March 25th, 2014

Blair Troutman, Director – Corporate Asset Management
Seattle Public Utilities
P.O. Box 34018
Seattle, WA 98124-4018

Dear Blair,

We are pleased to submit the following Prioritized Performance Plan as part of the Benchmarking and Workplace Efficiency Study undertaken by HDR on behalf of Seattle Public Utilities in June 2013. This Plan, together with the Utility Business Management Evaluation, Benchmarking Summary, and Feasible and Achievable Prioritized List of Recommendations represent our findings and recommendations for SPU to realize cost savings and efficiency gains.

Beginning in the fall of 2012, the leadership of SPU began to develop a Strategic Business Plan for 2014 through 2020. The Strategic Business Plan will guide investments, service levels, and rates over the next six years and connects long-term goals with current resources. As a part of this effort, the organization sought to evaluate its current business strategies, processes and operations to identify opportunities for efficiency gains. To do so, SPU hired HDR to perform a Benchmarking and Workplace Efficiency Study of its four lines of business. Over the course of several months, HDR and its team met with over 200 staff and completed workshops, interviews, and data analysis to understand the fundamentals of SPU's daily operations and evaluate their current processes against industry best practices. In addition, it compared SPU to utilities in water, wastewater, drainage, and solid waste to assess its performance relative to its peers, and importantly, gather detailed information on methodologies and metrics others have utilized to achieve high performance. Finally, the HDR team reviewed information from stakeholders, customers and other external groups to understand the unique environment in which SPU does business.

The culmination of this work is the Prioritized Performance Plan, together with a list of individual recommendations made to SPU to achieve cost savings and productivity and efficiency gains. Our findings represent the conclusions drawn at the time of each assessment, and the recommendations represent opportunities identified at the end of our initial analysis. As such, changes may have been implemented, or strategies adopted, that will impact this baseline reading.

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We recognize that the Strategic Business Plan is dynamic in nature: it will help guide the decision-making process for the Executive Leadership team, branch and group leads, as well as individual employees across all levels of the organization. This represents a vast strategic opportunity to SPU, and will allow it to continually track its performance on achieving goals and objectives, adjust course when necessary, and update the Strategic Business Plan to keep it active and relevant. We have appreciated the opportunity to work with SPU during this process and look forward to the results.

Best regards,

Scott Bash, Project Manager

Enclosures:

- Prioritized Performance Plan
- Utility Business Management Evaluation
- Benchmarking Summary
- Feasible and Achievable List of Prioritized Recommendations

cc:

- Ray Hoffman, Executive Director
- Martin Baker, Director – Corporate Strategy and Communication
- Melina Thung, Director – Finance and Administration
- Diane Clausen, Executive Team Support – Director's Office

# Seattle Public Utilities Prioritized Performance Plan

## Benchmarking and Workplace Efficiency Study

**March 25, 2014**

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Seattle Public Utilities

Project No.: C13-011

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# List of Acronyms

| | |
|---|---|
| AMI | Advanced Metering Infrastructure |
| AMR | Automatic Meter Reading |
| AWWA | American Water Works Association |
| BCE | Business Case Evaluation |
| C&D | Construction and Demolition |
| CIP | Capital Improvement Program |
| CMMS | Computerized Maintenance Management System |
| CPCS | City Procurement and Contracting Services |
| CSO | Combined Sewer Overflow |
| CSR | Customer Service Representative |
| DoIT | Department of Information Technology |
| EIT | Engineer-in-Training |
| E-Team | SPU Executive Leadership Team |
| FAS | City Finance and Administrative Services |
| FMEA | Failure Mode Effects Analysis |
| FO&M | Field Operations and Maintenance |
| FOG | Fats, Oils, and Grease |
| FTE | Full-Time Equivalent |
| GIS | Geographic Information System |
| GSI | Green Stormwater Infrastructure |
| KPI | Key Performance Indicator |
| LOB | Line of Business |
| L-Team | SPU Leadership Team |
| MRF | Materials Recovery Facility |
| MSW | Municipal Solid Waste |
| O&M | Operations and Maintenance |
| R&R | Rehabilitation and Replacement |
| RCM | Reliability Centered Maintenance |
| SAMP | Strategic Asset Management Plan |
| SBP | Strategic Business Plan |
| SCADA | Supervisory Control and Data Acquisition |
| SDOT | Seattle Department of Transportation |
| SPU | Seattle Public Utilities |
| SSO | Sanitary Sewer Overflow |
| TS | Transfer Station |
| UBME | Utility Business Management Evaluation |
| UDF | Unidirectional Flushing |
| USM | Utility Systems Management |
| WEF | Water Environment Federation |
| WSAA | Water Services Association of Australia |

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# 1.0 Executive Summary

In July 2013, HDR Engineering, Inc., (the HDR team) was contracted by Seattle Public Utilities (SPU) to evaluate the organization across all lines of business and branches through a Workplace Efficiency and Benchmarking Study and to prepare a Prioritized Performance Plan. The project is part of an overall Strategic Business Planning effort. It is integral to identifying strategies, business processes, technologies, and innovations that lead to more efficient delivery of service to all of SPU's customers. This Prioritized Performance Plan presents recommended high priority actions to improve the delivery of services and an estimated target of achievable savings.

HDR and its team partners studied SPU's water, wastewater, drainage, and solid waste operations over a five-month period. The evaluation included a full range of business elements, such as organizational strategy, business processes, staff development, and information systems. A particular emphasis was placed on the wealth of current knowledge and skills contained within the SPU workforce and how to best leverage that talent for the future. This report draws important conclusions and offers a list of feasible and achievable actions the HDR Team recommends SPU undertake over the course of the 2015 to 2020 Strategic Business Plan timeframe.

To develop these recommendations, the HDR team evaluated SPU against industry best practices in 13 business areas ranging from strategy development to line of business operations. The Team also compared the organization to its peers through benchmarking of 13 functional areas including organization development, engineering, and project delivery. It found that, in general, SPU is delivering above-average service to its customers effectively, and, in many areas, efficiently. It was also noted that SPU's customer base demands a high degree of attention paid to the non-monetary impacts of delivering its services, relative to that for other communities. This has been a main point of focus for SPU over the past decade. At an operational level, SPU is functioning adequately and its business processes serve to effectively meet its obligations to its customers while fulfilling all regulatory requirements. SPU utilizes robust software systems to support its mission-critical functions and generally those systems meet the needs of key users. Over the course of the project, the HDR Team had the opportunity to meet with over 200 SPU staff members across all lines of business and branches, ranging from work crew supervisors to the executive leadership team. The talent and passion within SPU is truly first-class.

SPU has been identified within the industry as a high performing utility, as determined by annual benchmarking projects beginning in 2006. The HDR team was able to confirm that the organization is functioning at a high level and stands out among its peers in many areas, especially in its work to protect and conserve the environment that its customers value so highly. The goal of this report therefore is not to reduce or cutback on levels of service; rather it is to review the business processes at SPU while maintaining those levels of service and meeting SPU's customer demands. An overall recommendation is to balance the level of service targets with the cost of providing those services in a sustainable manner while continually improving and communicating with customers and stakeholders. In sum, the recommendations made by the HDR team will help SPU become a model utility characterized as the "Adaptive Organization."

Perhaps the most important take-away from this study is that SPU and its leadership team have high levels of self-awareness and understand there are still opportunities to improve. Staff and management have the forethought and passion to reach an even higher level of excellence than current performance today. SPU leadership is taking the Strategic Business Planning effort very seriously and actively, determining a course for the entire organization through 2020, including its investments, service levels and revenue and rate paths. This strategic planning initiative is perhaps the most important thing SPU

can be doing at present to prepare for the future, both to better serve its customers and employees. There is true commitment to become a more Adaptive Organization.

The Adaptive Organization is able to keep up with the rapid changes in its business environment and customer demands in an elastic, accommodating manner. One of the fundamental aspects SPU must employ to stay fast and flexible is entrusting more decision-making powers and associated resources to the employees. There are notable opportunities for improvement in the SPU organization by reaching the level of an Adaptive Organization.

SPU operates within a complex organizational framework that can lead to confusion around roles, accountability, and specific responsibilities. The organizational structure leads to slow and, in some cases, inefficient decision-making. In some areas there is more focus on customer service effectiveness and less focus on efficiency (i.e., cost and time allocation). In many areas of service level management, the costs to deliver particular levels of service targets are unknown and not easily identifiable. There are also areas in which the organization has opportunities to improve the use of available technology and improve both effectiveness and efficiency. In effect, SPU has greater potential to improve customer confidence and achieve higher levels of satisfaction with an adaptive system for responding to unanticipated requests in an unpredictable business environment.

The HDR team has organized its recommendations into nine Strategic Objectives that align with the Four Focus Areas and strategic goals of SPU's Strategic Business Plan, and that will help SPU to become an Adaptive Organization. These recommendations are focused on the six-year Strategic Business Plan implementation timeframe.


**Figure 1.1 – SPU Strategic Planning Focus Areas**

Each of the nine proposed Strategies is associated with one of the Four Focus Areas and represents a broad area on which SPU may focus to realize cost savings and efficiency gains. Individual recommendations are also provided as tangible actions to implement increased efficiency. The nine Strategies are:

- **Asset Management**, including asset knowledge, operations, maintenance, monitoring, and renewal of assets
- **Community Sustainability**, including long-term planning and use and needs projections to meet customer level of service goals
- **Financial Strength**, including financial integrity, management and control of costs, and transparency in reporting
- **Performance Control**, including system performance optimization and forward-looking employee performance management
- **Project Delivery**, including efficient capital planning from project and program prioritization to commissioning of assets and systems
- **Response and Resolution**, including efficiencies in customer services and community outreach
- **Strategy Effectiveness**, including continual updates of the Strategic Business Plan to achieve long-term sustainability; internal and external communication, and problem-solving and decision-making
- **Talent Management**, including attraction and retention of employees and leadership development and training
- **Technology Planning**, including business information systems to transition to a knowledge-rich enterprise

Taken together, the recommendations in this report represent the following **potential** estimated annual cost savings opportunities, though some of the opportunities included in this total are constrained by factors outside of SPU's sole control:

| | |
|---|---|
| Estimated Annual Operations and Maintenance Savings | **$ 9,500,000** |
| Total Estimated Annual Capital Savings | **$ 6,160,000** |

Over the next six years SPU will need to invest approximately $4,347,000 to implement the 44 recommendations. The implementation timing of these investments will be associated with the Strategic Plan priorities.

SPU has the opportunity to capitalize on a number of sustainable efficiency gains above and beyond those identified in this report. Many of the recommendations address new foundational systems that will generate additional information and give insight into areas of further efficiency improvements. More importantly, the HDR team has focused on methods to improve accountability, coordination, and knowledge sharing across the organization to support a culture of problem solving and decision making. This type of adaptive culture will help SPU to continually identify areas for increased productivity and effective delivery of high-level services to its customers. The biggest overall gain will be realized in the organization's ability to continually monitor the efficiencies of its operations, remain self-aware and adapt to the ever-changing business environment in which it operates.

When viewing it from this angle, it is therefore the workforce as a whole that is best positioned to facilitate the success of the Strategic Business Plan and long-term sustainability of SPU as a high performing organization and model utility. The framework of how the organization serves its employees is critical. Because of this, the HDR team's underpinning recommendation is to focus on a transition from SPU's current reactive organizational state to that of an Adaptive Organization, capable of a fast

assessment of changing business conditions and a nimble adjustment of core business processes to meet desired business results. This ability to quickly respond to changing circumstances, especially economic climate and customer expectations, is driven by staff that are networked and empowered to make decentralized decisions. The Adaptive Organization requires accountability at all levels, clearly providing line of sight from individual employees straight to the mission of the organization. It uses business information systems to support clear and informed decision-making. It offers a business model anchored in a cycle of continuous improvement to assess, implement, monitor, and sustain change over time. And perhaps most importantly, it instills a culture that embraces change by empowering individuals to think critically, problem-solve, and implement ideas and innovations, the breadth of which could never be captured in a single efficiency study. If SPU can transition into an Adaptive Organization, then it will achieve the ability to capitalize on opportunities on a continuous basis, while promoting and capturing the passion, creativity, and drive of its workforce.

# 2.0 Introduction

## 2.1 Purpose of the Report

Seattle Public Utilities (SPU) is currently developing a 2015-2020 Strategic Business Plan. By undertaking the Strategic Business Plan planning process, SPU has the opportunity to improve its operations and the services it delivers to its customers. With this in mind, SPU has developed a Promise Statement for the next six years:

- **Vision:** Showing how utility dollars sustain and improve the quality of life.
- **Mission:** Providing efficient and forward-looking utility services that keep Seattle the best place to live.
- **Strategic Role:** Solving problems at the source.
- **Values:**
    - Providing customer-focus
    - Safety
    - Innovation
    - Inclusion
    - Value for money

SPU was formed in 1997 through the consolidation of several separate city departments with regional public service providers. Over the years, SPU has worked to realize the synergies between its separate lines of business, along with corporate support services like Finance, Human Resources, and Information Technology. The current planning effort is seen as one of the first opportunities to move beyond this emphasis to a more broad and strategic focus.

A substantial deliverable of the Strategic Business Plan was a Benchmarking and Workplace Efficiency Study, conducted by the HDR team, to tie future gains in workplace productivity directly to reductions in rates paid by SPU's customers. This effort was only one part of the development of a strategic plan to define the overall rate path and service level alternatives.

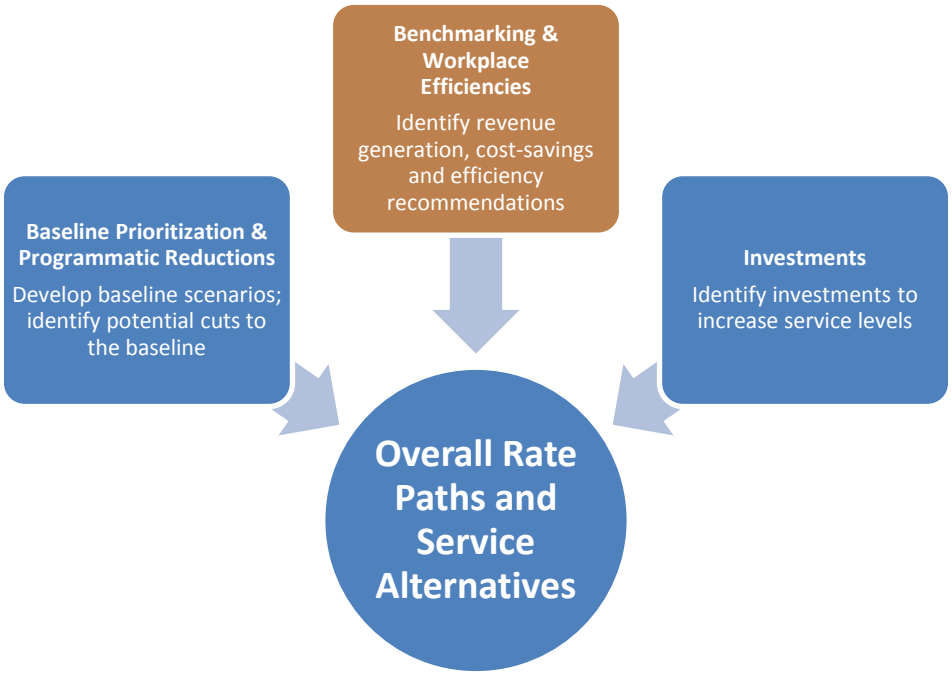


**Figure 2.1 – SPU Strategic Process for Rate Path Development**

With this in mind, SPU selected the HDR team to conduct an exercise that would:

1. **Evaluate SPU's current operations**, reviewing specific aspects of SPU's current responsibilities for potential improvements;
2. **Recommend implementable measures** for SPU to improve and/or streamline processes and systems, increasing efficiencies and reducing costs; and
3. **Prepare a report** summarizing findings and present an analysis and recommendations to SPU management which estimates a range of achievable savings (Phase I).

This Prioritized Performance Plan summarizes the results of Phase I of that Benchmarking and Workplace Efficiency Study.

Additional work may be performed to facilitate the implementation of the recommendations, how savings will be achieved over time, and how progress will be communicated by SPU to the public, City Council and elected officials, and employees of SPU (Phase II).

## 2.2 Background

Seattle Public Utilities operates four lines of business (LOB): drinking water, wastewater, drainage, and solid waste. With substantial system assets such as reservoirs in the Cascade Mountains, two water treatment plants, water transmission and distribution systems, wastewater and drainage collection systems, and solid waste transfer facilities, SPU is seeking to optimize the operation and maintenance of such assets and reduce costs borne by ratepayers while maintaining or improving current levels of service. Additionally, SPU is seeking creative ways to generate new revenue, achieve actual cost savings, avoid costs, seek productivity and efficiency improvements, and address city-wide systemic constraints which may lead to substantial long-term savings. HDR was selected to focus on analyzing and improving SPU's performance, while reducing costs and enhancing efficiencies.

During Phase I, the HDR team completed the following tasks:

- **Evaluated SPU's existing performance** across all LOBs and supporting branches through a series of interviews, workshops, and meetings to compare against industry best practices. This included an evaluation of SPU's organizational structure, information technology systems, work practices, and its financial health.
- **Performed a benchmarking survey** comparing SPU to comparable peers in water, wastewater/drainage, and solid waste. Results from the benchmarking effort are incorporated in HDR's list of recommendations and will inform the Implementation Plan.
- Based on the findings from the comparisons to industry best practices and industry peers, **developed a preliminary list of recommendation** to reduce costs, generate revenue, and increase levels of service at SPU. Opportunities for improvement were identified that are systemically constrained and partially or completely outside of SPU control.
- Refined the list of actions into a series of **feasible and achievable efficiency recommendations**.

Following the submission of this Prioritized Performance Plan, a follow-up report will be prepared which shall convey how such recommended processes and savings will be implemented over time (the Implementation Plan).

## 2.3 Goals of the Organization

SPU is situated in the Pacific Northwest, a region known for its natural outdoor features and comparatively pristine environment. The Seattle customer base demands both a high level of service and a focus on mitigating impacts on the environment due to utility operations. This has been a cornerstone of SPU's focus since its inception and is reflected in both its Vision and Mission. SPU is committed to preserving the treasures and protecting the resources of the Northwest. This is represented in SPU's Strategic Business Plan as one of four areas of strategic focus (the Four Focus Areas): Protect Environmental and Public Health. SPU is also highly oriented toward customer service, routinely engaging its customers and including customer impacts as an integral part of its assessment and decision-making process. Again, this is strongly reflected in SPU's Values defined in its Promise Statement, and in its Area of Strategic Focus: Create an Easy and Engaged Customer Experience.

As an operating premise, this means that SPU is more strongly focused on higher Levels of Service and customer satisfaction than its peers in other parts of the country. Consequently, it delivers service levels that other utilities, both public and private, may not strive to meet and as such the cost of service may also be higher.

The goals of SPU are to continue to meet its customers' high expectations and deliver its services in a manner that is environmentally and socially responsible, while still maintaining financial strength and controlling rates in a way that minimizes impacts on the customer base. Therefore, the objective of the Benchmarking and Workplace Efficiency Study has been to evaluate SPU's business processes to identify opportunities for cost-savings and efficiency gains while preserving SPU's commitment to its customers and the environment. The majority of the effort for the Benchmarking and Workplace Efficiency Study was expected to address the two focus areas of: Achieve Operational Excellence and Transform the Workforce.

**Table 2.1 – SPU Strategic Plan - Four Focus Areas and Goals**

| |
|---|
| **Create an easy & engaged customer experience**<br>*Goal*: We achieve internal and external customer expectations |
| **Protect environmental & public health**<br>*Goal*: We will provide utility services in a way that makes Seattle cleaner, greener, and more healthful |
| **Achieve operational excellence**<br>*Goal*: We will increase value delivered to the customer |
| **Transform the workforce**<br>*Goal*: We will have a high performing, engaged workforce focused on business outcomes |

## 2.4 Organization of this Report

**Sections 1.0 and 2.0** provide a summary of the report and layout. An overview of the project process is provided in **Section 3.0 – Project Approach**. The findings from the HDR team's work over the course of eight months are presented in **Section 4.0 – Findings & Recommendations.**

The structure of the Findings and Recommendations and the recommended cost efficiency actions are broken into two sections: 1) SPU's business processes and 2) SPU's organizational framework.

**Section 4.1 – Strategies** categorizes the findings and recommendations related to business processes into nine Strategies to relate to the Four Focus Areas of the Strategic Business Plan. The following table provides a broad definition and description of each Strategy.

**Table 2.2 – Strategy Recommendations**

| Strategy | Definition |
|---|---|
| **Asset Management** | Asset management is a structured approach to optimizing the life-cycle cost of asset ownership with a focus on providing reliable and dependable water, wastewater, stormwater, and solid waste services to customers. It involves three key core components: 1) Asset Knowledge, 2) Asset Maintenance, 3) Asset Operability and Maintainability. |
| **Community Sustainability** | Community sustainability is centered on integrated planning explicitly attentive to impacts on near- and long-term community health and environmental conservation. It rests on an adaptive management framework to protect, restore and enhance the natural environment. It relies on strong regulatory partnerships to achieve sound social, environmental, and economic outcomes for the communities it serves. |

| Strategy | Definition |
|---|---|
| **Financial Strength** | Financial strength includes life cycle planning, decision making, and financial management components that lead to financial integrity. This strategy requires accurate current and future cost-forecasting and capital needs to manage rates and minimize rate fluctuations. It includes reporting of financial performance to regulators and the community. It is based on sound cost accounting and procurement at all levels of the organization and knowledge of costs to deliver services as well as impacts to rates when service levels change or are not met. |
| **Performance Control** | Performance control ensures that ongoing, timely, cost-effective, reliable, and sustainable performance improvements are being made in all facets of SPU's operations. The performance control strategies define the indicators of success to track and report for performance optimization to achieve operational excellence. They establish Performance Goals for individuals that are tied to the Strategic Business Plan and utilize a robust performance review process to ensure objectives are met. |
| **Project Delivery** | Project delivery represents the entire Capital Improvement Program (CIP) from planning and prioritization to commissioning and operations. This strategy focuses on a streamlined and efficient process with strong project controls and cost forecasting and management. |
| **Response and Resolution** | Response and Resolution encompasses customer-facing functions of both billing and collection and customer service. It requires customer-facing and endorsed levels of service with measurable metrics. |
| **Strategy Effectiveness** | The focus of strategy effectiveness is the implementation and long-term sustainability of the Strategic Business Plan. It involves managing and measuring the execution of the Strategic Business Plan, as well as adjusting course when necessary. Communication (both external and internal), customer satisfaction, and education and outreach are functions of effectiveness. |
| **Talent Management** | Talent Management is a portfolio strategy focused on capitalizing on the skills and knowledge of the employees at SPU to deliver services to customers in a timely, efficient, safe, and sustainable manner. It contains objectives in attraction and retention of talent, resource management, and employee and leadership development. |
| **Technology Planning** | The technology planning strategy is a combination of data, processes, and software technology strategies. Data is used to support the management of organizational goals, business processes, business interactions, and the workflow of individual performers. Technology systems must be in place to support the collection and analysis of data. |

The Findings and Recommendations are presented in a table format for each of the nine Strategies and contain:

a. **Summary of Industry Best Practices Comparison,** summarizing SPU's current performance as compared to the nine Strategies. The findings primarily draw from meetings, workshops and interviews with SPU staff.

b. **Summary of Comparison to Peers,** providing an overview of SPU as it compares to eight of its peers in water, wastewater and drainage, and solid waste services. The findings are a result of a benchmark survey conducted by the HDR team over three months.

c. **Recommendations,** defining objectives, desired outcomes and critical elements of each of the nine Strategies. This approach relies on establishing strategies in order to assess, manage, and monitor progress and adjust over time. Each Strategy is also linked to one of SPU's Four Focus Areas as part of its Strategic Business Plan.

**Section 4.2 – The Adaptive Organization** presents a comparison of SPU's organization framework to the best practices of an Adaptive Organization, followed by a path to achieve the Adaptive Organization, broken into five stages.

**Section 5.0** provides concluding remarks and a summary of next steps.

**Section 6.0 – Appendices** contains the detailed results of a number of assessments carried out by HDR and its team, and includes a detailed description of the methodology for each.

- The results of the Utility Business Management Evaluation (Comparison to Industry Best Practices) are found in **Appendix A**.
- The detailed results of the Benchmarking Survey (Comparison to Industry Peers) are presented in **Appendix B**.
- A detailed list of Feasible and Achievable Priority Recommendations, along with an estimate of their cost savings, can be found in **Appendix C**.

# 3.0 Project Approach

The HDR approach can be broken into three steps: 1) diagnostics, 2) analysis and 3) recommendations. The following diagram illustrates the project approach of the Benchmarking and Workplace Efficiency Study.

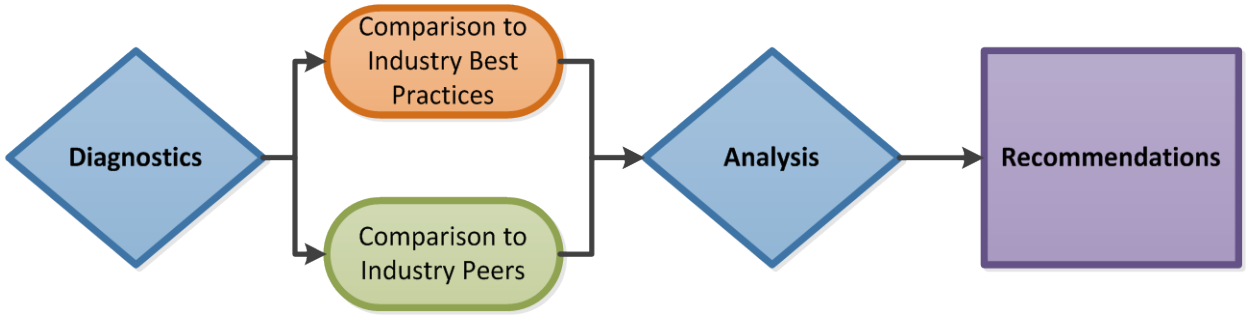


**Figure 3.1 – Project Approach**

## 3.1 Organizational Assessment

HDR's approach is first and foremost based on an adaptive organizational business model that aligns people, processes, and technology with a continually improving strategic business plan. At its core, the success of an organization lies in its most important resource: its workforce. Harnessing the talent, drive, and passion within an organization to achieve strategic goals and objectives and sustain operational efficiencies over time is the simplest, most efficient, and most effective strategy SPU, or any other organization, can undertake. However, aligning SPU's employees and supporting them with the appropriate systems, processes and technologies will have impacts far beyond any one strategy or time period. External forces – economic, environmental, and social – are unpredictable and often impossible to plan for. In addition, the levels of service demanded by a customer base change over time. Therefore, the ultimate objective of SPU should be to mature into an Adaptive Organization that leverages its employee talent to organically grow and change based on these forces. This can be done if each employee knows and understands the core mission driving the organization, its strategy, and desired outcomes. Further, they must be given the autonomy to make decisions, and be encouraged to drive change and continually improve within an established framework. When these factors are in play, adaptability will be virtually automatic.

## 3.2 Comparison to Industry Best Practices

The HDR team compared SPU to Industry Best Practices using two approaches, shown below.

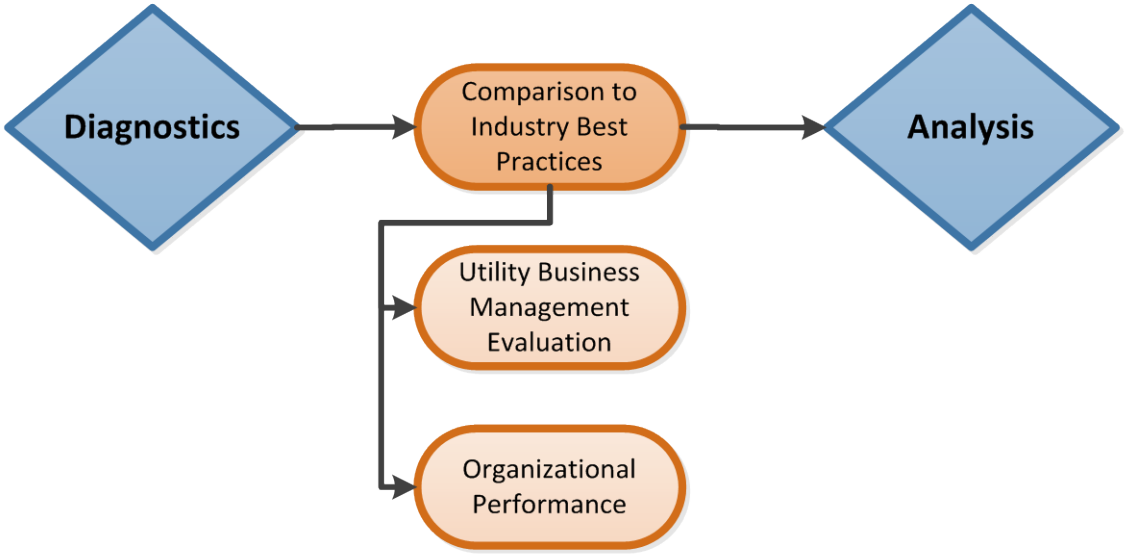


**Figure 3.2 – Best Practice Comparison**

### 3.2.1 Utility Business Management Evaluation

The HDR team employed its Utility Business Management Evaluation (UBME) methodology to review SPU's current business operations and determine how specific management and operation and maintenance procedures are performed. The UBME established a baseline of SPU in 142 different business elements, which were organized into 13 business categories. The business elements and categories are composed of standard business functions, tailored to SPU's business. The baseline, which represents a snapshot in time, was determined using the Carnegie Mellon Maturity Model methodology, which ranks an organization's performance level as compared to best practices:

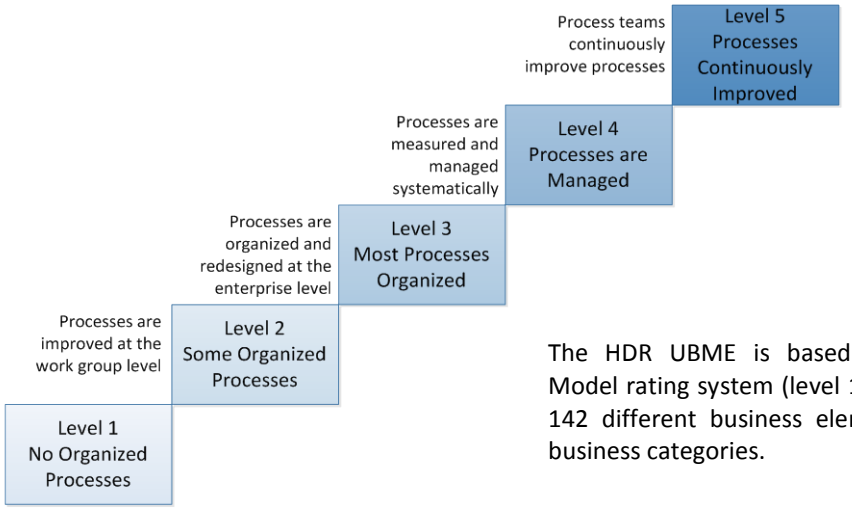


**Figure 3.3 – Capability Maturity Model**

The HDR team then set recommended performance targets for each of the 142 business elements, facilitating two three-hour workshops with the SPU executive leadership team (E-Team) to discuss and verify the observations and results of the baseline findings and review and adjust proposed targets. The difference between observed baseline activities and established performance targets represents a Performance Gap compared to best practices. The results of the UBME may be found in Appendix A.

### 3.2.2 Organizational Performance

The key to organizational adaptability is the ability to make decisions effectively and efficiently that improve organizational performance, and to monitor and measure the success of those decisions and quickly change course when required. There are three levels of performance of organization: Strategy, Processes, and Workforce. To affect change in an organization it is important to understand the impacts of all three levels. When an organization changes a strategic goal, it will impact business processes and the job responsibilities and skill required from the workforce.

Information systems have a direct relationship to all three levels and play a huge role in supporting the decision-making process. The goals of each performance level should be well-documented and evaluated in relationship to each other. By doing this, individuals at all levels will know and understand the direction and goals of the organization and clearly see their role, processes necessary, and responsibility in working together to meet those goals.

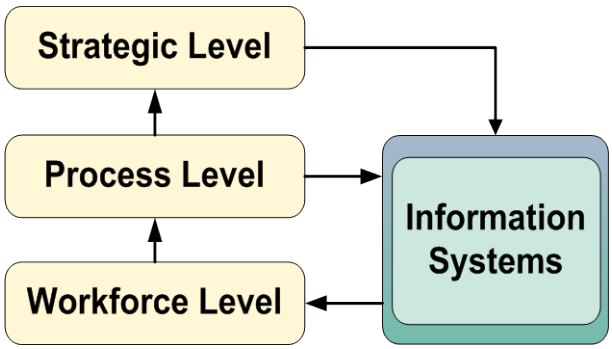


**Figure 3.4 – Organizational Performance Levels**

The following tables are provided as a set of guidelines for how the HDR team evaluated SPU at the different levels of performance: Strategic, Process and Workforce.

***The Strategic Level*** *- Determines the key business processes necessary to meet strategic goals and the information system needs.*

| | |
|---|---|
| **Listen to customers** | • Recognize that customers drive the business.<br>• Listen to both existing and potential customers.<br>• Understand the needs of customers, regulators, and other stakeholders. |
| **Build and maintain industry relationships** | • Know the competition to the organization.<br>• Maintain awareness of the available technology, products, and services.<br>• Monitor market trends from private and public industry.<br>• Use benchmarking data to identify opportunities for improvement. |
| **Develop an active strategy process** | • Do not stay too long with an existing strategy.<br>• Plan as a continuous process and adapt to changes in customer needs.<br>• Focus on the purpose of the organization.<br>• Stay ahead of market trends. |
| **Set and clearly communicate the business goals with focus on the strategy** | • Clearly state the business goals and avoid any misunderstandings.<br>• Plan for the communication of goals.<br>• Monitor and communicate success.<br>• Ensure stakeholder understanding. |

***The Process Level*** *- Identifies the business requirements, workflow and dataflow, and a finer level of specification of the information systems.*

| | |
|---|---|
| **Define the necessary levels of communication** | • Understand that lack of communication is a root of most problems.<br>• It is difficult to over-communicate.<br>• Develop and maintain a communication plan and process.<br>• Use multiple methods of communication. |
| **Determine the required business interactions and level of required coordination for work control** | • Maintain work control with procedures and conformance.<br>• Maintain coordination and steady, consistent leadership at all levels.<br>• Track procedure integrity.<br>• Optimize resources. |
| **Identify the points of accountability at all levels of the organization** | • Establish clear levels of responsibility.<br>• Set accountability at each level of the business.<br>• Delegate authority.<br>• Acknowledge success. |
| **Build a process for controlled risk taking** | • Do not avoid risk taking.<br>• Know how to identify and control risk.<br>• Monitor risk.<br>• Communicate risk. |

***The Workforce Level*** *– Defines the job specifications, performance metrics, and individual development plans of the workforce with specifics on how data from the information systems will be used within processes to meet strategic goals.*

| | |
|---|---|
| **Define the process for hiring the right people** | • Understand the difference between those having the education and those with the skill.<br>• Look for people who have the capability and passion to apply knowledge.<br>• Develop a hiring plan.<br>• Analyze core competencies as part of needs analysis. |
| **Set goals and measures for maintaining performance control** | • Maintain consistent performance at all levels of the organization.<br>• Set key performance indicators (KPIs) at all levels of the organization.<br>• Identify job contribution goals.<br>• Track contribution and performance. |
| **Understand and build mechanisms for sustaining human motivation** | • Do not focus too much on what dissatisfies.<br>• Balance with what does satisfy.<br>• Facilitate people's desire for control, growth, and advancement. |
| **Prepare staff in advance with an education program** | • Educate staff for growth needed to be prepared for the future.<br>• Train for necessary skills.<br>• Focus on staff growth at all levels.<br>• Prepare for workforce succession with planning.<br>• Create leadership development plans. |

The guidelines above provide an approach to developing workplace efficiency built around an active strategic planning and change management process that supports an Adaptive Organization business model.

The recommendations the HDR team has identified have potential impacts on all three levels of performance. The alignment of information systems with the workforce and business processes is necessary to effectively manage the strategic goals and manage performance improvements. As SPU moves forward with implementation, it will be important to understand and monitor these interrelationships. These recommendations are presented in Section 4.2 as stages of evolution to achieve the Adaptive Organization.

## 3.3 Comparison to Industry Peers

The HDR team compared SPU to Industry Peers using benchmarking, as shown below.

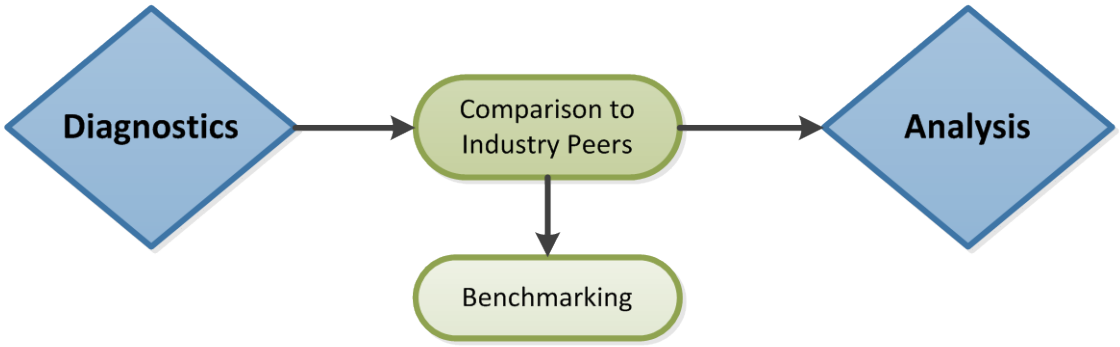


**Figure 3.5 – Benchmarking Comparison**

### 3.3.1 Benchmarking

The benchmarking portion of this project compared SPU to eight of its industry peers (four in the water and wastewater/drainage lines of business, and four in the solid waste line of business). By using a combination of questionnaire self-evaluations and follow-up interviews, the HDR team compared SPU's operations to other utilities across a variety of Functional Areas. Over 220 questions were asked, with results for approximately 150 of those questions finally gathered. The full report may be found in Appendix B. (Note that the questions and results compiled from the benchmarking effort are organized into 13 Functional Areas. This was done to facilitate the ease of answering and accuracy of data provided by the benchmarked utilities. The Functional Areas follow typical categories utilized by industry associations such as Water Services Association of Australia [WSAA], American Water Works Association [AWWA], and Water Environment Federations [WEF] and so were selected for their familiarity and consistency.) Because SPU was assessed *relative* to its peers, conclusions from the questionnaire results were drawn based on areas in which SPU is: 1) leading, 2) average or neutral, or 3) lagging. This rating documents where SPU stands in relation to the other utilities benchmarked but does not qualify any of the standard practices revealed during the benchmarking phase of the project. In other words, the rank of SPU or any other utility is not indicative of the *quality* of performance in any one area, or at what level a utility "should" be operating. Rather, it reveals where SPU is ahead, on par, or behind its peers. However, by focusing on those areas where SPU was lagging behind the other utilities after the results of the questionnaire were compiled, the HDR team could then focus further questions on *why* a partner utility was above average, and *how* they achieved their current level of performance. These follow-up interviews therefore represent a unique and valuable perspective that goes beyond traditional benchmarking and the results served to inform the development of both the recommended Strategic Objectives and the list of High Priority Efficiency Recommendations. The full results of the benchmarking study are found in Appendix B.

## 3.4 Analysis and Formulation of Recommendations

Based on the results of the comparison of SPU to Industry Best Practices and Industry Peers, the HDR team identified those areas that provided the greatest opportunity for improvement in operational efficiency, either through the identified performance gaps or lagging areas. Data analysis consisted of a review of data provided by SPU, including operating and capital budgets, organization charts and job classifications, and various annual reports, along with an inventory of SPU's current IT systems.

The ultimate goal of the analysis portion of the Project Approach is to distill the gathered information into strategic performance objectives, known as Strategies, around which the organization may focus its efforts during the execution of its Strategic Business Plan. To accomplish this, HDR synthesized thematic strategies to improve SPU's operations and realize efficiencies over the course of the six-year Strategic Business Plan. These Strategies were developed both from the performance gaps identified through the UBME and lagging areas identified through the benchmarking comparison. Each strategy consists of objectives, benefits, and individual recommendations. Likewise, the assessment of SPU's organizational structure is organized into five recommended stages of organizational development to achieve the Adaptive Organization. The evolution of the Strategies from the diagnostics portion of the project is shown in the following figure.

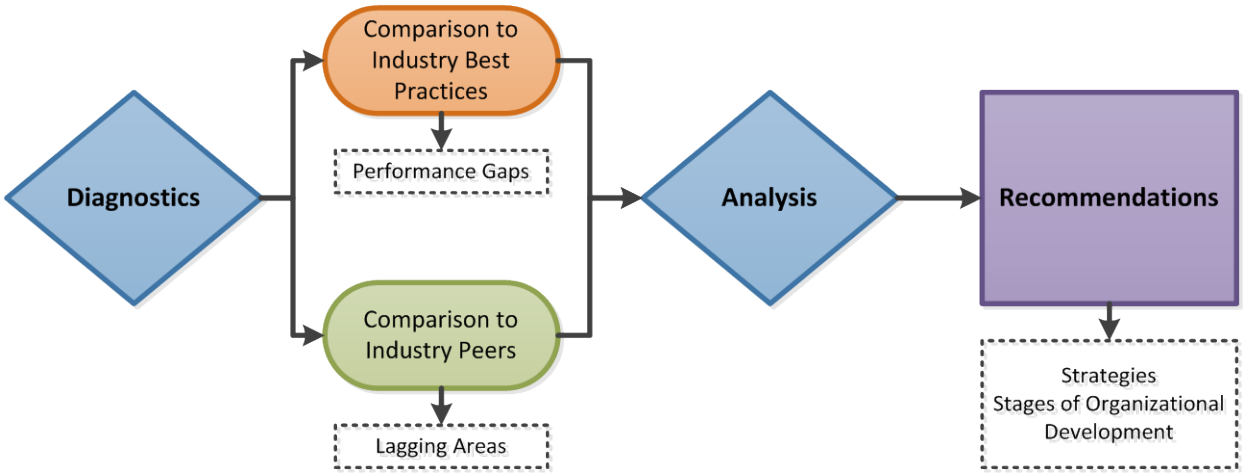


**Figure 3.6 – Recommendation Development Process**

Within each Strategy is a list of individual efficiency recommendations to achieve cost-savings and improve levels of service. Areas identified as lagging by the benchmarking effort are incorporated into these Strategies and inform the individual recommendations. It is intended that the benchmarking results will be further used to develop the forthcoming Implementation Plan for those recommendations selected to move forward. The full list of high priority recommendations may be found in Appendix C.

### 3.4.1 Evolution of Recommendations

A substantial deliverable of this report is found in Appendix C – Feasible and Achievable List of Prioritized Recommendations which is comprised of individual recommendations that may be implemented by SPU. These recommendations represent actions that can be broken into sub-activities and tasks, each with a determined schedule, budget, and resource. The list encapsulates the final product of the diagnose-analyze-recommend process, evolving from a number of sources throughout

the Benchmarking and Workplace Efficiency Study. Figure 3.7 below illustrates the evolution of the recommendations found in Appendix C.

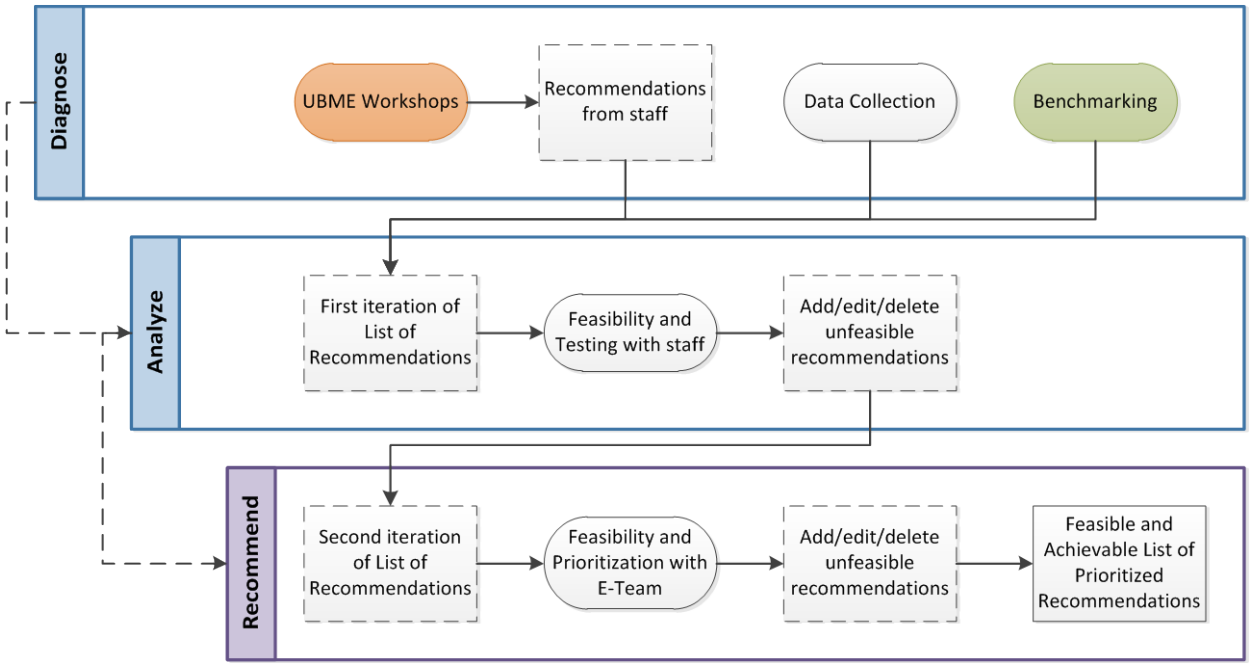


**Figure 3.7 - Evolution of Recommendations**

Throughout the main body of this Prioritized Performance Plan, findings from a variety of resources are presented to demonstrate this evolution, primarily in the following sections:

- Section 4.1.1-4.1.9 – Strategies (Recommendations): Themed performance objectives, recommended as an approach to support a performance management framework and track key performance indicators over the life of SPU's Strategic Business Plan. This includes a list of Critical Elements, identified by both the HDR team and SPU staff as necessary to support the fulfillment of the objectives of each Strategy.
- Section 4.2.3 – Recommended Stages of Organizational Development: The 'Adaptive Organization' is a proposed approach to describe a process to sustain success at SPU over time. Improved communication, decision-making, business agility, and alignment with goals and strategy throughout the organization are critical components of a sustainable business model to achieve this. The stages of evolution for realizing this are included in this section.

Ultimately, it is HDR's goal to provide a resource to inform SPU's drafting of its overall Strategic Business Plan. The two sections above therefore represent recommended approaches, and should not be confused with the Feasible and Achievable List of Prioritized Recommendations presented in Appendix C, which are actions that require a specific and pre-defined budget, schedule, and individual responsible for implementing.

## 3.5 Utilization of SPU Staff

The HDR team approach rests heavily on involvement of and input from staff at all levels of the organization, from the executive leadership team to crew supervisors and field staff. This level of involvement is important for two reasons: 1) staff are best suited to inform the assessment of SPU's current operations, 2) they represent a rich repository of knowledge on past practices driving certain business processes, and suggestions for improving nearly all facets of the organization. The HDR Team therefore involved SPU staff at every stage of the project from diagnostics to analysis to recommendations. In total, over 200 staff members were involved in the creation of this report through their participation in a variety of workshops, meetings, interviews, and presentations, comprised of:

- Diagnostics
  - Initial baseline interviews
  - Business Process Analysis workshops
  - SPU Executive Team and Leadership Team presentations
- Analysis
  - One-on-one interviews with Subject Matter Experts
  - Follow-up interviews
- Recommendations
  - Workshops with Subject Matter Expert teams
  - Economists' high level review of initial list of recommendations
  - E-Team presentations

Throughout the course of the project, the HDR team found all SPU staff to be interested, knowledgeable, and highly forth-coming with information, ideas, and insights. They demonstrated high competency and aptitude, and a passion for carrying out the mission of SPU.

## 3.6 Assumptions

As part of its contracted Scope of Work, HDR and its sub-contractors participating in this study specifically did not assess the following areas of SPU business operations:

- All internal controls and related processes/issues,
- Alternative contracting methods (i.e., Design/Build, GCCM),
- Various project delivery related processes,
- Solid waste contractors and collection contracts, and
- Solid waste recycling and disposal (a.k.a "transfer") station operations.

Additionally, three tasks and subtasks from the original contracted Scope of Work were deemed unnecessary by SPU following the commencement of work by HDR and topics related to these tasks and subtasks are not included in this report:

- Stakeholder Interviews
- Communication Plan
- Public Outreach Support

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# 4.0 Findings & Recommendations

The following findings represent HDR's observations of SPU's baseline performance across all its lines of business and supporting branches. As described in Section 3.0, HDR assessed SPU against both standard best practices and its industry peers to diagnose performance gaps and opportunities to improve, resulting in potential cost savings and efficiency gains in meeting levels of service. It is important to note that in many areas SPU is performing adequately, or even better than its peers. Generally, SPU is delivering above-average levels of service to its customers effectively, and in many areas, efficiently. SPU's customer base demands a high degree of attention paid to the non-monetary impacts of delivering its services, and this has been a main point of focus for SPU. The talent and passion within SPU is truly first-class. The focus of this section, therefore, is on those areas in which SPU may improve both its efficiency and effectiveness. HDR is recommending nine Strategies which highlight these areas, presented in Section 4.1 below. The objectives of the Strategies readily relate and complement SPU's Strategic Business Plan and the Four Focus Areas: Create an Easy and Engaged Customer Experience, Protect Environmental and Public Health, Achieve Operational Excellence, and Transform the Workforce.


**Figure 4.1 – Four Focus Areas**

The Strategies are set up to support a performance management framework and help to organize and track key performance metrics associated with each. This structure allows for individual SPU employees to identify where actions and tasks intersect to facilitate better plan execution with financial viability (rates and funding levels) and cost management. Importantly, it also provides a tool by which each employee may see how his or her role and responsibilities provide for the successful implementation of the entire Strategic Business Plan. This results in a line of site from the workforce to the level of service target.

In association with the Strategies recommended in this section, the HDR team has developed a list of high priority efficiency recommendations, with estimations of annual savings and one-time investments. Each individual recommendation is tied to a particular Strategy and addresses one or more of the Performance Gaps and Industry Lags identified over the course of this project. This list of high priortiy recommendations is presented in Appendix C.

The HDR team conducted the assessment of the SPU organization mindful of how SPU could become an Adaptive Organization. As described in Section 3.0, the HDR team's approach to this Study starts with the most important component of SPU's delivery of services: its workforce.

This assessment serves two purposes:

1. Gauge the feasibility and achievability of implementing the recommendations made to realize cost-savings and efficiencies based on the organization's current structure (Appendix C).
2. Generate recommendations for SPU to evolve into an Adaptive Organization.

As a high performing utility with a progressive customer base demanding a high level of service, SPU's greatest opportunity lies in its ability to adjust efficiently and effectively to changing demands and business drivers. Its current effort to establish and implement a Strategic Business Plan represents the first step in a transition to a proactive and nimble organization. The additional steps along this continum are defined as five stages of evolution for achieving an adaptive organizational model. These findings and recommendations are discussed in Section 4.2.

## 4.1 Strategies

### 4.1.1 Asset Management

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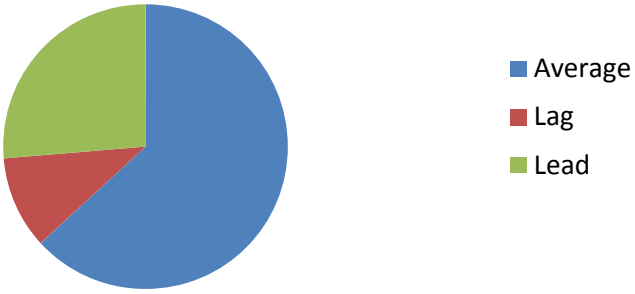
|---|---|
| **Definition:** | Asset management is a structured approach to optimizing the life-cycle cost of asset ownership with a focus on providing reliable and dependable water, wastewater, stormwater, and solid waste services to customers. It involves three key components:<br>1. Asset Knowledge<br>2. Asset Maintenance<br>3. Asset Operability and Maintainability |
| **Comparison to Best Practices** | |
| **Summary of Current Status:** | <u>Asset Knowledge</u><br>Although SPU has subscribed to an Asset Management philosophy, some of the foundational components are lacking: a defined standard asset hierarchy with common taxonomy throughout the organization and business information systems; Strategic Asset Management Plans (SAMPs) fully developed for all asset classes; asset criticality ratings for all asset classes; a predefined level of detail required for each asset class; and consistent identification of assets in all databases including GIS, IBM-Maximo asset management software (Maximo), and the Summit financial system. Data integrity is not optimized.<br><u>Asset Maintenance</u><br>Asset Maintenance involves several major functions:<br>• Data collection and analysis<br>• Preventive, predictive, and corrective maintenance<br>• Reliability analysis<br>• Condition monitoring/assessment<br>• Criticality/risk analysis<br>All these functions are being performed to some degree of success. A significant amount of data is collected; however, there is no specific data collection plan that defines how to collect data and what features/information are important for further use and analysis. There is a need to move from being data rich to knowledge rich to support better management of asset performance and life cycle cost decision making.<br>Preventive, predictive, and corrective maintenance is conducted at the appropriate asset levels and performed in accordance with the assigned management regimes. However, there is a need for a defined maintenance strategy and personnel dedicated to championing it to the next level of efficiency. Historical information and asset performance is not being used to streamline the maintenance strategy on a consistent basis across all asset classes.<br>Asset failures are analyzed and used to define preventive maintenance procedures and R&R schedules; however, failure mode effects analysis (FMEA) is not being performed and integrated systematically as part of the reliability analysis and engineering.<br>Condition assessment procedures have not been defined for all drainage and wastewater asset classes. However, there are appropriate procedures and rating methodologies as part of the day-to-day work that are input into the Maximo maintenance management system. Condition assessment strategies need to be further defined and implemented. |

| | |
|---|---|
| | Asset Operability and Maintainability<br><br>FO&M personnel are involved at the beginning of the Stage-Gate project management process through project commissioning. Their role is to review the design and contract documents and provide "lessons learned" with the goal of minimizing ongoing costs of asset ownership. Designers/consultants are not consistently involved during commissioning to help FO&M staff optimize the future operability and maintainability of the future assets resulting from the project. Designers and FO&M staff do not communicate effectively during project development to fully envision and plan the key aspects of operation and maintenance needed to optimize the life cycle costs. FO&M subject matter experts need to be involved at effective times during the project life-cycle. There is a need to measure the up-front costs of design versus long-term operational costs, as well as the cost of change orders for rework, to measure the effectiveness of the current Stage-Gate process and FO&M staff involvement. |
| **External Constraints** | |
| Political Constraints | • Maintain rate levels<br>• Meet industry benchmarks |
| Regulatory Constraints | • GSI operation requirements<br>• Accurate locate capabilities<br>• Consent Decree requirements |
| Customer and Stakeholder Expectations | • Proper stewardship of publicly-owned assets from planning and design to retirement and decommissioning<br>• Maximize useful life of assets |
| **Comparison to Industry Peers** | |

## Peer Comparison[1]




SPU was noted as a leader in some functions of Asset Management by many of the benchmarked utilities. However, the HDR Team found that although SPU was an earlier adopter of asset management, other utilities had found more success in maintaining and continuously improving their programs. In particular, SPU lagged in foundation components like a standard asset hierarchy, consistent use of asset management plans, and asset condition knowledge.

[1]Chart Notes: This Peer Comparison, and those in the following sections 4.1.2-4.1.9, denotes the compiled results of questionnaires completed by each benchmarked utility, and compares SPU's results of the same questionnaire.

## Highlights of Peer Comparison

Asset management was identified as a critical component for managing costs and realizing efficiencies by several utilities. In fact, many had based their initial programs on methods developed by SPU. However, some have continued to evolve and grow their programs beyond this initial start-up.

Business Case Evaluations for Cost Savings

One utility established an asset management (AM) office and has continued to evolve AM over five years. To start, the utility brought in key experts in AM and change management. Teams were set up to steer and communicate AM throughout the utility. An example of their success revolves around the utility's initiative to do more work earlier on projects, especially those that require a triple bottom line risk analysis. They set up a Business Case Evaluation (BCE) team, with a subset of project managers from each line of business (LOB). The results of 40 BCEs have been completed, with overall savings in costs, consultant costs, and review committee time. The AM office sees its future success in the consistent use of change management and dealing with people and processes in order to achieve their goals.

Field staff engagement in RCM

In one public utilities department, the asset management office and the maintenance manager worked together to introduce preventative maintenance (planned vs. corrective maintenance) to field staff. To get the effort off the ground, they conducted Reliability Centered Maintenance (RCM) training and provided consultant time to work with individual work groups.

An unexpected side benefit of this collaboration was that for the first time field issues were represented in the director's office. They attributed their success to starting with what maintenance staff wanted to do, reducing the backlog by closing out duplications and combining work orders on assets into program-work orders.

Keys to success were a strong internal RCM facilitator, creating time in maintenance staff's day to participate, starting with a small pilot group, and then expanding the program more broadly. This was an example of using change management techniques to move strategic business initiatives forward in the organization.

Focus on processing infrastructure to maximize diversion

All of the utilities surveyed as part of the solid waste benchmarking project have very progressive diversion programs in place to recover as much as possible from the waste stream and re-direct recovered material to beneficial re-use. In general, many of the tools utilized are consistent across the benchmarking participants. One utility stuck out as focusing more on developing processing infrastructure to close gaps in what has been historically available for materials handling. This has allowed it to target difficult-to-manage waste streams and waste generators, particularly the multi-family sector. While the utility itself did not undertake the development of infrastructure or assume any ownership, it worked with private service providers through public bid processes to develop new and different technologies and allowed itself to "think outside the box" while remaining mindful of service costs.

While the specific processing technologies employed by this utility or the end products these technologies produce may not be appropriate for SPU, fostering innovative and new solutions locally may provide for additional means to achieve diversion targets and reduce costs.

## Recommendations

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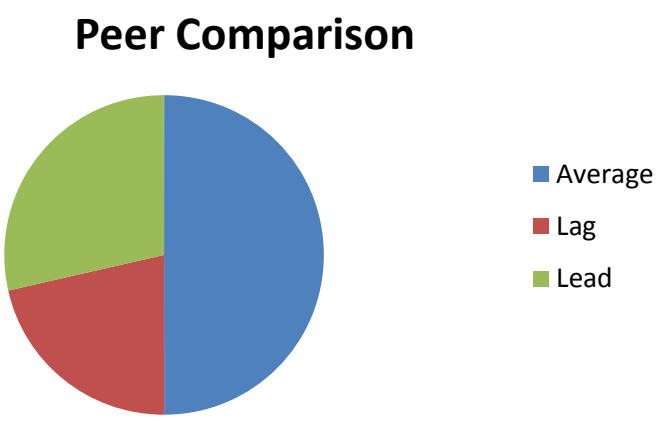
| **Strategic Objective:** | Meet customer needs and expected levels of service through sound fiscal planning and improved asset infrastructure management. |
| *SPU Strategic Business Plan Focus Area* | **Achieve Operational Excellence** |

| | |
|---|---|
| **Benefits:** | • Maximized useful life of assets and life-cycle cost reductions<br>• Quick and efficient implementation of cost-effective solutions<br>• Easy evaluation of suggested efficiency recommendations allowing for capitalization on opportunities<br>• Minimized disruptions to the community and other negative consequences of asset rehabilitation, repair, and replacement<br>• Asset replacement strategies employed with the best available knowledge and within a structured business context<br>• Asset acquisition strategies employed to gain the best cost and project outcomes<br>• Defined corporate risk profile |
| **Current Limitations** | |
| Employee Morale | • Perceived lack of inclusion of FO&M staff in design and planning<br>• Increasing amount of data required of "collectors" without full understanding of final use<br>• Tendency to collect symptomatic data instead of causative data |
| Business Rules and Process Constraints | • Staff representation requirements do not always translate to meaningful knowledge transfer<br>• Post-commissioning is not currently part of the Stage-Gate process<br>• Interface of a variety of databases limited<br>• Asset identification inconsistent across systems<br>• No defined data collection plan<br>• Lack of condition assessment strategies |
| **Critical Elements:** | <u>Asset Knowledge</u><br>• Standardize the asset hierarchy and taxonomy and set Strategic Asset Management Plans for all critical assets and systems<br>• Maintain an accurate Fixed Asset Registry with agreement between all databases on asset inventory, location of assets, and identification of assets<br>• Require use of SPU asset hierarchy by all contractors and consultants<br>• Track asset costs and reliability through data access and knowledge sharing<br>• Understand, rank, and mitigate risk through defined failure modes with associated likelihood and criticality ratings<br><u>Asset Maintenance</u><br>• Continue use of Business Case Evaluations to justify operational and capital expenditures<br>• Establish expectations and performance/success measures of FO&M staff involvement in the Stage-Gate process<br>• Mitigate risks through implementation of Lessons Learned<br><u>Operability and Maintainability</u><br>• Consistently develop SAMPs for critical assets that include operations and maintenance strategies for the asset as well as rehabilitation and refurbishment plans<br>• Create a reliability analysis function to improve the performance of all assets |

### 4.1.2 Community Sustainability

| | |
|---|---|
| **Definition:** | Community sustainability is centered on integrated planning explicitly attentive to impacts on near- and long-term community health and environmental conservation in balance with the levels of service expected by the customer base. It rests on an adaptive management framework to protect, restore, and enhance the natural environment. It relies on strong regulatory partnerships to achieve sound social, environmental, and economic outcomes for the communities it serves. |
| **Comparison to Best Practices** | |
| **Summary of Current Status:** | SPU is an industry leader in conservation and sustainability efforts across all its lines of business, in part due to high expectations from the community it serves. However, as a system component, comprehensive business planning is not streamlined with corporate-wide line of business planning to achieve optimum results for the entire SPU organization. Planning takes place at multiple levels and across multiple branches of the organization. The organizational structure has evolved with several planning sections in different branches that make coordination more problematic. There is no clear "roll-up" process to ensure plans are connected and hierarchical up to the Strategic Business Plan and defined levels of service. The Water Line of Business has a mature defined planning process, but across all lines of business, cost and effectiveness of planning is not measured. There are components missing in the planning process, including monetized risk/reward profiles for all projects, comprehensive education and outreach needs, and a CIP planning and prioritization methodology. Some needed information is missing to complete plans accurately, particularly in condition assessment of the Water Transmission and Distribution network, and in updating the hydraulic model of the Wastewater and Drainage system, especially in how flow is transported and relates to the King County Conveyance System.<br><br>SPU achieves regulatory compliance and has been successful in staying ahead of new regulations. However, it does not have a documented process or strategy for interface with regulators and there may be opportunities to manage the future cost of capital projects more effectively through better coordination of planning. |
| **External Constraints** | |
| Political Constraints | • Rate increase requests affected by election cycle |
| Regulatory Constraints | • Water Master Plan required by Department of Health every six years<br>• Consent Decree requirements |
| Customer and Stakeholder Expectations | • Published plans with public comment periods<br>• Insight into value of service for dollar spent<br>• Generational equity in infrastructure expenditures |

## Comparison to Industry Peers




SPU was perceived as a leader in their conservation and stewardship practices by many of the surveyed utilities. Its largest lagging area was that of strong, standardized comprehensive planning, and the ability to utilize plans to balance the needs of the current rate-payers with future infrastructure needs.

