

## City of Gig Harbor



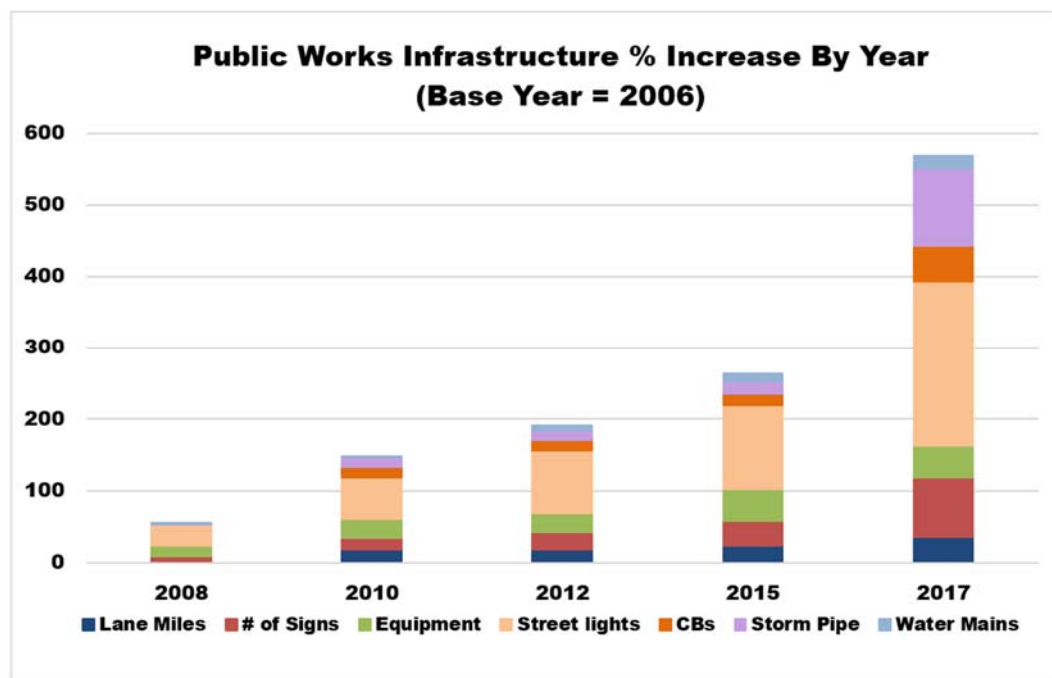
# Public Works Operations Improvement Recommendations

December 2017

# Section I. CURRENT SITUATION

## OPERATIONS SERVICES

The majority of Public Work’s Operations Division services provided to the citizens of Gig Harbor are performed by City staff. These public works services include the storm drains, streets, parks, water, and City-owned facilities. The City has a long history of good customer service and has embarked on many programs that provide a good and sustainable path forward for both asset management and environmental stewardship. One of the key issues, however, is the growing backlog of work. This is mainly due to the demand on staffing resources and the community’s increasing needs and expectations for higher levels of service. The Operations Division is currently staffed with twenty-one people and working at a total headcount that was similar to that of 2008. Since that recession era period, the economy has recovered significantly, population has grown by over 10%, and the number of assets; streets, water, sewer and parks have increased by as much as 20% per year. Plans show an increasing number of parks in the near future with additional demands on all services that are not sustainable with the current headcount.



## BENCHMARKING

After benchmark the City of Gig Harbor with several other cities, it was found that the cost of service per population was slightly higher than average. At first glance this appears to be a concern, but in the case of Gig Harbor it should be noted that the Operations Division serves more than just the citizens of Gig Harbor. They provide services to surrounding communities. There is also a high percentage of commercial businesses that includes tourism which adds to the demand on all services. The three graphs on the following pages were based on 2016 information.

Figure 1 shows the cost per person in the city to be \$604, near the upper levels of cost per person. Appendix A presents more detailed information.

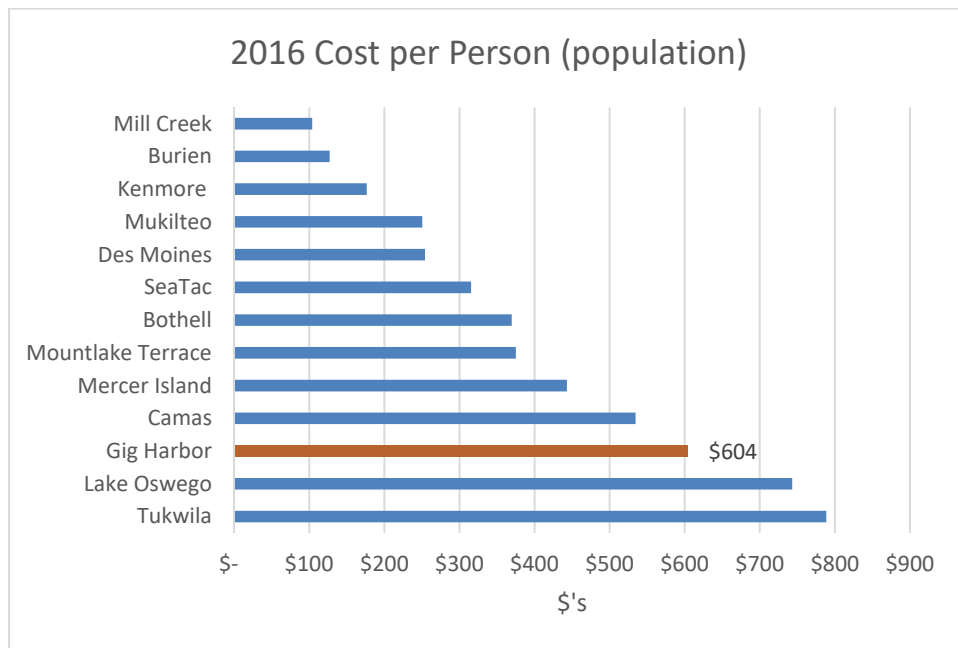
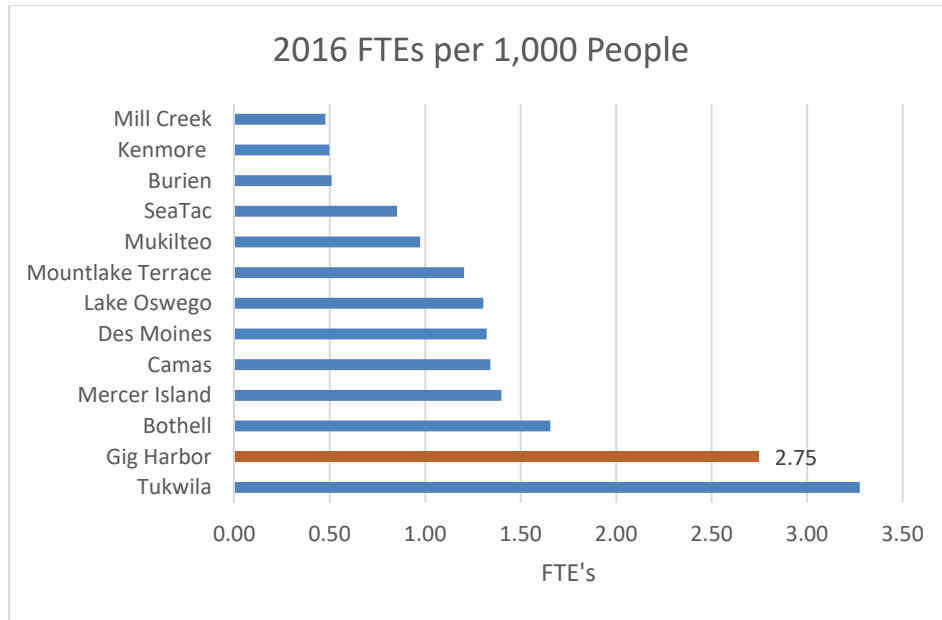


