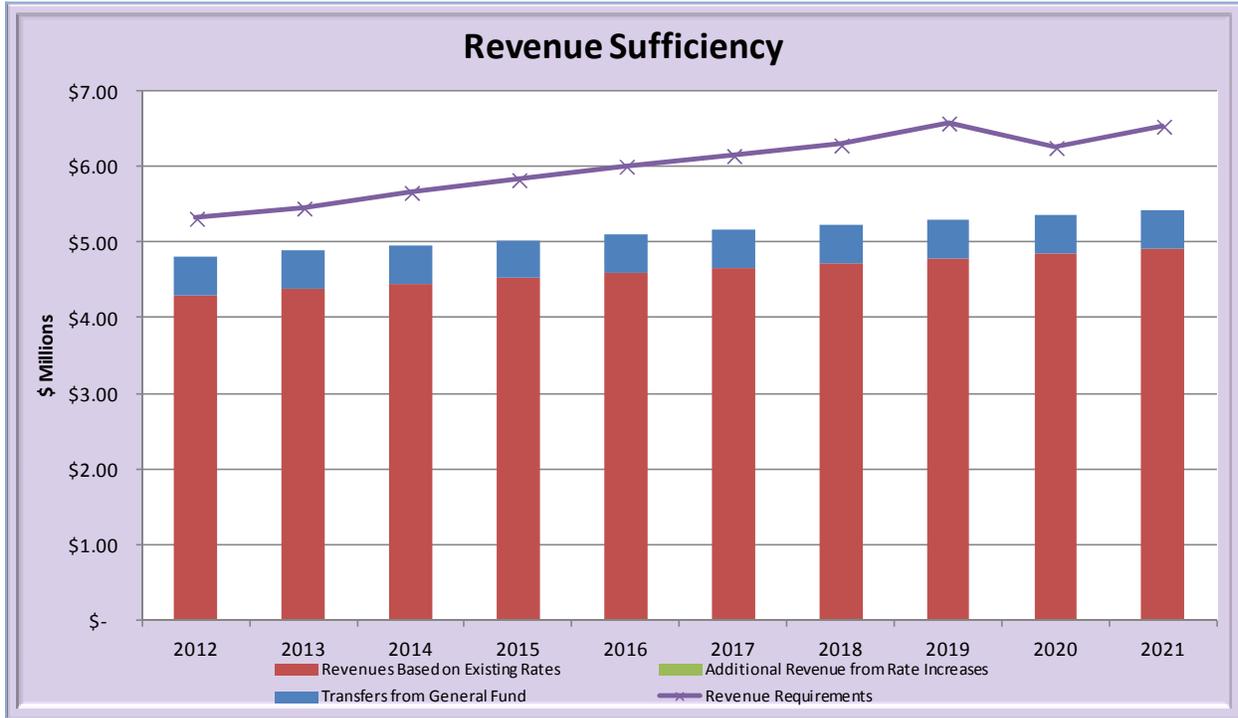
An assumption was made that revenue collected from user charges in FY 2012 would be comparable to estimated results in FY 2011, which were approximately \$4.3 million. The FY 2012 Budget identifies a contribution from the General Fund in the amount of \$500,000. This increases estimated total revenues to approximately \$4.8 million. Estimated revenue requirements in FY 2012 are approximately \$5.3 million (\$2.7 million in O&M expenses plus \$2.6 million in debt service). Based on these results, it appears that the Water and Sewer Fund may show a cash deficit of approximately \$500,000 in FY 2012, requiring further reductions in reserves.

### Long-Term Revenue Sufficiency

The most immediate issue facing the Water and Sewer Fund from a financial perspective is servicing the outstanding debt from the Reservoir and RO Facility. Financial support from the County has mitigated this challenge to some extent; however, based on the most recent financial results, the Water and Sewer Fund must rely on available reserves to meet annual cash needs. Without any adjustments to water and sewer rates and charges, significant near-term growth, and/or additional contributions from the General Fund, the Water and Sewer Fund will continue depleting available reserves until fully exhausted. This would create an extremely untenable financial situation, and it may result in intervention from creditors if debt covenants are broken.

Exhibit C compares a projection of revenues based on the existing water and sewer rates and no changes to the level of annual contribution from the General Fund.

**Exhibit C: Projected Revenues vs. Revenue Requirements (FY 2012 – FY 2021)**



As seen above, with no additional increases in water and sewer rates and no additional contributions from the General Fund, the only incremental revenues will be from system growth. However, even with a baseline assumption that includes some level of growth, which may be challenging to achieve in the near-term, revenues generated from existing rates will not be sufficient to meet projected revenue requirements required for financial self sufficiency.

The revenue requirements (purple line seen above), which include O&M expenses, debt service on existing debt, internally generated funds for capital improvements and transfers to reserves, are designed to move the Water and Sewer Fund toward financial self-sufficiency. As noted previously, outstanding debt associated with the Reservoir will mature in FY 2020 and decrease existing debt service significantly. As such, an assumption was made that the proposed loans, which will be used to fund water and sewer capital improvements over the next five years, will be shifted from the General Fund to the Water and Sewer Fund at this time. It is important to note that it is extremely challenging to forecast revenue requirements over a ten year period. Due to the expectation for continue regulatory pressures, aging infrastructure and an insufficient amount of existing reserves, it has been assumed that any additional flexibility in revenue requirements after the Reservoir debt matures should be reinvested proactively in the system or placed into reserves.

## Long-Term Financial Plan

As previously discussed, it has been determined that there are limited opportunities for reductions in operating costs in the Water and Sewer Fund. Potential savings as a result of enhanced efficiency and effectiveness of the organization should be redeployed in other areas to address unmet needs. Thus, it is clear that the Water and Sewer Fund must increase its annual revenues to achieve financial self-sufficiency. There are two primary options available: (1) user rates and charges and (2) contributions from the General Fund.

### User Rates and Charges

The County bills its water and sewer customers monthly based on metered water consumption. For FY 2012, water customers are assessed a minimum charge of \$18.30 that includes 2,000 gallons of consumption. Usage above 2,000 gallons per month but below 8,000 gallons per month is assessed a volumetric rate of \$9.08 per thousand gallons (kgal). Usage above 8,000 gallons is assessed a volumetric rate of \$9.43 per kgal. Sewer customers are also assessed a minimum charge of \$10.14 that includes 2,000 gallons of flow. Flows above 2,000 gallons are assessed a volumetric rate of \$4.47 per kgal. Flows above 4,000 gallons are assessed based on a declining block structure, which includes a total of six rate blocks.

Exhibit D shows the County's current water and sewer rate schedule.

### Exhibit D: Current Rate Schedule

	FY 2012
<b>Water Rates</b>	
Minimum Charge (Includes 2,000 gallons)	\$ 18.30
<u>Volume Rates (per kgal)</u>	
Block 1 (2,000 - 8,000 gallons)	\$ 9.08
Block 2 (Over 8,000 gallons)	\$ 9.43
<b>Sewer Rates</b>	
Minimum Charge (Includes 2,000 gallons)	\$ 10.14
<u>Volume Rates (per kgal)</u>	
Block 1 (2,000 - 4,000 gallons)	\$ 4.47
Block 2 (4,000 - 8,000 gallons)	\$ 4.25
Block 3 (8,000 - 11,000 gallons)	\$ 3.97
Block 4 (11,000 - 75,000 gallons)	\$ 3.79
Block 5 (75,000 - 90,000 gallons)	\$ 3.47
Block 6 (Over 90,000 gallons)	\$ 2.96

**General Fund Contributions**

Historically, the General Fund has made contributions to the Water and Sewer Fund to support annual debt service associated with the capital cost of raw water supply. Conventional utility rate and financial planning standards would suggest that these investments be paid for entirely by users of the system rather than through any support from the tax base. However, prior to determining a recommendation for the most appropriate strategy for additional revenue generation, it is important to consider the historical context of these investments and their broader impacts on the County.

In the early 1990s, the County made a substantial investment in the design and construction of the Reservoir. This investment provides both a reliable source of surface water with an ancillary benefit of community recreation. In the early 2000s, the County made an additional investment in the RO Facility to provide system redundancy and additional raw water capacity for future demand. The County was experiencing consistent growth at the time of these investments. The water supply capacity was a significant catalyst for economic development, which provided substantial benefits to the tax base.

These facilities were sized based on various population projections and demand forecasts during a period of time when significant growth was occurring both locally and regionally. Unfortunately, projections for additional customer accounts did not materialize, and the County was left with a system with significant excess capacity with limited economies of scale. As noted previously in Exhibit A, on average, County water and sewer customers must repay almost three times more debt (per customer) than the median for small systems, as captured in the Fitch Report. Further, debt service accounts for more than 50% of annual gross revenues in the Water and Sewer Fund, which includes a \$500,000 contribution from the General Fund. Currently, a residential customer in the County using 3,740 gallons per month pays \$67.32 for water and sewer services. This includes the cost of wastewater conveyance and treatment provided by HRSD. As seen below in Exhibit E, for comparison purposes, a small system residential customer in the RFC Survey using the same amount of water pays \$37.95 per month, which is almost 44% less than County customers.

**Exhibit E: Customer Bill Comparison**

	Monthly Bill (3,740 gallons)		
	Water	Sewer	Total
Gloucester County	\$ 34.10	\$ 33.22	\$ 67.32
RFC Survey (1)	\$ 17.45	\$ 20.50	\$ 37.95

(1) RFC/AWWA 2010 Water and Wastewater Rate Survey.  
Represents monthly bill for Group C utilities (small systems).

Attempting to immediately shift the entire burden of the existing debt onto the Water and Sewer Fund would require a dramatic increase in rates. The Water and Sewer Fund not only relies on the General Fund to meet its minimum cash needs for debt service, it must also demonstrate compliance with debt service coverage requirements of 1.20 times total debt service. Transfers from the General Fund have played a significant role in allowing the Water and Sewer Fund to meet this requirement. On a near term

basis, a reduction or elimination of the General Fund contribution would significantly increase the likelihood of a breach in debt service coverage. A breach in coverage would trigger the bond holder's legal covenants and would require an immediate increase in rates or contribution from the General Fund to ensure repayment and future compliance.

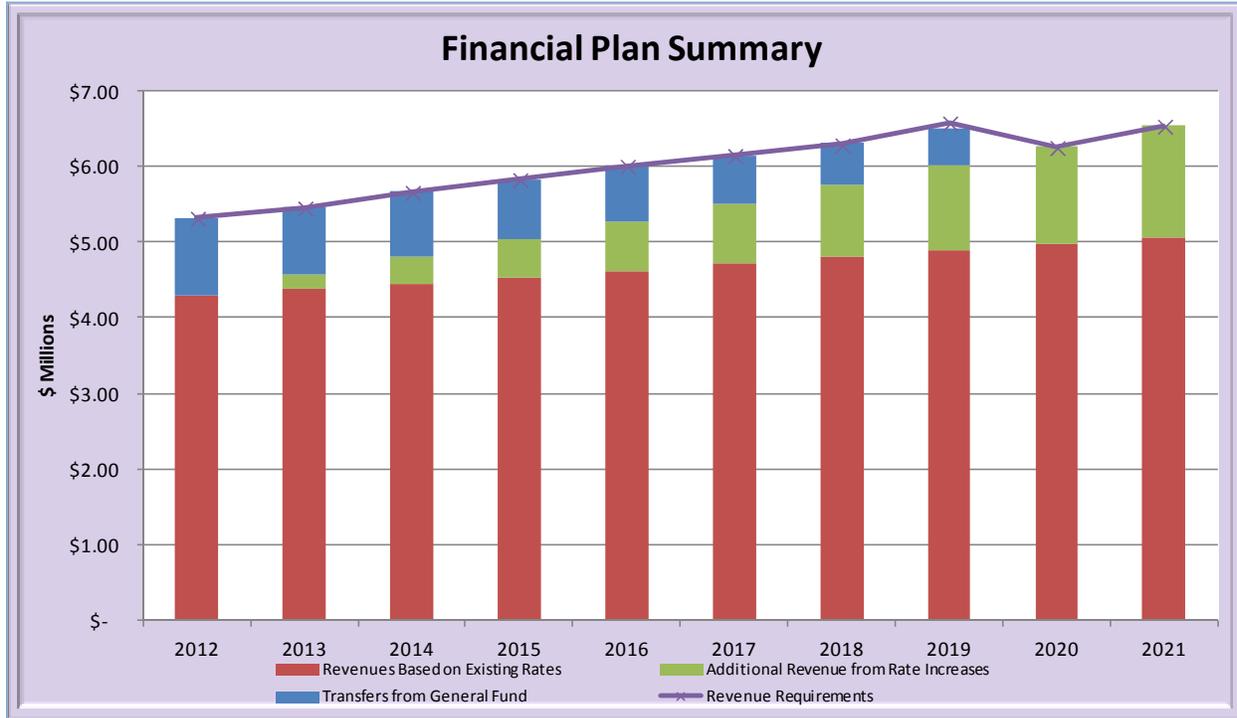
### **Additional Revenue Generation**

As a result of both the communal benefits of the water supply and the short-term cash needs for debt service and coverage, RFC recommends a combination of rate increases and contributions from the General Fund to put the utilities on a path toward financial self-sufficiency. Specifically, RFC recommends a phased approach of systematic water and sewer rate increases in the range of 4.0% - 5.0% over the next two years with more moderate, inflationary increases in the range of 3.0% thereafter.

We also recommended a more prescriptive approach for determining the level of annual contribution from the General Fund. The University of North Carolina Environmental Center (UNC Survey) gathers data annually on governmental water and sewer utilities across the State. For counties serving fewer than 30,000 customers, the median total debt service as a percentage of gross revenues is approximately 23.0%. In the NACWA Survey this figure is approximately 28.0%. For the County, based on estimated results for FY 2012 and a \$500,000 contribution from the General Fund, the remaining debt service as a percentage of water and sewer utility revenues only (excluding General Fund contributions) is approximately 54%. Since the County's annual debt service represents a burden that is more than double the survey median, a reasonable solution is to create a formal structure for the annual General Fund contribution that reduces the utility debt burden to a more manageable level. By increasing the General Fund contribution in FY 2012 to \$1.0 million, the remaining debt service as a percentage of water and sewer utility revenues only would decrease to around 35%. This would be near half way between the UNC Survey and the County's current debt burden and in proximity to the median in the NACWA Survey, and it would represent a reasonable proxy for determining the annual level of General Fund support going forward. As the Water and Sewer Fund gradually increases rates the level of contribution from the General Fund will decrease. The ultimate goal is to eliminate the General Fund subsidy entirely by FY 2020, at which point the Water and Sewer Fund will become independently self sufficient.

Exhibit F presents a projection of revenues assuming both systematic rate increases and an increased contribution from the General Fund which is reduced over time and eliminated entirely by FY 2020. The revenue requirements (purple line seen above) are the same as presented in Exhibit C and include all of the elements for financial self-sufficiency.

## Exhibit F: Long-term Financial Plan



It is important to note that the recommended range of rate increases and contributions from the General Fund are based on a 10-year projection of revenue requirements and assumptions for system growth. The 10-year financial plan should be a rolling forecast that is updated annually. RFC recommends that water and sewer rates and charges be reviewed annually. This will to ensure appropriate consideration of the most recent operating costs, capital planning information, billing data, growth statics, and other relevant financial information.

### Recommendations

- Embrace a framework for Water and Sewer Fund financial self-sufficiency that fully supports utility O&M expenses, debt service and coverage requirements, asset repair and replacement, system upgrades and expansions, and sufficient levels of reserves.
- Implement a phased-approach to achieve financial self-sufficiency that includes a program of systematic, annual water and sewer rate increases over the next ten years. In the short-term (e.g. next two years) consider a slightly more aggressive program of increases in the 4.0% to 5.0% range, with more moderate, inflationary increases in the range of 3.0% thereafter. At this point, consideration could be give to indexing automatic annual rate increases (e.g. Consumer Price Index or more industry specific index) to ensure a smooth program of increases and avoid rate shock.
- Implement a framework for determining the annual contribution from the General Fund that is tied specifically to support the existing debt associated with the Reservoir and RO Facility. The

framework would reduce the remaining debt burden on the Water Sewer Fund (after the contribution) to approximately 35% of utility revenues only. The level of contribution from the General Fund should decrease as revenue in the Water and Sewer Fund increase. The ultimate goal is to eliminate the General Fund subsidy entirely by FY 2020, at which point the Water and Sewer Fund will be independently self-sufficient.

- Allow the General Fund to support any new debt until the Water and Sewer Fund is independently self-sufficient.
- Review and update the ten-year financial plan and water and sewer rates and charges on an annual basis.

## **Financial Procedure Integrity**

The County's Finance Department prepares a Comprehensive Financial Report (CAFR) each year. The County engaged a firm, Robison, Farmer, Cox & Associates, to audit the County's FY 2010 financial statements, the results of which are documented in an audit report. The County's financial procedures are consistent with industry standards and best practices.

## **Financial Policies**

As noted previously, the Water and Sewer Fund has not been financial self-sufficient for many years. The definition of "self sufficiency" means an enterprise fund that is able to support all of its revenue requirements (O&M, debt service & coverage, asset repair and replacement, system investment, and reserves) from revenues it collects from water and sewer user fees and charges. The Water and Sewer Fund has a number of unique challenges including excess capacity, significant leverage, limited economies of scale, relatively high rates, and minimal growth. Although these challenges are substantial, the County's goal should be to move toward utility self-sufficiency through a systematic process that includes a combination of rate increases and contributions from the General Fund that are reduced gradually over time. Through this process, the Water and Sewer Fund can be a financially viable enterprise with no reliance on the General Fund and the ability to fund capital improvements entirely through water and sewer sales.

For the Water and Sewer Fund to become truly self-sufficient, RFC recommends several quantitative best practice financial policies, which are discussed below.

### **a. Cash Reserves**

Based on estimated results for FY 2011, the Water and Sewer Fund has 172 days cash on hand of O&M expenses. Of this amount, approximately \$636,000 is related directly to revenue collected from upfront capital charges, which is segregated and should be used specifically for capital expenditures. This leaves only approximately \$415,000 in operating reserves, which represents only 68 days of O&M expenses and 28 days O&M plus debt service.

The County's current level of reserves in its Water and Sewer Fund are below best practices. Initially, the County should formally establish and operating reserve and a capital repair and replacement reserve. Based on our industry experience, a minimum target in the operating reserve of 120 O&M expenses or 60

days of O&M expenses plus debt service represents a moderately strong liquidity position. A reasonable minimum target for the capital repair and replacement reserve should be annual depreciation. The current balance in capital reserves of \$636,000 is approximately 70% of annual depreciation (approximately \$900,000). Therefore, the Water and Sewer Fund should increase the funding of these reserves over time and build up to the recommended minimum targets.