## Highlights of Peer Comparison

Utility representatives described the impacts of increased regulation and the high value their communities placed on compliance, conservation, and a high level of service.

A Regulatory Compliance Office in the Public Utilities Department

A centralized regulatory compliance office was established in one public utilities department to stay on top of environmental issues and legislation. The regulatory office looks ahead at environmental legislation at the national, state, and local levels and helps to keep the utility in front of the "regulatory game." The office is methodically implementing its programs using an Environmental Management System (ISO 14000). The office is very active with regulators; for example, staff work closely with regulators, meet face to face to build relationships, and have reached the point where they understand each others' goals. The office uses change management techniques to get buy-in and to implement their programs. Because of their success, these change management techniques are in the process of being applied within other utility divisions. One lesson learned was that doing change management is the way to be successful – "if you don't do it, your project won't succeed." The structure promotes the utility's success in anticipating and managing environmental issues and legislation.

Every-Other-Week Garbage Collection with No Perceived Loss in Service

Recently (within the last five years), one participating utility shifted its garbage collection frequency from one time per week to one time every other week (twice per month). There were several key take-aways shared with the HDR Team. Chief among these was to ensure there was no perceived loss in service from the customer's perspective. This particular utility achieved this through a one-to-one swap: it increased organic waste collection to once per week at the same time it reduced garbage collection. According to utility personnel interviewed, this was critical to the success of the campaign. Even so, the utility had a noticeable dip in customer satisfaction during its annual city survey conducted the year garbage collection frequency changed. Additionally, the utility hired five temporary contact center representatives to handle an increased volume in customer calls. Both the utility's customer satisfaction levels and the average call volume have since returned to the levels seen prior to the switch in garbage collection.

Utilization of Robust Performance Metrics in Education and Outreach Campaigns

All of the utilities highlighted various Education and Outreach campaign planning and success measures as an area to improve in delivering Solid Waste service levels and achieving established diversion targets. In particular, measuring the success and effectiveness of various campaigns was cited as an ongoing challenge. Two utilities suggested two methods they are currently employing, or beginning to utilize, to increase the dynamic nature of these campaigns:

1. **Campaign awareness targets and follow-up surveys**. One utility has begun to set Awareness Targets at the outset of a new campaign, whereby they can measure how effective the campaign was based on how many people surveyed were aware of it and what it conveyed. This is measured by follow-up surveys over the phone.
2. **Call-to-Action campaigns**. Another utility has been actively working to orient their campaigns around a call-to-action. For example, a customer must pledge or sign-up online, or call a certain number to participate. In this manner, the utility can track those actions to gauge campaign effectiveness.

## Recommendations

| | |
|---|---|
| **Strategic Objective:** | Protect, restore, and enhance the natural environment and community vibrancy through plans that improve management of and investments in infrastructure with current and long-term community impacts in mind. |
| *SPU Strategic Business Plan Focus Area* | **Protect Environmental and Public Health** |
| **Benefits:** | • Efficient use of water and energy resources<br>• Standardized integrated resource planning to foster adaptive management of the water, wastewater/drainage, and solid waste systems<br>• Enhanced ecological and community sustainability through consideration and use of various technologies and methods to prevent and protect source waters and recover resources from the waste stream<br>• Established performance indicators to measure cost, success, and accuracy of all planning functions.<br>• Maintained processes for engaging with regulators and lawmakers on matters involving regulatory change |

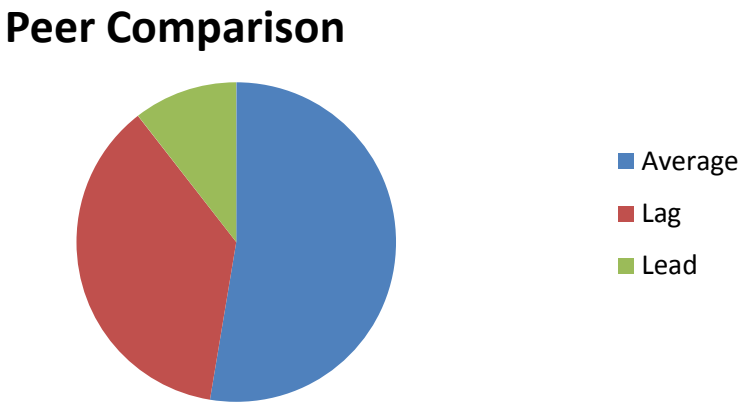
| Current Limitations | |
|---|---|
| Business Rules and Process Constraints | • Shifting to updated rate proposal every three years for each line of business<br>• Defined time horizons:<br>o Long-range: ≥20 years<br>o CIP/O&M budgeted annually on six- year horizon<br>o Budgeting begins in December; budget draft submitted March; approved by Council in November |
| **Critical Elements:** | • Forecast demand more accurately by understanding in detail where services are needed and how the services are used by the customer<br>• Determine the gap between available supply and projected demand, the supply–demand balance<br>• Develop and analyze options to fill the supply–demand gap that consider the full spectrum of options available using consistent economic and sustainability assessment methods<br>• Plan and implement the preferred suite of options<br>• Evaluate the options implemented and the planning objectives identified |

### 4.1.3 Financial Strength

| | |
|---|---|
| **Definition:** | Financial strength includes life cycle planning, decision making, and financial management components including revenue forecasting and tracking that lead to financial integrity. This strategy requires accurate current and future cost-forecasting and capital needs to manage rates and minimize rate fluctuations. It includes reporting of financial performance to regulators and the community. It is based on sound cost accounting and procurement at all levels of the organization and knowledge of costs to deliver services as well as impacts to rates when service levels change or are not met. |
| **Comparison to Best Practices** | |
| **Summary of Current Status:** | SPU's financial strategy includes life cycle planning, decision making, and financial management components; however, better knowledge of future capital needs and future operation and maintenance costs will improve the quality and dependability of SPU's business plan and better document SPU's future funding needs. SPU does not understand its specific level of service costs well enough to make defensible estimates of future costs so that proper budgets can be prepared and resources can be properly allocated to meet changes in level of service demands. SPU does not always accurately account for and forecast asset replacement costs. Policies that balance replacement and refurbishment against new projects and improvements will result in more control over rate fluctuations. Additionally, SPU does not know the full cost of ownership of all its assets, both in aggregate and in detail, across the full life of the asset. SPU's system of predicting rates to provide levels of service are not based on the cost to deliver baseline levels of service.<br><br>SPU's asset records supporting total asset valuation and depreciation charges do not accurately reflect actual infrastructure and it does not have a consistent process for capitalizing and retiring assets. The Finance Division's fixed asset records do not directly correspond with asset records in the Maximo system.<br><br>SPU utilizes business case evaluations to determine the best approach for capital projects, but it has not extended this methodology to all programs, including large business initiatives, such as the recommendations presented in this report.<br><br>Procurement is highly de-centralized and constrained by the City Purchasing and Contracting Services Department, CPCS.<br><br>The financial health of the organization is generally sound, with a few notable, large exceptions:<br>• SPU has a much higher debt coverage burden than typical AAA- and AA-rated agencies.<br>• SPU's wastewater affordability (as measured by percent of median household income) is low compared to typical AAA- and AA-rated agencies, however, a substantial portion of the wastewater bill is for treatment costs, which are outside of SPU control.<br>• SPU has low cash on hand and days of working capital compared to typical AAA- and AA-rated agencies. Cash-on-hand policies are intentionally low, however, due to the fact that SPU has easy access to a larger City cash reserve. |

| External Constraints | |
|---|---|
| Political Constraints | • Potential for SPU's governing body to limit its ability to raise rates to a level needed to meet its revenue requirements and financial targets<br>• Potential policy contradictions around SPU's desire to promote water conservation and waste diversion while at the same time build financial stability<br>• Review of union capabilities required before any bid for labor is issued<br>• Mayor has right to ad hoc review any awarded contract at any time |
| Regulatory Constraints | • Increasingly stringent drinking water quality regulations<br>• Limits and contract requirements defined by RCW and SMC<br>• Minimums around solicitations and equity<br>• WMBE/HUB requirements |
| Customer and Stakeholder Expectations | • Predictable rate paths and appetite for rate increases<br>• Contract awarded to lowest price and/or service for dollar value; most experience/knowledgeable<br>• Streamlined and efficient system interaction for vendors, consultants, and contractors |

## Comparison to Industry Peers




SPU's financial reporting methods were found to be in-line with those of its peers. However, it lagged in the areas of cost forecasting and long-term financial planning. Additionally, it was found to have higher operating costs on a per unit basis than most of its peers. This is true when viewing only O&M expenditures (exclusive of debt service and taxes), as well as when debt service is included.

## Highlights of Peer Comparison

Utilities are looking for ways to deliver value and meet their strategic and business goals. The following highlights are examples of strategies utilities are using to help them stay ahead of the game given the constraints of being in a larger city environment.

Utility Governance and Policy in Alignment with the Utility Strategic Plan

One utility was previously structured as a semi-independent agency reporting to a board and overseen by a regulatory commission. With the freedom to recommend policy for adoption by a board and approved by a commission, the utility was more effective and achieved efficiencies. This higher level of performance was evident in peer benchmarking studies undertaken by the utility during that time.

Recently, the city eliminated the approval powers of the Board and the utility now reports through the mayor. However, the regulatory commission continues to oversee the utility. The relationship is beneficial to the utility because the board and commission are familiar with the utility business and advocate for utility issues with city policy makers and management. Purchasing and employee services are two key functions that are now performed by the city. With the independence of the board/commission structure removed, the utility's performance is not as effective and efficient. The utility continues to maintain as many support functions as much as possible without city involvement to promote higher efficiencies.

Utilization of contamination surcharges in transfer station operations

Among its peers, SPU is a leader in sustainable waste management, with a heavy focus on recovering as much as possible from the waste stream prior to final disposal. It also is in the midst of remodeling one of its two waste transfer stations, while the other is newly remodeled and operating. This represents an opportunity to enhance SPU's diversion efforts in new and different ways. One utility has been using its rates and its capacity to sort contaminated materials at its transfer stations in this way. This is achieved by charging a 50 percent surcharge on self-hauled loads of municipal solid waste (MSW) that arrive with a certain percent of banned materials like recyclables co-mingled. This allows the utility to cover the cost of sorting those materials out, while providing a disincentive to self-haul customers for mis-sorting materials.

## Recommendations

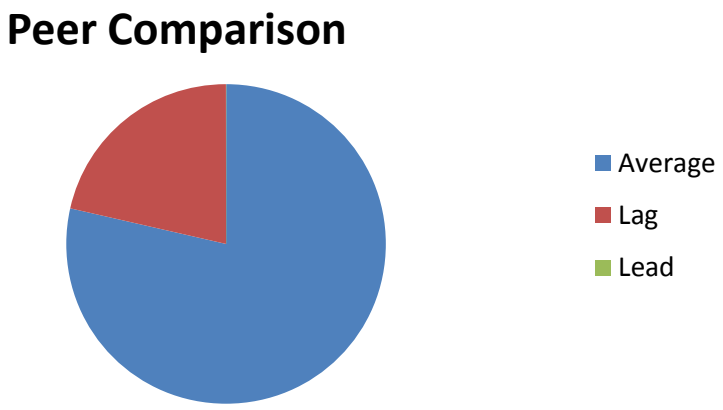
| | |
|---|---|
| **Strategic Objective:** | Effectively forecast cost and future capital needs to improve the quality and dependability of SPU's business plan and better document SPU's future funding needs. Maintain financial systems to track and report on the performance and costs of maintaining current service levels in conjunction with other operating systems. |
| *SPU Strategic Business Plan Focus Area* | **Achieve Operational Excellence** |
| **Benefits:** | • Effective balance between long-term debt, asset values, operations and maintenance expenditures, and operating revenues<br>• Control over rates and rate fluctuations<br>• Robust range of options to abate and ameliorate impacts of changes to service levels or failure to meet service levels<br>• Continue to operate in accordance with adopted financial policies, and line of business enterprise fund accounting |

| Current Limitations | |
|---|---|
| Business Rules and Process Constraints | • City-wide financial system in use<br>• Cost tracking done by branch, not by function<br>• CPCS "owns" procurement and delegates at its discretion<br>• FAS performs all fleet procurement<br>• City Standards Engineer coordinates city standards, blanket contracts<br>• Required signature approvals |
| **Critical Elements:** | • Balance replacement and repair against new projects and improvements<br>• Establish cost of asset ownership across full life of the asset<br>• Establish cost of delivering baseline levels of service and operating costs and costs to the community when service levels change or are not met |

### 4.1.4 Performance Control

| | |
|---|---|
| **Definition:** | Performance control ensures that ongoing, timely, cost-effective, reliable, and sustainable performance improvements are being made in all facets of SPU's operations to sustain or improve upon current levels of service. The performance control strategies define the indicators of success to track and report for performance optimization to achieve operational excellence. They establish Performance Goals for individuals that are tied to the Strategic Business Plan and utilize a robust performance review process to ensure objectives are met. |
| **Comparison to Best Practices** | |
| **Summary of Current Status:** | Indicators of success are established by top management at a high level and are aligned to strategic operating objectives. SPU has established levels of service for all four lines of business. Success indicators do not "trickle down" to lower levels and plans at the branch or line of business level do not tie to high-level strategic objectives. No policies or procedures exist to measure the effectiveness of implementation of new and/or on-going business initiatives and to develop corrective actions on a proactive basis. There is an established performance review process conducted annually, but it is focused on a review of the past year, and is not forward-looking. Performance reviews do not tie to levels of service or strategic business plan, or to individual goals. |
| **External Constraints** | |
| Political Constraints | • Labor agreements and employee performance expectations |
| Regulatory Constraints | • Consent Decree requirements |

## Comparison to Industry Peers




Across all lines of business, SPU was similar to its peers in many of the metrics it uses to measure performance. However, in managing employee performance, SPU is just embarking on its current Strategic Business Plan and as of yet, there are no plans to update the Performance Review processes to create a link between employee performance management and implementation of the Strategic Business Plan. Many other utilities spoke to this as a necessary component for successful implementation.

## Highlights of Peer Comparison

Peer utility representatives described the impacts of organization structure on performance management and accountability.

Consolidation with Focus on Strategic Plan and Efficiencies

A city public utilities department consolidated to improve its efficiency and effectiveness and to drive its strategic plan. The utilities department designed a specific structure that consolidated departments into the major functional areas of water quality, distribution and collection, business support, and strategic programs, as well as external affairs. An assistant director for water quality brings together water and wastewater; however operations for each system were left separate. An environmental monitoring and technical services group serves both operating divisions.

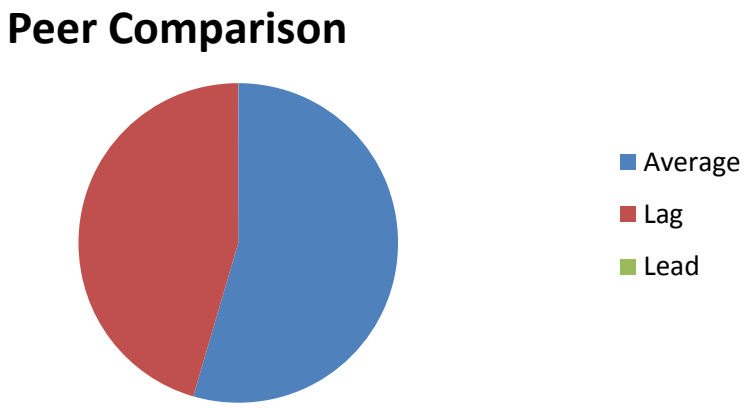
The business support branch and the strategic programs division are highly positioned within the organization to drive the strategic plan and to keep the focus on efficiency and effectiveness efforts in the utility. Keys to the success of the consolidation were a steering committee that oversaw the consolidation, with senior executives directing the consolidation through weekly meetings, chartering 20 to 30 small teams to work out details of the consolidation, and team reports on recommendations with the assistance of in-house resources. Results were made visible through reporting back to the mayor and council.

| Recommendations | |
|---|---|
| **Strategic Objective:** | Ensure that ongoing, timely, cost-effective, reliable, and sustainable performance improvements are being made in all facets of SPU's operations. Minimize resource use, loss, and impacts from day-to-day operations. Measure and report on performance against the service levels. Establish Line-of-Sight for every employee to the Strategic Business Plan. |
| *SPU Strategic Business Plan Focus Area* | **Transform the Workforce** |
| **Benefits:** | • Defined service levels with key performance indicators (KPIs) or metrics in order to determine if each service level was met<br>• A performance management system to track activities and maintain awareness of information and operational developments to anticipate and support timely adoption of improvements.<br>• Periodic review of procedures and processes to reflect the status of the Strategic Business Plan.<br>• Robust, forward-looking employee performance review process. |
| **Current Limitations** | |
| Employee Morale | • History of misuse or neglect of following the Performance Review process<br>• Resistance to one-size-fits-all approach |
| Business Rules and Process Constraints | • Training of supervisors and leadership in use of the Performance Review process<br>• Data on productivity exists but is not collected and categorized in a way that can readily be used by supervisors and managers; data is not divided in tasks or activities<br>• No formal ownership of system performance<br>• Reporting and data collection of unused information<br>• Water operations are mostly centralized while Wastewater and Drainage has historically been decentralized<br>• Reporting and data collection requirements |
| **Critical Elements:** | • Update the levels of service<br>• Establish a performance management system<br>• Establish data analyst functions for critical operations<br>• Define roles and responsibility of SPU workgroups necessary to support the core services |

### 4.1.5 Project Delivery

| | |
|---|---|
| **Definition:** | Project delivery represents the entire Capital Improvement Program (CIP) from planning and prioritization in order to meet desired service levels to commissioning and operations. This strategy focuses on a streamlined and efficient process with strong project controls and cost forecasting and management. |
| **Comparison to Best Practices** | |
| **Summary of Current Status:** | The planning of the CIP is typically based on a 2-8-20-year forecast. The CIP is used to plan upcoming work and expenditures. Capital budgets are defined or updated every year and EPMS is used to track capital projects. Capital funds for supporting the funding plan are tracked on a project and asset basis and used for project management and to update the Funding Plan. Level of service and growth needs are usually identified on a scheduled basis and communicated as part of the capital planning process.<br><br>Life-cycle costs of alternatives are prepared according to defined formats and present value analyses contribute to project selection. However, life cycle costs of existing assets are not being performed and are not centralized. The existing Stage-Gate process is not connected to the CIP and there is not enough focus on comprehensive planning and prioritization. The CIP prioritization process needs to also take into account staffing needs to be consistent across lines of business. |
| **External Constraints** | |
| Political Constraints | • Proactive capital planning subject to election cycles<br>• Unforeseen capital requirements due to external infrastructure projects |
| Regulatory Constraints | • Consent Decree requirements |
| Customer and Stakeholder Expectations | • Value for dollar spent<br>• Generational equity in infrastructure expenditures |

## Comparison to Industry Peers




SPU lagged behind its peers in the areas of project controls including contingencies and soft costs as a portion of the overall project budget, and in its commissioning and decommissioning processes. It is notable, however, that SPU has already undertaken a series of business initiatives to improve its project delivery processes, the results of which are not likely to be accurately reflected above. This is largely due to the unavailability of data from newly initiated processes, or incomplete transition from old to new processes.

## Highlights of Peer Comparison

Commissioning and operations and maintenance of new assets proved to be an important component of the project delivery processes for the utilities interviewed.

Technical Training for Capital Program Commissioning and Startup

One utility discussed the importance of its preparation of the field operations staff to take over major new capital facilities following substantial completion. This effort was driven by the utility's technical group, not Human Resources. A blended learning system was designed that included e-learning, accessibility of operations manuals on-line, a field component, and scenario sessions. The on-line approach was chosen to deal with shift crew time constraints. The utility devised its own learning processes to fit its needs for technical training.

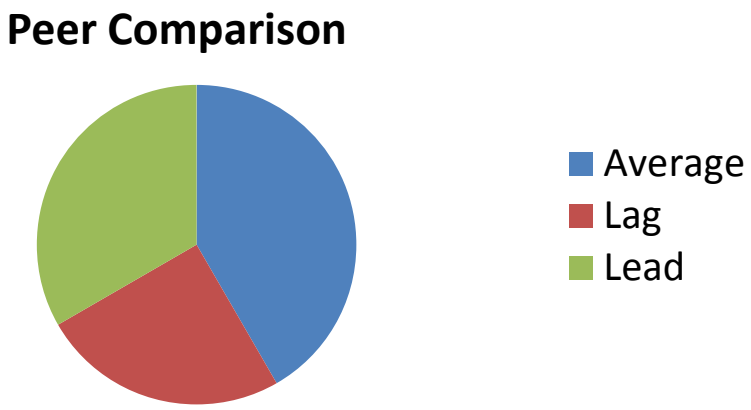
| Recommendations | |
|---|---|
| **Strategic Objective:** | Ensure that capital projects support the mission of SPU and meet the goals of the strategic plan and the line of business plans, budgets, and schedules. Prioritize and manage projects to improve SPU's infrastructure and system performance. Deliver projects on time and on budget. Accurately forecast the life-cycle costs of assets and monitor costs once assets are in operation. |
| *SPU Strategic Business Plan Focus Area* | **Achieve Operational Excellence** |
| **Benefits:** | • Improved accuracy in forecasting of life-cycle costs<br>• Documented prioritization process for prioritizing all projects, portfolios, and programs<br>• Consistent use of rigorous project controls |
| **Current Limitations** | |
| Employee Morale | • Exceptions to Stage-Gate and planning process of project perceived as non-critical |
| Business Rules and Process Constraints | • Lack of program-wide Business Case Evaluation (BCE) to prioritize projects |
| **Critical Elements:** | • Develop and maintain an enterprise program management system and portfolio project management processes<br>• Measure and compare actual ownership costs with forecasted costs to improve future forecasts |

### 4.1.6 Response and Resolution

| | |
|---|---|
| **Definition:** | Response and Resolution encompasses customer-facing functions including both billing and collection and customer service. It requires customer-facing and endorsed levels of service with measurable metrics. |
| **Comparison to Best Practices** | |
| **Summary of Current Status:** | SPU's billing and collection system is generally effective as compared to stated service levels, with a few key areas that may be streamlined to improve efficiency:<br>• E-Billing is not incentivized and the website process is not adequate to meet the goals of an easy customer experience.<br>• Billing software system is outdated and time-consuming to navigate for customer service representatives.<br>• Solid Waste line of business billing is based on reported information from privately contracted collection companies. A complex rate structure is used and there are many "extras." Billing-in-advance requires many back-end adjustments. Based on contracts, a team of Waste Inspectors is required for contract enforcement to ensure revenue generating services are accurately recorded. SPU retains a strong connection to the customer through billing services.<br>• Water meter reading is largely done manually, with a small fraction of AMR meters installed. There is no use of AMI technology.<br>SPU's customer service functions, particularly the Contact Center, are complex, but much work has been done to improve efficiencies and streamline various functions while enhancing the customer experience. SPU places a high value on making the customer experience as easy as possible and so has retained a high degree of services in-house. It is imperative that SPU continue to balance the level of service it delivers with the cost of doing so while ensuring those services are appropriate to meet customer expectations. Several small adjustments to the Contact Center could support this effort.<br>• Set up incentives for staff in the Contact Center<br>• Add third monitor to each station<br>• Facility quarterly meeting<br>• Update the six large reader boards to improve performance tracking<br>• Improve the ergonomics of the workstation setup<br>• Update workforce management for more interactive intelligence<br>• Update the IVR system to be able to optimize message<br>• Rotate call staff to skill-based call management<br>• Add more training<br>• Look at adding seasonal staffing |

| External Constraints | |
|---|---|
| Political Constraints | • Labor contracts conflict with outsourcing |
| Customer and Stakeholder Expectations | • Current levels of service expected to be maintained |

## Comparison to Industry Peers




SPU performed very well in Response and Resolution, which is reflective of past work to streamline processes in this area, and a focus on continuous improvement, especially in the Contact Center. The HDR team did note areas for improvement in planned and unplanned work order response time, cost per unit for customer response functions, and metrics for measuring performance in the resolution of customer complaints.

## Highlights of Peer Comparison

Of the participating utilities, most were trying to balance efficient, cost-effective customer services with customer expectations of the level of that service. Utility representatives described examples of successes in maintaining this balance.

Outsourcing of "extra" garbage subscription levels to streamline Customer Service functions

Only one other utility surveyed retained the majority of customer services (billing, complaint resolution, etc.) within solid waste services in-house. Like SPU it indicated its systems were complex and potentially an area to realize efficiencies. However, this utility realized some cost savings by shifting responsibilities for customer service and billing of "extra" services to its contracted haulers. "Extra" services include things like extra garbage or yard waste set-out, bulky item pick-up, etc. According to the utility this has streamlined both operations within the city customer service center and with the utility-hauler interface.

Outsourcing of complaint handling and resolution to resolve customer issues directly

In addition to extra services, the same utility has begun to outsource complaint handling to its contracted haulers to reduce staffing needs at the utility and enhance the customer experience. SPU has historically retained these services to ease the customer's burden by providing one center for all customer service functions. The utility surveyed believed this potential loss in service was made up by the efficient response time and ability of the contracted hauler to resolve the issue immediately. HDR recommends a business-case

evaluation to further understand potential cost-savings in balance with level of service to the customer.

Utilizing third parties to recover extra revenue from extra garbage collection

Similar to outsourcing all extra services to contract haulers, one utility surveyed had shifted to using a "sticker" system for extra garbage set-outs and collection. Rather then collecting extra waste set-out up-front and then billing after the fact, which requires monitoring haulers to ensure these extras are recorded, the utility sells stickers to local convenience stores. Customers in need of collection of extra material can then simply purchase a sticker as needed, and attach it to a garbage bag (cans cannot be used for extra waste set-out to prevent re-use of stickers). Participating stores are allowed to charge an extra $1 per sticker. This has allowed the utility to streamline billing in relation to this service by eliminating the complexities of advanced pick-up, hauler interface, and inspection.

| Recommendations | |
|---|---|
| **Strategic Objective:** | Streamline SPU's response and resolution function. Provide reliable, responsive, and affordable services in line with explicit, customer-accepted service levels. |
| *SPU Strategic Business Plan Focus Area* | **Create an Easy and Engaged Customer Experience** |
| **Benefits:** | • Defined service levels for response AND resolution of customer complaints<br>• All process improvements have associated metrics and processes for tracking progress and adjusting course when necessary, ensuring continuous improvement is achieved<br>• Business case evaluation and programmatic Stage-Gate review for all proposed changes to billing and customer service functions that may impact levels of service |
| **Current Limitations** | |
| Employee Morale | • History of low morale and expectations with customer service representatives (though improving) |
| Business Rules and Process Constraints | • Seattle City Light manages the bill print process |
| **Critical Elements:** | • Develop specific performance metrics for resolution of complaints and issues<br>• Evaluate and streamline billing processes while ensuring customer expectations continue to be met<br>• Develop a robust program to receive timely customer feedback to maintain responsiveness to customer needs and emergencies |

### 4.1.7 Strategy Effectiveness

| | |
|---|---|
| **Definition:** | The focus of strategy effectiveness is the implementation and long-term sustainability of the Strategic Business Plan. It involves managing and measuring the execution of the Strategic Business Plan, as well as adjusting course when necessary. Communication (both external and internal), customer satisfaction, and education and outreach are functions of effectiveness, along with the establishment of appropriate levels of service based on the charter of the organization and stated customer expectations. |
| **Comparison to Best Practices** | |
| **Summary of Current Status:** | SPU is in the process of developing a Strategic Business Plan different than what has been developed in the past. It is intended to be a guiding document for the next six years (through 2020) with a clear Line of Sight for all employees. The Strategic Business Plan will define rate paths and form the basis for going to Council for approval. To date, SPU has engaged with small and large customer groups to determine appropriate levels of service. While the forming of the Strategic Business Plan is critical to the long-term success of SPU and its development to date has been thorough, implementation and sustainability of the plan has not been adequately thought-out or defined. Performance metrics for various components of the plan have yet to be defined. There is currently no owner or responsible branch for implementation of the Strategic Business Plan. Supporting data, particularly baseline costs and costs of levels of service is lacking.<br><br>SPU has a comprehensive communications strategy to keep its various stakeholders informed about meeting its service levels and long-term cost targets. Communication is open and frequent. Special communications initiatives need to be devised on a proactive basis for issues involving regulatory matters or changes in service levels. More effective communication around the value-added services that SPU provides that are not readily evident to its customers is needed to engender 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.<br><br>SPU has a well-developed process for determining and planning future demands. It is just now embarking on a process to communicate the Strategic Business Plan to its customers, with a robust engagement plan developed. How progress on the Strategic Business Plan will be communicated has not been developed. |
| **External Constraints** | |
| Political Constraints | • Subject to election cycle impacts |
| Customer and Stakeholder Expectations | • Expect to know and understand SPU priorities and direct impacts on the rate payers and stakeholders<br>• Expect that SPU priorities are aligned with customer values and willingness-to-pay |

## Comparison to Industry Peers[1]

Across the board, SPU performed in-line with its peers in Strategy Effectiveness particularly in its customer engagement practices. However, it is important to note that SPU has not begun implementation of the Strategic Business Plan now under development. There were important take-aways from other utilities in the ability to sustain and succeed in achieving the goals their respective plans laid out. SPU has the opportunity to replicate best practices and utility tools and methodologies successfully used by its peers.

## Highlights of Peer Comparison

During the site visits, utilities reported on the importance of communications and structure in helping them achieve their strategic goals. The following are highlights of the business initiatives designed by utilities to align their resources with the organizations' strategic direction.

Gaining Public Support - Communications and External Focus

One utility's executive noted a general problem for utilities – that of being internally focused. In order to get rate increases, utilities need to focus externally on the customer and communicate about the utility and its core purpose, which is protection of the public's health and safety. To achieve the core purpose, utilities need infrastructure, responsive customer service, and professional financials. The question for utilities is "how do we want to present ourselves to the community?" There is a need for language for what we do so that it can be communicated with politicians, customers, and with professional utility personnel. An externally focused communication master plan that is built on the strategic plan's values provides the vehicle to educate and gain public support. By emphasizing a shift to externally driven messaging this utility has achieved successful implementation of its strategic business plan and gained public support for rate increases over time.

Utility Structure Promoting Accountability

Recently a utility developed its first strategic plan and structured its combined water and wastewater lines of business into separate utility cost centers. Two benefits of the new structure are 1) strategic decision-makers heading up each of the utility functions, and 2) alignment of the organization with its legal mandates. In the previous structure, engineering, policy and planning, and operations and maintenance served all the utilities. Now, water and wastewater departments have their own groups that perform these functions. The organization's guiding principles for the restructuring were clear lines of communication, clear lines of accountability, and clear lines of alignment with the institution's legal and rate entities and cost centers.

It should be noted that Operations and Maintenance functions that support both water and wastewater remain combined until questions of reduced efficiencies have been addressed. These "bridge groups" (groups that are not cleanly divided by utility) are a mixed bag in terms of how they see the new structure. One bridge group, Maintenance, sees the structure as making them less efficient because their work on the two lines of business is seasonal, e.g., water is summer-focused and wastewater is winter-focused. Under the previous structure maintenance workers were trained and qualified for water and wastewater work, an attraction for new hires. The new structure is designed to promote greater accountability and alignment with the strategic plan. The utility has committed to making a final decision on the "bridge" groups within 18 months of the restructuring to minimize confusion.

Structure to Promote Strategic Planning and Workplace Efficiencies

One utility structured itself so that one of its major divisions is dedicated to promoting and implementing strategic programs. The division is lead by an assistant director who is a member of the senior management team. Functions included in the division are strategic support services, asset management, employee services, and quality assurance. The strategic services group comprises nine organizational effectiveness staff assigned to work with employee teams to design and implement strategic initiatives that align with the utility's strategic plan. The strategic programs division has developed a change management process it facilitates through the utility. Utility managers use the change process to demonstrate the utility is effective by its use of industry standard models. Key city stakeholders are kept informed of the utility's performance through reporting out on initiatives.

| Recommendations | |
|---|---|
| **Strategic Objective:** | Effectively implement the Strategic Business Plan and sustain it over time. Communicate progress on implementation to external and internal audiences alike. Utilize the Strategic Business Plan as a basis for decision-making at all levels of SPU. |
| *SPU Strategic Business Plan Focus Area* | **Achieve Operational Excellence** |
| **Benefits:** | • Strategic Management Framework used to document how strategies are implemented and measured, with a full set of actions, tasks and subtask, budget, schedule, and assigned resource for each adopted initiative<br>• Dcoumented external communication and engagement plan and processes<br>• Dcoumented internal communication plan and process |
| **Current Limitations** | |
| Employee Morale | • Feeling of "been there, done that" and "it hasn't worked before"<br>• Feel disconnected from the Strategic Business Plan |
| **Critical Elements:** | • Establish regular communication on Strategic Business Plan implementation with:<br>o Customers, to communicate progress on the strategic plan, engage on expected levels of service and enhance awareness around necessary changes to the rate path<br>o Regulators, stakeholders regarding regulatory issues and potential changes to service levels<br>o Employees, to communicate progress on the strategic plan and facilitate an understanding of individual roles in the implementation of the Strategic Business Plan<br>• Develop a process to continually monitor and update the Strategic Business Plan to respond to changes in the organization and external environment<br>• Identify the various roles and responsibilities of different parties in SPU |

[1]Chart Notes: Because SPU's performance was average or leading in this Strategy there were relatively few questions asked and so the results may appear misleading. For detailed results, please see Appendix B.

## 4.1.8 Talent Management

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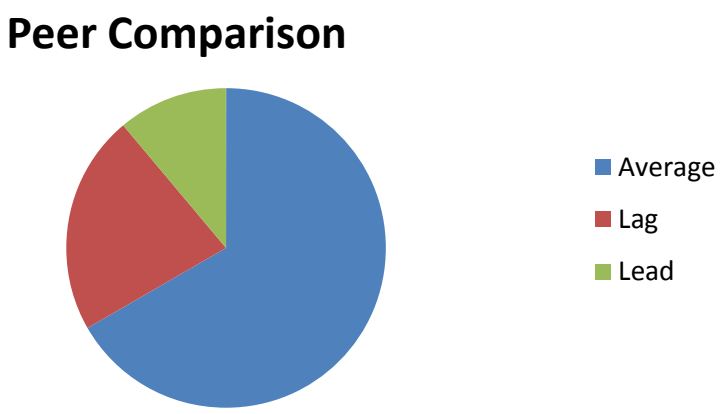
|---|---|
| **Definition:** | Talent Management is a portfolio strategy focused on capitalizing on the skills and knowledge of the employees at SPU to deliver services to customers in a timely, efficient, safe, and sustainable manner. It contains objectives in attraction and retention of talent, resource management, and employee and leadership development. |
| **Comparison to Best Practices** | |
| **Summary of Current Status:** | <u>Attraction and Retention of Talent</u><br><br>Hiring is done based on department need with a very long lead time from advertisement to the new employee's first day. The tendency is to hire based on experience, even when a position may not call for the most experienced candidate. SPU offers competitive benefits and pension; however, these offerings do not ensure acquisition of younger talent or employees interested in shorter tenure (i.e., the Millennial Generation).<br><br><u>Resource Management</u><br><br>Workforce management systems are used and implemented to ensure resources are available and in order. Each line of business has its own approach to resource management. There is a master resource plan developed to make sure resources are adequately staffed and organized to meet project and service level delivery requirements but there is very little communication regarding available resources across the lines of business and from line of business to FO&M. Internal procedures and controls are cumbersome and production capacity versus productivity is not measured. Internal service agreements between lines of business and support services are not well defined. Succession planning for mission-critical roles is not being done. There is insufficient supervisor and management training for employees to effectively perform resource planning and management.<br><br><u>Employee and Leadership Development</u><br><br>HR functions are highly administrative and manual, resulting in limited "internal consulting" availability from HR staff. No talent/competency or completed training tracking system is in place, resulting in a number of employees slotted in the wrong positions. Career development offerings are not standard across the organization and individual employees do not all have an articulated career path within the organization. SPU's formal and informal recognition programs are effective and should be expanded. |
| **External Constraints** | |
| Political Constraints | • Multi-skilling difficult under current labor agreements |

## Comparison to Industry Peers




Many of SPU's peers have implemented innovative leadership development, mentoring, and training programs to enhance the talent of their workforce. They have also undertaken initiatives to enhance succession planning and prepare their employees for the future. In those areas in which it lags, SPU may improve by examining similar solutions. However, it should be noted that many utilities are facing similar challenges as their workforce reaches retirement age and recruitment of new talent becomes increasingly difficult.

## Highlights of Peer Comparison

Leadership Development to Prepare for Succession

The large percentage of employees who are eligible for retirement was a pervasive issue for the participating utilities. Two utilities discussed how they are preparing new leadership in the workforce.

In one utility, HR runs three levels of leadership development - technical, supervisory, and leadership. Supervisory training is offered for entry-level supervisors along with more experienced supervisors. The leadership program identifies potential leaders for leadership training in a cohort model. Students learn new approaches to leading organizations such as system thinking, change management, and emotional intelligence. A technical aspect was included in leadership development when that program was expanded to the upper level of technical staff. This program gives potential leaders at the technical level an opportunity to become aware of the strategic goals and values of the organization.

Another utility's HR team develops leaders through a leadership program for cohorts of 30 employees from a mix of blue- and white-collar levels. Graduates of the program are assigned to management mentors in a different area of the organization. Under the mentor's guidance, grads apply new skills on a project and report out on their results.

Bringing new talent into the workforce – EIT program

One utility runs a mentorship program for entry-level engineers, the Engineer-in-Training (EIT) program. The utility identifies upcoming gaps in their engineering workforce, and brings in several EITs at one time. They are placed in the vacancies in the departments but they are not assigned to any one branch. They are then rotated to other departments for six to eight months. After a two-year rotation they apply back to a position within a department for assignment. This has resulted in new employees migrating to their preferred areas and increased new hire performance. HR has the positions in their budget for the period of the program.

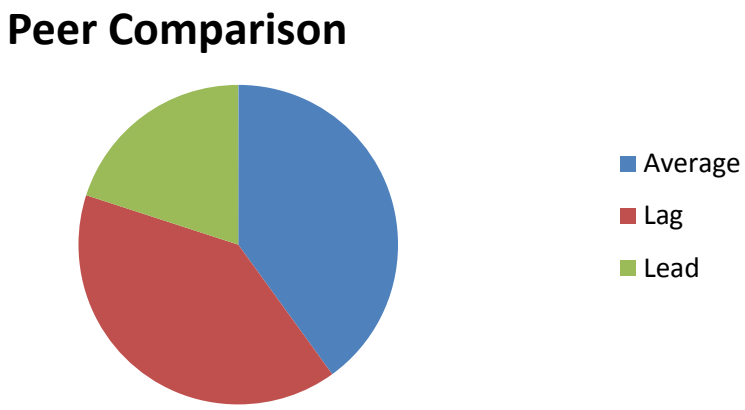
| Recommendations | |
|---|---|
| **Strategic Objective:** | Better attract, retain and develop talent, and ensure that the skill sets possessed by SPU staff are utilized to their maximum potential through use of a resource management strategy. Encourage innovation, problem-solving, and skills improvements at all levels of the SPU to generate direct and indirect value for the organization of the whole. |
| *SPU Strategic Business Plan Focus Area* | **Transform the Workforce** |
| **Benefits:** | • Resources are tracked and managed in order to meet and facilitate the meeting of Strategic Business Plan goals<br>• Improved services and increased public trust due to staff-led innovations<br>• Employee development plans in place to meet minimum knowledge skills and abilities as defined for each role<br>• Internal HR consulting team facilitating leadership development and succession planning<br>• Senior SPU management providing the leadership focus and emphasis on opportunities for professional and leadership development |
| **Current Limitations** | |
| Employee Morale | • Lack of succession planning and training reinforces status quo and discourages proactive thinking<br>• Disincentive to change classification due to potential loss in seniority<br>• Ceilings within job classifications<br>• Lack of “tangible” rewards for exceeding expectations or hitting goals |
| Business Rules and Process Constraints | • Creating new positions is tedious<br>• Service level agreements between the lines of business and support services are not well defined<br>• Job classifications defined at city level<br>• Modifications and updates of classifications is tedious and may require changes to municipal code<br>• Performance incentives severely restricted or prohibited |
| **Critical Elements:** | • Establish an education and development program for all staff based on their specific roles and responsibilities<br>• Use functional teams to implement and manage the Strategic Business Plan<br>• Forecast workload and resources to right-size organization<br>• Develop succession plans for all mission-critical roles<br>• Develop robust tracking programs to inventory and continually assess skills, knowledge, and competencies |

## 4.1.9 Technology Planning

| | |
|---|---|
| **Definition:** | The technology planning strategy is a combination of data, processes, and software and hardware technology strategies used to support the delivery of services. Data is used to support the management of organizational goals, business processes, business interactions, and the workflow of individual performers. Information and technology systems must be in place to support the collection and analysis of data, which serve as the basis for informed decision-making. Strategies must be in place to use technology, both software and hardware, in driving proactive business changes and responses to external drivers. |
| **Comparison to Best Practices** | |
| **Summary of Current Status:** | The Information Technology (IT) Division and the Technology Planning Office (TPO) serves as support to all business units. The IT Division and the TPO are not always involved in the IT product selection and procurement process. There is a defined intake process but it is not always followed consistently by the lines of business operations. Business groups could be more proactive in defining and communicating their business processes to IT and TPO, while IT and TPO could work to better predict evolving business needs to stay ahead of changing business climates. Currently there are no written standards for developing product plans for critical business applications, so IT cannot effectively develop product prioritization plans based on costs and competition for capital funding. There is no IT enterprise architecture to facilitate communication across the organization that helps define system integration opportunities and business process interaction improvements. There is also no documented process for interactions between IT and TPO and business leaders within SPU to evaluate needs and marry tactics with business strategies, though representatives do work to stay in touch and strive for best practices. The city-wide IT department (DoIT) maintains technology roadmaps, which are used by SPU for planning purposes. Many tools are highly customized, thereby increasing IT support tasks to ensure usability of the systems.<br><br>SPU's IT Division is responsible for assessing systems and evaluating their effectiveness for the key users. Usability surveys and assessments are conducted on a semi-regular/formal basis. System support is allocated appropriately for mission-critical systems. There is a high degree of customization for many systems, making upgrades and continued manufacturer support more difficult. In most cases customization was a result of SPU processes being more advanced than what software at the time could provide. As a result, many systems do not interface well, necessitating manual data entry. User frusturation exists for some systems, resulting in the users bypassing or simply not using the system. There are a number of systems that are not being fully utilized.<br><br>Data is stored in various locations (shared drives, internal website, Maximo, GIS, virtual vault, etc.). Information is often redundant, fragmented, and lacks common data standards. MS Sharepoint 2013 is in the process of being expanded as the new enterprise document management system; however, further data planning, data standards, and information governance need to be established. Knowledge silos between different groups are impeding effective transfer of knowledge. |

| External Constraints | |
|---|---|
| Political Constraints | • Concerns around information security |
| Customer and Stakeholder Expectations | • Interaction with SPU website and mobile technology should be consistent with current level of technology and customer needs |

## Comparison to Industry Peers




Although SPU was equal among its peers in use of mobile technology, and leading slightly in its use of mapping tools and systems, it lagged considerably in more broad-based functions like planning and use of technology roadmaps. Because data and business intelligence will underpin many of the Strategies and Initiatives, both that HDR is recommending and that SPU is undertaking as part of its Strategic Business Plan, attention should be paid to ways in which SPU may improve its performance in this area.

## Highlights of Peer Comparison

In today's world, technology is foundational to many of the strategies undertaken by the benchmarked utilities.

IT Strategic Planning

One utility's IT department develops and implements a five-year IT strategic plan in order to stay ahead of needed technological-driven changes. The utility's IT director serves the function of a Chief Information Officer (CIO) in order to drive towards a world-class vision for its IT functions. This strategic plan includes visioning out one to two years with anticipated application upgrades and impacts to other mission-critical applications. By having the planning element tied to business functionality, IT establishes a path forward for funding and execution working collaboratively with the city's IT department.

Beta-testing City Services in the Utility

In order to ensure that the city has excellent technology services, one utility petitioned to be the city's first adopter (beta-tester) of GIS applications and technology. Because the utility sees GIS as critical to its ability to make good business decisions regarding operations and distribution, it stepped forward to create a GIS center of excellence within the utility. The utility does not intend to be a service provider of GIS for the city, but instead sees itself as an "evangelist" so other departments have the data they need. There is discussion at the Executive Level that beta-testing be expanded to other city services (HR, Purchasing and Fleet maintenance).

| Recommendations | |
|---|---|
| **Strategic Objective:** | Make appropriate use of tools and technology to increase efficiencies and optimize business processes, and deliver accessible information to users in a timely manner. Improve knowledge-sharing across the organization. Meet the needs of SPU's various business functions with cost effective and reliable software and hardware systems. Support the use of those systems and tools to ensure they are meeting users' needs. |
| *SPU Strategic Business Plan Focus Area* | **Achieve Operational Excellence** |
| **Benefits:** | • Knowledge is readily available and easily shared among and across branches at SPU.<br>• Minimal manual data entry and adjustments and maximum interface between different databases ensures data accuracy and ease of access for reporting and analysis.<br>• Hardware and software technology systems support operations, the Asset Management program, and implementation of the Strategic Business Plan. |
| **Current Limitations** | |
| Employee Morale | • Feeling of being "data-rich" not "knowledge-rich"<br>• Users who do not or cannot use a system bypass it, resulting in a feeling that IT is not supporting users<br>• Frustration with use of knowledge-sharing tools/software<br>• Procurement of software and tools is viewed as cumbersome |
| Business Rules and Process Constraints | • Software (and to a lesser extent, hardware) are not always procured through a standard, IT-driven process<br>• SPU utilizes several citywide systems operated by DoIT<br>• No formal ownership of system performance<br>• History of not following standards currently in place<br>• Reporting and data collection of unused information<br>• SPU utilizes several city wide systems operated by DoIT<br>• IT is not always involved in product selection and procurement process |
| **Critical Elements:** | • Develop an IT system Master Plan to help define and implement the most appropriate tools and technology<br>• Develop an asset information management system plan to support asset-based decisions<br>• Document the actions that can best facilitate a knowledge sharing culture within the organization<br>• Develop and maintain standards to document user needs and integration requirements<br>• Establish an Enterprise Content Management System with data standards |

## 4.2 The Adaptive Organization

### 4.2.1 Comparison to the Adaptive Organization Business Model

As described in Section 3.2.2 the HDR team made overall observations of SPU's three levels of performance: Strategy, Processes, and Workforce, and the supporting role of Information Systems. The team specifically focused on the interactions and the requirements for SPU to mature into the "Adaptive Organization" business model. The observations documented in this section represent an assessment of SPU's current state as a functioning *organization* at each level.

#### Strategy Level

SPU has undertaken a Strategic Business Planning effort, begun in late 2012, to determine a course for the entire organization through 2020, including its investments, service levels, and rate path. This initiative is perhaps the most important thing the utility can be doing to prepare for the future, to better serve both its customers and employees. The following observations were made of the strategic planning process:

- **Review of customer expectations was comprehensive, with less focus on other stakeholders.** As part of the initial planning process, SPU conducted a series of customer surveys and focus groups. This effort successfully engaged a wide spectrum of customers. SPU's approach of assuming customer "personalities" demonstrates a commitment to acknowledging its diverse customer base in its strategic planning efforts. However, this outreach and engagement effort was limited to residential and commercial customers. There is opportunity to learn more from interactions, interviews, and surveys of other stakeholders, including wholesale customers, regulators, elected officials, vendors, and contractors, etc.
- **Levels of Service are complex, numerous, and are not easily understood from the customer's perspective.** Often, stated service levels are internal metrics by which SPU may measure its performance, and not a statement easily understood by the average customer. Published Levels of Service should be concise, clear, and free of jargon, and each statement should state the expected quality of the SPU's service or given activity.
- **"Baseline" budgeting is not tied to Levels of Service.** SPU has defined the baseline as an operating budget, with no direct relationship to impact of either an increase or reduction in service levels. A baseline should be set by reviewing all activities performed by SPU to meet the level of service target, and defining each by *core*: required to meet the minimum obligations for which SPU was created; *core supporting*: required to support the delivery of the core services; and *ancillary*: services and activities above and beyond SPU's charter. Recent efforts undertaken by SPU to identify baseline reduction initiatives retroactively are a step in the right direction, however this type of work should be conducted annually when establishing the following fiscal year budget for all branches and lines of business.
- **SPU has made the strategic decision to incorporate triple bottom line thinking in providing value-add services**, particularly in environmental stewardship and resource conservation. SPU is exceling at the use of triple bottom line analysis. SPU's practices in this area, particularly watershed management and waste reduction and diversion, are some of the most innovative in North America.

### Process Level

At an operational level, SPU is functioning adequately and its business processes serve to effectively meet its obligations to its customers while fulfilling all regulatory requirements. Shown below are a few basic operational tendencies within the culture of the organization which result in inefficiencies:

- **Major business processes/functions are not effectively communicated and enforced, and adequate training is not always provided.** Much of the communication around policies and procedures is left to unofficial channels, such as internal websites and shared drives, and its effectiveness is reliant on individual leaders' ability to communicate or find the information.
- **Assignment of responsibility and accountability is unclear.** Often, decisions are made by committee, or during impromptu meetings. In extreme cases, no decision is made and another meeting is scheduled. This often leads to an avoidance of accountability. Implementation of new business initiatives is seen negatively by many staff because of the lack of past accountability, and this in turn results in further lack of commitment to the actions.
- **Use of meetings is excessive, and many meetings do not produce the desired result**. This is a symptom of lack of accountability, but more true of SPU's culture to have consensus on decisions. In the process of synthesizing the wisdom of as many participants as possible the decision-making process can take too long and the solution becomes too complex for efficient implementation. Additionally, there is little process around meetings – most lack an agenda, schedule, stated purpose/objective, or action items/next steps with assignments and follow-up. SPU would benefit from standard meeting agenda and minutes templates, along with training on how to conduct an effective meeting. Another technique is to have stand-up meetings that are short and focused on only one topic.
- **Processes that are well-documented and executed could be better leveraged.** Certain processes that are both effective and efficient should be adopted or re-purposed for other branches or functions. For instance, the Water LOB has streamlined its development and renewal of the Master Plan. The method and process by which this is done may be adopted by the Wastewater & Drainage planning group.

### Workforce Level

Over the course of the Project, HDR had the opportunity to meet with over 200 SPU staff members across all lines of business and branches, ranging from work crew supervisors to the executive leadership team. During this time, the HDR team made the following observations:

- **SPU staff are highly talented, thoughtful, and devoted to keeping SPU a strong factor in making Seattle a great place to live.** However, this passion could be harnessed further by ensuring employees are placed in the 'right' job, with skills matching their job function, and presenting them with a clear vision of their connection to SPU's fulfillment of its customer needs and its mission and goals.
- **The current organizational structure of SPU is based on the Australian specifier/ provider model** and has led to challenges in communication and efficiency. The Australian model is typically based on a combination of in-house delivery, out-sourcing, and Public Private Partnerships. The SPU organization is not under the same pressures of globalization and competition as its overseas colleagues and did not adopt the entire organizational model. Chief among these are the use of documented service level agreements (SLA) that define the cost center allocations and penalties of SLA non-compliance. The goal of the specifier/provider model is to set up competition and reduce bureaucracy. It has not worked out as effectively in SPU's case because the decider is not always the specifier as is intended with the model.

- **Brain drain is about to hit SPU** with a wave of retirements. As people retire from the organization, SPU will begin to see knowledge walking out the door. The departure of individuals with skills and knowledge should be documented or captured using knowledge management systems, but there is also the need to plan for the attraction and retention of new talent. The exact percent of retirements with SPU over the next four years is not known, but an industry survey expects approximately 40 percent of the workforce to retire in the next four years. Similar expectations are assumed based on age of the workforce.

### Information Systems

SPU utilizes robust software systems to meet all of its mission-critical functions and generally those systems meet the needs of key users. However, listed below are areas where SPU has opportunities to improve the use of available technology to support organizational change and empower individuals to make decisions:

- **Use of mobile technologies and cloud computing is limited.** SPU has been an advanced user of GIS for the past several years and recently moved more of the technology to mobile applications. The next step is to use more mobile technology for asset and workforce management. The update of the Maximo enterprise asset management software will be a key driver for this effort. Office automation software on mobile devices is also being investigated and can help the organization move from being paper-heavy to digital. The use of cloud-computing is an enabler of mobile technology and should not be considered the driving force.
- **Strategic Information Technology Planning is not tied to the business planning process.** SPU is of sufficient size that a Chief Information Officer or Information Technology Director should be part of the Executive Team. Information technology investments and the maintenance of current technology is a major part of the capital and operating budgets. An Information Technology Plan should be developed for SPU and updated annually with a 5- and 10-year planning horizon. This should include a system integration strategy and expanded use of business intelligence solutions.
- **Knowledge sharing is on the rise** with expanded use of content management and software as a service built on the Microsoft Office platform**.** There is a high degree of information stored as files and folders of files on a network of shared drives. Each shared drive is set up by organization and results in duplicates of files and difficulty in searching for content. The City, and as a result SPU, are planning on the implementation of Sharepoint 2013 and Office 365. This is a reasonable technology platform, but the level of collaboration, content sharing, and business process improvements have not been planned. This will be a culturally changing event and something SPU should begin planning for in the near term. In addition, technology to facilitate meetings and collaboration should be expanded. Meetings often require a great deal of printing of materials because display capabilities do not exist. Additionally, there is limited video-conferencing capability. Expansion of this in particular would increase efficiencies and knowledge-sharing between the Seattle Municipal Tower staff and staff in decentralized locations. Where the technology does exist, staff are not familiar with its use and the equipment stands idle.

### 4.2.2 Achieving the Adaptive Organization

SPU is well on its way to becoming an Adaptive Organization. They not only have many of the fundamentals established, but also have the passion and commitment from the staff. The key focus will be to ensure teams are working together within a strategic planning framework, guided by strong leadership, and given the responsibility to make quick course corrections as needed. The objective of the framework's design should be to partition the sum of business processes and tasks found in the recommendations of this report into small jobs or tasks and assign them to specific teams or to individuals. The management and assignment of jobs to workers can be problematic when the people who are delegated these jobs do not understand their role in the process or the overall goals that the organization is trying to reach. Communication to avoid misunderstanding is a critical factor of successful implementation of the recommendations. This should include the communication of business concepts, processes, roles, and how and what data is needed to manage the Strategic Business Plan goals. Effective communication is important for an Adaptive Organization because it creates mutual understanding between management and staff. It is one of the most important characteristics necessary to increase productivity and reach high levels of efficiency. Some other key organizational characteristics are shown in the following table:

**Table 4.1 – Characteristics of an Adaptive Organization**

| Characteristic | Best Practice |
|---|---|
| **Simplicity** | • Easy to understand and communicate<br>• Direct lines of communication between operational components or branches<br>• Enterprise-wide knowledge sharing<br>• Precise definitions of tasks and desired process outputs |
| **Flexibility** | • Nimble new system designs<br>• Operational adjustments made at the middle-manager level |
| **Reliability** | • Position requirements defined in terms of desired outcomes<br>• Strategies for maintaining desired outcomes for positions as individuals change detailed in Succession Planning<br>• Performance monitoring of tasks to achieve desired outcomes |
| **Control** | • Prioritization of job functions<br>• Understanding of link between job function and cost of service delivery |
| **Adaptability** | • Acceptance and understanding of mission and vision<br>• Discipline in carrying out the strategic plan at an enterprise level<br>• Measurements of success |

This approach requires clearly defined accountability of SPU staff at all levels of the organization and a business model (Figure 4.2) designed on the concept of the Adaptive Organization, based on the Rummler-Brache Methodology (Rummler-Brache Group 2004).

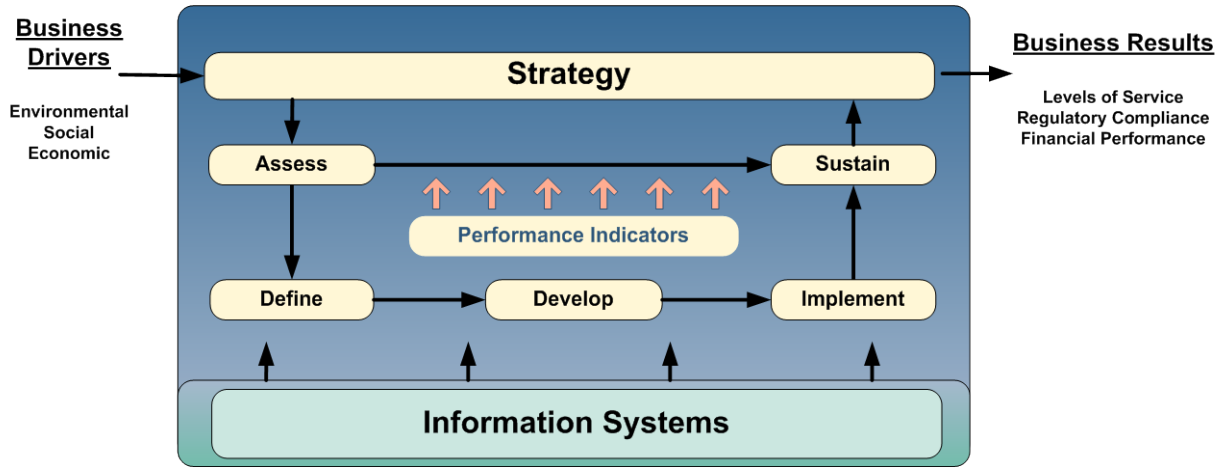



**Figure 4.2 – The Adaptive Organization Model**

The Adaptive Organization business model requires an understanding of the relationship between the Business Results and the Business Drivers and involves the organizational performance level framework described in Section 3.2.2.

SPU must be able to adapt to a business climate that is rapidly changing. The HDR team recommends the adoption of this business model because they feel SPU is uniquely capable of developing this type of adaptive management process. It should be noted that this model is not right for all utilities.

The model follows a traditional continuous improvement process and requires information systems that are configured and aligned with the workforce, business processes, and strategy. As a change is sustained the Strategy is evaluated to identify new goals, assess new Business Drivers and implement change. The following represents the dynamic and robust nature of an Adaptive Organization:

### Strategy

The heart of the business model, and the most important component, is the development of Strategy. SPU has already defined the business results in terms of levels of service, regulatory compliance goals and financial performance. SPU has also made significant advances in defining the business drivers and using the triple bottom line approach that looks at the environmental, social, and economic factors with the existing Strategic Business Planning effort (expected deployment in late 2014).

SPU's opportunity for developing the Adaptive Organization model to support the strategy is in establishing a framework for continually identifying the relationship between key performance indicators and business results. Examples of this include clarifying the levels of service, and how people use data and business processes to improve business results. These and other activities will be incorporated into the forthcoming Implementation Plan. An equally important part of this improvement process, however, is in educating staff so they fully understand their individual roles, the interactions between their roles and those of others, and how they collectively impact level of service delivery. This includes the way they use performance indicators for assessing the business drivers, and how they can better define, develop, and implement new business processes to meet the level of service targets.

### Assess

If Business Drivers remain constant, then SPU simply follows the strategic plan, monitors the results and makes small corrections as needed. If, however, the Business Results are not being met or if the Business Drivers change, which they often do, the organization must quickly assess the performance of the strategy, the systems and processes, and plan for change. Information about the business drivers and business environment will need to be transparent to all levels of the organization.

### Define, Develop, Implement

Following the assessment process, SPU must either decide to stay with the current strategy, or decide to improve performance by: 1) defining the improvement, 2) developing recommendations, and 3) implementing the changes. These decisions may ultimately be decided at the E-Team level, but it is more efficient to empower the staff and teams with accountability to directly implement the processes and take actions necessary to meet the changing Business Drivers. This should be in conjunction with the appropriate subject matter experts (when needed). The staff closest to the business process must be trained and trusted to identify the improvements and then develop and implement the change. In addition, the section, team or individuals responsible for monitoring the progress of implementation and the Business Results should be held accountable for coordinating with all affected sections and individuals when Business Results are not being met, to ensure adequate measures are quickly addressed. SPU will need to identify the office or individuals that will serve this role.

### Sustain and Measure

In order to sustain the change, performance management systems are needed to track effectiveness. Performance indicators must be developed to facilitate process management for optimizing the processes and measuring success. Information systems are used to support the performance improvement steps but are also used to track the performance indicators and support decision making. As SPU transitions from the development to the implementation of its Strategic Business Plan, it will need to establish a framework for performance tracking, along with establishing designated leaders to monitor the success, as described above.

## 4.2.3 Recommended Stages of Organizational Development

The HDR Team has observed various opportunities to improve efficiencies in SPU through comprehensive empowerment of decision-making across the organization to move from a reactive mode to a proactive and higher performing adaptive business model. The “Reactive Organization” will take corrective actions for what happened. The Adaptive Organization takes a more prescriptive approach to implementing dynamic actions based on learning predictive models, embedded business rules, and knowledge sharing.

HDR’s recommendation for helping SPU improve collaboration and business agility associated with the Adaptive Organization is based on a bottoms-up empowerment for change and is organized into the following five stages of evolution for achieving the an adaptive organizational model.