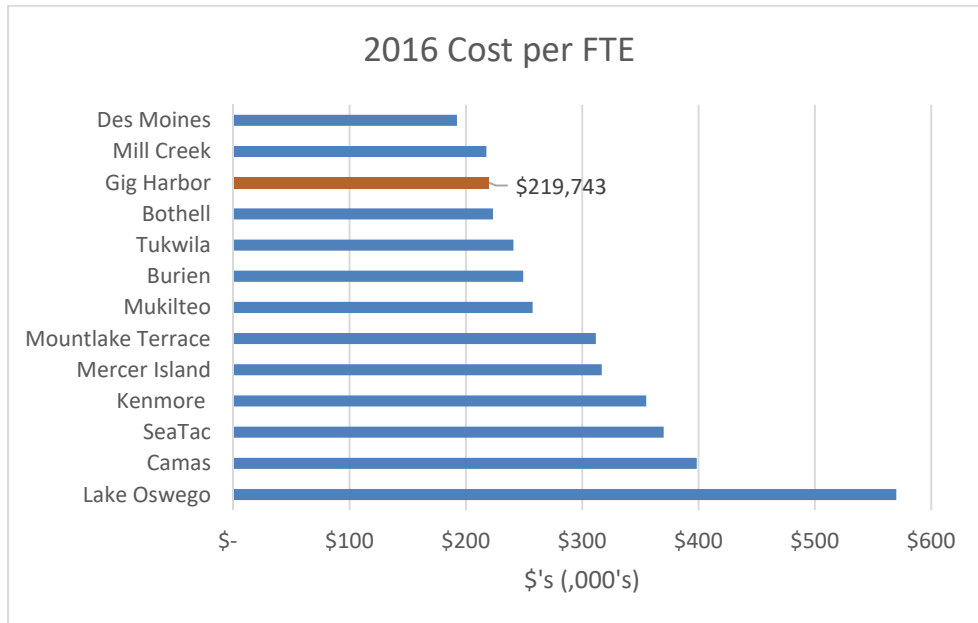
Figure 1- Cost per City Population

Figure 2 shows that Gig Harbor has the second highest number of staff to every 1,000 population within the City. As mentioned before, the staff serve more than just the population of the City.



**Figure 2 - Number of Staff per Population**

Figure 3 is the cost per full time equivalent (FTE). This considers the budgeted staff within Operations to service, water, storm, streets and parks. It does not include the engineering, just the budgeted labor. This shows the City at a very good benchmark point.



**Figure 3- Cost per staff, FTE**

## LEVELS OF SERVICE

A key objective of the Operations Division review was to match the levels of service provided by division with the expectations of the customers. This requires a clear understanding of the customers' needs, expectations and preferences. The objectives of the Level of Service concept is to help with the following:

- Provide customers with an understanding of the services offered
- Assess suitability, affordability, and equity of the services offered
- Focus the Operation's activities needed to deliver and meet the Level of Service targets
- Measure performance and track progress of Public Works' Operations Division
- Identify the costs and benefits of the services offered

Draft levels of service have been developed (table 1); however, refinement of the levels of service should continue as more detailed plans are being made to the method of delivering these services. Staff presented the draft levels of service to the City Council. Although not formally approved the Council, they were well received. Soon after the presentation, staff begin analyzing the levels of service in more detail and developing more detailed plans for improving performance and developing budgets to meet the level of service targets. Table 1, contains the recommended Levels of Service Statements that can serve as a starting point for the Public Works Operations Division.

**Table 1- Initial Level of Service Statements**

ID	Level of Service	ID	LOS Targets
1	Manage public health, safety and environmental risks associated with Public Works systems and failed infrastructure such as storm drains, transportation, parks, and water	1A	Identified safety concerns, such as trip hazards, are inspected within 2 hours (during business hours) or within 4 hours (outside of normal business hours) and resolved within one year
		1B	Emergencies requiring public works staff, such as spills, receive a prompt response within 1 hour
		1C	Snow and ice treatment is performed quickly and effectively to meet City traffic safety standards
		1D	The storm system is maintained to a standard within the City's stated risk tolerance
2	Provide consistent, equitable, and timely standards of service to the citizens of Gig Harbor at a reasonable cost and within rates and budget	2A	Respond to customer work requests within one working day and follow up upon resolution of the request
		2B	Managing assets and systems within budget
		2C	Maintain Gig Harbor assets to the lowest lifecycle cost while meeting other levels of service expectations
		2D	Optimize capital investments to replace failing infrastructure and meet future needs

ID	Level of Service	ID	LOS Targets
3	Maintain Gig Harbor's parks, trails, recreation facilities, and streetscapes to enhance the City's multicultural heritage, human history, environmental features, and public image	3A	Parks and other public spaces are cleaned, managed and maintained in a manner that fits with City goals and the specific needs of each facility
		3B	Harbor is clean and free of visual water impairments
4	Comply with regulatory requirements for stormwater, transportation, parks, and water services	4A	Meet regulatory requirements for Clean Water Act and NPDES as well as other Federal, State, and local regulations that pertain to water and stormwater
		4B	Meet park safety and accessibility requirements as defined by ADA and other national standards
		4C	Follow City, State, and Federal transportation standards and guidance
		4D	Meet Safe Drinking Water Act permit requirements with continuous monitoring and maintenance of drinking water quality
5	Attract and retain high caliber staff through a safe, committed, and proud work environment	5A	Staff resources are available and trained to meet level of service targets and follow city standards and safety requirements

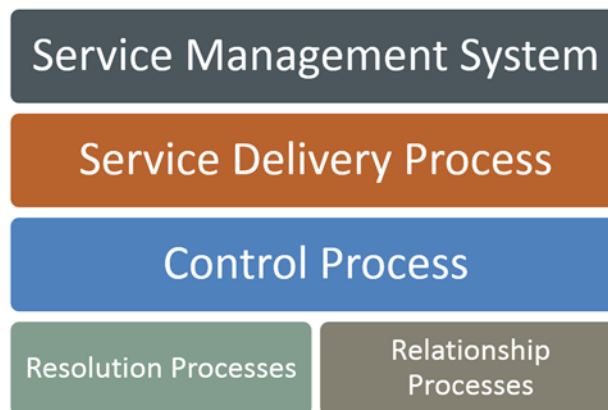
# Section II. SERVICE DELIVERY

## GOVERNANCE

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FCS GROUP recommends that the City develop a governance process to manage the Public Works' Operations service delivery process. The following guidelines are provided to assist the City in the development of the program. The general assumption is that everyone is involved in the service delivery process, but establishing points of accountability such as specific service delivery owners should be key to its implementation.

**Table 2 - Service Delivery Governance**



### Service Management System

Service management requires a good understanding of the customer's requirements and expectations. It is recommended that the City define and verify the customers' expectations and document those needs with clear Level of Service Targets. To support the service management system, the City should create a governance plan that includes written policies to describe the service management process and how data will be managed. In addition, this governance should include the standards for documentation of reports and metrics used to measure performance. The combination of documentation management and data governance will clarify the internal structure of content stored on internal business information systems.