Once these initial targets are achieved, RFC recommends establishing a rate stabilization fund of approximately 10% of revenues from rates. A rate stabilization fund can help mitigate future rate increases resulting from anticipated events such as weather and/or a downturn in the economy. RFC also recommends that the Water and Sewer Fund establish a capital improvements reserve to fund capital projects which should consist of the annual average cost of the capital improvement program over the 5-year CIP. The capital improvement reserve would help to limit future system leverage and avoid a repeat of the Water and Sewer Funds current financial condition.

## **Recommendation**

- The County should consider establishing a set of financial policies regarding reserve funds with the following targets:
  - Operating reserve = 120 O&M expenses or 60 days O&M expenses plus debt service;
  - Capital repair and replacement reserve = annual depreciation;
  - Rate stabilization reserve = approximately 10% of revenues from rates; and
  - Capital improvement reserve = annual average of 5-year CIP.

### **b. Debt Service Coverage**

The County's outstanding debt obligations on the water and sewer systems are revenue bonds. The revenue bonds do not have a rating from any of the three major rating agencies. Per the Trust Indenture, which secures the revenue bonds, the Water and Sewer Fund can include transfers from the General Fund and reserves from prior fiscal years for the purpose of calculating debt service coverage. Based on a review of historical results, the inclusion of these additional sources of revenue has allowed the County to meet its debt service coverage requirement of 1.20 times total debt service. Based on our experience, it is not common to include transfers from the General Fund or a significant portion of revenue available from prior years (reserves) for the purposes of meeting debt service coverage. Relying on these sources of revenue represent a lower level of security for bond holders when compared to current year revenues generated from user rates and charges. This lower level of security (e.g. higher risk) translates into a higher cost of borrowing.

Although the existing Trust Indenture provides for the inclusion of General Fund contributions and reserves in the calculation of debt service coverage, RFC recommends the County implement a policy target for debt service coverage based on utility net revenues only. The S&P rating criteria indicates a debt service coverage ratio of 1.0 to 1.15 is "adequate" and a debt service coverage ratio of 1.26 to 1.50 is "good". Based on estimated results in FY 2012, the Water and Sewer Fund's current debt service coverage ratio excluding transfers and reserves is 0.80. RFC/SUNEIS recommends that the Water and Sewer Fund establish a policy with a target debt service coverage ratio of 1.20. Increasing the Water and

Sewer Fund's debt service coverage based on net revenues only will be a gradual process. However, it will put the utility in a strong position to issue revenue bonds in the future, achieve a favorable bond rating, and borrow at more attractive market rates due to stronger debt service coverage.

### **Recommendation**

- The County should establish a financial policy for the Water and Sewer Fund regarding a target debt service coverage ratio based on utility net revenues only of at least 1.20.

#### **c. Funding Level of CIP**

Another approach to ensuring self sufficiency and balancing financial leverage is to establish a financial policy regarding how much of the capital program will be debt financed versus how much will be cash financed. Although this will be a longer-term policy goal, the amount of CIP to be cash funded will directly impact the Water and Sewer Fund's ability to meet the debt service coverage ratio. Cash funding the CIP will result in a higher debt service coverage ratio. The Water and Sewer Fund does not currently cash fund any capital projects, and it is unlikely it will be able to do so in the short-term. According to the 2008 NACWA survey, 40.4% of industry revenue requirements were O&M, 28.8% were debt, 28.3% were capital expenditures, and 3.0% were other types of expenses. This survey indicates that industry-wide, approximately 28% of capital expenditures are either funded through revenues or reserve funds. Therefore, RFC recommends that the Water and Sewer Fund implement a long-term policy goal of funding 10.0% - 30.0% of its annual CIP through cash funded revenues generated from rates.

### **Recommendation**

- The County should establish a financial policy (longer-term) regarding the level of cash funded projects and should set the target between 10% and 30% of its annual CIP costs.

### **Rate Setting and Affordability**

The Water and Sewer Fund assesses water and sewer charges to recover the cost associated with providing these services to its customers. The County has developed rate structures for water and sewer charges. For a self-sufficient enterprise fund, RFC recommends the following qualitative rate setting best practices.

#### Annual Financial Planning and Rate Adequacy

The financial plan described in this section provides high level recommendations to move the Water and Sewer Fund toward financial self-sufficiency. As noted previously, the recommended range of rate increases and contributions from the General Fund are based on a 10-year projection of revenue requirements and various assumptions related to cost increases, growth, and funding costs associated with the CIP. The long-term financial plan should be a rolling forecast with more emphasis placed on the upcoming five years. Key assumptions should be updated to develop reasonable and appropriate annual rate recommendations that are consistent with the County's most important pricing objectives and long-term goals.

## **Recommendation**

- The County should update and review the financial plan annually to support rate recommendations necessary to achieve financial self-sufficiency.

### **Comprehensive Cost of Service Rate Study**

The County has not conducted a comprehensive cost of service rate study in many years. Best practices indicated that a utility should conduct such a study every five years. A comprehensive rate study should include the tasks that are described below.

*Review of rate structure pricing objectives* – A comprehensive rate study should be initiated by first reviewing the rate setting pricing objectives of both the Water and Sewer Fund, staff members, and the ratemaking stakeholders, which in this case is the Citizen’s Advisory Committee and the Board of Supervisors. The Citizen’s Advisory Committee and the Board of Supervisors should identify its top rate setting pricing objectives which can then be used by Water and Sewer Fund staff to develop rates and a rate structure that balances these pricing objectives. Rate setting pricing objectives include, but are not limited to those in Exhibit G.

## Exhibit E: Rate Setting Pricing Objectives

<b>Pricing Objective</b>	<b>Description</b>
<b>Financial Sufficiency</b>	Ensure that adequate revenues are generated to meet the total “cash needs” of the utility including operating and maintenance costs, capital costs, debt service coverage requirements, and the maintenance of adequate capital reserves.
<b>Cost of Service Based Allocations</b>	The rate structure should ensure that each customer class is contributing equitably towards revenue requirements based upon the costs of providing service to each customer class.
<b>Minimization of Customer Impacts</b>	Changes to the rate structure or the level of rates should be structured to minimize customer impacts.
<b>Equitable Contributions from New Customers</b>	New customers should be responsible for making an equitable contribution toward the capital costs associated with providing system capacity to meet their needs.
<b>Economic Development</b>	The degree to which the rate structure is competitive with those of similar and adjacent communities, and the potential impact on prospective commercial and industrial customers.
<b>Rate Stability</b>	The degree to which rate continuity is maintained over time with a goal of avoiding erratic rate increases and decreases over the planning period.
<b>Affordability</b>	This objective seeks to minimize the impact of cost increases or changes to a rate structure on customer groups with low usage that typically include low income or fixed income customers.
<b>Simple to Understand and Update</b>	The rate structure should be simple for customers and staff to understand and update in future years.
<b>Ease of Implementation</b>	The rate structure should be compatible with the current billing system and other information systems.
<b>Legality</b>	The rate structure should be consistent with AWWA methodologies as well as any local regulations to ensure rates are defensible if challenged.
<b>Revenue Stability</b>	The rate structure should provide for a steady and predictable stream of revenues to the utility such that the utility is capable of meeting its current financial requirements.
<b>Conservation/Efficient Use of Water Resources</b>	This objective addresses the degree to which the rate structure promotes the optimal use of water resources. Conservation rate structures can be designed to increase overall efficiency of water use, reduce peak demand levels, and to reduce average consumption per customer.

Based on our preliminary assessment, the County may want to consider shifting more costs for recovery to a fixed charge to increase revenue stability. In addition, the current declining block sewer rates could be reduced or eliminated to be more consistent with cost of service principles. A decrease in unit costs for larger volumes of sewer flows may benefit larger commercial customers that generate wastewater flows with higher strength concentrations than residential customers.

*Review financial policies* – As discussed previously, the County does not maintain any specific financial policies for the Water and Sewer Fund. RFC has recommended several financial policies related to both operating and capital reserves, as well as additional reserves for rate stabilization. These financial policies should be reviewed periodically to ensure they are consistent with prevailing financial conditions.

*Detailed cost allocation analysis* – As part of a comprehensive cost of service study, a detailed cost allocation analysis should be conducted to classify costs and to identify which costs should be recovered from each utility, from fixed and variable charges, from each customer class, and from each rate tier. A detailed cost of service analysis follows industry accepted methodologies for designing water and sewer rates, as identified in the AWWA M-1 Manual and the Water Environment Federation.

*Detailed bill frequency analysis* – As part of a comprehensive cost of service study, a bill frequency analysis should be conducted. A bill frequency analysis provides for more accurate projection of revenues from rate increases because it allows the incorporation of price elasticity at different usage levels. It also provides more flexibility in terms of rate design.

*Review miscellaneous fees and upfront charges* – As part of a comprehensive cost of service study, miscellaneous fees, such as new account charges, turn on charges, etc., should be reviewed to ensure fees are recovering the cost to provide these services. Additionally, upfront charges, such as capacity fees or developer charges, should be reviewed to ensure they accurately reflect the cost of buying system capacity.

*Affordability of rates* – A baseline metric for assessing affordability involves the comparison of the annual water and sewer bill to median household income (MHI) of the utility’s service area. The Environmental Protection Agency (EPA) and AWWA defines affordability as 4.0% of MHI. However, as stated in the EPA’s “Small Drinking Water Systems Variances—Revision of Existing National-Level Affordability Methodology and Methodology”, it is also important to look at affordability at various income levels and not just at the MHI. The Commonwealth of Virginia provides additional flexibility for measuring affordability in rural system at a level of 2.5% MHI. The Water and Sewer Fund should review the affordability of rates and different levels of income to determine whether or not it may be reasonable to institute a formal affordability program for qualifying customers.

## **Recommendation**

- The County should conduct a comprehensive cost of service rate study for the Water and Sewer Fund that encompasses the elements identified above.

# Section 4. Management Analysis

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The findings and recommendation relating to the Department’s approach to management follow.

**Leadership: “Critical to effective utility management, particularly in the context of driving and inspiring change within an organization.”**

## **Best Practices, Peer Comparisons and/or Relevant Benchmarks:**

Effective leadership produces organizational alignment and clear direction. Effective leadership is best demonstrated by an organization’s commitment to excellence and a culture that embraces positive change. Leadership also has an important responsibility to communicate with the utility’s stakeholders and customers.

## **Key Findings**

GCPU has effective leadership that provides the organization with effective day-to-day direction. The leadership focus is directed toward addressing numerous capital needs, responding to the EPA Consent Order, shifting toward proactive maintenance of the most critical infrastructure, and addressing work planning and equipment staging facility needs for the field staff.

- Good Day-to-day organizational direction with a clear focus on maximizing effectiveness and efficiency of utility operations.
- Cohesive and collaborative leadership team.
- Employees appear to know the GCPU organizational priorities; however, these priorities could be better promoted to employees.

## **Recommendations**

- The GCPU should continue and enhance efforts to communicate organizational priorities throughout the Department.
- As part of a strategic planning effort, the Department should clearly articulate its vision, mission, and values.
- Within the context of County government, GCPU should continue to plan for the change of key administrative and for other potential personnel changes.

## **Strategic Planning: “Strategic planning is an important tool for achieving balance and cohesion across the attributes.”**

### **Best Practices, Peer Comparisons and/or Relevant Benchmarks**

A strategic plan provides the framework for decision making and it establishes the specific steps that will move a utility from its current level of performance to achieving its vision of future performance. 21<sup>st</sup> Century utilities that are guided by strategic plans are able to allocate resources more effectively and better communicate needs to stakeholders. Ultimately, strategic planning serves as the road map to elevate performance from a current level to some higher level, as defined by the utility’s stakeholders.

### **Key Findings**

The Department does not have a formal strategic plan that communicates the goals, objectives and strategies associated with moving the organization toward a future as described in its vision, mission and values.

- A document titled “Water and Sewer Utility Strategic Plan” was produced by EE&T, Inc. in January, 2006, and focused primarily on strategy associated with system expansion. While still relevant, this document does not address business strategies required for the County to drive effectiveness and efficiency associated with today’s economic conditions.
- GCPU has developed a recent capital improvement plan (CIP), but has no strategic business plan.

### **Recommendations**

- The Department should develop an inclusive strategic plan organized around the Ten Attributes of an Effectively Managed Utility. This plan should support the County’s Strategic Plan priorities and should be developed transparently with key stakeholder involvement.

## **Organizational Approaches: “There are a variety of organizational approaches that contribute to overall effective utility management.”**

### **Best Practices, Peer Comparisons and/or Relevant Benchmarks**

Organizational approaches used by successful 21<sup>st</sup> century utility organizations actively engage employees to identify improvement opportunities through the use of cross-functional teams. Further, organizational effectiveness is continually enhanced by embracing change management strategies, which encourage staff at all levels to identify and celebrate victories when effectiveness and efficiency goals are realized.

## **Key Findings**

The Department's organizational approach is sound, and employees work effectively to solve problems across the organization. The organization's division of responsibilities is primarily broken down between facilities (Water Treatment Plants), Field Operations, and Administration. Work duties appear to be distributed effectively. Regulatory requirements often dictate the number of staff and specific work tasks at the facilities and pump stations. The employee focus group meetings revealed a strong sense of loyalty to the organization and a good culture of cooperation between employees.

- The physical location separation between customer service and finance impacts can create confusion for GCPU customers.
- The Span of Control for utilities (Direct Reports) seems reasonable and appears to be manageable.
- In terms of Distribution of Duties, work responsibilities appear to be effectively managed; however, much of the operational resources are being consumed by emergency repairs at the utility's surface water treatment facility, pump stations and aging collection and distribution pipeline systems.
- The GCPU does not formally use teams; however, a strong culture of cooperation between all utility employees exists.

## **Recommendations**

- The Department should move forward with the planned relocation of the customer service staff to the same location as the County's Treasurer.
- GCPU should continue the use of project and process teams on major projects and consider establishing a standing team to address ongoing efficiency objectives.

## **Performance Measurement: "You can't manage what you don't measure"**

### **Best Practices, Peer Comparisons and/or Relevant Benchmarks**

Performance measurement is the backbone of improved performance across the Ten Attributes of an effectively managed utility. Establishing a set of performance objectives (measures) that are tied directly to Utility goals is an industry best practice. Performance measurement and reporting leads to establishing critical stakeholder support by focusing on key issues, clarifying expectations, and facilitating decision making.

## **Key Findings**

GCPU has no formal set of measures that are tracked or trended. This is primarily due to the fact that there is not a utility specific strategic plan with goals and objectives tied to specific strategies. Some amount of measurement is required by regulators, however many of the regulatory driven measurements are related to the Product Quality Attribute, which is only one of the 10 Attributes of an effectively managed utility.

## **Recommendations**

- The Department should establish a specific set of measures that drive the performance of the utility. Where available, this should include the use benchmarks to establish comparisons between GCPU and peer utilities. Where benchmarks are not available, measures should be tracked and trended. An initial set of recommended measures spread out across the ten attributes is provided in the operations section of this report.
- The GCPU measures should be expanded/modified as necessary to include measures developed jointly by key stakeholders.

**Continual Improvement Framework: “A continual improvement framework is usually implemented through a complete, start-to-finish management system, frequently referred to as “Plan-Do-Check-Act.”**

### **Best Practices, Peer Comparisons and/or Relevant Benchmarks**

Establishing a continual improvement management framework provides utility organizations with a structured way to guide investment and make operational decisions (changes), form the basis for ongoing measurement and provide the ability to communicate clearly with customers and key stakeholders. The most common description of a Continual Improvement Framework is Plan-Do-Check-Act:

#### **PLAN**

Establishes the objectives and processes necessary to deliver results in accordance with the expected output. Strategic Business Planning addresses the “Plan” in Plan-Do-Check-Act.

#### **DO**

Implement the plan, execute the process, make the product, and deliver the service. Collect data for charting from the performance measures and conduct analysis of the data as part of the following "CHECK" and “ACT” steps.

#### **CHECK**

Study the actual result and compare against the objectives established by the goals. Measuring and charting performance data over time allows for the formation of improvement “ACT”ions.

#### **ACT**

Make strategic plan changes (take action) as necessary to improve effectiveness and enhance efficiency of utility services.

### **Key Findings**

GCPU has no formal continual improvement program; however utility leadership communicates effectively the need to drive improvement throughout the operation. The economic challenges over the last several years have forced the utility to stretch its resources (capital, human and equipment) to a point

where further measurable improvement (gains in effectiveness & efficiency) would required increased investments in both technology and updated equipment to allow for a gradual shift (over a several year period) from a reactive mode of operation to a planned mode of operation.

## **Recommendations**

- The Department should institute a Plan-Do-Check-Act framework by developing a strategic plan, identifying measures, implementing strategies (many of which are already underway), checking performance and acting as necessary to make changes that will drive improved performance against measures.

# Section 5. Operations Analysis

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The findings and recommendation relating to the County Department approach to operations are presented below and are organized around the 10 Attributes of an effectively managed utility.

## Product Quality

### Best Practices, Peer Comparisons and/or Relevant Benchmarks

Product Quality “ensures wastewater capacity consistent with current and future customer needs through long-term capacity analysis, conservation, and public education. Explicitly considers its role and manages operations to provide for long-term aquifer and surface water sustainability and replenishment.” The table below is a selection of key performance indicators associated with the Product Quality Attribute.

Category	Relevant Measure Description	Unit	Calculation	Gloucester County Performance	Target, Range or Peer Group Comparison	Source
Compliance	Drinking Water Compliance Rate	%	100 x Days in full compliance/365	100%	100%	2007 QualServe
Service Delivery	Unplanned Service Interruptions	#	1000 x Number of customers > 4 hour/number of customers/yr.	0	.24 - 3.36	2007 QualServe
Service Delivery	Sewer Overflows	#	Number of sewer overflows per 100 miles of pipe/yr.	.34	2.5 - 10.06	2007 QualServe

### Key Findings

- Water quality has been excellent at GCPU. Management monitors carefully, communicates regularly about any key issues, and tries to fund repair and replacement of infrastructure as necessary through capital improvement planning. There have recently been a number of red water complaints.
- GCPU complies with regulatory requirements.
- GCPU continues to address ground water source challenges associated with Reverse Osmosis water treatment facility.
- Aging infrastructure (surface water treatment facility, distribution system, collection system and pump stations) will, over time, make meeting current and future regulatory requirements in treatment and collection/distribution difficult.

### Recommendations

- The Department should track and trend the recommended performance measures shown above.

- GCPU should continue to monitor water quality and fund repair and replacement in accordance with proposed Capital Improvement Plan.
- To address red water complaints, the Department should consider implementing a uni-directional flushing program.
- GCPU should expand the preventative maintenance (PM) program to include investment in a software system to manage and monitor overall PM needs.