## Stage 1 - The Strategy Focused Organization

| Transition Milestone | Actions |
|---|---|
| External and Internal Strategic Business Plan is published.<br>*Timeline: November 2014* | • Translate the strategy to operational terms<br>• Define the levels of service and targets<br>• Develop a strategy map with quantitative and qualitative measures<br>• Clearly define the corporate role<br>• Define the level of business unit synergies<br>• Define the shared service synergies<br>• Identify change leaders<br>• Prioritize tasks by accountability, deadline, and measurement of results<br>• Define responsibility goals and expectations for each job description<br>• Record results<br>• Identify skill needs for crafts and for engineers<br>• Set up training to help people know how to do something and what data is needed |

## Stage 2 - The Operational Organization

| Transition Milestone | Actions |
|---|---|
| Performance Management Tracking System is in use enterprise-wide. Risk profiles are defined. Business processes are utilized across the organization.<br>*Timeline: March 2015* | • Align the organization to the strategy for meeting level of service targets<br>• Use risk management systems to track consequences and associated risks<br>• Establish process for eliminating defects and common failure modes<br>• Use meetings primarily for thinking, problem solving, and decision making<br>• Track productivity and manage performance through enterprise information systems<br>• Facilitate workflow and dataflow through policy, standards, forms and templates<br>• Document business processes for critical processes<br>• Review outsourcing opportunities to reduce size of certain functions |

### Stage 3 - The Aligned Organization

| Transition Milestone | Actions |
|---|---|
| All job classifications are up-to-date and reflect the needs of the organization. Each employee's Performance Plan is tied to the Strategic Business Plan. Progress on the Strategic Business Plan is regularly communicated to stakeholders and employees.<br>*Timeline: July 2016* | • Establish personal goals for each employee in alignment with level of service targets<br>• Ensure all employees understand the strategy<br>• Define the governance process to demonstrate and reinforce cultural values<br>• Effectively communicate the Strategy to all stakeholders<br>• Establish management processes to systematically innovate<br>• Complete the development of Strategic Asset Management Plans<br>• Eliminate unnecessary task, tools and assets<br>• Perform scheduled work consistently<br>• Identify and diagnose chronic problems<br>• Eliminate activities that waste time<br>• Measure and monitor asset reliability<br>• Prioritize and analyze failures events and eliminate failure modes |

### Stage 4 - The Continually Improving Organization

| Transition Milestone | Actions |
|---|---|
| The cost of delivering a Level of Service is known and tracked over time. A Business Information Analytics system is in place.<br>*Timeline: July 2017* | • Perform audits of the results of each strategic decision in order to improve effectiveness in making decisions.<br>• Link the strategy process to the budget process using a strategy budget and an operational budget<br>• Establish business analytics and information systems to track levels of service<br>• Make lifecycle cost the primary consideration for asset management<br>• Work to eliminate defects on specific systems rather than common failure modes<br>• Ensure uniform processes and procedures<br>• Ensure staff has a clear understanding of how to use information to make rational decisions<br>• Use performance management systems to track and forecast business results and performance<br>• Analyze results periodically for improvement opportunities |

### Stage 5 - The Adaptive Organization

| Transition Milestone | Actions |
|---|---|
| The organization can demonstrate Continuous Improvement over time.<br>*Timeline: December 2018* | • Ensure strategic management systems are fully in place to track and balance cost with levels of service<br>• Set accountability at all levels of the organization<br>• Build futurity into present thinking and doing<br>• Demonstrate active involvement of executive team at all levels of the organization<br>• Govern using a team-based approach<br>• Use strategy teams, town hall meetings, and open communication<br>• Fully optimize to monitor and maintain assets<br>• Optimize organization and operations<br>• Plan work practices completely<br>• Embed strategy as a way of life and part of culture<br>• Achieve 80 percent of maintenance preplanned<br>• Achieve 75 percent of work as facility or unit-based<br>• Efficiently perform work<br>• Maximize the effective use of staff's time |

SPU has already achieved some of the successes indicated in each of the five stages, but is currently focused on Stage 1 – the Strategy Focused Organization. The development of the strategic plan is shaping the future of the organization and its mission of "…providing efficient and forward-looking utility services that keep Seattle the best place to live." These stages are suggested as guideposts in SPU's growth with expected results as transition points to the next stage of development.

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# 5.0 Conclusion

SPU has a proven track record of delivering a high level of service to meet its customers' unique expectations. This includes a commitment to customer service, environmental stewardship, and community sustainability, and is clearly reflected in SPU's Strategic Business Plan. Generally, SPU's organizational framework allows it to deliver effective and above-average service to its customers, but not always at the highest level of potential efficiency. The benchmarking shows that in some areas SPU is less cost efficient than is typical of other public utilities. It was also observed that the Lines of Business do not consistently manage to a baseline budget that is directly related to levels of service targets. Correspondingly, it is known that SPU's customer base demands a high degree of attention paid to the non-monetary impacts of delivering its services and this in turn means that SPU customers may be willing to pay slightly more for the higher levels of service they expect.

The recommended efficiency actions included in this Prioritized Performance Plan represent actionable items. While SPU is already a high-performing utility, the nine recommended Strategies provide opportunities for a higher level of cost effectiveness and service delivery efficiency. The HDR team has worked with hundreds of utilities across the country and recognizes SPU as leader in the industry. The recommended cost savings actions in this report have been presented to SPU's senior management team with the understanding that they would be incorporated into the overall Strategic Business Plan. SPU's senior management is committed to reaching greater levels of success and has the vision and passion to achieve even greater efficiencies, building sustainable business processes to meet future demands. Following the receipt of this report, further work will be done to establish tasks, budgets, and implementation schedules for each adopted initiative. Importantly, assignments to individuals must also be made.

A summary of key areas for improvements are listed below:

- Balance cost with level of service
- Focus on core business processes
- Expand use of enterprise technology
- Centralize planning and coordination
- Define clear lines of accountability
- Define the level of risk aversion
- Leverage people in "right" job
- Build on performance control
- Prepare staff for future

Beyond this list, however, is another, bigger opportunity to instill in the SPU culture a continuous process to improve operations and manage rates while continuing to deliver high levels of service. SPU balances the delivery of its core services – drinking water delivery, wastewater and stormwater collection, and solid waste collection and handling – with larger, less tangible benefits, including environmental conservation, social equity and the preservation of the quality of life in the City of Seattle. This balance rests on external business drivers, like economic climate and regulation and policy, as well as customer expectations of SPU. Not surprisingly, these factors are in a state of almost constant flux, and while SPU may do much to anticipate shifts, there will always be unforeseen changes. At the same time, technology, people, and processes change over time, and new opportunities or ideas can present themselves almost daily. How an organization can respond, adapt, and grow to meet changing landscapes is paramount to long-term success and sustainability. At the core, this requires employees capable of problem-solving and decision-making in alignment with the organization's mission and strategy. In a nutshell, this is the Adaptive Organization.

SPU's commitment to the Strategic Business Plan it is now developing is a first step in the transition toward becoming such an organization. As SPU develops this plan it must manage, track, and communicate its performance to the community and employees alike. It must also adjust course as necessary, when external drivers in the economy, environment, and social arena change. A strong, established Performance Management Framework is critical to guide this effort. This represents the first stage in achieving the Adaptive Organization. Over time, SPU will move through four more stages of evolution. This requires leadership, unwavering discipline, and clear accountability. But it will also result in a more proactive, dynamic SPU and ultimately a healthier, more vibrant community.

# 6.0 Appendices

**Appendix A - Utility Business Management Evaluation Summary of Performance**

**Appendix B - Benchmarking Summary**

**Appendix C - Feasible and Achievable List of Prioritized Recommendations**

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# Appendix A

## Utility Business Management Evaluation Summary of Performance

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# 1.0 Utility Business Management Evaluation

The methodology provided below describes the process that the HDR team undertook over a portion of the Workplace and Benchmarking Efficiency project. The findings provided represent a "snapshot" in time: in some instances, SPU may have modified or undertaken new processes that would affect the Current Observations presented. Over the course of the project, the HDR team remained in communication with the staff and leadership at SPU to monitor changes when possible, in order to present recommendations that are as relevant and current as possible.

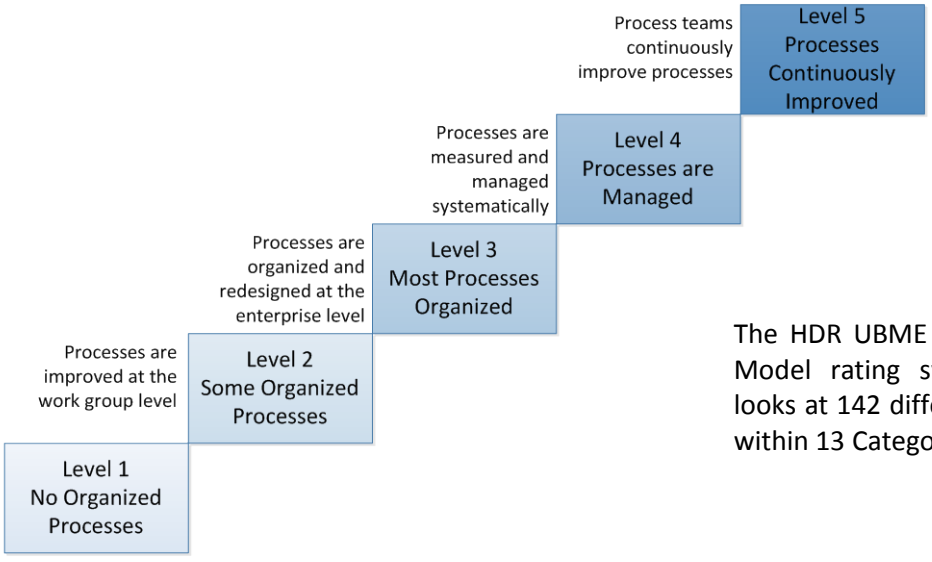
## 1.1 Methodology

### 1.1.1 Data Collection

Via a written request submitted to SPU, HDR obtained current data on the organization, including operating and capital budgets, organization charts and job classifications, and various annual reports. HDR was also provided an inventory of SPU's current software licenses for evaluation.

### 1.1.2 UBME

The HDR team employed its Utility Business Management Evaluation (UBME) methodology to review SPU's current business plan and determine how specific management and operation and maintenance procedures are performed. The UBME methodology relied on input from SPU staff through both interviews with individuals and workshops with groups of people conducted over a six-week period. SPU participants were selected by the SPU Project Manager based on knowledge and expertise requirements identified by the HDR Project Manager. The UBME established a baseline of SPU's business practices as compared to industry best practices in 142 different Business Elements, which have been organized into 13 Business Categories. The Business Elements and Categories are composed of standard Business Functions, tailored to SPU's business. The documented results were ranked using the Carnegie Mellon Maturity Model methodology.




The HDR UBME is based on a Maturity Model rating system (level 1-5) that looks at 142 different Business Elements within 13 Categories.

The following 13 Business Categories were used:

1. Business Strategy
2. Customers
3. Planning
4. Engineering
5. Communication
6. Operation
7. Asset Knowledge
8. Maintenance
9. Condition Monitoring
10. Capital
11. Administration
12. Financial
13. Business Information Systems

Based on the findings from the UBME workshops, analysis of data and existing reports from SPU, and a review of the Strategic Business Plan supplied by SPU, the HDR team set recommended targets for each of the 142 Business Elements. HDR then facilitated two three-hour workshops with a team of SPU's Director and Deputy Directors (the SPU Executive Leadership team or E-Team) to discuss and verify the observations and results of the baseline findings and review and adjust proposed targets. The differences between observed baseline activities and those that the SPU E-Team identified as targets represent a gap in desired performance. Each gap was weighted based on its criticality to the Strategic Business Plan and level of service targets to help facilitate the subsequent Business Process Analysis and Evaluation. Those Business Elements with the highest criticality are highlighted yellow.

### Business Process Analysis and Evaluation

Based on the results of the UBME and the criticality ratings determined by HDR and the E-Team, 14 Performance Areas were identified for further analysis. The 14 Performance Areas (Gaps) were:

1. Performance Metrics
2. Knowledge Sharing
3. Attract, Develop and Retain Talent
4. Appropriate Tools and Technology
5. Long-Range Planning
6. System Performance Management
7. Operability & Maintainability
8. Asset Knowledge
9. Asset Maintenance
10. Resource Management
11. Capital Planning Efficiency
12. Procurement
13. Billing & Collection
14. Strategy Awareness and Active Strategic Planning

Based on areas of knowledge and expertise identified by HDR, the SPU Project Manager selected SPU staff to participate in 13[1] three-hour workshops facilitated by HDR to analyze each performance area. The purpose of the workshops was to document business interactions and process workflows, identify constraints and problems with the existing processes, and establish "should-be" processes and opportunities to improve. Depending on the area of focus, the nature of the workshop varied. Generally, the following topics were covered:

- Process and Major Functions
- Process Interactions
- Timing
- Supporting Tools
- Success Measurements
- Problems/Constraints
- Ways to Improve

### Information System Inventory

Additionally, an assessment of SPU's IT systems was performed in conjunction with the UBME and Business Process Analysis. The purpose of the Information System Inventory (IT Inventory) was to conduct a review of the current business critical software and investigate how these systems are being used, and how they interface. Specifically, the IT Inventory was designed to achieve the following objectives:

- Analysis of usability of "mission and business critical" systems from the Key Users' perspective
- Identification of opportunities to improve the use of the systems, for example interface with other systems, data quality and integrity, upgrades, etc.
- Identification of efficiency opportunities
- Gain a better understanding of the current IT system capabilities to determine if the system can support certain efficiency recommendations

The IT Inventory results were obtained and compiled using a systematic approach involving SPU's technology teams and an understanding of best practices in IT systems:

1. The HDR team submitted an IT Inventory request to SPU.
2. SPU provided a list of all software licenses.
3. The HDR team identified mission and business critical systems and submitted that list to SPU.
4. Based on its understanding of the use and purpose of the Inventory, SPU edited the list down to 14 systems and identified/confirmed the business and mission critical systems status. SPU provided names of SPU key stakeholders of the system; multiple key stakeholders were provided for some systems.
5. The HDR team conducted interviews with identified key stakeholders, to understand:
    a. How software is currently used, by who, and to what level
    b. Opportunities to improve as identified by Key Users
    c. Any specific issues or plans to upgrade software systems

The results of the interviews were compiled and used to help determine the feasibility and achievability of the recommended initiatives based on the ability of hardware and software systems to support the necessary actions and tasks.

[1] The Performance Metrics and System Performance Management areas were combined into one workshop titled Performance Controls, but are treated as separate Performance Areas.

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| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Attribute** | **Score** | **Business Strategy** | | | | | | | | | | | **Customers** | | | | | | | | | | **Planning** | | | | | | | **Engineering** | | | | | | | | | | | | | | | | | | |
| | | Vision and Mission | Long Term Goals | Annual Business Plan | Service Levels | Business Results | Business Processes | Performance Metrics | Benchmarking | Regulatory Compliance | Risk Management | Change Management | Customer Information | Billing and Collection | Meter Reading | Waste Collection | Customer Service and Response | Customer Satisfaction | e-Commerce | Customer Education | Permitting | Customer / Neighbor Complaints | Growth Needs | Stakeholder Information | Long-Range Planning | Rate Structure | Regulatory Interface Management | Funding Policy | Funding Plan | Asset Plans | Short-interval Activities | Long-interval Activities | Life Cycle Costing | Data Management | Design Specifications | Construction Specifications | Facility Drawings | Flow Monitoring | Rainfall Monitoring | Hydraulic Modeling | Infiltration/Inflow | System Evaluation and Inspection | System Performance Management | Project Management | Project Prioritization | Project Updates |
| **Optimizing** | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Managed** | 70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Defined Approach** | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Initial** | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Unaware** | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Target Practice Score[1]** | | 70 | 50 | 70 | 80 | 50 | 60 | 70 | 60 | 70 | 70 | 60 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 50 | 70 | 70 | 70 | 70 | 50 | 70 | 60 | 60 | 70 | 70 | 70 | 70 | 70 | 70 | 60 | 60 | 60 | 60 | 70 | 60 | 60 | 80 | 70 | 60 | 50 |
| **Current Score[2]** | | 70 | 50 | 60 | 60 | 50 | 40 | 40 | 50 | 40 | 70 | 40 | 60 | 40 | 50 | 40 | 60 | 50 | 60 | 40 | 40 | 40 | 50 | 40 | 30 | 50 | 50 | 60 | 60 | 30 | 30 | 30 | 50 | 40 | 50 | 40 | 40 | 50 | 50 | 40 | 50 | 50 | 30 | 30 | 40 | 30 |
| **Gap** | | 0 | 0 | 10 | 20 | 0 | 20 | 30 | 10 | 30 | 0 | 20 | 10 | 30 | 20 | 30 | 10 | 20 | 10 | 30 | 10 | 30 | 20 | 30 | 40 | 0 | 20 | 0 | 0 | 40 | 40 | 40 | 20 | 30 | 20 | 20 | 20 | 10 | 10 | 30 | 10 | 10 | 50 | 40 | 20 | 20 |
| **Criticality[3]** | | 3 | 5 | 5 | 5 | 5 | 4 | 5 | 3 | 4 | 5 | 4 | 4 | 5 | 5 | 4 | 3 | 2 | 3 | 3 | 3 | 4 | 4 | 2 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 3 | 4 | 5 | 5 | 3 | 3 | 3 | 4 | 2 | 2 | 3 | 5 | 3 | 2 |
| **Weighted Gap (Criticality x Gap)** | | 0 | 0 | 50 | 100 | 0 | 80 | 150 | 30 | 120 | 0 | 80 | 40 | 150 | 100 | 120 | 30 | 40 | 30 | 90 | 30 | 120 | 80 | 60 | 160 | 0 | 60 | 0 | 0 | 160 | 160 | 160 | 60 | 120 | 100 | 100 | 60 | 30 | 30 | 120 | 20 | 20 | 150 | 200 | 60 | 40 |
| **Priority Ranking[4]** | | 3 | 3 | 3 | 2 | 3 | 3 | 1 | 3 | 2 | 3 | 3 | 3 | 1 | 2 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | 1 | 1 | 3 | 3 |

## Key

**Target Practice Score[1]**
**Current Score[2]**
**Gap**
**Criticality[3]**
**Weighted Gap (Criticality x Gap)**
**Priority Ranking[4]**

**Notes:**

[1]Develop appropriate score with Strategy Team

[2]Establish current scores based on interviews

[3]Assume criticality weighing between 1 (low) to 5 (high)

**[4]Priority**

1 > 150
2 >90, <150
3 < 90

**Optimizing** — Continual improvement and refinement with documented standards and procedures
**Managed** — Quantitative measurements are defined and used for business improvement and setting quality standards
**Defined Approach** — Defined systems supported with a repeatable approach that is documented and communicated within the organization
**Initial** — Reactionary and without a systematic approach
**Unaware** — Total unawareness within organization

| Attribute | Score | 46 Email Infrastructure | 47 Web Site | 48 External Communication Plan | 49 Internal Communication Plan | 50 Business Policy Manuals | 51 General Announcements | 52 Strategy Awareness | 53 Enterprise Content Management | 54 Staff Education | 55 Operations Reports | 56 Operations Cost | 57 Spill Response | 58 Emergency Response Planning | 59 Safety Program | 60 Facility Security | 61 Stormwater Management | 62 Emissions Management | 63 Energy Management | 64 SCADA / Automation | 65 Operability and Maintainability | 66 Pretreatment System | 67 Fats, Oils, and Grease Program | 68 Transfer Station Operations | 69 Waste Hauling and Disposal | 70 Laboratory Information System | 71 O&M Manuals | 72 Inventory/Stores Management | 73 Bar Coding/ RFID | 74 Asset Detail | 75 Asset Criticality | 76 Asset Categorization | 77 Asset Classes | 78 Asset Hierarchy | 79 Asset Identification | 80 Preventive Maintenance | 81 Predictive Maintenance | 82 Corrective Maintenance | 83 Maintenance Costs | 84 Failure Codes | 85 GIS Interface | 86 Fleet Maintenance | 87 Field Communications | 88 Resource Management | 89 Reliability Analysis | 90 Condition Monitoring Program | 91 Condition Rating and Scoring | 92 Condition Tracking | 93 Maintenance Strategy | 94 Corrective Actions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Communication** | | | | | | | | | **Operation** | | | | | | | | | | | | | | | | | | | **Asset Knowledge** | | | | | | | **Maintenance** | | | | | | | | | | **Condition Monitoring** | | | | |
| **Optimizing** | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Managed** | 70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Defined Approach** | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Initial** | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Unaware** | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Target Practice Score[1]** | | 60 | 60 | 60 | 70 | 50 | 60 | 70 | 70 | 60 | 70 | 50 | 60 | 60 | 60 | 60 | 60 | 40 | 40 | 70 | 70 | 30 | 70 | 60 | 60 | 60 | 50 | 80 | 60 | 60 | 80 | 50 | 50 | 50 | 50 | 60 | 50 | 60 | 60 | 60 | 60 | 60 | 50 | 70 | 60 | 70 | 50 | 70 | 70 | 60 |
| **Current Score[2]** | | 50 | 50 | 60 | 60 | 50 | 50 | 20 | 20 | 30 | 50 | 50 | 50 | 40 | 40 | 50 | 50 | 40 | 30 | 50 | 30 | 30 | 50 | 40 | 40 | 60 | 30 | 80 | 40 | 30 | 40 | 30 | 30 | 30 | 30 | 50 | 40 | 50 | 50 | 40 | 40 | 30 | 50 | 30 | 30 | 30 | 40 | 40 | 40 | 30 |
| **Gap** | | 10 | 10 | 0 | 10 | 0 | 10 | 50 | 50 | 30 | 20 | 0 | 10 | 20 | 20 | 10 | 10 | 0 | 10 | 20 | 40 | 0 | 20 | 20 | 20 | 0 | 20 | 0 | 20 | 30 | 40 | 20 | 20 | 20 | 20 | 10 | 10 | 10 | 10 | 20 | 20 | 30 | 0 | 40 | 30 | 40 | 10 | 30 | 30 | 30 |
| **Criticality[3]** | | 3 | 2 | 3 | 5 | 3 | 2 | 5 | 4 | 5 | 3 | 3 | 5 | 5 | 5 | 4 | 4 | 1 | 2 | 2 | 4 | 1 | 4 | 3 | 3 | 2 | 2 | 4 | 1 | 5 | 4 | 3 | 4 | 5 | 5 | 4 | 3 | 5 | 4 | 4 | 2 | 4 | 2 | 4 | 4 | 3 | 4 | 3 | 5 | 4 |
| **Weighted Gap (Criticality x Gap)** | | 30 | 20 | 0 | 50 | 0 | 20 | 250 | 200 | 150 | 60 | 0 | 50 | 100 | 100 | 40 | 40 | 0 | 20 | 40 | 160 | 0 | 80 | 60 | 60 | 0 | 40 | 0 | 20 | 150 | 160 | 60 | 80 | 100 | 100 | 40 | 30 | 50 | 40 | 80 | 40 | 120 | 0 | 160 | 120 | 120 | 40 | 90 | 150 | 120 |
| **Priority Ranking[4]** | | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 2 | 2 | 3 | 2 | 1 | 2 |

## Key

**Target Practice Score[1]**

**Current Score[2]**

**Gap**

**Criticality[3]**

**Weighted Gap (Criticality x Gap)**

**Priority Ranking[4]**

**Notes:**

[1]Develop appropriate score with Strategy Team

[2]Establish current scores based on interviews

[3]Assume criticality weighing between 1 (low) to 5 (high)

**[4]Priority**

1 > 150

2 >90, <150

3 < 90

**Optimizing** Continual improvement and refinement with documented standards and procedures

**Managed** Quantitative measurements are defined and used for business improvement and setting quality standards

**Defined Approach** Defined systems supported with a repeatable approach that is documented and communicated within the organization

**Initial** Reactionary and without a systematic approach

**Unaware** Total unawareness within organization

| | | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Attribute** | **Score** | **Capital** | | | | | | | **Administration** | | | | | | | | | **Financial** | | | | | | | | | **Business Information Systems** | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Capital Improvement Program | Capital Funds | Life Cycle Costs | R&R Planning | Life Extensions | Capital Needs Forecast and Analysis | Project Controls | Human Resources | Organization Chart | Succession Planning | Payroll | Timekeeping | Skills, Knowledge and Competencies | Training Program | Employee Satisfaction | Employee Security | Purchase Requests | Procurement | Financial Accounting | Financial Reporting | Auditing | Budgeting | Fixed Asset Inventory | Materials Inventory | Cost Forecasting | Information System Plan | Data Collection Tools | IT Operating Costs | Standards and Protocols | License Management | System Integration Plan | Data Warehousing | Intranet Communication | Staff Internet Access | Office Automation Tools | Mobile Access | Data Standards | IT Project Planning Process | Infrastructure Reliability | LAN Reliability | WAN Reliability | Data Backup and Storage | Data Security | Disaster Recovery | Help Desk | User Training | Hardware/Software Acquisition | IT Policy Manual |
| **Optimizing** | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Managed** | 70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Defined Approach** | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Initial** | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Unaware** | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Target Practice Score[1]** | | 60 | 50 | 50 | 50 | 60 | 70 | 70 | 50 | 50 | 60 | 50 | 40 | 70 | 70 | 70 | 50 | 60 | 70 | 60 | 50 | 60 | 60 | 60 | 60 | 70 | 70 | 50 | 50 | 50 | 50 | 60 | 60 | 50 | 50 | 50 | 70 | 60 | 60 | 50 | 60 | 60 | 70 | 70 | 70 | 60 | 60 | 50 | 60 |
| **Current Score[2]** | | 30 | 40 | 40 | 40 | 30 | 30 | 20 | 40 | 30 | 30 | 40 | 40 | 30 | 30 | 40 | 40 | 50 | 30 | 50 | 50 | 50 | 50 | 50 | 60 | 50 | 30 | 50 | 50 | 50 | 50 | 30 | 30 | 50 | 50 | 50 | 40 | 20 | 50 | 50 | 60 | 60 | 50 | 50 | 50 | 40 | 50 | 50 | 50 |
| **Gap** | | 30 | 10 | 10 | 10 | 30 | 40 | 50 | 10 | 20 | 30 | 10 | 0 | 40 | 40 | 30 | 10 | 10 | 40 | 10 | 0 | 10 | 10 | 10 | 0 | 20 | 40 | 0 | 0 | 0 | 0 | 30 | 30 | 0 | 0 | 0 | 30 | 40 | 10 | 0 | 0 | 0 | 20 | 20 | 20 | 20 | 10 | 0 | 10 |
| **Criticality[3]** | | 5 | 4 | 3 | 5 | 5 | 4 | 5 | 4 | 4 | 5 | 5 | 4 | 5 | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 3 | 3 | 4 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 4 | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 |
| **Weighted Gap (Criticality x Gap)** | | 150 | 40 | 30 | 50 | 150 | 160 | 250 | 40 | 80 | 150 | 50 | 0 | 200 | 200 | 120 | 50 | 40 | 160 | 40 | 0 | 40 | 40 | 40 | 0 | 100 | 160 | 0 | 0 | 0 | 0 | 90 | 90 | 0 | 0 | 0 | 90 | 160 | 30 | 0 | 0 | 0 | 100 | 100 | 100 | 80 | 40 | 0 | 40 |
| **Priority Ranking[4]** | | 1 | 3 | 3 | 3 | 1 | 1 | 1 | 3 | 3 | 1 | 3 | 3 | 1 | 1 | 2 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 1 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |

## Key

**Target Practice Score[1]**

**Current Score[2]**

**Gap**

**Criticality[3]**

**Weighted Gap (Criticality x Gap)**

**Priority Ranking[4]**

**Notes:**

[1]Develop appropriate score with Strategy Team

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**Defined Approach** Defined systems supported with a repeatable approach that is documented and communicated within the organization

**Initial** Reactionary and without a systematic approach

**Unaware** Total unawareness within organization

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## Business Strategy

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 1 | Vision and Mission | Staff have access to the Vision and Mission and it provides clear direction for the strategic plan. | None | Updated every six years with values. |
| 2 | Long Term Goals | Long Term Goals are measureable and address the vision of the organization. | None | Long Term Goals are somewhat measureable. |
| 3 | Annual Business Plan | The business plan is accessible and annually updated and provides the framework for decisions and performance improvement objectives. | Minor | The business plan is primarily focused on dollars. The updates follow June rate proposals. In June 2015 there will be a wastewater increase. In 2016 there will be a Solid Waste increase. Communication plan is set up to get the plan out to internal staff. |
| 4 | Service Levels | The relationships between service levels and costs are understood and used to measure the quality of service for customers and stakeholders. | Minor | No direct measure of the cost for meeting or exceeding a service level target or quality is understood or measured. |
| 5 | Business Results | Top management has defined business results and communicated them across the organization. | None | Budgets and spending plans are tracked. Labor based on time charges are tracked. Monthly and quarterly reports are tracked via financial policies. |
| 6 | Business Processes | Staff have access to the Vision and Mission and it provides clear direction for the strategic plan. | Minor | Business processes are documented and used to enhance and support the organization goals. This is done on an as needed basis. |
| 7 | Performance Metrics | Indicators of success are established by top management to measure effectiveness of the business and used to develop corrective actions on a proactive basis. | Significant | Performance reviews do not tie to levels of service or strategic business plan. |
| 8 | Benchmarking | Management evaluates various aspects of their processes in relation to best practice within their respective business sector. | Minor | SPU performs benchmarking on a regular basis, but has had some issues with implementation of the identified recommendations. |
| 9 | Regulatory Compliance | Regulatory requirements and pending requirements are continuously monitored and communicated as part of the business planning process. | Minor | Specific requirements are tracked in a spreadsheet and updated every month. The requirements are sorted by activity to measure the performance in compliance with SSO and CSO requirements. Meetings are held every month. Electronic versions of the spreadsheet are shared on J-Drive. There is no formal process to continually learn from the results and there is no central database to share information. |
| 10 | Risk Management | A risk management plan has been completed and regularly monitored for assurance in the organization. | None | There is a branch for risk that manages the Risk and Quality Assurance Work Plan, which is used to prioritize some initiatives. |
| 11 | Change Management | Changes in the business, asset additions, capital fluctuations, expansions, staff retirements, and political changes are accurately reflected in the business plan in a timely manner. | Minor | The strategic plan is an example of how the organization is changing and using change management concepts. |

## Customers

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 12 | Customer Information | Information and knowledge about customers and customer types is organized and easy to use across the organization. | Minor | Information is tracked in a CRM and a billing system. It is not easily shared across the organization. |
| 13 | Billing and Collection | Customer billing is regularly performed with indicators that alert management to problems or errors, and provide reports on funds being collected. | Significant | Rates looks at relationship of conservation to revenue. Billing is done bi-monthly. |
| 14 | Meter Reading | Customer meters are regularly read and used to efficiently create bills to customers. | Minor | There are 2,600 AMR meters in the system out of about 200,000 small meters. There are 852 large meters and 129 wholesale meters (tested annually). |
| 15 | Waste Collection | Waste is collected in a timely manner from those customers subscribing to services. Service offerings are adequate to meet the goals of the organization and needs of the customer, and extra services are managed and billed for in an efficient manner. Late set-outs, contamination, litter or overflowing containers, etc., is tracked and recorded for each stop. | Minor | Accounts are accurately billed for level of service and can sizes, extra collection services are tracked and charged, and missed pick-ups are documented and rectified. There are defined service goals. Extra collection tracked by contractor, spot audited by waste inspectors. Contractor documenting each collection stop and info is uploaded to customer service daily. |
| 16 | Customer Service and Response | There is an understanding of the customers' level of service expectation, how the business will serve them, and ongoing communication to manage those expectations. | Minor | Some limited analysis of customer call data by a telephone traffic coordinator (telephone service goal of 80% within 60 sec). No system to track first call resolution. There is some limited data available for customers to access when necessary, but it is not easily discoverable. |
| 17 | Customer Satisfaction | Communication with customers takes place to measure the effectiveness of the services they demand and the complaints that have been logged. | Minor | SPU has a very good communication plan and communications group. There is room to improve on customer satisfaction, but overall, SPU customers are satisfied, based on recent surveys. |
| 18 | e-Commerce | Customers can find information and buy or procure services over electronic systems such as the Internet and other computer networks. | Minor | There is a third party being investigated to look at a new payments system. Right now customer must identify either as an SPU customer or a SCL customer. There are more internal features available on the system than what people use. |
| 19 | Customer Education and Outreach | The organization proactively educates customers and provides materials and information about the organization's services. | Minor | Public outreach is managed well with more emphasis being made to address specific community issues. |
| 20 | Permitting | Permits are tracked and managed in a central location and are easily accessible to external customers and internal users. | Minor | There is a new development services department within SPU. Most permitting is done at the City level. Permits are tracked and managed in a variety of places and not in a central location that is easily accessible to external customers and internal users. |
| 21 | Customer / Neighbor Complaints | Environmental and social complaints are tracked and monitored and used to improve the process to meet customer and stakeholders expectations. | Minor | Environmental and social complaints are tracked in separate systems: City, Contact Center and FO&M. They are loosely monitored. There is no system to improve the process to meet customer and stakeholder expectations. 80% of calls go to Contact Center. Some calls go to the field staff. |

## Planning

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 22 | Growth Needs | The organization prepares and documents plans that meet future demand for services to efficiently meet that demand and comply with statutory requirements. | Minor | The City Department of Planning and Development sets the direction of growth. The SPU organization, by LOB or business group, prepares and documents plans that meet future demand for services and comply with statutory requirements that are part of the City Comprehensive Plan. There is no true planning department within SPU. |
| 23 | Stakeholder Information | Stakeholders' needs and requirements are understood and documented. | Minor | Needs and requirements are understood and documented in some cases but not always. Water and wastewater follows statutory requirements with review of outside agencies, City Council, and Customer Review Panel to a certain degree. |
| 24 | Long Range Planning | Scenario Planning has been performed, identified, documented, understood and evaluated. | Significant | SPU does not traditionally do masterplanning. Capacity has not been an issue to drive a masterplan. There is no central organization in SPU for Planning. Scenario Planning has been performed, identified, documented, understood and evaluated. Each Line of Business has its own plan and planning process. There are water system, solid waste, drainage and wastewater comprehensive plans. Water and solid waste are on a regular cycle. Drainage and wastewater do not follow a set schedule. The Policy Planning and Regulatory Manager resides within USM. There are not any scenario plans for the entire system. External Planning needs to be better coordinated. |
| 25 | Rate Structure | A standard rate structure has been defined and documented and can be found easily by customers and the public. | Minor | Majority of funding is bond funding. |
| 26 | Regulatory Interface Management | The organization proactively works with regulators to achieve sound social, environmental, and economic outcomes for its communities. | Minor | Regulatory data is not centralized. |
| 27 | Funding Policy | The governing body has approved formal long-term funding policies for infrastructure sustenance. | None | The City Council has approved formal long-term funding policies. |
| 28 | Funding Plan | A funding plan for infrastructure sustenance exists and is maintained. Alternative sources of funding, including reserve accumulations, are considered. | None | Each Line of Business has its own plan. The Asset Management Committee will make recommendations, but Finance and Administration is responsible for maintaining the overall plan. |

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 29 | Asset Plans | Life cycle asset plans exist for assets at levels defined by an asset hierarchy. | Significant | There is no enterprise-wide asset management plan. This is left up to the individual Lines of Business. Strategic asset management plans (SAMP) are done at the asset class level. Individual comprehensive plans are close to being enterprise asset management plans. SAMPs for asset classes have not been fully developed for all assets. Some staff use the SAMPs and others do not see the purpose of the document. |
| 30 | Short-interval Activities | Asset plans include short-interval activities along with standard labor hours, materials, etc., for preventive maintenance, calibration, adjustment, cleaning, and condition assessment. Allowances for planned levels of corrective maintenance are included. | Significant | SAMPs include short-interval activities. Spot sewer and spot water programs are budgeted by FO&M as capital projects. If under $40,000 the FO&M crew will perform. If they are larger then $40,000 Engineering prepares the bid packages. |
| 31 | Long-interval Activities | Asset plans include years and estimated costs of long-interval capital refurbishments and asset replacement, along with pricing. Costs include salvage values (if any) and disposal costs. | Significant | SAMPs include years and estimated costs of long-interval capital refurbishments and asset replacement. SAMPs have not been prepared for all asset types. |
| 32 | Life Cycle Costing | Life cycle costs of alternatives are prepared according to defined formats and PV analyses contribute to selection. | Minor | Business case and risk analysis is done as part of Stage-Gate 2. Life cycle asset plans exist for assets at some levels but are not defined by the hierarchy. Some Nessie curve analysis is done for water and wastewater assets. Life cycle costing may not accurately reflect true O&M costs. |
| 33 | Data Management | GIS and maps are used to access customer data and asset information through a graphical interface and are available to all necessary users. | Minor | Maximo was recently upgraded and will be used to track asset data. A variety of systems are used by engineering staff with no consistency. |
| 34 | Design Standards and specifications | Standard Design Specifications are used and available to contractors and internal users. | Minor | Design standards are available but not necessarily followed. The design process may be changed. There is a Standards and Specs Team that controls all the technical specifications. There is no formal feedback loop between FO&M and engineers on specs. |
| 35 | Construction Specifications | Facility is delivered with asset listings in accordance with the enumeration scheme. Acquisition costs and life cycle plan data at the asset level are delivered along with the asset listings. | Minor | A new enumeration scheme has been developed in July 2013. Acquisition costs and life cycle plan data at the asset level are not being delivered along with the asset listings. There are dedicated people to manage updates to the specifications. All documents are kept up to date in Word documents and made available in PDF format. |
| 36 | Facility Drawings | Drawings identify assets by the standard hierarchical enumeration scheme, are catalogued, and can be found easily. | Minor | Drawings identify assets by the standard hierarchical enumeration scheme where a standard exists, are catalogued in a virtual vault, and can be found easily. There is a physical and virtual storage of all drawings that can be electronically searchable. Some of the records go back to the early 1900s. There may be opportunity to look at how people maintain awareness of the records management process. The process to obtain As-Builts does not always work. |
| 37 | Flow Monitoring | Flow monitoring is used on a permanent basis for control and a temporary basis for diagnostics to determine capacity issues, problems, and to monitor system performance. | Minor | Limited permanent flow monitoring is used for control and regulatory compliance. Temporary meters are used for diagnostics to determine capacity issues, problems, and to monitor system performance. There are monthly reports to Ecology to show overflows and compliance. There are some informal reports used internally to measure sewer performance. Data is available on intranet (in-web). Data is quality-flagged. |

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 38 | Rainfall Monitoring | Rainfall data is gathered and used in hydrographs and modeling of the system as part of an evaluation of system performance and diagnostics. | Minor | Additional rain gauges could be helpful in some areas. |
| 39 | Hydraulic Modeling | A comprehensive graphical modeling environment is used for evaluating all phases of the watershed hydrology and hydraulics. | Minor | EPANet is used for the Water System. PC SWMM is used for drainage and sewer. A system model is available for water; a calibrated model for wastewater is still under development. |
| 40 | Infiltration/Inflow | Measures and indicators of Infiltration and Inflow are defined and used to make service decisions and system improvements. | Minor | Most of this will be contracted out, but some work is done internally. |
| 41 | System Evaluation and Inspection | Sewer system evaluation surveys are regularly conducted to evaluate and inspect the performance of the system and integrity of system assets as part of long range business planning. | Minor | Sewer system evaluation surveys are regularly conducted to evaluate and inspect the performance of the system and integrity of system assets as part of long range business planning. CCTV, smoke testing (contracted), and flow isolation are used. |
| 42 | System Performance Management | The performance of the entire system is measured and managed in real-time in order to comply with customers' level of service expectations. | Significant | Water is a defined control system. Drainage and wastewater is a separate control system. SPU intends to develop a central operations control center. There is a knowledge gap on the drainage and wastewater system. |
| 43 | Project Management | Project managers are well trained and used on all critical projects. | Significant | There is a documented project management process (PMP) and all project managers are being trained. The PMP follows the Project Management Body of Knowledge (PMBOK), which is used on all critical projects. Construction engineers have manuals. Annual training on back to basics. |
| 44 | Project Prioritization | Upcoming projects are evaluated for criticality and performed in the most effective manner. | Minor | Project prioritization before it reaches the Stage-Gate process needs improvement. |
| 45 | Project Updates | All project updates are maintained on an ongoing basis to enhance project success. | Minor | This is done in EPMS, but other systems are used such as Excel, FRM, and PCS for the CSO program. |

## Communication

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 46 | Email Infrastructure | A reliable email system is in place and used regularly. | Minor | Office and email software is continually being improved. |
| 47 | Web Site | A website is maintained and kept current for all customers to find easily and quickly. | Minor | An external website is maintained by the City with content from SPU to keep information current for all customers. The information is easy to find. |
| 48 | External Communication Plan | An External Communications plan is established and used to communicate goals and objectives to all stakeholders. | None | Following the best practice. |
| 49 | Internal Communication Plan | An Internal Communications plan is established and used to communicate goals and objectives to all staff. | Minor | Room to improve on process for communicating goals and strategic direction. |
| 50 | Business Policy Manuals | All Business Policy Manuals are kept in a standard location and easy to find. | None | Policy documents are kept on the Internal website as well as some on the J-Drive. |
| 51 | General Announcements | All new General Announcements are targeted at the correct customers, workers, and other stakeholders. | Minor | All new General Announcements are targeted at the correct customers, workers, and other stakeholders. |
| 52 | Strategy Awareness | Staff and stakeholders are aware of the business goals and have specific knowledge of their level of involvement and responsibilities. | Significant | The strategy is still being developed and so some people do not have specific knowledge of their level of involvement and responsibilities. |
| 53 | Enterprise Content Management | A Content Management system is in place and regularly used across the organization. | Significant | A Content Management system is lacking. Most people use the shared J-Drive to manage documents. There are some standards for documents and templates but it is not consistent. There are also several instances of Sharepoint for groups such as Project Management. |
| 54 | Staff Education | Training program consists of an education program and tracking tool to manage the skills needed and enhancing staff growth potential. | Significant | There is a combination of on the job training and in-house training. There is no central database for tracking training. |

Operation

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 55 | Operations Reports | Operation Reports are regularly created and used by all applicable staff. | Minor | There are metrics reports done on a bi-weekly basis. There are also reports on crew performance. Most reports are in Excel spreadsheets. The information is available to the crew chiefs. |
| 56 | Operations Cost | Costs are monitored and regularly used to make planning decisions to keep the organization viable. | None | Fund accountants look at the income statement by branch. Most people focus on income statement by branch. |
| 57 | Spill Response | Spills are handled by a well educated team who can resolve the issue quickly. | Minor | SPU performs above and beyond the level of most utilities in their approach for spill response. The spill response team is available to other departments and the extended communities that may affect the waterways. |
| 58 | Emergency Response Planning | A standard ERP is in place and documented. | Minor | There is no standard enterprise ERP in place. It is left up to the individual Line of Business and is not always documented. |
| 59 | Safety Program | A safety plan is defined and resources dedicated to ensuring safety are maintained. | Minor | A safety plan is defined and resources dedicated to ensuring safety are maintained. A new safety manager was hired in July and will be part of FO&M. |
| 60 | Facility Security | Security plans and staff are place and have the proper training. | Minor | Security vulnerability is well managed. |
| 61 | Stormwater Management | Stormwater management plans are created and staff assigned to maintain defined stormwater issues. | Minor | SPU has some limited resources in stormwater management. |
| 62 | Emissions Management | Emissions are defined, monitored, and kept within regulations. | None | Emissions are being defined, as part of the CSO program. There are many places in the current system where emissions are not measured. Solid waste manages emissions data in its own system. |
| 63 | Energy Management | A standard energy use plan is in place and monitored for adherence. | Minor | No standard energy use plan is in place. Energy usage has not been an issue within the water systems. |
| 64 | SCADA / Automation | SCADA systems are in place and maintained for monitoring data and daily automation. | Minor | There are two systems: Onsite for Water; Wonderware for Wastewater. |
| 65 | Operability and Maintainability | Operations and Maintenance (O&M) personnel are involved in design from an early point with the objective of minimizing ongoing costs of asset ownership. | Significant | The goal is to have O&M personnel involved in the design, but this does not occur in all cases. This is a reasonably new process. When they are involved the objective is to minimize ongoing costs of asset ownership. The Commissioning process needs to be improved. More work can be done on lessons learned. |
| 66 | Pretreatment System | The pretreatment system is documented and regular maintenance is performed. | None | The pretreatment system is under control of King County. SPU has some of the permits documented. Inspection and regular maintenance is performed by King County. |
| 67 | Fats, Oils and Grease Program | An overall plan and permitting system is in place to effectively deal with FOG issues. | Minor | Anyone who installs a grease trap must comply with plumbing standards. Seattle/King County Public Health Department is the plumbing enforcement branch. SPU sets up the code and standards for the food service establishment. The FOG program is well established and continues to be expanded. |
| 68 | Transfer Station Operation | Material is effectively received, sorted, and re-loaded for transport with no cross-contamination. Public and contractor vehicles can move through the facility easily and efficiently. Odor and vectors are carefully controlled. All vehicles cross scales. | Minor | Vehicle flow through plant is clear with appropriate signage and direction, though operations rely on staff to direct traffic. One transfer station is new, with material handling standards in the process of documentation. There is considerable work done to analyze and optimze operations by the Economic Services branch. |

Operation

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 69 | Waste Hauling and Disposal | Hauling is optimized to ensure all vehicles are fully weighted and/or above minimum charge, back-hauls are realized where applicable and routes are continuously monitored and optimized in most cases. Travel, turn-around and down-time are tracked and analyzed. | Minor | Back-hauls and night hauls are not currently used. There are instances of long-haul trucks sitting idle. There is considerable work done to analyze and optimze operations by the Economic Services branch. Long-haul of organics material will be transitioned to Contractors in April 2014. |
| 70 | Laboratory Information System | LIMS data systems are used to document, regulate, and store all required lab related data. | None | Following the best practice. |
| 71 | O&M Manuals | Design and construction requirements include delivery of operating and maintenance manuals, guarantee information, and asset plan data are available to staff. | Minor | O&M Manuals are used to create job plans in Maximo. No standards for how O&M manuals are to be delivered. |
| 72 | Inventory/Stores Management | A database is maintained for all Inventory and is used to ensure stores are maintained. | None | Maximo is used for purchase orders and inventory. |
| 73 | Bar Coding/ RFID | All assets have their own bar code and RFID for the entire system. | Minor | Most assets do not have their bar codes or RFID tags. |

## Asset Knowledge

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 74 | Asset Detail | Criteria are established for the level of detail at which asset identification takes place (maintenance requirements, date in service, acquisition cost, description, nameplate data, horsepower, length, diameter, etc.). | Significant | No defined criteria has been established. There is no standard on what level of data will be collected. It is dependent on individuals or work group. |
| 75 | Asset Criticality | Criticality is determined for each asset based on reliability and consequence of failure in terms of cost, service delivery risk, environmental risk, etc. | Significant | Criticality has not been determined for all assets. Some assets have criticality expectations based on risk ranking that have been performed. Sewer and water assets have been developed to a higher degree. There is a lack of consistency in definitions of criticality/risk. |
| 76 | Asset Categorization | Levels of Asset Management are identified (full management, routine maintenance, run to failure, etc.) and criteria for assignment of assets to each category have been developed based on cost and criticality. | Minor | This has primarily been done for water main and sewer mains. If the assets have a SAMP then this has been identified. |
| 77 | Asset Classes | Asset classes are identified for all assets and class definitions have been documented. “Default” estimates, formulas, or look-ups are established for R&R intervals, useful lives, and R&R costs by asset class. | Minor | There are asset-functional hierarchies for SAMPs but they are different from the Maximo Asset Hierarchy. |
| 78 | Asset Hierarchy | Asset hierarchies are defined for all facilities and assets and are used throughout the asset life cycle, including design and construction. | Minor | Asset hierarchies are defined for some but not all facilities and assets. The hierarchy is not used throughout the entire asset life cycle, but there are plans to develop this as part of design and construction. The Maximo implementation team has set up a Maximo Hierarchy. |
| 79 | Asset Identification | Assets have been identified at the appropriate level of detail, given criticality measures, categorized with respect to management regime, assigned to asset classes, and “tagged” per the asset hierarchy. | Minor | Asset detail is in the Maximo system. SPU is improving the asset identification system. Most assets are not physically identified in the field. |

## Maintenance

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 80 | Preventive Maintenance | Preventive maintenance (PM) activities are fully defined at the appropriate asset level and in accord with the assigned management regime. Intervals and resource information (standard hours, parts lists, etc.) are included. | Minor | Most of the PMs are in Maximo. Small Valve exercise program is an example of something that is not. May not put budget hours into new Maximo because of staff constraints. |
| 81 | Predictive Maintenance | The potential for predictive maintenance is continually assessed and such measures are used where economical or indicated by risk factors. | Minor | This is usually done in-house. |
| 82 | Corrective Maintenance | Corrective maintenance (CM) usually arises from condition assessment and is performed prior to failure. Management measures CM work orders arising from assessment versus failure to improve performance in this area. | Minor | Staff could use more education on how to apply corrective action to address asset failures. |
| 83 | Maintenance Costs | Work orders are prepared on an asset-specific basis. Costs of fulfilling work orders are accumulated along with underlying details (hours used by craft, actual materials, etc.). | Minor | Rental cost from outside shows up in Summit but not Maximo. General overhead cost does not get attached to an asset. |
| 84 | Failure Codes | Failure codes are tied to failure modes at the asset class level. Asset failures are recorded with appropriate codes and details. | Minor | There are 50-plus failure codes. Specific people within USM do the analysis. Reports have been defined. Failure codes are used to track performance against budget, based on activity. |
| 85 | GIS Interface | A common GIS interface is used to find pertinent information when needed. | Minor | Documentation in a common place in the EDMS. Asset inventory convention – name too long, naming convention. The current GIS is ArcGIS 9.3 and 10.0. The plan is to go to 10.1 by 2014. There is significant customization. Pump stations are mapped in the GIS but not the children to the asset. |
| 86 | Fleet Maintenance | A fleet maintenance system is installed and used regularly by work crews. | Minor | Fleet maintenance is done by the City. Delays in maintenance affect operations. |
| 87 | Field Communications | Two-way communication tools are provided and used across the organization. | None | No dedicated SPU cell phone is assigned to field staff. Leads and above do not have cells. 800 MHz push to talk handhelds are used. The majority of crews have laptops. |
| 88 | Resource Management | Systems are used and implemented to ensure resources are available and in order. | Significant | A two week schedule is maintained. Each Line of Business has its own approach to resource management. There is a master resource plan developed to make sure resources are adequately staffed and organized to meet project and service level delivery requirements. |
| 89 | Reliability Analysis | Asset failures are analyzed and used to update the maintenance strategy, preventative maintenance procedures and intervals, as well as R&R schedules for similar assets. | Minor | SPU is continually improving on the use of reliability analysis. This will be important for the mechanical and rotating equipment. |

## Condition Monitoring

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 90 | Condition Monitoring Program | Appropriate procedures, intervals, and rating methodology for new assets are determined at or prior to delivery and allow for consistency in condition assessments. | Minor | No written procedures for drainage and wastewater. However, there are procedures and methodology as part of day-to-day work and input into the Maximo system. New assets are installed and once a problem occurs, the issue is determined and then condition assessment may occur. |
| 91 | Condition Rating and Scoring | Rating scales, tied to potential failure modes, have been prepared by asset class. Methodologies assure replicable ratings (e.g., they support GASB 34's "modified approach"). | Minor | Structural assets have a rating scale. The score will reside in the work order that is attached to the asset and not the asset itself. |
| 92 | Condition Tracking | Procedures exist for determining, recording, tracking, and updating condition assessments and intervals. | Minor | There is no overall rating of condition in Maximo. The CCTV database has the actual condition. |
| 93 | Maintenance Strategy | Trends in assessed condition, along with cost and risk analyses, are used to update intervals for preventive maintenance. | Significant | Trends are starting to be used for wastewater assets to update intervals for preventive maintenance. There are not too many resources to look at business side of house. |
| 94 | Corrective Actions | Trends in assessed condition, along with cost and risk analyses, are used to update long-term cost estimates and near-term schedules for corrective maintenance. | Minor | Trends in assessed condition, along with cost and risk analyses, are used to update long-term cost estimates and near-term schedules for corrective maintenance for wastewater assets. |

## Capital

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 95 | Capital Improvement Program | The Capital Improvement Program is documented, and used to plan upcoming work and expenditures. | Significant | There is a documented 2-8-20-year funding plan, used to plan upcoming work and expenditures. Capital budgets are then set up every year. EPMS is used to track capital projects. |
| 96 | Capital Funds | Capital funds for supporting the funding plan are tracked on a project and asset basis and used for project management and updates to the funding plan. | Minor | Capital project funding is well understood. Continual focused planning and more condition assessment data could improve future projections. |
| 97 | Life Cycle Costs | Life cycle costs of alternatives are prepared according to defined formats and PV analyses contribute to selection. | Minor | This is done as part of the Options Analysis process during the Stage-Gate process. |
| 98 | R&R Planning | Most R&R decision points are known in advance through the asset planning process. Surprises are minimal. | Minor | More condition assessments and data could improve the R&R planning process |
| 99 | Life Extensions | In the case of refurbishment, the life extension (if any) of the underlying asset is estimated. The capital asset plan for the subsequent life cycle is updated | Significant | The capital asset plan is being developed with life cycle expectations being updated. The right solution is not always appropriately applied. An example is a sewer spot repair instead of a line repair. |
| 100 | Capital Needs Forecast and Analysis | Growth and level of service needs are identified and communicated as part of the capital planning process. | Significant | Level of service and growth needs are usually identified. |
| 101 | Project Controls | All project controls are defined and used for ongoing and new projects across the organization. | Significant | Project controls are not fully defined. The roles and responsibilities are being created and documented. This role will be used for ongoing and new projects across the organization. |

## Administration

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 102 | Human Resources | A well staffed human resources department is in place and made available to all staff. | Minor | There are 35 people in HR. Staffed appropriately for administration but the positions may not be in the right skillset. HR is not staffed to provide internal consulting services for succession planning, competency analysis, hiring, etc. |
| 103 | Organization Chart | Organization chart is made available and updated regularly for the entire organization. | Minor | Organization charts are updated on an as-needed basis. They are not regularly updated for the entire organization. They are done in Visio. |
| 104 | Succession Planning | A fully defined succession plan is in place and made available in the organization. | Significant | A fully defined succession plan is not in place. There are some groups that have succession plans but those are not made available to the entire organization. |
| 105 | Payroll | Payroll staff is in place and ensures that all staff and workers are paid on time and fully. | Minor | Payroll staff is in place and ensures that all staff and workers are paid on time and in full. |
| 106 | Timekeeping | An easy to use timekeeping system is available and used by all required staff. | None | Maximo is used by field staff. Oracle Employee Self Service is used by others. |
| 107 | Skills, Knowledge and Competencies | All staff are fully trained, and any training materials or training is made available when/if needed. Skills and competencies are tracked. | Significant | All staff positions are not fully staffed. Training materials or training is managed by each division director. Skill knowledge and competency analysis has not been done other than in specific areas. |
| 108 | Training Program | A well documented training program is in place and used to ensure workers are able to perform to plan and meet organization goals. | Significant | A training program is in place but it is not centralized. Most of the material is stored on the J-Drive but it is not centralized. Training is in place and used to ensure workers are able to perform to plan and meet organization goals. EV5 is used to track the training by each staff. People are able to sign up on time for some training. |
| 109 | Employee Satisfaction | Employees are happy and satisfied with their work environment and day-to-day tasks. | Minor | SPU has very dedicated staff and they are generally satisfied with their work environment. |
| 110 | Employee Security | All employees have a safe working environment, and tools to report any issues or needs. | Minor | More time could be spent on how people communicate safety concerns and raise awareness to supervisors. |

## Financial

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 111 | Purchase Requests | All purchase requests are performed through a fully understood, standard workflow. | Minor | The workflow for purchase request could be improved with electronic forms and approval. |
| 112 | Procurement | Purchasing is performed quickly and without issue. | Significant | Many people are involved in the process that results in slow procurement. When there is an issue the resolution can take time to complete. |
| 113 | Financial Accounting | All financial accounting is performed to regulation and without error. | Minor | The accounting team follows City GAPP and utilizes the Summit. It is difficult for a manager to track top seven expenses. |
| 114 | Financial Reporting | The financial reporting database is updated to account for asset retirements, additions, and betterments. Key financial data are reflected in the financial statement. | None | Data in Cognos is current; in Summit it is after closing. SPU is currently using Summit with quite a bit of customization. It is difficult to make changes because people are focused on the upcoming upgrade to Oracle Finance. |
| 115 | Auditing | Financial systems and execution processes are reviewed periodically with benefits from these procedures being measured, and programmatic improvements are being proposed. | Minor | Audits conducted by Moss Adams External Auditors, city auditors that report to City Council. One person assigned. |
| 116 | Budgeting | Budgets are developed in accordance with system needs and predefined levels of services and are measured against the goals and objectives of the business. | Minor | SPU is currently evaluating and updating the LOS targets. The budget usually looks at last year's budget and what is required to meet any changes. Budgets are rate-based. Management can access Summit or go to Cognos to look at the budget. |
| 117 | Fixed Asset Inventory | A full Fixed Asset Inventory is in place, kept up to date using an asset database that is identical to or synchronized with the engineering and operations asset listings. | Minor | The Fixed Asset Inventory is not synchronized with Maximo. FA is in the asset management module of Summit. Asset ID are included. |
| 118 | Materials Inventory | Materials required to meet service levels are inventoried and correctly reported to ensure service is maintained. | None | There is a December annual physical inventory. |
| 119 | Cost Forecasting | Periodic analyses are performed on the financial results and used to determine future costs of assets and asset operation and maintenance costs. | Minor | There is a forecast done quarterly. Revenues done monthly. Cash flow projections to track bonds. AA- for solid waste, AA+ for water and sewer. |

## Business Information Systems

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 120 | Information System Plan | The information system is planned and budgeted annually with a 5-year forward forecast of needs that were gathered from all divisions of the organization. | Significant | The last plan was done in 2008. Trying to do an update every 3 years. There is an ongoing process of developing a work plan. There is an existing data model for GIS. There is a capital project to improve GIS to go from the VBA code to VB.net. There is no consistent business taxonomy for information technology. |
| 121 | Data Collection Tools | Data collection tools are used to streamline the process of data input and improve accuracy of information in the databases. | Minor | Need better data governance procedures. |
| 122 | IT Operating Costs | IT Operating Costs are monitored and made available to the correct management staff. | None | There are activity codes and G-codes which are sub-codes. IT will monitor project costs from EPMS. All items in a budget are documented. There will also be IT costs that do not show up on Corp IT budget. IT maintains the listing of all software and tracks cost. Time spent on data capture activities through time cards. Some peripheral expenditures (printers, second monitors, etc.) are still de-centralized. |
| 123 | Standards and Protocols | Standards and protocols for asset information systems exist and are followed by all divisions of the organization and managed under a single party. | None | IT will write the policy. The City has overarching policy that needs to be followed. There is a standards committee. IT is moving towards a product management module. |
| 124 | License Management | Software License Management is maintained and all required software is kept up to date. | None | GIS enterprise license is managed by a citywide GIS coordinator who works for SPU. |
| 125 | System Integration Plan | Plan has been prepared to integrate the various asset information systems into a single point of data access and reporting. | Minor | There is no plan prepared to integrate the various asset information systems into a single point of data access and reporting. This is part of the strategic plan. There is no network architecture. |
| 126 | Data Warehousing | A fully integrated data warehouse is in place, and used for all critical reporting. | Minor | Cognos is the primary BI tool. |
| 127 | Intranet Communication | All employees are familiar with all network and computerized communications tools at their disposal. | None | SPU is following best practices |
| 128 | Staff Internet Access | All staff who require Internet access have an adequate workstation on their desk for use. | None | IT is strategically looking at access through remote devices. |
| 129 | Office Automation Tools | Any tools which would automate daily workflow are in place and all staff are trained in their use. | None | Following the best practice. |
| 130 | Mobile Access | Staff which require mobile access to the organization network are provided and trained in those tools. | Minor | There are not many tools for mobile access to GIS. |
| 131 | Data Standards | A fully documented set of data standards are made available on the organization network. | Significant | Data standards will be increasingly more important as SPU integrates enterprise systems. |
| 132 | IT Project Planning Process | The IT Planning Process is well understood by all required staff. | Minor | Several smaller IT projects are not going through the IT group. |
| 133 | Infrastructure Reliability | The current IT infrastructure is maintained and monitored to ensure reliability. | None | Following the best practice. |
| 134 | LAN Reliability | The Local Area Network is in working order and has little to no downtime. | None | Following the best practice. |
| 135 | WAN Reliability | The Wide Area Network is in working order and can access the information and systems required by the staff. | None | Following the best practice. |
| 136 | Data Backup and Storage | A full data backup and storage solution is in place and has a high level of reliability. | Minor | A new data center is being designed and implemented. |
| 137 | Data Security | Data security plans and standards are in place and monitored for issues and potential hazards on an ongoing basis. | Minor | Data security is continually being monitored and improved. |

## Business Information Systems

| | | Best Practice | Gap | Current Observation |
|---|---|---|---|---|
| 138 | Disaster Recovery | A full disaster recovery plan is in place and understood by all IT staff. | Minor | There is no disaster recovery infrastructure in place. There is a data center plan being developed that will include the disaster recovery center. |
| 139 | Help Desk | The organization has a well trained Help Desk and all employees are knowledgeable on how to contact them for help. | Minor | The Help Desk needs to be replaced. Need a good service module. Need to look at change management, incident management, and vendor management. Need a holistic set of integrated processes. |
| 140 | User Training | All users who require access to the IT systems have the required training available to them as needed. | Minor | Usually done as part of a project. There is ongoing training for GIS but when a new person comes on board the training is usually on-the-job. |
| 141 | Hardware/Software Acquisition | There is a standard, and required, software and hardware purchase workflow. | None | Following the best practice. |
| 142 | IT Policy Manual | A full IT policy manual is documented and readily available to all staff easily. | Minor | IT policy development is evolving and continually improving. |

# Appendix B

## Benchmarking Summary

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# Table of Contents

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# 1.0 Benchmarking Summary

The data presented in this Benchmarking Summary are the compiled results of the questionnaires completed by participating utilities and information gathered by subsequent interviews (see Methodology below). These results are summarized in the main body of the Prioritized Performance Plan in Sections 4.1-4.9, Comparison to Industry Peers, based on the Strategies presented in the report. The results also substantially aided in developing the individual recommendations presented in Appendix C of the Prioritized Performance Plan by providing working examples of improvement opportunities used by other utilities that may be duplicated by SPU. In some cases, these working examples constitute a sub-action or task that supports an individual initiative.

## 1.1 Methodology

### 1.1.1 Benchmarking Process

To identify the business processes to benchmark, the HDR team conducted a series of staff interviews, field observations, and site visits to assess overall utility management effectiveness. The Utility Business Management Evaluation (UBME) tool was used to review SPU's current business plan and how specific management, operation and maintenance procedures have been implemented.

The HDR team used historical benchmarking data along with the interviews and observations to document a baseline of the utility business practices as compared to industry best practices in 142 different Business Elements, organized in 13 Business Categories. The results were ranked using the Carnegie Mellon Maturity Model methodology. Twenty-six Performance Gaps were identified as priorities within the 13 Business Categories. The SPU E-Team approved the highest priority processes on which to focus benchmarking and process improvement efforts during two workshops facilitated by HDR. These high-priority items were then consolidated into 14 distinct Performance Areas.

Based on its observations throughout this process, and using specific questions asked by SPU staff of the benchmarking effort, a questionnaire was designed and developed to gather quality, effectiveness, or efficiency data from benchmark utility partners. Additionally, particular areas of operations were specifically called out by SPU and its Customer Review Panel to be benchmarked.

The questions were organized based on standard industry benchmarking categories under the following functional areas:

1. General Information
2. Asset Management
3. Business Operations
4. Customer Relations
5. Engineering
6. Information Technology
7. Organizational Development
8. Project Management
9. SCADA
10. Stormwater Operations
11. Wastewater Operations
12. Water Operations
13. Solid Waste Operations

Upon finalizing the list of interview questions, initial contact in the form of a telephone or email survey was made with benchmark partner agencies, followed by site visits and in person interviews and/or telephone interviews. A survey of previous benchmarks performed by SPU was also conducted to identify outstanding and relevant findings. Previous findings and recommendations have been incorporated into HDR's recommendations as appropriate.

### 1.1.2 Benchmark Partner Selection

Utilities were selected for comparison to SPU based on the following criteria:

- Comparable size and complexity
- Similar core business and structure
- Development of a strategic business plan and performance metrics
- Focus on customer, workforce, environment and health, and operational excellence
- Success using a similar framework to implement a strategic business plan

In addition, utilities with similarities in demography, topography, and climate were selected when possible.