### Service Delivery Processes

The process for service delivery requires a balance of production capacity with the level of service expectations. The City should establish and measure the baseline requirements to produce at the minimum production capacity, based on resource availability and their required skills and competencies. In order to manage the Levels of Service, it will be important to prepare written service level agreements with all providers and establish Level of Service reporting requirement that includes the internal and external data needs. The reports should be used measure success and help the city establish and continually monitor weekly, monthly and annual targets.

The service delivery process is ultimately about customer satisfaction, so it will be important to define the boundaries of each service level agreement with a means of communicating and managing expectations. This should include some level of customer reporting and various methods for feedback and surveying customer satisfaction. For internal purposes, it should also include processes for continual budget forecasting with a report to measure budget versus actual.

## Control Processes

The City should document the business processes and the configuration of information systems to establish consistency of performance. One key recommendation would be to maintain all assets in Cartegraph. This requires an update of the GIS and a list of the attribute data needs for each asset, its required function, and its desired performance. For future assets, the City should consider the development of a commissioning process to define the asset on-boarding process and how data will be brought into the Cartegraph and GIS. The commissioning should include the design and construction phases of asset creation and go through the entire life cycle so as to improve total asset life cycle costs.

## Resolution Processes

Incident tracking is being done now, but it could be improved by tracking all events in Cartegraph and aligning the process with organizational goals and Level of Service targets. The formalization of the service request and resolution process within Cartegraph will help the City identify the relationship between service delivery problems (customer complaints) and infrastructure related issues (failures and system weaknesses). With data in the Cartegraph system, problem solving could be streamlined using failure analysis. This would include reviews of the service providers in their contribution to an effective resolution process. It will be important to involve the service providers in a team based approach to process improvement.

## Relationship Process

Any work with external service providers requires a good understanding of the Level of Service expectations and the required output performance of the provider. One way for the City to expand its resources is through additional contracted services. In the early stages of the improve business relationships with service providers, the City should schedule regular meetings with service providers as individuals and as a group. In addition, there should be clear levels of communication with other suppliers and product vendors. This could be set up as a supplier management process to not only document the contracting compliance processes but help to define the way the City manages suppliers and service providers and rates their performance over time.



## Section III. PERFORMANCE INDICATORS

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The Public Works Operations Division accumulates a lot of data and information regarding performance that needs to be organized for reporting and management of assets. The City is already off to a great start with the use of Cartegraph, but can improve on its use of the system to track and report on performance.

Data is expensive to acquire and if is not meaningful, that is, used to monitor performance and continuously improve, the collection of the data should be questioned. Even where data are used to track and trend performance, it may be difficult to acquire, access and analyze for the purpose of continuing improvement.

Performance measures should be measured in three areas:

- Level of Service
- Regulatory Compliance
- Efficiency/Effectiveness

In each case, the definition of the criteria in the three areas above may be somewhat subjective. For example, Regulatory Compliance is often listed as a Level of Service since regulators are often identified as “external customers’ or ‘stakeholders”.

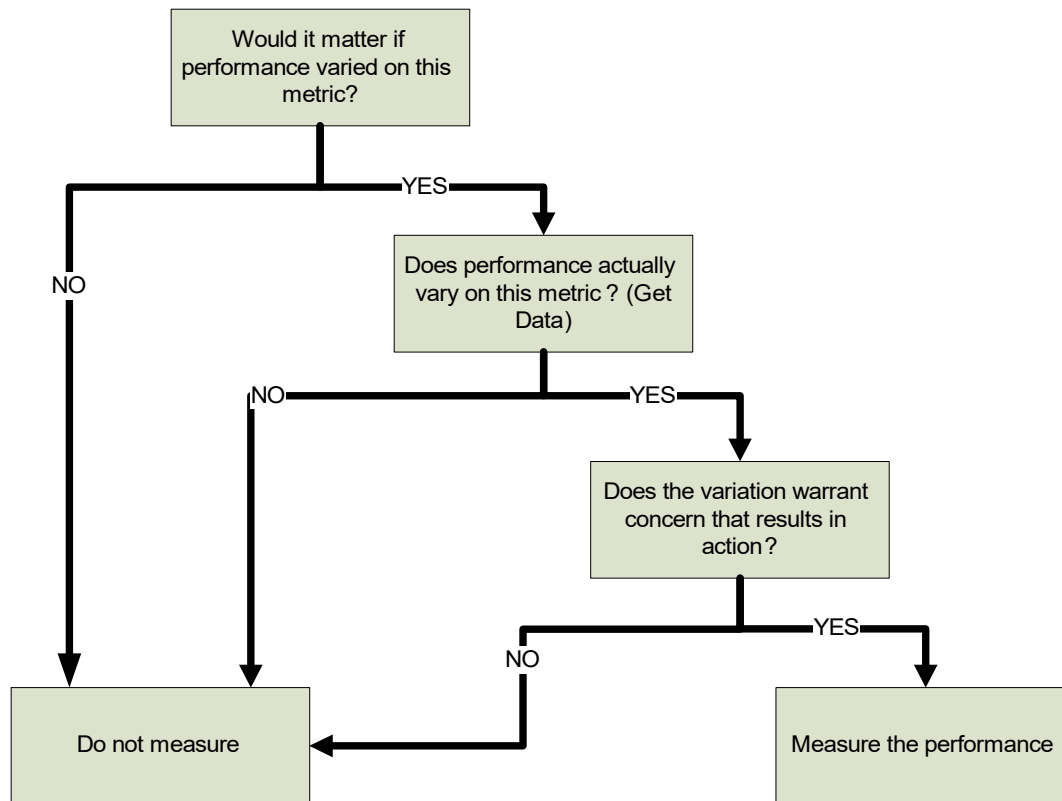
The City has less control over any of the service provider’s business processes, but can still require the delivery of performance data in the form of reports. The collective key performance indicators (KPI) need to be specific to the overall Operation’s goals. This means that they should support the mission of the organization in terms of Level of Service, regulatory compliance and efficiency/effectiveness. Performance indicators are performance measures that can offer insight into how well the Operations Division is managed when performance is measured against goals, standards, or other targets.

- Qualitative or quantitative measure examples:
  - Regulatory
  - Cost
  - Asset performance
  - Safety
  - Reliability
  - Customer satisfaction
  -
- Service Level examples:
  - Quantity
  - Quality
  - Reliability
  - Responsiveness
  - Environmental
  - Cost

Appendix B has some examples of KPIs for the Public Works Operations Division

Performance can be a useful management tool when compared to targets. Another way performance measures are helpful is to track trends so variations from expected levels are detected and investigated early on.