## Customer Satisfaction

### Best Practices, Peer Comparisons and/or Relevant Benchmarks

Customer Satisfaction “provides reliable, responsive, and affordable services in line with explicit, customer-accepted service levels. Receives timely customer feedback to maintain responsiveness to customer needs and emergencies.” The table below is a selection of key performance indicators associated with the Customer Satisfaction Attribute.

Category	Relevant Measure Description	Unit	Calculation	Gloucester County Performance	Target, Range or Peer Group Comparison	Source
Customer Complaints	Customer Service Complaint Rate	#	1000 x Number of complaints per reporting period/number of customers	Not Measured	2.8 - 25.1	2007 QualServe

### Key Findings

- Customer service culture spans entire organizations.
- Dedication and responsiveness exhibited by customer service employees is among best in class.
- Customers report confusion regarding paying bills to finance vs. paying fees for new service.
- No customer service management system is in place to track customer issues electronically.
- It is difficult to provide consistently excellent service with old infrastructure.

### Recommendations

- The Department should track and trend the recommended performance measure shown above.
- GCPU should consider investment in customer service data system that can track customer inquiries and resolution performance.
- To measure satisfaction, the Department should conduct a survey of customers.

## Employee and Leadership Development

### Best Practices, Peer Comparisons and/or Relevant Benchmarks

Employee and Leadership Development “recruits and retains a workforce that is competent, motivated, adaptive, and safe-working. Establishes a participatory, collaborative organization dedicated to continual learning and improvement. Ensures employee institutional knowledge is retained and improved upon over time. Provides a focus on and emphasizes opportunities for professional and leadership development and strives to create an integrated and well-coordinated senior leadership team.” The table below is a selection of key performance indicators associated with the Employee and Leadership Development Attribute.

Category	Relevant Measure Description	Unit	Calculation	Gloucester County Performance	Target, Range or Peer Group Comparison	Source
Employee Retention & Satisfaction	Employee Turnover Rate	%	100 x Number of employee departures/total number of authorized positions per year	Track & Trend	No Benchmark Available	EUM Literature
Management of Core Competencies	Training Hours per Employee	#	Total training hours of formal training for all employees/total FTEs worked by employees during reporting period	16.94	13.7 - 34.8 Hrs/yr	2007 QualServe
Management of Core Competencies	Certification Coverage	%	100 x Number of certifications achieved or maintained/number of needed certification per year	89%	100%	EUM Literature

### Key Findings

- Employee resource utilization seems reasonable and an acceptable division of duties appears to be within industry norms.
- Employee focus group meetings revealed employee concern regarding lack of community and customer support of utility.
- Employee focus group meetings revealed frustration with inability to schedule time off due to lack of back up staff, specifically at the water treatment facility.
- Employee focus group meetings revealed a strong sense of gratification in working for the GCPU due to sense of purpose.
- Informal succession planning is being implemented to retain institutional knowledge.
- Competitiveness of salary/benefits program limits GCPU’s ability to attract and retain key management positions.
- Training perceived as being too low, yet performance indicates training within industry norms.
- Employees at all levels express concern regarding financial health of GCPU.

## Recommendations

- The Department should track and trend the recommended performance measures shown above.
- GCPU should review career ladders and employee compensation program to reward performance, certifications and training.
- The Department should also consider cross training of personnel to level imbalance in workload that may exist during times of vacation, emergencies etc. This may involve an incentive pay system for learning and using new skills.
- GCPU should establish individual employee target goals that tie to an overall utility strategy.
- Finally, the Department should consider establishing an employee recognition program for years of service, life milestones, going above and beyond the call of duty.

## Operational Optimization

### Best Practices, Peer Comparisons and/or Relevant Benchmarks

Operational Optimization “ensures ongoing, timely, cost-effective, reliable, and sustainable performance improvements in all facets of its operations. Minimizes resource use, loss, and impacts from day-to-day operations. Maintains awareness of information and operational technology developments to anticipate and support timely adoption of improvements.” The following table is a selection of key performance indicators associated with the Operational Optimization Attribute.

Category	Relevant Measure Description	Unit	Calculation	Gloucester County Performance	Target, Range or Peer Group Comparison	Source
Resource Optimization	Customer Accounts Per Employee	#	Number of (Water) accounts/number of FTEs	278	386-605	2007 QualServe
Resource Optimization	Customer Accounts Per Employee	#	Number of (Sewer) accounts/number of FTEs	349	378-658	
Resource Optimization	MGD Water Delivered/Processed Per Employee	#	Average MGD delivered or processed/number of FTEs	0.07	.24 - .13	2007 QualServe
Resource Optimization	O & M Cost Per Volume Delivered/Processed (Water)	#	Total O & M cost/MG delivered or processed	\$3,256	\$2,120 - \$3,329	2007 QualServe
Resource Optimization	O & M Cost Per Volume Delivered/Processed (Wastewater)	#	Total O & M cost/MG delivered or processed	\$3,392	\$2,083 - \$5,373	2007 QualServe
Water Management Efficiency	Distribution System Water Loss	%	100 x volume water distributed - (volume billed+unbilled authorized volume)/total volume distributed	19 %	3.9 - 13	2007 QualServe

## Key Findings

- GCPU has excess treatment capacity and serves a large service area which requires a fixed amount of labor, equipment, and capital investment.
- GCPU existing number of staff, while shown to be outside of industry norms for the number of accounts and the volume of water produced, is likely slightly below the number needed to address treatment plant, collection & distribution system operation and regulatory requirements.
- GCPU's aging infrastructure systems and in some cases out dated (hard to find replacement parts) technologies are stretching the available resources (labor, capital and equipment). Very little additional labor capacity is available to shift away from a reactive maintenance (fix it when it breaks) to a preventative maintenance operational strategy (planning maintenance management).
- Work staging and planning facilities (the yard) for field staff are well below acceptable industry standards.
- The percentage of GCPU non-revenue water is high relative to its peer utilities.
- Electronic work/maintenance management systems not being used by GCPU.
- The largest costs to GCPU are labor, chemicals, electricity and outsourcing. The Consent Order with sanitary sewer system is driving up the costs of professional services for what is a very small sanitary sewer system.
- O & M Costs, based on volume of water and/or wastewater processed, are within industry norms.

## Recommendations

- The Department should track and trend the recommended performance measures shown above.
- The Department should transition its facilities to become more automated by expanding its use of SCADA to its surface water treatment plant, water storage tanks and its wastewater pump stations. While there are no benchmarks available to directly measure productivity improvements from the use of SCADA, the efficiencies gained (labor hours) could then be channeled to address a number of unmet needs associated with the Department's aging infrastructure.
- GCPU should invest in system upgrades to facilitate a shift from reactive to proactive maintenance management.
- If possible, the Department should revisit chemical and electricity contracts.
- The largest maintenance and professional service contracts should be reviewed, to ensure that the best value is being provided to the County.

## Infrastructure Stability

### Best Practices, Peer Comparisons and/or Relevant Benchmarks

Infrastructure Stability “understands the condition of and costs associated with critical infrastructure assets. Maintains and enhances the condition of all assets over the long-term at the lowest possible life-cycle cost and acceptable risk consistent with customer, community, and regulator-supported service levels, and consistent with anticipated growth and system reliability goals. Assures asset repair, rehabilitation, and replacement efforts are coordinated within the community to minimize disruptions and other negative consequences.” The following table is a selection of key performance indicators associated with the Infrastructure Stability Attribute.

Category	Relevant Measure Description	Unit	Calculation	Gloucester County Performance	Target, Range or Peer Group Comparison	Source
Asset Inventory	Inventory Coverage	%	100 X (total number of critical assets inventoried within a reasonable period of time (e.g., 5-10 years) ÷ total number of critical assets)	60%	100%	EUM Literature
Asset Inventory	Condition Assessment Coverage	%	100 X (total number of critical assets with condition assessed and categorized into condition categories within a reasonable period of time (e.g., 5-10 years) ÷ total number of critical assets)	0%	100%	EUM Literature
Asset (system) renewal/replacement (pipelines)	Asset Renewal/Replacement Rate	%	100 X (total number of assets replaced per year for each asset class ÷ total number of assets in each asset class)	0.00%	2.6% - 0.9%	2007 Qualseve

### Key Findings

- Incomplete infrastructure mapping, inventory and condition registers
- No sustained replacement and renewal program for buried assets
- Very little historical investment in replacement of aging assets
- Significant capital needs, driven both by regulatory requirements and loss of function.

### Recommendations

- The Department should track and trend recommended performance measures shown above.

- GCPU should institute asset management approach to life-cycle costing of all assets driven by complete asset registers and adequately funding a proactive maintenance program.
- The Department should begin replacement and renewal of the most critical assets, as defined in the CIP.
- The Department should also leverage County’s GIS resources to complete system mapping and inventory registers.

## Operational Resiliency

### Best Practices, Peer Comparisons and/or Relevant Benchmarks:

Operational Resiliency “ensures utility leadership and staff work together to anticipate and avoid problems. Proactively identifies, assesses, establishes tolerance levels for, and effectively manages a full range of business risks (including legal, regulatory, financial, environmental, safety, security, and natural disaster-related) in a proactive way consistent with industry trends and system reliability goals.” The table below is a selection of key performance indicators associated with the Operational Resiliency Attribute.

Category	Relevant Measure Description	Unit	Calculation	Gloucester County Performance	Target, Range or Peer Group Comparison	Source
Insurance claims	Number of insurance claims	#	Number of general liability and auto insurance claims per 200,000 employee hours worked	Track & Trend	Set GCPU Specific Target	EUM Literature
Ongoing operational resiliency	Power Resiliency	#	Period of time (e.g., hours or days) for which backup power is available for critical operations	Track & Trend	100%	EUM Literature
Risk assessment and response preparedness	Number and frequency of ERP trainings per year	#	100 X (number of employees who participate in ERP trainings ÷ total number of employees)	Track & Trend	Set GCPU Specific Target	EUM Literature

### Key Findings

- Evidence of effective emergency response planning
- Aging surface water treatment plant and water quality concerns in one ground water source for the Reverse Osmosis facility are potential threats to GCPU treatment systems operational resiliency.
- Lack of permanent stand-by power generation at both water treatment facilities and select pump stations are operational resiliency threats to the Department.
- EPA enforcement actions serve to enhance collection system operational resiliency while adding to the financial burden of GCPU.
- No interconnection between GCPU and other water utilities exists.

## **Recommendations**

- The Department should track and trend the recommended performance measures shown above.
- GCPU should address stand-by power requirements.
- Finally, GCPU should explore the feasibility of an inter-governmental agreement to interconnect with another water provider to add redundancy to the GCPU water system.

## **Community Sustainability**

### **Best Practices, Peer Comparisons and/or Relevant Benchmarks**

Community Sustainability “is explicitly cognizant of and attentive to the impacts its decisions have on current and long-term future community and watershed health and welfare. Manages operations, infrastructure, and investments to protect, restore, and enhance the natural environment; efficiently uses water and energy resources; promotes economic vitality; and engenders overall community improvement. Explicitly considers a variety of pollution prevention, watershed, and source water protection approaches as part of an overall strategy to maintain and enhance ecological and community sustainability.” The best practices for Community Sustainability include being aware of the utility’s impact on the community and the environment. Often referred to the triple bottom line – economic, social and environment best practice performance is achieved by successfully balancing competing priorities.

### **Key Findings**

- The investment in water and sewer utilities has significantly enhance economic development and growth along the Hwy 17 corridor and within the Gloucester Courthouse and Gloucester Point areas.
- Excess capacity currently exists and the slowdown in economic activity is creating financial stress for GCPU.
- Upon the return of economic activity the County is well positioned to benefit from its investment in the GCPU
- GCPU rates are high relative to its peers.

### **Recommendations**

- The Department should promote its value and its impact on economic growth and vitality.
- The Department should also communicate the environmental stewardship value and recreation availability associated with the Reservoir.

## Resource Adequacy

### Best Practices, Peer Comparisons and/or Relevant Benchmarks

Resource Adequacy “ensures water and wastewater capacity consistent with current and future customer needs through long-term capacity analysis, conservation, and public education.” Best practice performance in resource adequacy ensures that a long-term plan is in place which addresses aquifer and surface water replenishment.

### Key Findings

- Excess capacity exists within the GCPU raw water and treatment systems.
- GCPU water connection and availability policies do not adequately address the need to utilize available capacity within the system.

### Recommendations

- GCPU should review the current policy associated with addressing the need to expand the systems customer base and leverage the public’s investment in the GCPU.
- The Department should consider establishing an intergovernmental agreement to connect with a neighboring utility to address long-term (build-out) capacity requirements.

## Stakeholder Understanding and Support

### Best Practices, Peer Comparisons and/or Relevant Benchmarks

Stakeholder Understanding and Support “engenders understanding and support from oversight bodies, community and watershed interests, and regulatory bodies for service levels, rate structures, operating budgets, capital improvement programs, and risk management decisions. Actively involves stakeholders in the decisions that will affect them.” The table below is a key performance indicator associated with the Stakeholder Understanding and Support Attribute.

Category	Relevant Measure Description	Unit	Calculation	Gloucester County Performance	Target, Range or Peer Group Comparison	Source
Media/press coverage	Amount of coverage	#	Total number of media stories (newspaper, TV, radio, etc.) concerning the utility per year.	Track & Trend	None Available	EUM Literature

### Key Findings

- The Department would benefit from an enhanced public outreach program.

- Like most utility organizations, GCPU would benefit by communicating the value of municipal water more aggressively.
- GCPU will benefit from the establishment of a performance measurement and monitoring program to communicate effectiveness and efficiency

## **Recommendations**

- The Department should track and trend the recommended performance measure shown above.
- Marketing the utility better including an emphasis of its impact on economic development would benefit the GCPU.
- The Department should increase interaction with Editorial Boards.
- GCPU should work with local schools on an education program, providing speakers for Earth Day, etc., and set up speaking engagements to civic groups, home owners associations, church groups etc.
- Finally, the department should include performance measurement reporting in reporting to the Board.

# **Appendix A**



# Public Utilities Assessment

*Gloucester County, Virginia*



# Who is RFC/SUNESIS?

- Raftelis Financial Consultants, Inc.

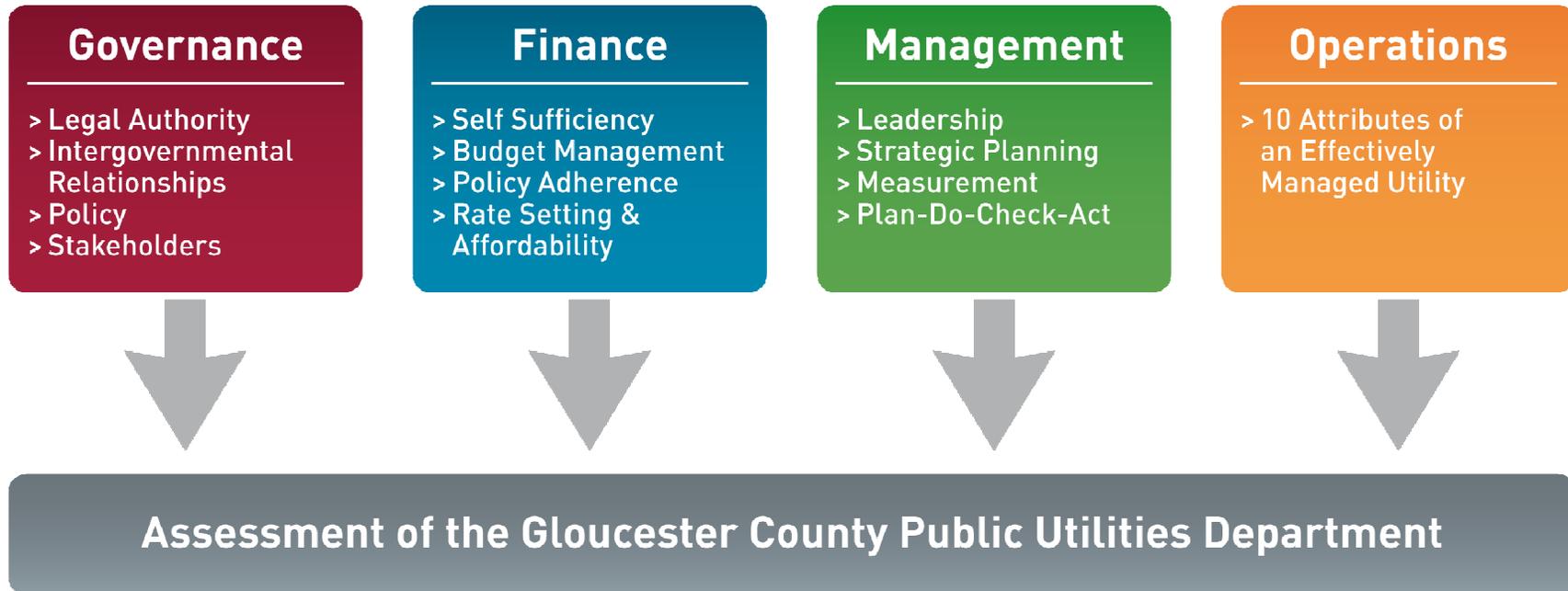
- Founded 1993
  - Staff - 30
  - Offices - 4
- Leader in financial planning and rate studies
- Focus on water and wastewater utilities
- Served more than 500 utilities

- SUNESIS

- Management and organizational consulting division
- Leader in evolution and implementation of Effective Utility Management



# The Four Pillars



# 10 Attributes of an Effectively Managed Utility



*Product Quality*

*Customer Satisfaction*

*Employee/Leadership Development*

*Operational Optimization*

*Financial Viability*

*Infrastructure Stability*

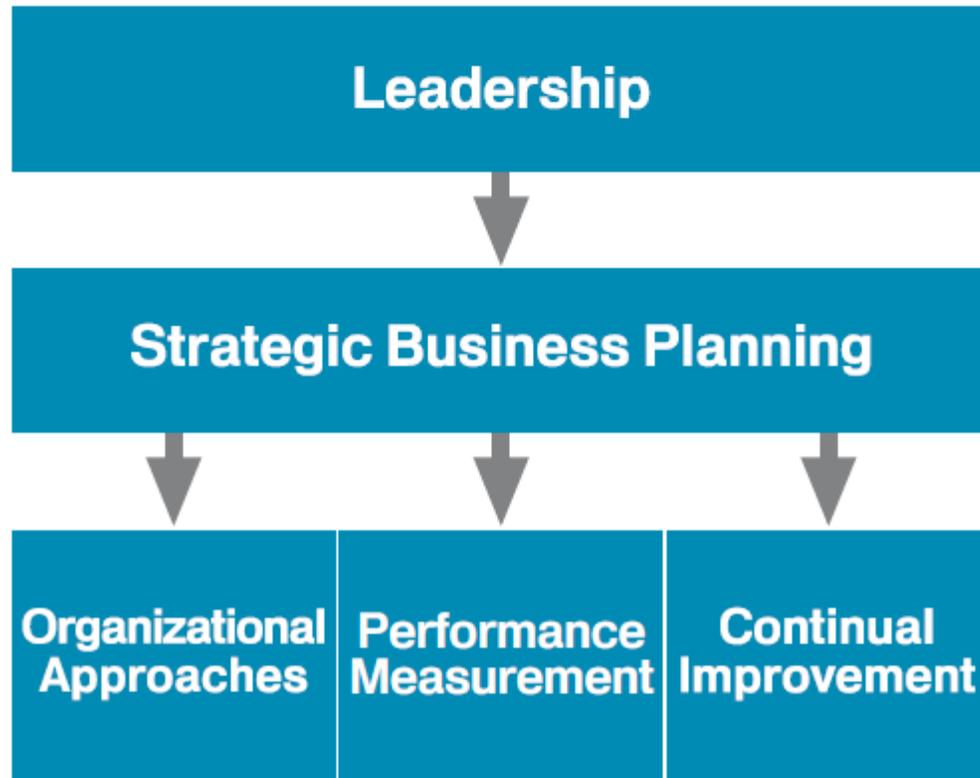
*Operational Resiliency*

*Community Sustainability*

*Water Resource Adequacy*

*Stakeholder Understanding/Support*

## 5 Keys to Management Success



# Our Comprehensive Approach



# Why is this Important?

## *The value of public utilities*

- ◆ Protect public health
- ◆ Protect the environment
- ◆ Empower economic development