To obtain a comparative benchmark of the solid waste functions that SPU performs, it was necessary to select utilities different than those selected for comparisons of water and wastewater services. Solid waste collection and processing systems vary widely across the country, and often from city to city within particular regions. As such, it was necessary to identify and select utilities that, in addition to the criteria outlined above, were comparable to SPU in their solid waste program goals. In particular, the HDR team selected utilities with the following common characteristics:

- Zero Waste Plans or aggressive diversion programs in place
- Three-can curbside collection system in place (garbage, recycling, organics)
- Waste Bans in place (recyclables, yard waste, etc.)

Similarities in size, demography, and geography were also sought, though the principal criteria were those outlined above. Additionally, because SPU performs both collection and waste transfer and hauling services, it was necessary to identify a mix of utilities that a) meet the above-mentioned criteria, and b) perform either collection or transfer/hauling functions, with a goal of striking a balance of two comparative utilities primarily serving collection functions, and two utilities primarily serving transfer and hauling functions.

## 1.2 Organization of this Report

The purpose of the Benchmarking Summary is to provide the results of the questionnaire survey completed by participating utilities. Further analysis from in-person and phone interviews is provided in the main body of the Prioritized Performance Plan in Section 4.0 – Findings and Recommendations.

The report is organized into two main parts:

1. Section 2.0 Findings – Water and Wastewater
2. Section 3.0 Findings – Solid Waste

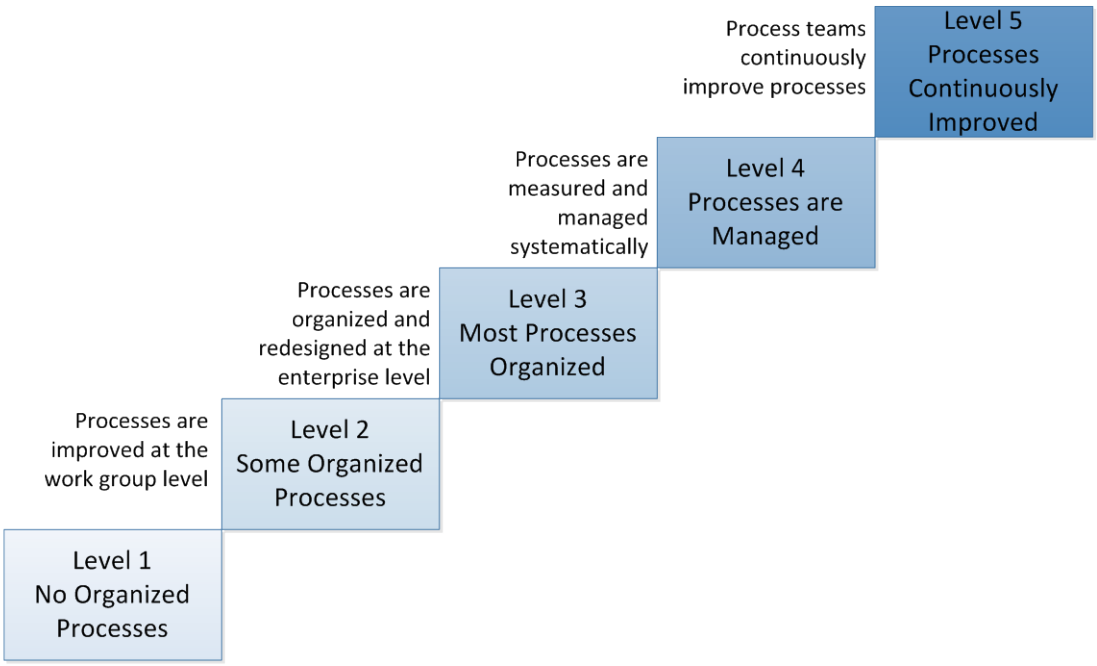
Utilities' responses are confidential and are therefore represented by the alphabetic symbols A, B, D, E, V, W, X, Y, and Z.

Utilities' responses to the survey questions are self-assessments. The results were not validated by the HDR team. The intent of the survey was to identify what the utilities thought they were doing well and then to follow up to find out how they achieved their results. Each question is listed with a chart, graph, or table showing the responses from participants (in some cases not all participants responded to a particular question). Where needed, an explanation is provided. In cases where there were not enough responses to provide a meaningful comparison, the question was eliminated.

Many of the survey questions asked the respondents to indicate their maturity level for a certain business process on a 1 – 5 scale. The scale was defined in the survey as:

- 1 – Not Practiced
- 2 – Implemented, but without uniformity and only occasionally
- 3 – Implemented, substantial room for improvement
- 4 – Largely implemented, but room for improvement
- 5 – Fully implemented

Respondents to the questionnaires self-rated against this scale. In follow-up site visits and interviews, the HDR Team confirmed the rating with participants. Each rating represents a collective response from the representatives present from each utility.




This scale follows the Carnegie Mellon Maturity Model methodology and was used by the HDR Team to assess SPU's business processes in comparison to industry best practices. HDR's process is known as a Utility Business Management Evaluation (UBME). This approach may be used in both public and private industry to rank certain business functions and identify performance gaps. A detailed description may be found in Section 3.0 of the main body of the Prioritized Performance Plan, and Appendix A.

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# 2.0 Findings – Water and Wastewater

## 2.1 Water and Wastewater – Overview and Organization of this Section

This section documents the findings from the five benchmarked water and wastewater utilities. These utilities were selected to participate in the study because they are comparable in:

- Size and complexity
- Core business structure
- Development of a strategic business plan and performance metrics
- Organizational goals and values that focus on customer, workforce, environment and health, and operational excellence
- Success using a similar framework to implement a strategic business plan

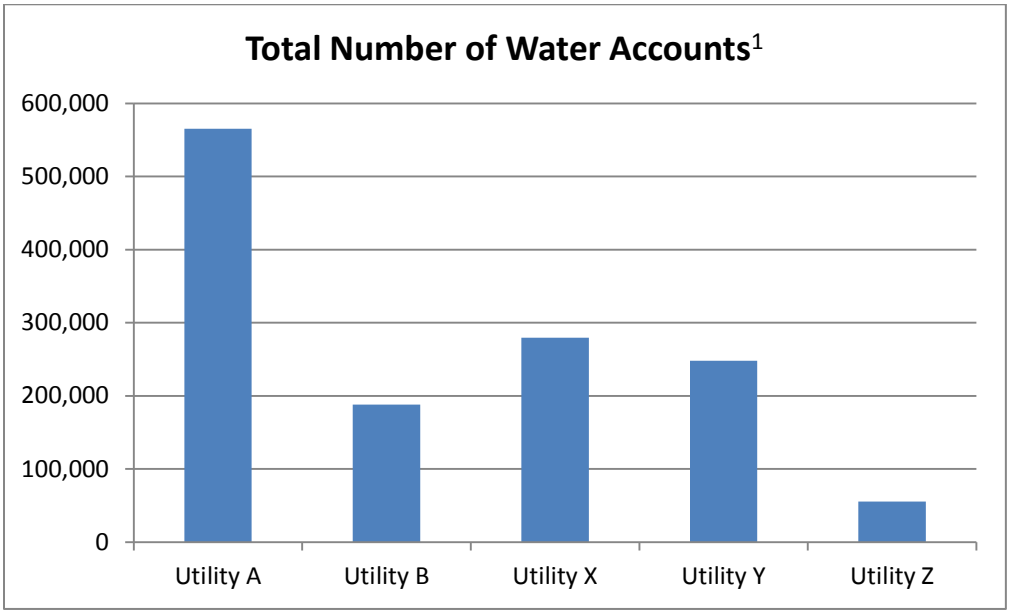
For the purposes of this report the results of the benchmarking questionnaires and interviews are organized into the following Functional Areas:

| | Functional Area* | Description |
|---|---|---|
| **1** | General Information | Provides an overview of the general size, services and financial health of each utility. |
| **2** | Asset Management | Includes general asset knowledge, asset maintenance programs and methods, operability and maintainability of new, rehabilitated, and repaired assets, and decommissioning and retirement of assets. |
| **3** | Business Operations | Financial planning and decision-making, risk policy, management and abatement, regulatory compliance strategies, and strategic planning. |
| **4** | Customer Relations | Delivery of customer services including billing, complaint response and resolution, and stakeholder engagement. |
| **5** | Engineering | Includes line of business master planning and rehabilitation and repair programs. |
| **6** | Information Technology | Use of business intelligence systems to support utility operations, IT master planning, and mobile and cloud technologies. |
| **7** | Organizational Development | Training and leadership development, hiring, promotion, and succession policies and planning, resource management, and rewards and incentives programs. |
| **8** | Project Management | Includes delivery of capital projects and management of contractors. |
| **9** | SCADA | Use of SCADA information in system operations. |
| **10** | Stormwater Operations | Levels of service, operating metrics and specific programs utilized in stormwater and drainage operations. |
| **11** | Wastewater Operations | Levels of service, operating metrics and specific programs utilized in wastewater operations. |
| **12** | Water Operations | Levels of service, operating metrics and specific programs utilized in water operations. |

*A 13th Functional Area, Solid Waste Operations, is detailed in Section 3.0 – Solid Waste Operations of this Benchmarking Summary.

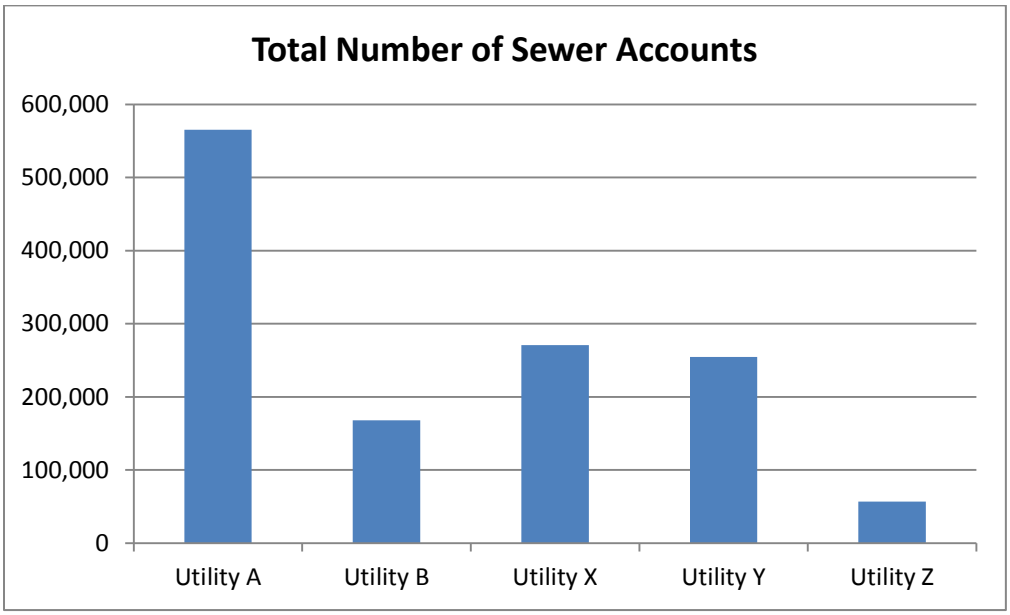
## 2.2 General Information

### 2.2.1 What is your number of total active water accounts?

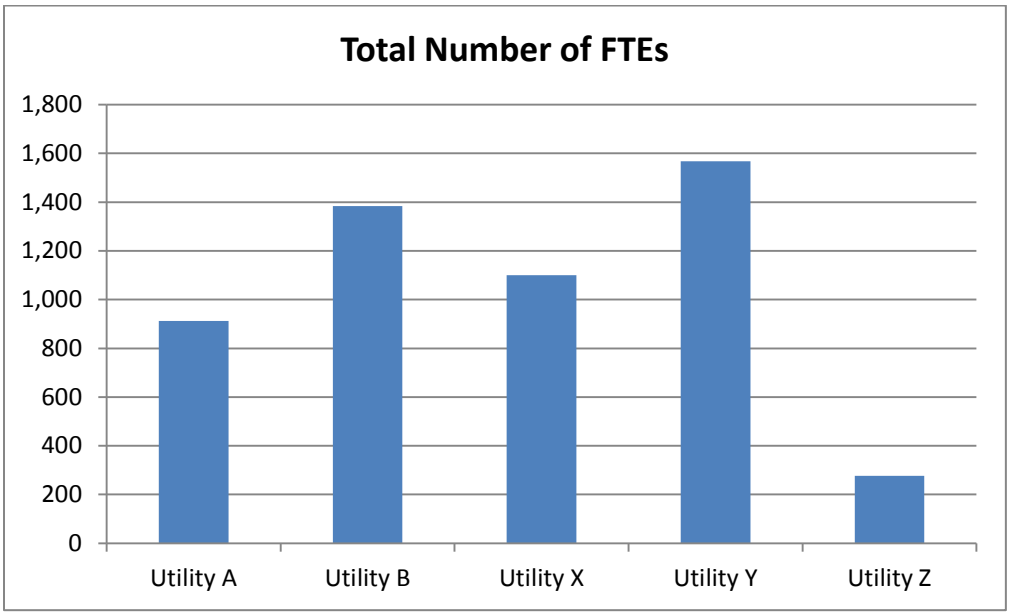



[1]Chart Notes: Utility A provides service to wholesale customers. The number of accounts was found by taking total population served divided by the American Water Works Association (AWWA) planning factor of 2.3 inhabitants per household.

### 2.2.2 What is your number of sewer accounts?

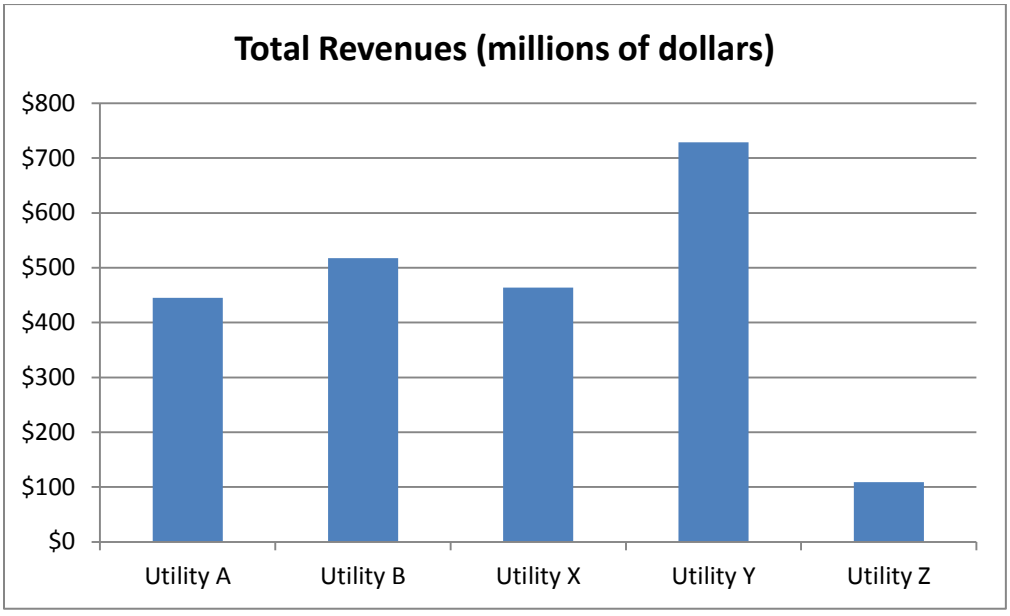


### 2.2.3 What is your total number of employees (as Full-Time Equivalent [FTEs])?



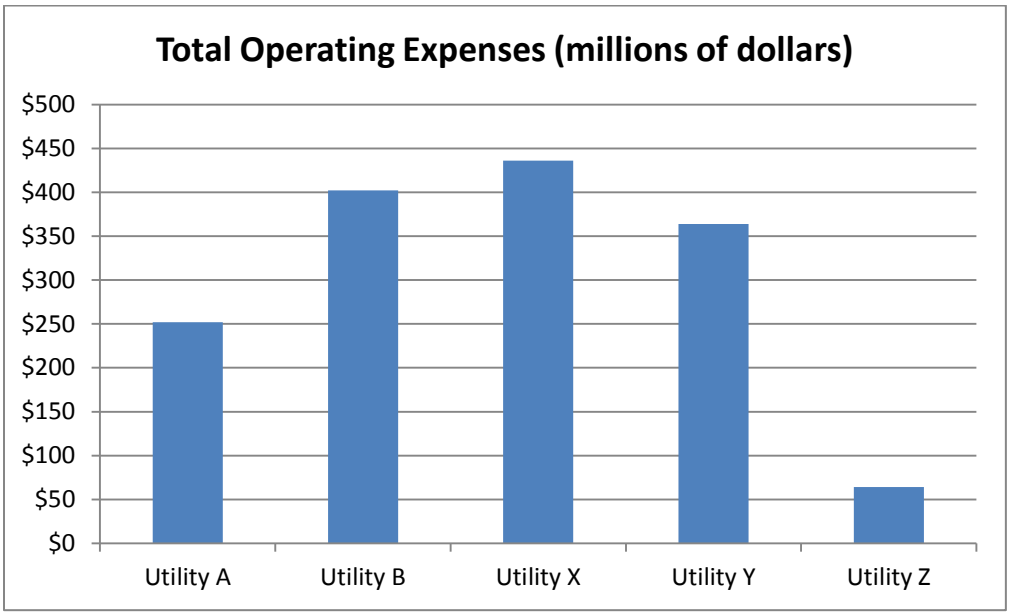

Unlike the other benchmarked utilities, Utility B has a solid waste line of business (LOB). An estimate of those FTE dedicated to the solid waste LOB was gathered and those FTE have been removed from the total included in this graph. However, there are many employees serving in support function roles (i.e., Human Resources, Risk Assurance, etc) in a cross-LOB capacity that have not been omitted from the total.

### 2.2.4 What are your total revenues?



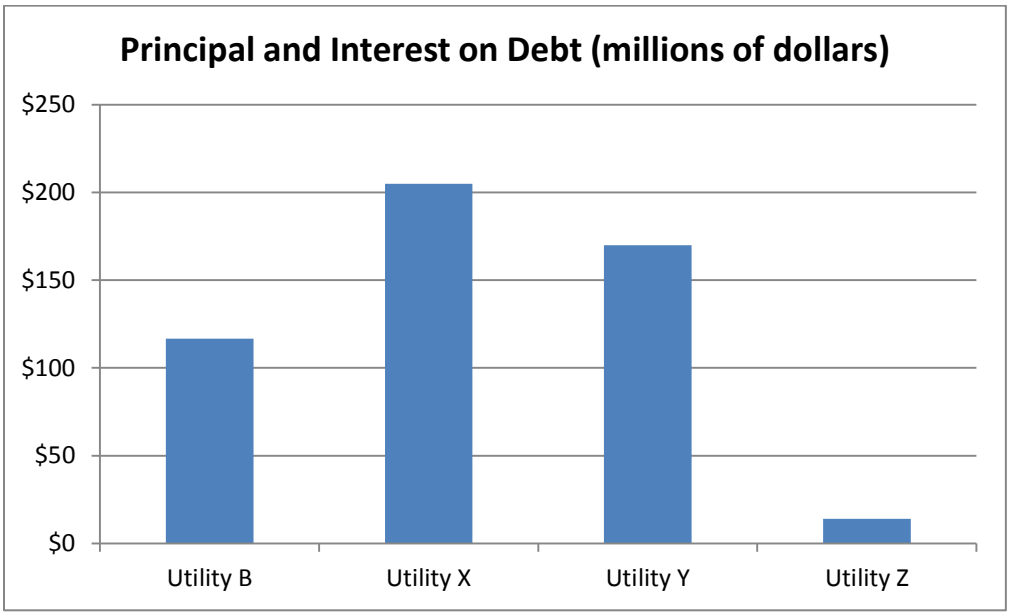

The comparatively high revenues for Utility Y are the result of substantial increases in its raw water costs.

### 2.2.5 What are your total operating expenses (less depreciation)?

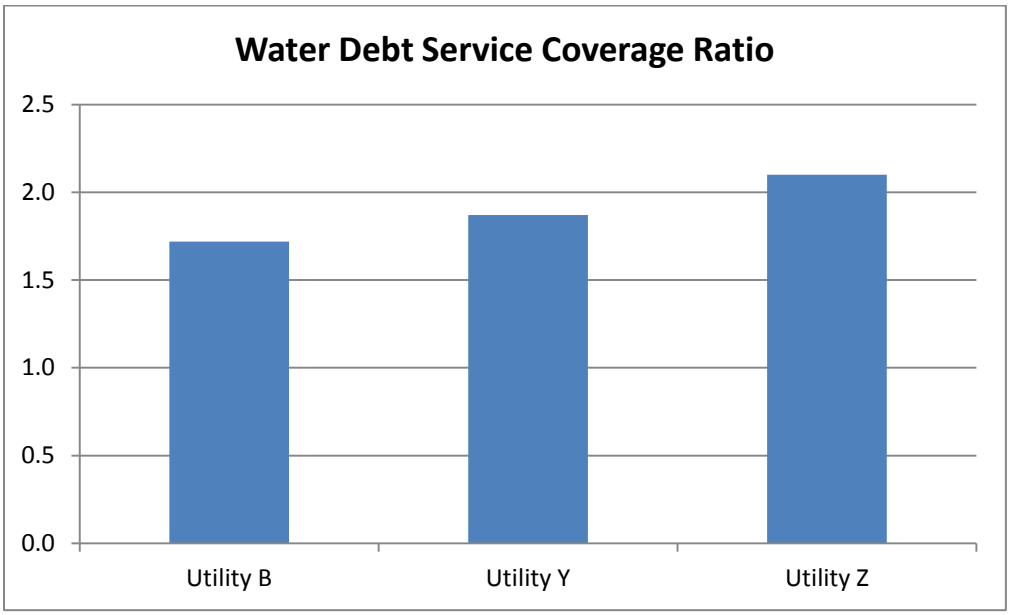



Operating expenses are a direct function of utility size. The amounts above show *total* cost and do not take into account relative utility size.

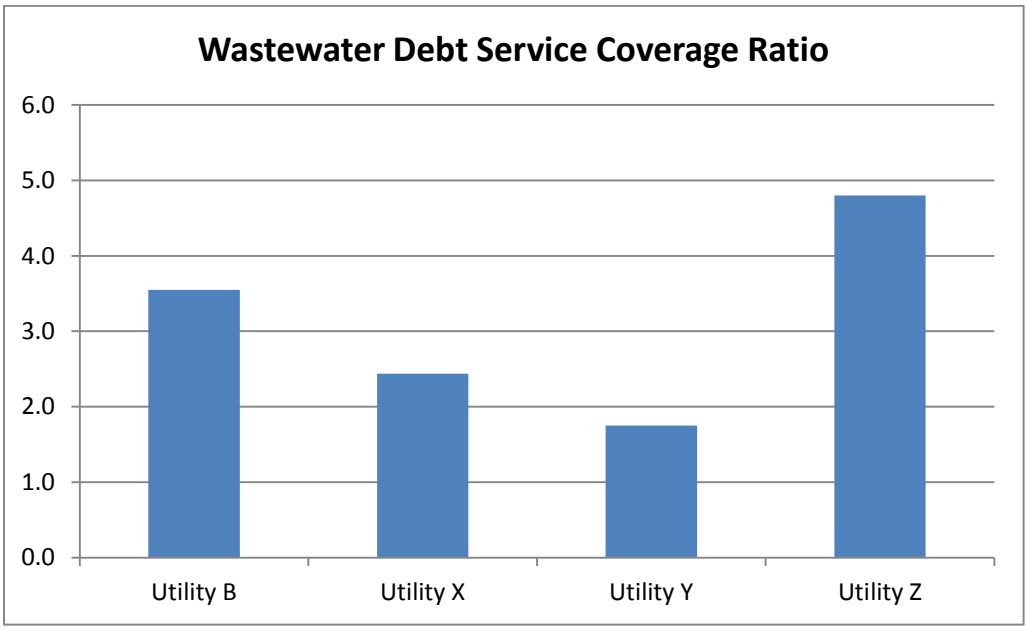
### 2.2.6 What is your principle and interest on debt?



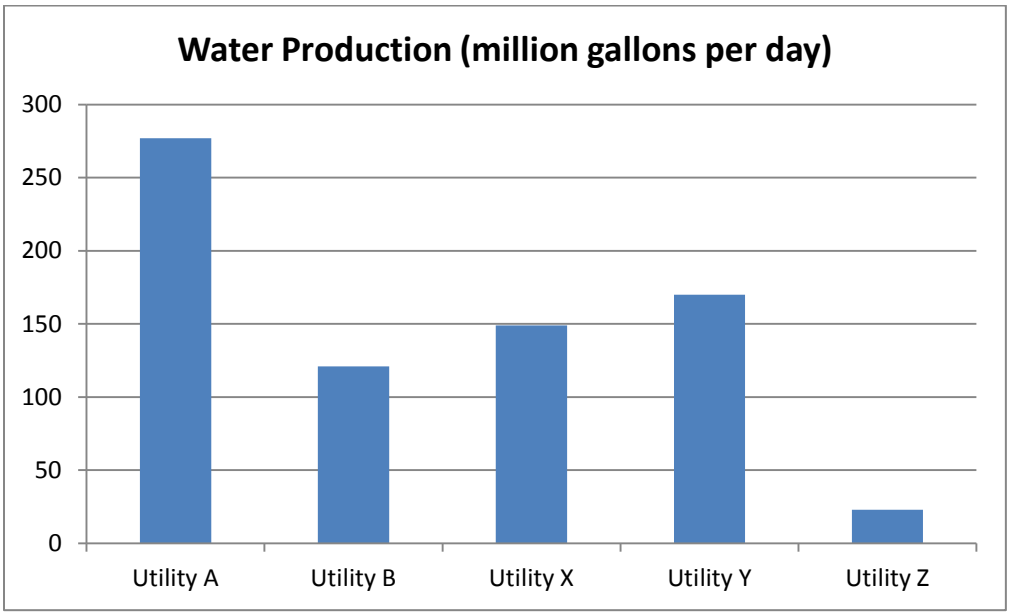
### 2.2.7 What is your water debt service coverage (ratio)?




### 2.2.8 What is your wastewater debt service coverage (ratio)?

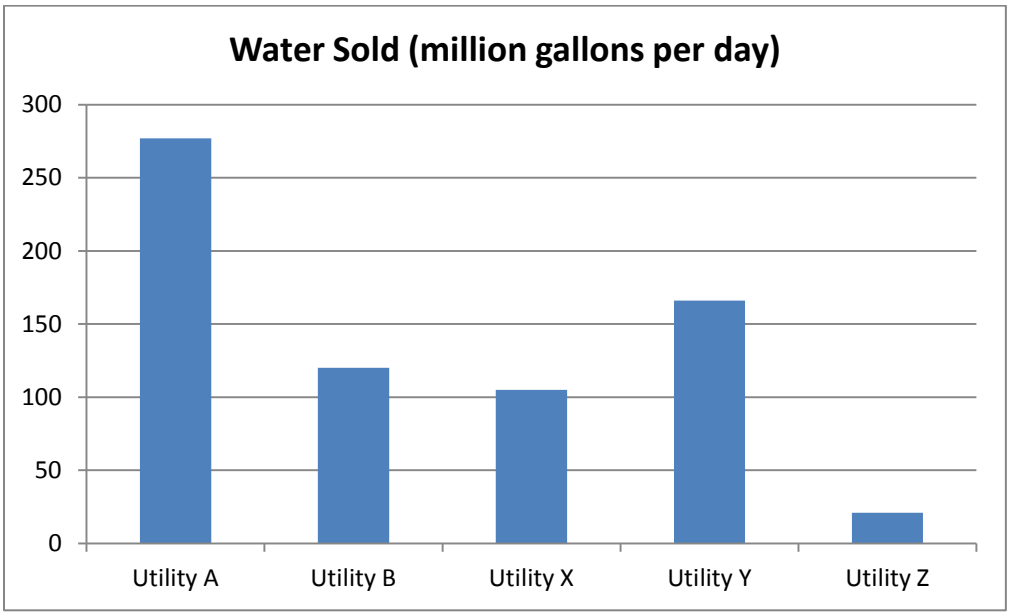


### 2.2.9 How much water do you produce?



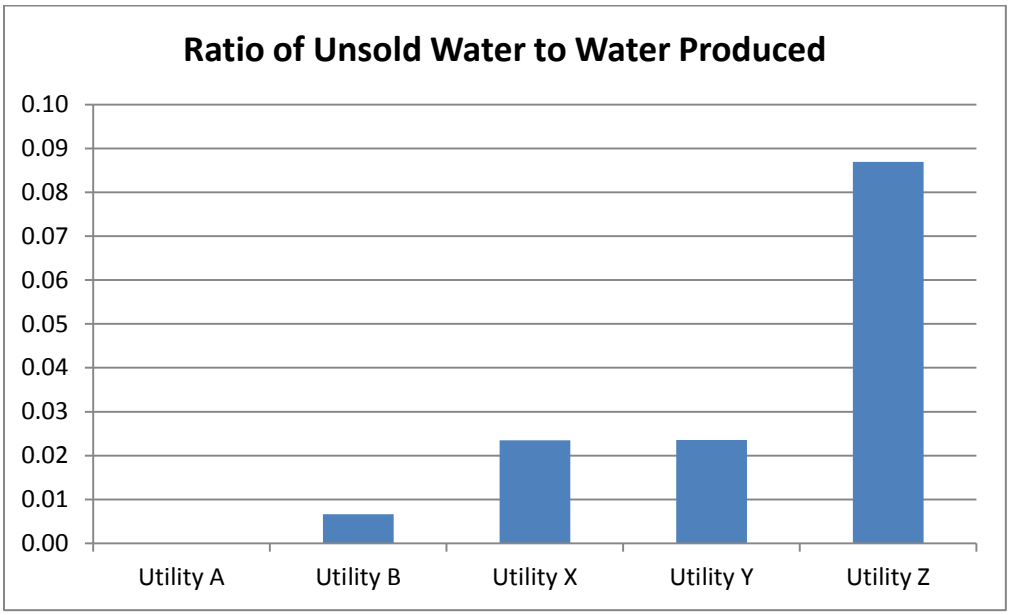

Water production is a direct function of utility size of population served. The amounts above show *total* production and do not take into relative utility size.

### 2.2.10 How much water do you sell?




Utility X did not include wholesale water in its total water sold.

### 2.2.11 What is your amount of unsold water?

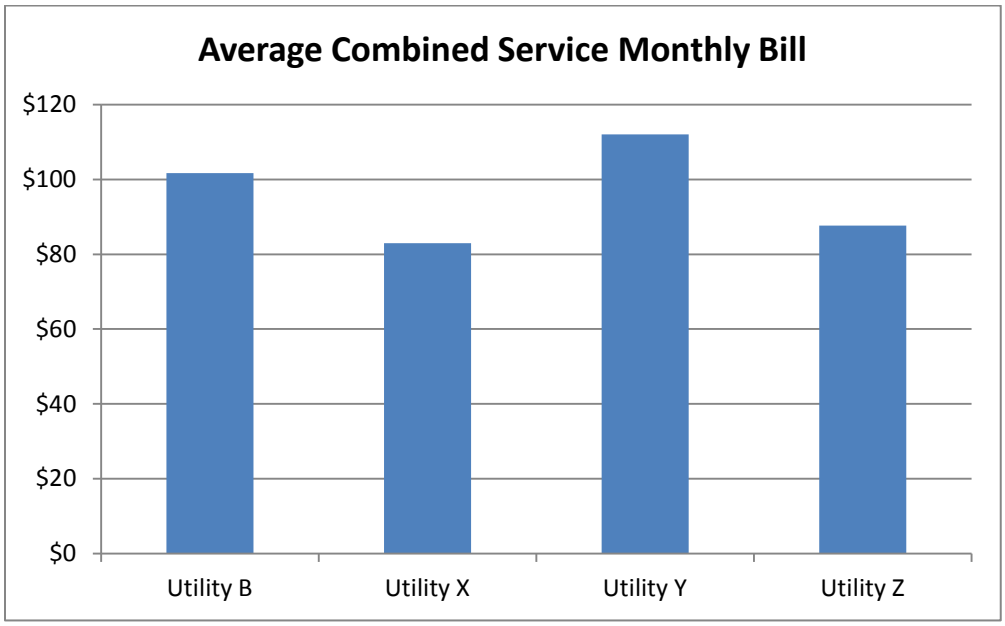



### 2.2.12 What is your water revenue bond rating?

| Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|
| AAA | AA+, Aa1 | AAA | AAA | AA |

High performing utilities stressed the importance of high bond ratings in maintaining a robust capital improvement program while managing rates. Utility Z is lower due to high unemployment in the community.

### 2.2.13 What is your average combined service monthly bill?




Utility A is a wholesale distributor therefore an average monthly bill would not be comparable to the other utilities.

### 2.2.14 What business functions are performed by a city-wide department that you pay for?

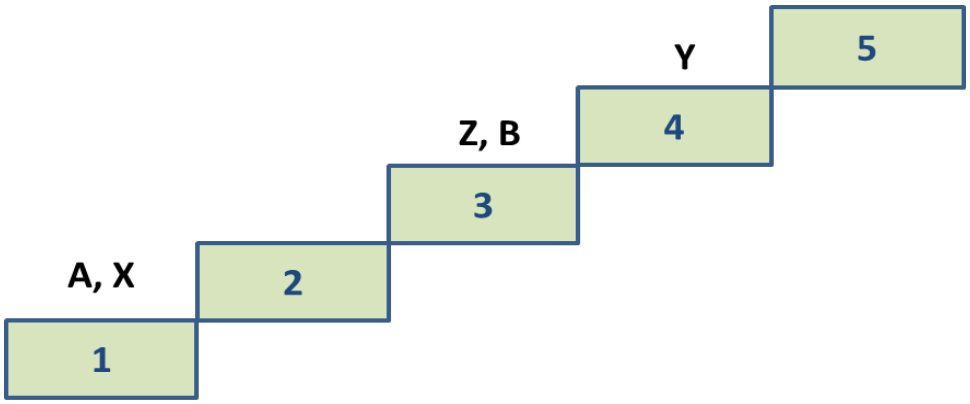
| | Business functions performed by city-wide departments that are costs to the utility |
|---|---|
| Utility A | Finance, Purchasing, IT, Communications |
| Utility B | Some IT services, some procurement services (public works, materials), Fleet Maintenance, Workers Compensation and Property Claims, some HR, Legal |
| Utility X | IT, Fleet, HR |
| Utility Y | Fleet, Purchasing, Public Works, Finance, Attorney |
| Utility Z | Purchasing, Attorney, HR |

Each of the utilities surveyed is to some extent integrated with city-wide services and also had duplicate positions within the utility to oversee each of the services provided. Utility Z had the highest degree of autonomy, with an independent oversight board to approve decisions.

## 2.3 Functional Area 2: Asset Management

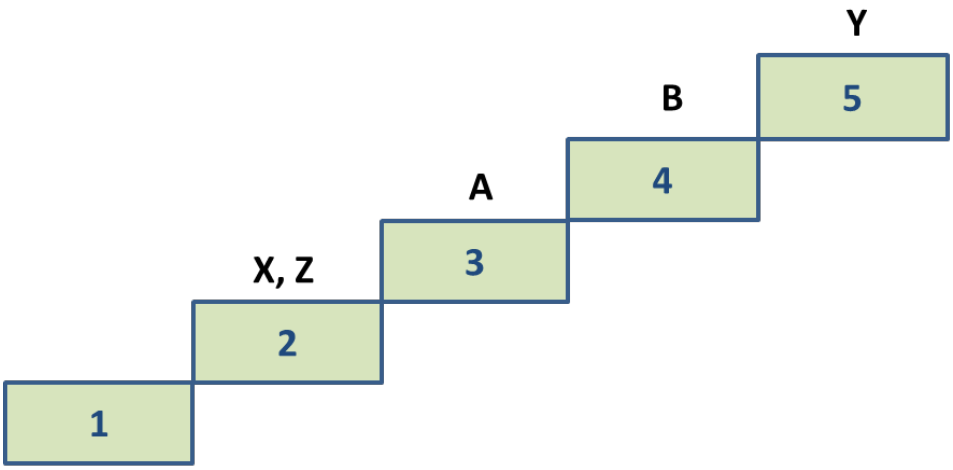
### 2.3.1 Do you have asset management plans for each asset type?

**Self-rated Level of Maturity – Asset Management Plans**




### 2.3.2 Do you have an operations and maintenance strategy?

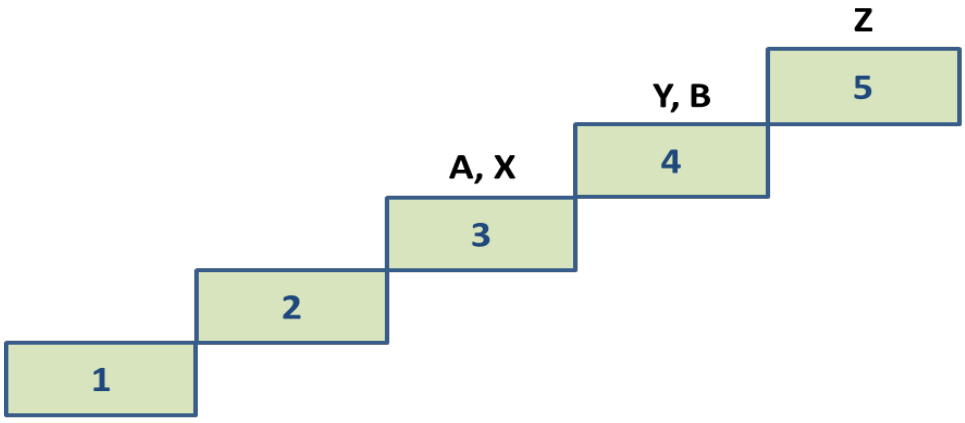
**Self-rated Level of Maturity – O&M Strategy**




Utility Y's performance is attributed to an asset management team working directly with the maintenance organization to develop and manage a Reliability Centered Maintenance (RCM) program.

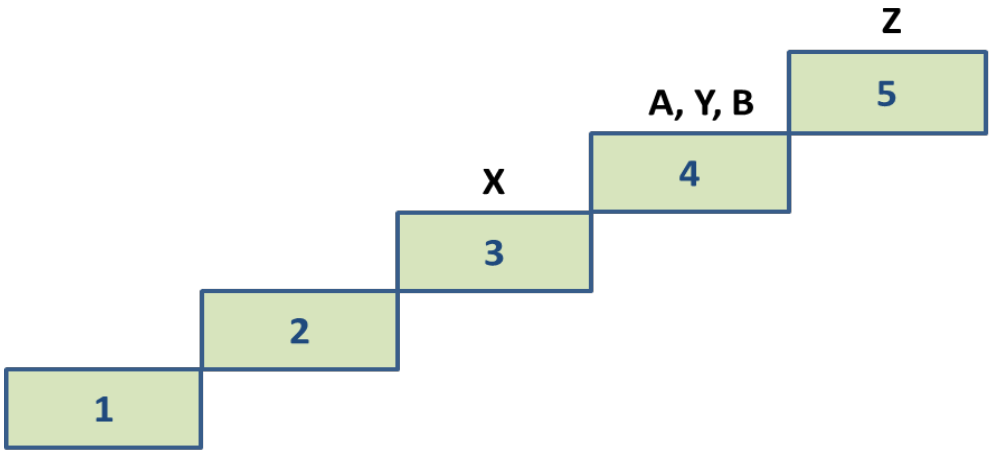
### 2.3.3 Do you manage rolling stock in a Computerized Maintenance Management System (CMMS) or inventory system?

**Self-rated Level of Maturity – Management of Rolling Stock**



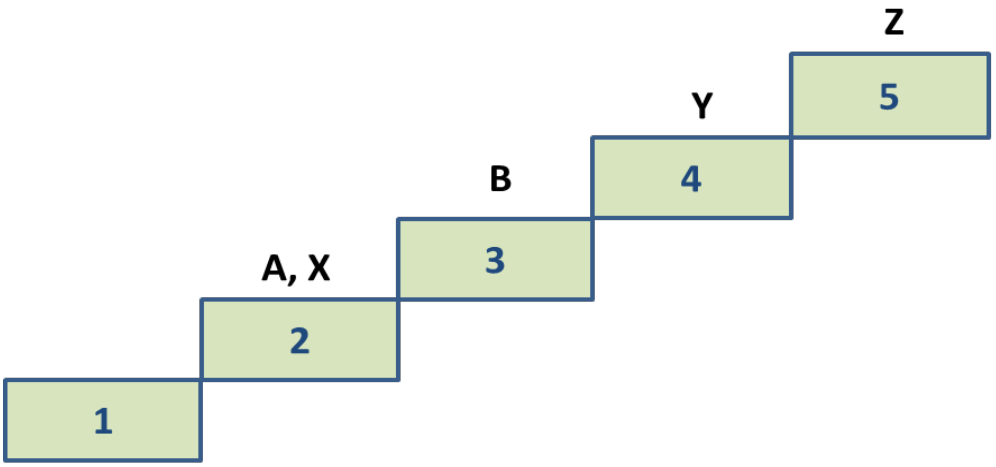

### 2.3.4 Do you track losses of inventory using a reporting system?

**Self-rated Level of Maturity – Inventory Tracking**



### 2.3.5 Do you link assets into your asset management system as part of a commissioning process?

**Self-rated Level of Maturity – Linkage of Assets During Commissioning**




Utility Z has an IT section that provides end user application support and robust data sharing between CMMS systems and other applications.

### 2.3.6 How do you review and improve the performance of assets?

| | Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|---|
| **Methodologies Used** | Performance Data | Data History | Life Cycle Cost, Data History, Performance Data, Modeling, Benchmarking | Data History | Data History |

Utility X utilizes the most robust combination of methodologies to asses and improve the performance of its assets. However, its approach is not documented and formalized as part of an Operations & Maintenance strategy, or to form asset management plans by asset class.

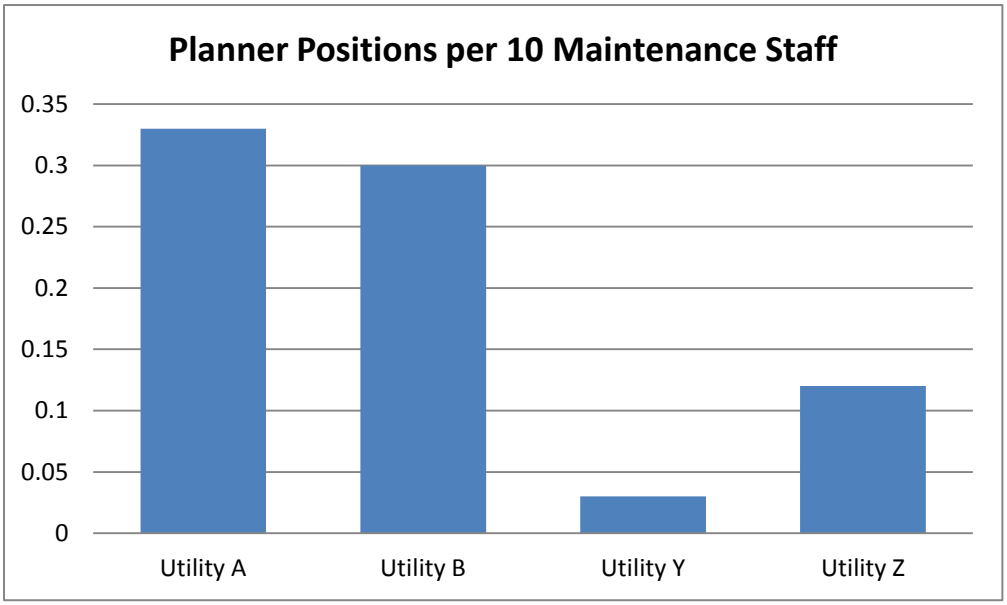
### 2.3.7 How do you determine the estimated useful life of an asset?

All benchmarked utilities are using historical asset failures to estimate useful life of their assets.

### 2.3.8 How are assets in the fixed asset register being depreciated?

All benchmarked utilities depreciate their fixed asset register using the straight-line depreciation method.

### 2.3.9 How many planner/scheduler positions do you have per 10 maintenance staff (including crew chiefs)?




Utility Y has focused efforts on improving work practices at the crew level (root cause maintenance practices) and therefore reduced the amount of planners required.

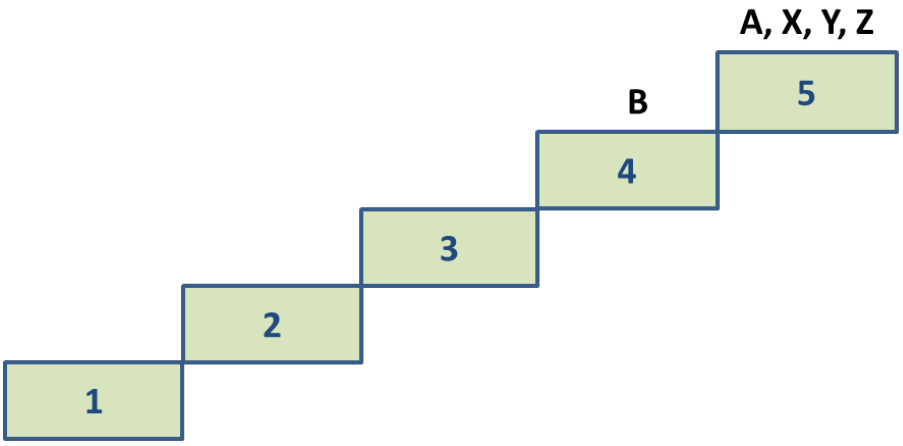
### 2.3.10 How do you manage graffiti on utility properties?

| Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|
| Fencing off properties, paint over walls | Fencing off properties, paint over walls | Fencing off properties, power washing | Paint over walls | Fencing off properties, power washing |

## 2.4 Functional Area 3: Business Operations

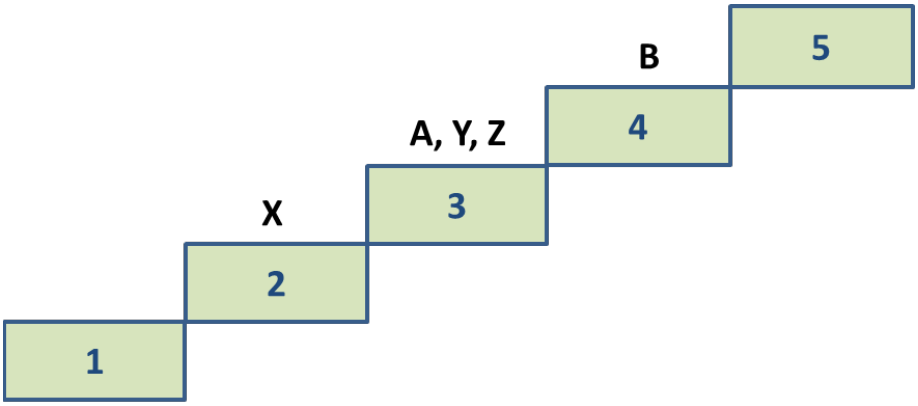
### 2.4.1 Do you perform long-term financial planning?

**Self-rated Level of Maturity – Long-Term Financial Planning**



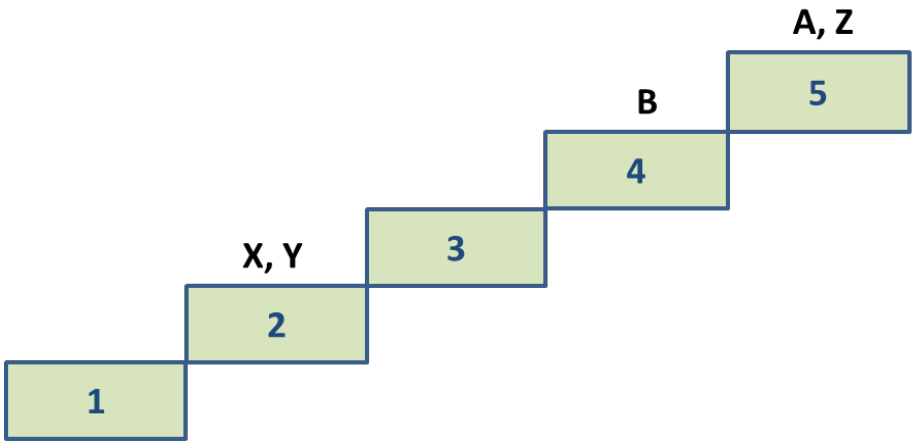

### 2.4.2 Do you perform risk management planning?

**Self-rated Level of Maturity – Risk Management Planning**



### 2.4.3 Do you perform claims (property and injury) analysis and proactive claims avoidance?

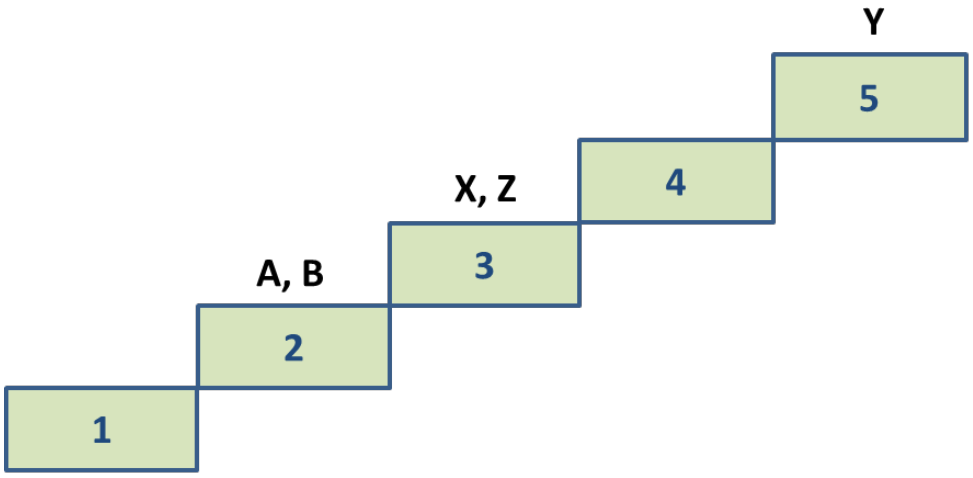
**Self-rated Level of Maturity – Claims Analysis and Avoidance**




For high performing utilities (A and Z), claims management is a utility function, not a city-wide provided service. This allows for increased customer satisfaction through faster claims resolution.

### 2.4.4 Do you maintain a performance measurement tracking system?

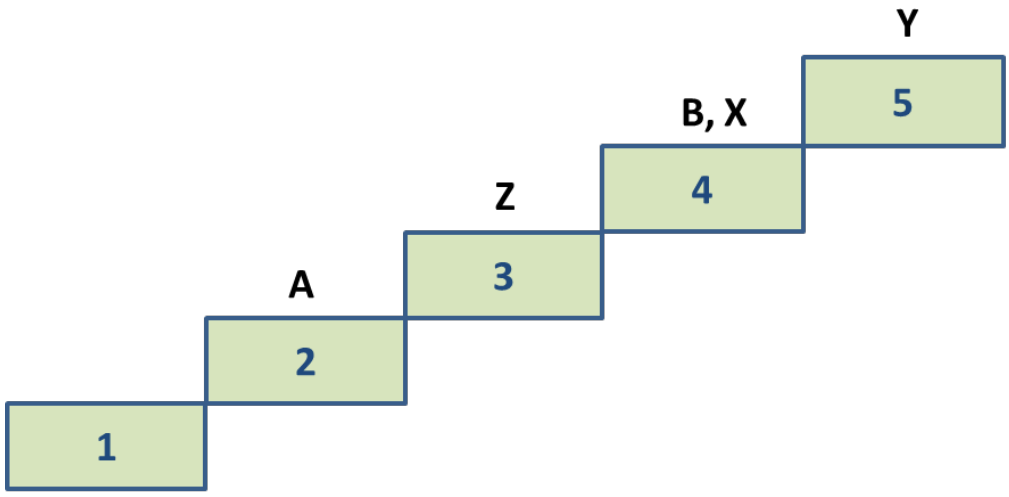
**Self-rated Level of Maturity – Performance Measurement Tracking**




Utility Y uses both a city and utility-specific performance tracking system for employees. The performance measurement system is forward looking and was implemented as part of their strategic business process. The remaining surveyed utilities use an annual performance review process to review the past year's performance and set goals for the coming year with no relation to an enterprise-wide strategic business plan.

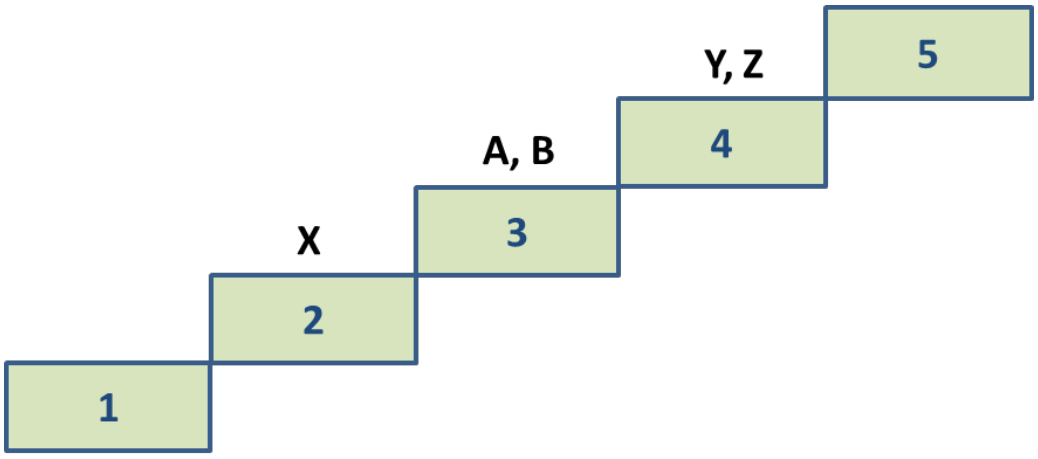
### 2.4.5 Do you have a program for asset management decision-making?

**Self-rated Level of Maturity – Programmatic Asset Management Decision-Making**



### 2.4.6 Do you have a customer involvement strategy?

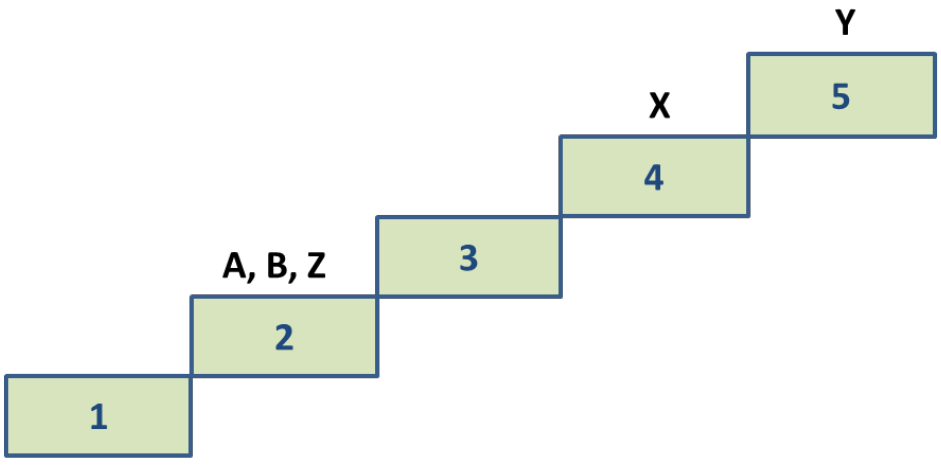
**Self-rated Level of Maturity – Customer Involvement Strategy**




The higher performing utilities (Y and Z) have a strategy designed to include not only retail customers, but also other stakeholders, such as wholesale customers, regulators, vendors, and other special interest groups. Utility Z developed a public information document to specifically educate rate payers on how investing in the water system effects their future.

### 2.4.7 Do you calculate a return on investment in assets when planning for your Capital Improvement Program (CIP)?

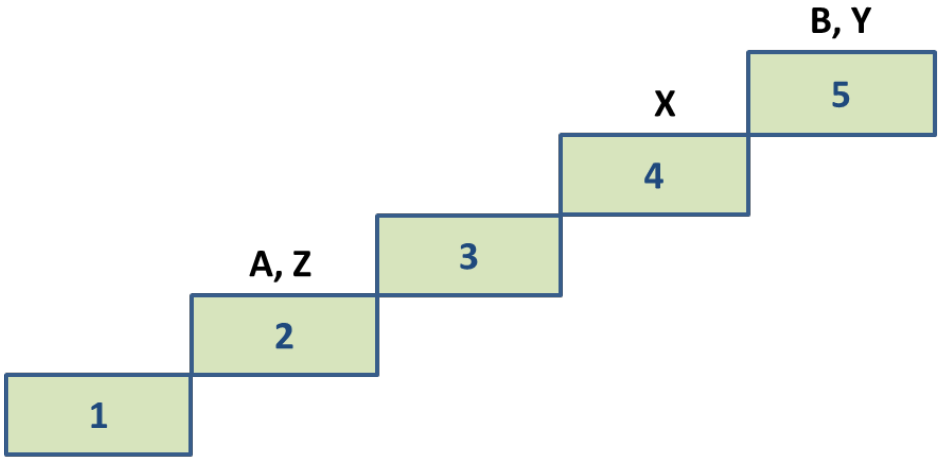
**Self-rated Level of Maturity – Use of Asset ROI in Planning**




Though all of the utilities surveyed are public, utilities X and Y calculate a return on investment (ROI) based on value of assets in order to help prioritize their capital improvement program. Utility Y, in response to policy maker business case requirements, performs an ROI analysis on all capital projects. Utilities X and Y calculate ROIs by quantifying project benefits and weighing them against project costs.

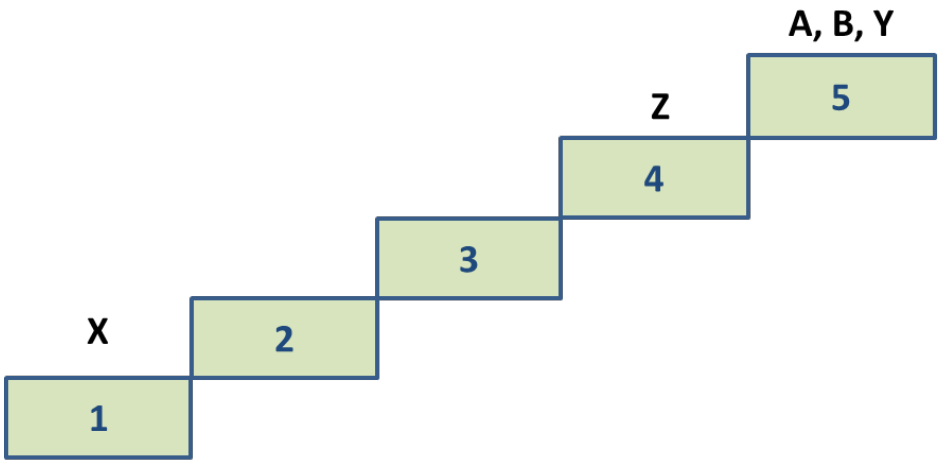
### 2.4.8 Do you use a Triple Bottom Line Index?

**Self-rated Level of Maturity – Use of Triple Bottom Line Index**




### 2.4.9 Do field staff have credit cards and what are their limits?

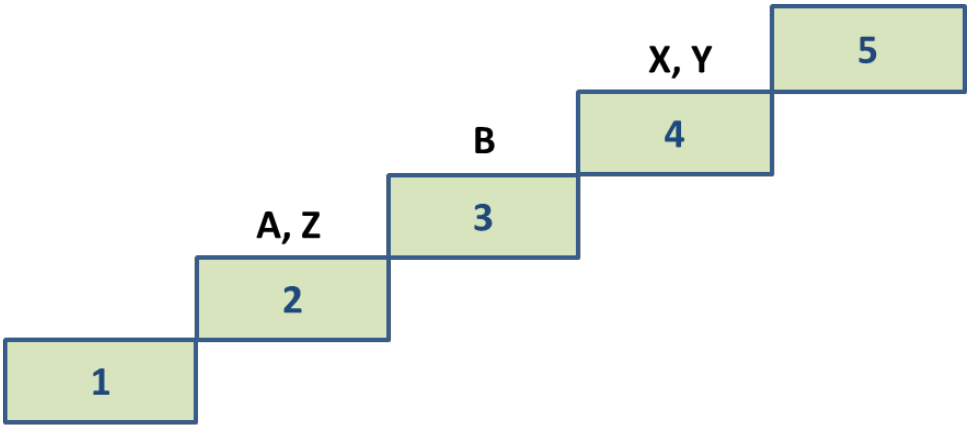
**Self-rated Level of Maturity – Credit Card Access**




Utilities with a level 5 maturity ranking give field staff credit cards with high limits (i.e., $5,000).

### 2.4.10 Do you have a performance management system? (Indicate whether at the employee and/or organizational level)

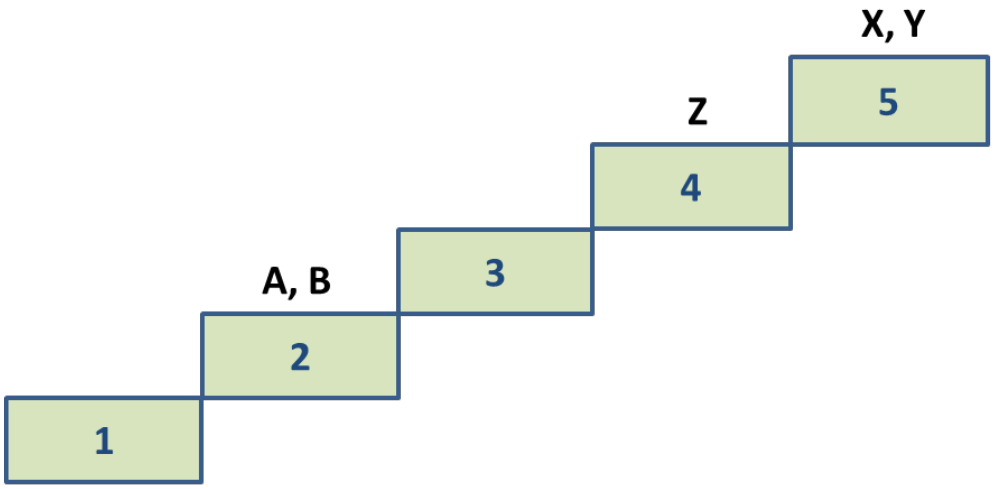
**Self-rated Level of Maturity – Performance Management System**




Utilities A, B, X and Z have a performance management system at an employee level. Utility Y has an organizational performance system.