## Determining What Metric Becomes a KPI



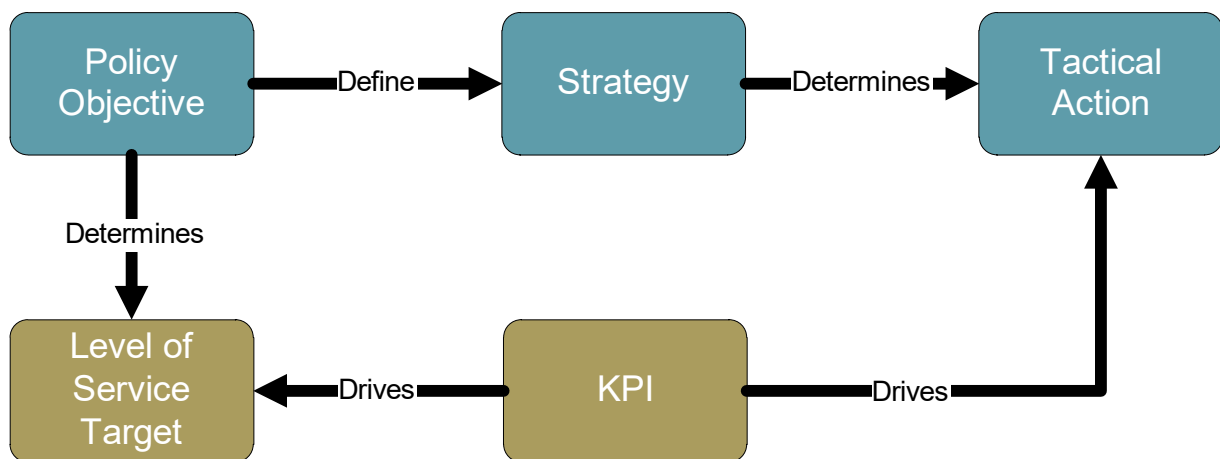
Measures (examples):

- Number of stormwater facilities (catch basin, pond, swales, ditches, vaults, etc.) that are not inspected within due date
- Percent of streets overlaid
- Average time to repair a pothole
- Percent of playgrounds inspected
- Number of parks volunteer hours
- Percentage of residents satisfied with recreational options
- Percent of storm drain structures cleaned on an annual basis
- Resources expended (labor and materials) against resources budgeted for 30 day and basin preventive maintenance (PM) programs.
- Number of flooding events occurring per basin
- Footage cleaned in all programs

- Number of flood events caused by blockages
- Number of pipe structural failures in pre 1995 pipe
- Number of miles of pipe where condition assessment completed

[Note: The above are representative examples and not intended to be all inclusive]

KPIs should not be confused with business goals policy objectives and their measures of the external business environment. KPIs monitor how well policy objectives and associated strategies are being met. Since changes to the external business environment require reactions that cannot always be planned, some KPIs are added and some are removed or the targets for existing KPIs are adjusted accordingly.



KPIs are those metrics that are useful for measuring the current activity and desired outcomes that will have an impact on a department’s ability to deliver on policy objectives and targets in the future.

## Performance Improvement Process

There are several possible KPIs that can lead to improved performance. Indicators are used to determine opportunities for improvement, but are determined through a process.

- Look at current situation and ask, “where are we?” “what is our current status?”
- Then look at future situations and determine “where do we want to go?” “where do we want to be?”
- Develop a strategic plan that identifies the resources to determine “how are we going to get there?” and “when are we going to get there?”
- Look out into the future at periods such as three, six, and ten years.

A KPI can be either quantitative or qualitative. KPIs are used to evaluate, change, and improve asset management through the improvement process.

### Quantitative Performance Indicators

- A method to measure work completed compared to established goals
- A method to identify performance trends
- A method to trigger improvements. Shifting from reactive to proactive maintenance. This is typically called the preventive to corrective maintenance (or PM to CM) ratio

### Qualitative Performance Indicators

- Qualitative measures quality and is an indicator of the quality of an asset management program.
- The existence of emergency response procedures and failure diagnosis are examples. They provide an indication that all factors that affect performance have been considered in the O&M program.

### Examples of Qualitative Performance Indicators

- Number of structural failures
- Number of safety incidents
- Claims
- Frequency, severity, cost
- Emergency response and flood events
- Response time and number
- Inspection and testing
- Percent of work completed
- Frequency of repair
- Level of service
- Financial
- Regulatory

### Examples of Effectiveness Measurements

- Functional Capability
- Reliability
- Maintainability
- Life Cycle Costs
- Functionality, Reliability and Maintainability Performance Indicators
- Operational Availability
- Mean Time Between Failure
- Total Operating Hours/Number of Failures
- Maintenance Hours per Operating Hour
- Corrective Maintenance Hours/Total Operating Hours
- Failure Rate (Corrective Maintenance Frequency)
- Number of Failures/Total Operating Hours (Days)
- Mean Corrective Maintenance Time
- Total Corrective Maintenance Hours/Number of Failures
- Ratio of PM to CM (70 percent and 30 percent)

### Financial Performance Indicators

- Cost per maintenance action
- Maintenance cost per operating hour
- Maintenance cost per month
- Ratio of maintenance cost to life cycle cost
- Labor utilization

## Section IV. KEY RECOMMENDATIONS

It is recommended that the City focus on developing a ‘right-sized’ organization to meet the suggested Level of Service targets and consider a mixture of both additional in-house staff and contracted service providers. In the case of the external service providers there should be specific contracts that specify the skills and performance requirements and contract language that is in alignment with the levels of service expectations. This should include requirements for reporting on performance metrics to will help the City track the Levels of Service. This data may be used to improve business processes and continually assess the options of moving

### ORGANIZATION

A key part of the recommendation is in developing a sound organization that is properly staffed. The organization is anticipating several retirements in the next two years, so succession planning should be part of this plan. Figure 4 shows a potential organization chart in 2019