# Overview of Findings

- The enterprise fund is not self-sufficient
  - Significant gap between revenues and expenses
  - General Fund subsidies
  - Large debt
- Utility Staff and Leadership are competent and hardworking
  - Strong sense of purpose
  - Culture of customer service
- The Utilities Department is grappling with unmet needs
  - Efficient given current situation
  - Reactionary maintenance and repair

# Governance Assessment

- **Is the current governance structure in Gloucester County (Department of County Government) impacting the effectiveness of utility operations?**

# Governance Assessment

## ◆ Key Finding

- The current governance structure is not a barrier to effective utility operations

## ◆ Key Recommendations

- Conduct a comprehensive review of development policies and fees
- Encourage a higher density of mixed use development in areas where services are available or could be easily extended
- Remove rates from Gloucester County Code of Ordinances
- Create a utility-specific strategic plan
- Explore the long-term feasibility of merging the utility system with that of a regional provider

# Management Assessment

- **Does the Utilities Department have a measurable strategic plan that utility leadership effectively communicates and monitors?**

# Management Assessment

## ◆ Key Findings

- The Department has a cohesive and collaborative leadership team that devotes most of its attention to emergency repairs of an aging system

## ◆ Key Recommendations

- Develop a strategic plan using the Effective Utility Management framework
- Establish a specific set of performance-driving metrics
- Continue succession planning to prepare for potential changes in key administration and personnel
- Move forward with merging the location of the utility administration & customer service staff with the County's revenue department

# Operations Assessment

- **Is the Department efficient in its use of personnel and resources?**

# Operations Assessment

## ◆ Key Finding

- The Department is efficient considering the age of the system, a small customer base, and excess capacity

## ◆ Key Recommendations

- Replace the current maintenance operations complex
- Consider investment in a computerized work order and maintenance management system
- Institute asset management approaches with system mapping and inventory registers
- Expand automation of plants and pump stations

# What is Financial Self-Sufficiency?

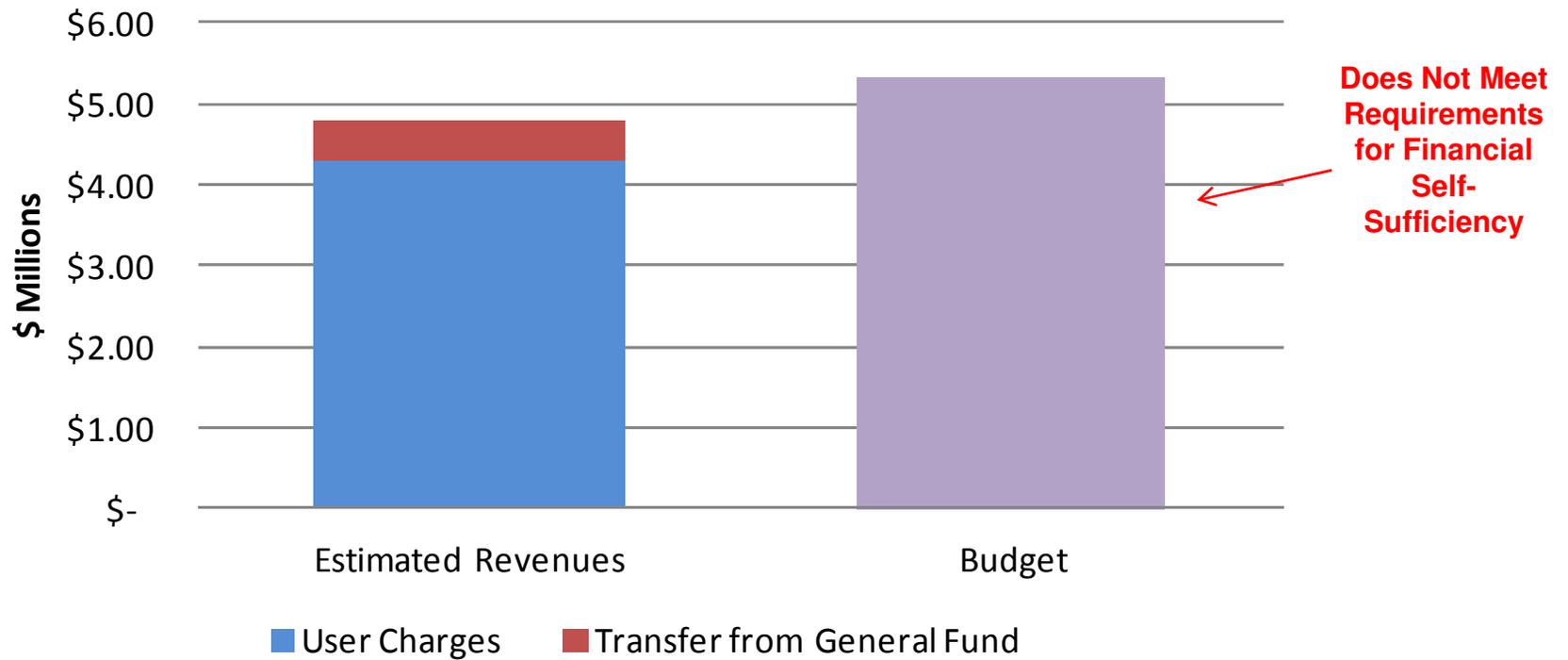
- Objective: To provide adequate revenues to ensure the long-term, efficient operation of the utility
- “Full Cost” of Operations
  - O&M expenses
  - Capital requirements
    - Debt service & coverage
    - System reinvestment (e.g. asset repair & replacement)
    - Improvements and expansions
  - Reserves

# Finance Findings

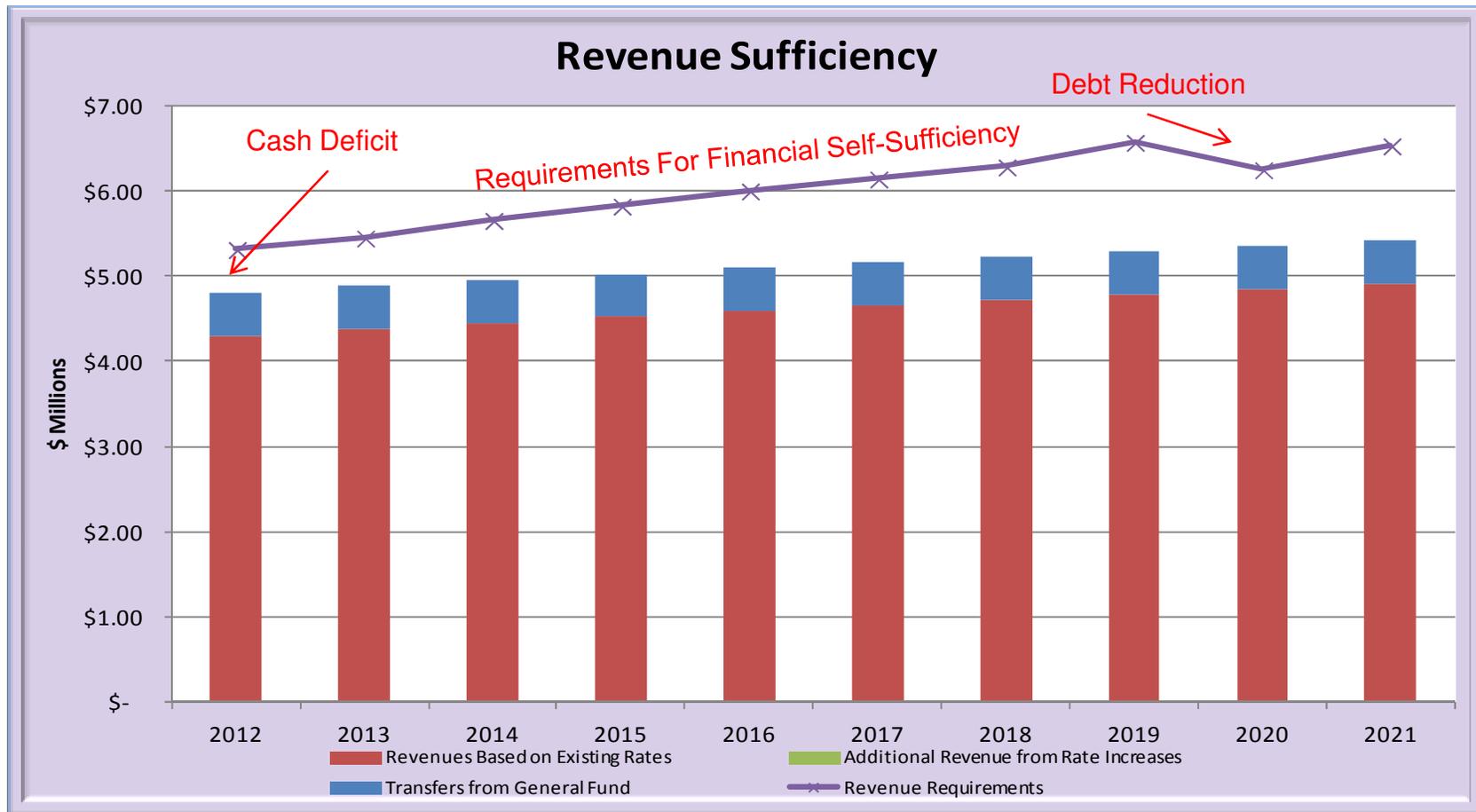
- Water and Sewer Fund Not Self-Sufficient
  - Insufficient revenues from user charges
  - Requires General Fund subsidy
  - Substantial debt from prior capital investments (reservoir & RO facility)
    - Excess capacity, minimal growth, limited economies of scale, and relatively high rates
- Lack of Financial Policies
- Need for a Comprehensive Cost of Service analysis

# Current Conditions

## Revenue Sufficiency (FY 2012)



# Long-Term Revenue Sufficiency



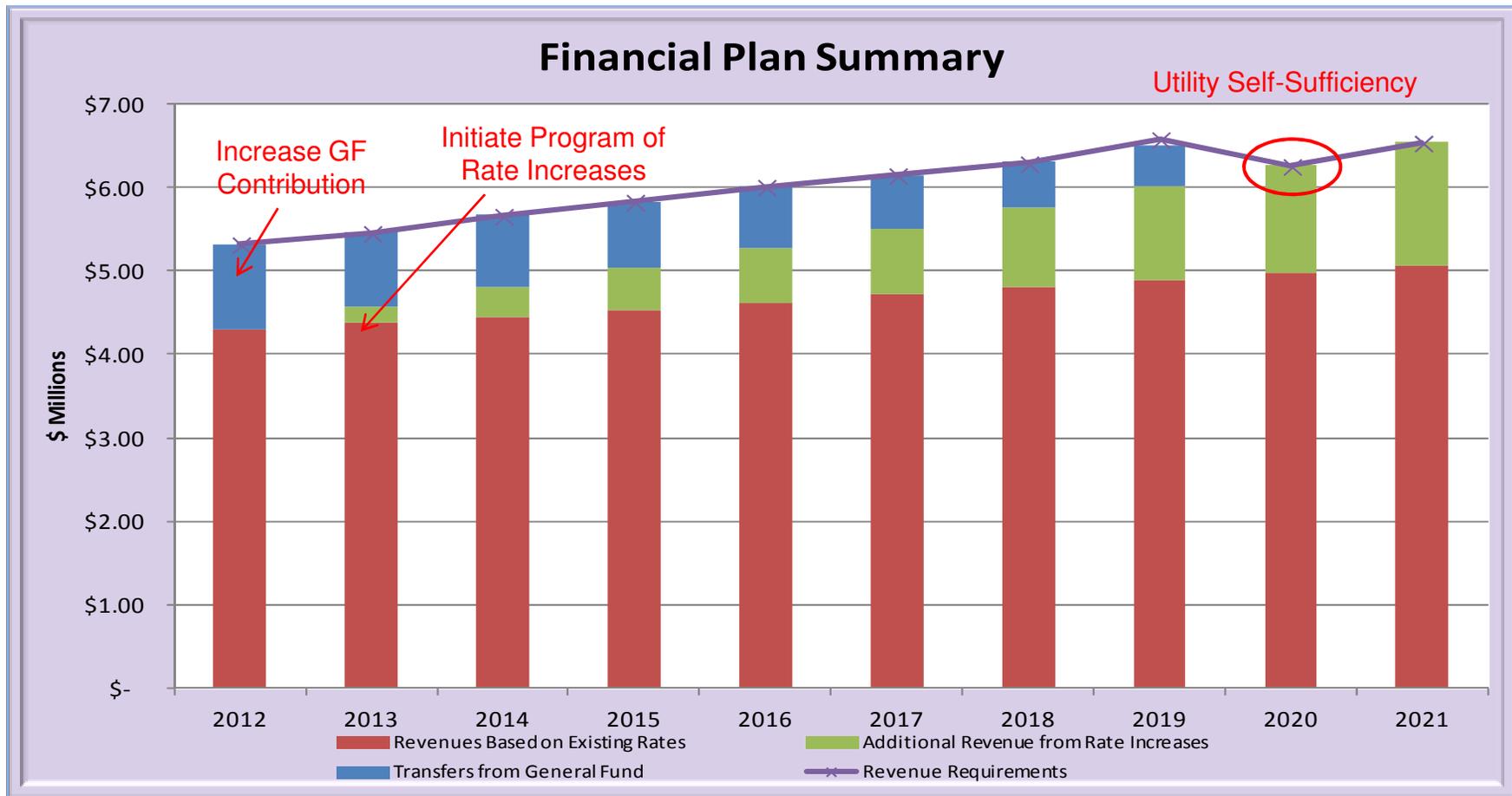
# Finance Recommendations

- ◆ Financial Sufficiency
  - Phased-approach that includes systematic, annual water and sewer rate increases over the next 10 years
    - More aggressive initially (4.0% - 5.0%) and inflationary thereafter (approx. 3.0%)
    - Review annually with consideration for indexed adjustments
  - Establish a framework for determining the annual contribution from the General Fund
    - Tied specifically to support existing water supply debt
    - Utility debt burden consistent with industry benchmarks
  - Allow the General Fund to support any new debt until Water and Sewer Fund is self-sufficient

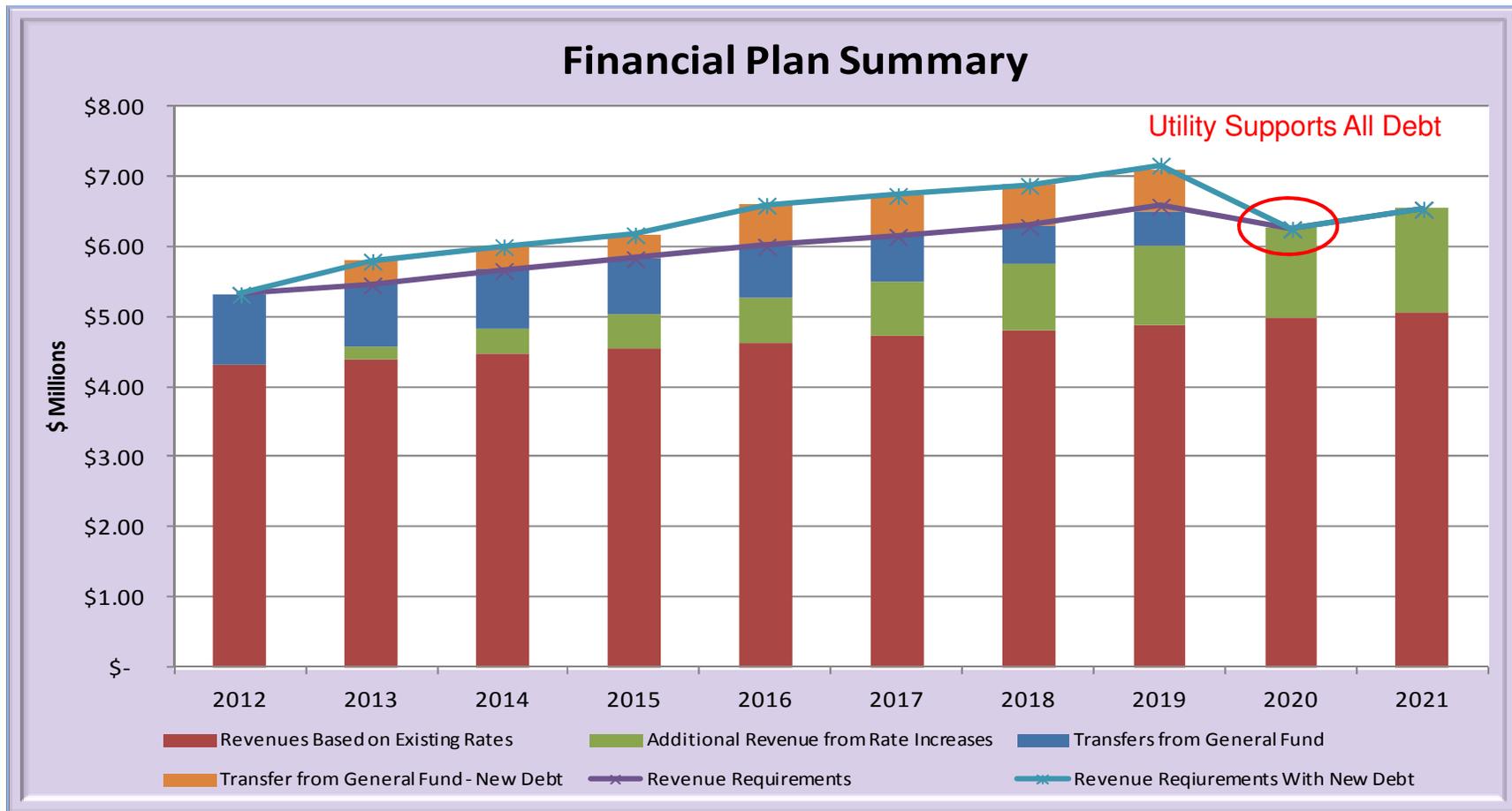
# Finance Recommendations

- Financial Policies
  - Reserves (Short-Term)
    - Operating (120 days O&M expenses)
    - Capital repair and replacement (annual depreciation)
  - Reserves (Long-Term)
    - Rate stabilization (10% annual rate revenue)
    - Capital improvements (average annual 5-year capital program)
  - Debt service coverage ratio of at least 1.20 (utility net revenues only)
  - Cash funded capital improvements (10% - 30% annual capital costs)
- Conduct a comprehensive Cost of Service Analysis