### 2.4.11 Do you have an enterprise wide regulatory management system or function?

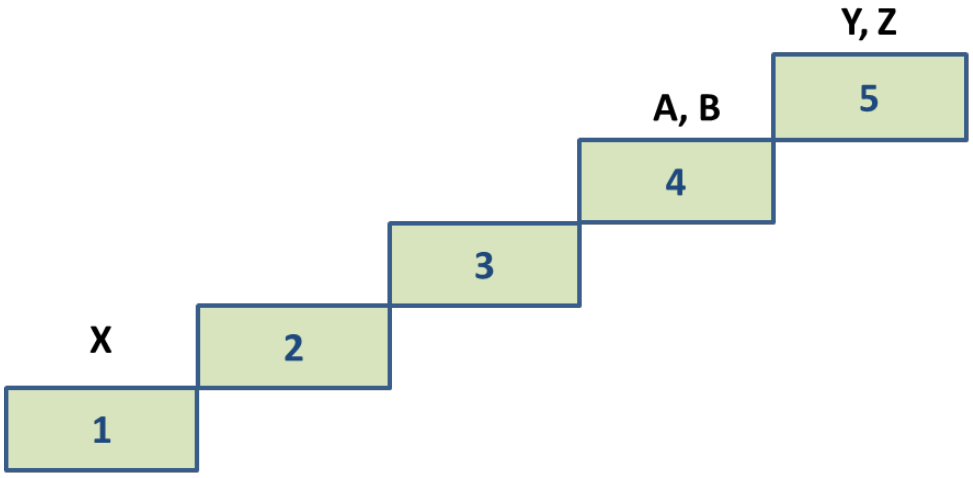
**Self-rated Level of Maturity – Enterprise Wide Regulatory Management**




Utilities X, Y, and Z have a fully developed regulatory management system resulting in a consistent approach to regulatory compliance. While much of the accountability lies at the LOB level, each has an enterprise-wide strategy for interface with various regulating agencies, including programs to build relationships and stay ahead of upcoming rule and policy changes. Utilities A and B also maintain good relationships and communication with regulators, but do not have a corporate-level strategy to facilitate this.

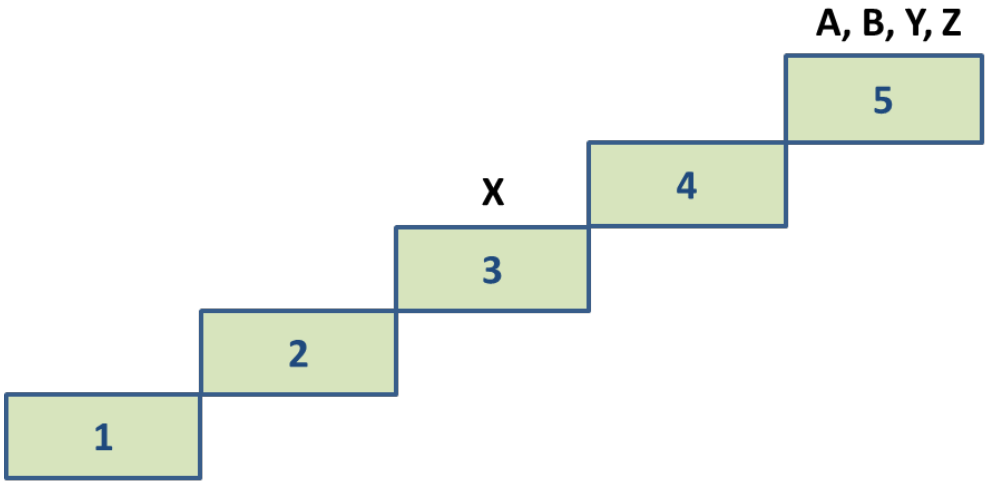
### 2.4.12 Do you have a corporate risk policy?

**Self-rated Level of Maturity – Corporate Risk Policy**




### 2.4.13 Do you have a centralized procurement department?

**Self-rated Level of Maturity – Centralized Procurement**



### 2.4.14 How often do you update your strategic plan?

| Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|
| As-Needed | As-Needed | As-Needed | Yearly | Bi-Annual |

Utility Y recently shifted to a more robust strategic planning process, centralizing implementation within the organization at a very high level (assistant director level). This also includes a more dynamic framework for updating the strategic plan. Utility Y did not describe this process as a completely new plan annually; rather it assesses progress and adapts the plan for unforeseen changing circumstances to ensure its plan evolves with the organization and continues to meet the needs of its customers.

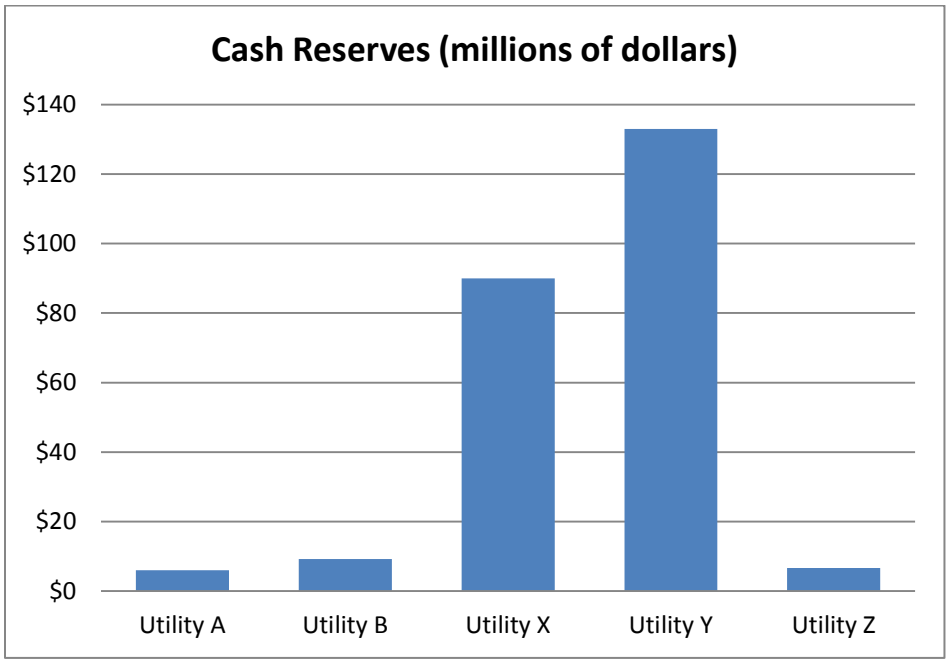
### 2.4.15 How often do you evaluate rates?

| Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|
| Yearly | Bi-annually | Yearly | Bi-annually | Yearly |

### 2.4.16 How often do you perform cash flow projections for capital and Operations and Maintenance (O&M) funds?

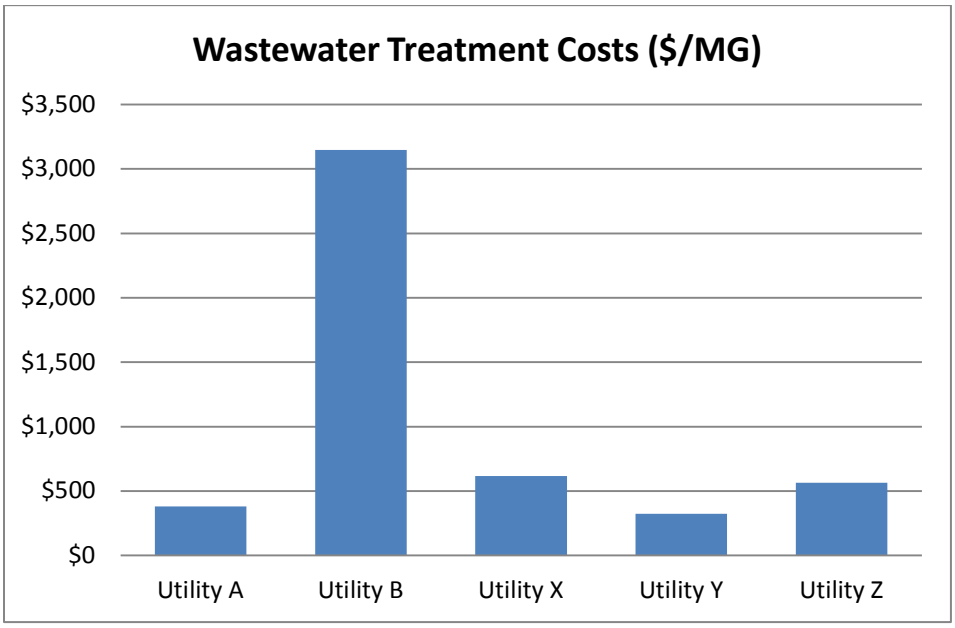
| Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|
| Three times a year | Monthly | Quarterly and yearly | Monthly | As-needed, bi-annually at a minimum |

### 2.4.17 What are your current cash reserves?




Utility Y has a mandated cash reserve policy and Utility X has a quarterly billing cycle, which requires both to have higher cash reserves.

### 2.4.18 What is your annual wastewater treatment facility cost per million gallons (MG)?



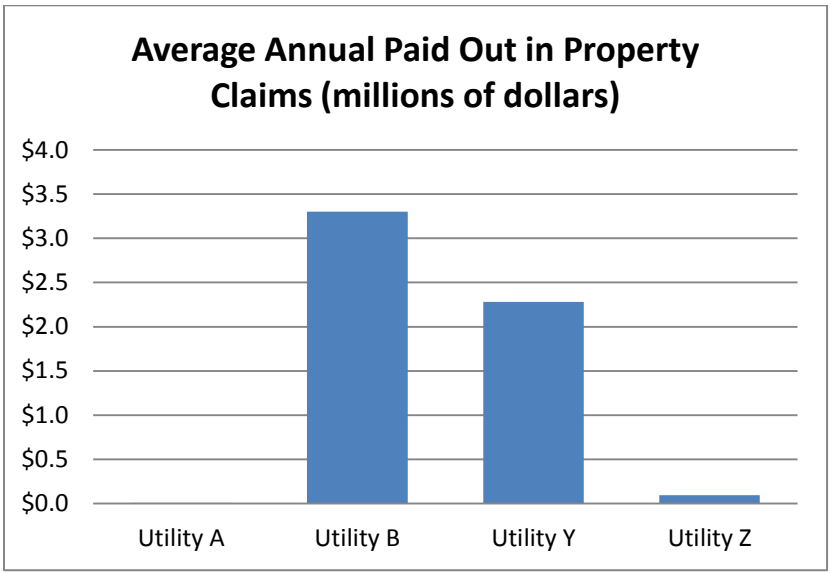

Utility B does not perform wastewater treatment and pays another entity for this service. Utility B did not provide the total wastewater flows. The cost for Utility B in the graph above is based on total cost of service divided by water sold and therefore could be artificially high.

### 2.4.19 What resources are being used to manage permits?

| Utility A | Utility B | Utility X | Utility Z |
|---|---|---|---|
| Regulation and Enforcement Group | Regulatory group by LOB | Regulatory Compliance Office | General Manager, outside contractors, senior leadership, Treatment Regulation Specialist |

Both Utilities A and X cited a centralized regulatory compliance function to provide an internal compliance check and assurance of consistent interactions with regulators.

### 2.4.20 What is your average annual amount paid out in property claims for the past five years?

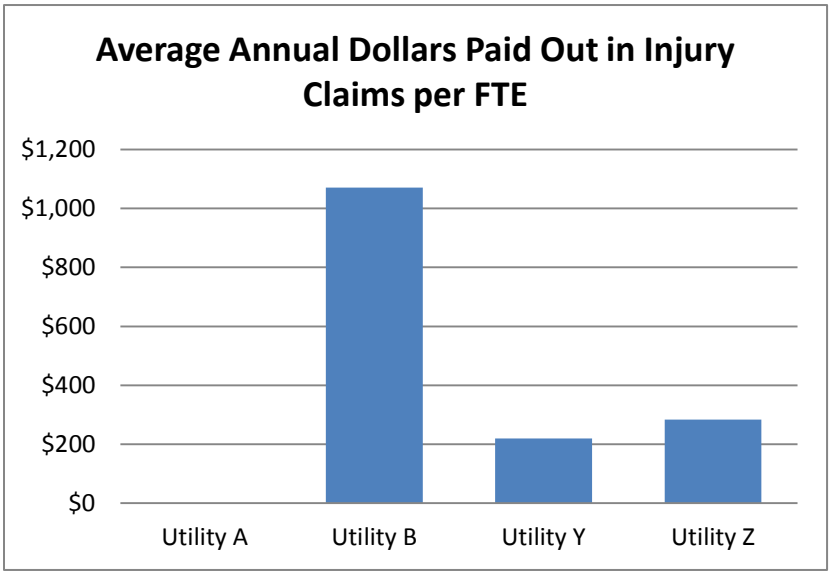



Utility A and Z resolve claims internally (as opposed to using a city-wide service), which has resulted in significantly lower total costs for property claims.

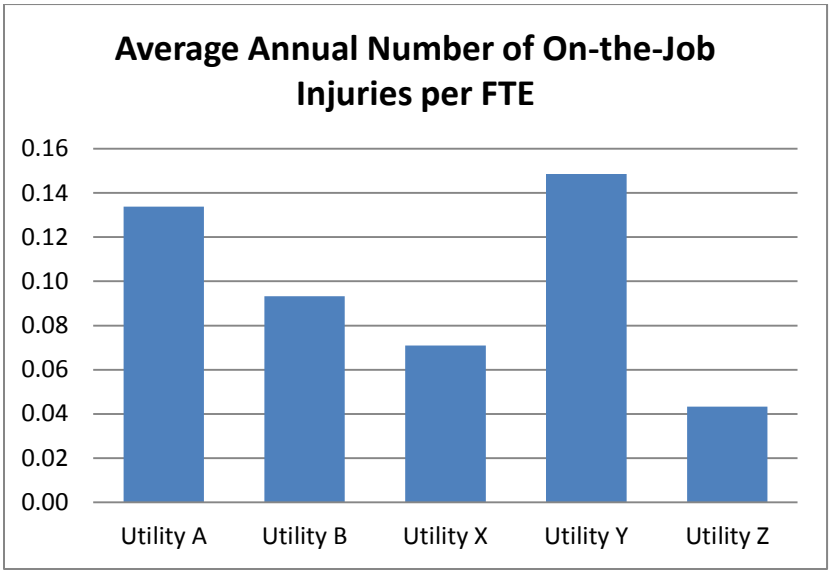
### 2.4.21 What is your average number of annual employee injury claims for the past five years?

Only two utilities provided this information. On average, Utility A has 0.2 injury claims per year and Utility Z has 1 injury claim per year.

**2.4.22 What is your average annual amount paid out in injury claims for past the five years?**



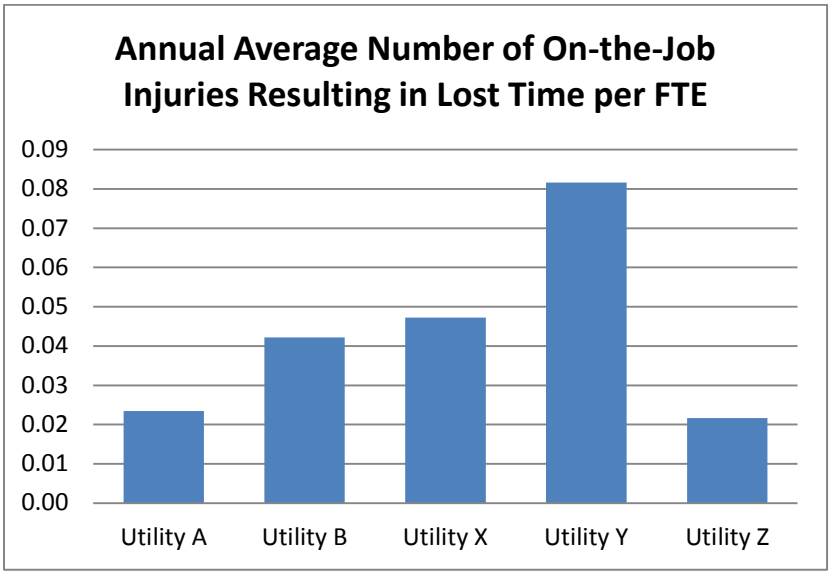

**2.4.23 What is your average number of on-the-job injuries, yearly, for the past five years?**



### 2.4.24 What were your top three categories of on-the-job injuries last year?

| Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|
| 1) Cuts and lacerations<br>2) Sprains and strains | 1) Trunk - back, lungs, chest, abdomen, heart<br>2) Upper extremity - hand, elbow, fingers, thumb, wrist, shoulder<br>3) Lower Extremity - ankle, foot, toe, knee | 1) Sprains and strains<br>2) Falls<br>3) Line of fire | 1) Repetitive motion<br>2) Falls<br>3) Sprains and strains | 1) Falls<br>2) Sprains and strains;<br>3) Motor vehicle accidents |

### 2.4.25 What is your average number of on-the-job injuries resulting in lost time yearly for the past five years?



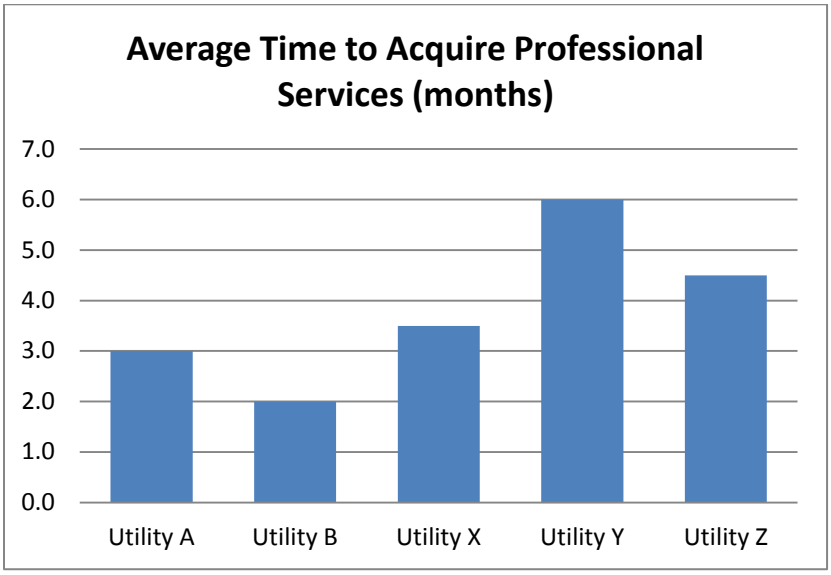

### 2.4.26 At what monetary threshold is a contract required?

| Utility A | Utility B | Utility X | Utility Z |
|---|---|---|---|
| $5,000 | $35,000 for consultants<br>$90,000 for construction | All expenditures | All expenditures (short form for contracts less than $30,000) |

### 2.4.27 What signing authorities are required at what monetary thresholds?

| | Monetary thresholds |
|---|---|
| **Utility A** | $5,000-$50,000 Purchasing Designates and some select staff<br>$75,000-$250,000 Purchasing Designates<br>>$250,000 Chief Accounting Officer or Designates |
| **Utility B** | <$10,000 Division Director<br>$10,000-$277,000 Branch Deputy Director<br>>$277,000 Department Director |
| **Utility X** | DPU Director, City Attorney, and Executive Budget Officer must sign all contracts<br>Auditor's office must certify availability of funds<br>Above $20,000 contracts must be competitively bid and approved by City Council |
| **Utility Y** | No signature authority allowed to staff<br>Signature authority is at Municipality Manager or Centralized Purchasing Level |

### 2.4.28 What is the average time to acquire professional services?



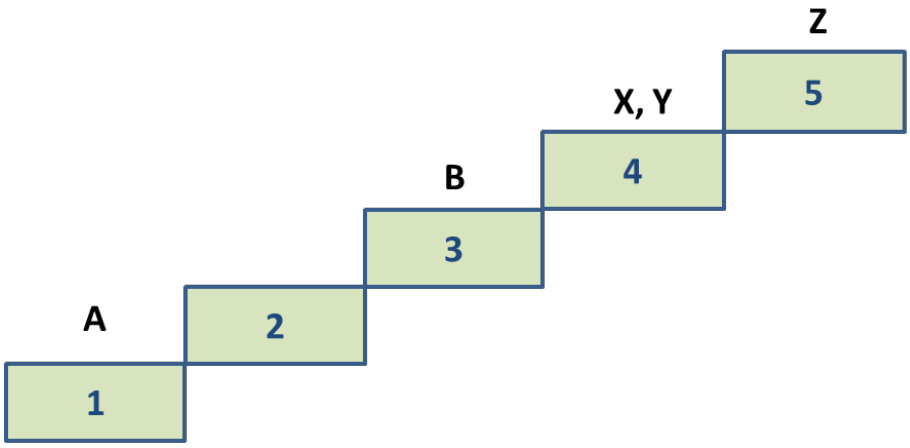

### 2.4.29 What is the average time to acquire materials?

| Utility B | Utility X | Utility Z |
|---|---|---|
| Weekly | 4-6 months | 3-6 weeks |

## 2.5 Functional Area 4: Customer Relations

### 2.5.1 Do you have documented levels of service and metrics for customer relations?

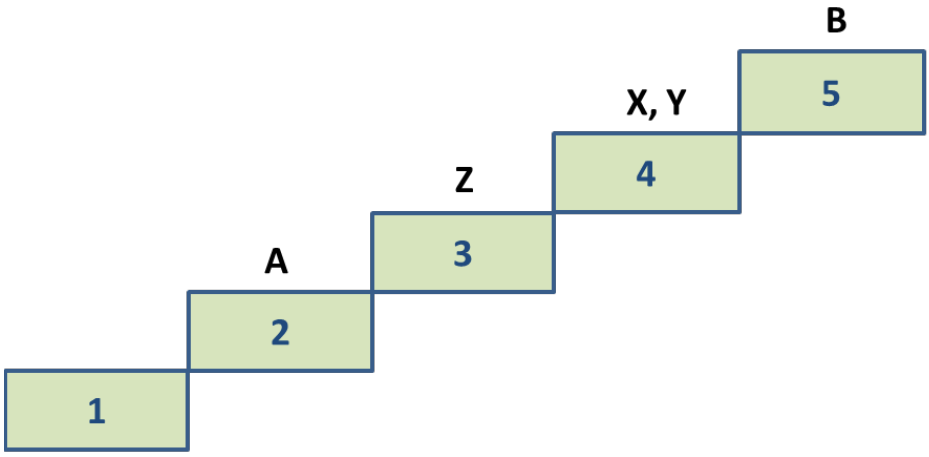
**Self-rated Level of Maturity – Customer Relations Services and Metrics**




Utility Z recently adapted customer service level metrics at the executive level to improve its customer service. The highest performing utilities had both response *and* resolution metrics, while mid-level performers had response metrics only.

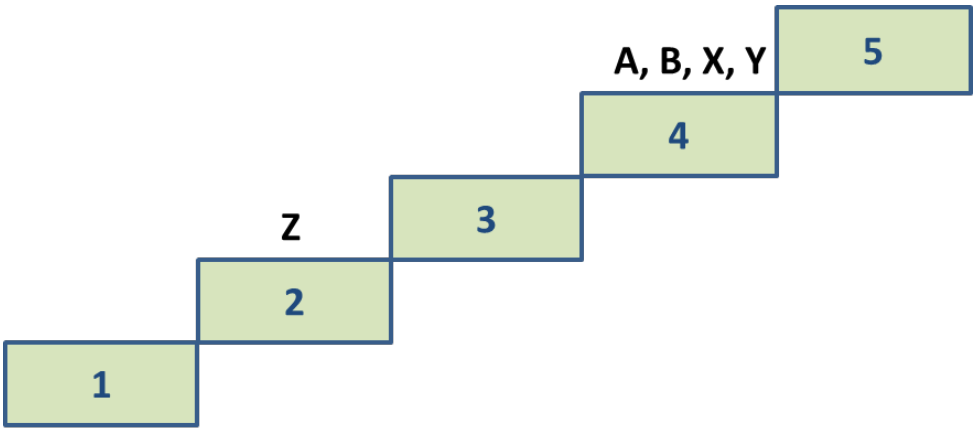
### 2.5.2 Do you have a customer complaint tracking and response system and processes, with metrics?

**Self-rated Level of Maturity – Customer Complaint Tracking and Response System**



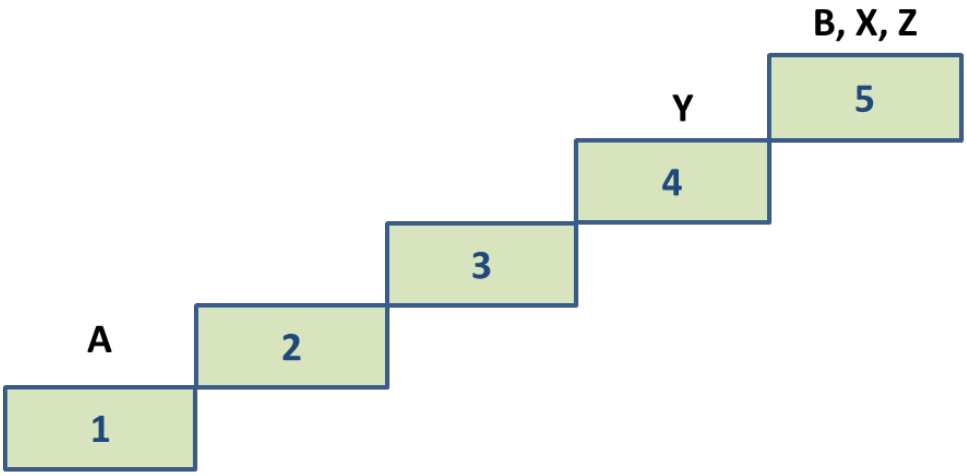
### 2.5.3 Do you maintain a Stakeholder Outreach program?

**Self-rated Level of Maturity – Stakeholder Outreach**




### 2.5.4 Do you have a Customer Review Panel or advisory board?

**Self-rated Level of Maturity – Independent Customer Review or Board**



### 2.5.5 What is your planned work order response time?

| Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|
| > 2 days | > 12 hours | > 12 hours for water<br>4-12 hours for wastewater | > 2 days |

### 2.5.6 What is your unplanned work order response time?

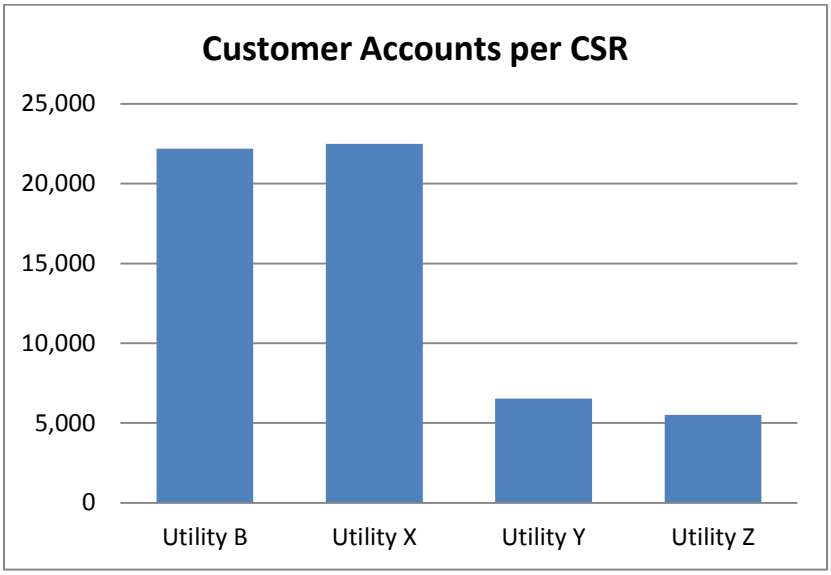
| Utility B | Utility X | Utility Y |
|---|---|---|
| > 2 days | Dependent on nature of work; flooding <1hr | > 12 hours for water<br>4-12 hours for wastewater |

### 2.5.7 How do you perform utility billing?

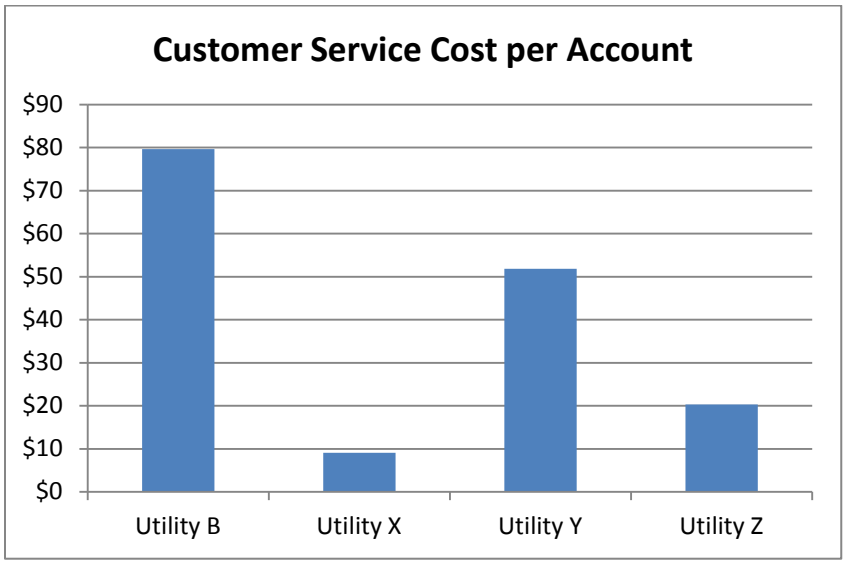
| Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|
| Other department | In-house | In-house | In-house | Outsourced |

All utilities with in-house billing are under city governance.

### 2.5.8 What is your number of customer accounts per Customer Service Representative (CSR)?

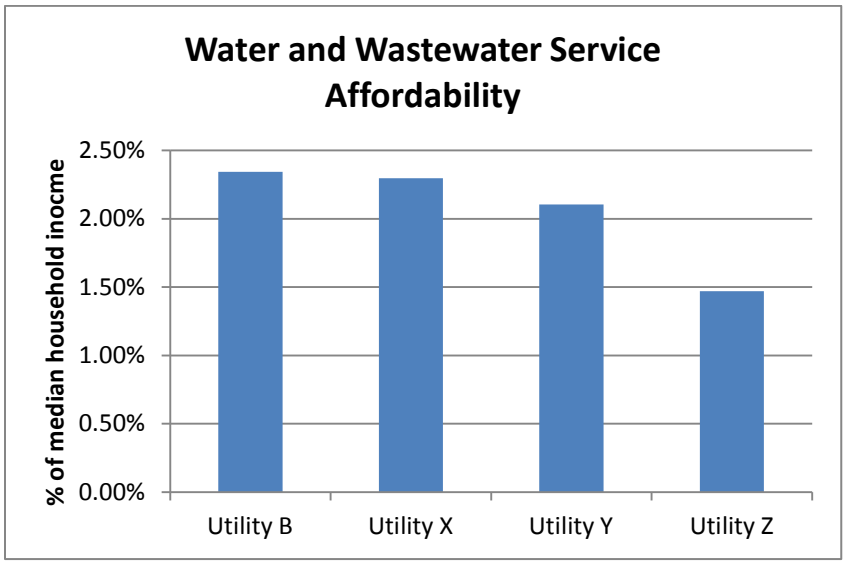


### 2.5.9 What is your cost for customer service per account?




Utility X uses a 90-day billing cycle (in comparison to a 60-day billing cycle), which reduces costs.

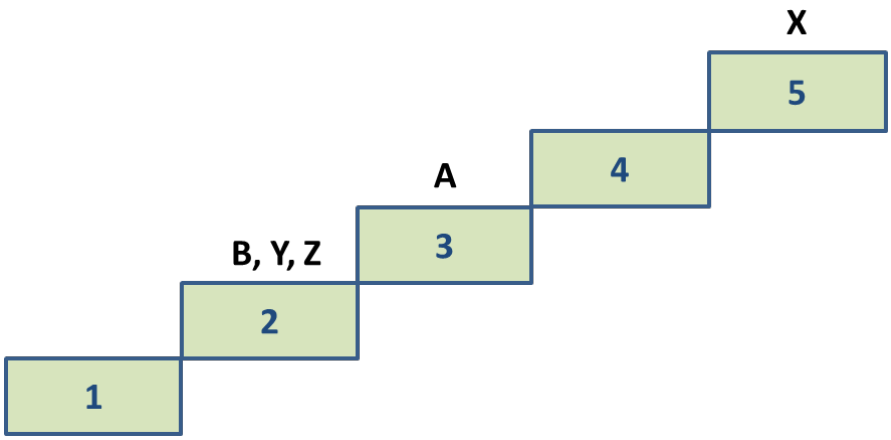
### 2.5.10 What is your water and wastewater service affordability (expressed by average monthly bill multiplied by 12 months as percent of median household income)?



## 2.6 Functional Area 5: Engineering

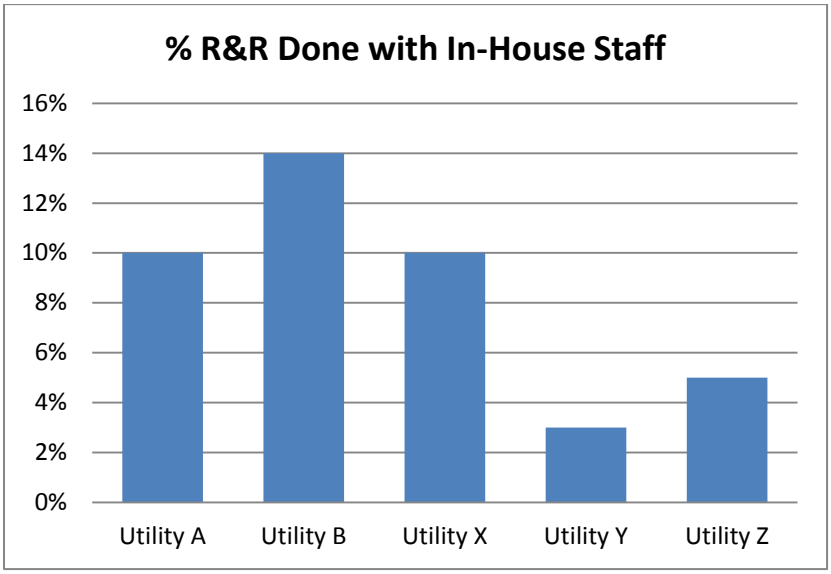
### 2.6.1 Is all planning done through a central planning group?

**Self-rated Level of Maturity – Centralized Planning Group**

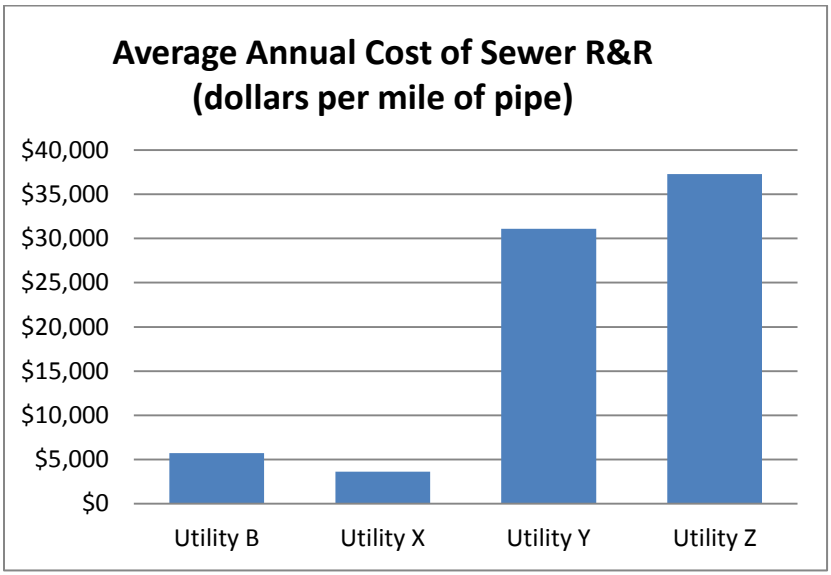



Utility X develops strategic plans and asset management plans through a centralized planning group that works with the different lines of business to meet their unique needs. This allows for the development of plans using a standard process to increase efficiencies and plan effectiveness while still accounting for variations across the lines of business.

### 2.6.2 What percent of rehabilitation and replacement (R&R) is done with in-house staff?

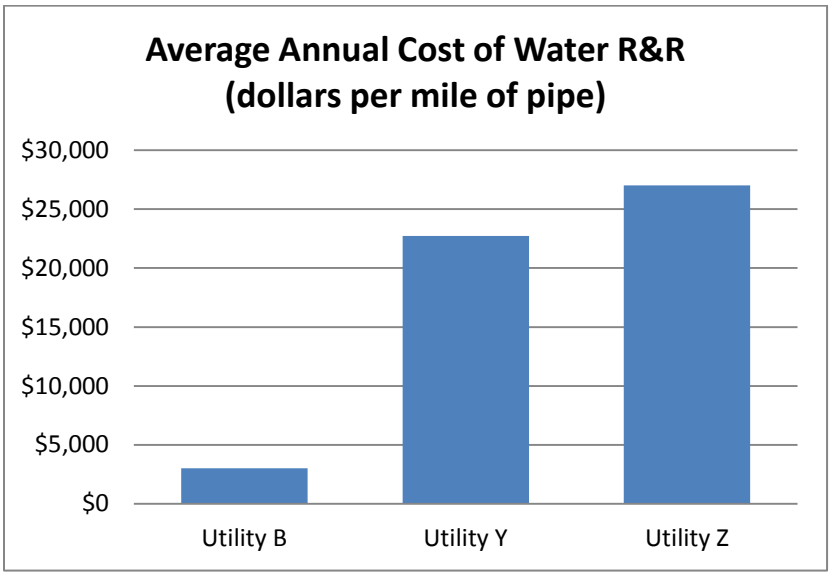


### 2.6.3 How much is spent for sewer R&R on an annual basis?




Utility A collects wastewater from municipal systems, and so does not provide a uniform comparison. Therefore data for it is not included.

### 2.6.4 How much is spent for water R&R on an annual basis?




Utility X works with other jurisdictions to maintain transmission and distribution systems, and the portion of the system it maintains varies on an annual basis. Utility A distributes water to municipal transmission and distribution systems, and so does not provide a uniform comparison. Therefore data for both utilities is not included.

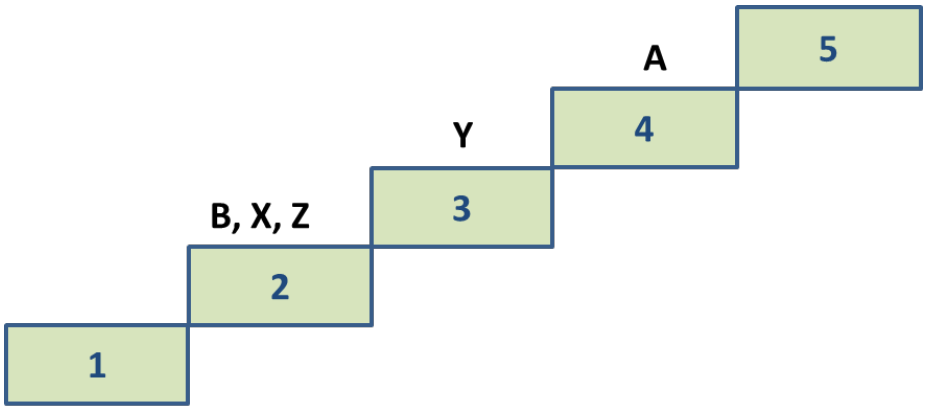
### 2.6.5 How are design standards managed?

| Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|
| In-house | Standards are managed by Engineering Group | In-house collaboratively with other city departments | City Engineering | In-house with stakeholder input |

## 2.7 Functional Area 6: Information Technology

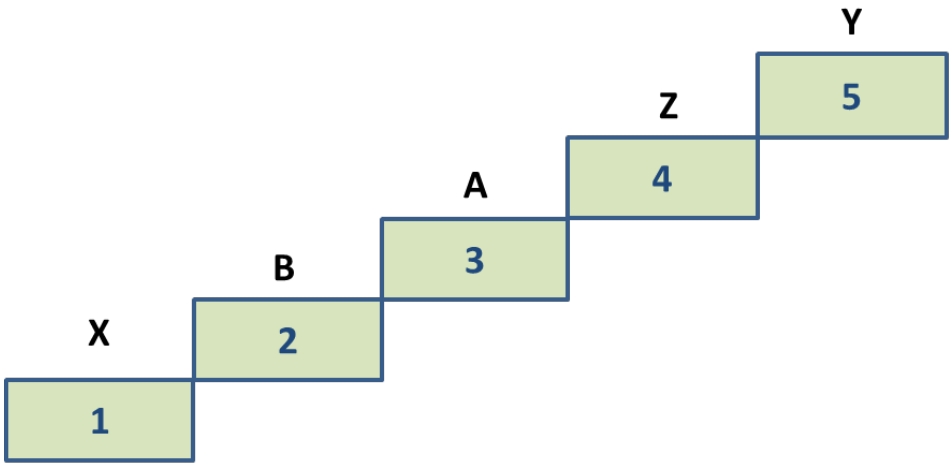
### 2.7.1 Do you have an enterprise wide document management system?

**Self-rated Level of Maturity – Enterprise Wide Document Management**




### 2.7.2 Do you have an Information Technology Master Plan?

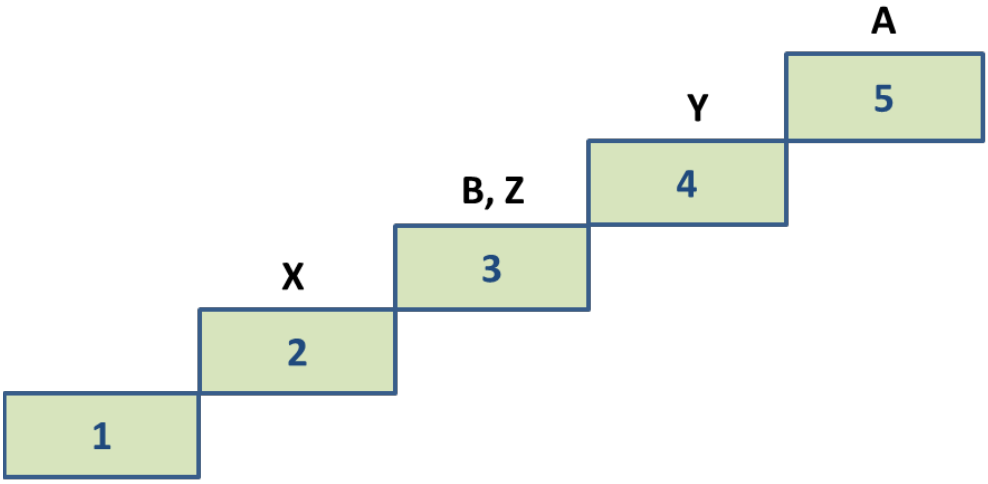
**Self-rated Level of Maturity – Information Technology Master Plan**




Utility Y and Z have plans that monitor the life-cycle of hardware and software applications. The plans use asset management concepts for IT assets to enhance usability for key users and ensure the maximum possible interface between systems.

### 2.7.3 Do you have a standard process for on-boarding an IT project?

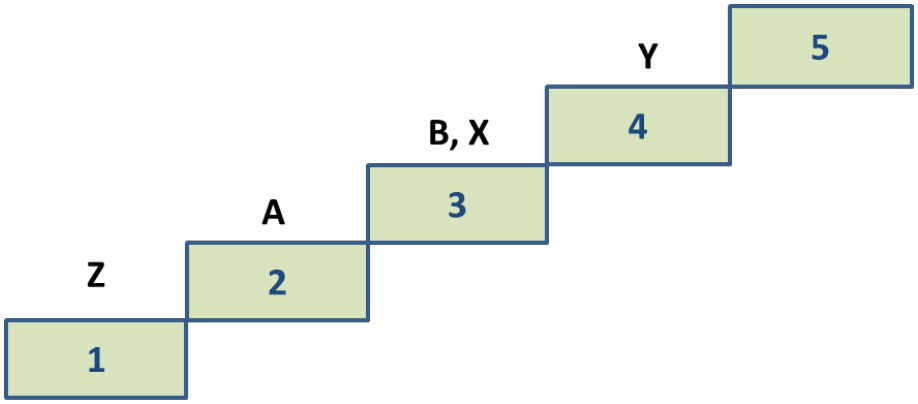
**Self-rated Level of Maturity – IT On-boarding**




The IT section for Utility A has an end user focus, demonstrated by a high rating from staff members.

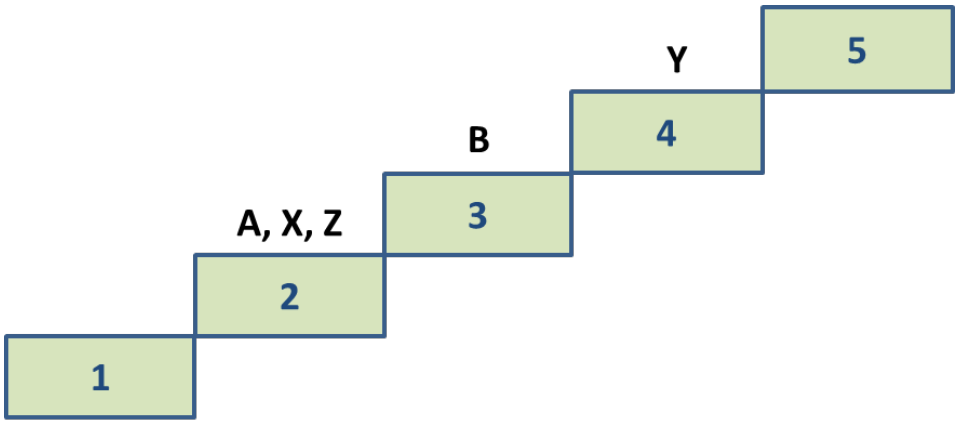
### 2.7.4 Do you have a data governance program in place?

**Self-rated Level of Maturity – Data Governance**



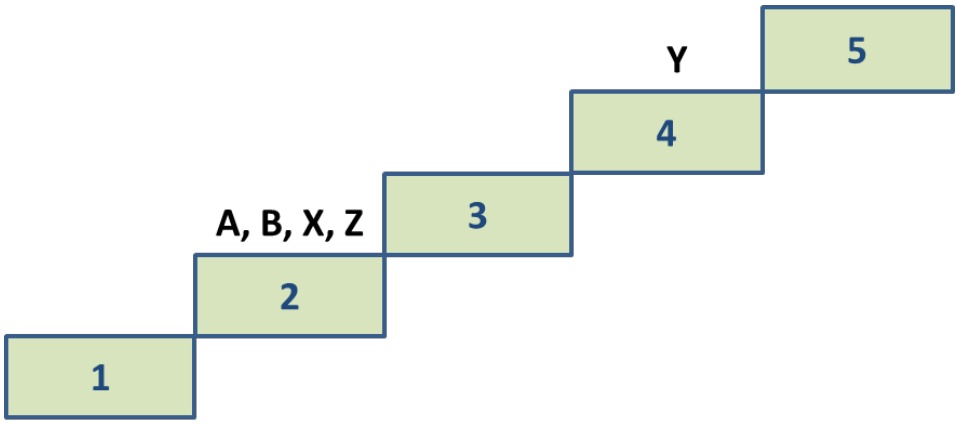
### 2.7.5 Do you use laptops, tablets or handhelds in the field?

**Self-rated Level of Maturity – Use of Mobile Devices**



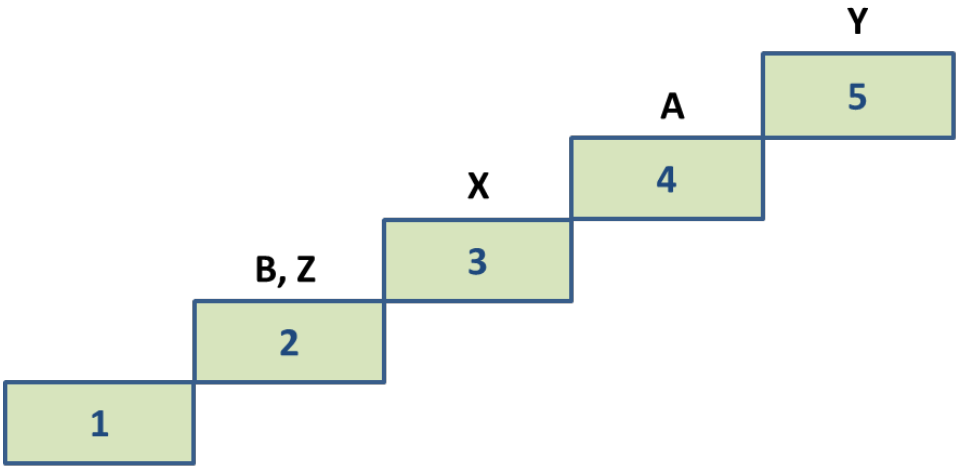

### 2.7.6 Do you use business intelligence dashboard systems?

**Self-rated Level of Maturity – Use of Business Intelligence Systems**



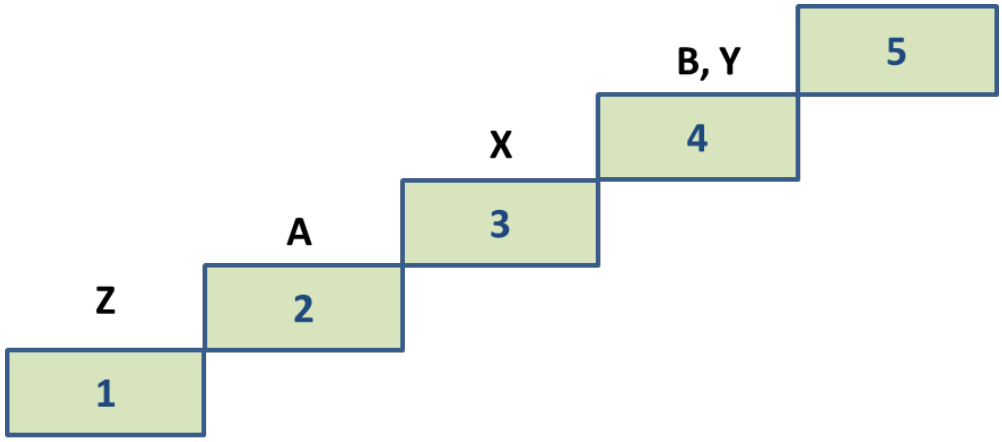
### 2.7.7 Do you document standard business processes?

**Self-rated Level of Maturity – Documentation of Standard Business Processes**



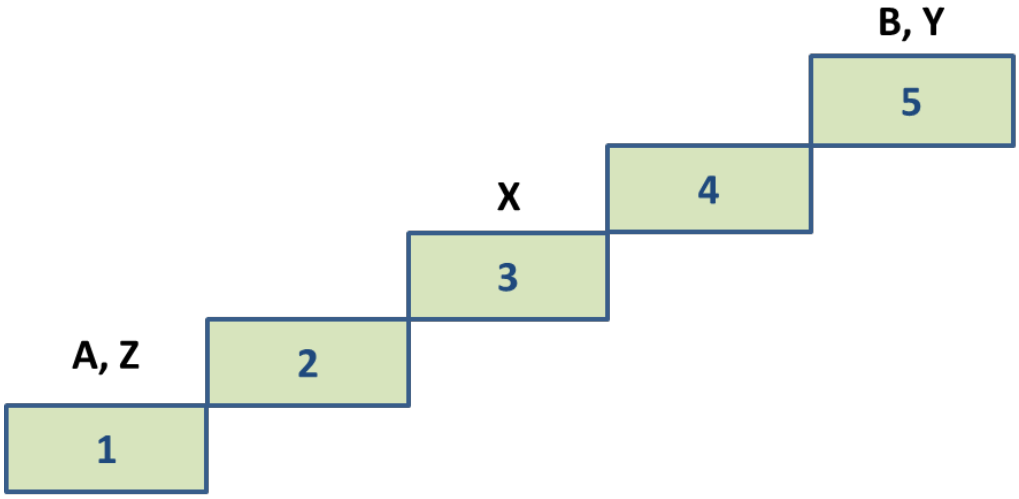

### 2.7.8 Do you have mobile mapping capabilities?

**Self-rated Level of Maturity – Mobile Mapping Capabilities**



### 2.7.9 Do you maintain an external GIS presence?

**Self-rated Level of Maturity – External GIS Presence**

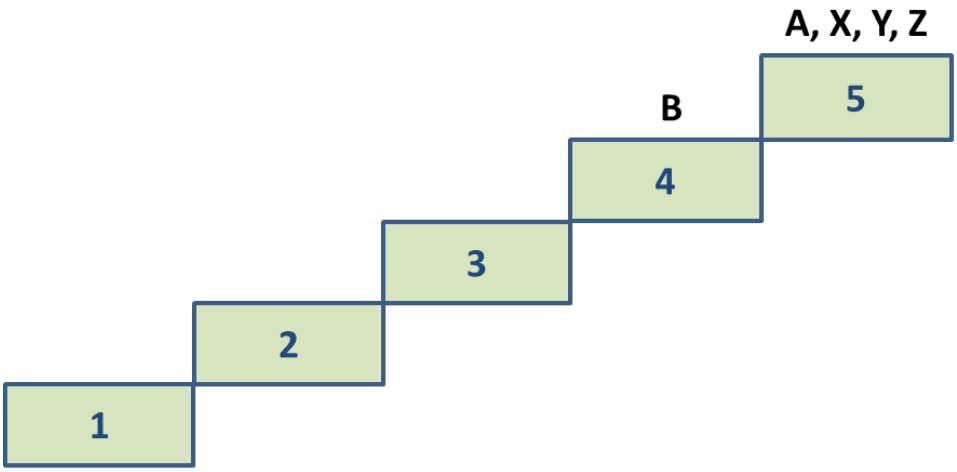



An external GIS presence allows for the public, and more importantly the development community, to access the utility's maps for information on levels of infrastructure, etc. in a given neighborhood or industrial area.

## 2.8 Functional Area 7: Organizational Development

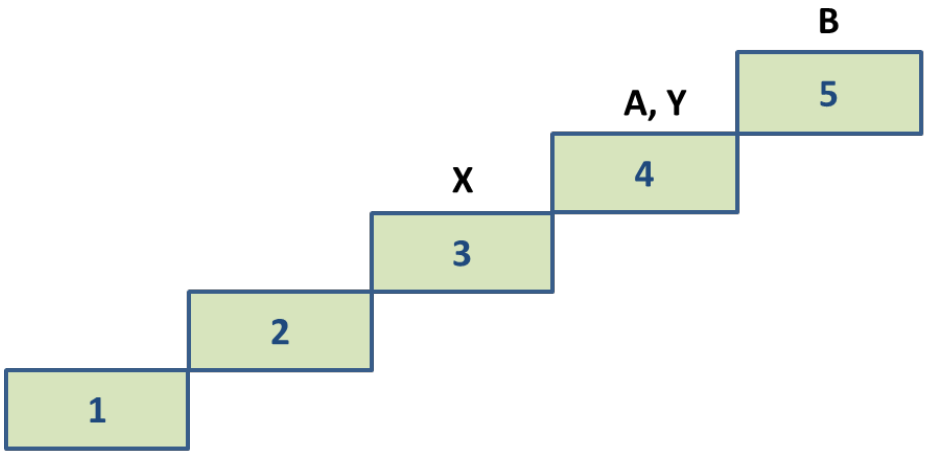
### 2.8.1 Do you track employee health and safety performance?

**Self-rated Level of Maturity – Tracking of Health and Safety Performance**



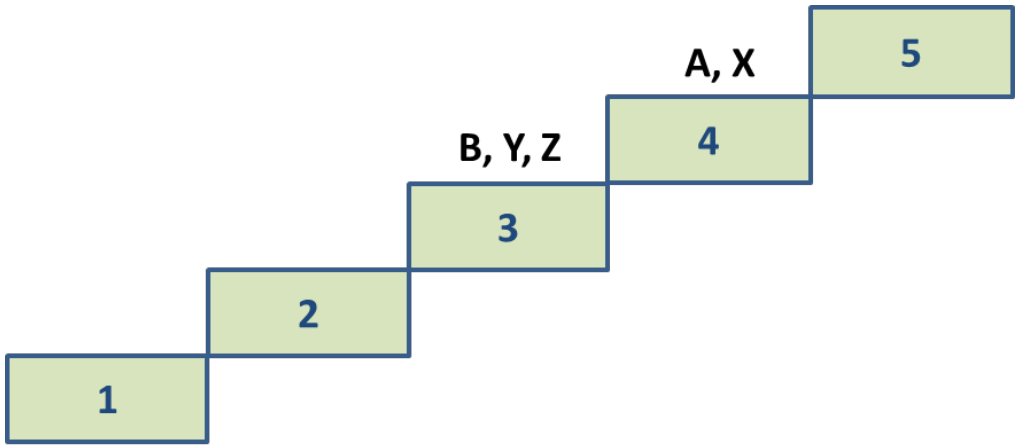

### 2.8.2 Do you have an emergency response process for dealing with natural emergencies such as tornados, earthquakes, and hurricanes?

**Self-rated Level of Maturity – Natural Emergency Response Process**



### 2.8.3 Rate your emergency response readiness.

**Self-rated Level of Maturity – Emergency Response Readiness**



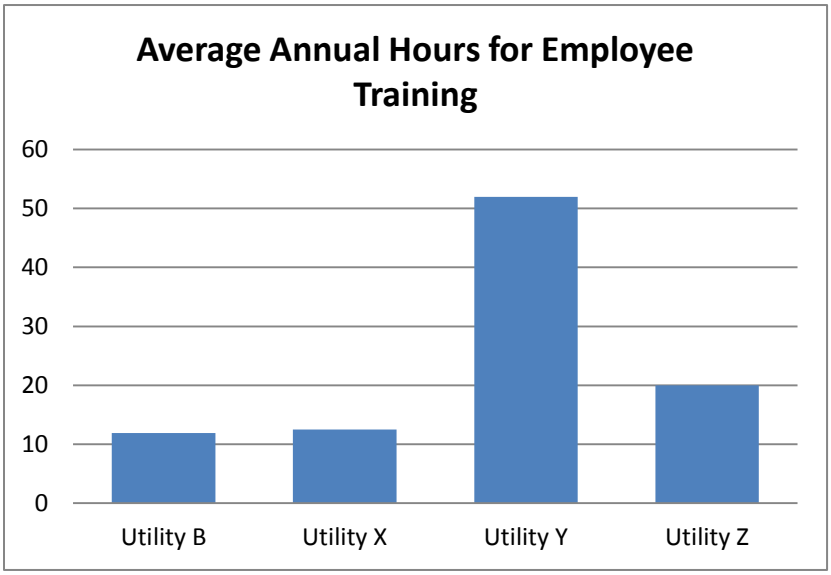

### 2.8.4 How is training handled for specialized services?

| Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|
| Combination of: in-house, on-the-job, outsourced, contract | Contract | Combination of: in-house, on-the-job, outsourced, contract | In-house | Contract |

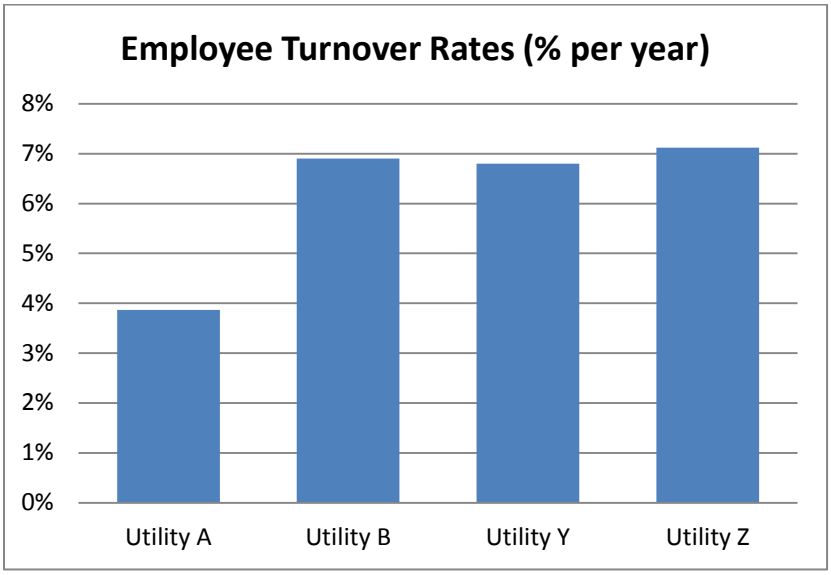
### 2.8.5 How are water, wastewater and stormwater functions organized?

For all benchmarked utilities water, wastewater, and stormwater are organized by separate lines of business.

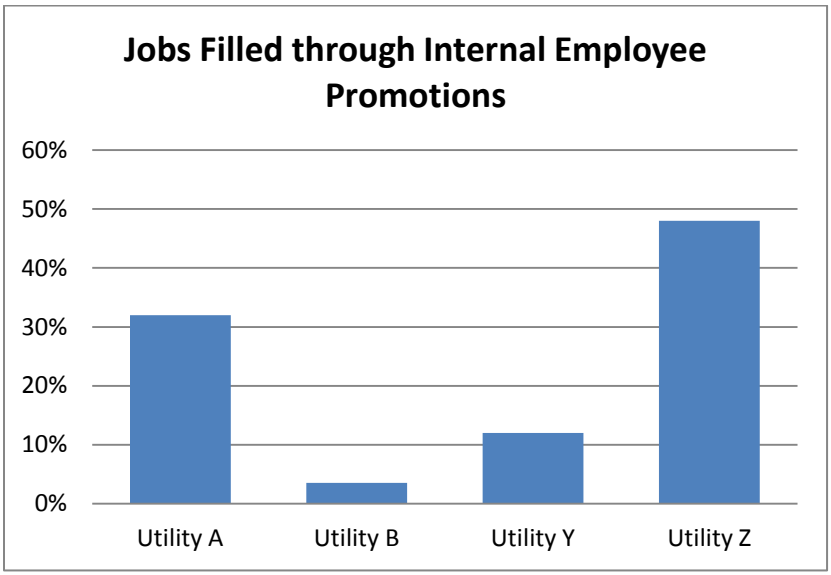
### 2.8.6 How many hours on average are allocated to employees for training each year?




### 2.8.7 What are your employee turnover rates?



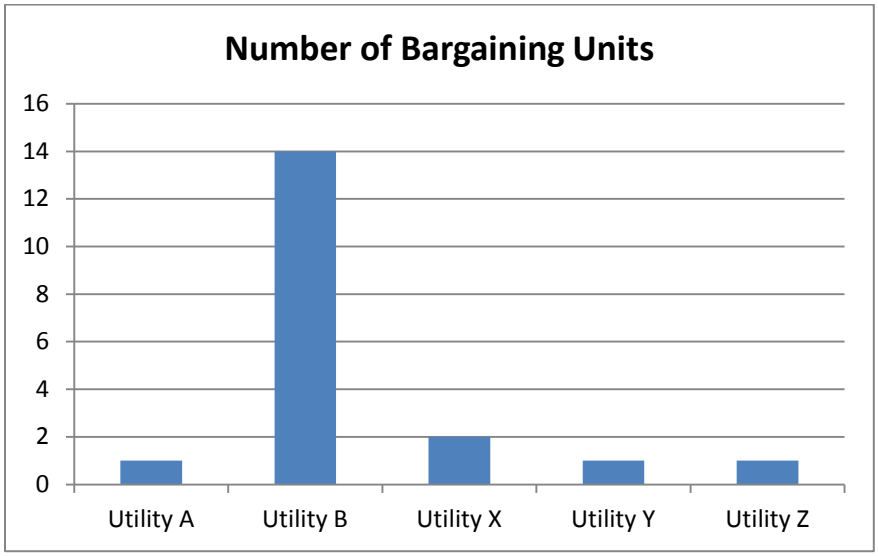
### 2.8.8 What percent of jobs are filled through internal employee promotions?