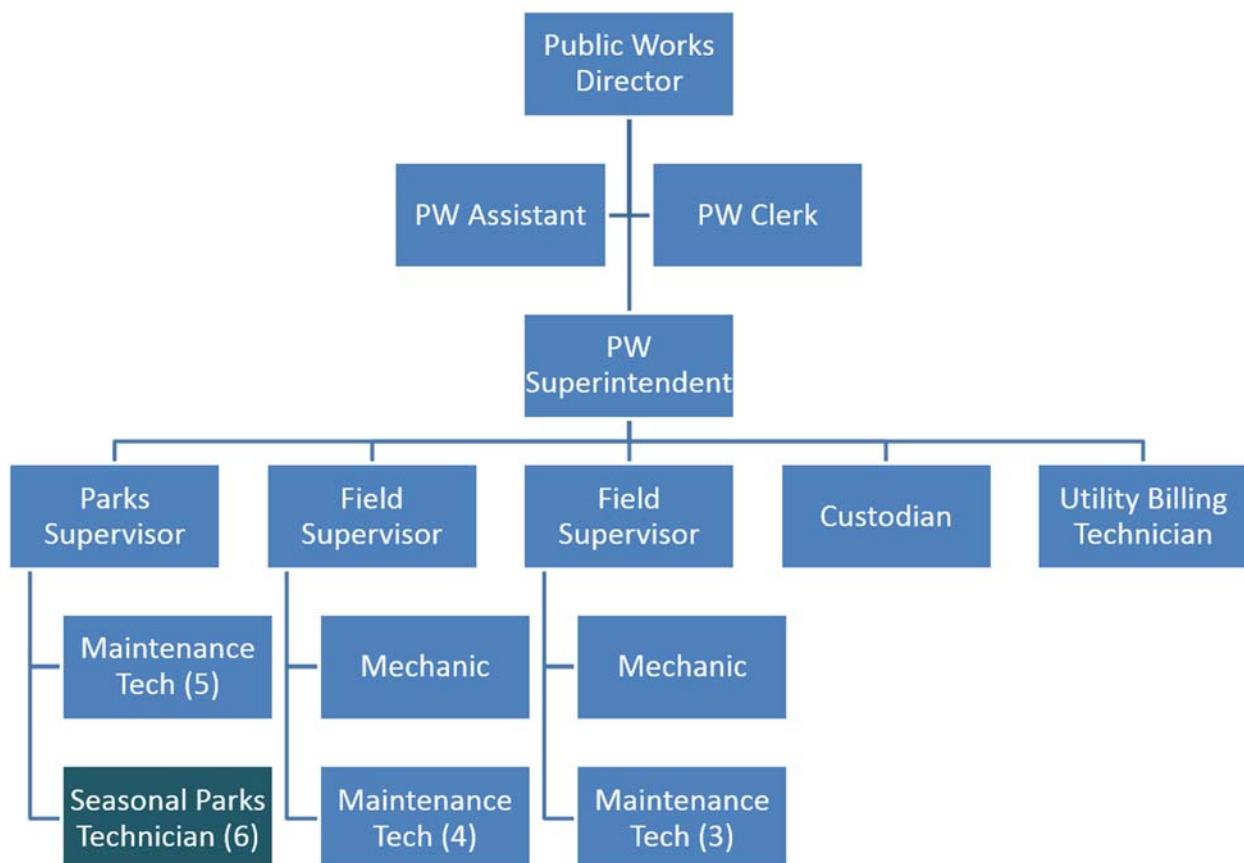


Figure 4- 2019 Organization Chart

## OPERATIONS ACTION PLAN

The following actions are the high level recommendations that we feel the City should consider in developing the next budget.

ID	Business Process Area	ID	Actions
1	Levels of Service	1.1	Set the levels of service with annual targets and establish the relationship between the levels of service and costs.
		1.2	Develop metrics aligned with the Levels of Service, for briefing the City Council and City Management on an annual basis, with monthly updates, that demonstrates the effectiveness of the Public Works Operations team
		1.3	Hold a meeting (or meetings) with representative customer groups (e.g., residential and commercial) to discuss the levels of service and identify ways to effort to improve service and customer satisfaction
		1.4	Create a survey, interface with the community, and use customer feedback tools to solicit input as to how customers view Operation's services and how level of service levels targets might be defined on an annual basis.
		1.5	Develop a prioritized list of the levels of service that customers expect from the Operations team, and their views on the value of various levels of service.
		1.6	Document how the Operations team's overall costs are related to the service levels that are provided in each area where service levels can be defined (e.g., operations, maintenance, environmental compliance, service request, safety, etc.).
2	Asset Management	2.1	Develop written goals, policies, and responsibilities for an Asset Management Program
		2.2	Conduct an enterprise asset management system evaluation as part of an effort to formalize an Asset Management Program for Public Works
		2.3	Prepare a standard that defines the minimum level that an asset will be identified in the fixed asset register to gain alignment with the asset hierarchy, by asset class, in Cartegraph.
		2.4	Develop and maintain asset performance metrics for each class of asset (pipes, facilities, pumps, roads, etc.)
		2.5	Review the asset information management systems (Springbrook, GIS and Cartegraph) for consistency in asset hierarchies and develop a city-wide official asset hierarchy with standard asset classes and expected life.
		2.6	Review how the Cartegraph system can manage asset classes as an attribute for reporting across the enterprise.
		2.7	Prepare standard nomenclature for the asset classes to be used in the financial system and fixed asset register that allows for an annual reconciliation.
		2.8	Develop asset class definitions (will likely be embedded in the hierarchical numbering scheme).
		2.9	Review all asset databases for conformity with the defined level of asset detail, with the hierarchical numbering system and asset class assignments. Re-inventory, re-number, and add/change class assignments as required.

ID	Business Process Area	ID	Actions
2	Asset Management (Cont.)	2.10	Investigate and determine which assets should be physically tagged with asset numbers. Define and carry out a program to tag assets.
		2.11	Define parametric data (probability distribution) required for each asset class. Review databases and add required parametric data where not present.
		2.12	Draft a triple-bottom-line risk policy that defines risk, the level of acceptable risk, consequence, criticality, and how risk is applied to asset management decision making.
		2.13	Perform a risk analysis of facilities and conveyance systems, using a "top-down" approach similar to that used in a vulnerability analysis.
		2.14	Establish a standardized risk management matrix for Operations team assets. The matrix would be a "look-up" table for asset criticality, rating 1-5.
		2.15	Prepare procedures to ensure that asset information, along with criticality, is used to evaluate overall risks and to prioritize corrective maintenance schedules.
3	Organization	3.1	Move from shared drive to Box and train staff on using Box on mobile device and through office automation and integration with Office 365
		3.2	Create a position within Public Works to lead the information technology and software support needs of the organization
		3.3	Hire 6 additional Maintenance Techs for Operations over the next 2 years
		3.4	Hire 2 additional staff for Parks
4	Capital Planning	4.1	Prepare standard specifications with requirements for design and construction contracts for drawings and submittals to conform to the Operations team's asset enumeration system.
		4.2	Establish a procedure for conducting an alternative analysis on major projects that looks at the life cycle costs, including on-going O&M, risk costs, and benefits costs, as part of the capital planning procedures.
		4.3	Prepare procedures for initiating capital projects and determining the need for new assets or systems. These procedures will govern needs analysis (i.e., problem definition), alternatives formulation and analysis, benefit-cost analysis, and ultimate selection of the preferred alternative.
		4.4	Conduct an analysis of the life-cycle costing approach for general R&R programs to better assess maintenance and capital options for these assets.
		4.5	Improve links between financial accounting of fixed assets, and asset inventory, in Springbrook and the same assets in Cartegraph, so that an asset that can located in the field can be identified in the fixed asset register.
		4.6	Develop a systematic approach to creating new assets through an asset onboarding process
		4.7	Create a formal commissioning process to ensure projects are resulting in assets that can be operated and maintained in an effective manner and include full life cycle cost for operation and maintenance and periodic refurbishment and upgrades.
5	Operation and Maintenance	5.1	Review asset listings and assign preliminary numerical cut-off points for divisions among condition-based management, cost-based management, and run-to-failure management.
		5.2	Document a maintenance guideline for each park and city site that includes levels of service, condition standards, operation and maintenance



ID	Business Process Area	ID	Actions
5	Operation and Maintenance (cont.)	5.3	Develop an operation and maintenance (O&M) strategy for all assets and facilities with mechanical and electrical functionality.
		5.4	Prepare procedures for defining maintenance in a proactive plan that includes a schedule and expected costs in order to effectively prioritize workload in Cartegraph.
		5.5	Specify criticality as the starting point for prioritization with highly critical items getting the highest attention for priority of work.
		5.6	Review failure codes in Cartegraph and make sure that the codes support failure modes in all significant asset classes (pipes, structures, pumps, etc.). Update as required.
		5.7	Educate staff on use of failure codes and failure analysis.
		5.8	Prepare procedures to require that root-cause analyses be performed for all assets requiring reactive maintenance or removal from service and require that failure codes be used to record the event in Cartegraph. There should also be a requirement to record a brief failure evaluation.
		5.9	Develop a stormwater system cleaning program coordinated with the street sweeping program
		5.10	Develop an asset management strategy as a pilot program as part of the update of the water system plan
		5.11	Prepare a plan to prioritize and budget the effort of the backflow program
		6	Condition Monitoring
6.2	Prepare procedures to update the condition assessment program and use the results in normal operations, where possible. Based on the results, expand the program over time to all assets qualifying for assessment.		
6.3	Prepare procedures for using trend analyses of assessed condition, along with criticality and performance measures, to analyze and to forecast R&R needs, timing, and costs.		
7	Finance	7.1	Expand the use of Budget Notebooks through an online access to the actual financial information.
		7.2	Educate staff on how to look at budget versus actuals on a monthly basis
		7.3	Perform a detailed analysis of funding requirements to maintain the street and transportation assets and meet growing levels of service demands
8	Information Systems	8.1	Create a field in Cartegraph to track criticality ratings for assets using a 1-5 rating where 1 is a highly critical asset and 5 is a low criticality.
		8.2	Reduce the number of task and work order status indicators in Cartegraph to four; preventive, corrective, emergency and regulatory.
		8.3	Define maintenance activities at the appropriate asset level with the minimal number of work order status indicators.
		8.4	Develop a technology roadmap for how Cartegraph is going to be maintained, used by the staff, and integrated with other systems.
		8.5	Prepare the specifications for a software product that can help the Operations team perform trending analysis of assessed condition, criticality and system performance that may also be used to forecast R&R needs, timing, and costs.