# Long-Term Financial Plan



# Long-Term Financial Plan



# Summary - Findings

- The Gloucester County Public Utilities Department is a valuable public asset
- The current situation is unsustainable
- If nothing is done to meet unmet needs, there will be serious financial, environmental, and regulatory impacts

# Summary - Recommendations

- The Department should set a goal to be self-supporting by 2020
- Financial policies should be adopted and followed
- Service should be extended to underserved areas with the aid of a comprehensive land use plan and a review of development policies
- A utility-specific strategic plan with measurable objectives is needed



# Thank You!

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## **Appendix B**



**GLOUCESTER COUNTY PUBLIC UTILITIES  
DEPARTMENT OPERATIONAL REVIEW**  
Sense of Stakeholder Interviews & On-line Survey  
September 2011



# Strengths

- Cohesive management team with strong internal communication
- Dedicated staff & team environment
- Past investments
- Adequate raw surface water
- Survey results indicate positive performance on most attributes
- Demonstrated excellence in customer service



# Weaknesses

- Significant debt from past investments
- Challenging economic conditions
- Lack of field operations facilities
- Reactive rather than preventative maintenance
- Limited ability to add customers
- Regional competition makes keeping staff difficult

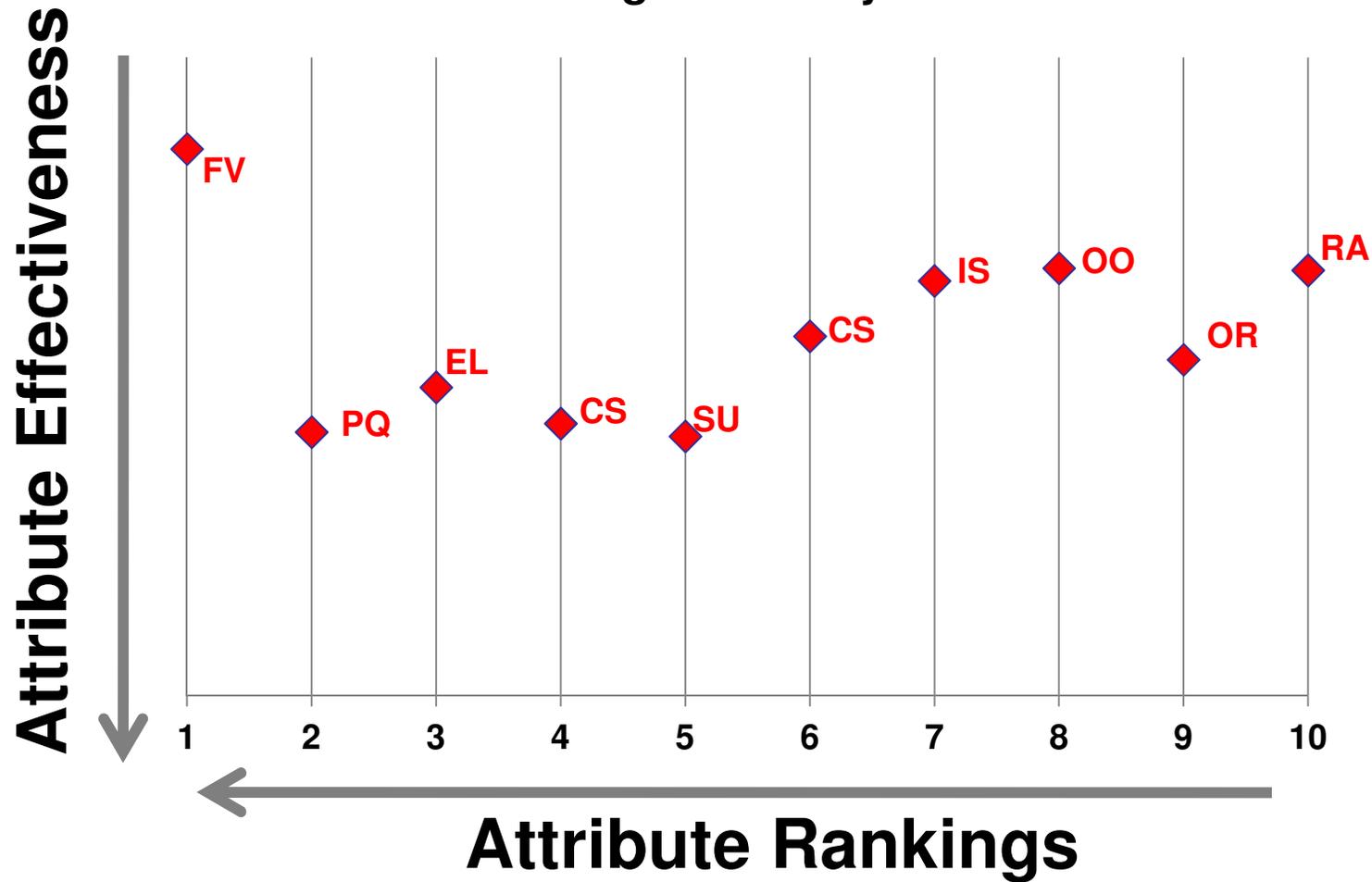


# Opportunities

- Increased stakeholder understanding & support
- Proactive financial analysis and planning
- Identifying utility specific financial policies and targets
- Planned enhancement of field operations facilities
- Regional collaboration



## Gloucester Virginia Survey Results



# Product Quality

Product Quality Water	
<b>Helpers</b> <ul style="list-style-type: none"><li>□ Beaver Reservoir</li><li>□ Relatively New System</li><li>□ Dedicated Staff</li><li>□ <b>Sense of Capital Investment Needs</b></li></ul>	<b>Inhibitors</b> <ul style="list-style-type: none"><li>□ Poor Ground Water Sources for RO Plant</li><li>□ In places old infrastructure</li><li>□ Lack of Renewal/Replacement Plan</li></ul>
<b>Potential Actions</b> <ul style="list-style-type: none"><li>□ Adequately plan for replacement needs</li><li>□ Fund CIP Plan</li><li>□ <b>Track and Trend Key Performance Metrics</b></li></ul>	

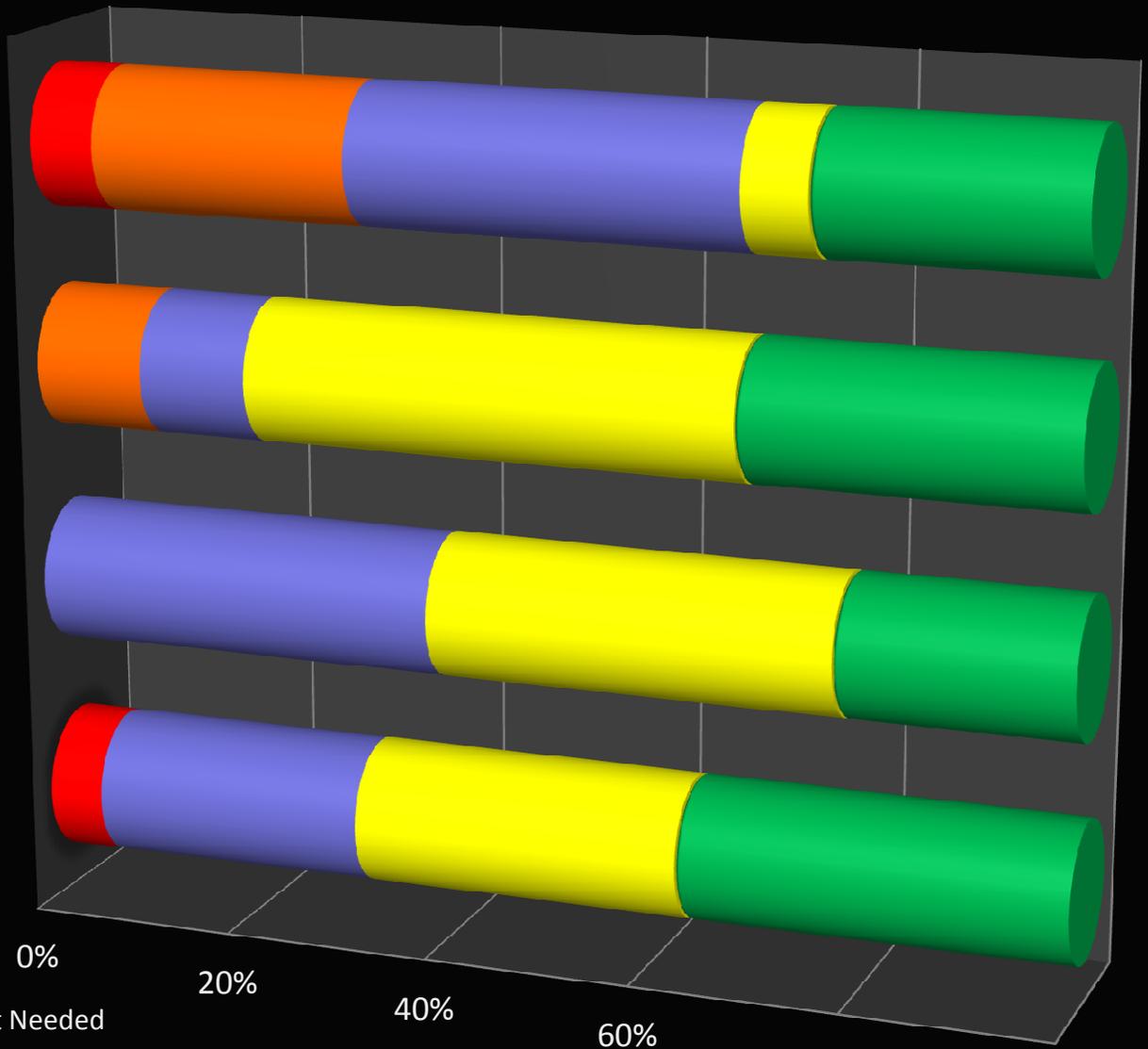


**Positive taste,  
odorless and  
colorless**

**Excellent service  
delivery**

**Meets public health  
and ecological needs**

**Complies with  
regulations**



■ Not Addressed or Significant Improvement Needed

■ Addressed, but Improvement Needed

■ Effective Performance

■ Very Good Performance

■ Demonstrated Best Practice

**Product Quality**

# Employee & Leadership Development

Employee and Leadership Development	
<p style="text-align: center;"><u>Helpers</u></p> <ul style="list-style-type: none"><li>❑ Strong bench</li><li>❑ Job security</li><li>❑ Quality of life</li><li>❑ County-wide management structure</li><li>❑ Good use of teams</li></ul>	<p style="text-align: center;"><u>Inhibitors</u></p> <ul style="list-style-type: none"><li>❑ Availability of merit pay increases for certification achievement</li><li>❑ Pay scale</li><li>❑ Cost of training</li><li>❑ Small size of organization makes taking staff “off-line” for training very disruptive to operations</li></ul>
<p><b>Potential Actions</b></p> <ul style="list-style-type: none"><li>❑ Pay/Salary survey should be conducted</li><li>❑ Time/Money for enhanced training</li><li>❑ <b>Track &amp; Trend Key Performance Metrics</b></li></ul>	



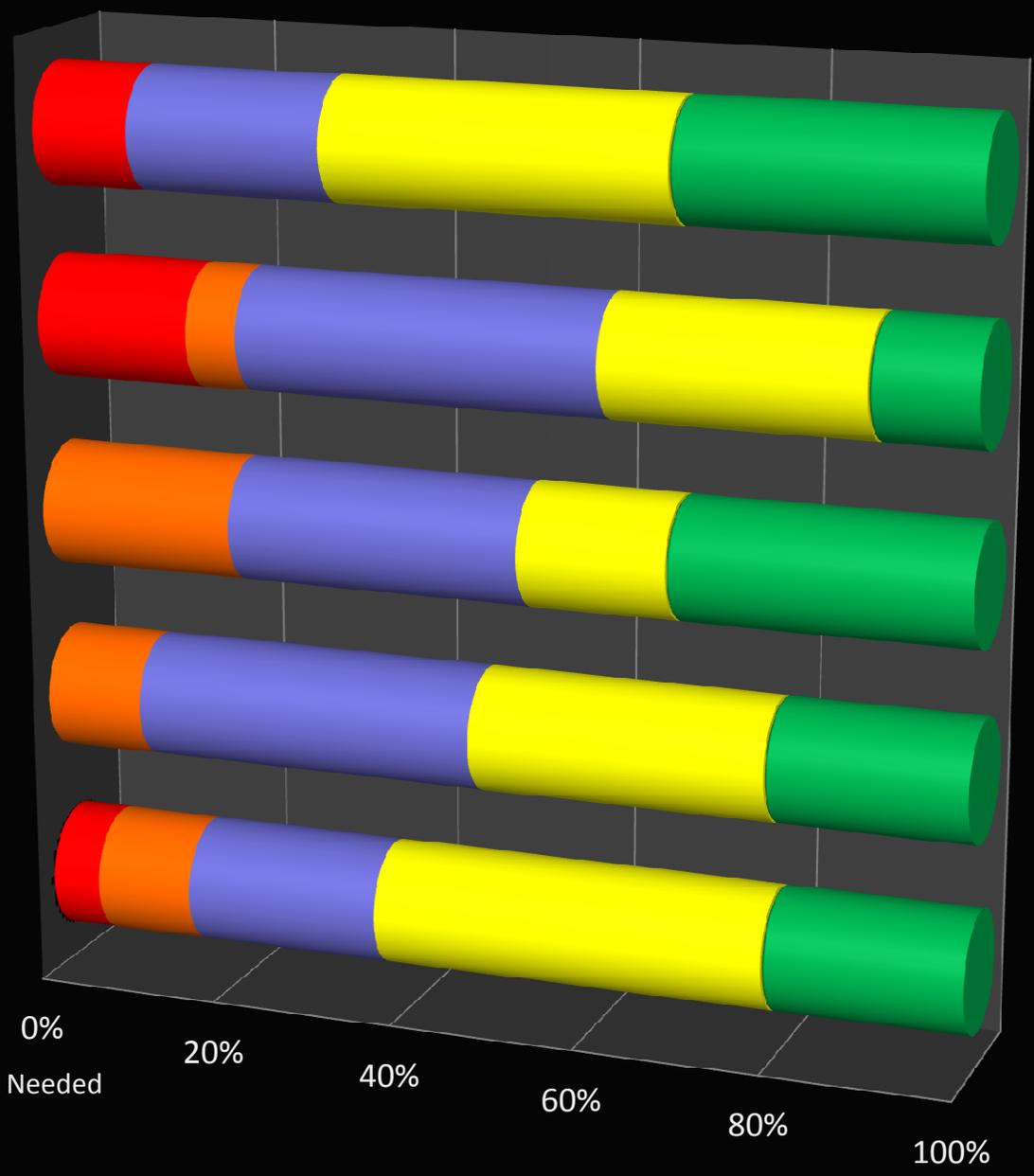
**Integrated and well-coordinated senior leadership**

**Professional and leadership development program in place**

**Employee institutional knowledge is retained and improved**

**Is a collaborative organization with continual learning and improvement**

**Has competent workforce**



Not Addressed or Significant Improvement Needed

Addressed, but Improvement Needed

Effective Performance

Very Good Performance

Demonstrated Best Practice

0% 20% 40% 60% 80% 100%

**Employee and Leadership Development**

# Financial Viability

Financial Viability	
<p><b><u>Helpers</u></b></p> <ul style="list-style-type: none"><li>□</li><li>□</li><li>□</li><li>□</li><li>□</li></ul>	<p><b><u>Inhibitors</u></b></p> <ul style="list-style-type: none"><li>□ Reactive Rate Increases</li><li>□ Significant debt</li><li>□ Limited economies of scale</li><li>□ Connection enforcement</li><li>□ No financial plan</li></ul>
<p><b>Potential Actions</b></p> <ul style="list-style-type: none"><li>□ Develop high level financial plan (extend to 10 years)</li><li>□ Evaluate alternative funding structures (e.g. tax base versus user charges)</li><li>□ Explore rate structure alternatives</li><li>□</li></ul>	