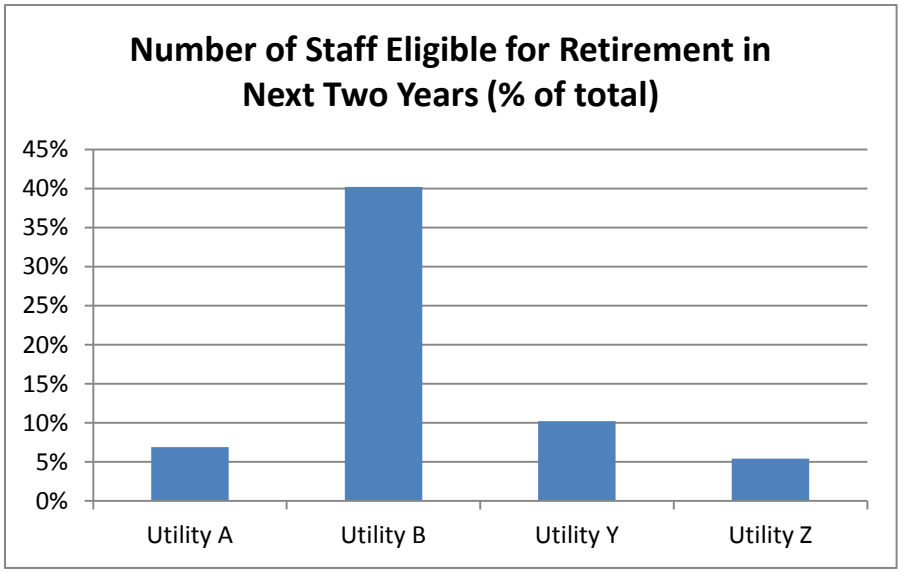
### 2.8.9 Have you looked at ways of increasing workplace efficiencies? If so, what have you done?

| | Ways of increasing workplace efficiency that have been used by utilities |
|---|---|
| **Utility A** | Annual budget process |
| **Utility B** | Several years of benchmarking certain functions, especially Contact Center. Also used internal working groups and consultants |
| **Utility X** | Operations optimization study, Preventive Maintenance Optimization, Reliability Centered Maintenance |
| **Utility Y** | Annual efficiency reports |
| **Utility Z** | Excellence Adventure, internal inventions, developing continuous improvement culture; new Orgs for cost containment; leveraging new technology |

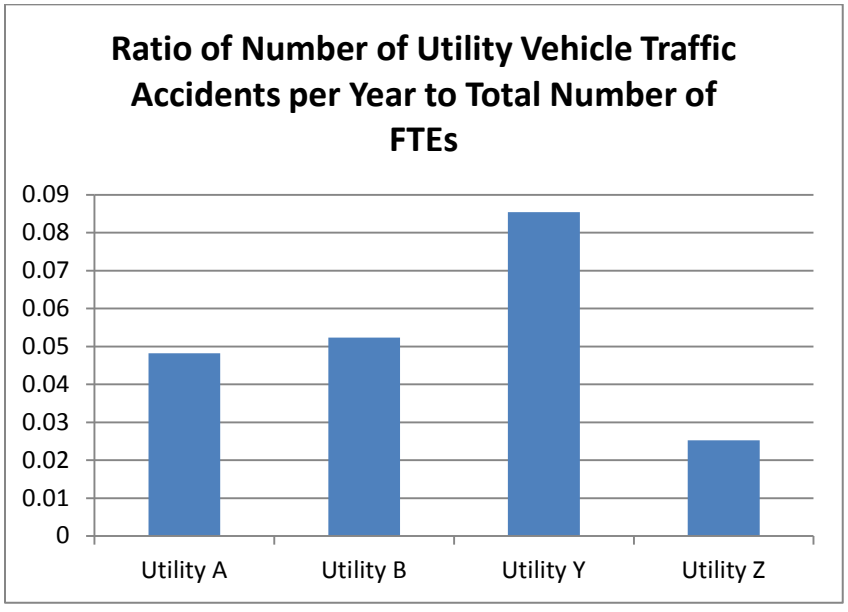
### 2.8.10 What is the number of bargaining units in your organization?



### 2.8.11 What is the estimated number of staff eligible for retirement in the next two years (as a percent of total staff)?



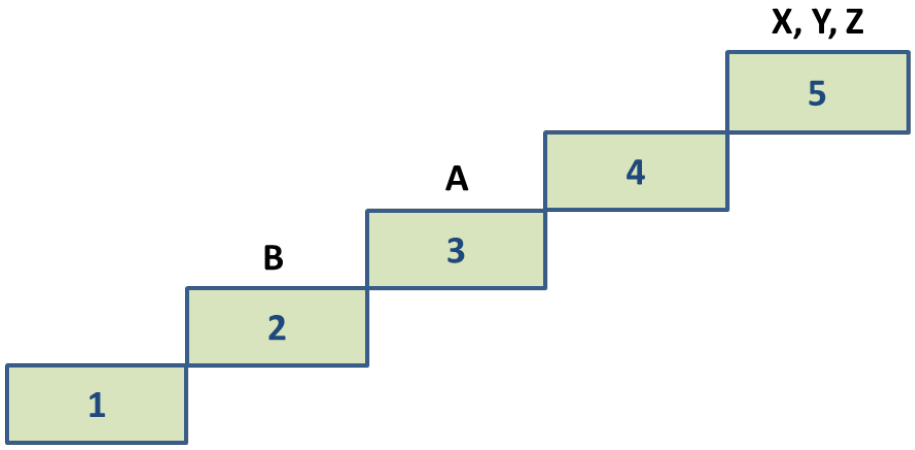

### 2.8.12 What is the number of utility vehicle traffic accidents that occur each year?



## 2.9 Functional Area 8: Project Management

### 2.9.1 Do you have a commissioning process?

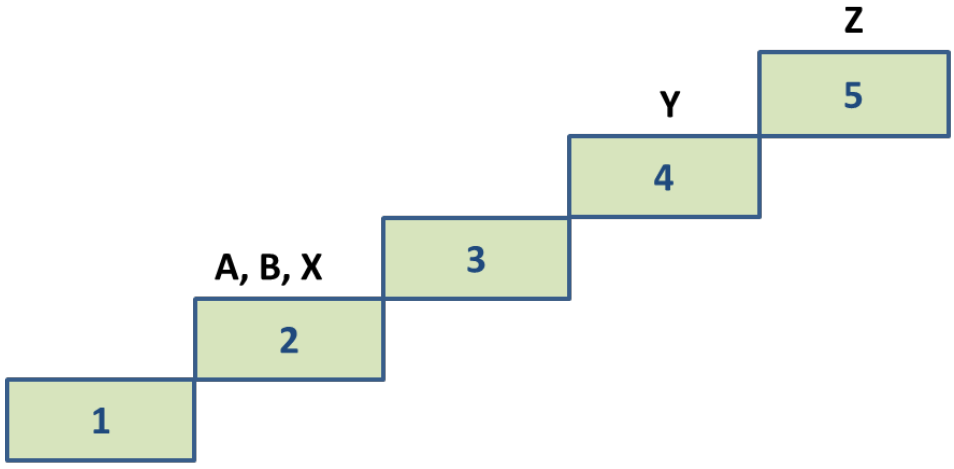
**Self-rated Level of Maturity – Commissioning Process**




Utilities X, Y, and Z have a fully developed and implemented commissioning process that involves field staff. Commissioning is driven by in-house engineering staff and project managers have been made responsible for the performance of the commissioning process.

### 2.9.2 Do you have a decommissioning process for when assets reach the end of their useful life?

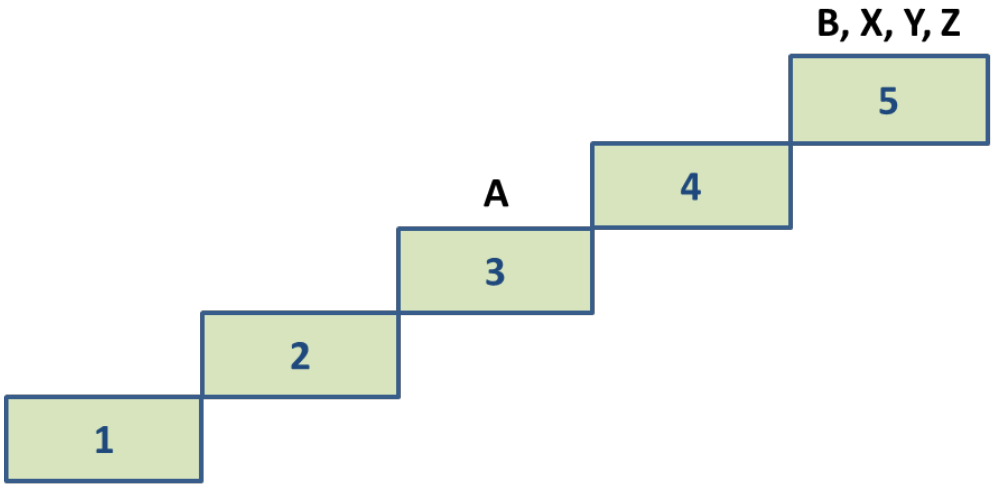
**Self-rated Level of Maturity – Decommissioning Process**




Utility Z's management team supports and drives the implementation of the full asset life-cycle/asset management process. Utility Z tracks in their business case the disposal costs for asset retirement. Utilities A, B, and X do not have a formal decommissioning process.

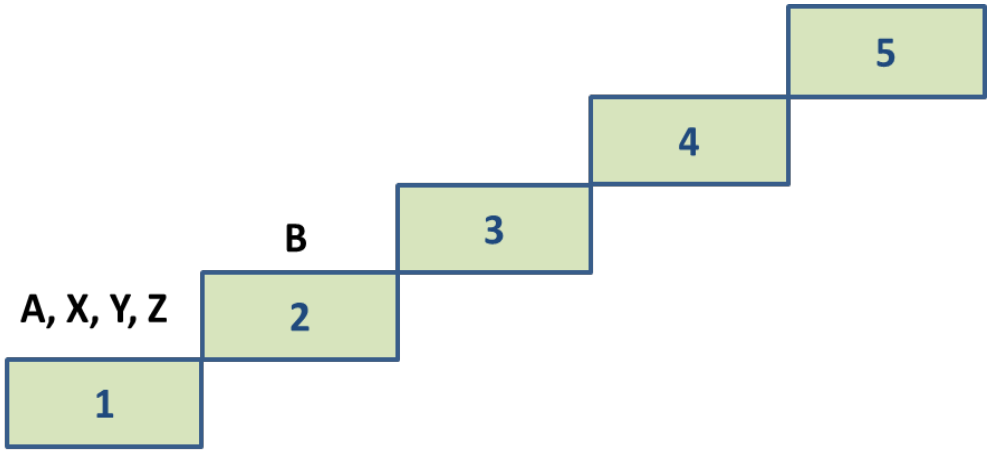
### 2.9.3 Do you have a written standard for how projects are started?

**Self-rated Level of Maturity – Standards for Project Commencement**



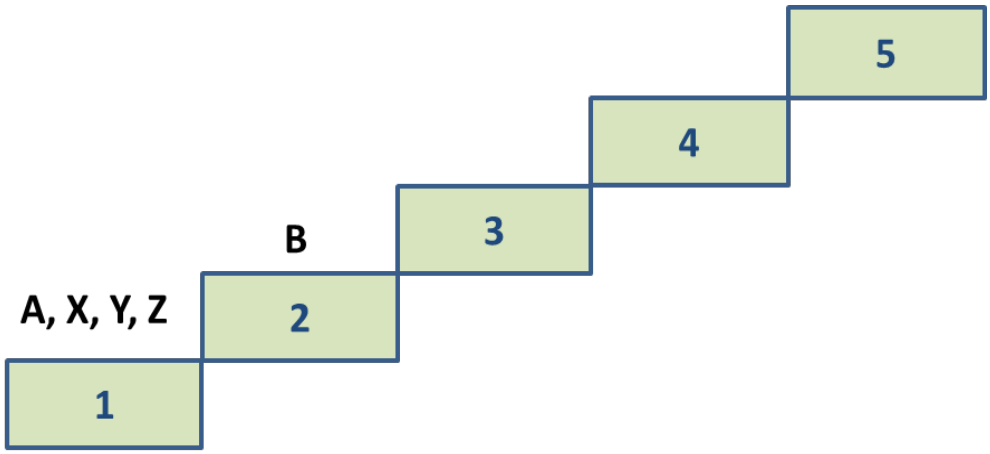

### 2.9.4 Do construction managers have a Construction Manager certification?

**Self-rated Level of Maturity – Construction Manager Certification**



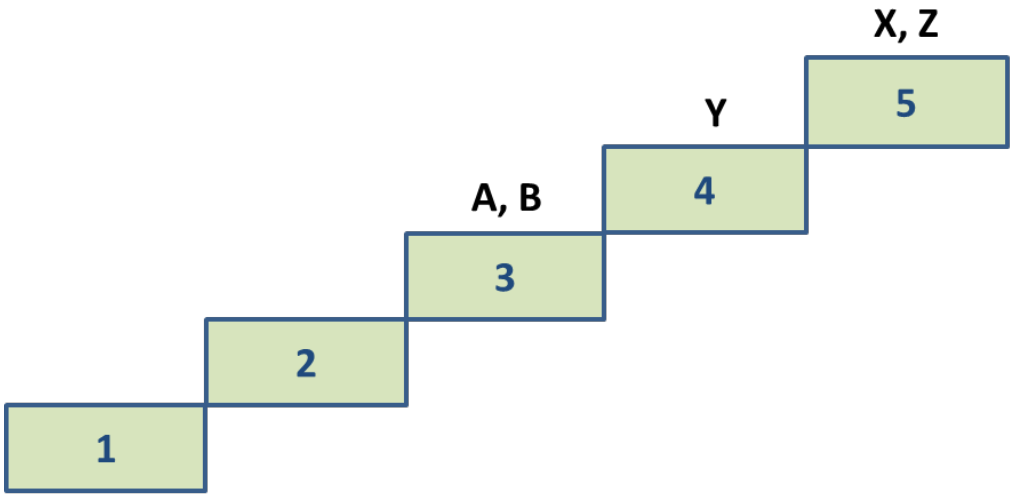
### 2.9.5 Do projects managers have a Project Manager certification?

**Self-rated Level of Maturity – Project Manager Certification**




### 2.9.6 Do you have a project management software application?

**Self-rated Level of Maturity – Use of Project Management Software**

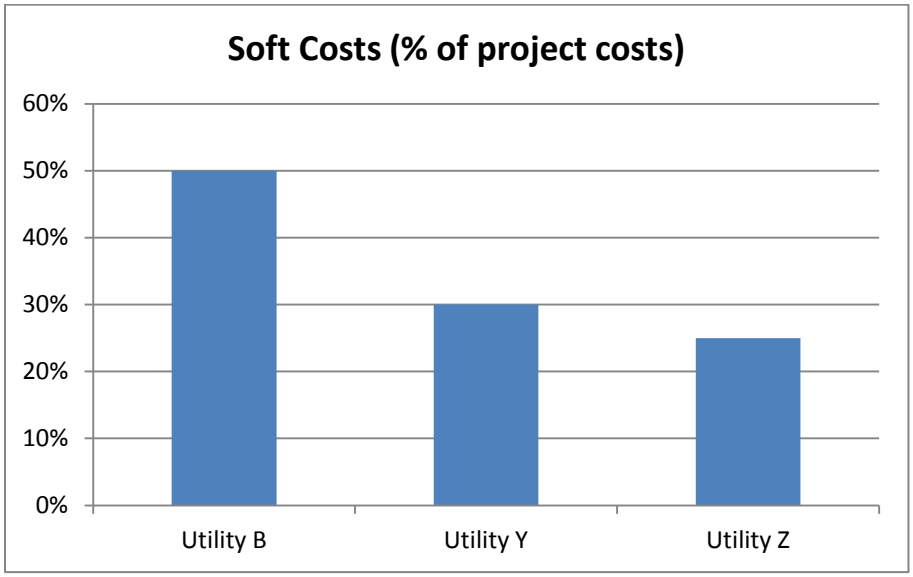



High performing utilities (X and Z) utilize one software program for the entire life of a project. The system standardizes monitoring of budget and schedule and aids in application of project control policies for the utilities.

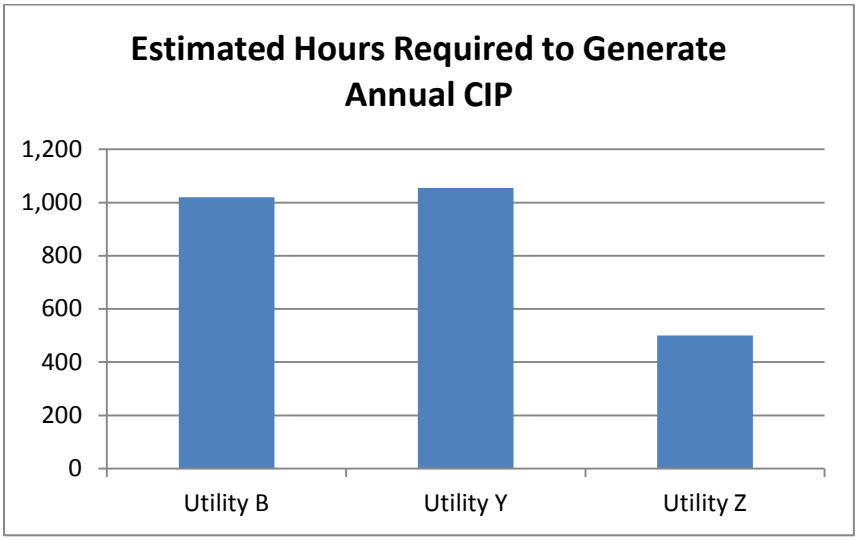
### 2.9.7 How is cost estimating done?

| Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|
| In-house or outsourced | Performed by project managers | Performed by project managers or by contractor | In-house | Outsourced, performed by project manager, or in-house |

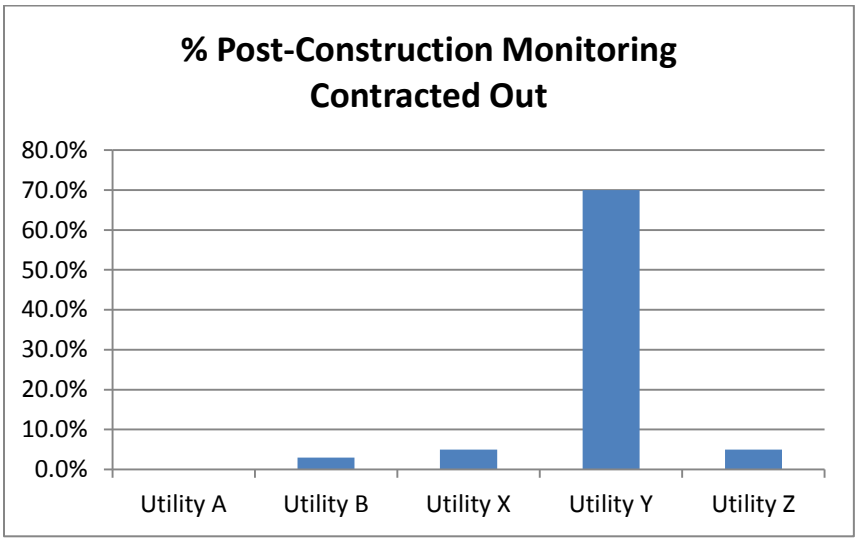
### 2.9.8 What are your soft costs or overhead as a percent of total project costs on a typical CIP project?




### 2.9.9 How many hours would you estimate are needed to generate an annual CIP?

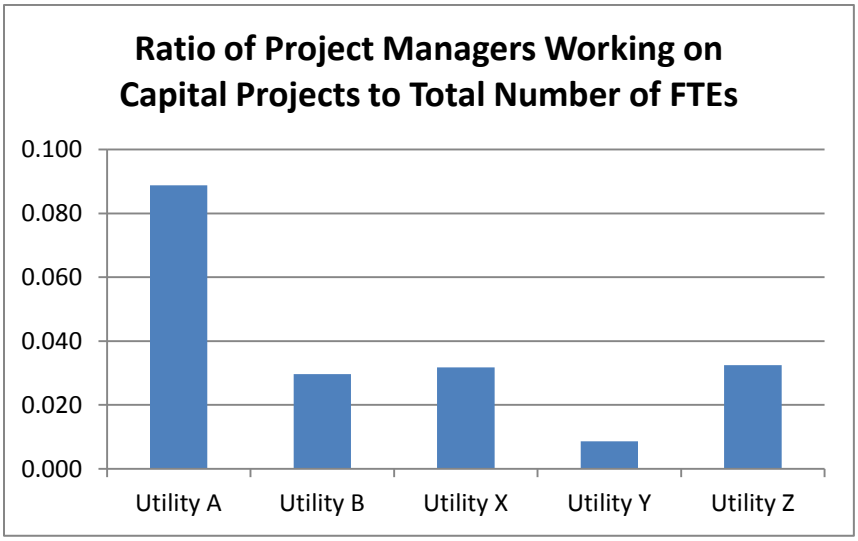


### 2.9.10 What percent of post construction monitoring is contracted out?



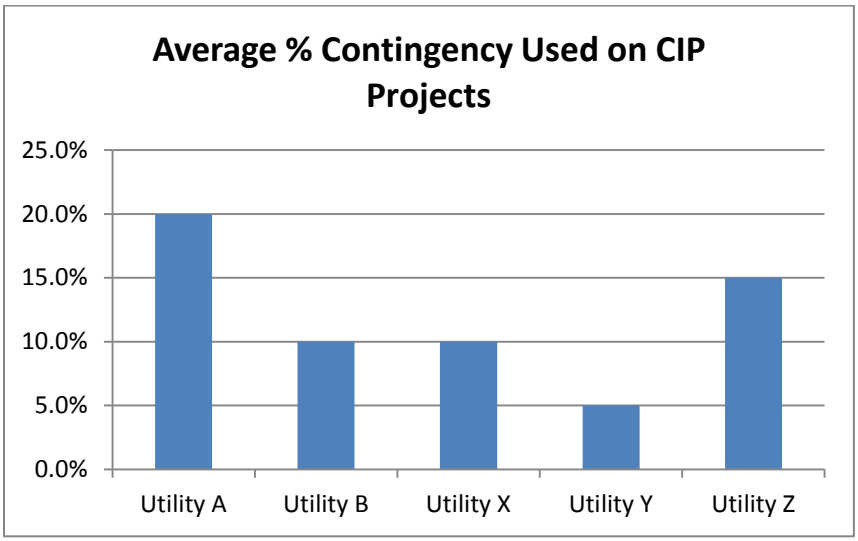

The high percentage of contracted out post-construction monitoring for Utility Y is a function of their prescriptive Consent Decree, which requires high levels of post construction monitoring that in-house staff do not have availability to perform.

### 2.9.11 What is the number of project managers your organization has working on capital projects?




Utility Y's engineers are all certified Project Managers and report to a centralized engineering branch, but are physically located in the line of business offices.

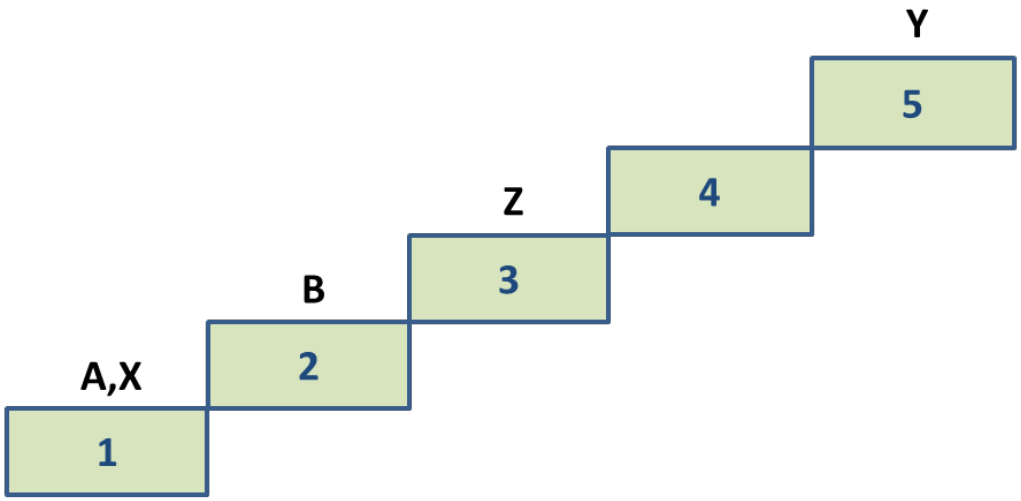
### 2.9.12 What percent contingency is used on CIP projects?



## 2.10 Functional Area 9: SCADA

### 2.10.1 Do you integrate real time SCADA information with water modeling?

**Self-rated Level of Maturity – Integration of SCADA Information with Water Modeling**



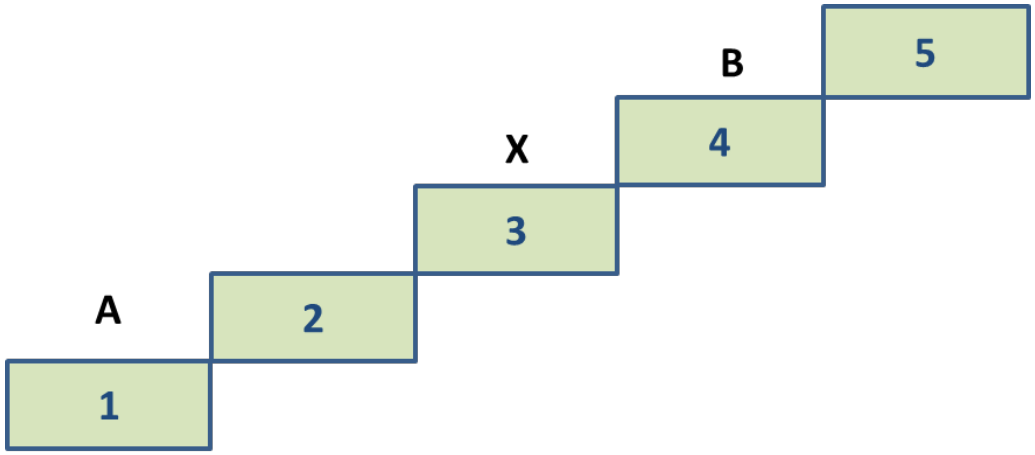

Utility Y has a champion that drives integration of real time SCADA information with other applications including water modeling.

## 2.11 Functional Area 10: Stormwater Operations

Utilities Y and Z do not have ownership over stormwater operation activities and therefore are not included in the following maturity graphs.

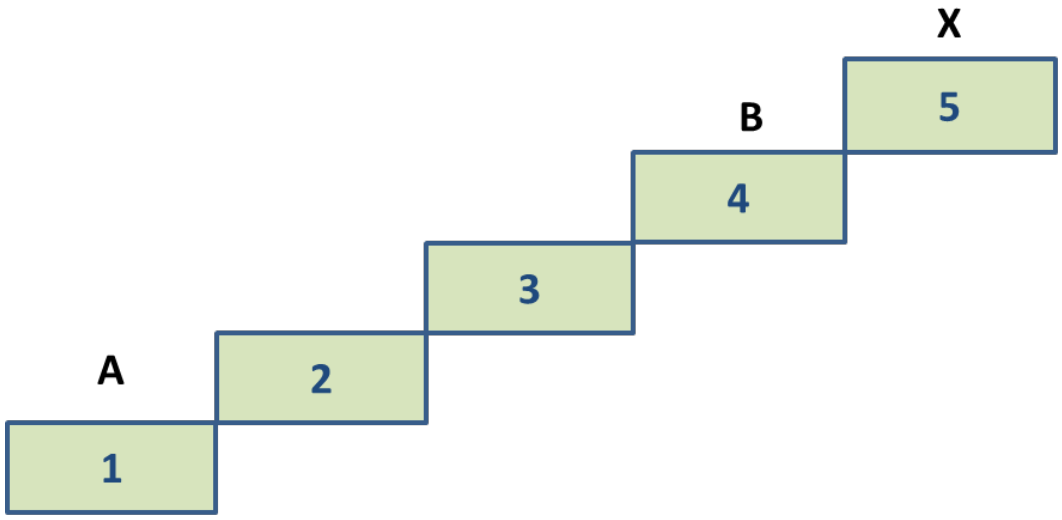
### 2.11.2 Do you have documented levels of service and metrics for stormwater/drainage?

**Self-rated Level of Maturity – Levels of Service and Metrics, Stormwater/Drainage**



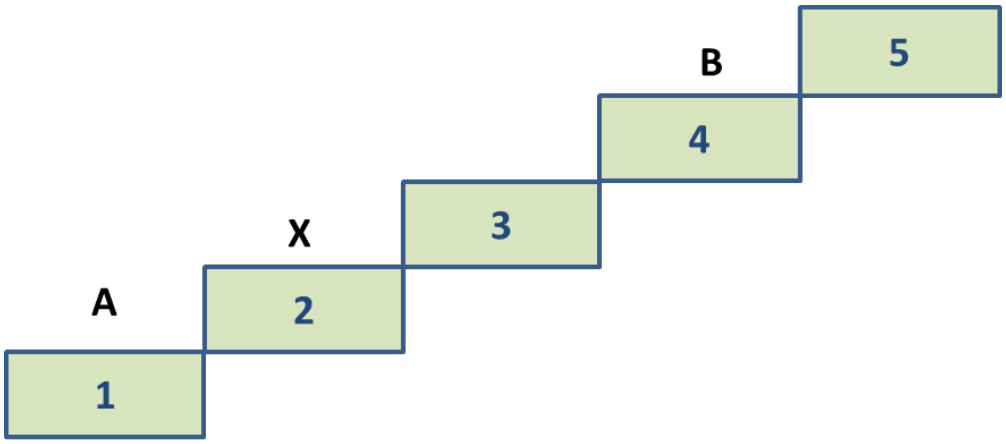

### 2.11.3 Do you have a catch basin cleaning program?

**Self-rated Level of Maturity – Catch Basin Cleaning Program**



### 2.11.4 Do you have a Green Stormwater Infrastructure (GSI) Program?

**Self-rated Level of Maturity – GSI Program**




Utility B's GSI program is a function of a City Municipal Code requiring the use of GSI in transportation and utility projects.

### 2.11.5 Do you perform street sweeping or contract out for street sweeping services?

All benchmarked utilities, with exception of Utility B, do not perform street sweeping as part of their services; this work is performed outside of the water or wastewater department.

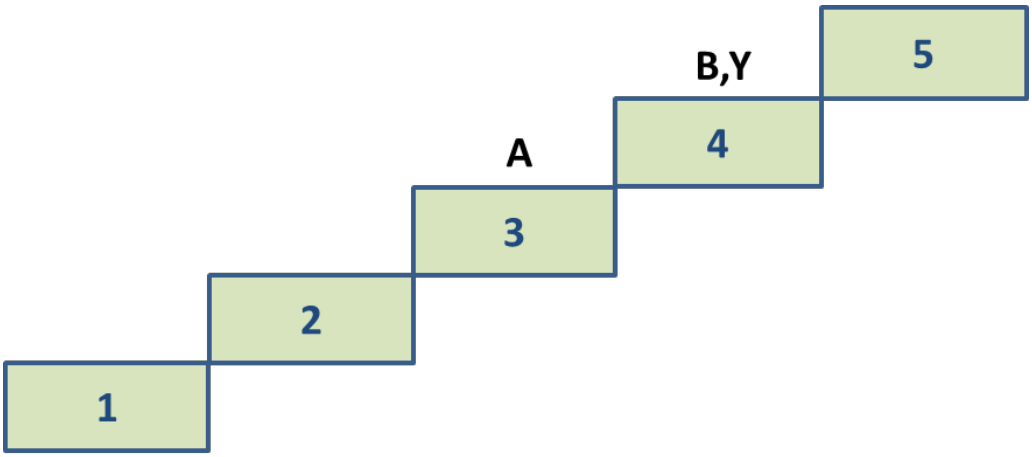
### 2.11.6 How is your Stormwater Group organized?

| Utility A | Utility B | Utility X |
|---|---|---|
| Separate operation, separate maintenance | Combined | Combined and outsourced |

## 2.12 Functional Area 11: Wastewater Operations

### 2.12.1 What are your levels of service and metrics for wastewater?

**Self-rated Level of Maturity – Levels of Service and Metrics, Wastewater**




Utility X provided the following metrics:

- CSOs/SSOs, property flooding, odor complaints, discharge compliance failures, SSO/CSO volume, percent wastewater bypassed, number of treatment bypasses.

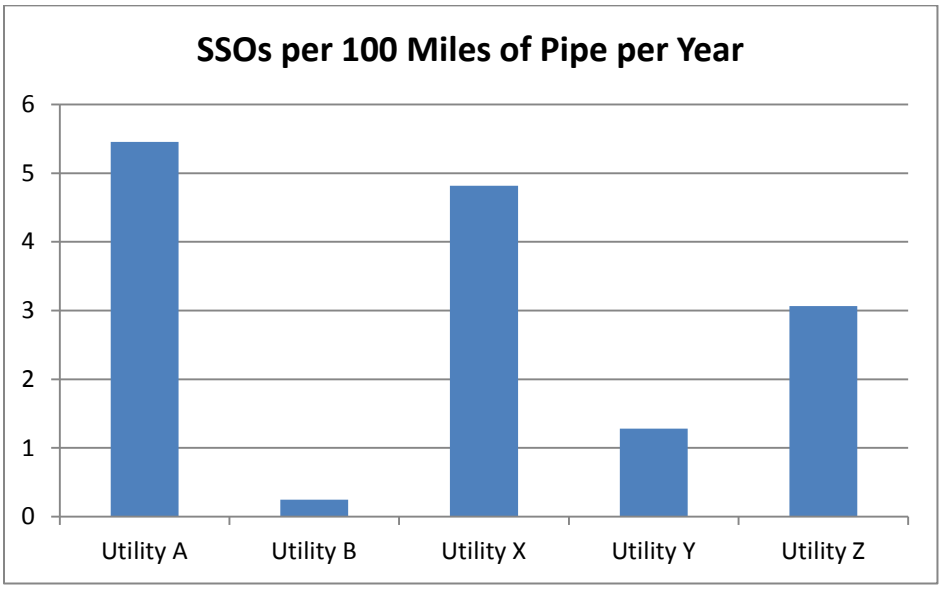
Utility Z provided the following metrics:

- SSOs.

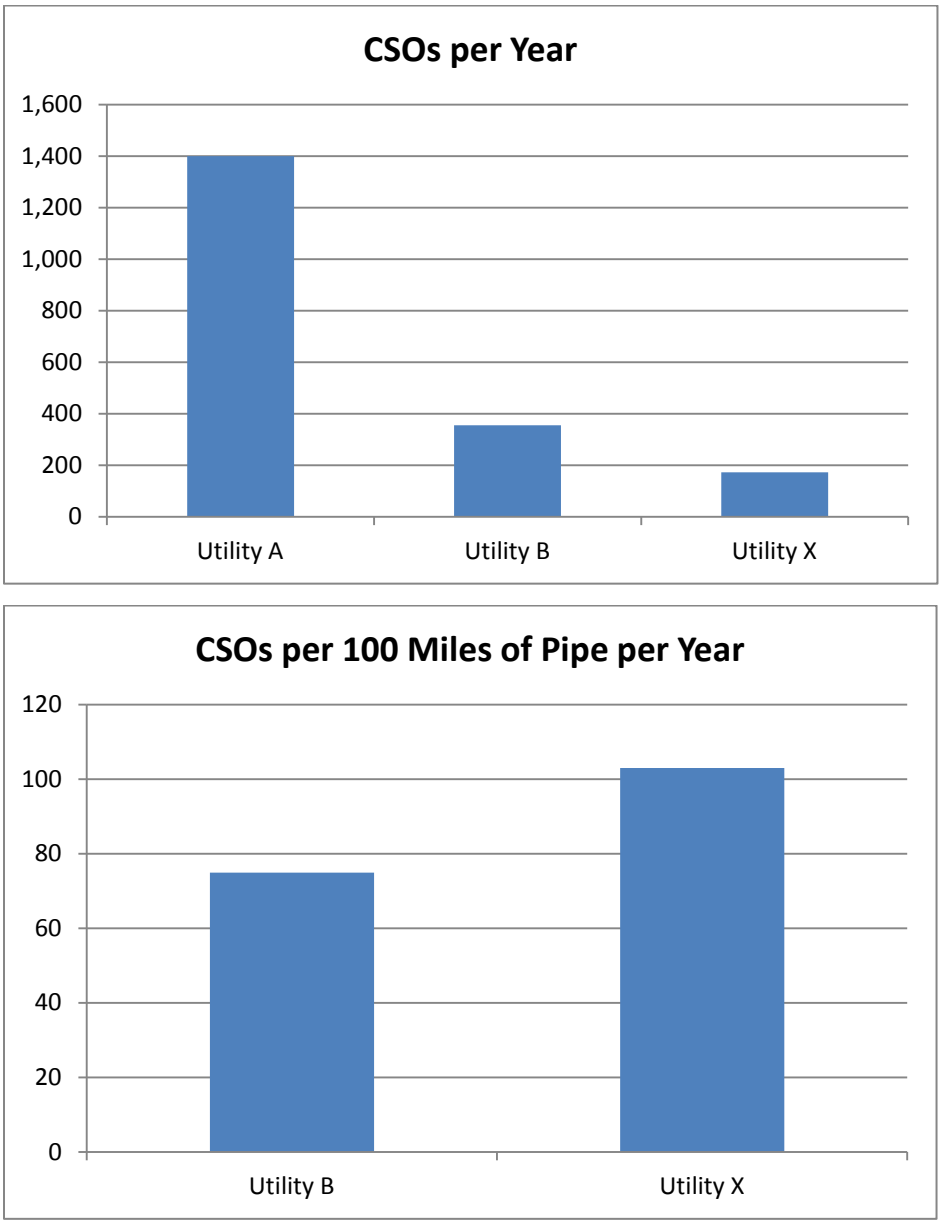
### 2.12.2 What are your top four activities as measured by annual expenditure performed by field staff in wastewater operations?

| | Top four activities in wastewater operations by annual expenditure |
|---|---|
| **Utility A** | Wastewater treatment<br>Maintenance<br>Wastewater collection<br>Residuals |
| **Utility B** | Treatment<br>O&M<br>Taxes<br>Debt |
| **Utility X** | Sewer power cleaning<br>Sewer CCTV<br>Manhole repairs |
| **Utility Y** | Main cleaning and maintenance<br>Manhole and lateral repair and replacement<br>Sewer pump station O&M<br>Permitting and inspections of grease interceptors |
| **Utility Z** | Liquids treatment<br>Solids handling |

### 2.12.3 How many sanitary sewer overflows (SSOs) do you have per 100 miles of sewer on an annual basis?

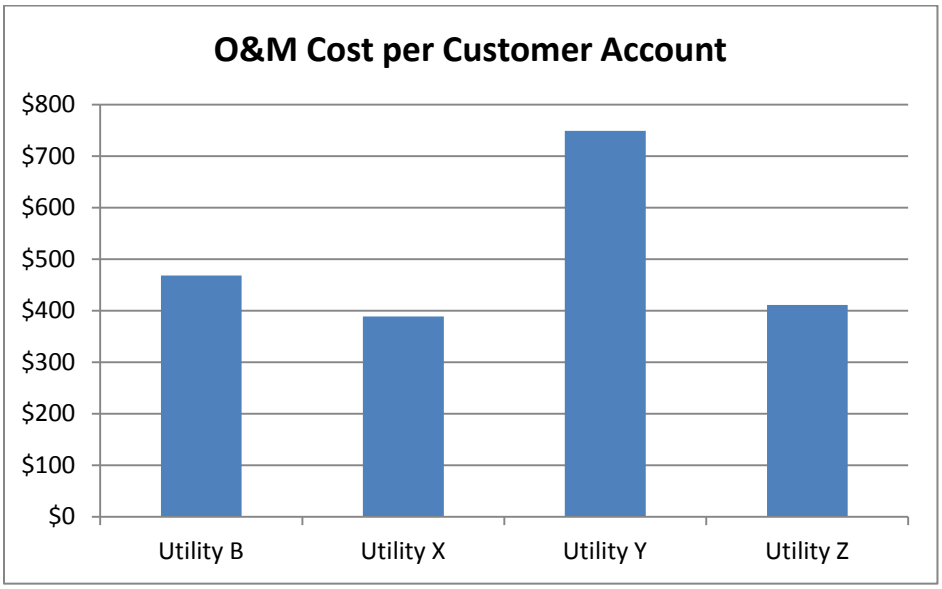


### 2.12.4 How many combined sewer overflows (CSOs) do you on an annual basis?

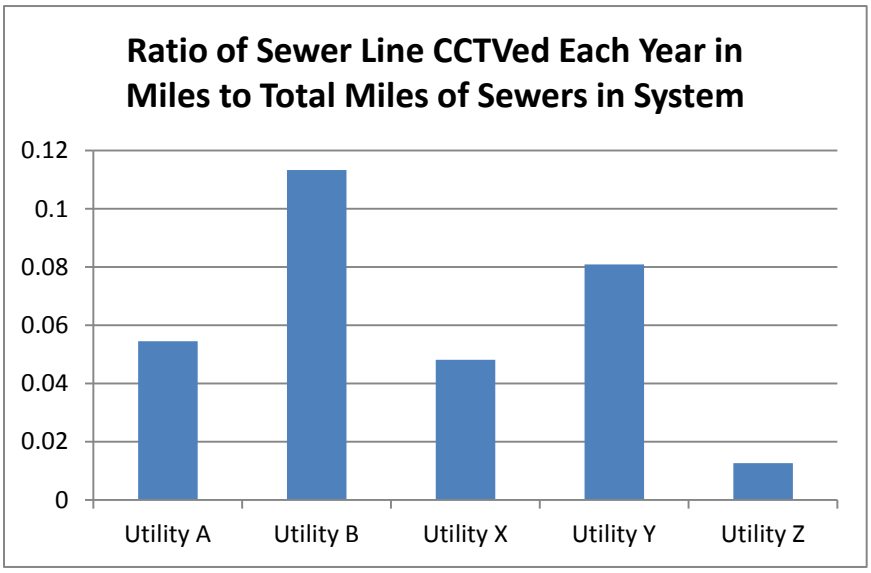



Utility Y and Z have separated systems, therefore they have no CSOs and are not included in the above graph. Utility A did not provide an estimate of miles of combined sewer in their system, so a normalized comparison by miles of pipe could not be provided.

### 2.12.5 What is your O&M cost per customer account?

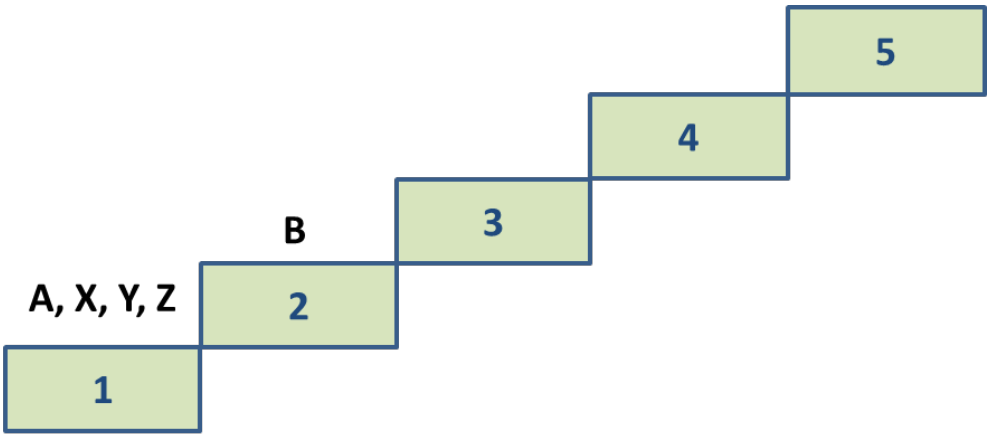



### 2.12.6 How many miles of sewer lines are CCTV'ed each year?



### 2.12.7 Do you have a program dealing with wipes and paper towels?

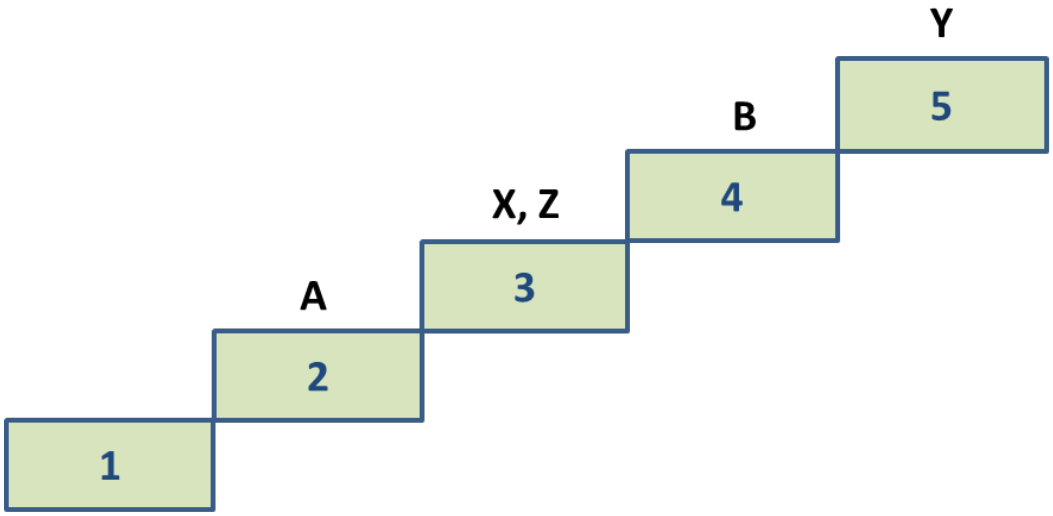
**Self-rated Level of Maturity – Wipes and Paper Towels Program**



## 2.13 Functional Area 12: Water Operations

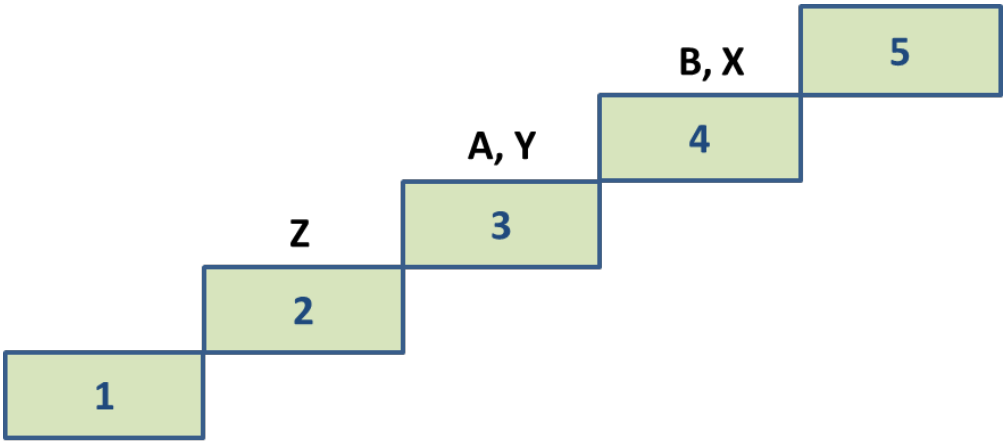
### 2.13.1 Do you have documented levels of service and metrics for water?

**Self-rated Level of Maturity – Levels of Service and Metrics, Water**




### 2.13.2 Have you assessed the integrity of your water distribution system?

**Self-rated Level of Maturity – Water Distribution System Assessment**



### 2.13.3 How do you determine the right amount of transmission and distribution condition assessment to perform?

| Utility A | Utility B | Utility X | Utility Y | Utility Z |
|---|---|---|---|---|
| Maintenance and failures | Risk score | Age | Risk score | Risk score |

In the absence of water system best practices tied to predictive maintenance of water mains, each utility has developed an individual program to best determine the right amount of condition assessment to perform.

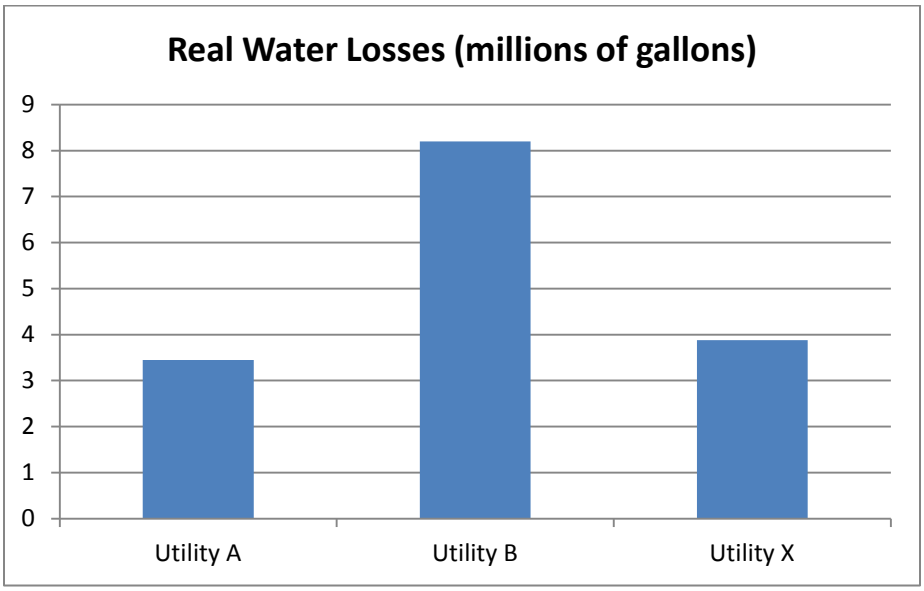
### 2.13.4 What are your top four water operations activities as measured by annual expenditure?

| | Top four water operations activities by annual expenditure |
|---|---|
| **Utility A** | Maintenance<br>Water supply<br>Filter plant<br>Minor capital |
| **Utility B** | Treatment<br>O&M<br>Taxes<br>Debt |
| **Utility X** | Main line repairs<br>Service repairs/replacement<br>Hydrant repair/replacement<br>Valve replacement |
| **Utility Y** | Water treatment plants<br>Reservoirs<br>Laboratory |
| **Utility Z** | Treatment<br>Water purchase<br>Heat water<br>Chemicals |

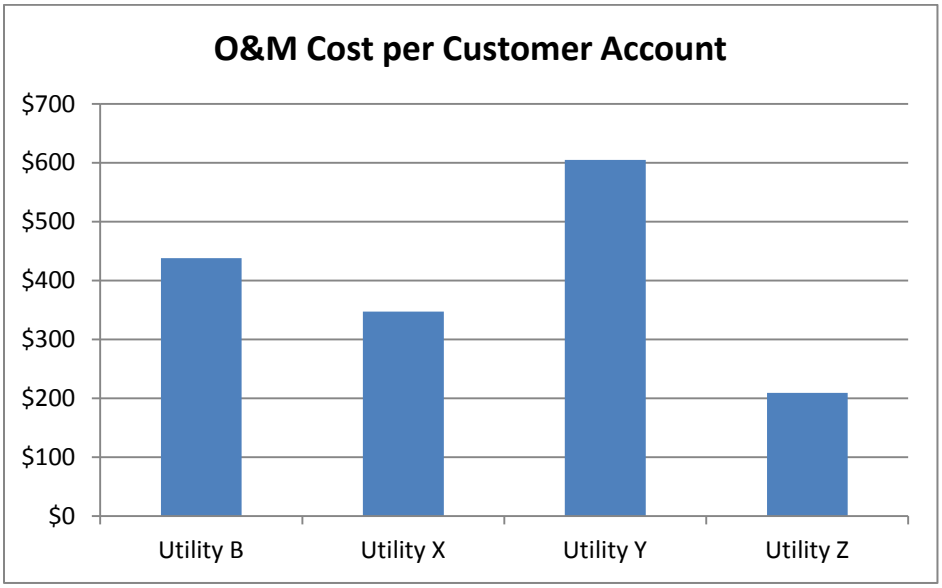
### 2.13.5 What is your drinking water regulatory compliance rate?

All benchmarked utilities have a 100% drinking water regulatory compliance rate.

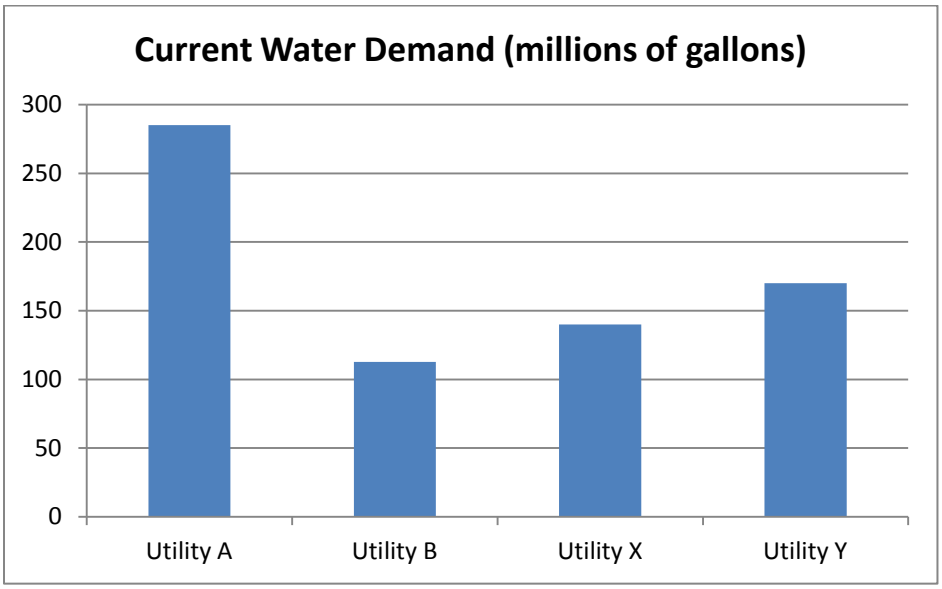
### 2.13.6 What are your real water losses?



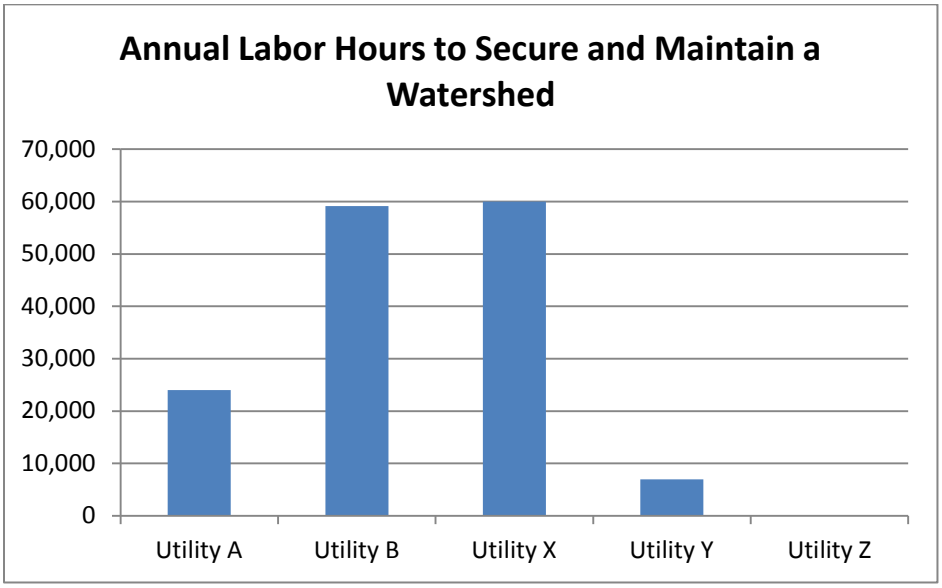

### 2.13.7 What is your O&M cost per customer account?



### 2.13.8 What is your current water demand?



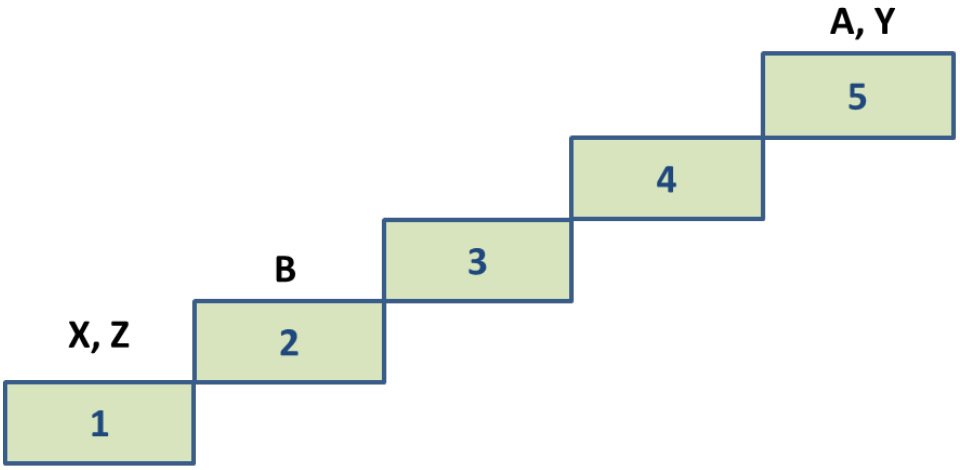

### 2.13.9 What is your level of effort to secure and maintain a watershed measured in annual labor hours?




Utility B supplies water from two watersheds, one of which it owns completely, the other of which it owns over 50%. Utilities A, Y and Z do not own any portion of the watersheds and work with other agencies to protect and maintain.

### 2.13.10 Do you perform Unidirectional Flushing (UDF)?

**Self-rated Level of Maturity – Unidirectional Flushing**




Utilities A and Y feel that customer water quality complaints have decreased due to UDF and therefore continue to perform it on a regular basis.

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# 3.0 Findings – Solid Waste

## 3.1 Solid Waste – Overview of Waste Collection and Processing Systems and Organization of this Section

Across the country, municipal solid waste (MSW) collection and handling (transfer, hauling, and processing/disposal) systems are highly varied. In any given city, waste generated in a household and collected curbside may follow innumerable routes to reach final disposal. Additionally, the structure of how the services associated with moving that waste are provided is equally diverse, with market mechanisms from tightly contracted and flow-controlled to free market in play. Finally, MSW as a material is often further broken out into separate "streams": both by source of the material (who is generating it) and by material type. These distinctions lead to a highly complex and dynamic picture of solid waste management. In addition to the core services of collection and handling, support services, such as customer service and education and outreach are also provided. Again, there are numerous mechanisms for providing these services, and the level to which they are provided varies widely.

Despite these variations, there are similarities across cities when looking at functions specifically. Given any of the above described combinations, certain functions are almost always present, especially in more progressive jurisdictions, like the City of Seattle, and the other agencies benchmarked against within the functional area of Solid Waste Operations. Who performs the service, the degree to which it is performed, and the cost to perform are the main focus of this section.

As done in Section 2.0 Findings – Water and Wastewater of this report, in order to provide a normalized comparison of SPU's solid waste line of business with the selected benchmarked utilities and agencies, the results of the benchmarking questionnaires and interviews are organized into functional areas. Because utilities were selected because they perform or oversee *either* collection or handling functions, all five benchmarked utilities are not evaluated for each functional area. The table below denotes which utilities are considered in each functional area. Additionally, it provides a description of each area.

| | Functional Area | Description | Utilities included |
|---|---|---|---|
| **1** | Collection Services | Pick-up of material from original waste generators including residential (single-family homes and town homes, often referred to as curbside collection), multi-family (apartment buildings), and commercial businesses. Rate setting for collection services. | Utility B, Utility E, Utility V |
| **2** | Handling | Transfer of waste material collected from or self-hauled by the generator, transport of the consolidated material (often referred to as long-haul), and processing or final disposal. Rate setting for transfer services. | Utility B, Utility D, Utility W |
| **3** | Customer Services | General information, billing, complaint response and resolution, and inspection and enforcement of waste bans. | Utility E, Utility V |
| **4** | Education & Outreach | New service set-up (right-sizing, container choice options, etc), waste prevention, and diversion (three-bin system, disposal of hard-to-recycle materials, etc.) | All utilities |
| **5** | Planning, Policy, & Regulation | Municipal solid waste master planning, diversion targets and service levels, and material bans. | All utilities |
| **6** | Miscellaneous Waste Streams | Waste materials not collected within the three-bin system, but that are often regulated or controlled, such as E-Waste, Construction & Demolition waste, appliances, large or bulky items, and tires. | All utilities |
| **7** | Miscellaneous Services | Services often housed under solid waste funds, but that fall outside of management of the MSW stream. Examples are illegal dumping and graffiti clean-up. | All utilities |
| **8** | Levels of Service | Service options available to customers, service metrics. | All utilities |

Prior to a discussion of each functional area, an overview of each utility is provided, as defined by size (measured by total system tons) and cost per ton.

For each functional area 1-5, the following analysis is provided:

- Overview of service structure (i.e., who performs the function and how the market is controlled), scaled and weighted. This information is presented by colored scale for better comparison.
- Cost, normalized by ton.
- Additional comparisons as applicable.

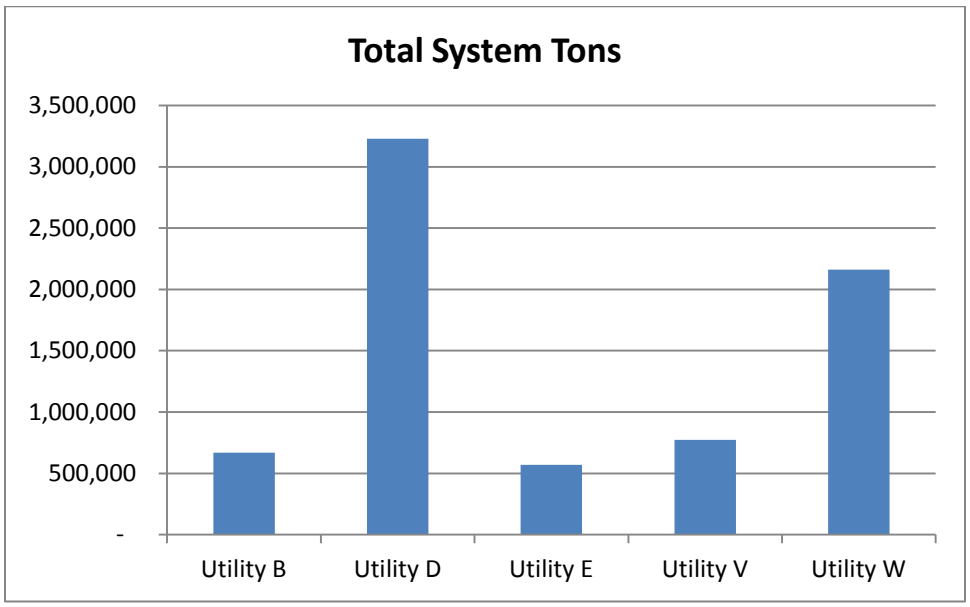
For functional area 6, a comparison of how each stream is managed by each agency is provided, along with a comparison of services provided to the customer in regards to each stream, either at the curb, or at transfer or drop-off facilities. Costs are not provided in this section because agencies do not track these waste streams independently, and many recovery programs are funded through regional or inter-agency funds.