ID	Business Process Area	ID	Actions
8	Information Systems (Cont.)	8.6	Maintain a configuration management document for Cartegraph to track the configuration and on-going system requirements.
		8.7	Design an inventory management process using Cartegraph Storeroom module to track materials by work order or a system that interfaces with Cartegraph to track materials by work order.
		8.8	Maintain a Cartegraph user group and a user log with best practices, common issues, problems, and solutions.
		8.9	Revisit the Issues Codes in the CIS and verify that they are easy to use, understandable to users and relevant to the process of service request response
		8.10	Improve staff education with Cartegraph training to align with the Asset Management Program goals.
		8.11	Attach all work and task to an asset within Cartegraph.
		8.12	Ensure that all Operations resources are set up in Cartegraph to include rates for craft type, equipment, supplies and materials, external contractors/vendors
		8.13	Assign and train someone to be the Cartegraph specialist with a backup person
		8.14	Get assets into GIS and Cartegraph. Update the water system, street, and park assets in GIS with asset records in Cartegraph
		8.15	Create a standard asset hierarchy to be used in Cartegraph, GIS, and Springbrook that includes an asset numbering system
		8.16	Investigate the use of Cartegraph as the standard time keeping system for field staff and how the system can interface with payroll to reduce manual data entry
		8.17	Implement a criticality process to prioritize maintenance and repair of stormwater assets within the Cartegraph system