Has well designed rate structure

Good financial condition

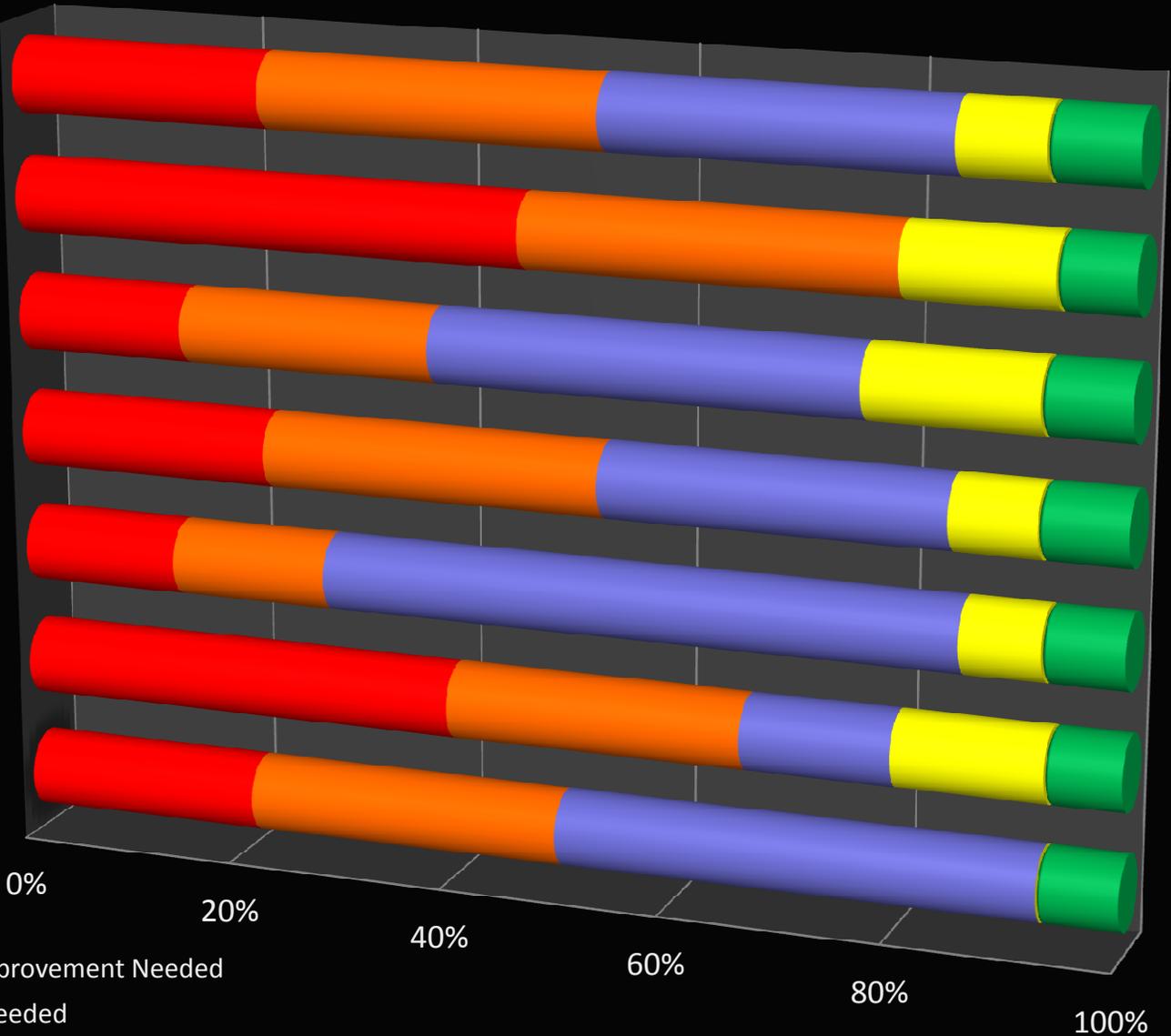
Good budget management

Maintains positive bond ratings

Has predictable unit costs

Has an effective financial planning process

Uses life-cycle costs in selecting projects



0% 20% 40% 60% 80% 100%

- Not Addressed or Significant Improvement Needed
- Addressed, but Improvement Needed
- Effective Performance
- Very Good Performance
- Demonstrated Best Practice

**Financial Viability**

# Community Sustainability

## Community Sustainability

### Helpers

- **The availability of water utilities has supported economic growth in the County**
- 
- 
- 

### Inhibitors

- **Costs are approaching upper limits of industry guidelines for affordability**
- 
- 
- 

### Potential Actions

- **Promote value of utility availability to community and environmental stewardship associated with Beaver Reservoir**

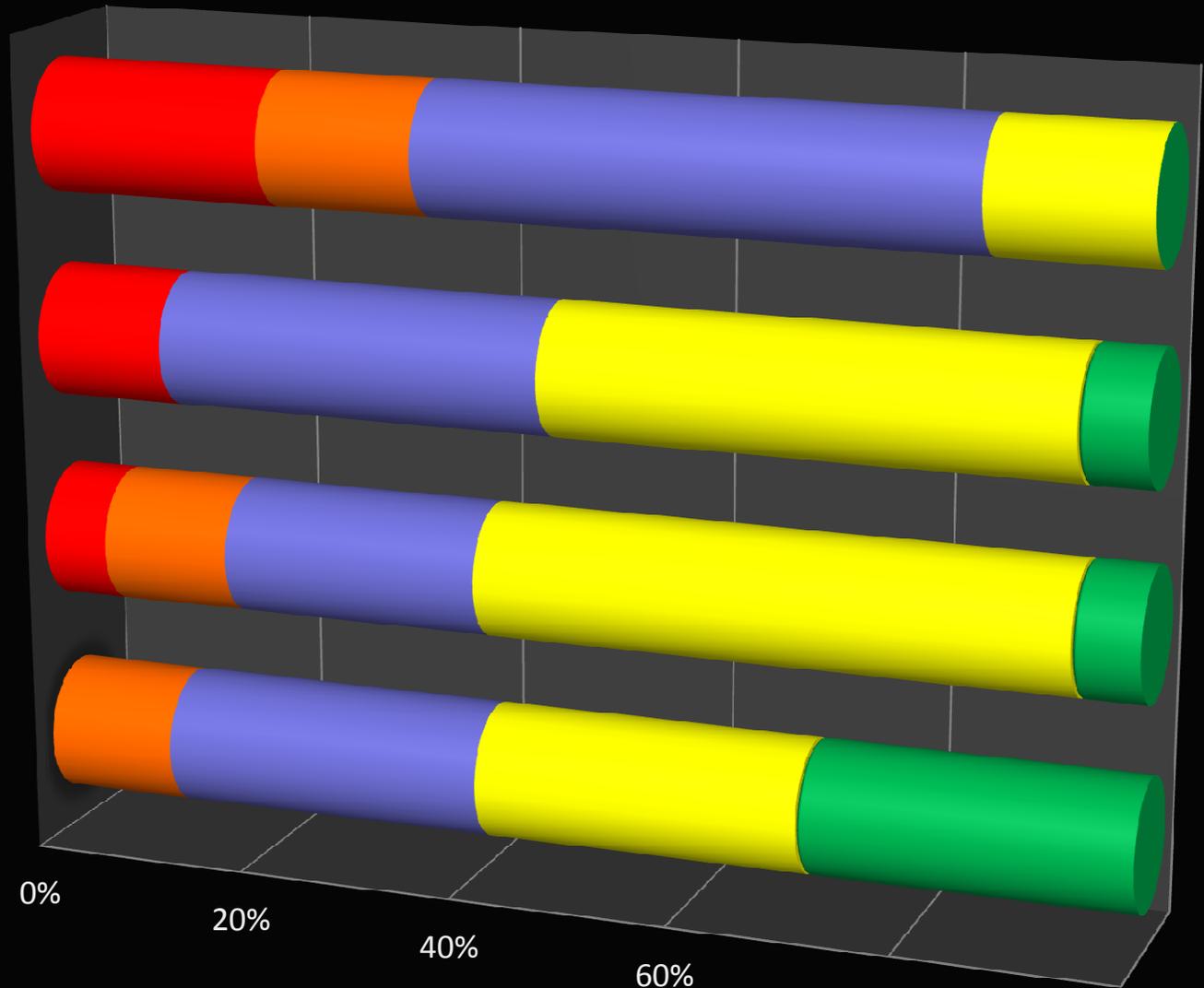


Is viewed as competitive compared to its peers

Maintains and enhances ecological and community sustainability

Efficiently uses water and energy resources; promotes economic vitality

Positive impact on adjacent communities and watershed health and welfare



0%

20%

40%

60%

80%

100%

Not Addressed or Significant Improvement Needed

Addressed, but Improvement Needed

Effective Performance

Very Good Performance

Demonstrated Best Practice

**Community Sustainability**

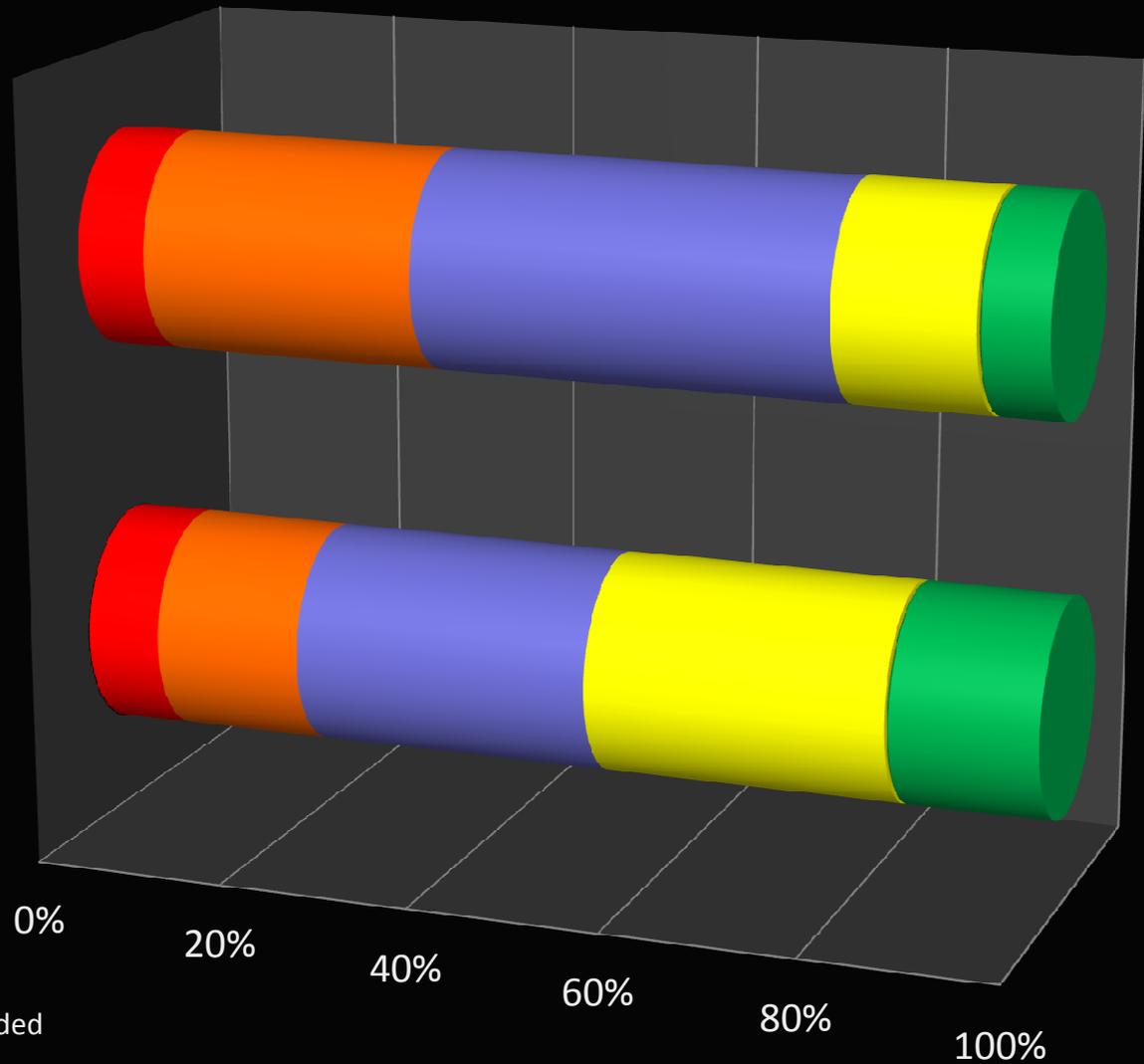
# Stakeholder Understanding & Support

Stakeholder Understanding and Support	
<u>Helpers</u>	<u>Inhibitors</u>
<ul style="list-style-type: none"><li>❑ Advisory Committee</li><li>❑ Option for irrigation meters</li><li>❑</li></ul>	<ul style="list-style-type: none"><li>❑ <b>Public perceptions</b></li><li>❑</li><li>❑</li><li>❑</li></ul>
<b>Potential Actions</b> <ul style="list-style-type: none"><li>❑ <b>Promote/demonstrate value of municipal water</b></li><li>❑ <b>Demonstrate performance/needs through performance measurement &amp; monitoring program</b></li><li>❑</li><li>❑</li></ul>	



Actively involves stakeholders in the decisions that will affect them

Engenders understanding and support from oversight bodies, community and watershed interests, and regulatory bodies



- Not Addressed or Significant Improvement Needed
- Addressed, but Improvement Needed
- Effective Performance
- Very Good Performance
- Demonstrated Best Practice

### Stakeholder Understanding and Support

# Customer Satisfaction

Customer Satisfaction	
<p style="text-align: center;"><u>Helpers</u></p> <ul style="list-style-type: none"><li>□ Immediate Phone Responses</li><li>□ Rapid Response to Work Orders for Repairs</li><li>□ Dedicated Office Staff</li><li>□ Professional Engagement of Customers by Field Staff</li></ul>	<p style="text-align: center;"><u>Inhibitors</u></p> <ul style="list-style-type: none"><li>□ Perceived high cost of services, particularly initial services</li><li>□ Physical location separation between Utilities' Billing, Meter Reading, Customer Services and Collections</li><li>□ Internal communications</li></ul>
<p><b>Potential Actions</b></p> <ul style="list-style-type: none"><li>□ Better communication describing the difference between locations to pay monthly bills vs. paying fees for new service</li><li>□ Change in physical location of departments</li><li>□ <b>Track &amp; Trend Key Performance Metrics</b></li></ul>	

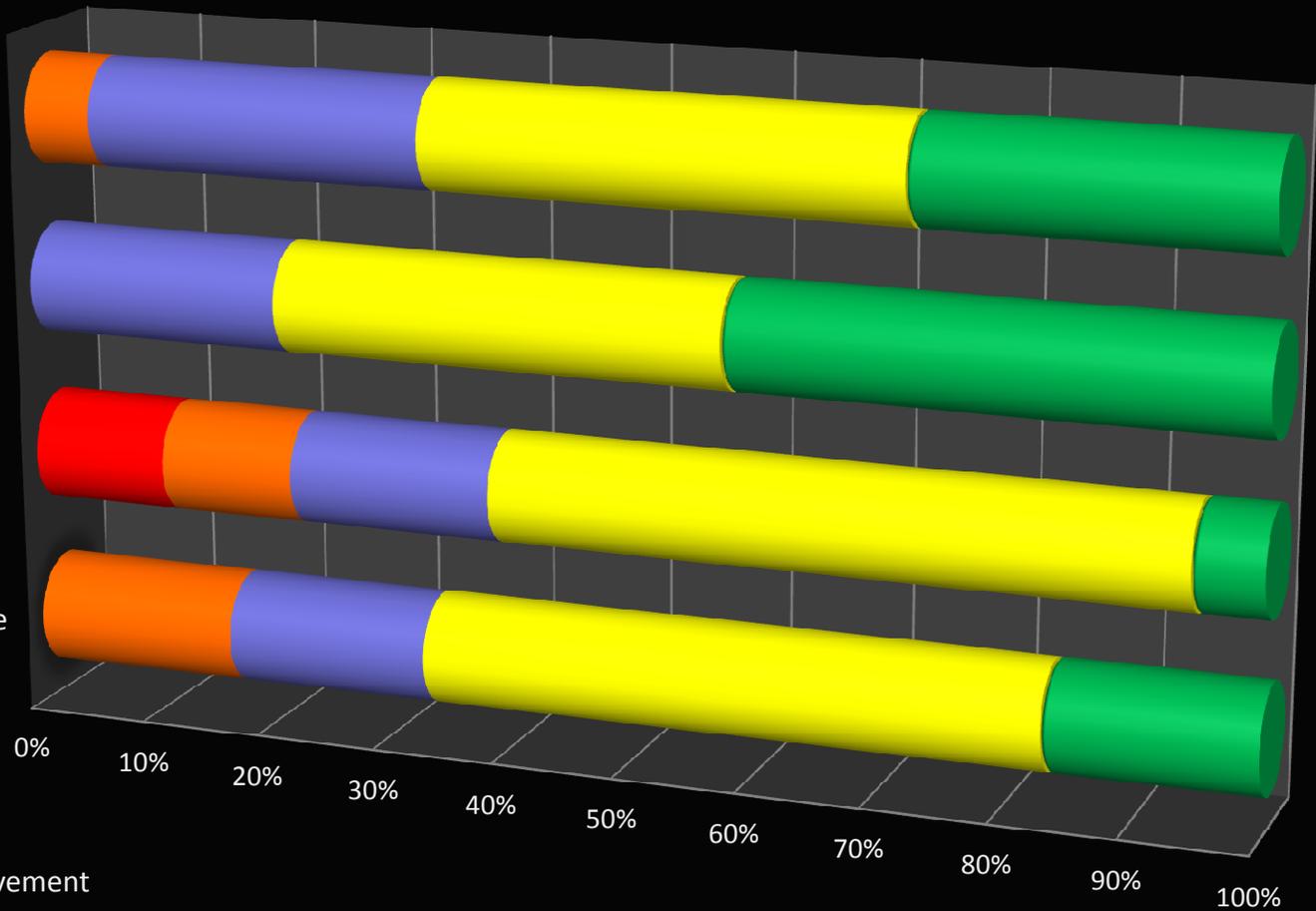


Customer service attitude spans entire organization

Responsive to customer needs and emergencies

Receives timely customer feedback

Provides reliable, responsive, and affordable services.