Functional area 7 compares services housed within solid waste funds that are ancillary to solid waste core and support services. It provides an analysis showing what agencies house these functions within their fund, and what their total budget is.

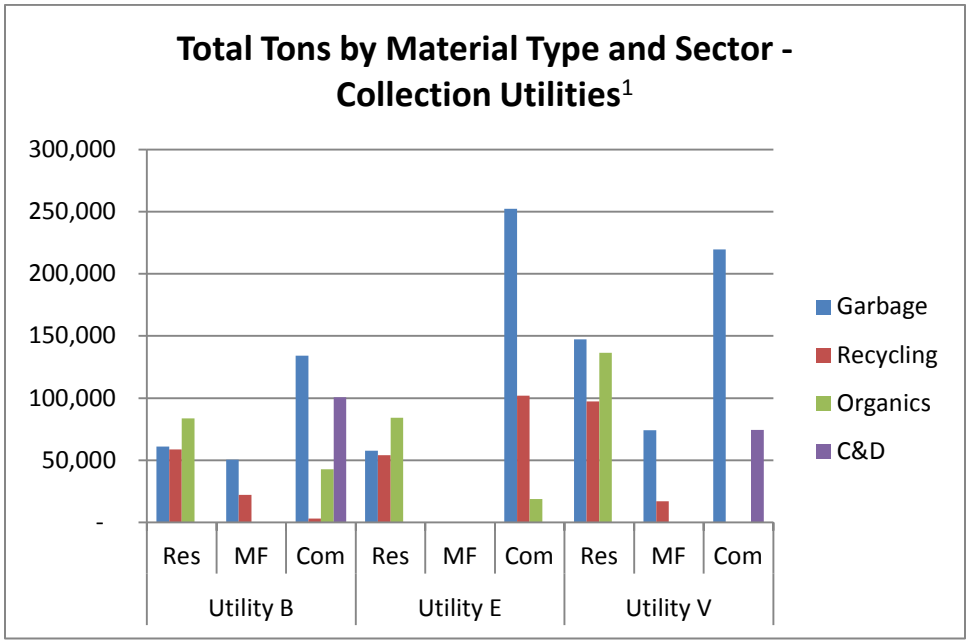
Functional area 8 provides an overview of the diversion profiles and objectives for each agency. It also provides a comparison of the levels of service offered to curbside customers by each agency. It compares the different "extras", or service subscriptions beyond what is considered standard service in each jurisdiction. Finally, a comparison of cart choices offered to each customer is provided.

## 3.2 Utility Overview

### 3.2.1 How many tons are included within your jurisdiction (total system tons)?




A further breakdown of tonnage totals is provided for those utilities performing curbside collection services. Note that each utility classifies market sectors differently.




[1]Chart Notes:

**Utility B:** No data provided for Multi-Family organics collection

**Utility E:** Tonnage collected from multi-family homes with up to four units is included in residential tonnage totals. All others are included in commercial tonnage totals. No Construction and Demolition (C&D) information was provided.

**Utility V:** A unique wet/dry collection system is used for the commercial sector, where each stream is processed at a Materials Recovery Facility (MRF). For the purposes of this comparison, all commercial tonnage is categorized as garbage.

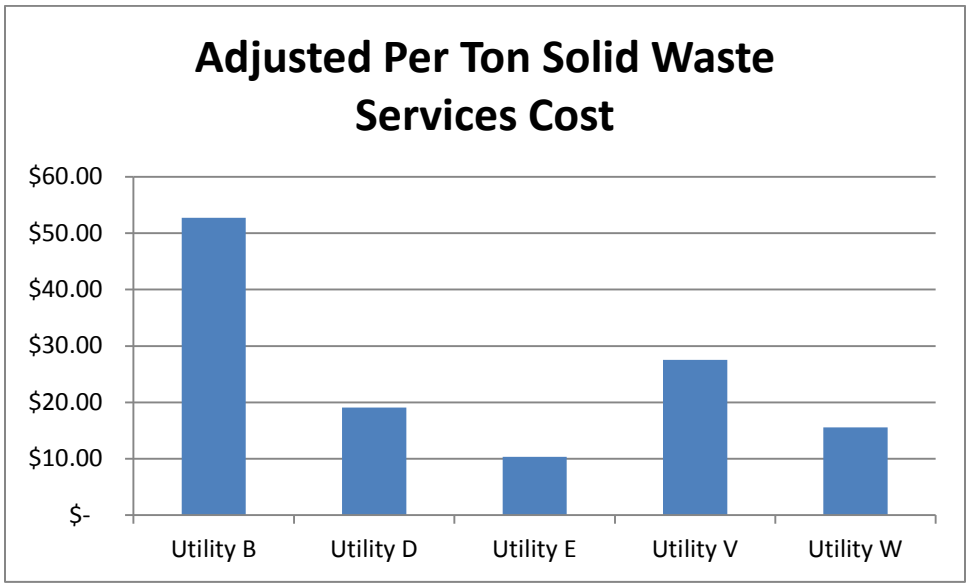
### 3.2.2 What is your annual expenditure for solid waste services?

The following table shows the total solid waste expenditures for each agency, and a cost per ton and tons per FTE comparison. It is important to note that the services covered under the different solid waste funds vary widely, and so are difficult to normalize. Every attempt as been made by the HDR team to standardize the expenditures for each utility by removing those expenditures that are not consistent across all utilities. Therefore, the costs below are *adjusted* from actual totals. Examples of expenditures that have been removed from the comparison include expenditures on regulation of private facilities and debt service and taxes. Additionally, disposal costs have been removed for each utility, regardless of if they manage disposal facilities or contract those services out. The costs provided to the HDR team for this comparison typically include both transportation and tip fees, with no means to differentiate the two. Because transportation costs vary by region and mode of transport, including them may potentially skew the numbers. Finally, collection contract costs for Utility B and V have been omitted.

Despite these attempts to compare only the costs for services provided by all the utilities, there are inconsistencies across the utilities that cannot be accounted for. Examples include:

- Utilities B and D manage closed landfills while others do not. However these costs are embedded in other data and so are included.
- Utility V includes some transfer costs in its collection contracts, and so removing those contracts from the calculation also removes those costs, which should be included.
- Utility E supports green building and office sustainability programs under its fund, but these costs are not tracked separately and so cannot be removed.

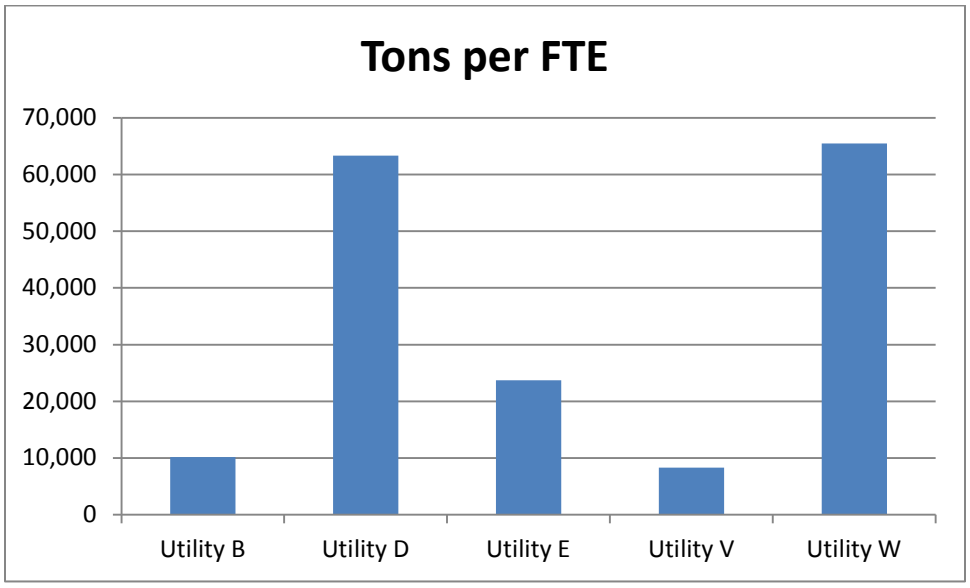
This list is not exhaustive. Functional areas 1-5 isolate certain areas and provide a cost of service comparison for those areas, and so may provide a better comparison of each utility's expenditures. The overall cost comparison for solid waste services is still a good general indicator of how each utility currently performs in providing the body of solid waste services as a whole.



### 3.2.3 What is your total FTE count for solid waste services?

The following table shows the total FTE included for each agency surveyed, and a tons per FTE comparison. As noted in question 3.2.2 above, the services covered under the different funds vary widely, and so are difficult to normalize. The HDR team has again made every attempt to normalize the figures below by excluding staff that perform functions not offered by all utilities surveyed. However, many staff within each utility perform various functions on a daily basis and do not participate in activity-based costing, whereby hours worked are assigned to a particular task. Therefore, figures provided should be considered estimates only.

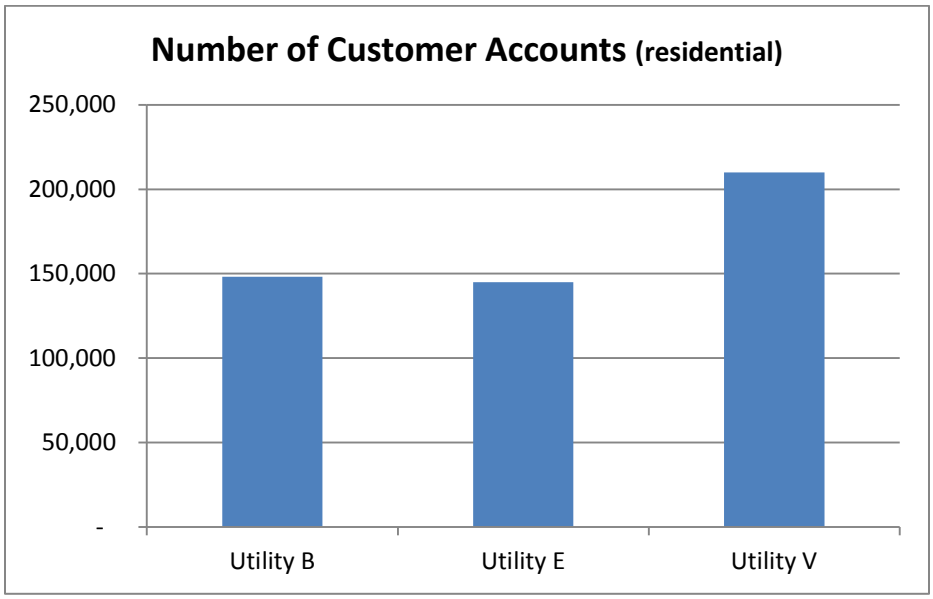
| Total Adjusted FTE | |
|---|---|
| **Utility B** | 66 |
| **Utility D** | 51 |
| **Utility E** | 24 |
| **Utility V** | 93 |
| **Utility W** | 33 |




Utility B and V have the lowest ratio of tons to staff. However, these utilities are the only ones of those surveyed that support a contact and billing center.

## 3.3 Functional Area 1: Collection

### 3.3.1 What is the size of the collection footprint your agency services, by number of customer accounts?



### 3.3.2 At what frequency is material collected from single-family homes subscribing to standard services?

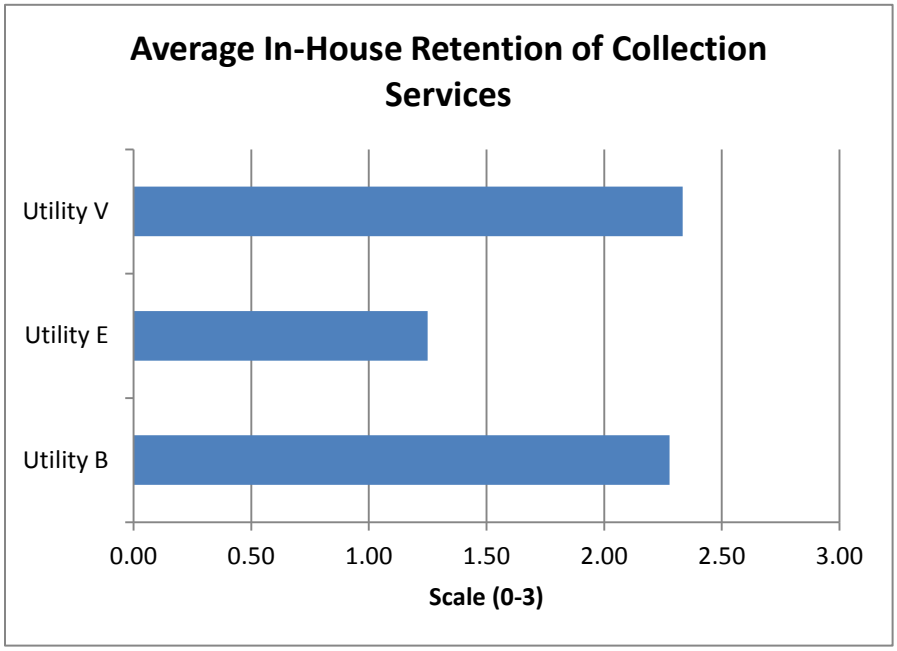
| | Utility B | Utility E | Utility V |
|---|---|---|---|
| **Frequency of Garbage Pick-Up** | 1x per week | 2x per month | 1x per week |
| **Frequency of Recyclables Pick-Up** | 2x per month | 1x per week | 1x per week |
| **Frequency of Organics Pick-Up** | 1x per week | 1x per week | 1x per week |

Although there are slight variations in collection frequencies, all three utilities are similar in the services provided to single-family homes, with 10-12 collections per month. A comparison of multi-family and commercial services is not provided because there is not typically a "standard" subscription level, and because some services in these sectors are provided on a free-market basis.

### 3.3.3 What is the mechanism for providing collection services to customer in your jurisdiction?

Because of the variations in both types of services offered by different utilities, and the mechanisms by which those services are offered, the following charts provide a means of comparing how services common to each utility are provided. The chart below is an overview, shown through an average level of services retained in-house across all services based on a weighted scale, with higher numbers depicting greater in-house retention of services. The average was generated by taking the weighted results of each sub-service composing the Collection Services functional area, which are described in further detail under **Detailed Results**.

| Scale | |
|---|---|
| **In-house** | 3 |
| **Service contract** | 3 |
| **Franchise license** | 2 |
| **Hybrid** | 2 |
| **Private hauler** | 1 |
| **Free market** | 1 |
| **License to operate** | 1 |
| **By hauler** | 1 |
| **Not offered** | 0 |




As shown, Utility E has contracted out the majority of its services, while Utilities B and V retain a comparable amount in-house.

The following detail charts break collection services into subsets to provide more specific information for how each utility performs a particular sub-service. The same weighted scale from above is used. Again, retention of in-house services is indicated by the length of the color bar, with a longer bar depicting greater in-house retention. The subsets of the Collection Services functional area are shown in matrix form by material type: garbage, recycling, organics; and generator type: residential (single-family), multi-family, commercial. The subsets are:

| Collection Services - Subset | Description |
|---|---|
| **Performed By** | Describes who is responsible for collecting and transporting material from the waste generator (i.e., private hauler, city, etc). |
| **Market Mechanism** | Describes how the collection services are retained (i.e., by service contract, license to operate, free market competition, etc). |
| **Revenue Realized** | Describes who collects revenue for performing collection services. |
| **Rate Setting** | Describes who is responsible for determining the rates the customer pays for collection services. |

### 3.3.3.2 Detailed Results – Collection Services Subsets

**Utility B**

| | | Residential | Multi-Family | Commercial |
|---|---|---|---|---|
| Performed By | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |
| Market Mechanism | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |
| Revenue Realized | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |
| Rate Setting | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |

**Utility E**

| | | Residential | Multi-Family | Commercial |
|---|---|---|---|---|
| Performed By | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |
| Market Mechanism | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |
| Revenue Realized | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |
| Rate Setting | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |

**Utility V**

| | | Residential | Multi-Family | Commercial |
|---|---|---|---|---|
| Performed By | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |
| Market Mechanism | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |
| Revenue Realized | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |
| Rate Setting | Garbage | | | |
| | Recycling | | | |
| | Organics | | | |

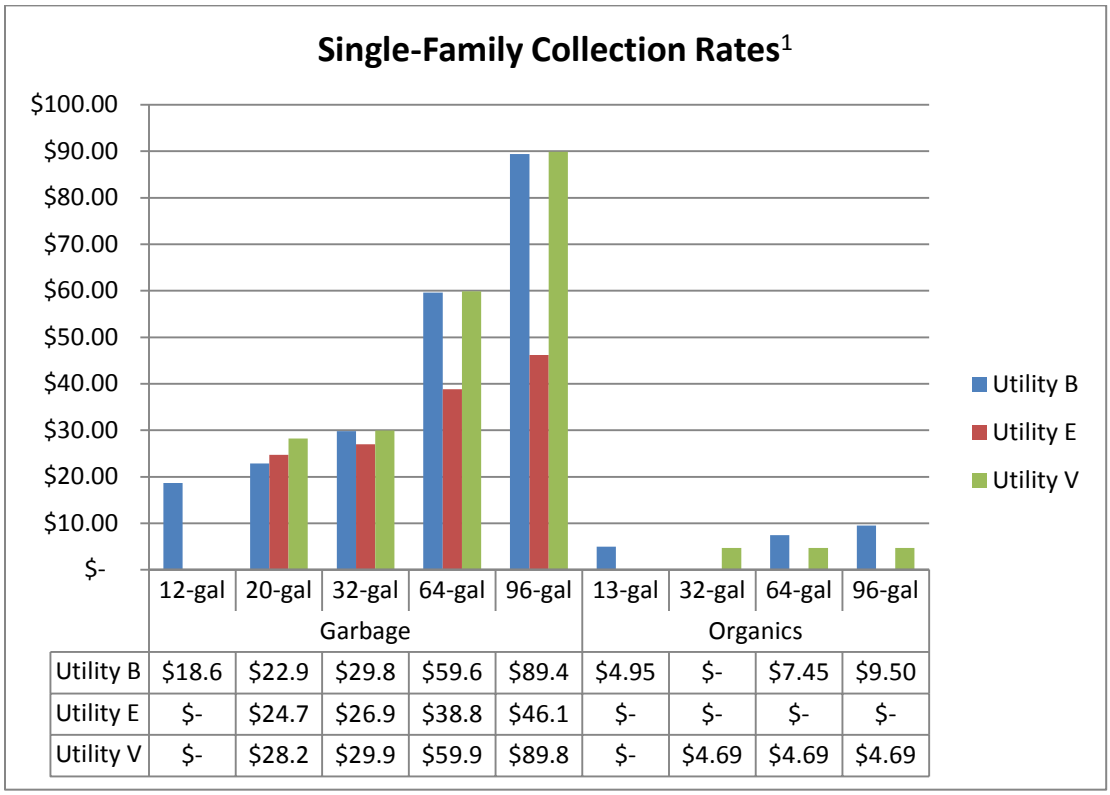
As shown by the detailed breakdown of the subservices, all three utilities outsource the actual collection of waste material to private contractors. Beyond that, Utilities B and V retain most services in-house, and tightly control both the procurement of services, and setting of rates. In all three utilities' cases, the commercial sector is most likely to be outsourced or left to the open market.

### 3.3.4 Who owns the collection containers provided to single-family curbside customers and who manages container inventory?

| | Utility B | Utility E | Utility V |
|---|---|---|---|
| Container Ownership | Utility-owned | Contractor | Contractor |
| Container Inventory Management | Contractor | Contractor | Contractor |

### 3.3.5 What are the collection rates currently charged to customers in the single-family, multi-family and commercial sectors?

#### 3.3.5.1 Single-Family

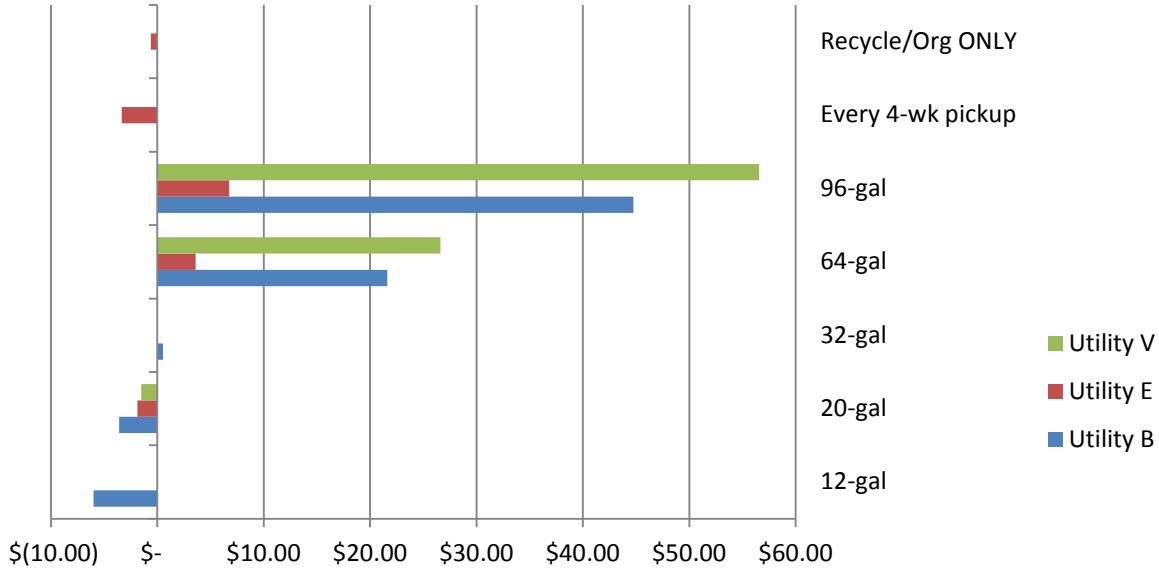



| | 12-gal | 20-gal | 32-gal | 64-gal | 96-gal | 13-gal | 32-gal | 64-gal | 96-gal |
|---|---|---|---|---|---|---|---|---|---|
| | Garbage | | | | | Organics | | | |
| Utility B | $18.6 | $22.9 | $29.8 | $59.6 | $89.4 | $4.95 | $- | $7.45 | $9.50 |
| Utility E | $- | $24.7 | $26.9 | $38.8 | $46.1 | $- | $- | $- | $- |
| Utility V | $- | $28.2 | $29.9 | $59.9 | $89.8 | $- | $4.69 | $4.69 | $4.69 |

All three utilities have built incentives and disincentives into their rates, based on the size of garbage container used. Incentives represents a dollar amount *below* (negative) the actual cost of collection; disincentives represent a dollar amount *above* (positive) the actual cost of collection. This structure is provided in the following table.

**Incentive/Disincentive Structure[1]**

Shown as difference in price charged to customer per collection from actual cost to collect

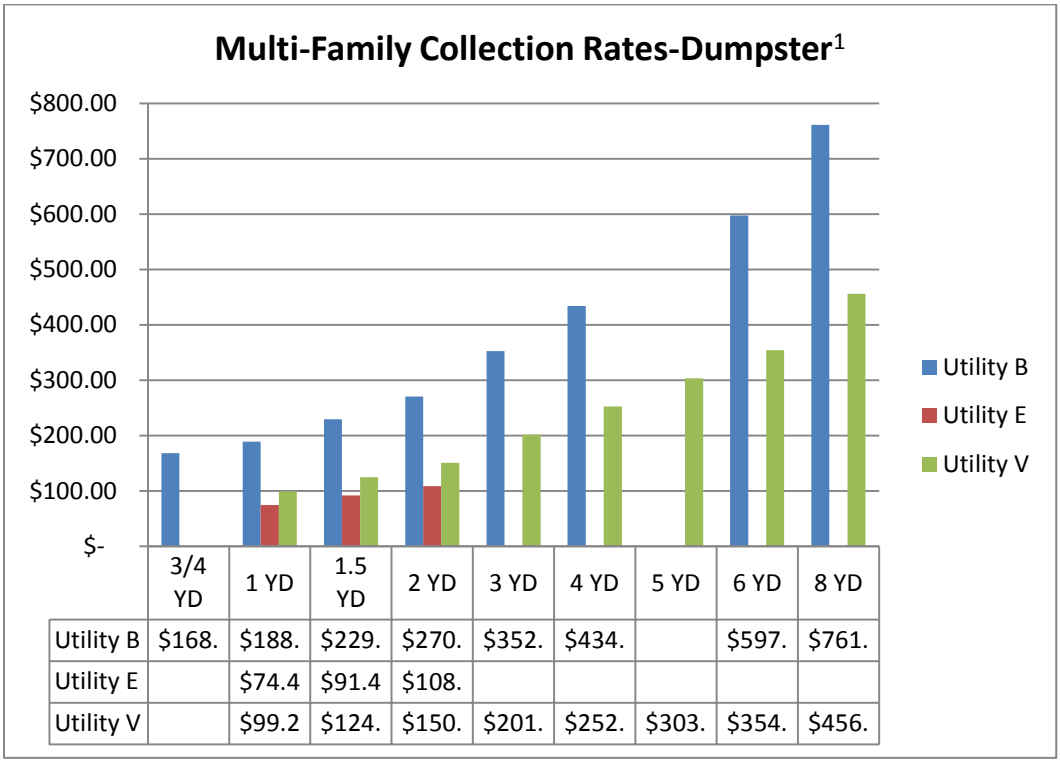



| | 12-gal | 20-gal | 32-gal | 64-gal | 96-gal | Every 4-wk pickup | Recycle/Org ONLY |
|---|---|---|---|---|---|---|---|
| Utility V | $- | $(1.50) | $- | $26.62 | $56.57 | | |
| Utility E | $- | $(1.88) | $- | $3.62 | $6.76 | $(3.35) | $(0.62) |
| Utility B | $(5.99) | $(3.57) | $0.53 | $21.63 | $44.73 | $- | $- |

Utilities B and V are very similar in their cost of service, and incentive/disincentive structure. While Utility E appears to be lower in comparison for large cans, disincentives for these can sizes are considerably less than either of the other two utilities. For all three utilities surveyed, additional incentives are built into the rates for recyclables and organics pick-up: of the utilities surveyed, none charged for curbside collection of recyclables in any amount; Utility E does not charge for organics pick-up. Utilities B and V heavily subsidize organics pick-up through garbage collection rates.

[1]Chart Notes:
Utility V offers free curbside collection of yard trimmings loose in the street. The costs reflected here are for voluntary subscription to container service. Additionally, Utility V does not allow food scraps in its curbside collection program for organic waste.
Utility E offers a 35-gallon, 60-gallon, and 90-gallon cart. All rates have been adjusted to the following standard container sizes: 12-gallon, 20-gallon, 32-gallon, 64-gallon, 96-gallon.
All rates are for standard service, with no additional services like non-curbside pick-up. All rates are for 2013.

### 3.3.5.2 Multi-Family




| | 3/4 YD | 1 YD | 1.5 YD | 2 YD | 3 YD | 4 YD | 5 YD | 6 YD | 8 YD |
|---|---|---|---|---|---|---|---|---|---|
| Utility B | $168. | $188. | $229. | $270. | $352. | $434. | | $597. | $761. |
| Utility E | | $74.4 | $91.4 | $108. | | | | | |
| Utility V | | $99.2 | $124. | $150. | $201. | $252. | $303. | $354. | $456. |

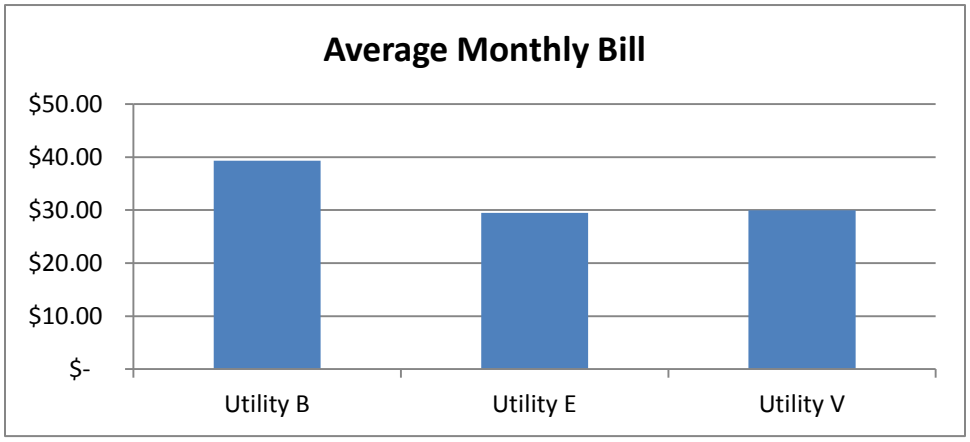
[1]Chart Notes:
Rates are for garbage only, weekly pick-up, no special services (secure entry, compacted, etc). All rates are for 2013.

As the chart shows, Utility B has considerably higher rates than the other two utilities for all dumpster sizes. Utility E only manages contracted services for townhomes of up to four units. Townhomes with more than four units are considered commercial and service is provided by the free market.

### 3.3.5.3 Commercial

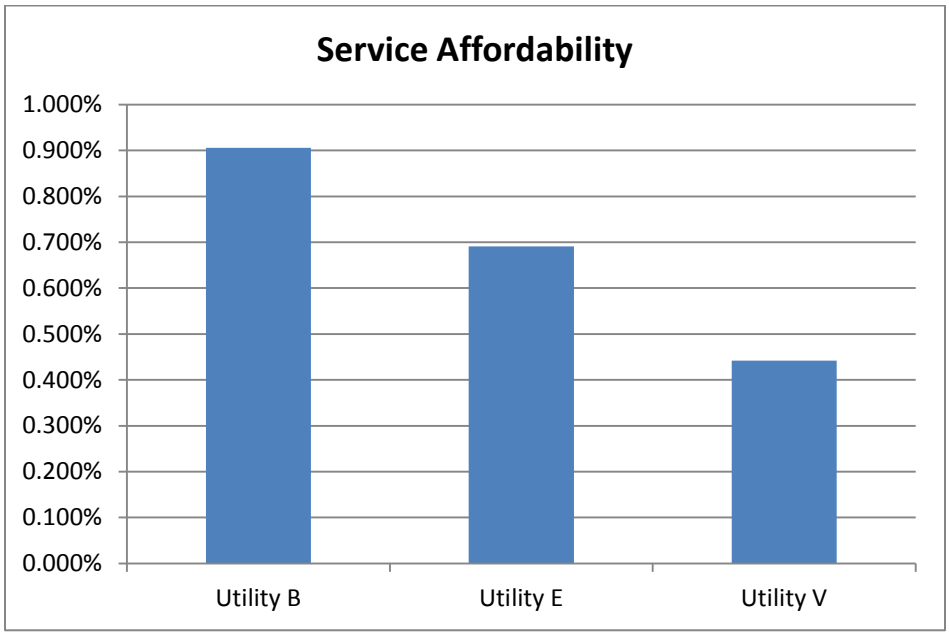
Commercial rates are not compared because not all utilities set commercial rates within their jurisdiction.

### 3.3.6 What is an average monthly bill for a single-family home for solid waste services?




As depicted by the table, Utility B has the highest average monthly bills, largely because it charges for curbside collection of organic materials. Utility E does not charge for this material, and Utility V only charges if the household subscribes to container service (versus placing material in the street).

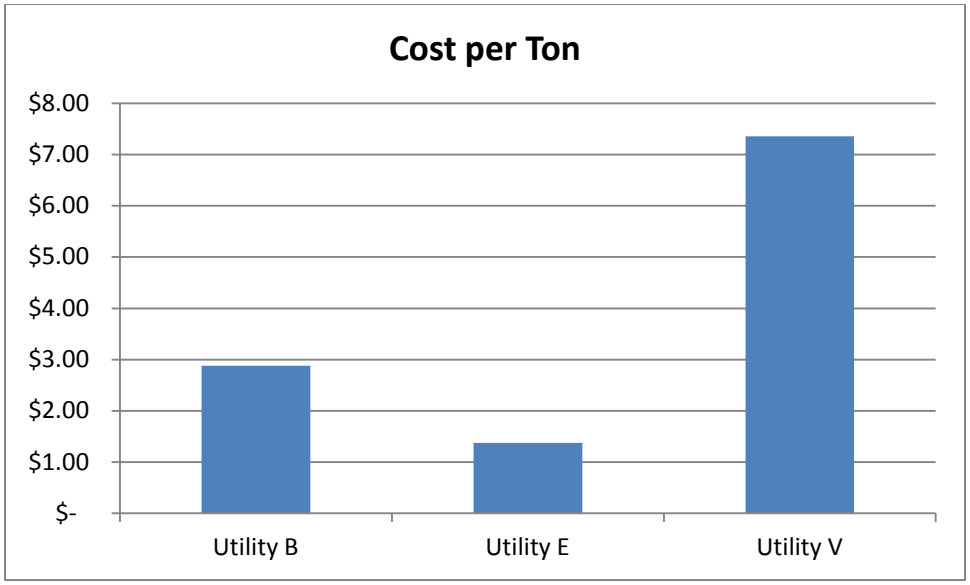
### 3.3.7 What is your waste service affordability (expressed by average monthly bill multiplied by 12 months as percent of median household income)?




As shown, Utility B has the highest monthly bill as a percentage of median household income. However, median household incomes are not consistent across the three utilities surveyed, with Utility V approximately 32% above the average of the three, and Utility B and E approximately 15% and 17% below the average, respectively.

### 3.3.8 What does your utility expend on collection services annually?

| Utility | Total cost |
|---|---|
| **Utility B** | $1,925,896 |
| **Utility E** | $784,053 |
| **Utility V** | $5,679,504 |




Utility B and V contract out curbside collection functions to private haulers but still recover revenue from these services. They therefore pay private haulers from the revenue they collect, whereas Utility E recovers no revenue and makes no contract payments to private haulers. The costs above are adjusted to reflect this by omitting the payments Utility B and V make to contracted service providers.

Both Utilities B and V incur higher costs per ton to manage solid waste collection because they oversee exclusive contracts requiring a greater level of oversight and a greater number of financial transactions with the contracted haulers (compared to Utility E, which utilizes a system of franchise licenses by territory).

Note that every attempt was made to normalize the cost comparison between the three utilities, however, due to variances in systems of accounting, Utility E and V provided cost data that included overhead and administration, while Utility B provided cost data explicitly for contract oversight and management.

### 3.3.9 To what metrics are contractors held to when providing curbside collection services?

All three utilities surveyed hold contractors performing curbside collection accountable to a certain set of service levels to the customer. The standards are written into the Service Agreement (Utilities B and V) or Franchise License (Utility E) and a comparison of the most common and relevant requirements is shown in the following Table A. As shown, the levels of service are very similar from utility to utility.

In addition to customer service levels, all three utilities have defined a set of Performance Fees or Liquidated Damages should these levels of service, or the general provisions of the Contracts/Licenses, not be met. All three utilities have based the fee structure on complaints and number of infractions, with the penalty fee increasing with each infraction.

Finally, Utilities B and V have established a set of rewards and penalties for meeting certain established diversion targets, as shown in Table B. However, Utility B is the only utility of those surveyed to go much further, rewarding and penalizing for service level requirements. These measures are therefore not included in the table.

**Table A. Contractor Performance Metrics (as written into contractual agreement)**

| Utility B | Utility E | Utility V |
|---|---|---|
| • Missed collections: < 1 per 1,000 stops<br>• Repeat missed collections: <1 per 10,000 stops<br>• Reporting accuracy: 85%-90% (extras, etc.)<br>• 80% commercial calls answered within one minute<br>• Commercial abandoned calls <10% per month<br>• Commercial satisfaction rated >5 (1-7 scale) on bi-annual survey<br>• Spillage:<br>  o Spilled or scattered during collection: cleaned within 3 business hours<br>  o Hydraulic/transmission/oil or other hazardous: cleaned within 1 hour<br>• Daily, weekly, monthly, quarterly reporting requirements<br>• Transfer station cycle time: 15 minutes or less | • Missed collections remedied within 24 hours of notice<br>• Delivery of containers next business day but no later than 7 business days after request<br>• Pick-up of appliances, tires: within 7 business days of request<br>• Response to customer complaints: within 3 business hours of receipt of call<br>• Quarterly reporting of monthly collection data | • Collection service-related calls answered within five rings<br>• Missed collections remedied within 24 hours (if received before 3:00pm; otherwise by end of next business day)<br>• Replacement of damaged cart within 10 business days of notification<br>• Daily, weekly, monthly, quarterly reporting requirements<br>• Various diversion standards by service district<br>• Commercial<br>  o Spills and litter clean-up within 2 hours of complaint<br>  o Container graffiti clean-up with 5 work days of complaint<br>  o Missing container replacement within 1 work day of complaint<br>  o Broken container repair/replacement within 5 work days of complaint |

**Table B. Contractor Performance Incentives (as written into contractual agreement)**

| Utility B | Utility E | Utility V |
|---|---|---|
| • Recycling and Reduction Incentive (annual):<br>$10 per ton reduced residential and commercial (compared to baseline)<br>$5 per ton reduced residential recycling and compostable tons<br>Maximum of $75,000 per year; ending contract year 2014. | • None | • Each 1% greater than diversion standard, contractor receives 0.5% of the prior calendar year payment<br>• Each 1% less than diversion standard, contractor receives 0.5% deduction in payment of the prior calendar year payment<br>• Commercial<br>o Increase in allowable profit ration at time of rate adjustment based on percentage above diversion target |

## 3.4 Functional Area 2: Handling

### 3.4.1 Transfer of Waste

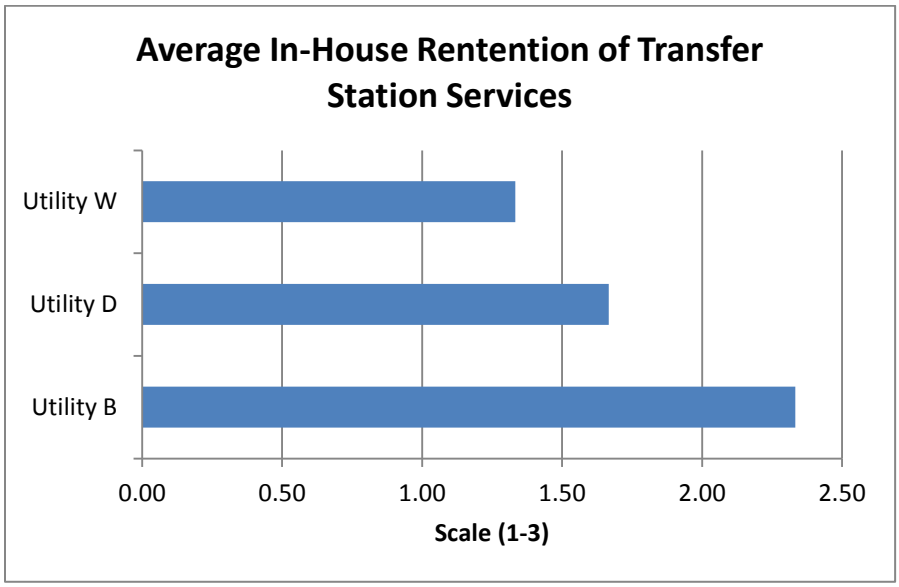
#### 3.4.1.1 What is the mechanism for providing waste transfer services in your jurisdiction?

Utilities W, D, and B provide waste transfer services through use of public transfer stations (TS) and private TS. The following chart displays the variations offered by the utilities in providing waste transfer.

| | # of publicly owned and operated TS | # of publicly owned and privately operated TS | # of privately owned and operated TS |
|---|---|---|---|
| **Utility B** | 2 | 0 | 1 |
| **Utility D** | 0 | 4 | 2 |
| **Utility W** | 0 | 2 | 4 |

Given that the utilities provide waste transfer services in different ways, the following chart provides a means of comparing the utilities in terms of retention of ownership and operation of transfer stations in-house. Values were determined based on the following scale, with higher numbers depicting greater in-house retention of services.

| Scale | |
|---|---|
| **Publicly owned and operated** | 3 |
| **Hybrid** | 2 |
| **Privately owned and operated** | 1 |




Utilities W and D contract out the operation of their transfer stations while Utility B retains transfer station operations in-house.

### 3.4.1.2 What tip fees are charged at transfer stations in your jurisdiction?

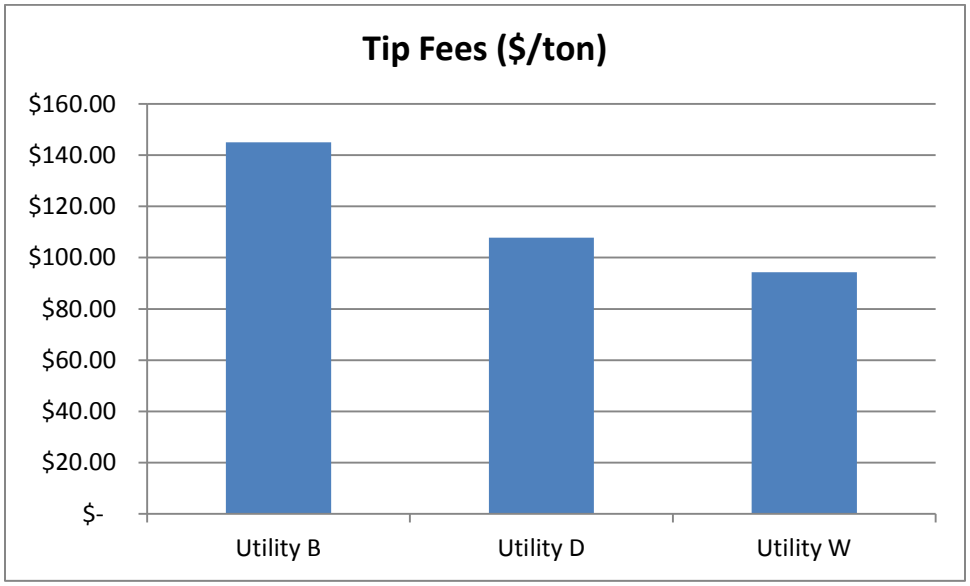
The following table compares the transfer station tip fees for the three utilities. The tip fees are per US (short) ton and are for covered/secured loads.

| | Mixed Waste | Yard Waste | Organics[3] |
|---|---|---|---|
| **Utility B[1]** | $145.00 | $110.00 | N/A |
| **Utility D[1]** | $107.86 | $63.50 | N/A |
| **Utility W[2]** | $94.33 | $53.00 | $56.67 |

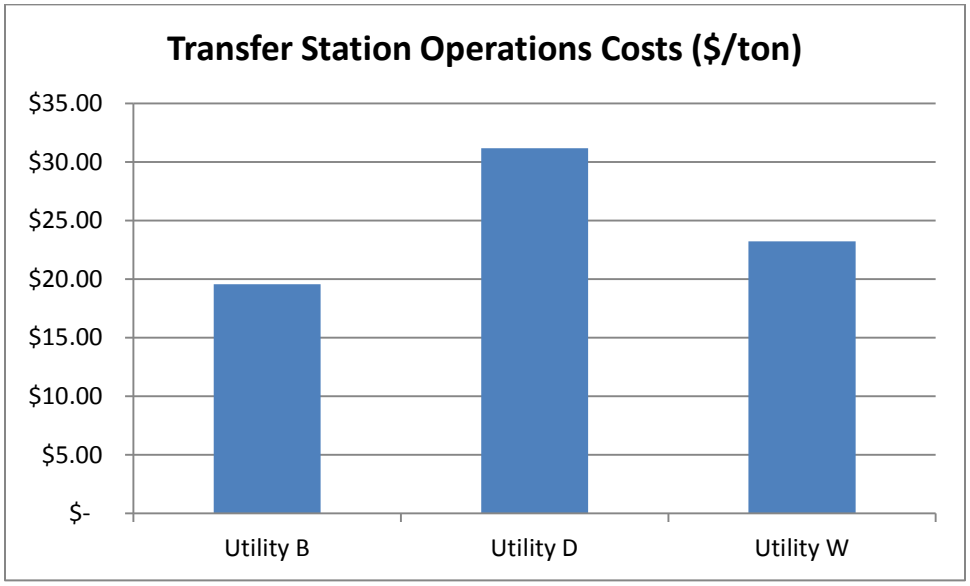
Table Notes:

1) Fees include taxes.
2) In addition to tonnage cost a $12 transaction fee is charged to anyone delivering waste to the transfer stations. Fee is per transaction and therefore cannot be rolled into tonnage fee.
3) For B and D food organics are not accepted at transfer stations.

The following graph represents the mixed waste tip fees per ton of the three utilities.



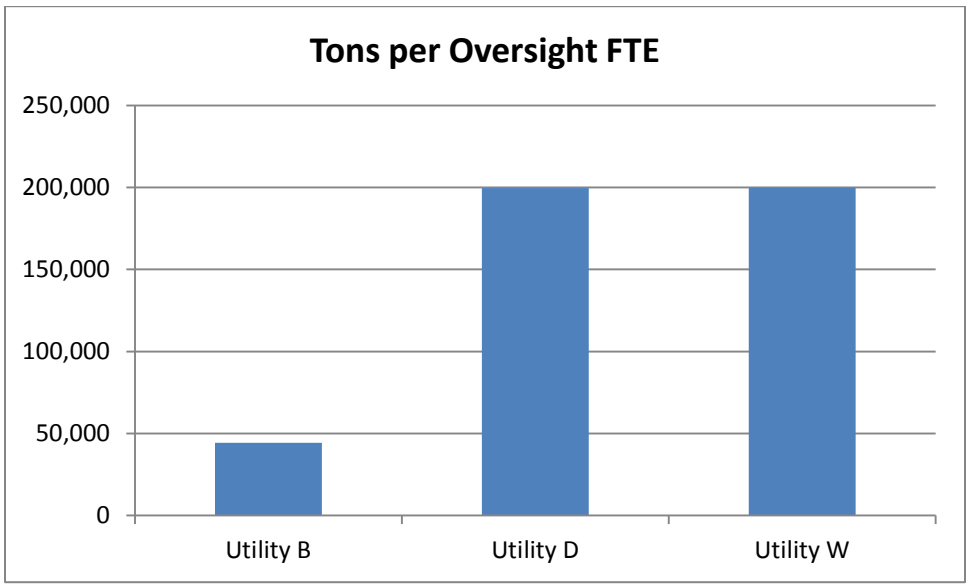
### 3.4.1.3 What does your utility expend on waste transfer services annually?




The costs for Utility D were obtained based on the contract costs of the private contractor that performs the majority of Utility D's transfer operations.

### 3.4.1.4 How many oversight FTE does your agency employ to provide waste transfer services?

The following graph displays tons processed through transfer stations divided by the amount of staff overseeing transfer station operations. Because Utility B retains transfer station operations in-house the number of staff dedicated to oversight for all transfer stations was estimated at seven.




### 3.4.1.5 To what metrics are contractors held to when providing transfer station operation services?

| Utility B[1] | Utility D | Utility W |
|---|---|---|
| • Number of days garbage is emptied off the floor by end of day<br>• Average customer satisfaction rating | • Site operational conditions<br>• Site free of litter<br>• Condition of weigh scales<br>• Pest control | • Customer wait times<br>• Safety<br>• Time to transfer waste<br>• Recovery rate<br>• Equipment maintenance<br>• Sustainability of operations |

Table Notes:

1) Utility B does not contract out transfer station services. Metrics shown are metrics that the utility tracks to assess its own performance.

### 3.4.2 Hauling

For Utilities D and W hauling of waste from the transfer stations to the landfills/recovery facilities is performed entirely by contract operators. The operators are awarded multi-year contracts through a low bid selection process. Utility B is responsible for hauling waste from the transfer stations to the railhead where a private contractor then hauls the waste to the landfills.

The costs to haul are not included in this report because they are not always publically available and are difficult to normalize given that the hauling distances and modes of transportation differ significantly between the benchmarked utilities.

### 3.4.3 Processing

Waste processing, which includes disposal of garbage in landfills and processing of recyclables and organics, is entirely privatized for all three utilities.

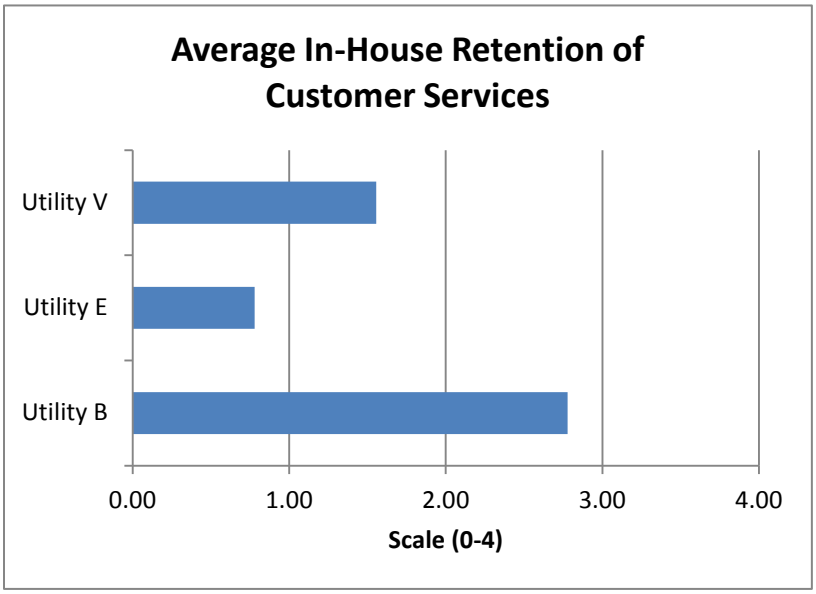
The costs to process waste are not included in this report because they are either confidential or the cost of processing are lumped together with the costs of hauling and cannot be separated and compared against each other.

## 3.5 Functional Area 3: Customer Services

### 3.5.1 What is the mechanism of service provision for Customer Service functions?

Because of the variations in both types of services offered by different utilities, and the mechanisms by which those services are offered, the following charts provide a means of comparing how services common to each utility are provided. The chart below is an overview, shown through an average level of services retained in-house across all services based on a weighted scale, with higher numbers depicting greater in-house retention of services. The average was generated by taking the weighted results of each sub-service composing the Customer Services functional area, which are described in further detail under **Detailed Results**.

| Scale | |
|---|---|
| **In-House** | 4 |
| **Hybrid with strong redundancies** | 3 |
| **Hybrid with minimal redundancies** | 2 |
| **Hauler/Contractor** | 1 |
| **Not offered** | 0 |




As shown by the table, Utility E has contracted out much of the customer services while Utility B has retained much in-house. Utility V falls in the middle.

The following detail charts break customer services into subsets to provide more specific information for how each utility performs a particular sub-service. The same weighted scale from above is used. Again, retention of in-house services is indicated by the length of the color bar, with a longer bar depicting greater in-house retention. The subsets of the Customer Services functional area are shown in matrix form by generator type: residential (single-family), multi-family, commercial. The subsets are:

| Customer Services - Subset | Description |
|---|---|
| **Billing** | Describes who is responsible for billing and collection of payments from customers. |
| **Complaint Resolution** | Describes who provides primary response and resolution for complaints related to services. In some cases this is performed by both the utility and contracted hauler. |
| **Enforcement/Fines** | Describes who inspects and enforces materials bans and contamination of material collected curbside. In some cases this is performed by both the utility and contracted hauler. |

### 3.5.1.2 Detailed Results – Customer Services Subsets

**Utility B**

| Services Performed | Residential | Multi-Family | Commercial |
|---|---|---|---|
| Billing | | | |
| Complaint Resolution | | | |
| Enforcement/Fines | | | |

**Utility E**

| Services Performed | Residential | Multi-Family | Commercial |
|---|---|---|---|
| Billing | | | |
| Complaint Resolution | | | |
| Enforcement/Fines | | | |

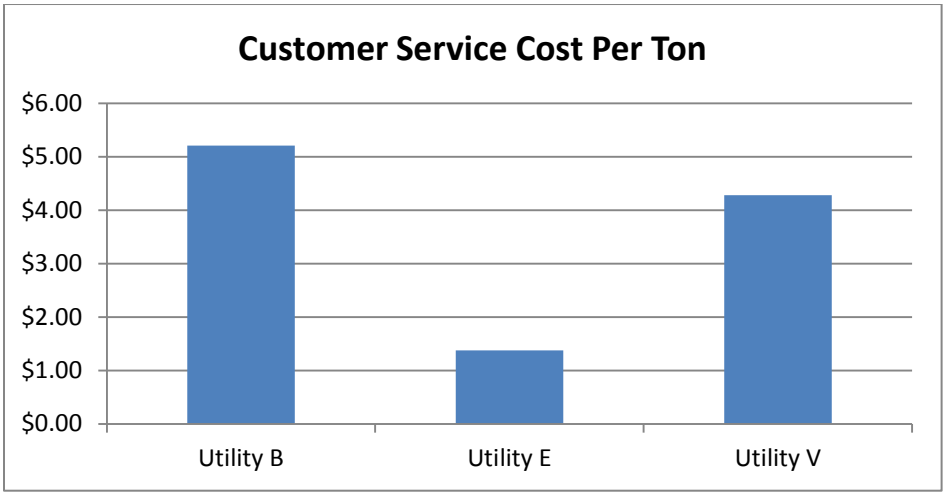
**Utility V**

| Services Performed | Residential | Multi-Family | Commercial |
|---|---|---|---|
| Billing | | | |
| Complaint Resolution | | | |
| Enforcement/Fines | | | |

As depicted above, Utility B has the highest degree of in-house retention of customer services. For all three utilities, the residential sector sees the highest in-house retention of services, while the commercial sector is primarily left to private haulers.

### 3.5.2 What does your utility expend on customer service functions annually?

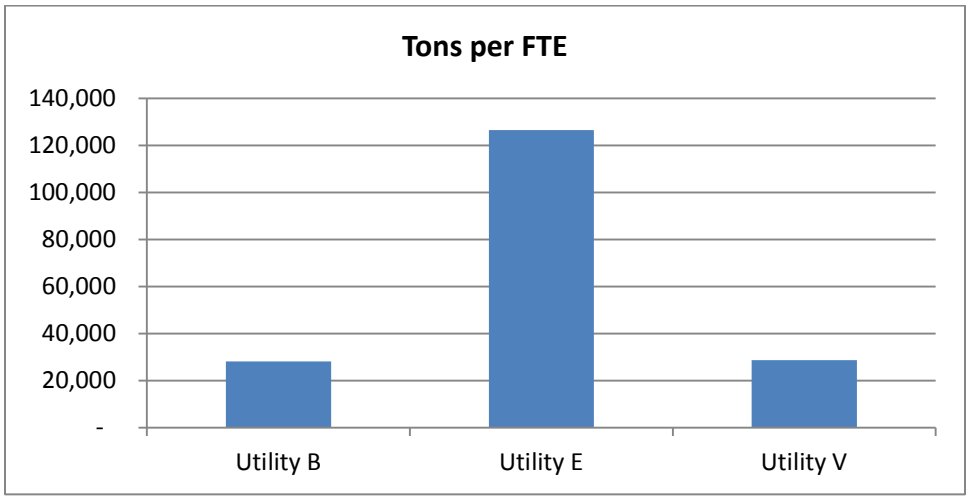
| Utility | Total cost |
|---|---|
| **Utility B** | $3,479,473 |
| **Utility E** | $784,053 |
| **Utility V** | $3,308,554 |




Utilities B and V perform customer billing, while Utility E does not.

### 3.5.3 How many staff does your agency employ to provide customer service functions?

| Utility | Allocated FTE |
|---|---|
| **Utility B** | 24 |
| **Utility E** | 5 |
| **Utility V** | 27 |



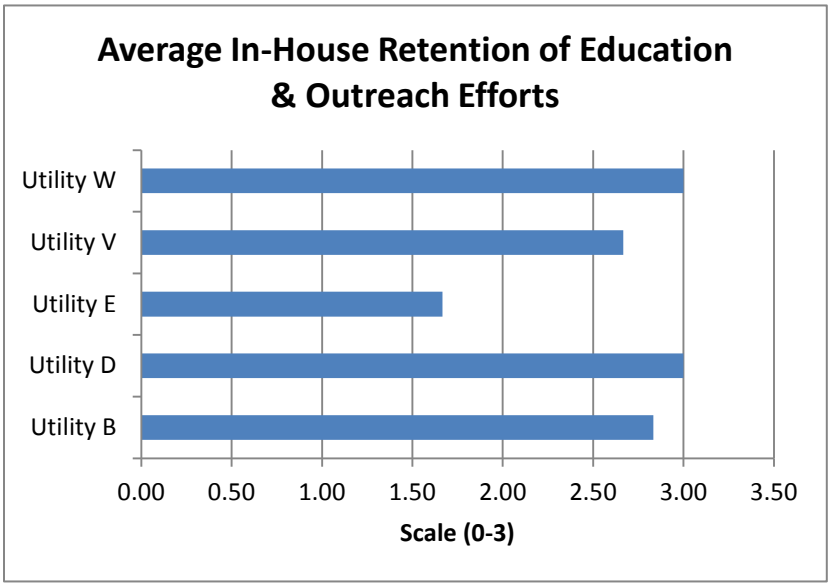

Utility E has outsourced virtually all customer service functions, including billing, to private haulers performing collection services. It retains some complaint resolution functions in-house.

## 3.6 Functional Area 4: Education & Outreach

### 3.6.1 What efforts are undertaken to educate customers in your jurisdiction on solid waste related issues, and who provides the education efforts?

Because of the variations in both types of services offered by different utilities, and the mechanisms by which those services are offered, the following charts provide a means of comparing how services common to each utility are provided. The chart below is an overview, shown through an average level of services retained in-house across all services based on a weighted scale, with higher numbers depicting greater in-house retention of services. The average was generated by taking the weighted results of each sub-service composing the Education & Outreach functional area, which are described in further detail under **Detailed Results**.

| Scale | |
|---|---|
| Provided: in-house | 3 |
| Provided: hauler/contractor (not required) | 1 |
| Provided: hauler/contractor (required) | 3 |
| Provided: hybrid (strong redundancies) | 3 |
| Provided: hybrid (minimal redundancies) | 2 |
| Not offered | 0 |



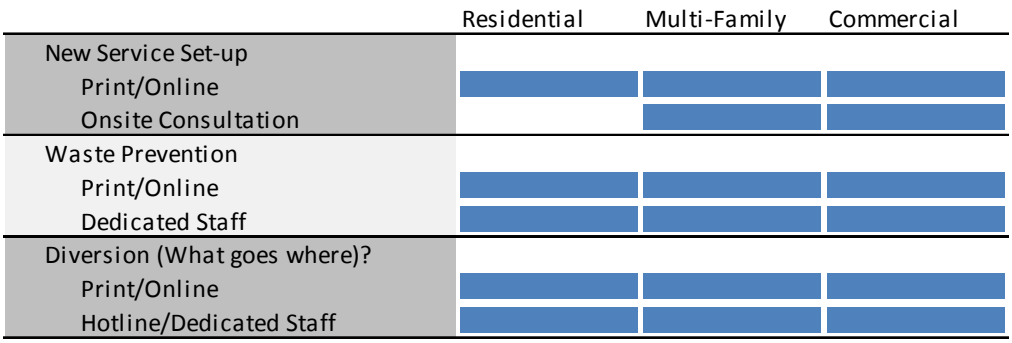

As demonstrated by the averages for each utility, most retain a high degree of services in-house.

The following detail charts break education and outreach into subsets to provide more specific information for how each utility performs a particular sub-service. The same weighted scale from above is used. Again, retention of in-house services is indicated by the length of the color bar, with a longer bar depicting greater in-house retention. The subsets of the Education & Outreach functional area are shown in matrix form by generator type: residential (single-family), multi-family, commercial; and by media: print/online and through dedicated staff. The subsets are:

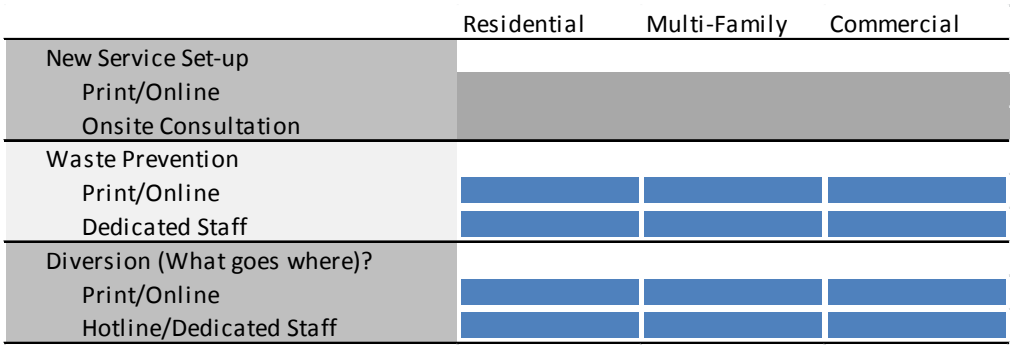
| Education & Outreach - Subset | Description |
|---|---|
| **New Service Set-Up** | Information and consultation provided to new customers or existing customers subscribing to new services. |
| **Waste Prevention** | Information, consultation, and resources for minimizing waste produced. |
| **Diversion** | Information and resources, which may include a hotline, for how to properly separate waste streams and recycle materials not collected at the curb. |

### 3.6.1.2 Detailed Results – Education & Outreach Subsets

**Utility B**




**Utility D[1]**




**Utility E**

**Utility V**

| | Residential | Multi-Family | Commercial |
|---|---|---|---|
| New Service Set-up | | | |
| Print/Online | ■ | ■ | ■ |
| Onsite Consultation | | ■ | ■ |
| Waste Prevention | | | |
| Print/Online | ■ | ■ | ■ |
| Dedicated Staff | | ■ | ■ |
| Diversion (What goes where)? | | | |
| Print/Online | ■ | ■ | ■ |
| Hotline/Dedicated Staff | ■ | ■ | ■ |

**Utility W[1]**

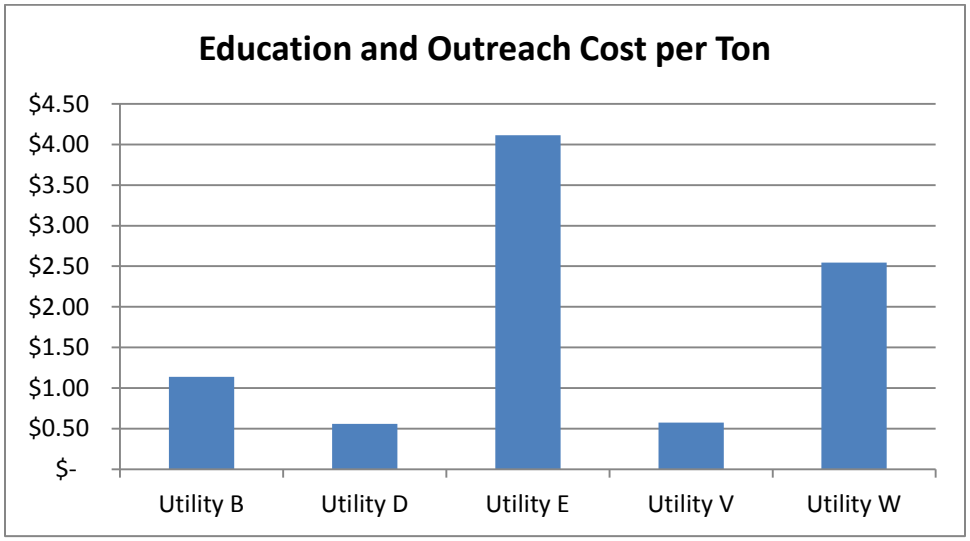
| | Residential | Multi-Family | Commercial |
|---|---|---|---|
| New Service Set-up | | | |
| Print/Online | | | |
| Onsite Consultation | | | |
| Waste Prevention | | | |
| Print/Online | ■ | ■ | ■ |
| Dedicated Staff | ■ | ■ | ■ |
| Diversion (What goes where)? | | | |
| Print/Online | ■ | ■ | ■ |
| Hotline/Dedicated Staff | ■ | ■ | ■ |

[1]Utilities D and W do not provide curbside collection, so new service set-up is not applicable.