## APPENDIX A – BENCHMARK COMPARISONS

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Comparative Statistics													
	Gig Harbor	Kenmore	Bothell	Burien	Camas	Lake Oswego	Mill Creek	Mountlake Terrace	Mukilteo	Tukwila	Des Moines	SeaTac	Mercer Island
<b>Average 3-Year (2014-2016) Operating Expenditures (incl. debt service)</b>													
Administration	*	*	\$ 3,400,983	\$ 650,727	*	\$ 2,018,968	\$ 362,340	*	\$ 298,193	\$ 1,442,687	\$ 3,362,884	\$ 378,151	\$ 898,613
Facilities Maintenance	*	*	\$ 1,106,002	*	*	*	\$ 214,036	*	\$ 1,141,890	\$ 1,505,110	*	*	\$ 502,185
Fleet Management	*	*	\$ 872,897	*	*	*	*	\$ 909,733	*	*	*	\$ 566,147	\$ 512,677
Misc	*	*	*	*	\$ 2,929,720	*	*	*	*	\$ 456,645	*	*	\$ 31,582
Parks Maintenance	\$ 890,996	\$ 959,170	\$ 1,642,234	*	\$ 893,649	\$ 3,004,328	\$ 350,955	\$ 650,565	\$ 630,102	\$ 1,299,414	*	\$ 1,430,651	\$ 2,175,939
Storm	\$ 983,871	\$ 1,526,701	\$ 2,556,772	\$ 3,279,756	\$ 801,037	\$ 2,779,633	\$ 640,037	\$ 1,915,001	\$ 1,783,209	\$ 2,436,415	\$ 2,427,854	\$ 1,477,001	\$ 871,871
Street	\$ 1,957,014	\$ 1,454,505	\$ 2,532,825	\$ 2,646,903	\$ 1,641,105	\$ 3,907,443	\$ 536,400	\$ 793,537	\$ 812,507	\$ 2,794,443	\$ 1,279,767	\$ 8,726,190	\$ 1,069,717
<b>Total</b>	<b>\$ 3,831,881</b>	<b>\$ 3,940,375</b>	<b>\$ 12,111,714</b>	<b>\$ 6,577,386</b>	<b>\$ 6,265,511</b>	<b>\$ 11,710,371</b>	<b>\$ 2,103,767</b>	<b>\$ 4,268,836</b>	<b>\$ 4,665,902</b>	<b>\$ 9,934,714</b>	<b>\$ 7,070,505</b>	<b>\$ 12,578,141</b>	<b>\$ 6,062,584</b>
<b>2016 Operating Expenditures</b>													
Administration	*	*	\$ 3,590,320	\$ 672,515	*	\$ 2,116,000	\$ 294,977	*	\$ 414,951	\$ 1,525,541	\$ 3,611,616	\$ 403,558	\$ 946,032
Facilities Maintenance	*	*	\$ 1,102,504	*	*	*	\$ 194,575	*	\$ 1,215,200	\$ 1,608,138	*	*	\$ 556,117
Fleet Management	*	*	\$ 870,897	*	*	*	*	\$ 816,071	*	*	*	\$ 507,203	\$ 578,923
Misc	*	*	*	*	\$ 2,827,803	*	*	*	*	\$ 463,493	*	*	\$ 35,500
Parks Maintenance	\$ 912,100	\$ 959,170	\$ 1,750,202	*	\$ 909,869	\$ 3,107,000	\$ 346,839	\$ 649,167	\$ 627,415	\$ 1,392,460	*	\$ 1,450,939	\$ 2,278,526
Storm	\$ 1,195,428	\$ 1,526,701	\$ 2,676,342	\$ 3,142,970	\$ 832,022	\$ 2,321,000	\$ 683,147	\$ 2,010,637	\$ 2,198,159	\$ 2,651,296	\$ 2,663,356	\$ 1,719,379	\$ 978,904
Street	\$ 1,975,461	\$ 1,454,505	\$ 2,667,597	\$ 2,538,530	\$ 1,595,287	\$ 5,712,000	\$ 547,111	\$ 779,755	\$ 820,140	\$ 2,957,703	\$ 1,494,294	\$ 4,688,634	\$ 1,040,948
<b>Total</b>	<b>\$ 4,082,989</b>	<b>\$ 3,940,375</b>	<b>\$ 12,657,862</b>	<b>\$ 6,354,015</b>	<b>\$ 6,164,981</b>	<b>\$ 13,256,000</b>	<b>\$ 2,066,648</b>	<b>\$ 4,255,630</b>	<b>\$ 5,275,865</b>	<b>\$ 10,598,631</b>	<b>\$ 7,769,266</b>	<b>\$ 8,769,713</b>	<b>\$ 6,414,950</b>
<b>2016 FTEs</b>													
Administration	3.00	*	25.71	3.00	*	10.00	1.85	*	*	11.00	23.00	3.15	6.20
Facilities Maintenance	1.60	*	5.30	*	*	*	1.25	*	*	9.00	*	*	1.50
Fleet Management	*	*	2.80	*	*	*	*	2.20	*	*	*	0.50	1.30
Misc	13.70	*	*	*	10.70	*	*	*	*	4.00	*	*	*
Parks Maintenance	6.60	4.53	*	*	*	11.00	2.45	5.08	*	8.00	*	*	9.75
Storm	*	2.34	18.35	12.90	4.30	3.90	1.00	7.30	*	12.50	12.50	9.00	3.25
Street	*	4.23	11.71	9.60	5.25	5.00	2.95	3.95	*	12.00	4.90	11.05	3.70
<b>Total</b>	<b>24.90</b>	<b>11.10</b>	<b>63.87</b>	<b>25.50</b>	<b>20.25</b>	<b>29.90</b>	<b>9.50</b>	<b>18.53</b>	<b>20.50</b>	<b>56.50</b>	<b>40.40</b>	<b>23.70</b>	<b>25.70</b>
<b>2016 Cost per FTE</b>													
Administration			\$139,647	\$224,172		\$211,600	\$159,447			138,685.55	157,026.78	128,113.65	152,585.81
Facilities Maintenance			\$208,020				\$155,660			178,682.00			370,744.67
Fleet Management			\$311,034					\$370,941				1,014,406.00	445,325.38
Misc					\$264,281					115,873.25			
Parks Maintenance	\$138,197	\$211,737				\$282,455	\$141,567	\$127,789		174,057.50			233,694.97
Storm		\$652,436	\$145,850	\$243,641	\$193,493	\$595,128	\$683,147	\$275,430		212,103.68	213,068.48	191,042.11	301,201.23
Street		\$343,854	\$227,805	\$264,430	\$303,864	\$1,142,400	\$185,461	\$197,406		246,475.25	304,957.96	424,310.77	281,337.30
<b>Total</b>	<b>\$163,975</b>	<b>\$354,989</b>	<b>\$198,182</b>	<b>\$249,177</b>	<b>\$304,444</b>	<b>\$443,344</b>	<b>\$217,542</b>	<b>\$229,662</b>	<b>\$257,359</b>	<b>\$187,586</b>	<b>\$192,309</b>	<b>\$370,030</b>	<b>\$249,609</b>
<b>2016 Cost per 1,000 people</b>													
Population	9,065	22,320	43,980	50,000	21,810	37,425	19,900	21,090	21,070	19,540	30,570	27,810	23,660
Administration			\$81,635	\$13,450		\$56,540	\$14,823		\$19,694	\$78,073	\$118,142	\$14,511	\$39,984
Facilities Maintenance			\$25,068			\$9,778			\$57,674	\$82,300			\$23,505
Fleet Management			\$19,802					\$38,695				\$18,238	\$24,468
Misc					\$129,656					\$23,720			\$1,500
Parks Maintenance	\$100,618	\$42,974	\$39,795		\$41,718	\$83,019	\$17,429	\$30,781	\$29,778	\$71,262		\$52,173	\$96,303
Storm	\$131,873	\$68,401	\$60,854	\$62,859	\$38,149	\$62,017	\$34,329	\$95,336	\$104,326	\$135,686	\$87,123	\$61,826	\$41,374
Street	\$217,922	\$65,166	\$60,655	\$50,771	\$73,145	\$152,625	\$27,493	\$36,973	\$38,925	\$151,367	\$48,881	\$168,595	\$43,996
<b>Total</b>	<b>\$450,412</b>	<b>\$176,540</b>	<b>\$287,809</b>	<b>\$127,080</b>	<b>\$282,668</b>	<b>\$354,202</b>	<b>\$103,852</b>	<b>\$201,784</b>	<b>\$250,397</b>	<b>\$542,407</b>	<b>\$254,147</b>	<b>\$315,344</b>	<b>\$271,131</b>
<b>2016 FTEs per 1,000 People</b>													
Population	9,065	22,320	43,980	50,000	21,810	37,425	19,900	21,090	21,070	19,540	30,570	27,810	23,660
Administration	0.33		0.58	0.06		0.27	0.09			0.56	0.75	0.11	0.26
Facilities Maintenance	0.18		0.12				0.06			0.46			0.06
Fleet Management			0.06					0.10				0.02	0.05
Misc	1.51				0.49					0.20			
Parks Maintenance	0.73	0.20				0.29	0.12	0.24		0.41			0.41
Storm		0.10	0.42	0.26	0.20	0.10	0.05	0.35		0.64	0.41	0.32	0.14
Street		0.19	0.27	0.19	0.24	0.13	0.15	0.19		0.61	0.16	0.40	0.16
<b>Total</b>	<b>2.75</b>	<b>0.50</b>	<b>1.45</b>	<b>0.51</b>	<b>0.93</b>	<b>0.80</b>	<b>0.48</b>	<b>0.88</b>	<b>0.97</b>	<b>2.89</b>	<b>1.32</b>	<b>0.85</b>	<b>1.09</b>

\*Items included are either in the PW fund or specific relative enterprise funds  
Mukilteo does not have a functionalized employment within the Public Works department.  
Source: City budgets.

## APPENDIX B – LEVEL OF SERVICE MATRIX

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Level of Service	LOS Targets	Operational Activities	Level of Effort			Measure
			Annual Costs	Activity FTE	Activity Hours	
1 Manage public health, safety and environmental risks associated with Public Works systems and failed infrastructure such as storm drains, transportation, parks, and water	1A Identified safety concerns, such as trip hazards, are inspected within 2 hours (during business hours) or within 4 hours (outside of normal business hours) and resolved within one year	Utilize customer facing staff to quickly respond to safety concerns	\$36,919	0.43	750	% of notified safety requests responded within 24 hours
		Prioritize safety responses in the work order system	\$4,923	0.06	100	% of notified safety requests resolved within one year
		Monitor ongoing system performance in alignment with City goals	\$5,119	0.06	104	% of success in meeting goals # of health and safety incidents per month # of health or public warnings per capita
	1B Emergencies requiring public works staff, such as spills, receive a prompt response within 1 hour	Maintain on-call, and existing staff to respond to emergencies	\$7,679	0.09	156	% of spill response within 1 hour (2 hours after hours) # of staff trained in spill response
	1C Snow and ice treatment is performed quickly and effectively to meet City traffic safety standards	Maintain snow and ice removal plan and track performance	\$11,814	0.14	240	% of priority roadways cleared within 24 hours of storm event
	1D The storm system is maintained to a standard within the City's stated risk tolerance	Track design-related infrastructure issues	\$7,876	0.09	160	# complaints by event type
		Maintain a weather response plan	\$61,745	0.65	1248	# of stormwater complaints per capita \$ per claim per year for all events
		Maintain a street sweeping program with annual updates	\$66,494	0.70	1344	% of system completed within program schedule per year Amount of debris removed