■ Not Addressed or Significant Improvement Needed

■ Addressed, but Improvement Needed

■ Effective Performance

■ Very Good Performance

■ Demonstrated Best Practice

## Customer Satisfaction

# Operational Optimization

## Operational Optimization

### Helpers

- ❑ Dedicated worker
- ❑ SCADA at RO Plant
- ❑ Recent Automation of Meter Reading with Handheld Devices
- ❑ GIS Mapping (in process)

### Inhibitors

- ❑ Old poor condition of some shop equipment
- ❑ Funding
- ❑ No SCADA at Surface Water Plant
- ❑ Paper Work Order System (not computer generated)
- ❑ No Asset Replacement Register

### Potential Actions

- ❑ **Institute Computerized Work Management System (resource loaded)**
- ❑ **Upgrade antiquated facilities, equipment, systems and technologies**
- ❑ **Track & Trend Key Performance Metrics**

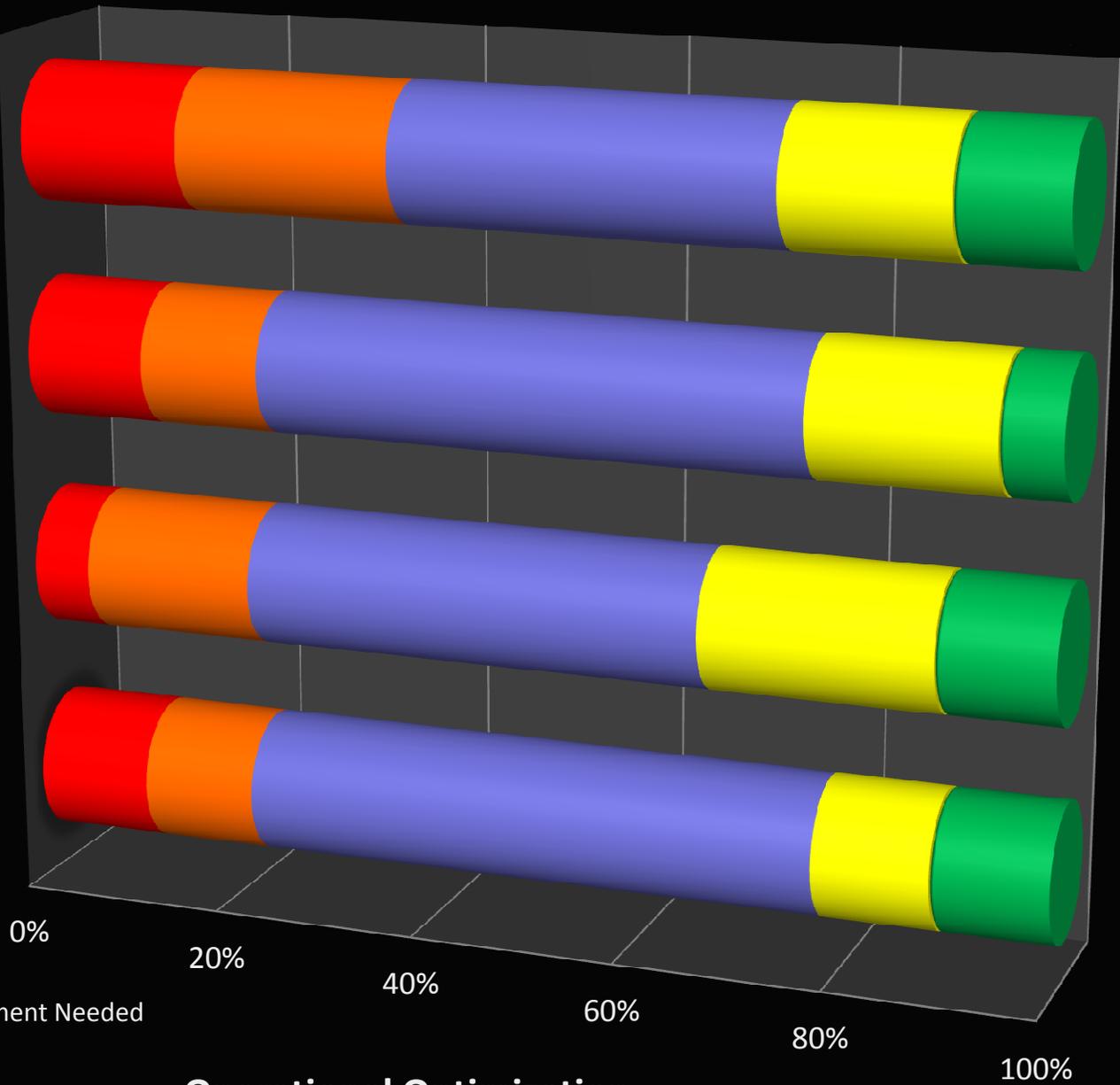


Balances staffing levels with workload

Assures awareness and timely adoption of operational and technology improvements

Minimizes resource use and loss from day-to-day operations

Implements ongoing performance improvements



■ Not Addressed or Significant Improvement Needed

■ Addressed, but Improvement Needed

■ Effective Performance

■ Very Good Performance

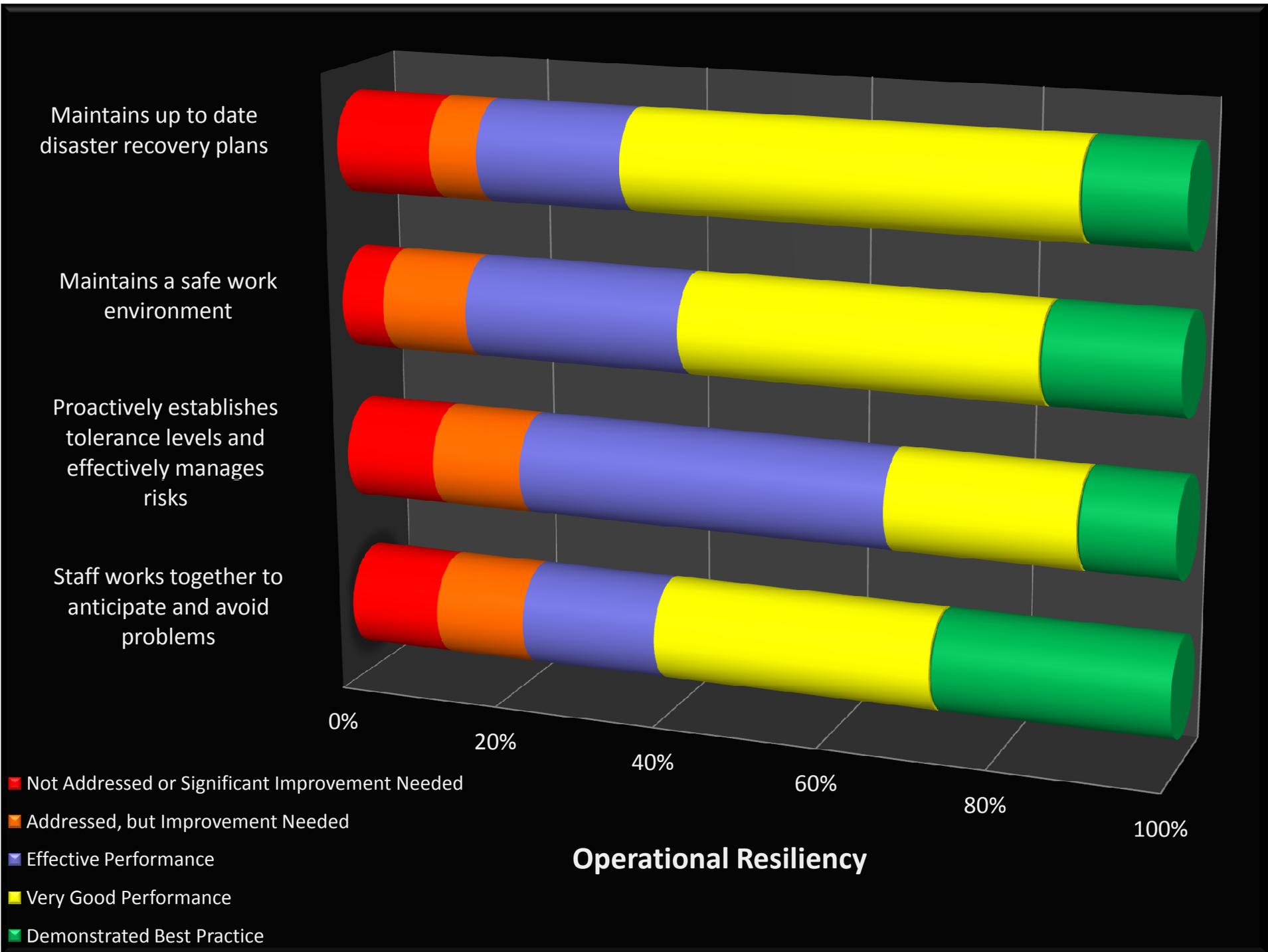
■ Demonstrated Best Practice

**Operational Optimization**

# Operational Resiliency

Operational Resiliency	
<p style="text-align: center;"><u>Helpers</u></p> <ul style="list-style-type: none"><li>□ Emergency Plan (Dam)</li><li>□</li><li>□</li></ul>	<p style="text-align: center;"><u>Inhibitors</u></p> <ul style="list-style-type: none"><li>□ Insurance Requirements</li><li>□</li><li>□</li></ul>
<p><b>Potential Actions</b></p> <ul style="list-style-type: none"><li>□ Conduct insurance review of facilitates to determine of replacement costs are covered</li><li>□ <b>Develop comprehensive preventative maintenance program for critical infrastructure</b></li></ul>	

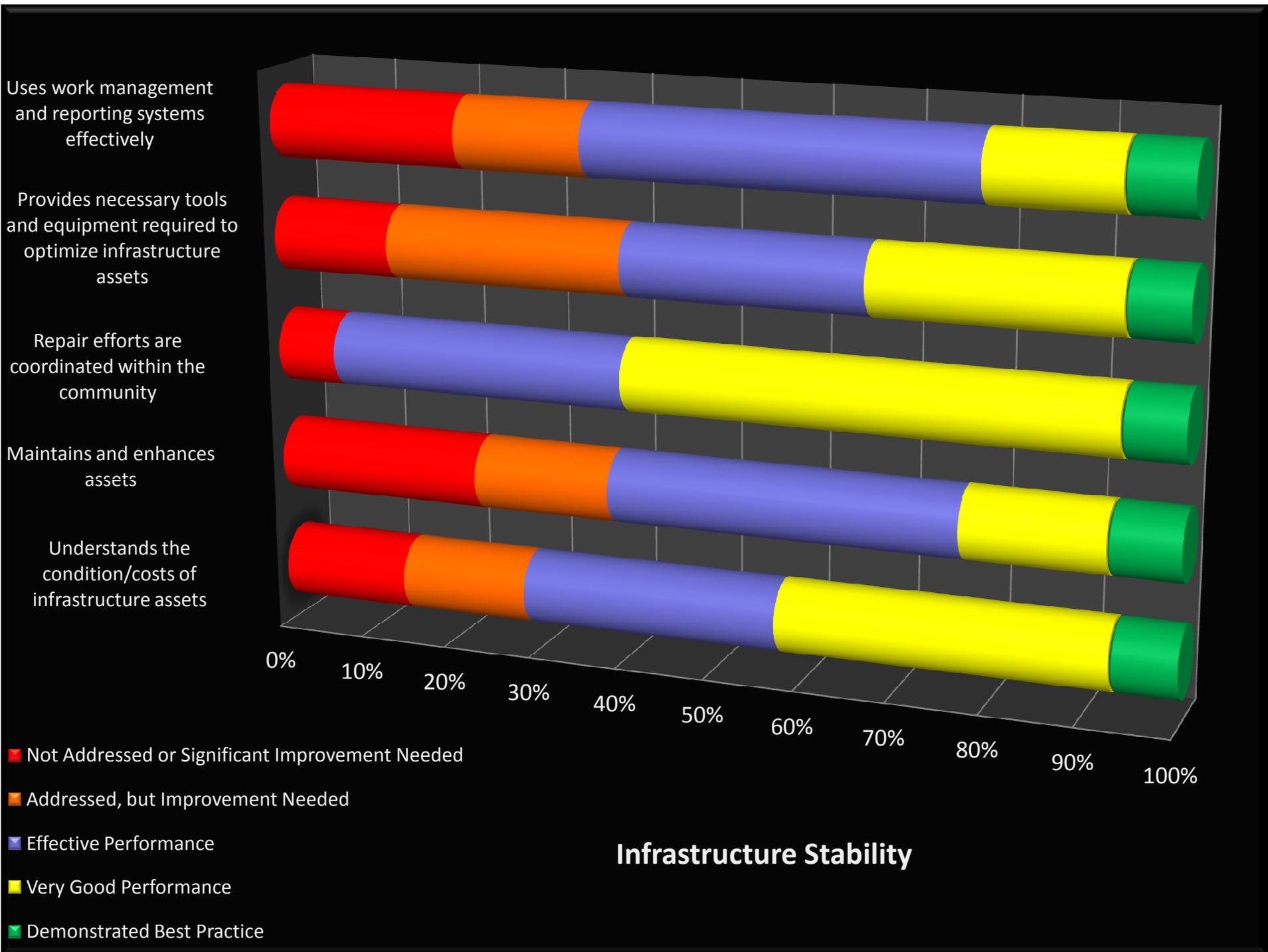




# Infrastructure Stability

Infrastructure Stability	
<p><b><u>Helpers</u></b></p> <ul style="list-style-type: none"><li>□ Good staff that understand the system</li><li>□ Institutional knowledge</li><li>□ <b>EPA Enforcement Action</b></li><li>□</li></ul>	<p><b><u>Inhibitors</u></b></p> <ul style="list-style-type: none"><li>□ No asset inventory</li><li>□ Only able to cover operating costs and not preventative maintenance</li><li>□ 85% to 90 % of work is reactive in nature</li><li>□ Limited funding</li><li>□ Reactive vs. proactive (example valve/hydrant exercise/repair)</li><li>□ R&amp;R schedule</li></ul>
<p><b>Potential Actions</b></p> <ul style="list-style-type: none"><li>□ <b>Institute Asset Management Approach to address Infrastructure Stability Requirements</b></li><li>□ <b>Track &amp; Trend Key Performance Metrics</b></li></ul>	





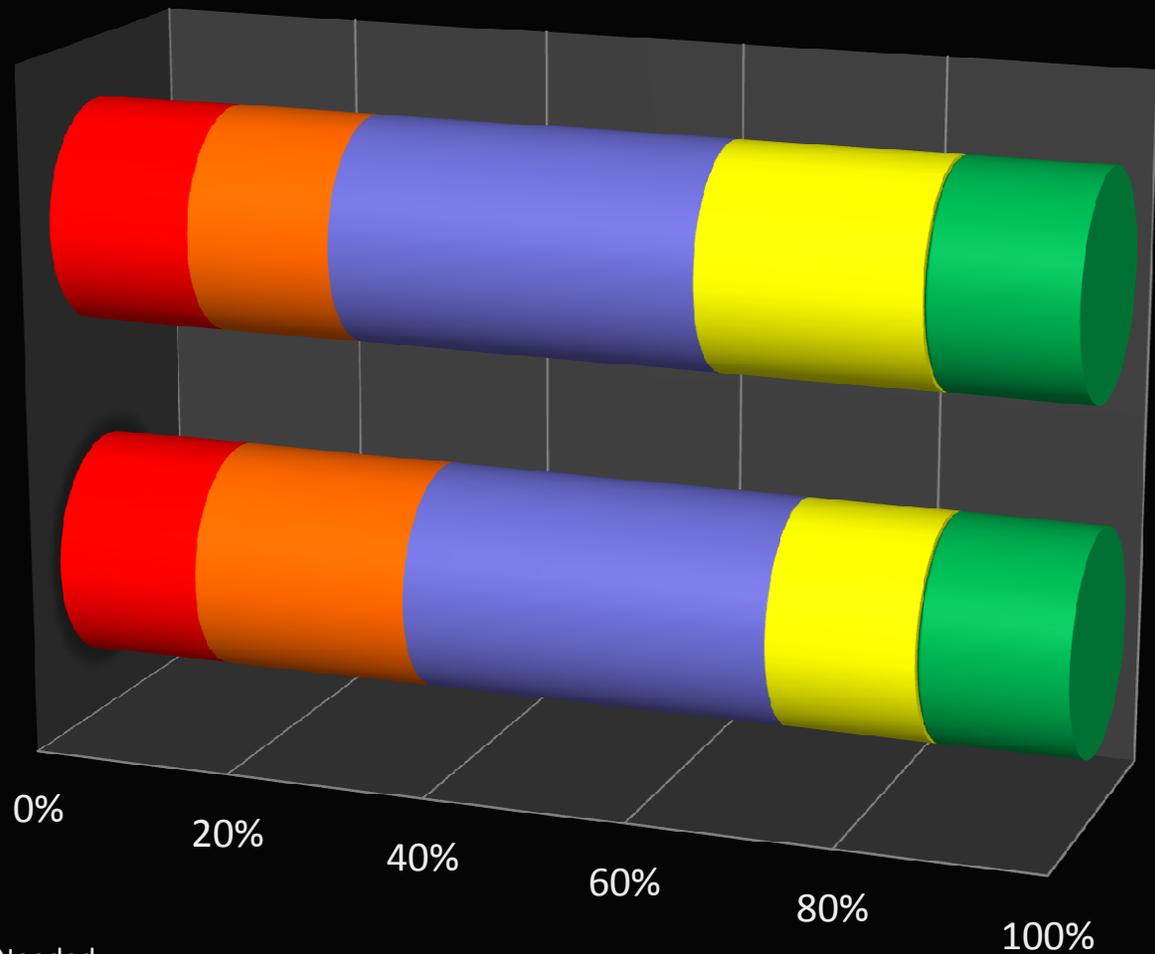
# Resource Adequacy

Resource Adequacy	
<u>Helpers</u>	<u>Inhibitors</u>
<ul style="list-style-type: none"><li><input type="checkbox"/> Beaver Reservoir</li><li><input type="checkbox"/></li><li><input type="checkbox"/></li><li><input type="checkbox"/></li></ul>	<ul style="list-style-type: none"><li><input type="checkbox"/></li><li><input type="checkbox"/></li><li><input type="checkbox"/></li><li><input type="checkbox"/></li></ul>
<b>Potential Actions</b> <ul style="list-style-type: none"><li><input type="checkbox"/> <b>Emergency Connection /Regional Collaboration</b></li><li><input type="checkbox"/></li><li><input type="checkbox"/></li></ul>	



Manages operations to provide for long-term aquifer and surface water sustainability and replenishment

Ensures service availability through capacity analysis and public education



■ Not Addressed or Significant Improvement Needed

■ Addressed, but Improvement Needed

■ Effective Performance

■ Very Good Performance

■ Demonstrated Best Practice

**Resource Adequacy**

# Leadership

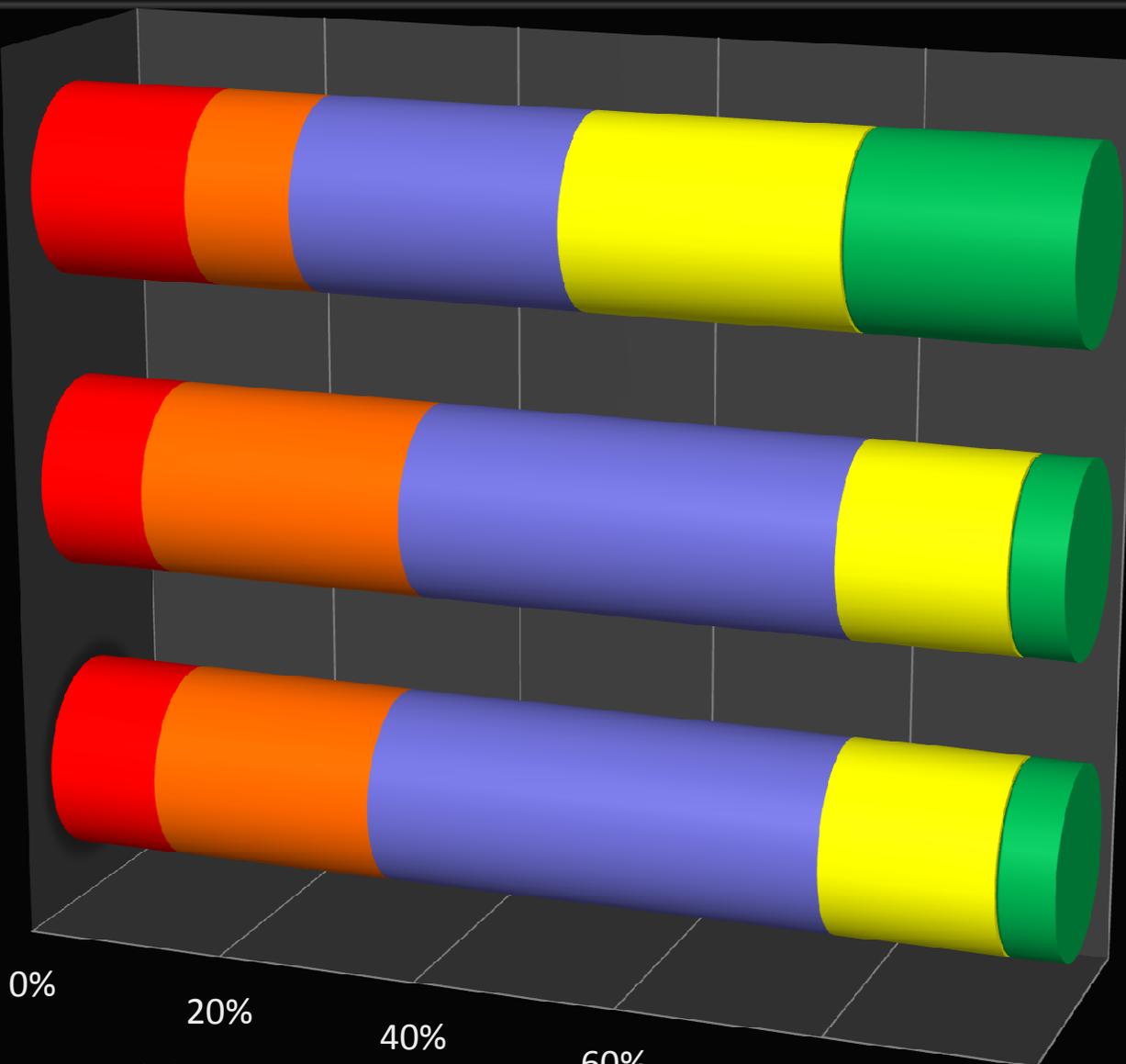
- Positive
- Long-term replacement of key leaders may become an issue
- Leadership training a concern