As shown above, education and outreach as a functional area is performed largely by the utilities in-house. There is also some redundancy with contracted haulers. Utility E has the lowest in-house retention, however it is part of a regional solid waste system that shares many education and outreach functions.

### 3.6.2 What does your utility expend on education and outreach annually?

| | Total cost |
|---|---|
| **Utility B** | $760,379 |
| **Utility D** | $1,800,000 |
| **Utility E** | $2,341,476 |
| **Utility V** | $442,056 |
| **Utility W** | $5,500,000 |




Utility V requires its contracted haulers spend a minimum dollar amount on education and outreach annually.

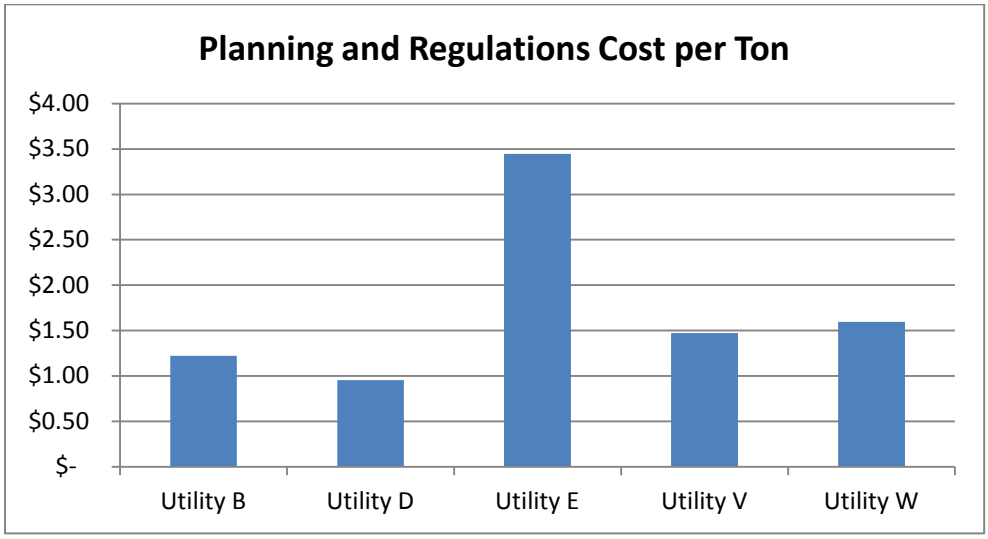
## 3.7 Functional Area 5: Planning, Policy & Regulation

The level of planning, policy-setting, and regulation enforcement varies greatly among those utilities surveyed. The following table summarizes the most common elements of this functional area and the relationship between the utility's role and other regional and state agencies.

| | Utility B | Utility D | Utility E | Utility V | Utility W |
|---|---|---|---|---|---|
| **Master Planning** | Lead planning | Lead planning for jurisdiction in coordination with member municipalities | Lead city-wide planning in conjunction with regional jurisdiction | Lead planning | Lead planning for jurisdiction in coordination with member municipalities |
| **Waste Bans** | Implement bans set at city-level | Set jurisdiction-wide materials bans | Implement state-level bans; implement city-level plastic bag ban | Minimal use of materials bans; implement plastic bag bans set at city level | Implement state-level bans |
| **Diversion Policy (Targets)** | Lead target-setting process | Set jurisdiction-wide diversion targets | Lead target-setting process; regional targets also in place | Lead target-setting process; state minimums also in place | Provide input into target-setting process though targets are officially set by state |
| **Waste Bans (Enforcement)** | In conjunction with contract haulers; fines issued by utility | Monitor at transfer stations; enforcement carried out by member municipalities | Minimal role, contaminants monitored by haulers and transfer station operators | Secondary to contract haulers; fines issued by utility | Monitor at transfer stations |
| **Facility Certifications** | No role | Certify C&D recyclers; private facility regulation | No role | Certify C&D recyclers | No role |

### 3.7.2 What does your utility expend on planning, policy-setting, and regulations annually?

| | Total cost |
|---|---|
| **Utility B** | $817,489 |
| **Utility D** | $3,078,926 |
| **Utility E** | $1,960,132 |
| **Utility V**[1] | $524,632 |
| **Utility W** | $3,449,970 |




[1]Chart Notes: Utility V did not provide cost data for this functional area specifically. The figures shown in the table and chart above are expenditures on senior management and support.

## 3.8 Functional Area 6: Miscellaneous Waste Streams

### 3.8.1 What services are currently offered by the utility regarding miscellaneous waste streams?

#### 3.8.1.1 Household Hazardous Waste

| | Curbside collection?[1] | Curbside rate | Self-haul or drop-off site? | Self-haul of drop-off rate | Additional notes |
|---|---|---|---|---|---|
| **Utility B** | Yes | $30 per item | Yes | Free | |
| **Utility D** | N/A | N/A | Oil filters, lead acid batteries, propane tanks only | Free | Regulated by the utility |
| **Utility E** | Motor oil only | Free | No | N/A | Part of county-wide system |
| **Utility V** | No | N/A | Yes | Free | Part of county-wide system |
| **Utility W** | N/A | N/A | Yes | $5 per load | |

#### 3.8.1.2 Electronic Waste

| | Curbside collection?[1] | Curbside rate | Self-haul or drop-off site? | Self-haul of drop-off rate | Additional notes |
|---|---|---|---|---|---|
| **Utility B** | Yes | $20 per load | No | N/A | |
| **Utility D** | N/A | N/A | No | N/A | Regulated by the utility |
| **Utility E** | No | N/A | No | N/A | State-wide Producer Take-Back drop-offs |
| **Utility V** | No | N/A | Yes | Free | Part of county-wide system |
| **Utility W** | N/A | N/A | Yes | Free | State-wide Producer Take-Back requirement in place |

### 3.8.1.3 Bulky Items and Appliances

| | Curbside collection?[1] | Curbside rate | Self-haul or drop-off site? | Self-haul of drop-off rate | Additional notes |
|---|---|---|---|---|---|
| **Utility B** | No | N/A | Yes | $30 per appliance | |
| **Utility D** | N/A | N/A | Yes | Free (mattresses $15 each) | |
| **Utility E** | No | N/A | No | N/A | |
| **Utility V** | Yes | $25.86 up to 3 items | No | N/A | Hauler-provided service |
| **Utility W** | N/A | N/A | Yes | $30 per item | |

### 3.8.1.4 Tires

| | Curbside collection?[1] | Curbside rate | Self-haul or drop-off site? | Self-haul of drop-off rate | Additional notes |
|---|---|---|---|---|---|
| **Utility B** | No | N/A | Yes | $13 per load (limit 4 per load) | |
| **Utility D** | N/A | N/A | No | No | |
| **Utility E** | No | N/A | No | N/A | |
| **Utility V** | Yes | $25.86 up to 3 items | No | N/A | Hauler-provided service |
| **Utility W** | N/A | N/A | Yes | $12, plus $2 per additional tire (off-rim) | |

### 3.8.1.5 Construction & Demolition Waste

| | Curbside collection?[1] | Curbside rate | Self-haul or drop-off site? | Self-haul of drop-off rate | Additional notes |
|---|---|---|---|---|---|
| **Utility B** | No | N/A | Yes | $145/ton | |
| **Utility D** | No | N/A | Gypsum only | $136.05/ton (gypsum only) | Regulated by the utility |
| **Utility E** | No | N/A | No | N/A | |
| **Utility V** | No | N/A | No | N/A | Regulated by the utility |
| **Utility W** | No | N/A | Dry-waste only | $94.33/ton covered loads | |

[1]Chart Notes: Curbside information is for single-family collection only.

## 3.8.2 By whom are miscellaneous waste streams managed?

### 3.8.2.1 Household Hazardous Waste

| | Management system |
|---|---|
| **Utility B** | Regional system, with drop-offs managed by utility |
| **Utility D** | State-wide system with some utility oversight; part of mandated producer-responsibility program |
| **Utility E** | Regional system, no programs managed by utility |
| **Utility V** | Regional system, with drop-offs managed by utility |
| **Utility W** | Regional system managed by utility |

### 3.8.2.2 Electronic Waste

| | Management system |
|---|---|
| **Utility B** | Regional system, with drop-offs managed by utility |
| **Utility D** | State-wide system with some utility oversight; part of mandated producer-responsibility program |
| **Utility E** | State-wide system; part of mandated producer-responsibility program |
| **Utility V** | Regional system, with drop-offs managed by utility |
| **Utility W** | State-wide system with some utility oversight; part of mandated producer-responsibility program |

### 3.8.2.3 Construction & Demolition Waste

| | Management system |
|---|---|
| **Utility B** | Privately managed; accepted at transfer station for MSW tip fee. |
| **Utility D** | Privately managed; accepted at transfer station for MSW tip fee. |
| **Utility E** | No programs managed by utility |
| **Utility V** | Privately managed; facility certification for recovery rates regulated by utility. |
| **Utility W** | Privately managed; not accepted at transfer station. |

## 3.9 Functional Area 7: Miscellaneous Services

### 3.9.1 Does your agency provide graffiti removal services through its solid waste fund, and if so, how much is annually expended on this service?

| | Provided under fund? | Annual expenditure |
|---|---|---|
| **Utility B** | Yes | $1,165,165 |
| **Utility D** | No | N/A |
| **Utility E** | No | N/A |
| **Utility V** | No | N/A |
| **Utility W** | No | N/A |

Utility B is the only utility of those surveyed to provide graffiti removal through its fund. In other jurisdictions, that service was either not provided, or provided by another department.

### 3.9.2 Does your agency provide illegal dumping clean-up services through its solid waste fund, and if so, how much is annually expended on this service?

| | Provided under fund? | Annual expenditure |
|---|---|---|
| **Utility B** | Yes | $783,551 |
| **Utility D** | No | N/A |
| **Utility E** | No | N/A |
| **Utility V** | Blight and City Facility Waste Services | $1,135,000 |
| **Utility W** | Yes | $605,092 |

During the course of its interviews, the HDR team found that several participating utilities provided or funded a variety of other miscellaneous services through the collection of revenue from customers using solid waste collection services.

Examples include:

- Utility E: Green Building, Office Sustainability programs (funded through Franchise Licensee payment to utility).
- Utility V: Non-Profit Charitable Re-User Reimbursements, Single Family Household Rate Assistance (funded through late fees imposed on solid waste bill payments).

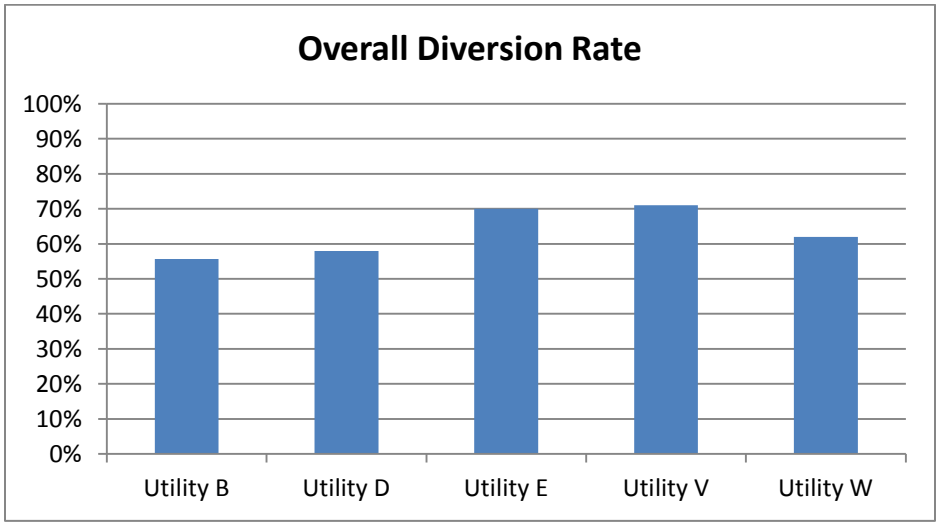
# 3.10 Functional Area 8: Levels of Service

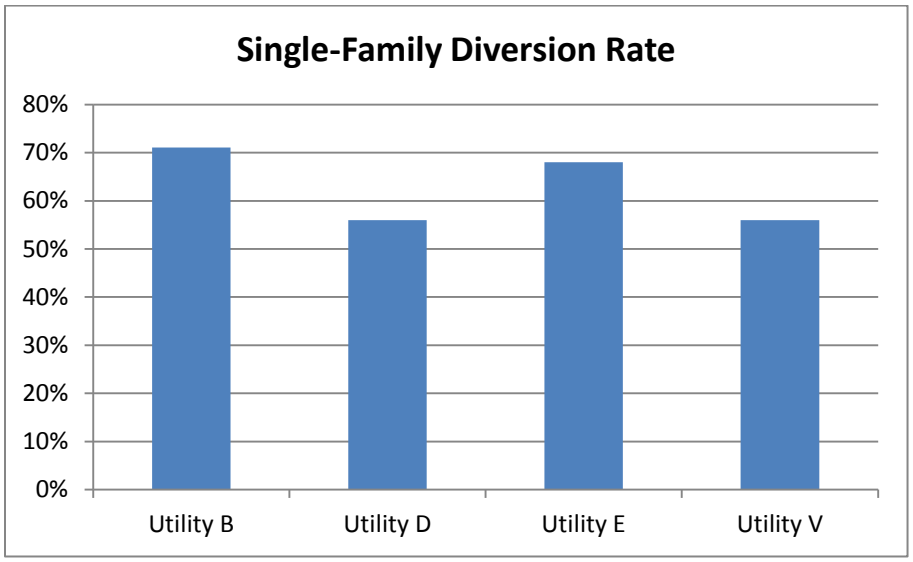
## 3.10.1 Diversion and Zero Waste Policies

The following section describes each utility's diversion programs and policies. It is included to provide context for the objectives and service levels described in this section. Diversion is a twin driver to solid waste programs and expenditures, along with customer expectations of services provided by a utility. As such, it is important to understand each utility's objectives in this area, as well as what they have already attained.

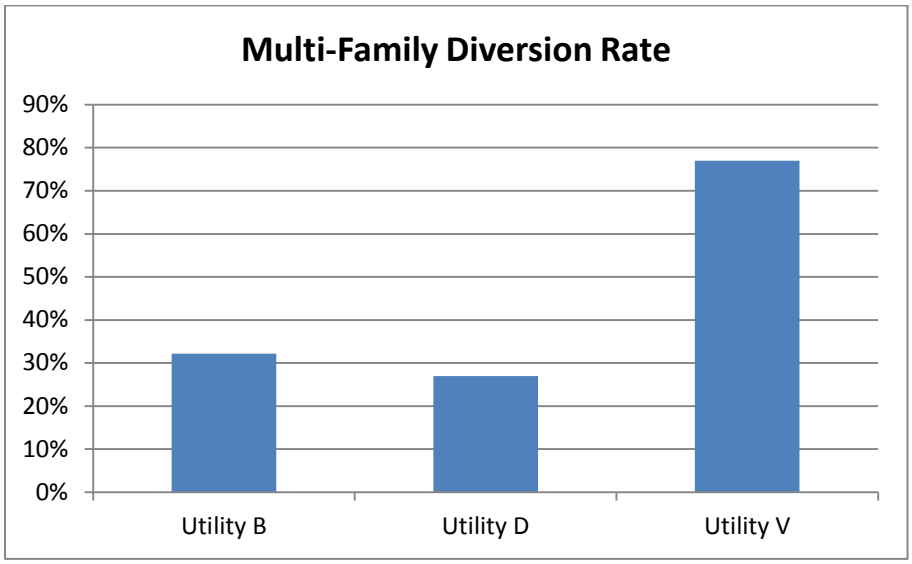
### 3.10.1.2 What is your current level of diversion?

The diversion rates have been calculated and reported by each surveyed utility and information for all sectors was not available. No verification or standardization of methodology was included in this report, and methodologies vary. Unless noted, the utilities surveyed process recyclables and compostables for recovery in a similar manner. End-product utilization of recovered material (i.e., sale of recyclables, compost production, or use of alternative daily cover) was not examined or evaluated.

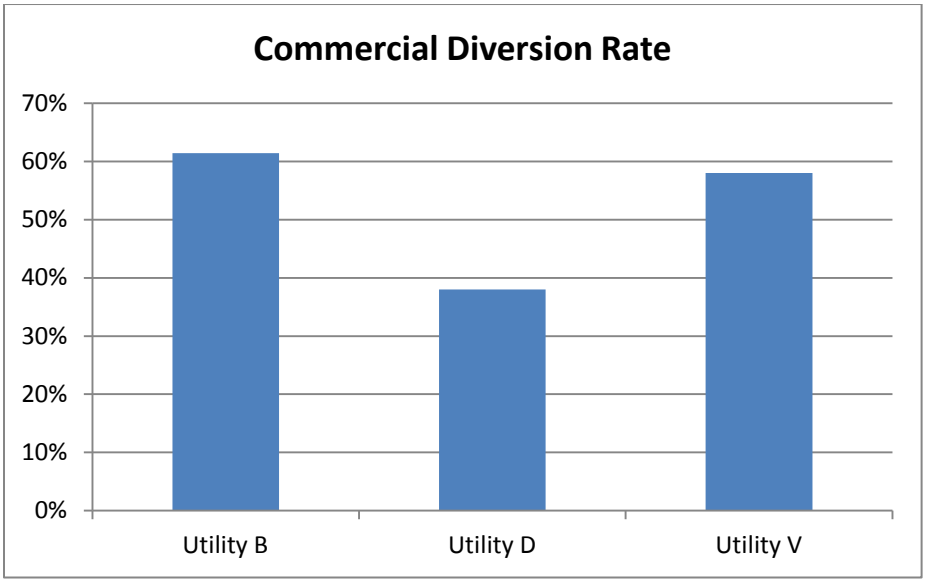


Utility V does not collect separate data for organics collection from single-family versus multi-family sectors. For the purposes of this comparison, recovered organics were attributed to the single-family sector only; in general the majority of yard trimmings generation happens in this sector.




Utility V processes multi-family sector garbage through a combination MRF and composting system. It is the only utility surveyed to manage this waste stream in this way.



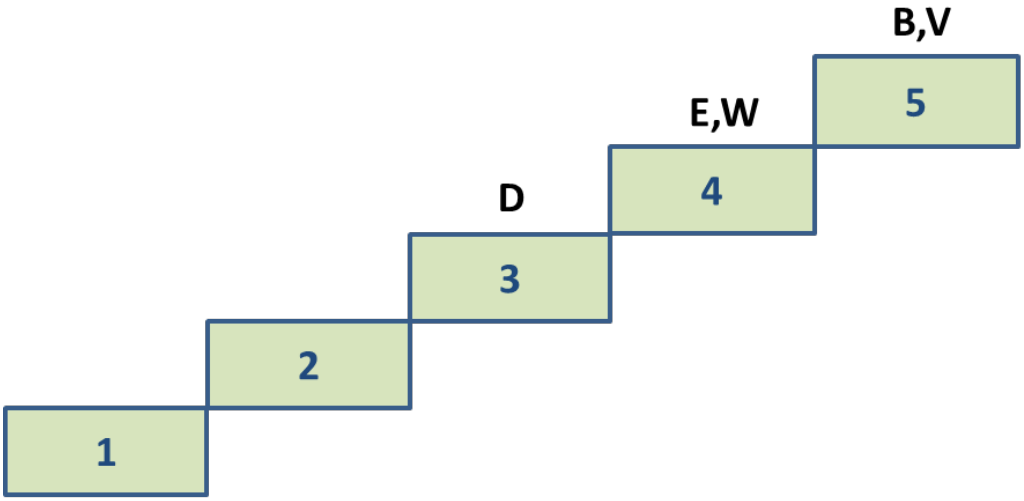
### 3.10.1.3 What are your diversion targets?

| | Diversion target |
|---|---|
| **Utility B** | • 70% by 2022<br>• 70% of C&D waste by 2020<br>• No more tons sent to the landfill than in 2006<br>• Reduce total tons disposed by 1% per year |
| **Utility D** | • 70% diversion by 2015<br>• 80% diversion by 2020<br>• Reduce generation by 10% per capita of 2010 levels by 2020 |
| **Utility E** | • City-wide overall diversion rate of 75% by 2015<br>• Reduce solid waste generated by 25%<br>• Recover 90% of all waste generated<br>• Reduce greenhouse gas impacts of waste collection by 40% |
| **Utility V** | • 75% by 2013<br>• Zero Waste achieved by 2022 |
| **Utility W** | • 64% by 2009[1] |

[1]No more recent goals available

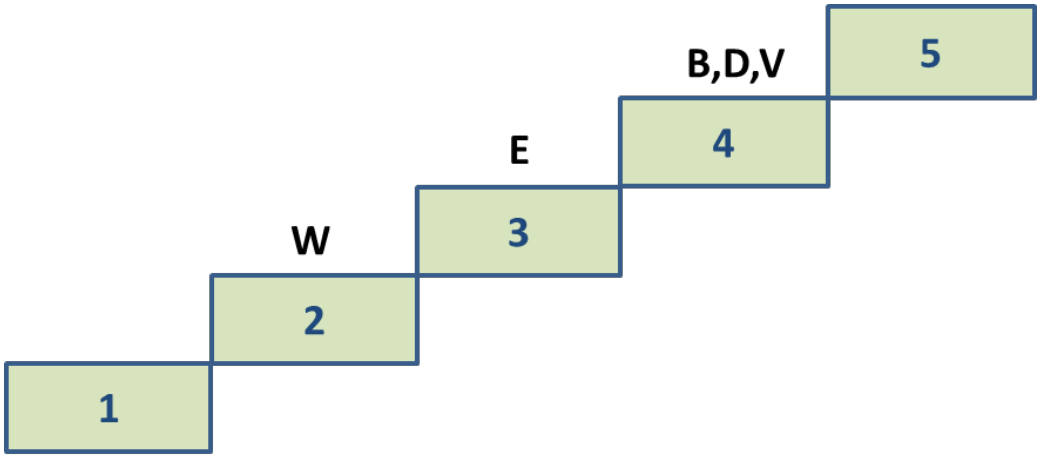
### 3.10.1.4 What is the maturity of your diversion target setting process?

**Self-rated Level of Maturity – Diversion Target Setting**



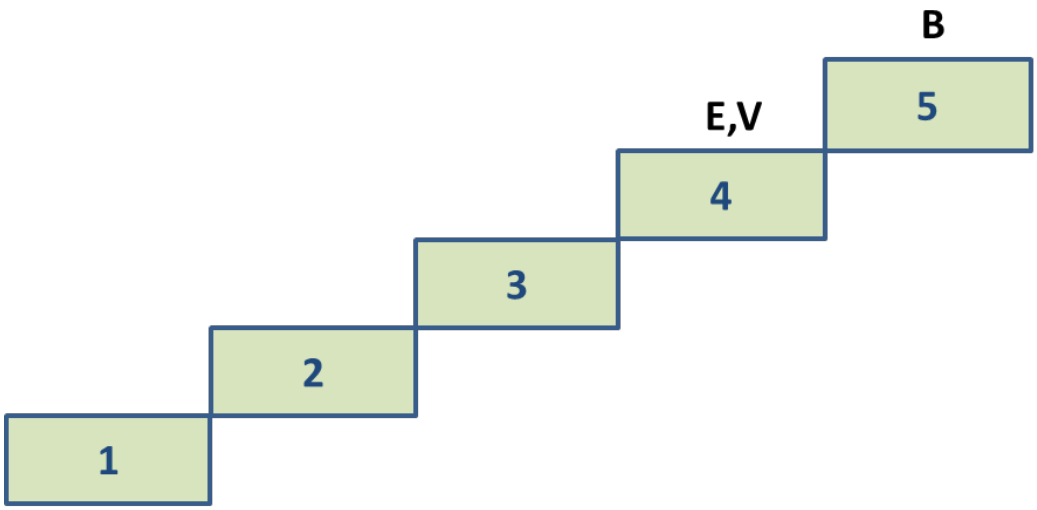
### 3.10.1.5 What is the maturity of your diversion monitoring process?

**Self-rated Level of Maturity – Diversion Monitoring**




### 3.10.1.6 What is the maturity of the selection process of tools to achieve diversion targets?

**Self-rated Level of Maturity – Selection of Diversion Programs and Tools**



### 3.10.2 Additional Service Offerings

#### 3.10.2.1 Describe the services offered to customers in your jurisdiction beyond standard subscription levels.

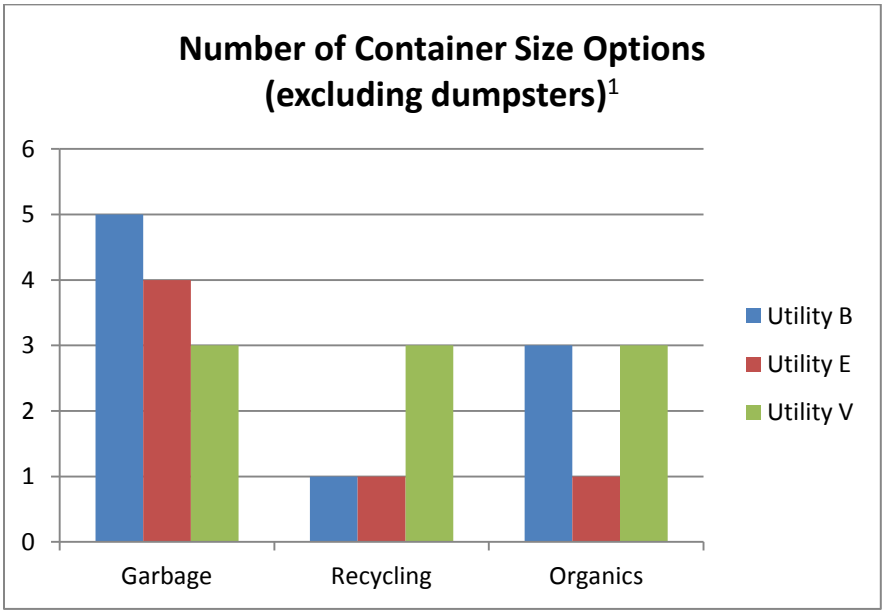
| Service[1] | Utility B | | Utility E | | Utility V | |
|---|---|---|---|---|---|---|
| | Offered? | Charge | Offered? | Charge | Offered? | Charge |
| **Pick-Up Services** | | | | | | |
| **Variable pick-up frequency options** | Not offered | N/A | Residents may elect garbage pick-up every 4 weeks | Reduced cost | Not offered | N/A |
| **On-call pick-up** | Offered to multi-family customers | Variable fee by bin size | Offered | $9.05 per pick-up | Offered to multi-family customers | Variable fee by bin size |
| **Service opt-out** | Residents who do backyard composting may elect to opt out of yard waste collection services | Reduced cost | Residents may elect to opt out of garbage collection services | Reduced cost | Not offered | N/A |
| **Non-curbside pick-up – single-family homes** | Offered to all customers | No charge (customers with recognized disability); fee for all others | Only offered to disabled customers | No charge | Offered to all customers | +$61.00 per cart<br>Free for customers with a disability |
| **Non-curbside/excess distance pick-up – townhomes** | Push services offered – see Containers section | N/A | Non-curbside<br><br>Excess distance | $1.70 per can, $3.50 per cart;<br>$0.55 per can, $1.15 per cart | Push services offered – see Containers section | N/A |
| **Missed collection (resident error)** | Not offered | N/A | Residents may set-out double the amount of material next collection day OR call to schedule collection | No charge OR $7.95 | Not offered | N/A |

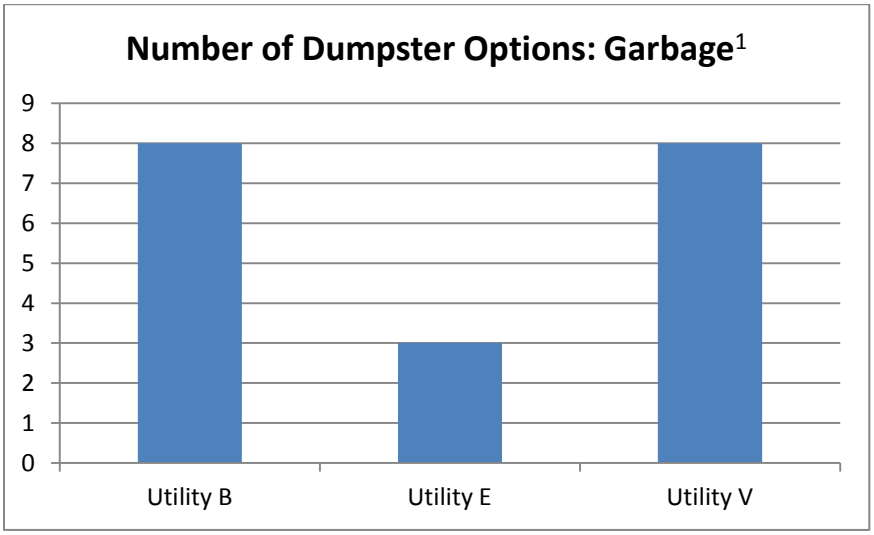
| Service[1] | Utility B | | Utility E | | Utility V | |
|---|---|---|---|---|---|---|
| | Offered? | Charge | Offered? | Charge | Offered? | Charge |
| **Containers** | | | | | | |
| **Change in service/container delivery** | Once annually<br>Additional | No charge<br>Additional fee | Twice annually<br>Additional | No charge<br>$11.25 per cart | Once annually<br>Additional | No charge<br>$25 per change |
| **Cart or bin cleaning** | Not offered | N/A | May be provided by hauler | Variable fee | Once annually<br>Additional | No charge<br>$25 per change |
| **Lock services/secure access (dumpsters)** | Offered | $4.55 per location | Not offered | N/A | Offered | Variable depending on service |
| **Customer-owned bin discount** | Not offered | N/A | Not offered | N/A | Offered | Variable by bin size (dumpsters only) |
| **Compactor service (dumpsters)** | Offered<br>Disconnect & Reconnect Cycle | Variable by bin size<br>$38.90 | Not offered | N/A | Offered | +$47.43 per bin |
| **Push, roll-out, re-position services** | Roll-out<br>Reposition | $6.80 per bin<br>$6.80 per bin | Not offered | N/A | Offered | Variable by bin size |
| **Materials Management** | | | | | | |
| **Extra material set-out** | Garbage<br>Recycling & Yard Waste | $10 per bag/can<br>No charge (additional cans offered for no charge) | Garbage<br>Yard Waste | $5 per bag/can<br>$3.75 per bag/bundle | Garbage<br>Recycling & Yard Waste | $6.25<br>No charge |
| **Contaminated recycling collection** | Not offered | N/A | Not offered | N/A | Offered | Variable by bin size |

| Service[1] | Utility B | | Utility E | | Utility V | |
|---|---|---|---|---|---|---|
| | Offered? | Charge | Offered? | Charge | Offered? | Charge |
| **Miscellaneous** | | | | | | |
| **Compostable bags/liners and other products** | Allowed from pre-approved manufacturers | Purchased by customer | Allowed from pre-approved manufacturers | Purchased by customer | Not offered | N/A |
| **Terrain charge** | No charge | N/A | Charged to certain neighborhoods | $4.20 above base rate | No charge | N/A |

As the table demonstrates, all of the utilities surveyed offer numerous extra services beyond standard subscription levels. In some instances, these offerings are comparable, but in other cases they are unique to each utility.

### 3.10.2.2 How many container sizes are offered to customers in your jurisdiction?




[1]Chart Notes:

Information provided is for standard subscription levels as defined by each surveyed utility.
Utility E is phasing out customer-provided receptacles (historically allowed for 20- and 32-gallon cans). The charts above do not include these can sizes.
Utility V is phasing out its 20-gallon can service. The charts above do not include this can size.
Each utility allows for service beyond 96-gallons in one cart increments.

# Appendix C

## Feasible and Achievable List of Prioritized Recommendations

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# 1.0 List of Feasible and Achievable Initiatives

The methodology provided below describes the process that the HDR team undertook over a portion of the Workplace and Benchmarking Efficiency project. The recommendations provided represent the most relevant findings at the time this report was produced. In some instances, SPU may have modified or undertaken new processes over the course of the project. This is further described in Section 1.1.3 below.

## 1.1 Methodology

An Initial List of Recommendations was assembled based on the findings from the Utility Business Management Evaluation (UBME) interviews and workshops, peer comparison (benchmarking), informal dialogue, a review of critical software tools, and a review of SPU operational data. This included data from the SCADA system and Maximo, financial data from Summit, regulatory compliance data, asset data, and organizational charts. The initial recommendation list totaled 224 suggestions but was reduced to 88 by eliminating those that would not produce potential cost savings or revenue gains.

### 1.1.2 Calculation Methodology

Potential cost savings and revenue gains were estimated by using the following criteria:

- Monetized benefits of performing action
- Incremental one-time labor hours and some non-labor investment above incremental baseline activities required to implement the initiative
- Cost savings based on hours of time saved for each recommended activity
- Annualized costs over 10-year time horizon

The labor rate was calculated at an average loaded rate of $75.00/hour. Baseline Operations & Maintenance costs for each Line of Business and for Corporate functions were not known at the time the estimations were made, so investments and savings were estimated based on benefits of performing the action, not necessarily on incremental savings from baseline.

### 1.1.3 Feasibility and Achievability

The recommendations were prioritized based on estimates of the greatest to lowest savings potential. Those recommendations projected to earn over $100,000 in savings annually were presented to the SPU E-Team for initial questions and feedback. HDR then hosted a series of workshops with personnel it had formerly engaged with to utilize their subject-matter expertise to refine the recommendations. In some cases, recommendations deemed to be unfeasible or unachievable were removed. HDR also worked with SPU Economic Services staff to ensure its methodology was consistent with SPU's business case approach, and to further vet investment cost and savings estimates where possible. Where HDR's recommendations overlapped with on-going Programmatic Reductions and Service Investment initiatives developed by SPU staff as part of its Strategic Business Planning effort, HDR's recommendation along with the associated estimated cost savings were retained to ensure the full value was captured. The final list is composed of 44 recommendations. In some cases, SPU has begun implementing improvements; again, overlapping recommendations are retained.

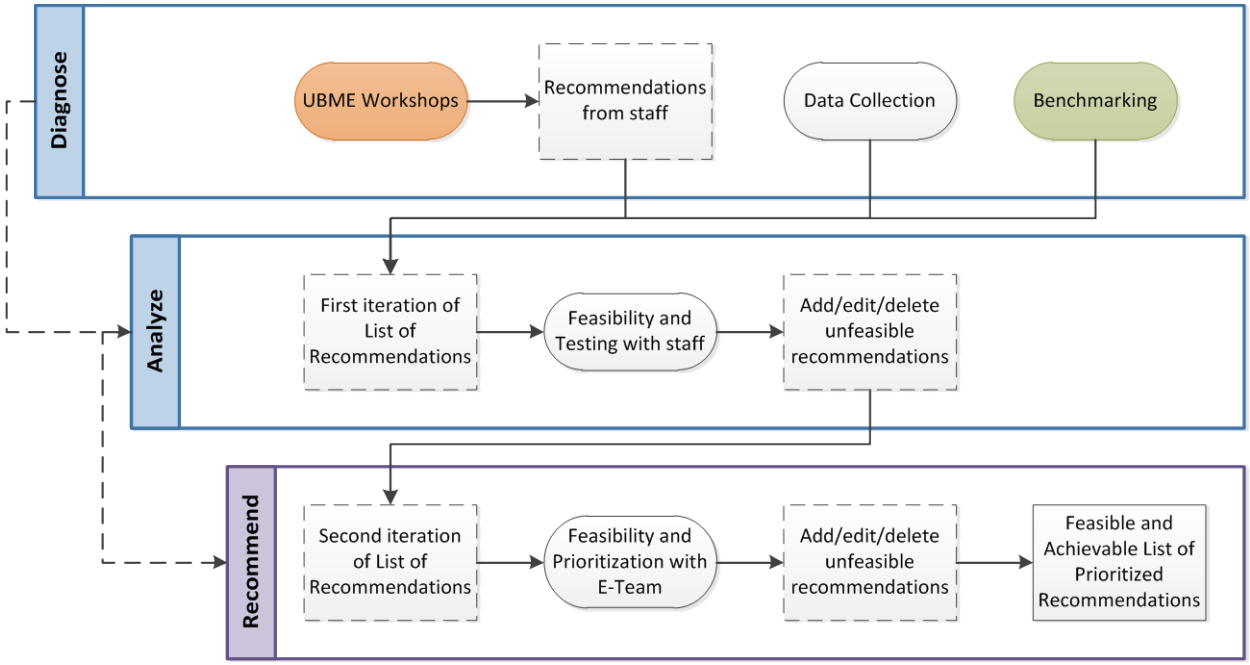


**Figure 1.1 - Evolution of Recommendations**

### 1.1.4 Organization of the List

The list of initiatives is presented in a matrix with the following elements:

- **Number (#):** tracking number, unique to each initiative.
- **Strategic Plan Focus Area**: one of the four focus areas developed as part of SPU's Strategic Business Plan that the initiative supports. The four focus areas are:
  - Easy & Engaged Customer Experience
  - Protect Environment & Public Health
  - Operational Excellence
  - Transform the Workforce
- **Title of Recommendation**: each initiative is listed by a title that describes the action to be undertaken in very broad terms.
- **Strategic Objective**: the Strategic Objective the initiative supports. The nine strategic objectives are:
  - Asset Management
  - Community Sustainability
  - Financial Strength
  - Performance Management
  - Project Delivery
  - Response and Resolution
  - Strategy Effectiveness
  - Talent Management
  - Technology Planning
- **Efficiency Recommendation Description**: multiple tasks and subtasks required to fulfill the action of each initiative.

- **First-Year Investment Required**: the estimated one-time investment required to implement the initiative in tens-of-thousands of dollars.
- **Expected Savings in Operations & Maintenance (O&M)**: the annual estimated savings in the O&M budget in in tens-of-thousands of dollars.
- **Expected Savings in Capital Improvement Program (CIP)**: the annual estimated savings in the CIP budget in in tens-of-thousands of dollars.
- **Savings Type**: the type of cost savings the recommendation generates. The cost savings categories, also referred to as the "five buckets" of savings, were defined by SPU as the following:
    - Revenue Generation: *recommendation generates actual revenue for SPU*
    - Actual Cost Savings: *recommendation results in decreased spending that directly leads to reductions in rates*
    - Avoided Costs: *recommendation results in decreased spending that does not directly impact rates but increases value*
    - Productivity and Efficiency Gains: *recommendation leads to increased efficiency that does not directly impact rates but increases value*
    - Systemically Constrained Cost Reductions and Efficiency Improvements (Systemically Constrained): *recommendations with a potentially high impact but that are highly constrained City-wide systemic issues*

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| # | Strategic Plan Focus Area | Strategic Objective | Title of Recommendation | Efficiency Recommendation Description | First Year Investment Required ($000s) | Expected Savings in O&M (in $000s/yr) | Expected Savings in CIP (in $000s/yr) | Savings Type |
|---|---|---|---|---|---|---|---|---|
| 1 | Easy & Engaged Customer Experience | Response and Resolution | Streamline Solid Waste billing and customer services | 1. Specifically re-examine the billing and complaint resolution functions<br>2. Examine the way "extra" services beyond standard subscription levels are handled and billed<br>- Extra garbage pick-up through advance sale to third-parties<br>3. Assign specific Contact Center staff to handle solid waste calls. Set up IVR to route calls.<br>4. Perform training and improve customer response time associated with other resources.<br>5. Reduce the inspection program by transitioning the inspection services to the contractors.<br>- Maintain 3 SPU inspectors to verify work and enforce contract | $18 | $149 | $0 | Productivity & Efficiency Gains |
| 2 | | | Update the external SPU website | Update external SPU website to show:<br>- All lines of business<br>- Details of core services, related support functions, and value-added services<br>- Specific indicators of Customer Service Levels<br>- Associated business goals<br>- Performance metrics and service level agreements | $15 | $113 | $0 | Actual Cost Savings |
| 3 | | | Improve Customer Call Center services | 1. Implement monthly billing as part of an updated eBusiness billing application and customer education program.<br>2. Provide incentives for customers to use paperless billing with automatic bank withdrawal and charge an appropriate fee for handing credit cards.<br>- This will improve the customers ability to manage their water usage and their budget as well as improve the City's cash flow and response to leaks and system problems through early identification.<br>3. Update the call center:<br>- Add third monitor for each representative<br>- Update the six reader boards with additional information to help call center staff prioritize and track performance<br>- Update IVR to improve call handling, including Spanish language option and handle credit card payments<br>- Use skill-based call management, rotate call staff through skills and add tools to help with skills management | $66 | $194 | $125 | Revenue Generation |

| # | Strategic Plan Focus Area | Strategic Objective | Title of Recommendation | Efficiency Recommendation Description | First Year Investment Required ($000s) | Expected Savings in O&M (in $000s/yr) | Expected Savings in CIP (in $000s/yr) | Savings Type |
|---|---|---|---|---|---|---|---|---|
| 4 | Protect Environment & Public Health | Community Sustainability | Update and improve use of Construction Specifications | 1. Work with a City interdepartmental team to update the standard construction specifications and the associated policies of interpreting the city codes to maintain the service levels. This would include sharing cost and measurement of costs.<br>2. Streamline SPU business processes to manage those relevant to SPU engineering standards, contracting process, construction specifications and engineering operations.<br>3. Engage development services to maintain awareness of problems within the system and continually improve the standards. | $27 | $54 | $600 | Actual Cost Savings |
| 5 | | | Create a Strategic Regulatory Interface Management strategy | 1. Create a strategic regulatory interface management strategy that:<br>- Defines the long term regulatory compliance plan<br>- Sets policy on the approach SPU will use to manage communication, negotiations and interface with all regulatory bodies<br>2. Set up a centralized environmental management system to:<br>- Manage all regulatory requirements<br>- Report on regulatory actions<br>- Track compliance schedule and performance<br>3. Maintain business-specific resources for each line of business:<br>- Use the centralized system<br>- Regulatory interface management should be part of the overall risk management policy and program. | $72 | $104 | $500 | Avoided Costs |
| 6 | | | Set up a Corporate Business Planning function linked with LOB Planning Divisions | 1. Create a central Business Planning Group at the corporate level with specific business planning functions for each line of business to provide guidance on comprehensive planning, methodology and policy. Line of business planning resources will be responsible for masterplanning and for all infrastructure planning.<br>2. Forecast demand by understanding in detail where services are needed and how the services are used by the customer.<br>3. Determine the gap between available supply and projected demand, the supply-demand balance.<br>4. Develop and analyze options to fill the supply-demand gap that consider the full spectrum of options available using consistent economic and sustainability assessment methods.<br>5. Plan and implement the preferred suite of options.<br>6. Evaluate the options implemented and the planning objectives identified. | $8 | $86 | $375 | Avoided Costs |

| # | Strategic Plan Focus Area | Strategic Objective | Title of Recommendation | Efficiency Recommendation Description | First Year Investment Required ($000s) | Expected Savings in O&M (in $000s/yr) | Expected Savings in CIP (in $000s/yr) | Savings Type |
|---|---|---|---|---|---|---|---|---|
| 7 | Operational Excellence | Asset Management | Update and formalize the Enterprise Asset Management Program | 1. Document the Enterprise Asset Management Program as it currently operates. Conduct a gap analysis.<br>2. Conduct activities to respond to gap analysis. Currently identified gaps are shown in Items 3 and 4 below.<br>3. Update and formalize the Enterprise Asset Management Program across all of SPU. This includes:<br>- a staff education plan<br>- staff education<br>- an update of the Levels of Service<br>- a standard for how capital program management decisions are made using the Triple Bottom Line.<br>4. Incorporate a standard risk management practice into asset planning and decision-making<br>- Develop and use a risk register with definitions of acceptable risk at all levels of the asset hierarchy<br>- Mitigate risks through implementation of Lessons Learned<br>- Understand, rank and mitigate risk through defined failure modes with associated likelihood and criticality ratings.<br>5. Continue use of Business Case Evaluations to justify operational and capital expenditures.<br>6. Establish expectations and performance/success measures of FO&M staff involvement in the Stage-Gate process<br>7. Consistently develop Strategic Asset Management Plans (SAMPs) for critical assets that include operations and maintenance strategies for the asset as well as rehabilitation and refurbishment plans.<br>8. Incorporate facility asset management as part of the overall program. | $108 | $303 | $350 | Avoided Costs |
| 8 | | | Document a standard asset hierarchy | 1. Develop a standard asset hierarchy with data standards for all asset data detail<br>- Use throughout the asset lifecycle including capital planning, design, construction, commissioning, startup, and O&M processes.<br>2. Review and make corrections to existing data.<br>3. Standardize the asset hierarchy and taxonomy and set Strategic Asset Management Plans for all critical assets and systems.<br>4. Maintain an accurate Fixed Asset Registry with agreement between all databases on asset inventory, location of assets and identification of assets.<br>5. Require use of SPU asset hierarchy by all contractors and consultants.<br>6. Track asset costs and reliability through data access and knowledge sharing. | $63 | $255 | $0 | Productivity & Efficiency Gains |
| 9 | | | Create a Reliability Analysis function within Corporate Asset Management | 1. Create a Reliability Analysis function within Corporate Asset Management that includes a re-allocated position called a Reliability Engineer to facilitate reliability analysis and assist FO&M on maintenance strategies and capital planning priorities.<br>2. This will also include the purchase of Reliability Analytic software that interfaces with Maximo. | $36 | $99 | $575 | Productivity & Efficiency Gains |
| 10 | | Community Sustainability | Update the wastewater model | 1. Update the wastewater model to a dynamic system with SCADA interconnection and full integration for 1D and 2D hydrodynamic simulation for both above ground and below ground elements of the drainage system.<br>2. Expand on the King County system model and incorporate catch basin and urban drainage modeling into the system. | $114 | $72 | $85 | Productivity & Efficiency Gains |

| # | Strategic Plan Focus Area | Strategic Objective | Title of Recommendation | Efficiency Recommendation Description | First Year Investment Required ($000s) | Expected Savings in O&M (in $000s/yr) | Expected Savings in CIP (in $000s/yr) | Savings Type |
|---|---|---|---|---|---|---|---|---|
| 11 | Operational Excellence | Financial Strength | Reduce cost of claims from on-the-job injuries | Develop a process to continually monitor, analyze, and improve the costs associated with claims, workers comp/on-the-job injuries, use of leave and overtime with potential incentives. This will improve reporting and help management focus on ways to improve productivity and employee well-being. | $96 | $166 | $145 | Avoided Costs |
| 12 | | | Set up an ABC inventory process | 1. Set up an ABC Inventory categorization process for materials management in a central warehouse control system.<br>2. Use handheld technology to improve the management of the inventory process and respond faster to FO&M field staff needs.<br>3. Set up strategic relationships with suppliers and partners with regular meetings to ensure delivery of services are meeting the needs of SPU. | $54 | $187 | $0 | Productivity & Efficiency Gains |
| 13 | | | Optimize SPU Procurement | 1. Centralize procurement under SPU finance, working with City Finance and Administrative Services (FAS) and City Procurement and Contracting Services (CPCS) to assume responsibility for SPU procurement.<br>2. Use an electronic procurement system and streamline the procurement process using standard contracting templates and electronic signatures.<br>3. Coordinate all purchasing of office supplies through the central procurement group using a standard catalog service and standardization of what people can buy.<br>4. Make use of blanket contracts for materials procurement and small contracts.<br>5. Develop an education process to ensure staff know how to properly procure materials and services and are following the system.<br>6. Charter a Procurement Team to explore potential purchasing, storage, and supply advantages. | $24 | $297 | $200 | Systemically Constrained |
| 14 | | | Transition SPU Fleet | Work with FAS to transition the responsibility for all SPU fleet purchasing and take control of fleet management. This will include the management of the $2.4m fleet reserve. | $54 | $285 | $175 | Systemically Constrained |
| 15 | | | Update the SPU financial system and chart of accounts | 1. Update the SPU financial system and chart of accounts to track business activities that are directly related to the levels of service.<br>2. Monitor the variance of levels of service using an activity-based costing approach.<br>- Any increase or decrease in a level of service target or performance should have a corresponding cost variance. This should be part of the financial system upgrade with forward thinking business process modeling and system requirements.<br>3. Establish concise financial targets for each line of business, each branch and each section of the SPU organization.<br>4. Balance replacement and repair against new projects and improvements.<br>5. Establish cost of asset ownership across full life of the asset. | $72 | $300 | $0 | Productivity & Efficiency Gains |
| 16 | | | Outsource or share the maintenance of SPU fleet | Outsource or share the maintenance of SPU fleet to a private provider as part of an effort to reduce the time a vehicle is in the maintenance shop and improve the service on specialty equipment. | $42 | $221 | $0 | Systemically Constrained |
| 17 | | | Reduce external claims handling time | 1. Document standard process for how claims are processed.<br>2. Handle all claims within SPU instead of through City Risk Assurance Office. | $34 | $172 | $0 | Systemically Constrained |
| 18 | | | Reduce SPU IT Costs incurred from DoIT | Consolidate responsibility for SPU IT services within SPU IT reducing City Department of IT (DoIT) charges and properly allocating DoIT charges. Services include:<br>- purchasing<br>- data center and server management<br>- citywide web team | $36 | $288 | $0 | Systemically Constrained |

| # | Strategic Plan Focus Area | Strategic Objective | Title of Recommendation | Efficiency Recommendation Description | First Year Investment Required ($000s) | Expected Savings in O&M (in $000s/yr) | Expected Savings in CIP (in $000s/yr) | Savings Type |
|---|---|---|---|---|---|---|---|---|
| 19 | Operational Excellence | Project Delivery | Run all new business initiatives through a stage gate type of process | 1. Run all operational intiatives through O&M budgets<br>2. Run all new business initiatives through a stage gate type of process to determine their short and long term costs and benefits and manage their costs.<br>3. Treat each new business initiative like a project with a project manager, budget and schedule.<br>4. Set up an annual corporate-controlled initiative fund to keep control of all new investments that are not associated with capital asset funding. | $0 | $194 | $200 | Productivity & Efficiency Gains |
| 20 | | | Improve utilization of mangement reserve fund | 1. Do not show the management reserve (MR) amount associated with a project in professional service or construction contracts.<br>2. In the project delivery phase, group projects into portfolios and portfolios into programs with the Deputy Director authorizing expenditures of MR per program.<br>3. Utilize the current SPU cost estimation process by increasing training and enforcing the review process.<br>4. Consider certifying qualified staff who have been proven to follow the process. | $0 | $77 | $550 | Avoided Costs |
| 21 | | | Expand the use of the standard SPU program management (PgM) methodology with a Program Management Information System | 1. Expand the use of the standard SPU program management (PgM) methodology, with standardized program and project templates and risk management methodologies to all capital and non-capital projects.<br>2. Set up both a Program and Project Management (PM) certification training program through an external training group.<br>3. Group several small projects together as into a project portfolio under one project manager. Be able to roll projects into portfolios and portfolios into programs.<br>4. Create a project manager career path as part of the progression path program.<br>5. Develop a Program Management System for all capital projects using a Program Management Information System (PMIS) that interfaces with industry standard project management tools like Primavera and MS Project.<br>6. The PMIS should cover the entire CIP process including initiation, CIP development, project prioritization, Stage-Gate management, project delivery, cost monitoring, cash flow management, document and record management, and project cost control. | $448 | $311 | $900 | Productivity & Efficiency Gains |
| 22 | | | CAD staff augmentation | 1. Define the minimum number of CAD staff needed<br>2. Create an annual set of contracts for CAD staff augmentation to be used as needed when internal CAD resources are exceeded. | $0 | $54 | $50 | Productivity & Efficiency Gains |
| 23 | | | Certify Project Managers | 1. Certify project managers and set up pay increase types of incentives for staff that are able to gain the certification.<br>2. Set guidelines on the number of project team members required per project.<br>3. Define how project schedules and meetings should be run and document the process as part of all professional services and construction contracts.<br>4. Provide incentives to get certification, recognizing the potential for an update to the classifications to allow for pay grade increase. | $48 | $90 | $200 | Productivity & Efficiency Gains |
| 24 | | | Better coordinate cost sharing on non-SPU originated projects | 1. When projects are originated from another department, such as SDOT, WSDOT, and Parks, reallocate the cost of utility relocation to that department's project budget.<br>2. Coordinate permit effort with the other departments to streamline the process.<br>3. As part of all comprehensive planning, clearly document the cost, schedule, and levels of service that are to be provided on projects managed by other departments.<br>4. Meet with stakeholder partners on an annual basis as well as on a project-by-project basis to manage the plans and associated project budgets. | $26 | $50 | $200 | Systemically Constrained |

| # | Strategic Plan Focus Area | Strategic Objective | Title of Recommendation | Efficiency Recommendation Description | First Year Investment Required ($000s) | Expected Savings in O&M (in $000s/yr) | Expected Savings in CIP (in $000s/yr) | Savings Type |
|---|---|---|---|---|---|---|---|---|
| 25 | Operational Excellence | Strategy Effectiveness | Align the SPU organization around three Lines of Business | 1. Align the SPU organization around specific levels of service for three Lines of Business (LOB): Water, Drainage & Wastewater, and Solid Waste.<br>2. Determine the csot allocation process for all supporting services such as finance, HR and other technical services that are part of a corporate overhead structure.<br>3. Document the services to be provided between each branch, LOB, and the corporate services to define and streamline internal core business services and to clearly define and document accountability and cost components of each service.<br>4. Hold LOB Managers and middle managers accountable for meeting financial targets as part of the performance review process. | $72 | $231 | $250 | Productivity & Efficiency Gains |
| 26 | | | Update the strategic plan on an annual basis | 1. Update the strategic plan on an annual basis with quarterly review sessions to track and manage the action items.<br>2. Set up an active strategic business planning process with balanced scorecard and performance analytics software to track strategy success.<br>3. Assign teams to manage the actions and report to the E-Team quarterly.<br>4. Link all action items to the levels of service and report the results back to the customers quarterly on the external web site.<br>5. Assign people to focus on implementation of the efficiency recommendations and strategic business plan.<br>6. Form a Performance Management Team to identify key performance indicators to track success of the plan. | $90 | $63 | $125 | Avoided Costs |
| 27 | | | Create a Chief Information Officer (CIO) position | Create a Chief Information Officer (CIO) position that reports at the E-Team level with a Chief Knowledge Officer (CKO) reporting to the CIO for knowledge management and business system analytics.<br>- The CIO will be responsible for IT systems and be a key contributor to the SPU Strategic Plan.<br>- The CKO will work across the entire organization to maximize the value it achieves through "knowledge" and intellectual capital. | $21 | $171 | $0 | Systemically Constrained |

| # | Strategic Plan Focus Area | Strategic Objective | Title of Recommendation | Efficiency Recommendation Description | First Year Investment Required ($000s) | Expected Savings in O&M (in $000s/yr) | Expected Savings in CIP (in $000s/yr) | Savings Type |
|---|---|---|---|---|---|---|---|---|
| 28 | Operational Excellence | Technology Planning | Streamline all software procurements through IT | Identify types of software that are not currently going through the procurement procedures and develop management practices/procedures to ensure that this occurs. This will ensure that all software purchases have sign-off, have a software license, and have a software agreement. | $12 | $104 | $80 | Avoided Costs |
| 29 | | | Develop an IT Master Plan and Technology Product Plans with product manager for all business critical applications. | 1. Develop an IT system Master Plan to help define and implement the most appropriate tools and technology.<br>2. Develop an asset information management system plan to support asset-based decisions.<br>3. Document the actions that can best facilitate a knowledge-sharing culture within the organization.<br>4. Develop and maintain standards to document user needs and integration requirements.<br>5. Set up Technology Product Plans with Product Managers for all business critical applications.<br>6. Centralize the management of the roadmaps under IT to match the short term and long term goals of the strategic plan with the specific technology solutions to meet those goals. (The plans should specify the user needs, cost, schedule, and framework for planning technology development.) | $21 | $98 | $125 | Avoided Costs |
| 30 | | | Develop an enterprise content management strategy | Develop an enterprise content management strategy including a document management system with indexing system and taxonomy for digital asset management, document imaging, design review and workflow, and records management. | $844 | $1,103 | $0 | Productivity & Efficiency Gains |
| 31 | | | Develop a mobile technology strategy | Set up mobile technology strategy, for appropriate staff, that includes the use of the SPU infrastructure, complimented by cloud computing where feasible. Only run secure systems through the distributing computing environment with an initial focus on applications that support remotely connected computing devices. | $57 | $158 | $0 | Productivity & Efficiency Gains |
| 32 | | | Update the GIS platform | Update the GIS platform to most recent ArcGIS technology to allow for easier integration with third party software products. The current system is heavy with customized applications and reaching the end of its economic useful life. Build additional GIS services to support field staff such as GSI maintenance management. | $697 | $203 | $0 | Productivity & Efficiency Gains |
| 33 | | | Establish a standard environmental management system and regulatory data management platform | 1. Develop a central repository as the standard environmental management system and regulatory data management platform for SPU.<br>2. Incorporate workflow automation through MS Outlook with historical retention of records tied to a document management system.<br>3. Incorporate standardization across SPU for managing environmental data and sustainable work practices.<br>4. Use EQuIS to manage data integrity. | $97 | $122 | $100 | Productivity & Efficiency Gains |

| # | Strategic Plan Focus Area | Strategic Objective | Title of Recommendation | Efficiency Recommendation Description | First Year Investment Required ($000s) | Expected Savings in O&M (in $000s/yr) | Expected Savings in CIP (in $000s/yr) | Savings Type |
|---|---|---|---|---|---|---|---|---|
| 34 | Transform the Workforce | Performance Control | Update the Levels of Service | 1. Update the Levels of Service to clearly reflect the services and targets for each of the three Lines of Business.<br>2. Show current level of service performance, targets and associated costs of meeting the levels of service.<br>3. Set up service level agreements between the LOB and other branches using a quarterly review process ensure services levels are being met. | $27 | $113 | $0 | Avoided Costs |
| 35 | | | New Performance Review Process | 1. Develop forward-looking staff performance review process.<br>2. Set up a three-month cycle of performance reviews based on roles for each position and specific goals tied to the strategic plan, goals for the individual's skill needs, and goals to enhance the position performance needs.<br>- Every quarter, supervisors meet with staff individually to track and set 3-, 6- and 12-month goals.<br>- Annual performance reviews would be set that is in alignment with the update of the strategic business plan.<br>3. Train all supervisors in the new performance review process. | $48 | $117 | $0 | Avoided Costs |
| 36 | | | Set points of responsibility for mission critical business processes | 1. Update the organization chart and job descriptions with clear points of responsibility.<br>2. Document processes to identify positions or persons having responsibility for making decisions critical to the business and service delivery. | $43 | $86 | $0 | Productivity & Efficiency Gains |
| 37 | | Talent Management | Centralize all field work and scheduling around the Planner/Scheduling role | 1. Centralize all field work and scheduling around the Planner/Scheduler role for:<br>- Work planning and defining work plans<br>- Business analysis<br>- Failure analysis<br>- Reporting.<br>This role will be the primary interface for Maximo for all work order scheduling, data input and reporting on field activities and performance.<br>2. Move FOG, Survey Team, and other field staff into the OCC or Lab Building and make use of the Maximo scheduling tools. | $22 | $257 | $0 | Productivity & Efficiency Gains |
| 38 | | | Create progression path system | 1. Create progression path system that is tied to a training program for all staff.<br>- Each staff should have a clear line of sight both from their existing role to the Strategic Plan and to options to gain career advancement and new opportunities within the City structure.<br>- All position descriptions and classification structure should be available to the staff.<br>2. Build an incentive program tied to time off, public awards, group awards, strategy awards, innovation teams, pay raise, promotion and progression path improvements. | $108 | $212 | $0 | Avoided Costs |
| 39 | | | Negotiation skills for PMs and Contract Managers | Teach negotiation skills to contract managers, project managers, and business managers who make decisions that affect operating and capital budgets and are the primary interface with vendors, consultants and contractors. | $48 | $36 | $250 | Productivity & Efficiency Gains |

| # | Strategic Plan Focus Area | Strategic Objective | Title of Recommendation | Efficiency Recommendation Description | First Year Investment Required ($000s) | Expected Savings in O&M (in $000s/yr) | Expected Savings in CIP (in $000s/yr) | Savings Type |
|---|---|---|---|---|---|---|---|---|
| 40 | Transform the Workforce | Talent Management | Perform a staff skills and competency study | 1. Perform a staff skills and competency study:<br>- Identify existing skill gaps and training needs<br>- Include a training program to address skills<br>2. Develop a skills management system and database tied to the training program and progression path plan.<br>3. Set up leadership training program for middle managers and supervisors to develop leaders of the future, improve performance control and maintain accountability at all levels.<br>4. Develop a specific set of training policies that support the mission and objectives of SPU. | $164 | $288 | $0 | Avoided Costs |
| 41 | | | Reduce field crew size | Optimize field staff skills, knowledge and abilities with broadened employee classifications and implementation of cross-training and cross divisional activities to increase skills. (An example outcome is to reduce crew size from 5 person crew to 4 and 3 person crew to 2.) | $108 | $1,269 | $0 | Systemically Constrained |
| 42 | | | Succession Plan | 1. Develop a succession plan for all business critical positions across the SPU Department.<br>- Includes estimates of staff retirement dates and the identification of the back-up person for all business critical positions.<br>2. Interface with the Progression Path Plan for key staff and positions to assist with the identification and development of future leadership needs.<br>3. Implement a mentor protégé program for all middle managers and senior positions.<br>4. Management to work with employee unions to plan steps needed for staff succession. | $38 | $152 | $0 | Avoided Costs |
| 43 | | | Entry level staff apprentice training programs | Set up in-house apprentice training programs in project management, cost estimating, Water/WW system operation, planning and strategy.<br>- Build "farm club" system to provide experience and training. | $60 | $122 | $0 | Productivity & Efficiency Gains |
| 44 | | | Procure new human resources (HR) information system software | 1. Procure new HR information system software that includes talent management, applicant tracking, performance appraisals, FMLA, time and attendance, organizational charting, photo ID system, personnel scheduling, benefits, employee communications, and personnel management to reduce manual tasks.<br>2. Freed up staff in HR will transition to an internal consulting role, supporting other departments with HR-related issues, including new programs related to transforming the workforce. | $313 | $482 | $0 | Systemically Constrained |

| | | | |
|---|---|---|---|
| **Grand Totals** | **$4,347** | **$9,500** | **$6,160** |

| **Totals by Savings Type** | | | |
|---|---|---|---|
| Systemically Constrained | $657 | $3,234 | $575 |
| Revenue Generation | $66 | $194 | $125 |
| Actual Cost Savings | $42 | $167 | $600 |
| Avoided Costs | $791 | $1,880 | $2,250 |
| Productivity & Efficiency Gains | $2,792 | $4,025 | $2,610 |

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