Level of Service	LOS Targets	Operational Activities	Level of Effort			Measure
			Annual Costs	Activity FTE	Activity Hours	
2 Provide consistent, equitable, and timely standards of service to the citizens of Gig Harbor at a reasonable cost and within rates and budget	2A Respond to customer work requests within one working day and follow up upon resolution of the request	Maintain staff capacity and resources to meet customer response expectations	\$142,488	1.50	2880	# of service calls per year by departments (parks, storm, water, transportation) % work requests responded to within 24 hours identified by problem Customer survey after response
		Repair system and assets in a timely manner	\$189,984	2.00	3840	% of repairs completed outside of time range planned
		Respond to customer service request 24/7 related to public safety, property, and city infrastructure	\$142,488	1.50	2965	% of response time within 2 hour during regular business hours (90% of the time), and within 4 hours at all other times (80% of the time) Avg. response time to customer request
	2B Managing assets and systems within budget	Maintain a maintenance strategy that involves the utility, private and public	\$2,560	0.03	52	% of maintenance activity that is preventive
		Maintain a risk based maintenance program with annual updates	\$2,560	0.03	52	# of incidents or risk events that occur per year
		Facilitate system repair and replacement to meet lowest lifecycle cost	\$189,984	2.00	3840	% of overall budget on repair and replacement % of system scheduled in CIP
		Maintain an asset management strategy to minimize lifecycle costs	\$5,119	0.06	104	Total operating cost per property
		Maintain a risk based O&M strategy to provide reliable and continuous service	\$284,976	3.00	5760	Ratio of preventative and corrective maintenance spending
		Track operating budget and capital on a monthly and annual basis	\$2,954	0.03	60	% of Actual versus Budgeted

Level of Service	LOS Targets	Operational Activities	Level of Effort			Measure	
			Annual Costs	Activity FTE	Activity Hours		
Level of Service 2 (Cont.)	2C	Maintain Gig Harbor assets to the lowest lifecycle cost while meeting other levels of service expectations	\$142,488	1.50	2880	% of Inspections completed with range of time planned % of work order backlog on a monthly basis # and % Inspected Avg. # of site visits per crew per day % of maintenance driven by inspections % of maintenance work completed with range of time planned Ratio of planned to reactive work	
		Utilize Cartegraph and GIS for establishing and improving maintenance programs	\$5,907	0.07	120	% of maintained assets in Cartegraph by type (valves, for example)	
		Optimize street sweeping to maintain efficiencies	\$4,135	0.05	84	\$ per mile of street swept % street sweeping completed within target window	
		Track and follow maintenance plan for City vehicles	\$1,772	0.02	36	% vehicle downtime	
		Develop and follow a written meter reading strategy to maintain consistency and cost in service	\$1,969	0.02	45	# of staff trained in meter reading	
	2D	Optimize capital investments to replace failing infrastructure and meet future needs	Continue to work through meter replacement strategy	\$5,316	0.06	118	# of meters replaced in conjunction with program goal
			Follow CIP requirements identified in master plan documents	\$4,726	0.05	105	# and value of capital projects completed as identified in master plans
			Monitor capital dollars spent on maintaining parks, streets, stormwater and water assets	\$2,954	0.03	60	% capital dollars by discipline Cost effectiveness of money spent
			Track maintenance costs, planned, unplanned and cyclic	\$2,560	0.03	52	% of time spent on maintenance % of deferred PM % of labor hours for overtime % of total budget spent on maintenance
			Develop a method to forecast future demands	\$2,461	0.03	50	% of accuracy in predicted demand over a 3 year period



Level of Service	LOS Targets	Operational Activities	Level of Effort			Measure	
			Annual Costs	Activity FTE	Activity Hours		
3	3A	Parks and other public spaces are cleaned, managed and maintained in a manner that fits with City goals and the specific needs of each facility	Develop and follow maintenance plan City facilities, including restrooms and docks	\$379,968	4.00	7705	% compliance with facility maintenance plans
		Track maintenance for public spaces including mowing, sign maintenance, fields, playgrounds, and parking lots		\$759,936	8.00	15455	% of activities completed within timeframe as identified by maintenance plan \$ and time spent maintaining park facilities as % of total maintenance time Compliance with historic preservation standards
		Onboard new parks with consistent maintenance strategies		\$9,845	0.11	225	% compliance with strategy
	3B	Harbor is clean and free of visual water impairments	Maintain pollution prevention devices that discharge into harbor	\$12,306	0.14	250	# of stormwater quality complaints # stormwater quality structures near harbor
			Track development compliance	\$2,461	0.03	50	% new development in compliance with standards and City Code

Level of Service	LOS Targets	Operational Activities	Level of Effort			Measure		
			Annual Costs	Activity FTE	Activity Hours			
4	Comply with regulatory requirements for stormwater, transportation, parks, and water services	4A	Meet regulatory requirements for Clean Water Act and NPDES as well as other Federal, State, and local regulations that pertain to water and stormwater	Maintain water treatment levels to meet DOH standards	\$94,992	1.00	1920	# of water quality violations reported to DOH % of tank inspections completed within DOH requirements
			Monitor water quality	\$94,992	1.00	1920	% compliance with water quality monitoring plan # of water quality parameters outside of acceptable range	
			Continue to implement backflow prevention program	\$20,478	0.24	416	% of required backflow inspections completed annually # of backflow instances	
			Document the NPDES Phase II permit and tie all other rules necessary to deliver the services within regulation	\$3,692	0.04	80	# of notice of violations per year	
			Continue to maintain system pressure for fire flow requirements	\$2,461	0.03	50	# of issues reported by fire department regarding fire flow	
			Track and follow NPDES program requirements	\$2,560	0.03	52	% compliance with plan	
			Track and follow spraying application requirements	\$1,969	0.02	45	% compliance with plan	
			Apply innovative and environmentally sensitive development practices	\$2,954	0.03	60	% of measured stormwater quality within parameters before enter the receiving environment as compared to goal	
			Maintain a mitigation strategy for each requirement	\$2,560	0.03	52	# of enforcement actions past 5 years	
			4B	Meet park safety and accessibility requirements as defined by ADA and other national standards	Plan, permit, design and construct infrastructure to meet state and local standards	\$2,707	0.03	55
	4C	Follow City, State, and Federal transportation standards and guidance	Identify gaps in SOPs and Code necessary to meet LOS targets	\$2,461	0.03	50	% of time to update SOPs and Code % of non-compliance with Code	
	4D	Meet Safe Drinking Water Act permit requirements with continuous monitoring and maintenance of drinking water quality	Maintain water supply for taste, color, and odor	\$189,984	2.00	3905	# and trend of taste, color, and odor complaints for wholesale and City customers (tracked separately)	

Level of Service	LOS Targets	Operational Activities	Level of Effort			Measure	
			Annual Costs	Activity FTE	Activity Hours		
5	Attract and retain high caliber staff through a safe, committed, and proud work environment	5A Staff resources are available and trained to meet level of service targets and follow city standards and safety requirements	Attract a diverse workforce	\$3,692	0.04	75	% of retention to support succession
			Develop a knowledge retention plan	\$1,969	0.02	45	% compliance with plan
			Retain high staff safety compliance	\$2,461	0.03	52	# work loss hours due to injury as % of total work hours # of near misses
			Maintain a resource management plan	\$591	0.01	12	\$ per customer complaint or request
			Maintain an education and training program for staff	\$4,726	0.05	96	% of training and compliance % of staff participating in training Employee satisfaction \$ per employee spent on training per year
			Maintain communication plans with other City Departments and Divisions to support the Public Works business processes	\$788	0.01	25	# of incidents associated with communication failure
			Estimate	<b>\$2,940,522</b>	<b>31.2</b>	<b>59,800</b>	Hours
			Current Budget	<b>\$2,311,156</b>	<b>24.3</b>	<b>46,714</b>	Hours