Internal communications

Leadership training/development

Employee understanding of organization's vision, values, and ultimate direction



■ Not Addressed or Significant Improvement Needed

■ Addressed, but Improvement Needed

■ Effective Performance

■ Very Good Performance

■ Demonstrated Best Practice

Leadership

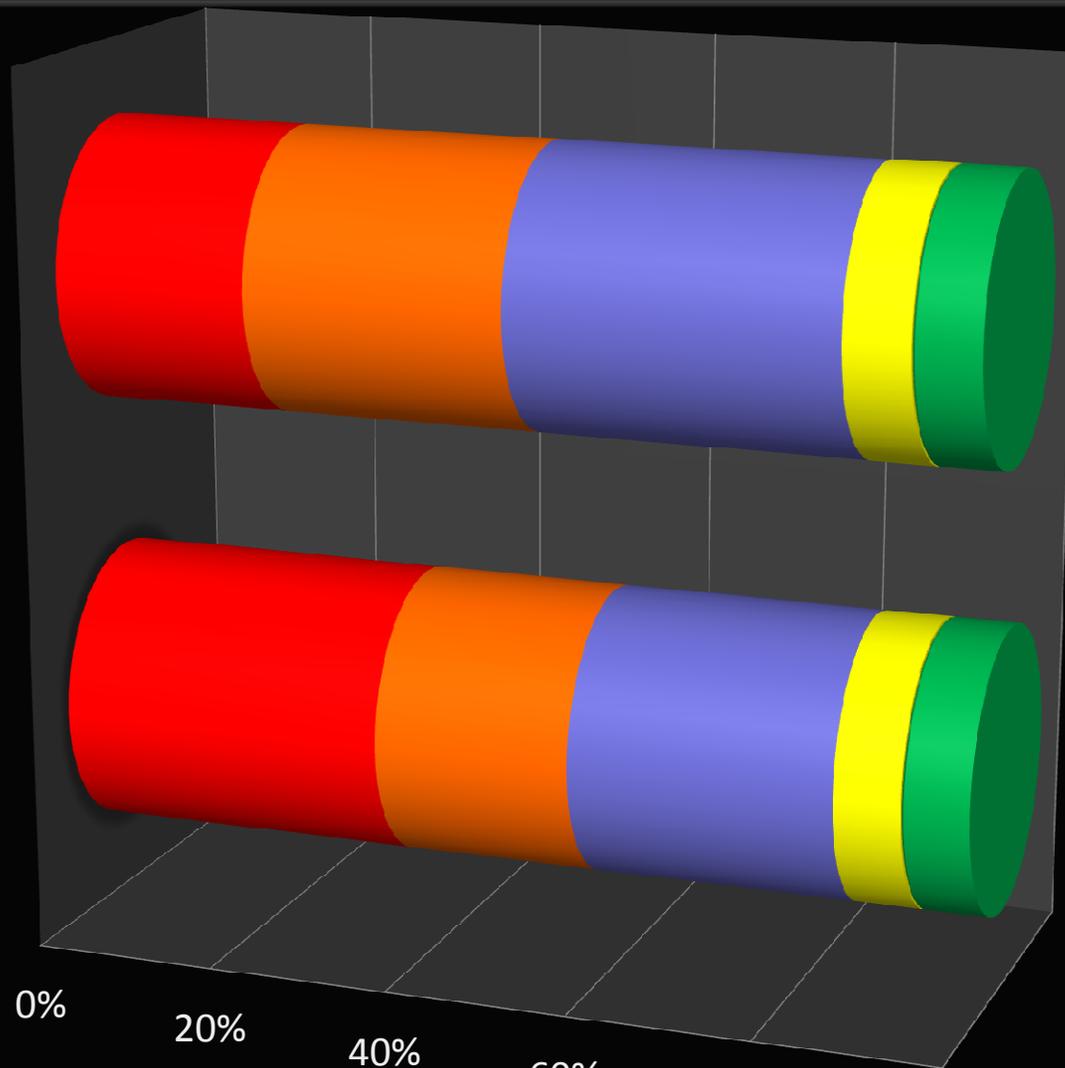
# Strategic Business Planning

- Have enterprise plan (County)
- Utilities would benefit from a strategic plan
- Need better focus on activities, performance, and accomplishments
- Strategic planning should cascade down organization
- Help drive focus to positives



Enterprise level strategic plans

Departmental strategic plan



0% 20% 40% 60% 80% 100%

- Not Addressed or Significant Improvement Needed
- Addressed, but Improvement Needed
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### Strategic Planning

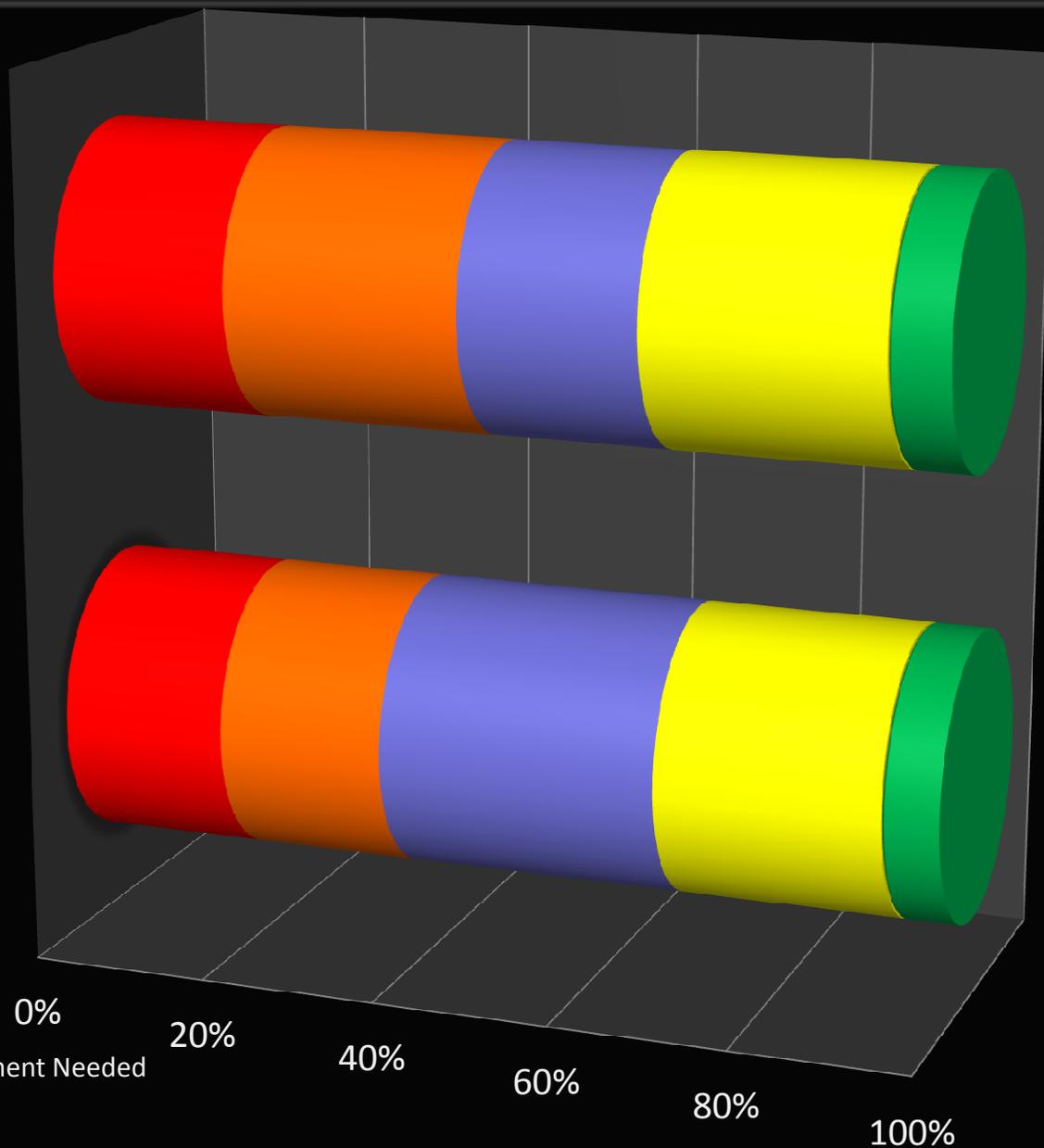
# Organizational Approaches

- Overall positive
- Good use of teams
- Smallness of organization fosters a good cross department collaboration
- Back up staffing a concern



Use of teams to address projects and business processes

Organizational structure



- Not Addressed or Significant Improvement Needed
- Addressed, but Improvement Needed
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Organizational Approaches

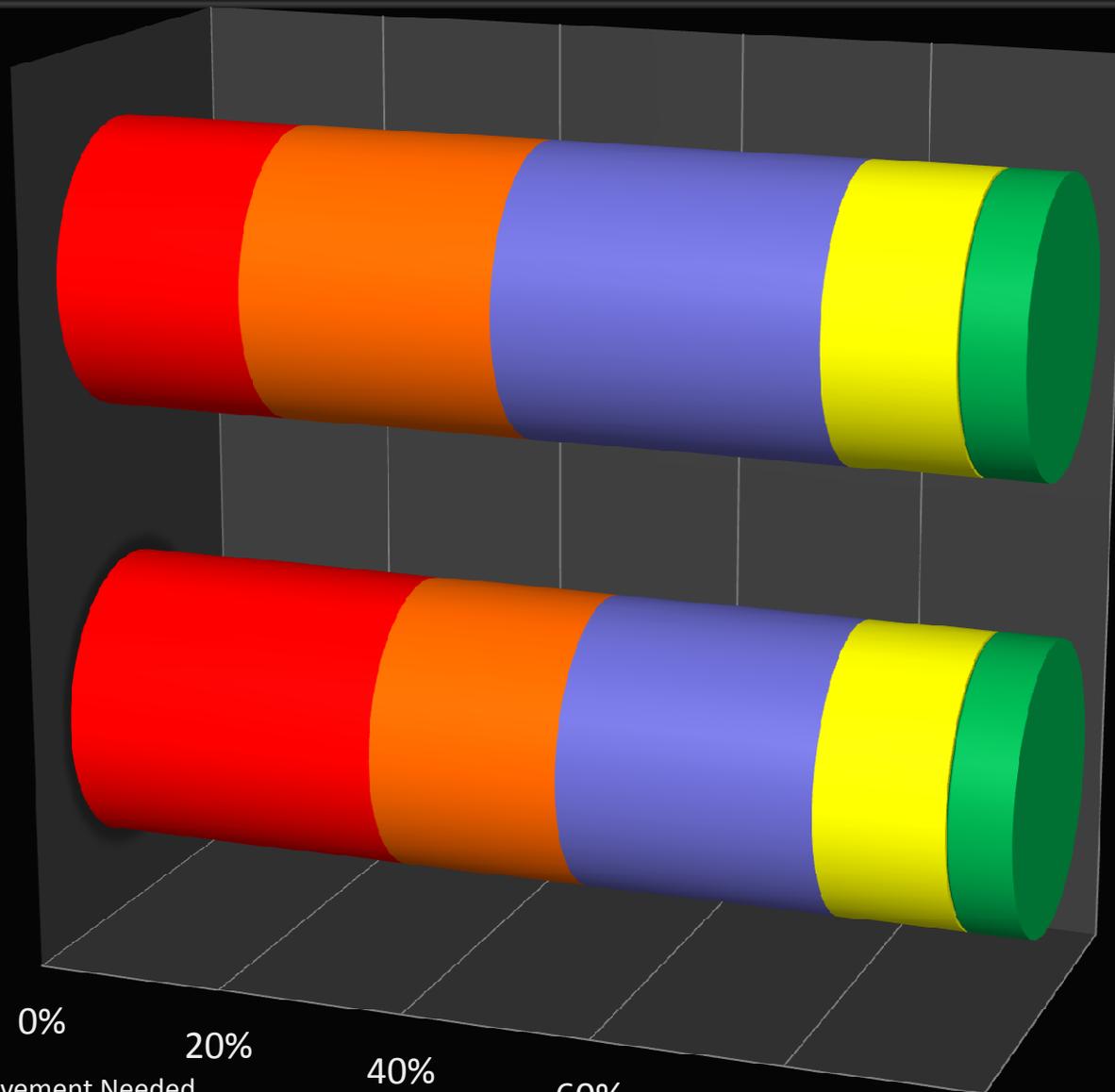
# Measurement

- Performance measurement an opportunity to foster critical stakeholder support and understanding
- Ideally measures should tie to strategic plan



Corrective action  
based on  
measures

Useful set of  
measures



■ Not Addressed or Significant Improvement Needed

■ Addressed, but Improvement Needed

■ Effective Performance

■ Very Good Performance

■ Demonstrated Best Practice

**Performance Measurement**

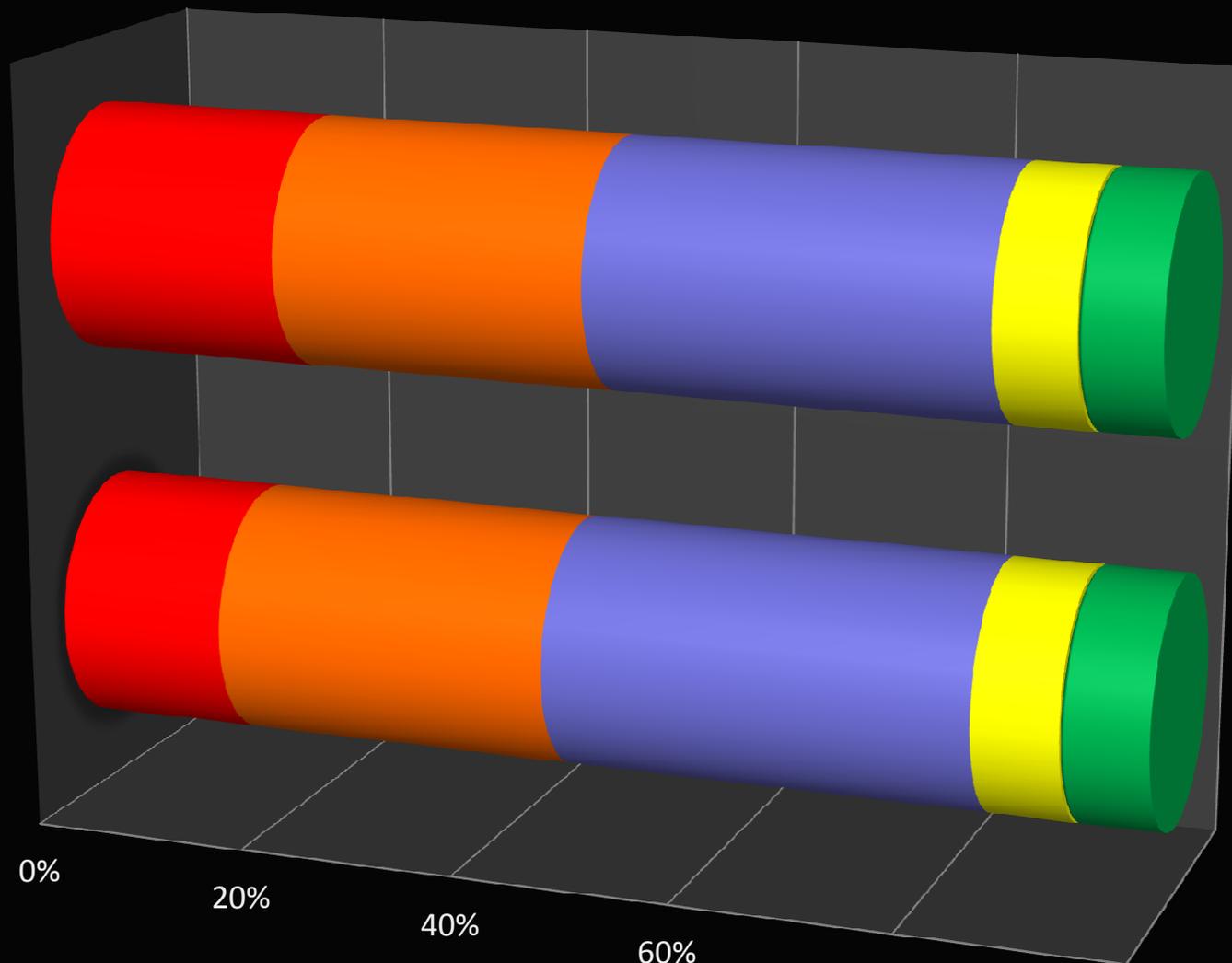
# Continuous Improvement

- No formal approach – but open to new ideas
- New people bring new ways of doing things
- Willing to change and improve
- **Plan** (Strategic), **Do** (Implement Plan), **Check** (Performance Measurement), **Act** (Adjust Plan and Implementation as Necessary)



System to monitor projects and take corrective action as necessary

Documentation of projects with realistic budgets and timeframes



0% 20% 40% 60% 80% 100%

- Not Addressed or Significant Improvement Needed
- Addressed, but Improvement Needed
- Effective Performance
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### Continious Improvement

# Gloucester Compared to EUM Survey Averages

## Gloucester, VA & Survey Averages

